

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 0007950, Douglas County **OFFICE** Preconstruction
 CSSTP-0007-00(950)
 Chapel Hill Road at Central Church Road/
 Bomar Road Intersection Improvements **DATE** March 6, 2006

FROM *Cyber Vunals*
 Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

TO SEE DISTRIBUTION

SUBJECT APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

MBP/cj

Attachment

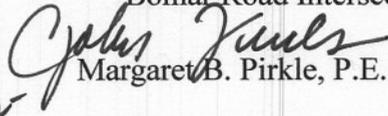
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- BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. 0007950, Douglas County **OFFICE** Preconstruction
 CSSTP-0007-00(950)
 Chapel Hill Road at Central Church Road/
 Bomar Road Intersection Improvement **DATE** March 2, 2006

FROM  Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

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

SUBJECT PROJECT CONCEPT REPORT

This project consists of intersection improvements for Chapel Hill Road at Central church Road in Douglas County. Chapel Hill Road is a major north-south thoroughfare located in central Douglas County serving a rapidly developing residential area west of Atlanta. This project will serve as an interim improvement to relieve the intersection of Chapel Hill Road and Central Church Road/Bomar Road until Chapel Hill Road is widened in the future. A project to accomplish this widening is currently programmed for construction after 2012. The projected 2012 ADT along Chapel Hill Road is 24,000 and the projected ADT along Central Church Road is 13,600.

The proposed construction consists of widening Chapel Hill Road to provide northbound and southbound right turn lanes at Central Church Road/Bomar Road. Bomar Road will be widened to provide for a westbound left turn lane and a thru right turn lane. Central Church Road will be widened to provide for eastbound right turn, left turn, and thru lanes. The signals along Chapel Hill Road at Willow Ridge Road and Central Church Road/Bomar Road will be upgraded and coordinated with fiber optic interconnect.

Environmental concerns include requiring a Categorical Exclusion be prepared; a public information open house will be held; time saving procedures are appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$1,206,000	\$550,000	L230	2007
Right-of-Way	\$ 50,000	\$140,000	L230	2007
Utilities*	-----	-----		

*PMA needed.

David Studstill

Page 2

P. I. No. 0007950, Douglas

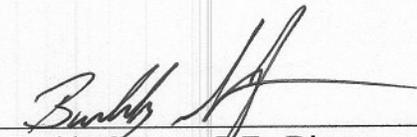
March 2, 2006

I recommend this project concept be approved.

MBP:JDQ/cj

Attachment

CONCUR



Buddy Gratton, P.E., Director of Preconstruction

APPROVE



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

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

District 7

Project Number: CSSTP-0007-00(950)

County: DOUGLAS

P. I. Number: 0007950

Federal Route Number: N/A

State Route Number: N/A

DESCRIPTION: Chapel Hill Road at Central Church Road/Bomar Road Intersection
Improvement

Recommendation for approval:

DATE 2/16/06

Mark Lewis
Project Manager

DATE 2/16/06

Ben Hood
District 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 _____

Office of Financial Management Administrator

DATE _____

State Environment/Location Engineer

DATE 2-28-06

Heath Gold
State Traffic and Safety Design Engineer

DATE _____

Project Review Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
District 7

Project Number: CSSTP-0007-00(950)
County: DOUGLAS
P. I. Number: 0007950

Federal Route Number: N/A
State Route Number: N/A

DESCRIPTION: Chapel Hill Road at Central Church Road/Bomar Road Intersection
Improvement

Recommendation for approval:

DATE 2/16/06 Mat Sellers
Project Manager
DATE 2/16/06 Ben Hood
District 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 2/24/06 Joseph P. Miller
State Transportation Planning Administrator
DATE _____
Office of Financial Management Administrator
DATE _____
State Environment/Location Engineer
DATE _____
State Traffic and Safety Design Engineer
DATE _____
Project Review Engineer

NOTICE OF LOCATION AND DESIGN APPROVAL

CSSTP-0007-00(950)

P. I. No. 0007950

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 this project.

Date of Location and Design Approval: MARCH 6, 2006

The project is located entirely in Douglas County and in Land Lots 59 and 74, Land Districts 1 and 5.

This project consists of widening Chapel Hill Road to provide northbound and southbound right-turn lanes at Central Church/Bomar Road. Bomar Road will be widened to provide a westbound left-turn lane and a thru-right-turn lane. Central Church Road will be widened to provide for eastbound right-turn, left-turn and thru lanes. The signals along Chapel Hill Road at Willow Ridge Road and Central Church Road/Bomar Road will be reconstructed, and the left-turn lane transition tapers along Chapel Hill Road just north of Central Church Road and just south of Willow Ridge Road will also be reconstructed.

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

Michael Lankford, Area 3 Engineer
Georgia Department of Transportation
District 7 Area 3 Office
940 Virginia Avenue
Hapeville, GA 30354
Telephone: (404) 559-6655
Facsimile: (404) 559-4928

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

Mike Lobdell, P.E., District 7 Preconstruction Engineer
Georgia Department of Transportation
5025 New Peachtree Road
Chamblee, GA 30341
Telephone: (404)-463-4947
Facsimile: (770)-986-1022
mike.lobdell@dot.state.ga.us

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

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE: CSSTP-0007-00(950)
Chapel Hill Rd @ Central Church Rd / Bomar Rd
PI NO. 0007950

OFFICE: District Seven
Chamblee

DATE: 2/15/2006



FROM: Bryant Poole, District Engineer

TO: Meg Pirkle, Assistant Director of Preconstruction

SUBJECT: Concept Report Review

Attached please find the concept report with attachments for the above referenced project.
This is for your review and further handling.

If you have any questions please call Mike Lobdell at (404) 463-4947.

Attachments

Concept Report

cc: Brian Summers, Project Review Engineer
Harvey Keepler, State Environmental / Location Engineer
Keith Golden, State Traffic Safety & Design Engineer
Joseph Palladi, State Transportation Planning Administrator
Jamie Simpson, Office of Financial Management Administrator
File

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

District 7

Project Number: CSSTP-0007-00(950)

County: DOUGLAS

P. I. Number: 0007950

Federal Route Number: N/A

State Route Number: N/A

DESCRIPTION: Chapel Hill Road at Central Church Road/Bomar Road Intersection
Improvement

Recommendation for approval:

DATE 2/16/06 _____
Mat Lewis
Project Manager

DATE 2/16/06 _____
Ben Hood
District 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

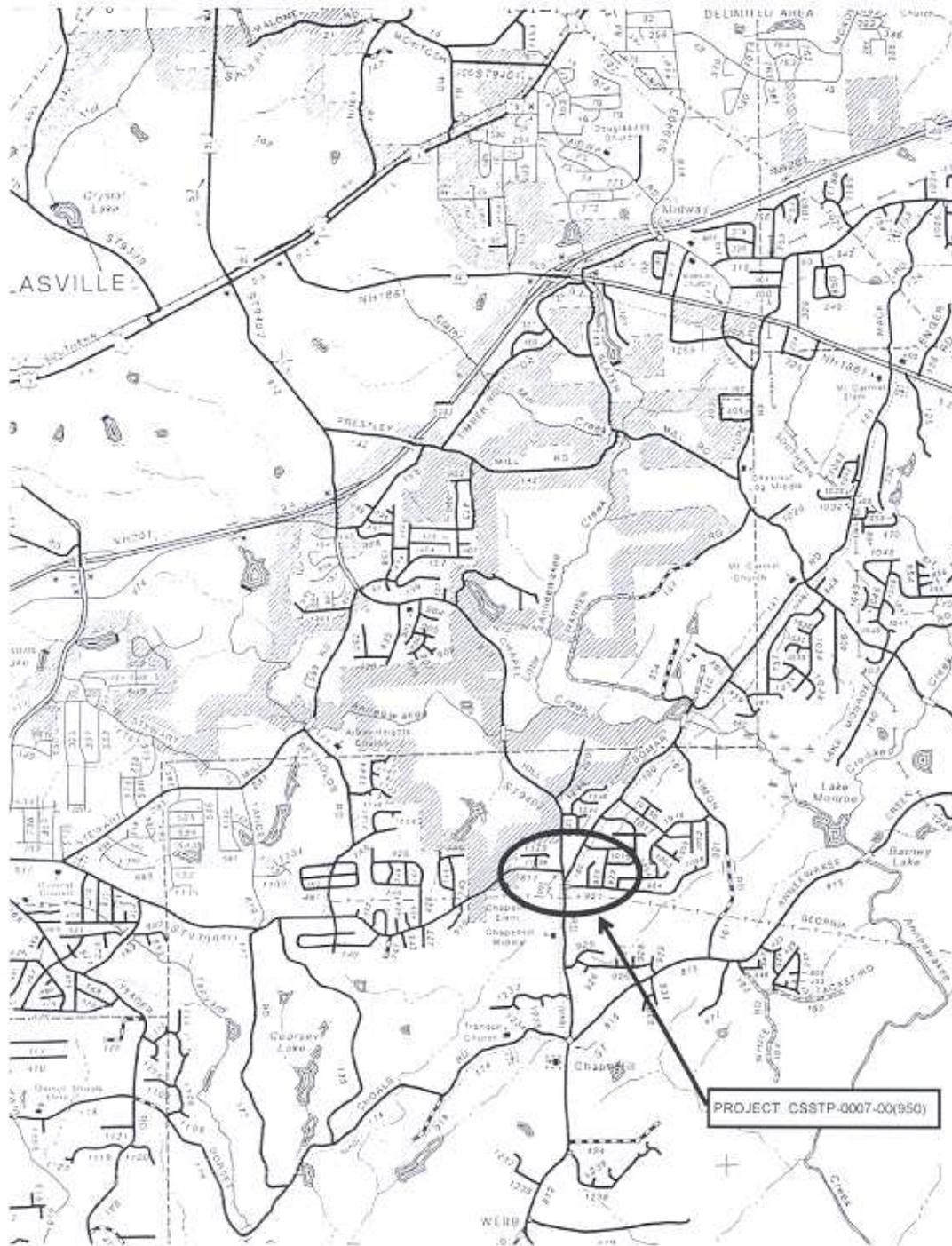
DATE _____
Office of Financial Management Administrator

DATE _____
State Environment/Location Engineer

DATE _____
State Traffic and Safety Design Engineer

DATE _____
Project Review Engineer

Project Concept Report Page 2
Project Number: CSSTP-0007-00(950)
P. I. Number: 0007950
County: Douglas



Location Map

Project: CSSTP-0007-00(950) Douglas County PI No: 0007950

Description: Chapel Hill Road at Central Church Road/Bomar Road Intersection Improvements

Need and Purpose: Chapel Hill Road is a major north-south thoroughfare located in central Douglas County serving a rapidly developing residential area west of Atlanta. Project CSSTP-0007-00(950) will serve as an interim improvement to relieve the intersection of Chapel Hill Road and Central Church Road/Bomar Road until Chapel Hill Road is widened to four lanes with a 20-foot raised median in the future. A project to accomplish the widening is currently programmed for construction after 2012.

The projected 2012 ADT along Chapel Hill Road is 24,000, and the projected ADT along Central Church Road is 13,600. Without the interim improvements proposed by this project, the Level of Service in 2012 at the Chapel Hill Road/Central Church Road intersection is F in both the AM and PM peak hour. With the proposed improvements, the Level of Service improves to D in both the AM and PM peak hours.

Project CSSTP-0007-00(950) will improve Level of Service at the intersection of Chapel Hill Road and Central Church/Bomar Road in the interim condition thru the addition of turn lanes along Chapel Hill Road and Central Church/Bomar Road. Safety will be improved by lengthening the existing left-turn lane transition tapers along Chapel Hill Road immediately north and south of the intersection. Traffic operations will also be improved thru coordination of the signals along Chapel Hill Road at Willow Ridge Road and Central Church Road/Bomar Road, and pedestrian access will be improved through the addition of sidewalks along Chapel Hill Road and Central Church Road/Bomar Road

Description of the proposed project: Project CSSTP-0007-00(950) consists of the widening of Chapel Hill Road to provide northbound and southbound right-turn lanes at Central Church Road/Bomar Road. Bomar Road will be widened to provide for a westbound left-turn lane and a thru-right-turn lane. Central Church Road will be widened to provide for eastbound right-turn, left-turn and thru lanes. The signals along Chapel Hill Road at Willow Ridge Road and Central Church Road/Bomar Road will be upgraded and coordinated with fiber optic interconnect. The project also involves the reconstruction of the left-turn lane transition tapers along Chapel Hill Road just north of Central Church Road and just south of Willow Ridge Road.

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

This project involves minor safety and traffic operations improvements at the intersection of Chapel Hill Road and Central Church/Bomar Road. According to the conforming Regional Transportation Plan, this project is exempt from air quality analysis.

PDP Classification:

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

Functional Classification: Urban Arterial

U. S. Route Number(s): None

State Route Number(s): None

Traffic (ADT) Chapel Hill Road:

Current Year: (2005): 17,600 ADT

Design Year: (2012): 24,000 ADT

Traffic (ADT) Central Church Road:

Current Year: (2005): 10,000 ADT

Design Year: (2012): 13,600 ADT

Existing design features:

- Typical Section: Two 12-foot travel lanes (one in each direction) with variable width rural grassed shoulders.
- Posted speed Mainline 45 mph Minimum Curve Radius: 1800'
- Posted speed Side Road 40/45mph Minimum Curve Radius: 180'
- Maximum grade: 3.5% mainline, 5.5% side roads, 6% driveways
- Width of right of way: Varies 80-175 ft.
- Major structures: None
- Major intersections along the project: Chapel Hill Road at Central Church/Bomar Road; Chapel Hill Road at Willow Ridge Road
- Existing length of roadway segments:
 - Chapel Hill Road: 0.37 Miles
 - Central Church Road/Bomar Road: 0.22 Miles

Proposed Design Features:

- Proposed typical section: Two 12-foot travel lanes (one in each direction) with 12-foot urban shoulders with curb and gutter and 5-foot sidewalk.
- Proposed Design Speed Mainline 45 mph
- Proposed Maximum grade Mainline 3.5% Maximum grade allowable 7%.
- Prop. Minimum Curve Radius Mainline 1800'. Minimum Radius Allowable 643'.
- Proposed Maximum Design Speed Side Road 45 mph
- Proposed Maximum grade Side Road 5.5% Maximum grade allowable 7%.
- Prop. Minimum Curve Radius Side Road 340'. Minimum Radius Allowable 643'.
- Proposed Maximum grade driveway 11%
- Right of way
 - Width Varies 100'-150'.
 - Easements: Temporary (**X**), Permanent (), Utility (), Other ().
 - Type of access control: Full (), Partial (), By Permit (**X**), Other ().
 - Number of parcels: 15 Number of displacements:
 - Business: None
 - Residences: None
 - Mobile homes: None
 - Other: None

- Structures: none
- Major intersections: Chapel Hill Road at Central Church/Bomar Road; Chapel Hill Road at Willow Ridge Road
- Traffic control during construction: Traffic will be maintained on existing Chapel Hill Road and Central Church/Bomar Road throughout construction
- 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: None Anticipated
- Environmental concerns:
 - It is not anticipated that any significant impacts to wetlands or endangered species will be caused by this concept. A finding of No Historic Properties Affected is expected for the history and archaeology studies.
- Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes (X), No (),
 - Categorical exclusion: **Anticipated**
 - 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, power, cable TV, Douglas County ITS systems, and water/sewer.

Project responsibilities:

- Design: Douglas County
- Right of Way Acquisition: Douglas County
- Relocation of Utilities: Douglas County
- Letting to contract: Douglas County
- Supervision of construction: Douglas County
- Providing material pits: Responsibility of the Construction Contractor
- Providing detours: N/A

Coordination

- Initial Concept Meeting date and brief summary: N/A.
- Concept meeting: 12/7/2005; See Attached Minutes.
- P. A. R. meetings, dates and results: None Required
- FEMA, USCG, and/or TVA: N/A
- Public involvement: It is anticipated that a Public Information Open House will be held.
- Local government comments: See attached Concept Team Meeting Minutes
- Other projects in the area: N/A
- Other coordination to date: N/A

Scheduling – Responsible Parties' Estimate

- Time to complete the environmental process: 3 Months.
- Time to complete preliminary construction plans: 3 Months.
- Time to complete right of way plans: 2 Months.
- Time to complete the Section 404 Permit: N/A
- Time to complete final construction plans: 3 Months.
- Time to complete to purchase right of way: 6 Months.
- List other major items that will affect the project schedule:

Other alternates considered: (1) Construct right and left turn lanes at Chapel Hill Road and Central Church Road/Bomar Road, and install fiber optic interconnect between the signals on Chapel Hill Road at Willow Ridge Road and Central Church Road. (2) Construct right and left turn lanes at Chapel Hill Road and Central Church Road/Bomar Road, and remove the signal on Chapel Hill Road at Willow Ridge Road. The signal would be replaced with an emergency vehicle preemption signal for the fire station located in the southwest quadrant of the intersection. (3) No Build.

Comments:

Comparison Summary of Alternates 1-3

Alternate (1) is recommended for this concept. This alternate will improve traffic flow and level of service at the Chapel Hill Road/ Central Church Road/Bomar Road intersection through the addition of right and left turn lanes and the coordination of the signals along Chapel Hill Road at Willow Ridge Road and Central Church Road/Bomar Road.

Alternate (2) is not recommended for this concept. The traffic capacity analysis report indicates that the signal at Willow Ridge Road meets several signal warrants and should remain in its current configuration.

Alternate (3) is not recommended for this concept. Traffic projections in the traffic capacity analysis report indicate that the intersection will operate at reduced level of service if the proposed turn lanes are not constructed.

Attachments:

1. Cost Estimates:
 - a. Construction including E&C,
 - b. Right of Way, and
 - c. Utilities.
2. Typical Sections
3. Design Exception Request for Horizontal Alignment
4. Design Exception Request for Stopping Sight Distance
5. Concept Team Meeting Minutes
6. Notice of Location and Design Approval

PRELIMINARY COST ESTIMATE

PROJECT NUMBER: CSSTP-0007-00(950)
 DATE: 2/1/2006
 PREPARED BY: Kimley-Horn and Associates

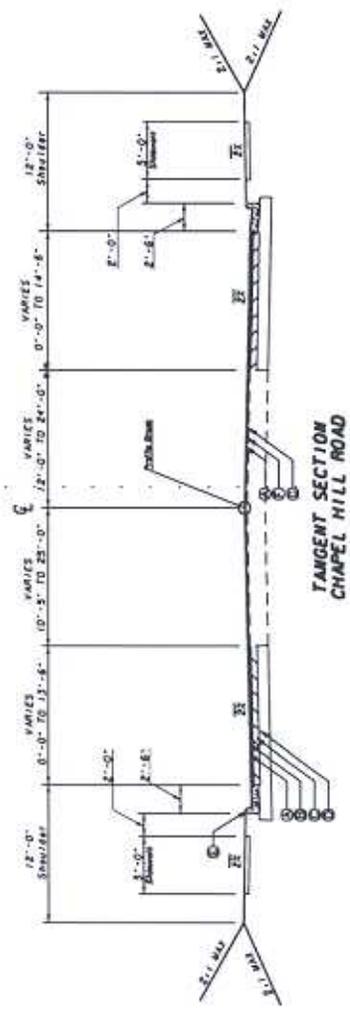
COUNTY: Douglas
 ESTIMATED LETTING DATE:
 PROJECT LENGTH: 0.63 MILES

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

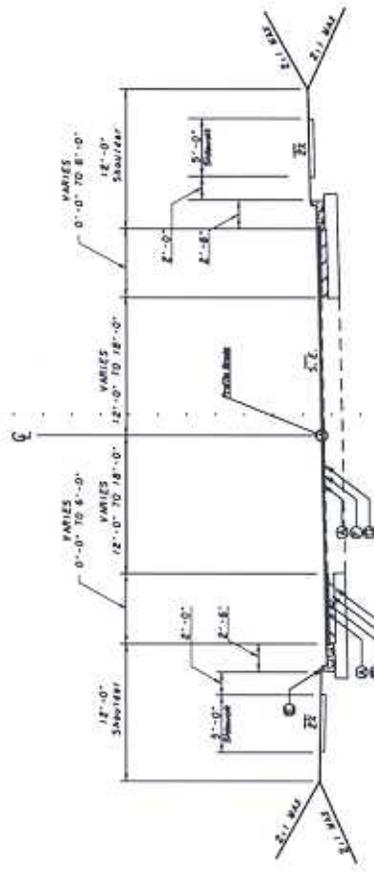
PROJECT COST				
A. RIGHT-OF-WAY				
1. PROPERTY (LAND & EASEMENT)				
R/W	0.3 AC	@	\$50,000	\$15,000
Temporary Easement	1.4	@	\$25,000	\$35,000
2. DISPLACEMENTS (none)				
				\$0
SUBTOTAL:A				\$50,000
B. REIMBURSABLE UTILITIES:				
1. TRANSMISSION LINES				
				\$0
2. SERVICES				
				\$0
SUBTOTAL:B				\$0
C. CONSTRUCTION				
1. MAJOR STRUCTURES				
a. BOX CULVERTS (none)				
				\$0
b. RETAINING WALLS (none)				
				\$0
SUBTOTAL:C-1				\$0
2. GRADING AND DRAINAGE:				
a. EARTHWORK (incl. grading)				
				\$65,000
b. DRAINAGE				
				\$0
1) CROSS DRAINS				
24" Pipe	200 LF	@	\$40	\$8,000
24" FES	4 EA	@	\$525	\$2,100
2) SIDE DRAINS				
18" Pipe	90 LF	@	\$25	\$2,250
18" SES	6 EA	@	\$550	\$3,300
3) LONGITUDINAL SYSTEMS				
Catch Basins	26 EA	@	\$1,700	\$44,200
18" Pipe	2000 LF	@	\$35	\$70,000
18" FES	3 EA	@	\$450	\$1,350
SUBTOTAL:C-2				\$196,200
3. BASE AND PAVING				
a. AGGREGATE BASE				
	2061 TN	@	\$18	\$37,096
b. ASPHALT PAVING				
Surface	1034 TN	@	\$50	\$51,699
Binder	303 TN	@	\$45	\$13,632
Base	606 TN	@	\$40	\$24,235
c. CONCRETE PAVING				
	801 SY	@	\$25	\$20,025
d. OTHER (LEVELING, TACK)				
Leveling	538 TN	@	\$45	\$24,203
Tack	1070 GAL	@	\$1	\$1,070
SUBTOTAL:C-3				\$171,960
4. LUMP ITEMS				
a. GRASSING				
	2 AC	@	\$1,000	\$2,000
b. CLEARING AND GRUBBING				
	2 AC	@	\$5,000	\$10,000
c. LANDSCAPING				
d. EROSION CONTROL				
Silt Fence	6500 LF	@	\$3	\$19,500
Ty 3 Silt Gates	1 EA	@	\$350	\$350
e. TRAFFIC CONTROL				
	LS			\$50,000
f. TRAFFIC SIGNAL INSTALLATION				
	2 EA	@	\$80,000	\$160,000
SUBTOTAL:C-4				\$241,850
5. MISCELLANEOUS				
a. SIDEWALK				
	6230 SY	@	\$35	\$218,050
b. SIGNING - MARKING				

Solid Traff Stripe, 5 IN, White	8250 LF @	\$0.30	\$2,475
Solid Traff Stripe, 5 IN, Yellow	6250 LF @	\$0.30	\$1,875
Skip Traff Stripe, 5 IN, White	350 GLF @	\$0.20	\$70
Traffic Stripe, Yellow	1550 SY @	\$0.20	\$310
Pavement Marking, Arrow	30 EA @	\$60.00	\$1,800
Higway Signs, TP 6 Sheeting	160 SF @	\$20	\$3,200
Galv Steel Posts, TP 7	240 LF @	\$8	\$1,920
c. GUARDRAIL (nonc)			
d. CURB AND GUTTER	6230 LF @	\$16	\$99,680
		SUBTOTAL:C-5	\$329,380
6. SPECIAL FEATURES			
a. FIELD ENGINEERS OFFICE TY 3			\$55,000
		SUBTOTAL:C-6	\$55,000

ESTIMATE SUMMARY		
A. RIGHT-OF-WAY		\$50,000
B. REIMBURSABLE UTILITIES		\$0
C. CONSTRUCTION		
1. MAJOR STRUCTURES		\$0
2. GRADING AND DRAINAGE		\$196,200
3. BASE AND PAVING		\$171,960
4. LUMP ITEMS		\$241,850
5. MISCELLANEOUS		\$329,380
6. SPECIAL FEATURES		\$55,000
SUBTOTAL CONSTRUCTION COST		\$994,390
INFLATION (5% PER YEAR)		\$101,925
NUMBER OF YEARS	2	
E. & C. (10%)		\$109,631
TOTAL CONSTRUCTION COST		\$1,205,946
GRAND TOTAL PROJECT COST		\$1,255,946



TANGENT SECTION
CHAPEL HILL ROAD



SUPERELEVATION SECTION
CENTRAL CHURCH ROAD/BOMAR ROAD

- REQUIRED PAVEMENT**
- ① RECYCLED ASPHALTIC CONCRETE 12.5 mm SUPERPAVE, MIX DESIGN LEVEL "C" (1165 LB/ST)
 - ② RECYCLED ASPHALTIC CONCRETE 19 mm SUPERPAVE, MIX DESIGN LEVEL "C" (1220 LB/ST)
 - ③ RECYCLED ASPHALTIC CONCRETE 25 mm SUPERPAVE, MIX DESIGN LEVEL "B" (1330 LB/ST)
 - ④ GRADED AGGREGATE BASE, 12"
 - ⑤ TYPE 2 CURB & GUTTER
 - ⑥ ASPHALTIC CONC. LEVELING
 - ⑦ EXISTING PAVEMENT (TO BE RETAINED)

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE/DISTRICT 7 DESIGN
TYPICAL SECTIONS

REVISION DATES:

Kimley-Horn and Associates, Inc.
 Engineering, Planning, and Environmental Consultants
 Suite 302, 338 National Center Road
 Marietta, Georgia 30067

SCALE: 1" = 20'

SHEET NO. 5-

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE CSSTP-0007-00(950) Douglas County **OFFICE** District 7
PI # 0007950 **DATE** February 20, 2006

FROM Bryant Poole, District 7 Engineer

TO Brian Summers, Project Review Engineer

SUBJECT Request for a Design Exception

Approval of a Design Exception is requested for this project.

Project CSSTP-0007-00(950) consists of the widening of Chapel Hill Road to provide northbound and southbound right-turn lanes at Central Church Road/Bomar Road. Bomar Road will be widened to provide for a westbound left-turn lane and a thru-right-turn lane. Central Church Road will be widened to provide for eastbound right-turn, left-turn and thru lanes. The signals along Chapel Hill Road at Willow Ridge Road and Central Church Road/Bomar Road will be upgraded and coordinated with fiber optic interconnect. The project also involves the reconstruction of the left-turn lane transition tapers along Chapel Hill Road just north of Central Church Road and just south of Willow Ridge Road. The proposed typical section consists of two 12-foot travel lanes (one in each direction) with 12-foot urban shoulders with curb and gutter and 5-foot sidewalk. The project length is 1955 feet (0.370 miles) along Chapel Hill Road and 1160 feet (0.220 miles) along Central Church/Bomar Road. The posted speed is 45 mph along Chapel Hill Road and Central Church Road and 40 mph along Bomar Road. The proposed design speed along Chapel Hill Road and Central Church Road/Bomar Road is 45 mph.

The average daily traffic (ADT) along Chapel Hill Road is 22,725 in the year 2008 and 24,000 in the year 2012. ADT along Central Church Road/Bomar Road is 12,450 in the year 2008 and 13,600 in the year 2012. Design hourly volume (DHV) is 2530 along Chapel Hill Road and 1240 along Central Church/Bomar Road. Truck percentage is 2% and 24-hour truck percentage is also 2%.

The following table summarizes the number and type of accidents along Central Church Road/Bomar Road at the Chapel Hill Road intersection from 2002 to 2004. This data reflects accidents involving vehicles traveling east or west along Central Church Road/Bomar Road through the intersection.

Accident Type	2002	2003	2004
Angle	4	3	2
Sideswipe – Same Direction	0	1	0
Rear End	1	4	1
Head On	1	0	0
Total Accidents	6	8	3
Total Injuries	5	3	1
Total Fatalities	0	0	0

The proposed horizontal curve on Bomar Road just east of Chapel Hill Road requires a design exception. The radius of the existing curve is 185 feet. The radius of the proposed curve is 340 feet and meets 35 mph design criteria. The 340 foot radius is an improvement over the existing condition, and speed advisory signs and chevrons will be placed along Bomar Road in advance of the curve to provide warning to motorists. However the AASHTO 2004 Policy on Geometric Design of Highways and Streets (Green Book) requires a minimum horizontal radius of 643 feet for 45 mph design speed utilizing 6% maximum superelevation.

In order to meet 45 mph design criteria, the horizontal curve must be lengthened to achieve a radius of 643 feet. Lengthening the curve would require significant reconstruction of the intersection, and would require a total right-of-way take of the residential parcel in the northeast quadrant of the intersection. The proposed improvements will increase the radius to 340 feet, which will require minor reconstruction of the intersection and a minor right-of-way and temporary construction easement takes from the residential property. The additional construction cost required to reconstruct the curve to meet 45 mph design speed criteria is approximately \$50,000. The additional right-of-way cost required to purchase the residential parcel impacted by this realignment is approximately \$200,000. In comparison, the cost to mitigate the 35 mph horizontal speed design by placing speed advisory signs and chevrons would be less than \$5000.

Note that the need and purpose of this project is to improve traffic operations at the Chapel Hill Road/Central Church Road/Bomar Road intersection. This project is an interim solution which will improve Level of Service at the intersection until the future programmed project to widen Chapel Hill Road from two lanes to four lanes is constructed.

It is recommended that this design exception be approved in order to reduce right-of-way impacts and construction costs at the intersection.

Approved: _____
Chief Engineer

Date: _____

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE CSSTP-0007-00(950) Douglas County **OFFICE** District 7
PI # 0007950 **DATE** February 20, 2006

FROM Bryant Poole, District 7 Engineer

TO Brian Summers, Project Review Engineer

SUBJECT Request for a Design Exception

Approval of a Design Exception is requested for this project.

Project CSSTP-0007-00(950) consists of the widening of Chapel Hill Road to provide northbound and southbound right-turn lanes at Central Church Road/Bomar Road. Bomar Road will be widened to provide for a westbound left-turn lane and a thru-right-turn lane. Central Church Road will be widened to provide for eastbound right-turn, left-turn and thru lanes. The signals along Chapel Hill Road at Willow Ridge Road and Central Church Road/Bomar Road will be upgraded and coordinated with fiber optic interconnect. The project also involves the reconstruction of the left-turn lane transition tapers along Chapel Hill Road just north of Central Church Road and just south of Willow Ridge Road. The proposed typical section consists of two 12-foot travel lanes (one in each direction) with 12-foot urban shoulders with curb and gutter and 5-foot sidewalk. The project length is 1955 feet (0.370 miles) along Chapel Hill Road and 1160 feet (0.220 miles) along Central Church/Bomar Road. The posted speed is 45 mph along Chapel Hill Road and Central Church Road and 40 mph along Bomar Road. The proposed design speed along Chapel Hill Road and Central Church Road/Bomar Road is 45 mph.

The average daily traffic (ADT) along Chapel Hill Road is 22,725 in the year 2008 and 24,000 in the year 2012. ADT along Central Church Road/Bomar Road is 12,450 in the year 2008 and 13,600 in the year 2012. Design hourly volume (DHV) is 2530 along Chapel Hill Road and 1240 along Central Church/Bomar Road. Truck percentage is 2% and 24-hour truck percentage is also 2%.

The following table summarizes the number and type of accidents along Central Church Road/Bomar Road at the Chapel Hill Road intersection from 2002 to 2004. This data reflects accidents involving vehicles traveling east or west along Central Church Road/Bomar Road through the intersection.

Accident Type	2002	2003	2004
Angle	4	3	2
Sideswipe – Same Direction	0	1	0
Rear End	1	4	1
Head On	1	0	0
Total Accidents	6	8	3
Total Injuries	5	3	1
Total Fatalities	0	0	0

The proposed vertical curves on Central Church Road/Bomar Road immediately east and west of the intersection with Chapel Hill Road require a design exception. The proposed sag vertical curve immediately west of the intersection is 174 feet long and has a K value of 49.29, which meets 35 mph criteria. The proposed crest vertical curve immediately east of the intersection is 142 feet long and has a K value of 41.41, which also meets 35 mph criteria. The proposed K values are an improvement over existing conditions, however the AASHTO 2004 Policy on Geometric Design of Highways and Streets (Green Book) requires a minimum K value of 79 for sag vertical curves and 61 for crest vertical curves at 45 mph.

In order to meet 45 mph design criteria, the vertical curves must be lengthened to meet the K values specified in the AASHTO Green Book. Lengthening the curves would require significant reconstruction of the intersection, and would require a temporary on-site detour in order to maintain traffic during construction. An on-site detour would result in significant right-of-way and construction impacts to adjacent properties along the westbound side of Central Church Road/Bomar Road, and would require a total take of the residential parcel in the northeast quadrant of the intersection. The proposed improvements will improve vertical K values at the intersection and construction can be completed under traffic, thus limiting right-of-way impacts associated with a temporary on-site detour. The additional construction cost required to reconstruct the vertical curves to meet 45 mph design speed criteria is approximately \$90,000. The additional cost required to purchase the easement and right-of way required to construct the temporary detour is approximately \$220,000.

Note that the need and purpose of this project is to improve traffic operations at the Chapel Hill Road/Central Church Road/Bomar Road intersection. This project is an interim solution which will improve Level of Service at the intersection until the future programmed project to widen Chapel Hill Road from two lanes to four lanes is constructed.

It is recommended that this design exception be approved in order to reduce right-of-way impacts and construction costs at the intersection.

Approved: _____
 Chief Engineer

Date: _____

MINUTES OF MEETING

Project: CSSTP-0007-00(950), P.I. No. 0007950, Intersection Improvement on Chapel Hill Road at Central Church Road/Bomar Road and Willow Ridge Road, Douglas County

Date: December 7, 2005

Attendees:	Scott Lee	GDOT District 7 Preconstruction
	Ralph Merrow, Jr.	GDOT District 7 Preconstruction
	Ted Crabtree	GDOT District 7 Preconstruction
	Harry Graham	GDOT District 7 Traffic Operations
	Wade Woodward	GDOT District 7 Utilities
	Lisa Myers	GDOT Office of Engineering Services
	Randy Hulsey	Douglas County
	Keary Lord	Douglas County
	Buddy Allison	City of Douglasville
	Barry Payne	Douglas County Water and Sewer Authority
	Lee Maxfield	Moreland Altobelli Associates, Inc. (MAAI)
	Jimmie Brown	Moreland Altobelli Associates, Inc. (MAAI)
	Ferdinand Henderson	Bell South
	Brain Leavell	Atlanta Gas Light, Inc.
	Michael Craton	Greystone Power
	Terri Malone	Edwards-Pitman Environmental, Inc. (EPEI)
	Gary Newton	Kimley-Horn and Associates, Inc. (KHA)
	Sean Johnston	Kimley-Horn and Associates, Inc. (KHA)

This meeting was held in the GDOT District 7 Preconstruction conference room to discuss the draft concept report prepared by Kimley-Horn and Associates (KHA) for the above referenced project.

1. Ted Crabtree began the meeting by asking for introductions from each attendee.
2. Sean Johnston gave a brief presentation of the concept layout, discussing proposed roadway features, major utilities, signal locations and other concerns. Ted then asked for any comment on the proposed layout.
3. Harry Graham expressed concern over the right-turn lane storage on southbound Chapel Hill Road to Central Church Road. He said that he wanted KHA to ensure adequate storage length to prevent traffic from backing up into the southbound through lane.
4. Harry then asked if the westbound shared through-right-turn lane on Bomar Road would be adequate to handle traffic in the design year. He asked if there would be further development along Bomar Road that may warrant a separate right-turn lane. Sean stated that the traffic study performed by KHA showed that the shared through-right-turn lane would be adequate to handle the design year traffic.

5. Randy Hulsey added that the proposed improvement were focused on improving the left-turn movements at the intersection , and that the improvements were meant as interim solutions to provide relief until the ultimate four-lane section is constructed along Chapel Hill Road.
6. Harry also expressed concern that the two traffic signals may be spaced too close together. Randy explained that KHA examined the removal of the signal at Willow Ridge and determined that it does in fact meet several signal warrants. The results of KHA's analysis show that the signal should remain, and political opposition to the removal of the signal would also be a significant factor. Therefore, the proposed concept calls for upgrading the signal instead of removing it.
7. Harry said that he prefers the signals at Willow Ridge and Central Church Road be designed to operate off of one controller. Keary Lord stated that Douglas County originally intended to design a separate controller for each signal as well as fiber optic interconnect between the two signals, but that the county would consider designing one controller for both signals.
8. Randy Hulsey expressed the County's desire to eliminate the southbound left turn to Willow Ridge Road, which would help mitigate the effects of the two signals close proximity to one another.
9. Ted Crabtree began review of the concept report by asking for comments on utilities.
10. Barry Payne noted the existence of gravity sewer and force main facilities within the project limits. He stated that efforts should be made to leave the gravity sewer intact, and that DCWSA would be willing to relocate other facilities where needed.
11. Wade Woodward noted the presence of underground and overhead Bell South telephone facilities. Ferdinand Henderson of Bell South stated that the overhead lines were located on Greystone power poles. He said that relocation of their facilities would be coordinated with Greystone, and that he was unsure whether easements would be required.
12. Brian Leavell of Atlanta Gas Light noted the presence of a 6" pressure main along the southbound side of Chapel Hill Road, as well as a 4" pressure main along the eastbound side of Central Church/Bomar Road. Brian also noted the presence of a regulator station at Bomar Road and provided KHA with a sketch of AGL facilities in the area.
13. After discussion of utilities was complete, Scott Lee suggested that the proposed design features be separated by road (i.e. Central Church/Bomar and Chapel Hill) since there are different design speeds along the two roads. The design speed on Chapel Hill Road is 45 mph while the design speed along Central Church Road is 35 mph.

14. Randy Hulsey asked about superelevation transition for the horizontal curve on Bomar Road approaching the Chapel Hill Road intersection. A discussion followed in which it was determined that a design exception would likely not be required for superelevation transition because the existing condition would be maintained. It was agreed that it is often necessary to warp pavement cross slopes through a horizontal curve on a side road approaching an intersection in order to match the grade of the mainline roadway.
15. Randy asked who would be responsible for letting the project. Scott Lee said the current GDOT preconstruction policy calls for projects involving county routes to be let by local agencies. Locals can petition for such projects to be let by GDOT, but this would require reviews to be processed through the Office of Engineering Services instead of the District office.
16. The focus of discussion shifted to the project schedule when Lee Maxfield expressed the County's desire to move the let date up into calendar year 2006. Ted Crabtree expressed concern as to whether the right-of-way could be purchased in time. Scott Lee asked about the progress of the environmental document. Sean Johnston stated that field work was complete for ecology, history and archeology and no impacts or eligible resources were identified. It was agreed that the schedule would depend upon approval of the environmental document, right-of-way plan approval and the ability to acquire right-of-way in a timely manner.
17. Sean asked about the need for a soil survey since the project is a minor intersection project. Scott Lee said that a soil survey would not be necessary, and that an approved pavement design could be obtained using default soil support values for Douglas County. Scott said that a letter from the District Preconstruction engineer to the Office of Materials and Research would likely be required in order to recommend the waiver of the soil survey.
18. Scott also stated that an existing pavement evaluation would likely be necessary. He said that KHA's geotechnical subconsultant could perform the pavement coring and send the materials to the OMR lab for analysis and recommendation of a proposed pavement design.
19. Lisa Myers stressed that utility issues must be resolved early to ensure accurate right-of-way plans.
20. Randy Hulsey reiterated that maintaining the schedule is critical for Douglas County, as the success of the County's SPLOST program will largely be judged on the ability to let this and other intersection improvement projects to construction in a timely manner.

21. Scott Lee stressed the Department's new methodology of creating project teams consisting of staff from each office involved and obtaining commitments to meeting the schedule from each of these team members.
22. Scott asked if any curb and gutter would be retained along Chapel Hill Road or Central Church/Bomar Road. Sean Johnston and Keary Lord responded that the southbound right turn lane on Chapel Hill Road at the Kroger driveway is the only location where existing curb and gutter may be retained.
23. Lisa Myers and Ted Crabtree stated that some items on the cost estimate, including base and paving and right-of-way costs, appeared to be low. KHA will examine the cost estimate and revise if necessary.
24. Lisa stated that the right-of-way cost should typically be 2.4 times the raw property cost to account for negotiations, attorney's fees and other costs associated with the right-of-way acquisition process.
25. Ted Crabtree asked if the shoulder width on the typical section should be increased from 10 feet as shown in the draft concept report. After a brief discussion, it was decided that the typical sections would be revised to show a 12-foot shoulder.
26. Lisa Myers also suggested extending the curb and gutter to the limits of the project to minimize right-of-way impacts.
27. Randy Hulsey stated that the County prefers to use stamped concrete instead of a grass strip between curb and gutter and sidewalk in order to reduce maintenance costs.
28. Michael Craton of Greystone Power requested plans when available to determine the need for relocation of power poles. He stated that these poles carry overhead electrical as well as Bell South telephone and Douglas County Board of Education fiber optic cable.
29. Randy asked about the feasibility of holding one PIOH for all three of the intersection improvements along Chapel Hill Road. The GDOT staff agreed that the County should be able to hold one PIOH for all three projects, but that confirmation from the Office of Environment/Location would be required.

These minutes contain the understanding of KHA representatives regarding discussions, decisions, action items, etc. at the meeting.

Copies: Jimmie Brown, MAAI/Douglas County SPLOST Program
KHA File 015971003