

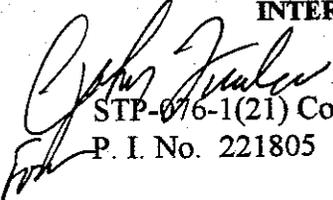
ORIGINAL TO GENERAL FILES

D.O.T. 66

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE



STP-076-1(21) Columbia County  
P. I. No. 221805

OFFICE Preconstruction

DATE February 13, 2001

FROM C. Wayne Hutto, Assistant Director of Preconstruction

TO SEE DISTRIBUTION

SUBJECT PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

CWH/cj

Attachment

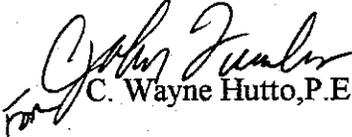
DISTRIBUTION:

Tom Turner  
David Mulling  
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Jimmy Chambers (ATTN: Ted Cashin)  
Jim Kennerly  
Mike Thomas

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** STP-076-1(21) Columbia County **OFFICE** Preconstruction  
P.I. No. 221805  
**DATE** February 5, 2001

**FROM**  C. Wayne Hutto, P.E., Assistant Director of Preconstruction

**TO** Frank L. Danchetz, P.E., Chief Engineer

**SUBJECT PROJECT CONCEPT REPORT**

This project is the widening and reconstruction of SR 104 from just east of Mt. Rosemont Road/CR 80 to just east of Cumberland Drive/CR 515 for a total of 3.0 miles. Existing SR 104 consists of 2 and 3 lanes with 6' rural shoulders on 100' of existing right-of-way. State Route 104 is a northwesterly corridor serving Augusta-Richmond County, Columbia County and the Clark's Hill area. This route is currently operating at an unacceptable Level of Service (LOS) and will continue to worsen as Columbia County continues to develop. Without improvements, the corridor likely will continue to experience accident rates in excess of the statewide average. The projected (2006) traffic volumes along this section of SR 104 is 10,194 VPD. The current LOS along this section of SR 104 is "D." The projected design year (2026) traffic volume is 13,782 VPD. The future LOS under a no-build condition is "F." To provide an acceptable LOS in year 2026, four lanes are needed to meet the projected demand.

The construction proposes to widen SR 104 to provide four, 12' lanes, two in each direction with a 44' wide depressed grassed median on 200' of minimum proposed right-of-way. The existing bridges over Kiokee and Little Kiokee Creeks will be widened to 38'. Parallel bridges will be constructed over Kiokee and Little Kiokee Creeks to accommodate the new lanes. Traffic will be maintained via staging during construction.

Environmental concerns include requiring a COE 404 Permit; a Categorical Exclusion will be prepared; a public hearing will be held; time saving procedures are not appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>PROG DATE</u>	<u>LET DATE</u>
Construction (includes E&C and inflation)	\$9,603,000	\$9,530,000	2005	04-07
Right-of-Way	\$2,824,000	\$2,824,000		
Utilities*	LGPA	LGPA		

Frank L. Danchetz

Page 2

STP-076-1(21) Columbia

February 5, 2001

\*Columbia County signed LGPA on 5-19-92 for utilities.

This project is in the STIP. I recommend this project concept be approved.

CWH:JDQ/cj

Attachment

CONCUR



Thomas L. Turner, P.E., Director of Preconstruction

APPROVE

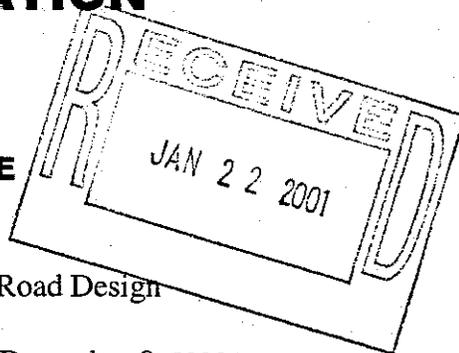


Frank L. Danchetz, P.E., Chief Engineer

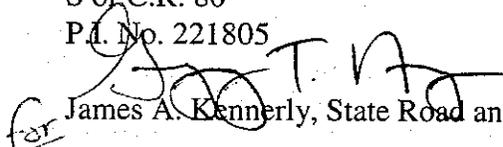


**DEPARTMENT OF TRANSPORTATION**  
**STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**



**FILE** STP-076-1 (21), Columbia County **OFFICE** Road Design  
S.R. 104 From M.P. 8.95 S/C.R. 515 to M.P. 11.95  
S of C.R. 80 **DATE** December 8, 2000  
P.I. No. 221805

**FROM** *for*  James A. Kennerly, State Road and Airport Design Engineer

**TO** Wayne Hutto, P.E., Assistant Director of Preconstruction

**SUBJECT** Concept Report Submittal

Attached for your review and approval is the Project Concept Report for the above project.

If you have any questions, please contact Stanley Hill of this office.

JAK: SH: hcc

Attachment

cc: David Mullin, w/attach  
Harvey Keeper, w/attach  
Marion Waters, w/attach  
Mike Thomas, District Two Engineer, w/attach  
Paul Liles, w/attach  
Marta Rosen, w/attach  
Herman Griffin, w/attach

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
OFFICE OF ROAD AND AIRPORT DESIGN

**PROJECT CONCEPT REPORT**

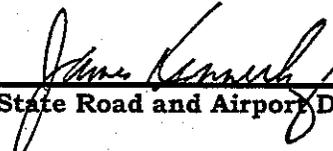
**STP-076-1(21)  
COLUMBIA COUNTY  
P.I. NO. 221805**

FEDERAL ROUTE NO: None  
STATE ROUTE NO: S.R. 104

Date of Report: September 6, 2000

**RECOMMENDATION FOR APPROVAL**

01-20-01  
DATE

  
State Road and Airport Design Engineer

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

\_\_\_\_\_  
DATE

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

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Transportation Programming Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Environmental/Location Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
District Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
Project Review Engineer

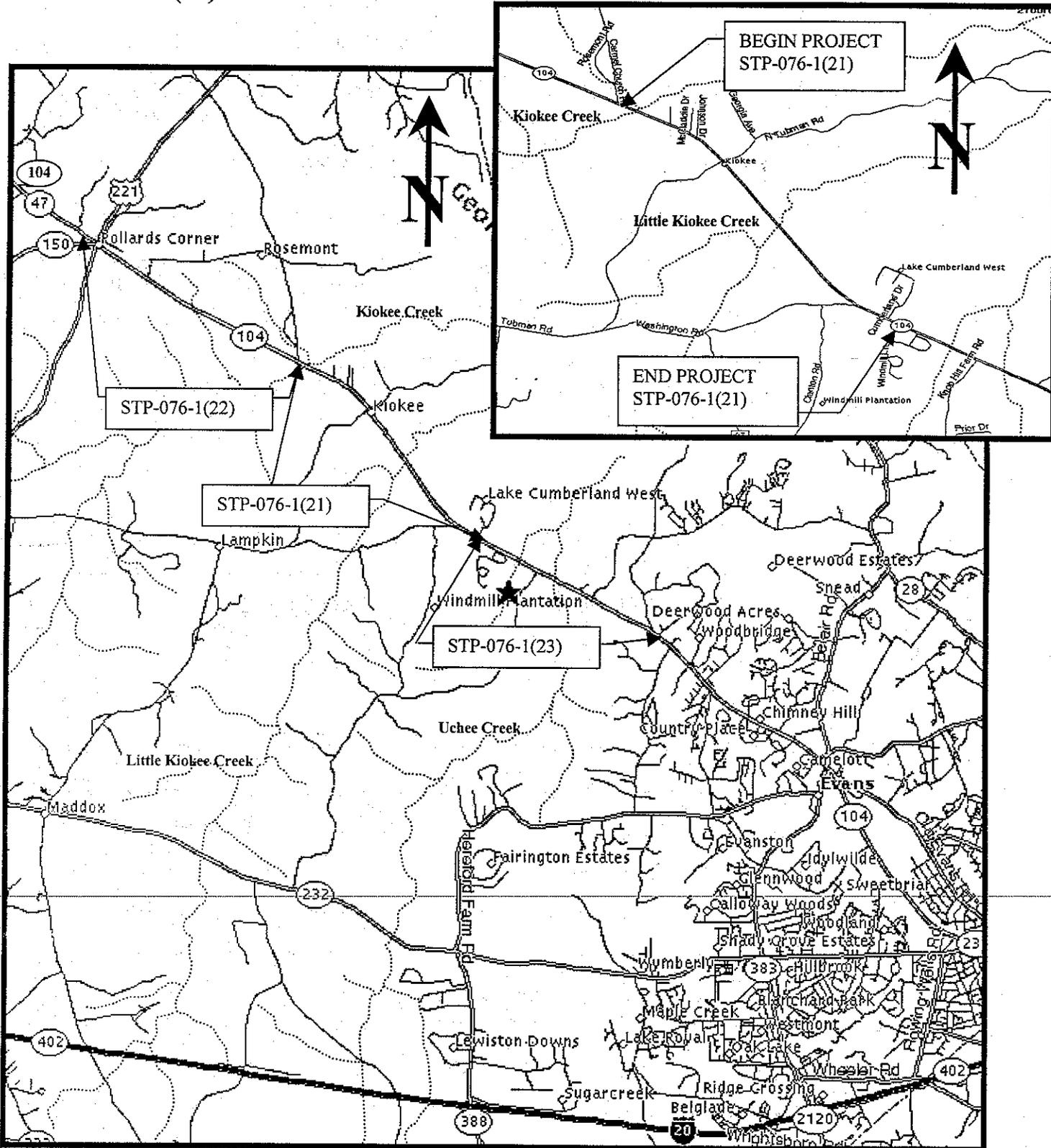
\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Traffic Operations Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Bridge & Structural Engineer

**PROJECT LOCATION MAP:  
STP-0760-1(21)**



**PROJECT NUMBER:** STP-076-1(21)

**PROJECT LOCATION & DESCRIPTION**

This project consists of the widening and reconstruction of 3.0 miles of SR 104 from just east of Mt. Rosemont Road/County Road 80 (Milepost 11.95) to just east of Cumberland Drive/County Road 515 (Milepost 8.95), in Columbia County. In its current condition, SR 104 provides a rural typical section consisting of two 12-foot-wide travel lanes with occasional three-lane climbing sections. There are also 6-foot-wide grassed shoulders and open ditches on each side. The existing right of way is 100 feet wide.

The proposed project is to widen SR 104 to provide a typical section comprising of four 12-foot-wide travel lanes (two lanes in each direction) with a 44-foot-wide median. The shoulder treatments for the median are proposed to be 6-foot wide (2-feet paved.) The shoulder treatments for the outside are proposed to be 10-foot-wide (6.5-feet paved) with open ditches. The right of way of the improved facility will be 200 feet wide minimum.

This project was originally programmed as part of project MLP-104(13) which has been reprogrammed into three separate projects, i.e. STP-076-1(21) (subject project), STP-076-1(22) and STP-076-1(23).

**TRAFFIC**

ROADWAY	ON COMPLETION		PROJECTED	
	YEAR	AADT	YEAR	AADT
SR 104	2006	10,194	2026	13,782

**CLASSIFICATIONS**

PDP CLASSIFICATION	FUNCTIONAL CLASSIFICATION
MAJOR PROJECT/EXISTING LOCATION	RURAL MINOR ARTERIAL

FULL OVERSIGHT ( )	EXEMPT ( X )	SF ( )
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**PROJECT NEED & PURPOSE**

**Background**

These projects are components of an overall upgrade of the SR 47/SR 104 corridor between Augusta and Pollard's Corner. SR 104 is proposed for widening to four through lanes under three projects located between Halali Farm (CR 91) and SR 47 in Pollard's Corner. Two of the three SR 104 projects are located within the Augusta Metropolitan Area, the third is located outside the Area [STP-076-1(22), PI No. 221800]. Completion of all three projects will result in an improved multi-lane facility from Augusta to Pollard's Corner.

In 1998 the Augusta Regional Transportation Study (ARTS) adopted its 2020 Transportation Plan. The Plan addresses travel needs through the year 2020. The ARTS Plan is the direct result of a comprehensive, cooperative, and continuous planning process conducted by the local governments and the Georgia and South Carolina Departments of Transportation in cooperation with the Federal Highway and Federal Transit Administrations. The ARTS Plan recommends the widening of SR 104/Washington Road to four through lanes from the existing four lane section near Halali Farm Road (CR 91) to Rosemont Road (CR 80).

**Design**

Washington Road/SR 104 is currently a two-lane road between Halali Road (CR 91) and Rosemont Road (CR 80). The existing roadway geometry of SR 104 consists of 24 feet of pavement with shoulder widths of six feet, on 100 feet of right of way, in rolling terrain. The proposed improvement will widen SR 104 to four through lanes with a divided median and turn lanes as needed.

**Travel Demand and Operational Characteristics**

Washington Road/SR 104 is functionally classified as an Urban Minor Arterial from Halali Farm Road to Uchee Creek. From Uchee Creek to Rosemont Road, SR 104 is functionally classified as a Rural Minor Arterial. Current (1998) traffic volumes along this portion of SR 104 are at 7,338 Average Annual Daily Traffic (AADT). The existing Level of Service (LOS) along SR 104 between Halali Farm Road and Rosemont Road is "D", indicating that the roadway is experiencing congestion and major delays. The projected design year (2016) traffic volume is estimated at an AADT of 10,850. The future Level of Service under a no-build condition is "F". The future Level of Service with the proposed improvement is "A". To provide an acceptable LOS in the year 2016, four lanes of roadway are needed to meet the projected demand. The following table summarizes the Level of Service (LOS) on SR 104/Washington Road.

Roadway Segment	Existing Traffic No Build Condition	Future Traffic No Build Condition	Future Traffic Build Condition
Halali Farm Road Rosemont Road	7,338 / LOS D	10,850 / LOS F	10,850 / LOS A

**Community Issues**

Columbia County, located north of Augusta, is a rapidly growing residential area. Columbia County's anticipated annual population growth rate from 1996-2001 is 5.4%.

The State of Georgia's anticipated annual population growth rate from 1996-2001 is 2.8%. Columbia County's anticipated annual employment growth rate from 1996-2001 is 8.7%. The State of Georgia's anticipated annual employment growth rate from 1996-2001 is 2.7%. A 2500 home residential development is currently planned for construction and will generate additional traffic on Hardy McManus Road, SR 104, and on the proposed William Few Parkway Extension. An elementary school recently opened on William Few Parkway, with an enrollment of 550 students. At this time, all school traffic enters SR 104 at the William Few Parkway intersection. A new middle school and high school is also planned in the area. The middle school will house approximately 600 students and the high school will house approximately 1200 students. The proposed improvement will provide improved access for students, school employees and buses.

**Safety**

The following tables compare the corridor's accident rate to the statewide average for a similarly classified facility. For analysis purposes, the corridor is divided into sections reflecting functional classifications. Sections one and two reflect the segment of SR 104 addressed by STP-076-1(23). Section three is within the limits of project STP-076-1(21).

Section One - Urban Minor Arterial (Milepoints 6.68-8.13):

	1995	1996	1997
Total Accidents	28	28	26
Accidents Per 100 MVMT	747	762	670
Statewide Accidents Per 100 MVMT	549	528	552
Accident Ratio	1.36	1.44	1.21

Section Two - Rural Minor Arterial (Milepoints 8.14-8.76):

	1995	1996	1997
Total Accidents	1	12	11
Accidents Per 100 MVMT	62	763	663
Statewide Accidents Per 100 MVMT	200	224	210
Accident Ratio	0.31	3.41	3.15

Section Three - Rural Minor Arterial (Milepoints 8.77-11.78):

	1995	1996	1997
Total Accidents	19	21	13
Accidents Per 100 MVMT	244	275	161
Statewide Accidents Per 100 MVMT	200	224	210
Accident Ratio	1.22	1.23	0.77

Section Four – Rural Minor Arterial (Milepoints 11.79-14.58):

	1995	1996	1997
Total Accidents	9	18	5
Accidents Per 100 MVMT	103	255	67
Statewide Accidents Per 100 MVMT	119	123	99
Accident Ratio	0.87	0.48	0.68

The above accident analysis indicates SR 104 experiences accidents at a rate exceeding the statewide average for similarly classified facilities. Terrain and development are likely contributors to the route's accident ratio. SR 104 is characterized by rolling terrain. The rolling terrain compounds with increasing numbers of subdivisions to contribute to increased opportunities for slowing or stopped vehicles to be struck from behind or

struck while turning into the residential developments. SR 104 also provides direct access between Augusta and Clark's Hill Lake, a U.S. Army Corps of Engineer's impoundment. As a result, the corridor is prone to carrying vehicles towing campers and boats. Rolling terrain increases difficulty in towing operations, resulting in lower towing speeds and increased tendency for other vehicles to attempt passing maneuvers.

**Other Projects in the Area**

Project Number	Project Description	TIP/STIP Schedule
STP-7073(1) P.I. No. 250620	New Location Facility: William Few Parkway Extension from SR 104 to Hardy-McManus Road	PE-Authorized ROW-Long Range CONST-Long Range
STP-073-1(32) P.I. No. 231710	Construct Raised Median on Washington Road from Flowing Wells Road to Halali Farm Road	PE-2003 ROW-Long Range CONST-Long Range
STP-076-1(22) P.I. No. 221800	Widen Washington Road from Rosemont Road (CR 80) to Pollard's Corner	PE-Authorized ROW-Long Range CONST-Long Range
STP-076-1(23) P.I. No. 262080	Widen Washington Road from Halali Farm Road (CR 91) to Cumberland Drive (CR 515)	PE-Authorized ROW-2003 CONST-2004

**Need and Purpose**

The need exists to provide local and through traffic with an improved travel way on SR 104/Washington Road. SR 104 is currently operating at an unacceptable level of service and will continue to worsen as Columbia County continues to develop. Without improvement, the corridor likely will continue to experience accident rates in excess of the statewide average. The purpose of the proposed improvement is to provide local and through traffic with a facility that will adequately serve current and future travel demand and provide the public with a safer driving environment.

**EXISTING ROADWAYS**

**SR 104**

TYPICAL SECTION: Two-lane rural with 6-foot-wide grassed shoulders and open ditches

R/W WIDTH  
100'

POSTED SPEED  
55 MPH

MAX. DEGREE OF CURVE  
1°-00'

MAXIMUM GRADE (%)  
6.73

MAJOR STRUCTURES:

1. 36' x 276' bridge over Kiokeee Creek with a sufficiency rating of 81.2
2. 36' x 180' bridge over Little Kiokeee Creek with a sufficiency rating of 93.0

**PROPOSED ROADWAYS**

**SR 104**

TYPICAL SECTION: Four 12-foot-wide lanes (two lanes in each direction), 44-foot-wide median (including 2-foot-wide paved shoulders on each side), and 10-foot-wide (6.5 feet paved) shoulders and open ditches on each side. The typical section will also include right and left turn lanes at selected intersections.

DESIGN SPEED  
55 MPH

MAX. DEGREE OF CURVE  
ALLOWABLE: 6°-00'  
PROPOSED: 1°-00'

MAXIMUM GRADE (%)  
ALLOWABLE: 5.00  
PROPOSED: 5.00

MAJOR STRUCTURES:

1. Construct a new concrete <sup>40'</sup>~~36'~~ x 276' bridge parallel to the existing bridge at Kiokeee Creek.
2. Construct a new concrete <sup>40'</sup>~~36'~~ x 180' bridge parallel to the existing bridge at Little Kiokeee Creek.
3. Widen to <sup>40'</sup>~~36'~~ the existing bridges over Kiokeee and Little Kiokeee Creeks.

JDL 1/31/01

**PROPOSED RIGHT OF WAY**

R/W WIDTH  
200' (min.)

DISPLACEMENTS  
RES: 4    BUS: 0    M.H.: 0

NUMBER OF PARCELS: 36

**COORDINATION**

CONCEPT TEAM MEETING DATE:	August 16, 2000
CONFORMS TO TIP/STIP:	Yes
MEETS LOGICAL TERMINI REQUIREMENTS:	Yes
P.A.R. MEETING:	To Be Determined
LOCATION INSPECTION DATE:	11/3/99, 2/1/00, 3/1/00 by ARCADIS
PERMITS REQUIRED (4f, COE, 404, ETC.):	COE 404 Permit
LEVEL OF PUBLIC INVOLVEMENT:	Public Hearing (to be scheduled later)
TIME SAVING PROCEDURES APPROPRIATE:	No
LOCAL GOVERNMENT COMMITMENTS:	LGPA signed on 5/19/92. Columbia County agreed to purchase utilities.
OTHER PROJECTS IN THE AREA:	STP-076-1(22), STP-076-1(23), STP-7073(1), and STP-073-1(32)

**SCHEDULING CONSIDERATIONS**

TIME TO COMPLETE ENVIRONMENTAL:	12 Months
TIME TO COMPLETE PRELIMINARY RD / RW PLANS:	12 Months
TIME TO COMPLETE 404 PERMIT:	12 Months
TIME TO COMPLETE FINAL CONSTRUCTION PLANS:	12 Months
TIME TO BUY RIGHT OF WAY:	12 Months

**MISCELLANEOUS**

TRAFFIC CONTROL DURING CONSTRUCTION: Widen while maintaining traffic; detours required at major grade changes.

LEVEL OF ENVIRONMENTAL ANALYSIS: CE

DESIGN EXCEPTIONS REQUIRED:	YES	NO	UNDETERMINED
SUBST HORZ ALIGNMENT	( )	(X)	( )
SUBST ROADWAY WIDTH	( )	(X)	( )
SUBST SHOULDER WIDTH	( )	(X)	( )
SUBST VERT GRADES	( )	(X)	( )
SUBST CROSS SLOPE	( )	(X)	( )
SUBST STOPPING SIGHT DIST	( )	(X)	( )
SUBST SUPERELEV RATES	( )	(X)	( )
SUBST HORIZ CLEARANCE	( )	(X)	( )
SUBST SPEED DESIGN	( )	(X)	( )
SUBST VERTICAL CLEARANCE	( )	(X)	( )
SUBST BRIDGE WIDTH	( )	(X)	( )
SUBST BR STRUCT CAPACITY	( )	(X)	( )

ACCESS CONTROL: Driveway permit only

UNDERGROUND STORAGE TANKS: Possible old gas station at corner of SR 104 and Mt. Rosemont.

HAZARDOUS WASTE SITES: One landfill site on the south side of SR 104 just east of the beginning of the project. Impact to monitoring well.

**DESIGN VARIANCES**

None

**ALTERNATIVES CONSIDERED**

1. Addition of two travel lanes and a 44-foot-wide median entirely on the north side of the existing roadway
2. Addition of two travel lanes and a 44-foot-wide median on the south side of the existing roadway, except approximately half-a-mile at the beginning of the project where the new lanes transition from the north to the south side
3. Addition of two travel lanes and a 44-foot-wide median on the north side, except at the end of the project. In order to avoid impacts on the existing cemetery located on the north side at approximately Milepost 8.97, the proposed alignment of SR 104 in the vicinity of this area will be shifted to the south side
4. No Build

Alternative number two was chosen because it presented the least number of displacements and avoided impacting the cemetery.

**ESTIMATED COST**

CONSTRUCTION:	\$7,274,965	RIGHT-OF-WAY:	\$2,823,748
E & C (10%):	\$727,497	ACQUIRED BY:	GDOT
INFLATION (5%, 4yrs):	\$1,724,580	UTILITIES:	\$698,000
		ADJUSTED BY:	LGPA (5/19/92)
<b>TOTAL CONSTRUCTION COST:</b>	<b>\$9,730,000</b>		

COMMENTS:

ATTACHMENTS: Cost Estimate, Environmental Scan, Typical Sections, Programming Document, Existing Bridge Data, Traffic Diagrams and Concept Team Meeting Minutes

**PRELIMINARY COST ESTIMATE**

PROJECT NUMBER: STP-076-1(21)

COUNTY: Columbia

DATE: 7/19/00

ESTIMATED LETTING DATE: Long Range

PREPARED BY: C.Lane

PROJECT LENGTH : 3.0 miles

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

<b>PROJECT COST</b>	
<b>A. RIGHT-OF-WAY:</b>	
1. PROPERTY (LAND & EASEMENT)	\$930,375
2. DISPLACEMENTS; RES: 4, BUS: 0, M.H.: 0	\$840,000
3. OTHER COST (DAMAGES, ADM. / COURT, INFL., ETC.)	\$1,053,373
SUBTOTAL: A	\$2,823,748
<b>B. REIMBURSABLE UTILITIES:</b>	
1. RAILROAD	N/A
2. TRANSMISSION LINES	N/A
3. SERVICES	\$698,000
SUBTOTAL: B	\$698,000
<b>C. CONSTRUCTION:</b>	
<b>1. MAJOR STRUCTURES:</b>	
a. 40' x 276' new bridge over Kiokee Creek (\$45/S.F.)	\$496,800
b. Widen existing bridge over Kiokee Creek by 4' (\$70/S.F.)	\$77,280
c. 40' x 180' new bridge over Little Kiokee Creek (\$45/S.F.)	\$324,000
d. Widen existing bridge over Kiokee Creek by 4' (\$70/S.F.)	\$50,400
SUBTOTAL: C-1	\$948,480
<b>2. GRADING AND DRAINAGE:</b>	
a. EARTHWORK - Unclassified 210,000 cu. yds. (\$5 / cu. yd)	\$1,050,000
b. DRAINAGE	\$300,000
SUBTOTAL: C-2	\$1,350,000
<b>3. BASE AND PAVING:</b>	
a. 12" GR AGGR BASE CRS - (130,600 SY @ \$12 / SY)	\$1,567,200
<b>b. ASPHALT PAVING:</b>	
1. Asph Conc, 4" superpave base (29,100 tons x \$40)	\$1,164,000
2. Asph Conc, 2" superpave binder (14,565 tons x \$40)	\$582,600
3. Asph Conc, 1 1/2" superpave surface (10,835 tons x \$40)	\$433,400

	SUBTOTAL: C-3.b	\$2,180,000
c. BITUMINOUS TACK COAT - (9,285 gal x \$1)		\$9,285
d. Milling, Asph Conc, 1 1/2"		\$0
	SUBTOTAL: C-3	\$3,756,485
4. LUMP ITEMS:		
a. TRAFFIC CONTROL		\$300,000
b. CLEARING AND GRUBBING		\$600,000
c. GRASSING		\$60,000
d. EROSION CONTROL		\$100,000
	SUBTOTAL: C-4	\$1,060,000
5. MISCELLANEOUS:		
a. SIGNING & STRIPING		\$150,000
b. SIGNALS - No proposed signals		\$0
c. GUARDRAIL		\$10,000
	SUBTOTAL: C-5	\$160,000

<b>ESTIMATE SUMMARY</b>	
A. RIGHT-OF-WAY:	\$2,823,748
B. REIMBURSABLE UTILITIES:	\$698,000
C. CONSTRUCTION:	
1. MAJOR STRUCTURES	\$948,480
2. GRADING AND DRAINAGE	\$1,350,000
3. BASE AND PAVING	\$3,756,485
4. LUMP ITEMS	\$1,060,000
5. MISCELLANEOUS	\$160,000
SUBTOTAL CONSTRUCTION COST	\$7,274,965
E. & C. (10%)	\$727,497
INFLATION (5% PER YEAR)	\$1,724,580.47
NUMBER OF YEARS: 4	
TOTAL CONSTRUCTION COST	<b>\$9,730,000</b>

ENVIRONMENTAL SCAN:

Cultural Resources

During a survey conducted along the project corridors in October 1995, a total of two properties that are believed to exceed 50 years of age were identified within the projects' area of potential effect. The first is c. 1940's Front Gable Bungalow located on the south side of S.R. 104 at the intersection with C.R. 81. This resource is not considered eligible for the National Register due to the extensive alterations, which have compromised its integrity of materials and design. Among the alterations include the application of vinyl siding, the alteration of historic window and door treatments, and the reconstruction of the front porch. This resource is no longer considered a good representation of its style and type. The second is a vernacular house type located on the north side of S.R. 104 east of C.R. 82/Tubman Road. This resource is not considered eligible for the National Register because it does not conform to a recognizable house type of style of architecture.

A revolutionary War Grave has been identified and surveyed in a cemetery east of the S.R.104 and Cumberland Drive intersection.

Jurisdictional Wetlands and Surface Waters.

An inspection of the proposed corridor was conducted by the GDOT Environmental office to determine if any jurisdictional wetlands or surface waters were present within the corridor. During this investigation two areas of probable impact to wetlands or jurisdictional areas were identified. These areas are associated with the two main creeks.

The first area of jurisdiction is associated with Little Kiokee Creek. The corridor crosses this creek in a northerly direction. On the western side of the corridor the jurisdictional limits are the creek channel and banks. On the eastern side of the corridor a riparian wetlands parallels the creek. This wetland varies in width between 25 to 50 feet and is located at a point below the headwaters. Approximately half an acre of this wetland will be impacted.

The second jurisdictional area is associated with Kiokee Creek. While jurisdiction is limited to the creek and banks of Kiokee Creek, a small-unnamed tributary to Kiokee Creek crosses the project corridor approximately 600 feet south of the main creek. This tributary parallels the corridor the entire 600 feet up to the confluence with Kiokee Creek. The tributary is approximately 75 to 100 feet from the toe of the existing roadway slope. This area will be minimally impacted, approximately 350 S.F. of the identified area falls within the proposed right of way.

Both of the jurisdictional areas are subject to US Army Corps of Engineers (COE) regulation. Areas impacted by development of the corridor will require a section 404 permit through the COE. If more than one third of an acre or 500 linear feet of stream is impacted an Individual COE permit would be required.

### Environmental Hazards

A hazardous waste site has been identified approximately 1000-feet southwest of the intersection of S.R.104 & Granderson Rd. This site was a former uncontrolled landfill which was closed in 1989. Elevated levels of Polynuclear Aromatic Compounds (PNA's) have been found in both soil and groundwater samples. Impact to this area should be avoided.

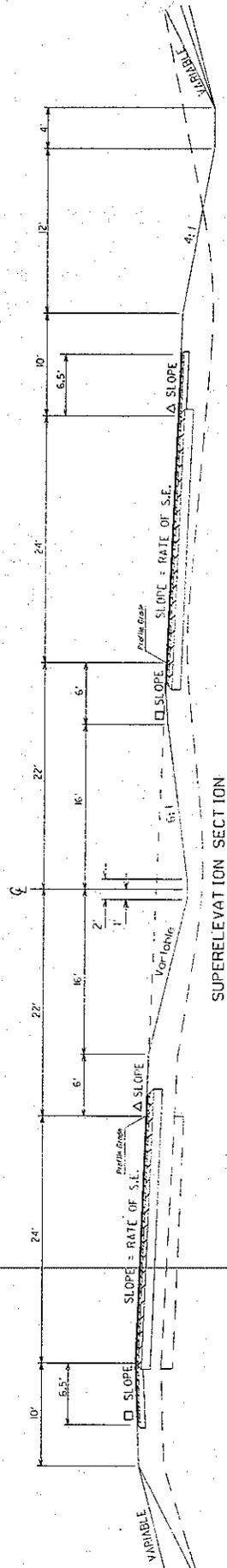
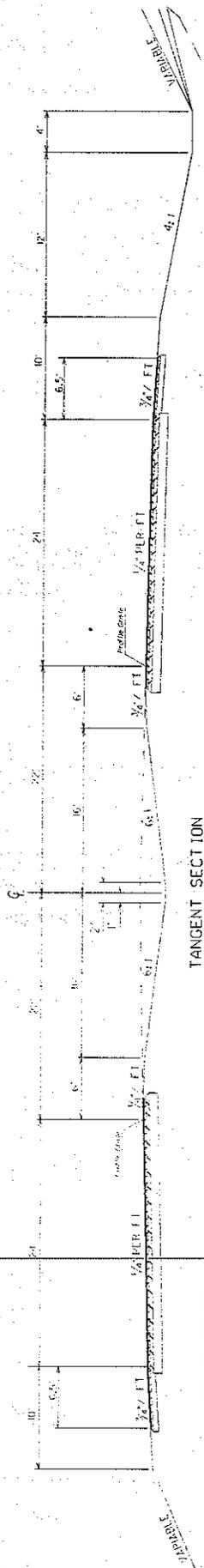
There is also a monitoring well associated with the landfill located in the project corridor.

### Endangered Species

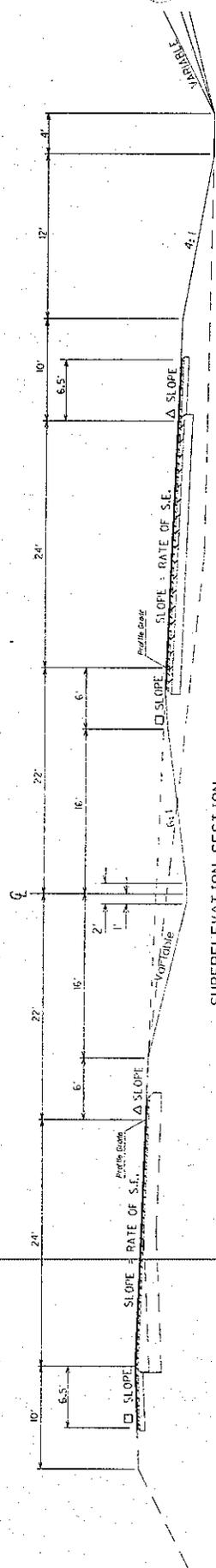
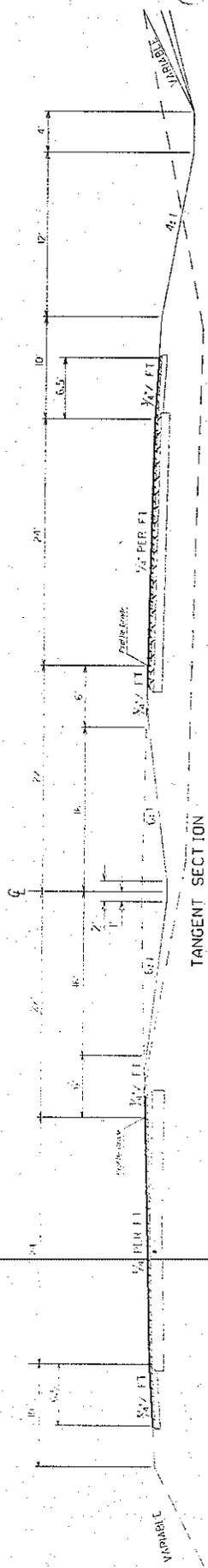
The following species have been identified by the Georgia Natural Heritage Program as being located in the same quadrant of the U.S.G.S. Quadrangle map as the proposed project. The project and species are both located in the NW quadrant of the Evans Quadrangle Map.

- Clematis ochroleuca - Curly Heads
- Elliottia racemosa - Georgia Plume
- Marshallia ramosa - Pineland Barbara Buttons
- PD Xeric Broadleaf Decid. - Needleleaf Ever. Forest Piedmont Xeric Hardwood-pine Forest

The Georgia Plume and Pineland Barbara Buttons are both listed as Georgia Protected Species. There are no occurrences for U.S. protected species in this area listed in the Georgia Natural Heritage Program's database. It is unknown if any of these species will be impacted by the project.



S.R. 104 TYPICAL SECTIONS  
TOTAL RECONSTRUCTION



S.R. 104 TYPICAL SECTIONS  
RETAIN EXISTING PAVEMENT

**REVISION REQUEST  
FOR THE  
CONSTRUCTION WORK PROGRAM**

IN ACCORDANCE WITH THE BOARD RESOLUTION DATED AUGUST 16, 1973,  
BOARD APPROVAL IS REQUESTED TO REVISE THE CONSTRUCTION WORK PROGRAM  
FOR THE PROJECT AND ACTIVITY OUTLINED BELOW:

- ADDITION TO THE PROGRAM
- DELETION FROM THE PROGRAM     PE     ROW     CONST.
- SHIFT IN THE PROGRAM    FROM FY \_\_\_\_\_ TO FY \_\_\_\_\_
- CHANGE IN COST ESTIMATE
- OTHER

PROJECT DATA

COUNTY	PROJECT NO. P.I. No.	TYPE WORK	DESCRIPTION
Columbia	STP-076-1(21) 221805	Widen & Reconstruct (2 to 4 lanes)	S.R. 104: From MP 8.95 just south of C.R. 515 to MP 11.95 just south of C.R. 80. (includes bridges)  Length = 3.00 Miles

Fund 1 = 33E  
Fund 2 = 33D

ESTIMATED COST (\$1,000's)	LOW ROAD	HIGH ROAD	FISCAL YEAR	CONG. DISTRICT	FIELD DISTRICT
PE \$151	X		1992		
ROW \$1,392	X		1996		
CONST \$5,531	X		1997	10	2

REASON FOR REVISIONS:

To add this project per the approved Project Concept Report. This project moves from Preprogram.

Little Kiokee Creek I.D. #073-0013-0  
Kiokee Creek I.D. #073-0014-0

RECOMMENDED *Frank L. D... ..*  
DIRECTOR, DIVISION OF PLANNING AND PROGRAMMING

RECOMMENDED *Wayne Shackelford*  
COMMISSIONER

GDOT BOARD  
MAR 19 1992  
APPROVED

# BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 073-0014-0

Columbia County

SUFF. RATING: 81.2

## Location & Geography

\* Structure I.D. No.: 073-0014-0  
 \* 200 Bridge Information: 06  
 \* 6A Feature Int.: KIOKEE CREEK  
 \* 6B Critical Bridge: 0  
 \* 7A Route Number Carried: SR00104  
 \* 7B Facility Carried: SR 104  
 \* 9 Location: 6.2 MI NE OF APPLING  
 \* 2 DOT District: 2  
 \* 207 Year Photo: 1997  
 \* 91 Inspection Frequency: 24 Date: 07/27/1999  
 \* 92A Fract Crit Insp Freq: 0.00 Date: 0000  
 \* 92B Underwater Insp Freq: 0.00 Date: 0000  
 \* 92C Other Spc. Insp Freq: 0.00 Date: 0000  
 \* 4 Place Code: 00000  
 \* 5 Inventory Route (O/U): 1  
 \* Type: 3  
 \* Designator: 1  
 \* Number: 00104  
 \* Direction: 0  
 \* 16 Latitude: 33-36.1  
 \* 17 Longitude: 82-13.9  
 \* 98 Border Bridge: 000 %Shared: 00  
 \* 99 ID Number: 0000000000000000  
 \* 100 Defense Highway: 0  
 \* 101 Parallel Structure: N  
 \* 102 Direction of Traffic: 2  
 \* 264 Road Inventory Mile Post: 011.62  
 \* 208 Inspection Area: 02 Initials: JTB  
 \* Location I.D. No.: 073-00104D-012.06N  
 \* XReferen I.D. No.: 000-000000-000.000

## Signs & Attachments

\* 104 Highway System: 0  
 \* 26 Functional Classification: 06  
 \* 204 Federal Route Type: F No: 076-1  
 \* 110 Truck Route: 1  
 \* 206 School Bus Route: 1  
 \* 217 Benchmark Elevation: 0.00  
 \* 218 Datum: 0  
 \* 19 Bypass Length: 9  
 \* 20 Toll: 3  
 \* 21 Maintenance: 01  
 \* 22 Owner: 01  
 \* 31 Design Load: 6  
 \* 37 Historical Significance: 5  
 \* 205 Congressional District: 10  
 \* 27 Year Constructed: 1971  
 \* 106 Year Reconstructed: 0000  
 \* 33 Bridge Median: 0  
 \* 34 Skew: 00  
 \* 35 Structure Flared: 0  
 \* 38 Navigation Control: 0  
 \* 213 Special Steel Design: 0  
 \* 267 Type of Paint: 1  
 \* 42 Type Service On: 1 Under: 5  
 \* 214 Movable Bridge: 00  
 \* 203 Type Bridge: I-N-O-O  
 \* 259 Pile Encasement: 1  
 \* 43 Structure Type Main: 1 04  
 \* 45 No. Spans Main: 007  
 \* 44 Structure Type Appr: 0 0  
 \* 46 No. Spans Appr: 0000  
 \* 226 Bridge Curve Horz: 0 Vert: 0  
 \* 111 Pier Protection: 0  
 \* 107 Deck Structure Type: 1  
 \* 108 Wearing Surface Type: 1  
 \* Membrane: 8  
 \* Protection: 8  
 \* 223 Expansion Joint Type: 02  
 \* 242 Deck Drains: 1  
 \* 243 Parapet Location: 0  
 \* Height: 0  
 \* Width: 0  
 \* 238 Curb: 0.8 1  
 \* 239 Handrail: 1 1  
 \* 240 Median Barrier Rail: 0  
 \* 241 Bridge Median Height: 0  
 \* Width: 0  
 \* 230 Guardrail Loc Dir Rear: 3  
 \* Fwrd: 3  
 \* Oppo Dir Rear: 0  
 \* Fwrd: 0  
 \* 244 Approach Slab: 3  
 \* 224 Retaining Wall: 0  
 \* 233 Posted Speed Limit: 55  
 \* 236 Warning Sign: 0  
 \* 234 Delineator: 1  
 \* 235 Hazard Boards: 1  
 \* 237 Utilities Gas: 00  
 \* Water: 00  
 \* Electric: 00  
 \* Telephone: 31  
 \* Sewer: 00  
 \* 247 Lighting Street: 0  
 \* Navigation: 0  
 \* Aerial: 0  
 \* 248 County Continuity No: 00

# BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 073-0014-0

Columbia County

SUFF. RATING: 81.2

## Programming Data

201 Project No: RAB (I) SP 1117 (S)  
 202 Plans Available: 3  
 249 Prop. Proj No: STP-076-1 (21)  
 250 Approval Status: 0000  
 251 P.I. No: 221805  
 252 Contract Date: 02/01/2003  
 260 Seismic No: 00000  
 75 Type Work: 00 1  
 94 Bridge Imp. Cost: \$ 0  
 95 Roadway Imp. Cost: \$ 0  
 96 Total Imp. Cost: \$ 0  
 76 Imp. Length: 000000  
 97 Imp. Year: 0000  
 114 Future ADT: 011100 Year: 2018

## Hydraulic Data

215 Waterway Data  
 Highwater Elev: 0235.0 Year: 1940  
 Flood Elev: 0217.0 Freq: 05  
 Avg. Streambed Elev: 0200.0  
 Drainage Area: 00106  
 Area of Opening: 003404  
 113 Scour Critical: 5  
 216 Water Depth: 2.7 Br Height: 28.9  
 222 Slope Protection: 1  
 221 Spur Dikes Rear: 0 Fwrd: 0  
 219 Fender System: 0  
 220 Dolphin: 0  
 223 Culvert Cover: 000  
 Type: 0  
 No Barrels: 0  
 Width: 0.0  
 Height: 0.0  
 Length: 0  
 Apron: 0  
 \* 265 U/W Insp. Area: 0 Diver: ZZZ

\* Location I.D. No: 073-00104D-012.06N  
 \* XReferen I.D. No: 000-000000-000.000

## Measurements

\* 29 ADT: 007400 Year: 1998  
 109 % Trucks: 6  
 \* 28 Lanes On: 02 Under: 00  
 210 No. Tracks On: 00 Under: 00  
 \* 48 Max. Span Length: 0040  
 \* 49 Structure Length: 276  
 51 Br. Rdwy. Width: 34.8  
 52 Deck Width: 37.1  
 \* 47 Tot. Horz. Cl: 34.8  
 50 Curb/Sdewlk Width: 0.6/0.6  
 32 Approach Rdwy Width: 028  
 \* 229 Sllder Width:  
 Rear Lt: 2.0 Type: 2 Rt: 2.0  
 Fwrd Lt: 2.0 Type: 2 Rt: 2.0  
 Pmnt Width:  
 Rear: 24.0 Type: 2  
 Fwrd: 24.0 Type: 2  
 Intersection Rear: 0 Fwrd: 1  
 36 Safety Features Br. Rail: 2  
 Transition: 2  
 App. G. Rail: 2  
 App. Rail End: 2  
 53 Minimum Cl Over: 99'99"  
 Under: N 00'00"  
 \* 228 Min. Vert. Cl  
 Act. Odm. Dir: 99'99"  
 Oppo. Dir: 99'99"  
 Posted Odm. Dir: 00'00"  
 Oppo. Dir: 00'00"  
 55 Lateral Undercl. Rt: N 99.9  
 56 Lateral Undercl. Lt: 0.0  
 \* 10 Max Min Vert Cl: 99'99" Dir: 0  
 39 Nav Vert Cl: 000 Horz: 0000  
 116 Nav Vert Cl Closed: 000  
 245 Deck Thickness Main: 12.0  
 Deck Thick Approach: 0.0  
 246 Overlay Thickness: 0.0  
 211 Tons Structural Steel: 0.0  
 212 Year Last Painted: Sup: 0000 Sub: 1971

## Ratings

66 Inventory Type: 2 Rating: 36  
 64 Operating Type: 2 Rating: 63  
 231 Calculated Loads  
 H-Modified: 20 0  
 HS-Modified: 25 0  
 Type 3: 28 0  
 Type 3s2: 40 0  
 Timber: 36 0  
 Piggyback: 40 0  
 261 H Inventory Rating: 22  
 262 H Operating Rating: 41  
 67 Structural Evaluation: 5  
 58 Deck Condition: 7  
 59 Superstructure Condition: 6  
 \* 227 Collision Damage: 0  
 60A Substructure Condition: 5  
 60B Scour Condition: 5  
 60C Underwater Condition: N  
 71 Waterway Adequacy: 8  
 61 Channel Protection Cond: 6  
 68 Deck Geometry: 4  
 69 UnderCl. Horz/Vert: N  
 72 Appr. Alignment: 8  
 62 Culvert: N

## Posting Data

70 Bridge Posting Required: 5  
 41 Struct Open, Posted, Cl: A  
 \* 103 Temporary Structure: 0  
 232 Posted Loads H-Modified: 00  
 HS-Modified: 00  
 Type 3: 00  
 Type 3S2: 00  
 Timber: 00  
 Piggyback: 00  
 253 Notification Date: 0000  
 253 Fed Notify Date: 0000 0

# BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 073-0013-0      Columbia County      SUFF. RATING: 93.0

Location & Geography	Signs & Attachments	Other Data
* Structure I.D. No.: 073-0013-0		
* 200 Bridge Information: 06		
* 6A Feature Int.: LITTLE KIOKKEE CREEK		
* 6B Critical Bridge: 0		
* 7A Route Number Carried: SR00104		
* 7B Facility Carried: SR 104		
* 9 Location: 6.6 MINE OF APPLING		
2 DOT District: 2		
207 Year Photo: 1997		
* 91 Inspection Frequency: 24      Date: 07/27/1999		
92A Fract Crit Insp Freq: 0 00      Date: 0000		
92B Underwater Insp Freq: 0 00      Date: 0000		
92C Other Spc. Insp Freq: 0 00      Date: 0000		
* 4 Place Code: 00000		
* 5 Inventory Route (O/U): 1		
Type: 3		
Designator: 1		
Number: 00104		
Direction: 0		
* 16 Latitude: 33-35.2		
* 17 Longitude: 82-12.8		
98 Border Bridge: 000      %Shared: 00		
99 ID Number: 0000000000000000		
* 100 Defense Highway: 0		
* 101 Parallel Structure: N		
* 102 Direction of Traffic: 2		
264 Road Inventory Mile Post: 010.10		
* 208 Inspection Area: 02      Initials: JTB		
* Location I.D. No: 073-00104D-010.47N		
* XReferen I.D. No: 000-000000-000.000		
* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
* 21 Maintenance: 01		
* 22 Owner: 01		
* 31 Design Load: 5		
37 Historical Significance: 5		
205 Congressional District: 10		
* 27 Year Constructed: 1971		
106 Year Reconstructed: 0000		
33 Bridge Median: 0		
34 Skew: 00		
35 Structure Flared: 0		
38 Navigation Control: 0		
213 Special Steel Design: 0		
267 Type of Paint: 1		
* 42 Type Service      On: 1      Under: 5		
214 Movable Bridge: 00		
203 Type Bridge: O-N-O-O		
259 Pile Encasement: 2		
* 43 Structure Type Main: 1 04		
45 No. Spans Main: 005		
44 Structure Type Appr: 0 0		
46 No. Spans Appr: 0000		
226 Bridge Curve Horz: 0      Vert: 0		
111 Pier Protection: 0		
107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
Protection: 8		
* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
* 21 Maintenance: 01		
* 22 Owner: 01		
* 31 Design Load: 5		
37 Historical Significance: 5		
205 Congressional District: 10		
* 27 Year Constructed: 1971		
106 Year Reconstructed: 0000		
33 Bridge Median: 0		
34 Skew: 00		
35 Structure Flared: 0		
38 Navigation Control: 0		
213 Special Steel Design: 0		
267 Type of Paint: 1		
* 42 Type Service      On: 1      Under: 5		
214 Movable Bridge: 00		
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226 Bridge Curve Horz: 0      Vert: 0		
111 Pier Protection: 0		
107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
Protection: 8		
* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
* 21 Maintenance: 01		
* 22 Owner: 01		
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46 No. Spans Appr: 0000		
226 Bridge Curve Horz: 0      Vert: 0		
111 Pier Protection: 0		
107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
Protection: 8		
* 104 Highway System: 0		
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* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
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* 21 Maintenance: 01		
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37 Historical Significance: 5		
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* 27 Year Constructed: 1971		
106 Year Reconstructed: 0000		
33 Bridge Median: 0		
34 Skew: 00		
35 Structure Flared: 0		
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213 Special Steel Design: 0		
267 Type of Paint: 1		
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46 No. Spans Appr: 0000		
226 Bridge Curve Horz: 0      Vert: 0		
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107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
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* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
* 21 Maintenance: 01		
* 22 Owner: 01		
* 31 Design Load: 5		
37 Historical Significance: 5		
205 Congressional District: 10		
* 27 Year Constructed: 1971		
106 Year Reconstructed: 0000		
33 Bridge Median: 0		
34 Skew: 00		
35 Structure Flared: 0		
38 Navigation Control: 0		
213 Special Steel Design: 0		
267 Type of Paint: 1		
* 42 Type Service      On: 1      Under: 5		
214 Movable Bridge: 00		
203 Type Bridge: O-N-O-O		
259 Pile Encasement: 2		
* 43 Structure Type Main: 1 04		
45 No. Spans Main: 005		
44 Structure Type Appr: 0 0		
46 No. Spans Appr: 0000		
226 Bridge Curve Horz: 0      Vert: 0		
111 Pier Protection: 0		
107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
Protection: 8		
* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
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* 22 Owner: 01		
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* 27 Year Constructed: 1971		
106 Year Reconstructed: 0000		
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35 Structure Flared: 0		
38 Navigation Control: 0		
213 Special Steel Design: 0		
267 Type of Paint: 1		
* 42 Type Service      On: 1      Under: 5		
214 Movable Bridge: 00		
203 Type Bridge: O-N-O-O		
259 Pile Encasement: 2		
* 43 Structure Type Main: 1 04		
45 No. Spans Main: 005		
44 Structure Type Appr: 0 0		
46 No. Spans Appr: 0000		
226 Bridge Curve Horz: 0      Vert: 0		
111 Pier Protection: 0		
107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
Protection: 8		
* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
* 21 Maintenance: 01		
* 22 Owner: 01		
* 31 Design Load: 5		
37 Historical Significance: 5		
205 Congressional District: 10		
* 27 Year Constructed: 1971		
106 Year Reconstructed: 0000		
33 Bridge Median: 0		
34 Skew: 00		
35 Structure Flared: 0		
38 Navigation Control: 0		
213 Special Steel Design: 0		
267 Type of Paint: 1		
* 42 Type Service      On: 1      Under: 5		
214 Movable Bridge: 00		
203 Type Bridge: O-N-O-O		
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* 43 Structure Type Main: 1 04		
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44 Structure Type Appr: 0 0		
46 No. Spans Appr: 0000		
226 Bridge Curve Horz: 0      Vert: 0		
111 Pier Protection: 0		
107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
Protection: 8		
* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
* 21 Maintenance: 01		
* 22 Owner: 01		
* 31 Design Load: 5		
37 Historical Significance: 5		
205 Congressional District: 10		
* 27 Year Constructed: 1971		
106 Year Reconstructed: 0000		
33 Bridge Median: 0		
34 Skew: 00		
35 Structure Flared: 0		
38 Navigation Control: 0		
213 Special Steel Design: 0		
267 Type of Paint: 1		
* 42 Type Service      On: 1      Under: 5		
214 Movable Bridge: 00		
203 Type Bridge: O-N-O-O		
259 Pile Encasement: 2		
* 43 Structure Type Main: 1 04		
45 No. Spans Main: 005		
44 Structure Type Appr: 0 0		
46 No. Spans Appr: 0000		
226 Bridge Curve Horz: 0      Vert: 0		
111 Pier Protection: 0		
107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
Protection: 8		
* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
* 21 Maintenance: 01		
* 22 Owner: 01		
* 31 Design Load: 5		
37 Historical Significance: 5		
205 Congressional District: 10		
* 27 Year Constructed: 1971		
106 Year Reconstructed: 0000		
33 Bridge Median: 0		
34 Skew: 00		
35 Structure Flared: 0		
38 Navigation Control: 0		
213 Special Steel Design: 0		
267 Type of Paint: 1		
* 42 Type Service      On: 1      Under: 5		
214 Movable Bridge: 00		
203 Type Bridge: O-N-O-O		
259 Pile Encasement: 2		
* 43 Structure Type Main: 1 04		
45 No. Spans Main: 005		
44 Structure Type Appr: 0 0		
46 No. Spans Appr: 0000		
226 Bridge Curve Horz: 0      Vert: 0		
111 Pier Protection: 0		
107 Deck Structure Type: 1		
108 Wearing Surface Type: 1		
Membrane: 8		
Protection: 8		
* 104 Highway System: 0		
* 26 Functional Classification: 06		
* 204 Federal Route Type: F      No: 076-1		
* 110 Truck Route: 1		
206 School Bus Route: 1		
217 Benchmark Elevation: 0.00		
218 Datum: 0		
* 19 Bypass Length: 9		
* 20 Toll: 3		
* 21 Maintenance: 01		
* 22 Owner: 01		
*		

# BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 073-0013-0

Columbia County

SUFF. RATING: 93.0

## Programming Data

201 Project No: RAB (4) SP 1117 (8)  
 202 Plans Available: 3  
 249 Prop. Proj No: STP-076-1 (21)  
 250 Approval Status: 0000  
 251 P.I. No: 221805  
 252 Contract Date: 02/01/2003  
 260 Seismic No: 00000  
 75 Type Work: 00 1  
 94 Bridge Imp. Cost: \$ 0  
 95 Roadway Imp. Cost: \$ 0  
 96 Total Imp. Cost: \$ 0  
 76 Imp. Length: 000000  
 97 Imp. Year: 0000  
 114 Future ADT: 011100 Year: 2018

## Hydraulic Data

215 Waterway Data  
 Highwater Elev: 0227.0 Year: 1940  
 Flood Elev: 0227.0 Freq: 05  
 Avg. Streambed Elev: 0213.0  
 Drainage Area: 00027  
 Area of Opening: 001430  
 113 Scour Critical: 5  
 216 Water Depth: 2.3 Br Height: 17.4  
 222 Slope Protection: 1  
 221 Spur Dikes Rear: 0 Fwrd: 0  
 219 Fender System: 0  
 220 Dolphin: 0  
 223 Culvert Cover: 000  
 No Barrels: 0  
 Type: 0  
 Width: 0.0  
 Height: 0.0  
 Length: 0  
 Apron: 0  
 \* 265 U/W Insp. Area: 0 Diver: ZZZ

## Measurements

\* 29 ADT: 007400 Year: 1998  
 109 % Trucks: 6  
 \* 28 Lanes On: 02 Under: 00  
 210 No. Tracks On: 00 Under: 00  
 \* 48 Max. Span Length: 0036  
 \* 49 Structure Length: 180  
 51 Br. Rdwy. Width: 34.8  
 52 Deck Width: 37.1  
 \* 47 Tot. Horz. Cl: 34.8  
 50 Curb/Sidewlk Width: 0.7/0.7  
 32 Approach Rdwy Width: 028  
 \* 229 Slddr Width:  
 Rear Lt: 2.0 Type: 2 Rt: 2.0  
 Fwrd Lt: 2.0 Type: 2 Rt: 2.0  
 Pmnt Width:  
 Rear: 24.0 Type: 2  
 Fwrd: 24.0 Type: 2  
 Intersection Rear: 0 Fwrd: 0  
 36 Safety Features Br. Rail: 2  
 Transition: 2  
 App. G. Rail: 2  
 App. Rail End: 2  
 53 Minimum Cl. Over: 99'99"  
 Under: N 00'00"  
 \* 228 Min. Vert. Cl  
 Act. Odm. Dir: 99'99"  
 Oppo. Dir: 99'99"  
 Posted Odm. Dir: 00'00"  
 Oppo. Dir: 00'00"  
 55 Lateral Undercl. Rt: N 99.9  
 56 Lateral Undercl. Lt: 0.0  
 \* 10 Max Min Vert Cl: 99'99" Dir: 0  
 39 Nav Vert Cl: 000 Horz: 0000  
 116 Nav Vert Cl Closed: 000  
 245 Deck Thickness Main: 8.0  
 Deck Thick Approach: 0.0  
 246 Overlay Thickness: 0.0  
 211 Tons Structural Steel: 0.0  
 212 Year Last Painted: Sup: 0000 Sub: 1971

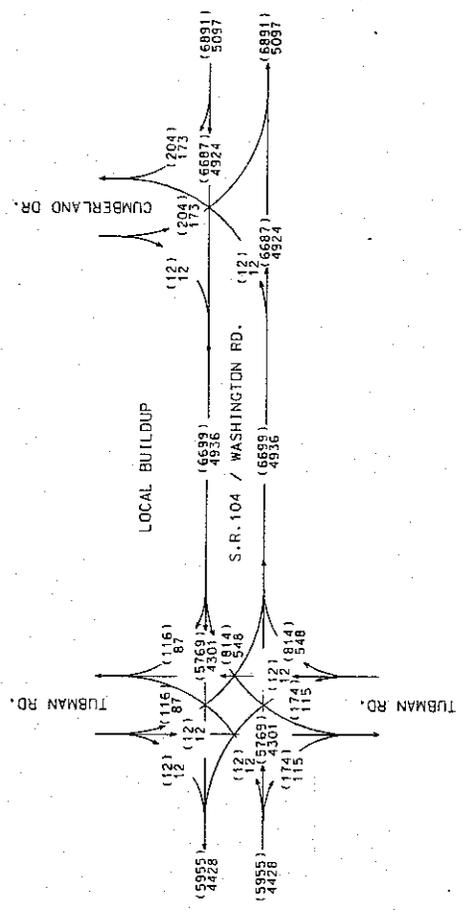
## Ratings

66 Inventory Type: 2 Rating: 36  
 64 Operating Type: 2 Rating: 60  
 231 Calculated Loads  
 H-Modified: 20 0  
 HS-Modified: 25 0  
 Type 3: 28 0  
 Type 3s2: 40 0  
 Timber: 36 0  
 Piggyback: 40 0  
 261 H Inventory Rating: 22  
 262 H Operating Rating: 38  
 67 Structural Evaluation: 6  
 58 Deck Condition: 6  
 \* 227 Superstructure Condition: 6  
 227 Collision Damage: 0  
 60A Substructure Condition: 6  
 60B Scour Condition: 8  
 60C Underwater Condition: N  
 71 Waterway Adequacy: 8  
 61 Channel Protection Cond: 6  
 68 Deck Geometry: 4  
 69 UnderClr. Horz/Vert: N  
 72 Appr. Alignment: 8  
 62 Culvert: N

## Posting Data

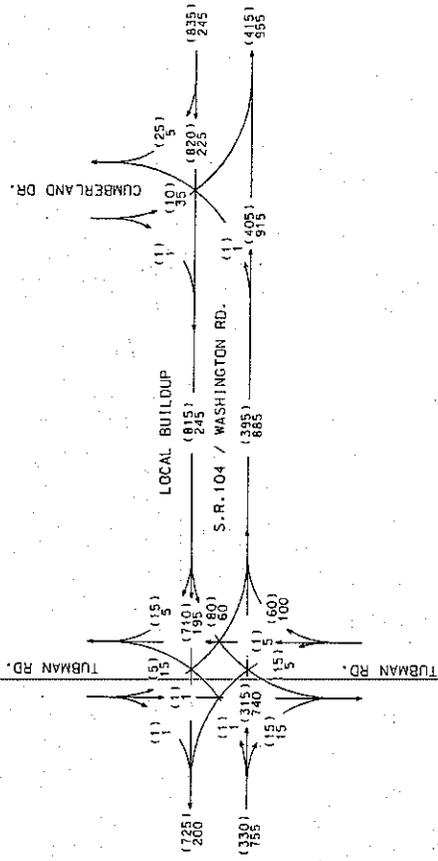
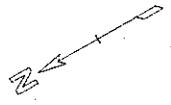
70 Bridge Posting Required: 5  
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 \* 103 Temporary Structure: 0  
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 HS-Modified: 00  
 Type 3: 00  
 Type 3S2: 00  
 Timber: 00  
 Piggyback: 00  
 253 Notification Date: 0000  
 253 Fed Notify Date: 0000 0

Report Date: 11/03/1999



STP-076-1(21)  
P. # 221805  
COLUMBIA COUNTY  
2026 A.M. DIV=(000)  
2026 P.M. DIV=(000)  
1=7%

COL  
10-00





ARCADIS Geraghty & Miller, Inc.  
2849 Paces Ferry Road  
Suite 400  
Atlanta  
Georgia 30339  
Tel 770 431 8666  
Fax 770 435 2666

## MEETING REPORT

Participants:  
See Attached Sign-In Sheet

Copies:  
Participants

## TRANSPORTATION

Place/date of meeting:  
GDOT Room 444, August 16,2000

Minutes by:  
Jess Billmeyer

Subject:  
Concept Team Meeting for SR 104  
Improvements – Columbia County:  
STP-076-1 (21), STP-076-1 (22)  
STP-076-1 (23)

ARCADIS Geraghty & Miller Project No.:  
GA062571.0330  
GA062571.0340  
GA062571.0560

This document should be reviewed by all recipients. Any additions, revisions, or deletions should be called to the attention of the writer within ten (10) days.

The meeting commenced at 10:00 a.m. Mr. Rick Reasons, from GDOT, chaired the meeting and highlighted the main elements of the draft concept reports developed by ARCADIS Geraghty & Miller. The Concept Team Meeting was for three projects: STP-076-1 (21), STP-076-1 (22) and STP-076-1 (23). Copies of the draft concept reports were made available to all team members, and plots of the preferred concepts were displayed.

Mr. Reasons began the meeting by discussing the common aspects of the three projects:

### Project identification:

- A. STP-076-1 (22), 3.30 miles from ½ mile west of SR 47/Pollards Corner (MP 15.25) to east of Mt. Rosemont Road/CR 80 (MP 11.95).
- B. STP-076-1 (21), 3.0 miles from the end of STP-076-1(22) to east of Cumberland Drive/CR 515 (MP 8.95).
- C. STP-076-1 (23), 2.35 miles from the end of STP-076-1(21) to east of Halali Farm Road/CR 91 (MP 6.60).

C  
O  
P  
Y

**Classification/Designation – three projects:**

**PDP – Major Project/Existing Location**  
**Functional – Rural Arterial**  
**Designation – Exempt**

**Existing and proposed typical section – three projects:**

Posted speed – 55 mph

Existing – two lanes with 6-foot rural grassed shoulders, 100-foot right-of-way

Proposed – retain existing two lane where possible, add two lanes with 44-foot depressed grassed median, rural shoulders with 6-foot paved, 200-foot normal required. Right-of-way, slightly wider in a few locations. These are shown on the displays.

**Design criteria – three projects:**

55 mph

Existing – degree of curve varies from 0°30' to 1°

Maximum grade – (22) 5.9%, (21) 6.73%, (23) 6.5%

Proposed – degree of curve varies 0°30' to 1°

Maximum allowable and proposed grade 5%

Following are the meeting minutes of key issues that were addressed by the various members of the team for each specific project.

**STP-076-1 (22), PI 221805 – SR 104 from SR 47 to Mt. Rosemont Road**

1. Mr. Rick Reasons described the typical section for the proposed concept, which is a four lane rural section with a 44-foot depressed median. Mr. Reasons asked if everyone had read the Need & Purpose Statement. There were no additional comments. Mr. Reasons read the traffic projections. The median openings in the proposed concept are the same median openings proposed in the previously approved concept report.
2. Mr. Keith Franklin of ARCADIS Geraghty & Miller described the proposed concept. The concept shows widening to the south side of SR 104 for the majority of the project. The widening shifts to the north side near Pollards Corner to avoid impacts to a lake.
3. Mr. Reasons stated that a design variance has been approved to allow a median opening at the Lumber Company entrance. This median opening is below 1,320 feet from Burks Mountain Road.
4. Mr. Reasons stated that there are no major structures, right-of-way displacements consist of six residences and two businesses, and approximately 25 parcels are involved.
5. Mr. George Brewer, GDOT district office, asked if all three projects would be let at once. Ms. Katie Mullins, GDOT's Office of Planning and Programming, responded that Units 21 and 23 would be let at the same time. Unit 22 right-of-way purchasing is scheduled for 2003. Unit 22 construction is long

range, but may be moved up. The GDOT district office commented that if the projects are not let at the same time, the tie-ins between the proposed and existing would need to be looked at in more detail.

6. Mr. Reasons commented that GDOT has an LGPA agreement with the county for utilities.
7. Mr. Michael Murdock, GDOT Office of Environment/Location, commented that it is likely that there are underground storage tanks (USTs) in the northeast corner of the intersection of SR 47 and SR 104. A test will need to be conducted at the lumber company site to determine if there are any hazardous wastes on the parcel.
8. Mr. Tim Smith, GDOT Traffic Operations, asked if any signals would be required on this project. A signal will be required at the intersection of SR 104 and SR 47.
9. Mr. Jimmy Smith, GDOT Traffic Operations, commented that right and left turn lanes for SR 47 at the intersection with SR 104 should be included in this project.
10. Mr. Jerry Wylie, Georgia Power, commented that the power lines are located on the north side of the road. The lines have been in place since 1937 and are therefore reimbursable.
11. Georgia Power offered to allow their power poles to be used as strain poles for any proposed traffic signals. They would also like to meet with the design team to work to prevent excessive utility relocations.
12. Mr. Reasons commented that there is a letter in the file stating that a fiber optics line is on the north side. District Utilities will be requested to provide markups showing these limits. This will apply to all three projects since the exact limits and location were unknown.

#### **STP-076-1 (21), PI 221805 – SR 104 from Mt. Rosemont Road to Cumberland Drive**

1. Mr. Rick Reasons described the typical section for the proposed concept, which is a four lane rural section with a 44-foot depressed median. Mr. Reasons asked if everyone had read the Need & Purpose Statement. There were no additional comments. Mr. Reasons read the traffic projections. The median openings in the proposed concept are the same median openings proposed in the previously approved concept report (August 22, 1991).
2. Mr. Keith Franklin of ARCADIS Geraghty & Miller described the proposed concept. The concept shows widening to the south side of SR 104 for the majority of the project. The widening shifts to the north side near the west end of the project to avoid a hazardous waste site. The widening shifts to the north near the east side of the project to tie into the proposed improvements in Unit 23.
3. Mr. Reasons described the major structures (bridges over Kiokee Creek and Little Kiokee Creek). The existing bridges will be widened and parallel bridges built. Right-of-way displacements consist of four residences, and approximately 36 parcels are involved.
4. Ms. Katie Mullins, GDOT Office of Planning and Programming, stated that the right-of-way for the project will be purchased beginning in fiscal year 2002. Construction will begin in fiscal year 2003. The project is estimated to be let in July 2002.

5. Mr. Michael Murdoch, GDOT Office of Environmental Location, commented that the hazardous waste site on the project is identified correctly on the concept layouts. He also commented that there may have been an old gas station on the corner of SR 104 and Mt. Rosemont Road. If the parcel used to be a gas station, an investigation will need to be made to determine if there are any USTs or hazardous waste.
6. Mr. Murdoch, GDOT Office of Environmental Location, commented that the revolutionary war soldier gravesite might not be impacted by the proposed improvements. The alignment may need to shift farther away from the cemetery to prevent impacts.
7. Mr. Reasons commented that GDOT has an LGPA agreement with the county for utilities.
8. Mr. Ron Hutto, Columbia County, commented that the median opening at SR 104 and Old Washington Road is definitely needed. A large golf course community is planned to have an entrance at that location. William Few Parkway may be relocated to this median opening in the long-range plan.
9. Mr. Jimmy Smith, GDOT Traffic Operations, asked if the new alignment of Old Washington Road has an intersection angle of 90 degrees. Columbia County responded that the angle is 75 degrees and was approved by the GDOT district office. Columbia County will provide GDOT with a set of construction plans for the Old Washington Road realignment.
10. Mr. Ron Hutto, Columbia County, commented that a contract to realign North Tubman Road will be let this year and construction will begin next year.
11. Mr. Jerry Wylie, Georgia Power, commented that the power lines are located on the south side of the road. The lines have been in place since 1936 and are therefore reimbursable.
12. Mr. Wylie of Georgia Power offered to allow Georgia Power's power poles to be used as strain poles for any proposed traffic signals. They would also like to meet with the design team to work to prevent excessive utility relocations.
13. Mr. Mike Thomas, District 2 engineer, questioned which project would include the intersection at CR 80. Mr. Reasons responded that the project to be let first would include the full design necessary for the intersection with associated lane drops and tapers.

#### **STP-076-1 (23), PI 221805 – SR 104 from Cumberland Drive to Halali Farm Road**

1. Mr. Rick Reasons described the typical section for the proposed concept, which is a four lane rural section with a 44-foot depressed median. Mr. Reasons asked if everyone had read the Need & Purpose Statement. There were no additional comments. Mr. Reasons read the traffic projections. The median openings in the proposed concept are the same median openings proposed in the previously approved concept report (August 8, 1991).
2. Mr. Keith Franklin of ARCADIS Geraghty & Miller described the proposed concept. The concept shows widening to the north side of SR 104 for the entire length of the project.

3. Mr. Reasons described the major structures (bridges over Kiokee Creek and Little Kiokee Creek). The existing bridges will be widened and parallel bridges will be built. Right-of-way displacements consist of seven residences and two businesses, and approximately 36 parcels are involved.
4. Ms. Katie Mullins, GDOT Office of Planning and Programming, stated that the right-of-way for the project will be purchased beginning in fiscal year 2003. Construction will begin in fiscal year 2004. The project is estimated to be let in July 2002. This project will be let with Unit 21.
5. Mr. Reasons commented that GDOT has an LGPA agreement with the county for utilities.
6. Mr. Jimmy Smith, GDOT Traffic Operations, commented that traffic on William Few Parkway is very heavy turning left toward Augusta. They requested that a dual left turn lane be evaluated at this location.
7. Mr. Ron Hutto, Columbia County, commented that the traffic on William Few Parkway would increase due to a recently completed school. He also stated that many residential developments are planned off of William Few Parkway.
8. Mr. Mike Thomas, District 2 engineer, asked if the impacts to the Windmill subdivision had changed since the original concept. There is no change from the original concept. Mr. Reasons stated he had been in contact with District right-of-way personnel in regard to the corner parcel.
9. Mr. Jerry Wylie, Georgia Power, commented that the power lines are located on the south side of the road. The lines are considered reimbursable.
10. Mr. Jerry Wylie with Georgia Power offered to allow their power poles to be used as strain poles for any proposed traffic signals. They would also like to meet with the design team to work to prevent excessive utility relocations.
11. Mr. Jimmy Smith with the GDOT District Operations commented that the end of this project is near the beginning of an ITS corridor in Augusta. ITS improvements may be incorporated into this project if the project falls within the ITS system limits.
12. Mr. Jimmy Smith with GDOT District Operations stated that there is a commercial parcel with an automotive body shop on the south side of SR 104 at the end of this project. This parcel should be tested for hazardous waste.
13. Senator Joey Brush represented the 24<sup>th</sup> District. He stated that the concepts for all three projects are acceptable to him and he had no comments.

Attachments: Concept Team Meeting Agenda, Sign-In Sheet



DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
OFFICE OF ROAD AND AIRPORT DESIGN

PROJECT CONCEPT REPORT

STP-076-1(21)  
COLUMBIA COUNTY  
P.I. NO. 221805

FEDERAL ROUTE NO: None  
STATE ROUTE NO: S.R. 104

Date of Report: September 6, 2000

RECOMMENDATION FOR APPROVAL

01-20-01  
DATE

*James Kennedy*  
State Road and Airport Design Engineer

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

\_\_\_\_\_  
DATE

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

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Transportation Programming Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Environmental/Location Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
District Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
Project Review Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Traffic Operations Engineer

01-27-01  
DATE

*Paul V. Tills Jr.*  
State Bridge & Structural Engineer

**EXISTING ROADWAYS**

**SR 104**

TYPICAL SECTION: Two-lane rural with 6-foot-wide grassed shoulders and open ditches

R/W WIDTH  
100'

POSTED SPEED  
55 MPH

MAX. DEGREE OF CURVE  
1°-00'

MAXIMUM GRADE (%)  
6.73

MAJOR STRUCTURES:

1. 36' x 276' bridge over Kiokeek Creek with a sufficiency rating of 81.2
2. 36' x 180' bridge over Little Kiokeek Creek with a sufficiency rating of 93.0

**PROPOSED ROADWAYS**

**SR 104**

TYPICAL SECTION: Four 12-foot-wide lanes (two lanes in each direction), 44-foot-wide median (including 2-foot-wide paved shoulders on each side), and 10-foot-wide (6.5 feet paved) shoulders and open ditches on each side. The typical section will also include right and left turn lanes at selected intersections.

DESIGN SPEED  
55 MPH

MAX. DEGREE OF CURVE  
ALLOWABLE: 6°-00'  
PROPOSED: 1°-00'

MAXIMUM GRADE (%)  
ALLOWABLE: 5.00  
PROPOSED: 5.00

MAJOR STRUCTURES:

1. Construct a new concrete <sup>40'</sup> x 276' bridge parallel to the existing bridge at Kiokeek Creek.
2. Construct a new concrete <sup>40'</sup> x 180' bridge parallel to the existing bridge at Little Kiokeek Creek.
3. Widen to <sup>40'</sup> the existing bridges over Kiokeek and Little Kiokeek Creeks.

*30' ML 1/27/00*

**PROPOSED RIGHT OF WAY**

R/W WIDTH  
200' (min.)

DISPLACEMENTS  
RES: 4    BUS: 0    M.H.: 0

NUMBER OF PARCELS: 36

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
OFFICE OF ROAD AND AIRPORT DESIGN

PROJECT CONCEPT REPORT

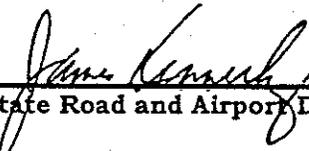
STP-076-1(21)  
COLUMBIA COUNTY  
P.I. NO. 221805

FEDERAL ROUTE NO: None  
STATE ROUTE NO: S.R. 104

Date of Report: September 6, 2000

RECOMMENDATION FOR APPROVAL

01-20-01  
DATE

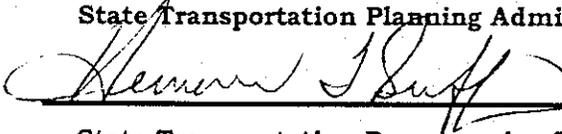
  
State Road and Airport Design Engineer

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DATE

State Transportation Planning Administrator

1/23/01  
DATE

  
State Transportation Programming Engineer

DATE

State Environmental/Location Engineer

DATE

State Environmental/Location Engineer

DATE

District Engineer

DATE

Project Review Engineer

DATE

State Traffic Operations Engineer

DATE

State Bridge & Structural Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
OFFICE OF ROAD AND AIRPORT DESIGN

PROJECT CONCEPT REPORT

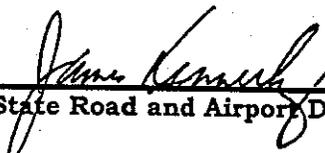
STP-076-1(21)  
COLUMBIA COUNTY  
P.I. NO. 221805

FEDERAL ROUTE NO: None  
STATE ROUTE NO: S.R. 104

Date of Report: September 6, 2000

RECOMMENDATION FOR APPROVAL

01-20-01  
DATE

  
State Road and Airport Design Engineer

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DATE

State Transportation Planning Administrator

DATE

State Transportation Programming Engineer

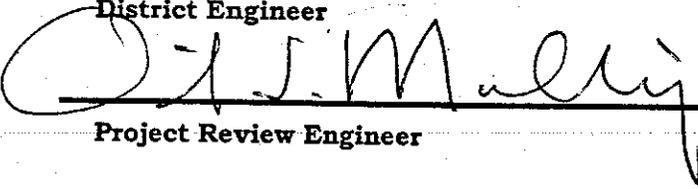
DATE

State Environmental/Location Engineer

DATE

District Engineer

1/23/01  
DATE

  
Project Review Engineer

DATE

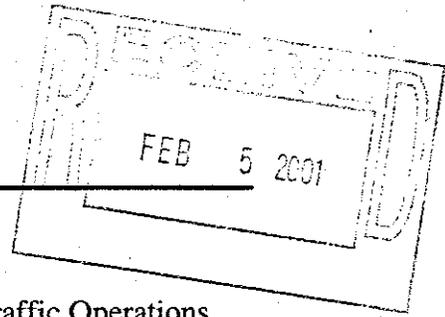
State Traffic Operations Engineer

DATE

State Bridge & Structural Engineer

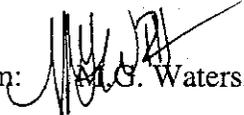
Department of Transportation  
State of Georgia

INTERDEPARTMENTAL CORRESPONDENCE



File: STP-076-1(21)/Columbia County  
P.I. No. 221805

Office: Traffic Operations  
Atlanta, Georgia  
Date: January 25, 2001

From:  M.G. Waters, III, P.E., State Traffic Operations Engineer

To: Wayne Hutto, Assistant Director of Preconstruction

Subject: Project Concept Report Review

We have reviewed the concept report on the above project for the widening of SR 104(Washington Road), beginning just east of Mt. Rosemont Road(CR 80) to just east of Cumberland Drive(CR 515), a distance of 3.0 miles. This is one of several projects along the corridor which purpose is to provide improvement for local and through traffic between Augusta and Pollard's Corner.

SR 104 is currently a rural two lane roadway with 6 foot grassed shoulders, open ditches and a posted speed limit of 55mph. It is currently operating at an unacceptable level of service due to continuing development in the area and the rolling terrain. Accidents on the corridor exceed the statewide averages for similarly classified facilities.

This project proposes to widen SR 104 to a four lane divided roadway with a 44 foot grassed median, 10 foot shoulders, of which 6.5 feet will be paved, and left and right turn lanes at selected intersections. New parallel bridges are to be constructed at Kiokee Creek and Little Kiokee Creek with the widening of the existing structures. The design speed is based on 55mph. Traffic is to be maintained, via staging, during construction with possible detours required at major grade changes.

We believe this concept will improve safety and traffic operations along this section of roadway.

We therefore find this report satisfactory for approval.

MGW:TWS

Attachment (signature page)

c: Harvey Keepler  
James A. Kennerly, State Road and Airport Design Engineer  
Attention: Stanley Hill

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
OFFICE OF ROAD AND AIRPORT DESIGN

PROJECT CONCEPT REPORT

STP-076-1(21)  
COLUMBIA COUNTY  
P.I. NO. 221805

FEDERAL ROUTE NO: None  
STATE ROUTE NO: S.R. 104

Date of Report: September 6, 2000

RECOMMENDATION FOR APPROVAL

01-20-01  
DATE

*John Kennedy*  
State Road and Airport Design Engineer

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\_\_\_\_\_  
DATE

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

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Transportation Programming Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Environmental/Location Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
District Engineer

DATE

Project Review Engineer

01/31/2001  
DATE

*Maria H. Hester*  
State Traffic Operations Engineer

\_\_\_\_\_  
DATE

\_\_\_\_\_  
State Bridge & Structural Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
OFFICE OF ROAD AND AIRPORT DESIGN

**PROJECT CONCEPT REPORT**

**STP-076-1(21)  
COLUMBIA COUNTY  
P.I. NO. 221805**

FEDERAL ROUTE NO: None  
STATE ROUTE NO: S.R. 104

Date of Report: September 6, 2000

**RECOMMENDATION FOR APPROVAL**

01-20-01  
DATE

*James Kennedy*  
State Road and Airport Design Engineer

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11/30/01  
DATE

*Marta Rosen*  
State Transportation Planning Administrator

DATE

State Transportation Programming Engineer

DATE

State Environmental/Location Engineer

DATE

District Engineer

DATE

Project Review Engineer

DATE

State Traffic Operations Engineer

DATE

State Bridge & Structural Engineer