

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 0006825, Gwinnett County **OFFICE** Preconstruction
CSSTP-0006-00(825)
SR 13/Buford Highway ITS/ATMS **DATE** March 5, 2007

FROM *to* *Cynthia Kunkel* Genetha Rice-Singleton, Assistant Director of Preconstruction

TO SEE DISTRIBUTION

SUBJECT APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

GRS/cj

Attachment

DISTRIBUTION:

Brian Summers
Harvey Keepler
Ken Thompson
Jamie Simpson
Michael Henry
Keith Golden
Angela Alexander (file copy)
Paul Liles
Babs Abubakari
Russell McMurry
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: P. I. No. 0006825, Gwinnett County **OFFICE:** Preconstruction
 CSSTP-0006-00(825)
 SR 13/Buford Highway ITS/ATMS **DATE:** February 20, 2007

FROM: *John Yarb*
 Genetha Rice-Singleton, Assistant Director of Preconstruction

TO: David E. Studstill, Jr., P.E., Chief Engineer

SUBJECT: PROJECT CONCEPT REPORT

This project consists of the installation of fiber optic communications cable and closed circuit television (CCTV) cameras along Buford Highway/SR 13 between Global Forum Boulevard and Sugarloaf Parkway for a total of 11.0 miles. Traffic volumes on Buford Highway have increased to 44,820 VPD. This arterial has become congested and operates below an acceptable level of service (LOS) during peak hours. The purpose of this project is to enable arterial traffic monitoring, signal control and quicker incident response on Buford Highway. An intelligent transportation system (ITS) will allow for improved signal progression and traffic surveillance as well as the ability to control signal timing to effectively manage traffic backup due to incidents along the roadway. The ITS system will allow for a more orderly progression of traffic through the Buford Highway corridor.

The construction proposes an underground fiber trunk line to be installed along the shoulder of Buford Highway between Global forum Boulevard and Sugarloaf parkway. The project will connect to the existing fiber optic cable network at the intersections of Jones Mill Road, Jimmy Carter Boulevard/SR 140, and the fiber optic network under design that ends at the intersection of Beaver Ruin Road/SR 378, providing connectivity to the Gwinnett County TCC. Twelve (12) new CCTV cameras will be installed as well as fiber optic drop cables to eighteen (18) traffic signals. Shoulder closures and/or right lane will be required for installation of ITS devices and trenching for conduit and fiber optic trunk line.

Environmental concerns include requiring a Categorical Exclusion be prepared; a public hearing open house is not required; time saving procedures are appropriate.

The estimated costs for this project are:

	PROPOSED	APPROVED	FUNDING	PROG DATE
Construction (includes E&C and inflation)	\$3,225,000	\$2,330,000	L230	2008
Right-of-Way & Utilities*	Local	Local		

P.I. No. 0006825, Gwinnett
February 20, 2007

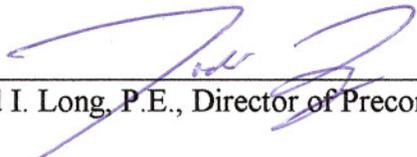
*Gwinnett County signed for PE and utilities; right-of-way and construction to be done by future agreements.

I recommend this project concept be approved.

GRS:JDQ/cj

Attachment

CONCUR



Todd I. Long, P.E., Director of Preconstruction

APPROVE



David E. Studstill, Jr., P.E., Chief Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE: CSSTP-0006-00(825) Gwinnett
P.I. No. 0006825
S.R. 13/Buford Highway ATMS

OFFICE: Engineering Services

DATE: February 20, 2007

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

TO: Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT: CONCEPT REPORT

We have reviewed the Concept Report submitted January 29, 2007 and have no comments.

The costs for this project are:

Construction	\$2,931,200
E & C	\$293,120
Reimbursable Utilities	\$0.00
Right of Way	\$0.00

REW

c: Keith Golden, Attn.: Jim Tolsen

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
District 1 Preconstruction

BUFORD HIGHWAY – SR 13 ITS/ATMS

PROJECT CONCEPT REPORT

Project Number: CSSTP-0006-00(825)

County: Gwinnett

P.I. Number: 0006825

Federal Route Number: 23

State Route Number: 13

County Route Number: 131

SEE PAGE 2 FOR LOCATION SKETCH

Recommendation for approval:

DATE 1/29/07

James E. Tolson
Project Manager

DATE 1/29/07

David Gold
State Traffic Safety and Design Engineer

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

DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Financial Management
Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

District Engineer

DATE 2/20/07

Brian K. Sumner *RLW*
Project Review Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
District 1 Preconstruction

BUFORD HIGHWAY – SR 13 ITS/ATMS

PROJECT CONCEPT REPORT

Project Number: CSSTP-0006-00(825)
County: Gwinnett
P.I. Number: 0006825

Federal Route Number: 23
State Route Number: 13
County Route Number: 131

SEE PAGE 2 FOR LOCATION SKETCH

Recommendation for approval:

DATE 1/29/07

James E. Tolson
Project Manager

DATE 1/29/07

Scott Gold
State Traffic Safety and Design Engineer

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

DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Financial Management Administrator

DATE 2.15.07

Christopher K. Kuylen
State Environmental/Location Engineer

DATE _____

District Engineer

DATE _____

Project Review Engineer

WKB

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
District 1 Preconstruction

BUFORD HIGHWAY – SR 13 ITS/ATMS

PROJECT CONCEPT REPORT

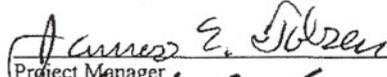
Project Number: CSSTP-0006-00(825)
County: Gwinnett
P.I. Number: 0006825

Federal Route Number: 23
State Route Number: 13
County Route Number: 131

SEE PAGE 2 FOR LOCATION SKETCH

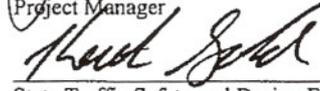
Recommendation for approval:

DATE 11/29/07



Project Manager

DATE 1/29/07



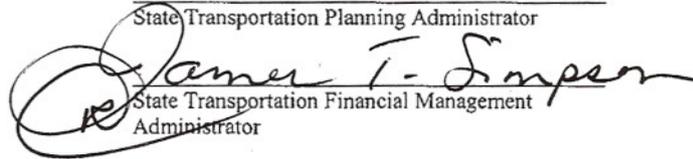
State Traffic Safety and Design Engineer

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

DATE _____

State Transportation Planning Administrator

DATE 1-30-07



State Transportation Financial Management
Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

District Engineer

DATE _____

Project Review Engineer

NOTICE OF LOCATION AND DESIGN APPROVAL

PROJECT: CSSTP-0006-00(825)
P.I. NO. 006825

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of the above projects.

Date of Location and Design Approval: MARCH 5, 2007

18 Project CSSTP-0006-00(825), the Buford Highway-SR 13 ATMS project, expands on the current Intelligent Transportation System (ITS) in place in Gwinnett County, GA. The project will consist of the installation of a fiber optic communication backbone and twelve (12) CCTV sites along an 11 mile section of Buford Highway-SR 13, starting at the intersection of Global Forum Boulevard, approximately 415' North of Mile Marker 0, and terminating approximately 390' North of the 11 Mile Marker at the intersection of Sugarloaf Parkway. The Project will connect to the existing fiber optic cable network at the intersections of Jones Mill Road, Jimmy Carter Boulevard-SR 140, and the fiber optic network under design that ends at the intersection of Beaver Run Road-SR 378 providing connectivity to the Gwinnett County TCC. The Project will also provide for communication to the existing traffic signals along Buford Highway-SR 13. There are a total of nineteen (19) traffic signals within the project limits that will be connected to the fiber optic backbone back to the TCC.

Drawings of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

Mr. Jim Tolson, Traffic Design Manager
935 E. Confederate Avenue
Wayne Shackelford Building
Atlanta, Georgia 30316
(404) 635-8139
email: jim.tolson@dot.state.ga.us

Any interested party may obtain a copy of the drawings or portions thereof by paying a nominal fee and requesting in writing to:

Keith Golden, P.E.
Office of Traffic Safety & Design
935 E. Confederate Avenue
Building 24
Atlanta, Georgia 30316
email: keith.golden@dot.state.ga.us

Any written request or communication in reference to this project or notice should include the Project and P.I. Number as noted at the top of this notice.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
District 1 Preconstruction

BUFORD HIGHWAY – SR 13 ITS/ATMS

PROJECT CONCEPT REPORT

Project Number: CSSTP-0006-00(825)

County: Gwinnett

P.I. Number: 0006825

Federal Route Number: 23

State Route Number: 13

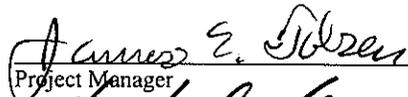
County Route Number: 131

SEE PAGE 2 FOR LOCATION SKETCH

Recommendation for approval:

DATE 1/29/07

DATE 1/29/07


Project Manager


State Traffic Safety and Design Engineer

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

DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Financial Management Administrator

DATE _____

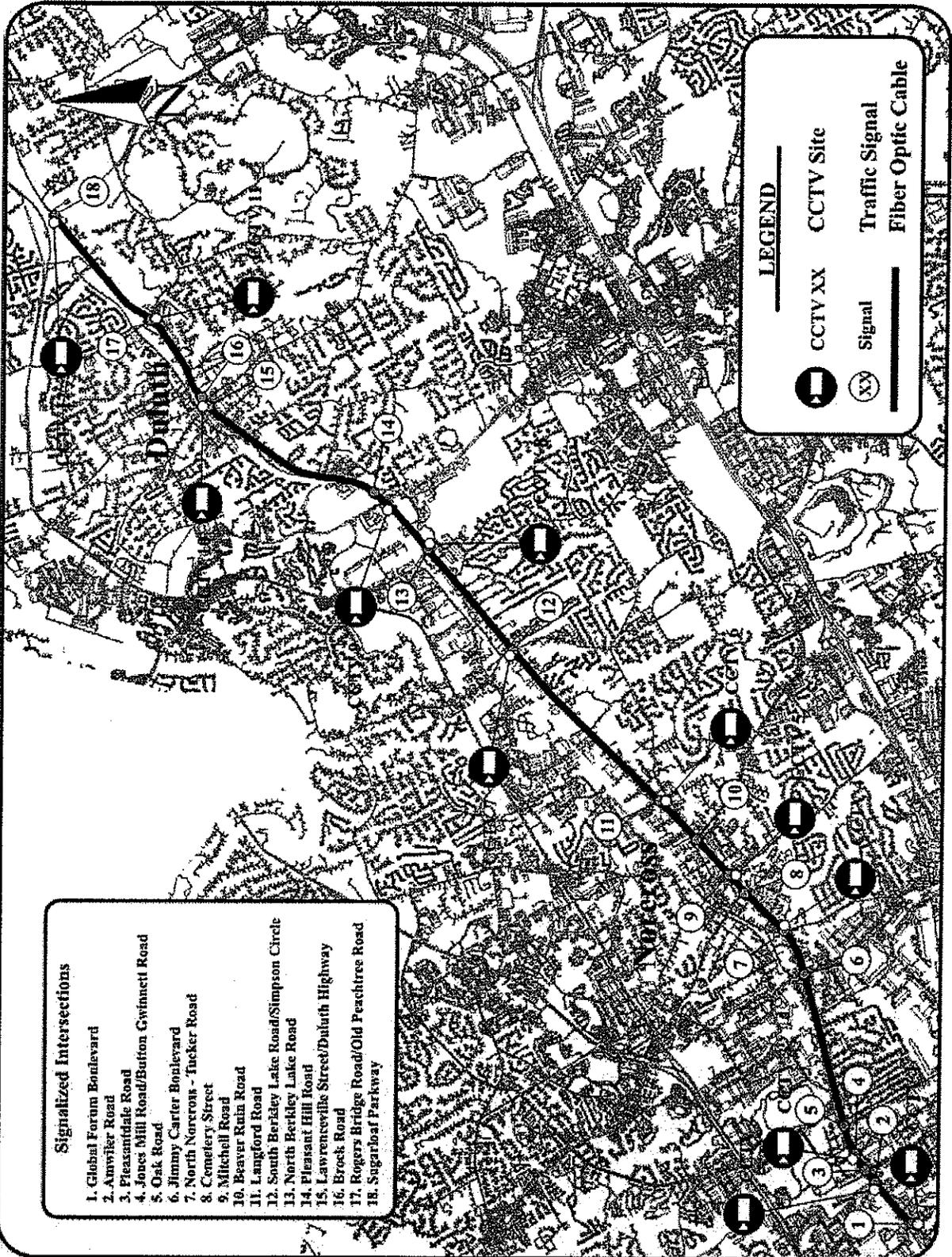
State Environmental/Location Engineer

DATE _____

District Engineer

DATE _____

Project Review Engineer



Signalized Intersections

1. Global Forum Boulevard
2. Amwiler Road
3. Pleasantdale Road
4. Jones Mill Road/Buffon Gwinnett Road
5. Oak Road
6. Jimmy Carter Boulevard
7. North Norcross - Tucker Road
8. Cemetery Street
9. Mitchell Road
10. Beaver Run Road
11. Langford Road
12. South Berkeley Lake Road/Simpson Circle
13. North Berkeley Lake Road
14. Pleasant Hill Road
15. Lawrenceville Street/Daluth Highway
16. Brock Road
17. Rogers Bridge Road/Old Peachtree Road
18. Sugarloaf Parkway

LEGEND

-  CCTV XX
-  CCTV Site
-  Signal
-  Traffic Signal
-  Fiber Optic Cable

Need and Purpose: Project CSSTP-0006-00(825) recognizes that the Buford Highway-SR13 Corridor between Global Forum Boulevard and Sugarloaf Parkway is an important travel corridor with limited high speed communication infrastructure capable of supporting Intelligent Transportation Systems (ITS) technologies such as video observation. The corridor currently has multi-modal fiber communications for the traffic signal control system at four (4) intersections.

The purpose of Project CSSTP-0006-00(825) is to install a fiber optic backbone along the entire Buford Highway – SR13 corridor from Global Forum Boulevard on the south end to Sugarloaf Parkway on the north end that will link existing and future ITS projects to the Gwinnett County Traffic Control Center (TCC). The project will also provide for the installation of closed circuit television (CCTV) cameras and future traffic signal interconnect improvements along the corridor.

The addition of the fiber optic backbone, CCTV cameras, and improved traffic signal interconnect will provide Gwinnett County with the following options:

- Corridor incident monitoring and advanced detection
- Signal timing monitoring and fine tuning
- Signal trouble call verification and improved resource dispatch
- Accident monitoring and observation of high incident areas

Description of the proposed project: Project CSSTP-0006-00(825), the Buford Highway-SR13 ATMS project, expands on the current Intelligent Transportation System (ITS) in place in Gwinnett County, GA. The project will consist of the installation of a fiber optic communication backbone along an 11 mile section of Buford Highway-SR13, starting at the intersection of Global Forum Boulevard and terminating at the intersection of Sugarloaf Parkway.

Project CSSTP-0006-00(825) includes the installation of fiber optic cable beginning on the south end of the project at the intersection of Global Forum Boulevard, will connect to the existing fiber optic cable network at the intersections of Jones Mill Road, Jimmy Carter Boulevard-SR140, the fiber optic network under design that ends at the intersection of Beaver Run Road-SR378 providing connectivity to the TCC, and continue to the intersection of Sugarloaf Parkway on the north end.

Project CSSTP-0006-00(825) will also provide for communication to the existing traffic signals along Buford Highway-SR13. There are a total of eighteen (18) traffic signals within the project limits that will be connected to the fiber optic backbone back to the TCC

As part of Project CSSTP-0006-00(825) there will be twelve (12) CCTV sites along the Buford Highway-SR13 corridor. The installations include the following locations:

**CCTV Location Site
Buford Highway - SR13**

- 1) Southeast corner of Global Forum Boulevard
- 2) Southwest corner of Amwiler Road
- 3) Southwest corner of Jones Mill Road/Button Gwinnett Road
- 4) Northeast corner of North Norcross-Tucker Road
- 5) Southeast corner of Mitchell Road
- 6) Southeast corner of Langford Road
- 7) Southwest corner of South Berkley Lake Road/Simpson Circle
- 8) Northeast corner of North Berkley Lake Road
- 9) Southwest side of interchange Pleasant Hill Road
- 10) Northwest corner of Duluth Highway/Lawrenceville Street
- 11) Southeast corner Rogers Bridge Road/Old Peachtree Road
- 12) Southwest corner Sugarloaf Parkway

In addition Project CSSTP-0006-00(825) will provide communication to the following signalized intersections:

Buford Highway-SR13 at:

- 1) Global Forum Boulevard
- 2) Amwiler Road
- 3) Pleasantdale Road
- 4) Jones Mill Road/Button Gwinnett Road
- 5) Oak Road
- 6) Jimmy Carter Boulevard
- 7) North Norcross-Tucker Road
- 8) Cemetery Road
- 9) Mitchell Road
- 10) Beaver Ruin Road
- 11) Langford Road
- 12) South Berkley Lake/Simpson Circle
- 13) North Berkley Lake
- 14) Pleasant Hill Road (upon completion of interchange construction this signal will become two (2) separate signals located at the end of the eastbound and westbound access ramps on Buford Highway)
- 15) Lawrenceville Street/Duluth Highway
- 16) Brock Road
- 17) Rogers Bridge Road/Old Peachtree Road
- 18) Sugarloaf Parkway

Is the project in a Non-attainment area? Yes No

PDP Classification: Major Minor

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

Functional Classification: Urban Major Arterial

U.S. Route Number(s): US23

State Route Number(s): SR13

County Route Number(s): 131

Traffic (ADT):

Current Year: (2005) 44,820 Design Year (20YY) NA

Existing Design Features:

- Typical Section: 9.9 miles 5-lane with TWLTL, 1.1 miles 2 lane
- Posted speed: 35 – 55mph
- Maximum degree of curvature: N/A
- Maximum grade: N/A
- Width of right of way: 70'-220'

- Major structures:
Buford Highway over Pleasant Hill Road - GDOT Project No. STP-189-1(29),
P.I. No. 132890, GCDOT Project No. 9301
Structure ID: Length: 198' Width: 99' Sufficiency Rating:
(Under Construction – Projected Completion Early 2009)

- Major interchanges or intersections along the project:
Buford Highway-SR13 at:
 - 1) Global Forum Boulevard
 - 2) Amwiler Road
 - 3) Pleasantdale Road
 - 4) Jones Mill Road/Button Gwinnett Road
 - 5) Oak Road
 - 6) Jimmy Carter Boulevard
 - 7) North Norcross-Tucker Road
 - 8) Cemetery Road
 - 9) Mitchell Road
 - 10) Beaver Ruin Road
 - 11) Langford Road
 - 12) South Berkley Lake/Simpson Circle
 - 13) North Berkley Lake
 - 14) Pleasant Hill Road (upon completion of interchange construction this intersection will become two (2) separate intersections at the end of the eastbound and westbound access ramps on Buford Highway)
 - 15) Lawrenceville Street/Duluth Highway
 - 16) Brock Road
 - 17) Rogers Bridge Road/Old Peachtree Road
 - 18) Sugarloaf Parkway

- Existing length of roadway segment: 11.0 Miles

Proposed Design Features:

- Proposed typical section: Remain unchanged
- Proposed design speed mainline: N/A
- Proposed maximum grade mainline: N/A
- Proposed maximum grade side street: N/A
- Proposed maximum grade driveway: N/A
- Proposed minimum curve radius: N/A
- Right of way: No additional right of way required
- Structures: N/A
- Major intersections and interchanges: N/A
- Traffic control during construction:
 Traffic control for underground installation of fiber optic cable will be limited to shoulder closures only with no interruption of traffic signal operation. Installation of CCTV cameras may require the temporary closure of right lane.
- Design exceptions to controlling criteria anticipated:

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
HORIZONTAL ALIGNMENT:	()	()	(X)
ROADWAY WIDTH:	()	()	(X)
SHOULDER WIDTH:	()	()	(X)
VERTICAL GRADES:	()	()	(X)
CROSS SLOPES:	()	()	(X)
STOPPING SIGHT DISTANCE:	()	()	(X)
SUPERELEVATION RATES:	()	()	(X)
HORIZONTAL CLEARANCE:	()	()	(X)
SPEED DESIGN:	()	()	(X)
VERTICAL CLEARANCE:	()	()	(X)
BRIDGE WIDTH:	()	()	(X)
BRIDGE STRUCTURAL CAPACITY:	()	()	(X)

- Design Variances: N/A
- Environmental Concerns: During preliminary review of the project area there were no wetland or stream impacts anticipated as part of this project or need for US Army Corps of Engineers permits. It was determined that two (2) railroad crossing permits may be required from Norfolk-Southern Railroad at one location north of the Jones Mill Road/Button Gwinnett Road intersection and a second location just north of the North Berkley Lake Road intersection. Preliminary review also identified potentially historic resources within the project area but no impacts to these resources are anticipated. There were no low income or minority populations or communities observed. Historic resources and environmental justice communities will be explored further as part of the Categorical Exclusion (CE).

- Level of Environmental Analysis:
 - Are Time Saving Procedures Appropriate? Yes (X) No ()
 - Categorical Exclusion (X)
 - Environmental Assessment/Finding of No Significant Impact (FONSI) ()
 - Environmental Impact Statement (EIS) ()
- Utility Involvements:
 - Utility facilities located within the project limits include natural gas, phone, cable TV, water/sewer, communication, and a petroleum pipeline.

Project Responsibilities:

- Design: Gwinnett County
- Right of Way Acquisition: N/A
- Relocation of Utilities: N/A
- Letting to Contract: Gwinnett County
- Supervision of Construction: Gwinnett County
- Providing Material Pits: N/A
- Providing Detours: N/A

Coordination:

- Initial Concept Meeting: September 6, 2006
- Concept Team Meeting:
- P.A.R. meeting, dates, and results: N/A
- FEMA, USCG, and/or TVA: N/A
- Public Involvement: N/A
- Local Government Comments:
- Other Projects in the Area:
 - GDOT Project No. CSSTP-0007-00(330), P.I. No. 0007330, Jimmy Carter Boulevard at Buford Highway
 - GDOT Project No. STP-0005-00(688), P.I. No. 0005688, Beaver Ruin Road ITS/ATMS at Buford Highway
 - GDOT Project No. STP-189-1(29), P.I. No 132890, GCDOT Project No. 9301, Pleasant Hill Road/Buford Highway Interchange
 - GCDOT Project No. 4103/9648, Buford Highway - US23 at Old Peachtree Road/Rogers Bridge Road
- Other coordination to date: None

Scheduling – Responsible Parties’ Estimates

- Time to complete the environmental process: 10 months
- Time to complete preliminary construction plans: 2 months
- Time to complete construction plans: 2 months
- Time to complete the Section 404 Permit: N/A
- Time to complete final construction plans: 2 months
- Time to purchase right of way: N/A
- Other Impacts to Project Schedule
 - Communication Control Board: 3 months
 - Utility coordination: 3 months
 - Railroad approval: 10 months

Other alternatives considered:

- Alternative 1: Install fiber optic trunk cable, ITS elements, and CCTV camera systems at twelve (12) locations along corridor.
- Alternative 2: No build.

Comments: N/A

Attachments: Cost estimate

Preliminary Cost Estimate

Project Number: CSSTP-0006-00(825)

P.I. #0006825

GCDOT Project #M-0036-23

Bid Item	Description	Quantity	Unit Price	Ext
150-1000	Traffic Control	1	60,000.00	60,000.00
615-1200	Directional Bore, 4 IN	60000	25.00	1,500,000.00
639-500	Concrete Strain Poles	12	8,000.00	96,000.00
647-2150	Pull Box, TP5	99	2,000.00	198,000.00
682-6231	Conduit, TP 3, 1¼ IN	180000	3.00	540,000.00
935-1116	OSP Fiber Optic Cable, Loose Tube, Single Mode, 72 Fiber	64000	2.00	128,000.00
935-1512	OSP Fiber Optic Cable, Drop, Single Mode, 12 Fiber	3000	5.00	15,000.00
935-3106	Fiber Optic Cable Closure, Underground, 72 fiber	32	1,050.00	33,600.00
935-3403	Fiber Optic Closure, FDC, Rack Mounted	32	1,250.00	40,000.00
935-4010	Fiber Optic Splice Fusion	264	75.00	19,800.00
935-8000	Fiber Testing	1	40,000.00	40,000.00
935-8500	Training	1	6,800.00	6,800.00
936-1001	CCTV System	12	6,500.00	78,000.00
936-8500	CCTV Training	1	8,000.00	8,000.00
939-1190	Video Encoder	12	3,000.00	36,000.00
939-2305	Field Switch, TP C	12	1,600.00	19,200.00
939-4040	Cabinet, TP D	12	5,900.00	70,800.00
939-5010	Electrical Power Service Assembly	12	3,500.00	42,000.00
	Sub-Total			2,931,200.00
	Contingency, 10%			293,120.00
	Total			3,224,320.00