

D.O.T. 66

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 0006868, Cobb County **OFFICE** Preconstruction
CSSTP-0006-00(868)
Sandy Plains Road at East Piedmont Road –
Intersection Improvements **DATE** July 26, 2007

FROM *Genetha Rice-Singleton*
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

Ken Thompson

Jamie Simpson

Michael Henry

Keith Golden

Angela Alexander (file copy)

Babs Abubakari

Bryant Poole

BOARD MEMBER

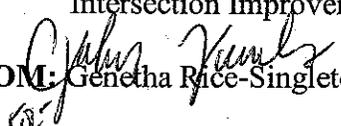
**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE: P.I. No. 0006868, Cobb County
CSSTP-0006-00(868)
Sandy Plains Road at East Piedmont Road-
Intersection Improvements

OFFICE: Preconstruction

DATE: July 17, 2007

FROM:  Genetha Rice-Singleton, Assistant Director of Preconstruction

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

SUBJECT: PROJECT CONCEPT REPORT

This project is the intersection improvements on Sandy Plains Road at East Piedmont Road northeast of the city of Marietta, Georgia. Sandy Plains Road is a four lane urban minor arterial that runs north-south from Canton Road to SR 92. Base year traffic projection is 40,022 VPD in 2009 and 42,703 VPD by the design year 2029 along Sandy Plains Road. East Piedmont Road is a four lane urban minor arterial that runs east-west. Projected volumes along East Piedmont Road are 24,033 VPD by the design year 2029. Within the project area, both Sandy Plains Road and East Piedmont Road are lined with heavy commercial development, including Sprayberry High School, which is located at the intersection. Due to the tremendous growth in the area, current traffic volumes are exceeding design capacity. Accidents reports indicate a consistent increase in rear end collisions between 2002 and 2004. The proposed improvements will reduce traffic congestion and improve safety at this intersection.

The proposed project will add a second 11' wide left turn lane in each direction for additional storage capacity. A 30-inch by 8-inch curb and cutter, a two-foot stamped concrete strip, a five foot sidewalk, ADA compliant wheel chair ramps, and cross walks will also be included. Traffic will be maintained on the existing roadway during construction.

Environmental concerns include requiring a Categorical Exclusion will be prepared; a Public hearing is not required; Time saving procedures is 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)	\$ 3,258,000	\$ 1,080,000	L230	2009
Right-of-way & utilities	Local	Local		

*Cobb County signed PMA on 6-14-06 to be responsible for PE and utilities; right-of-way and construction to be done by future agreements.

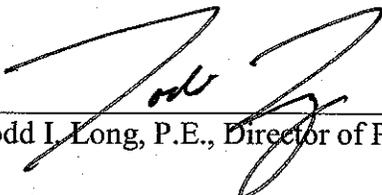
P.I. No. 0006868, Cobb County
July 17, 2007

I recommend this project concept be approved.

GRS: JDQ

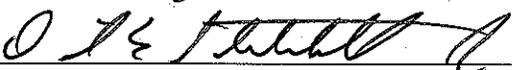
Attachment

CONCUR



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

APPROVED



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

SCORING RESULTS AS PER MOG 2440-2

Project Number: CSSTP-0006-00(868)		County: Cobb		PI No.: 0006868	
Report Date: June 13,2007		Concept By: DOT Office: District 7			
		Consultant- The LPA Group			
<input checked="" type="checkbox"/> Concept Stage					
Project Type: Choose One From Each Column		<input type="checkbox"/> Major	<input checked="" type="checkbox"/> Urban	<input type="checkbox"/> ATMS	
		<input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Rural	<input type="checkbox"/> Bridge Replacement	
				<input type="checkbox"/> Building	
				<input type="checkbox"/> Interchange Reconstruction	
				<input checked="" type="checkbox"/> Intersection Improvement	
				<input type="checkbox"/> Interstate	
				<input type="checkbox"/> New Location	
				<input type="checkbox"/> Widening & Reconstruction	
				<input type="checkbox"/> Miscellaneous	
FOCUS AREAS SCORE RESULTS					
Presentation	100				
Judgment	100				
Environmental	100				
Right of Way	100				
Utility	100				
Constructability	100				
Schedule	100				

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Sandy Plains Road at East Piedmont Road Intersection Improvement Project

Project Number: CSSTP-0006-00(868)

County: Cobb

P. I. Number: 0006868

Federal Route Number: N/A

State Route Number: N/A

County Road: CR4402/Sandy Plains Road

CR4406/East Piedmont Road

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 6/12/07

[Signature]
Project Manager

DATE 6/13/07

[Signature]
District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (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 _____

State Traffic Safety & Design Engineer

DATE 7/10/07

[Signature] *RCW*
Project Review Engineer

6-15-07
WEB

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Sandy Plains Road at East Piedmont Road Intersection Improvement Project

Project Number: CSSTP-0006-00(868)
County: Cobb
P. I. Number: 0006868

Federal Route Number: N/A
State Route Number: N/A
County Road: CR4402/Sandy Plains Road
CR4406/East Piedmont Road

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 6/12/07

[Signature]
Project Manager

DATE 6/13/07

[Signature]
District Engineer

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

DATE _____

State Transportation Planning Administrator

DATE 6-19-07

[Signature]
State Transportation Financial Management Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Engineer

DATE _____

Project Review Engineer

Safety/except

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Sandy Plains Road at East Piedmont Road Intersection Improvement Project

Project Number: CSSTP-0006-00(868)

County: Cobb

P. I. Number: 0006868

Federal Route Number: N/A

State Route Number: N/A

County Road: CR4402/Sandy Plains Road

CR4406/East Piedmont Road

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 6/12/07

Mark Smith
Project Manager

DATE 6/13/07

Ben Hood
District Engineer

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

DATE 6/24/07

Angela S. Colefonder
State Transportation Planning Administrator

DATE _____

State Transportation Financial Management Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Engineer

DATE _____

Project Review Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No. 0006868 **OFFICE:** Environment/Location
DATE: June 26, 2007

FROM: Harvey D. Keeper, State Environmental/Location Engineer
TO: Genetha Rice-Singleton, Assistant Director of Preconstruction
SUBJECT: **REVISED PROJECT CONCEPT REPORT**
CSSTP-0006-00(868) / Cobb County
Sandy Plains Rd. at East Piedmont Rd. Intersection Improvement Project

The above subject concept report has been reviewed. This Office has no comment at this time.

If you have any questions, please contact me at (404) 699-4401.

HDK/lc

Attachment

cc: Brian Summers
Bryant Poole
Angela Alexander
Keith Golden
Jamie Simpson

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Sandy Plains Road at East Piedmont Road Intersection Improvement Project

Project Number: CSSTP-0006-00(\$68)

County: Cobb

F. I. Number: 0006868

Federal Route Number: N/A

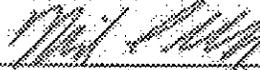
State Route Number: N/A

County Road: CR4402/Sandy Plains Road
CR4406/East Piedmont Road

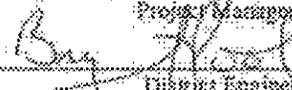
PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE: 6/12/07


Project Manager

DATE: 6/12/07


District Engineer

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

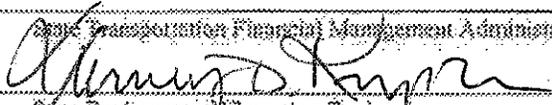
DATE: _____

State Transportation Planning Administrator

DATE: _____

State Transportation Financial Management Administrator

DATE: 6.25.07


State Environment/Location Engineer

DATE: _____

State Traffic Safety & Design Engineer

DATE: _____

Project Review Engineer

NOTICE OF LOCATION AND DESIGN APPROVAL

Project No. CSSTP-0006-00(868), Cobb County
P.I. No. 0006868

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 project.

Date of Location Approval: *July 26, 2007*

This project is located at the intersection of Sandy Plains Road/CR4402 at East Piedmont Road/CR4406, located in Cobb County, 16th Land District, Land Lots 557, 594, 595, 596, 629, 630 and 631.

This project consists of the addition of right and left turn lanes, median modification, pedestrian improvements and a signal upgrade at the intersection of Sandy Plains Road at East Piedmont Road.

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

Jeff Woodward
District 7 - Area 2 Engineer
jeff.woodward@dot.state.ga.us
862 Barnes Mill Road
Marietta, Georgia 30062
(770) 528-3238

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, PE
District 7 Preconstruction Engineer
mike.lobdell@dot.state.ga.us
District Office
5025 New Peachtree Road
Chamblee, GA 30341
(404) 463-4947

Any written request or communication in reference to this Notice SHOULD include the PROJECT and P.I. NUMBERS as noted at the top of this notice.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Sandy Plains Road at East Piedmont Road Intersection Improvement Project

Project Number: CSSTP-0006-00(868)

County: Cobb

P. I. Number: 0006868

Federal Route Number: N/A

State Route Number: N/A

County Road: CR4402/Sandy Plains Road

CR4406/East Piedmont Road

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 6/12/07

Mark Allen

Project Manager

DATE 6/13/07

Bray Wood

District Engineer

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

DATE _____

State Transportation Planning Administrator

DATE _____

State Transportation Financial Management Administrator

DATE _____

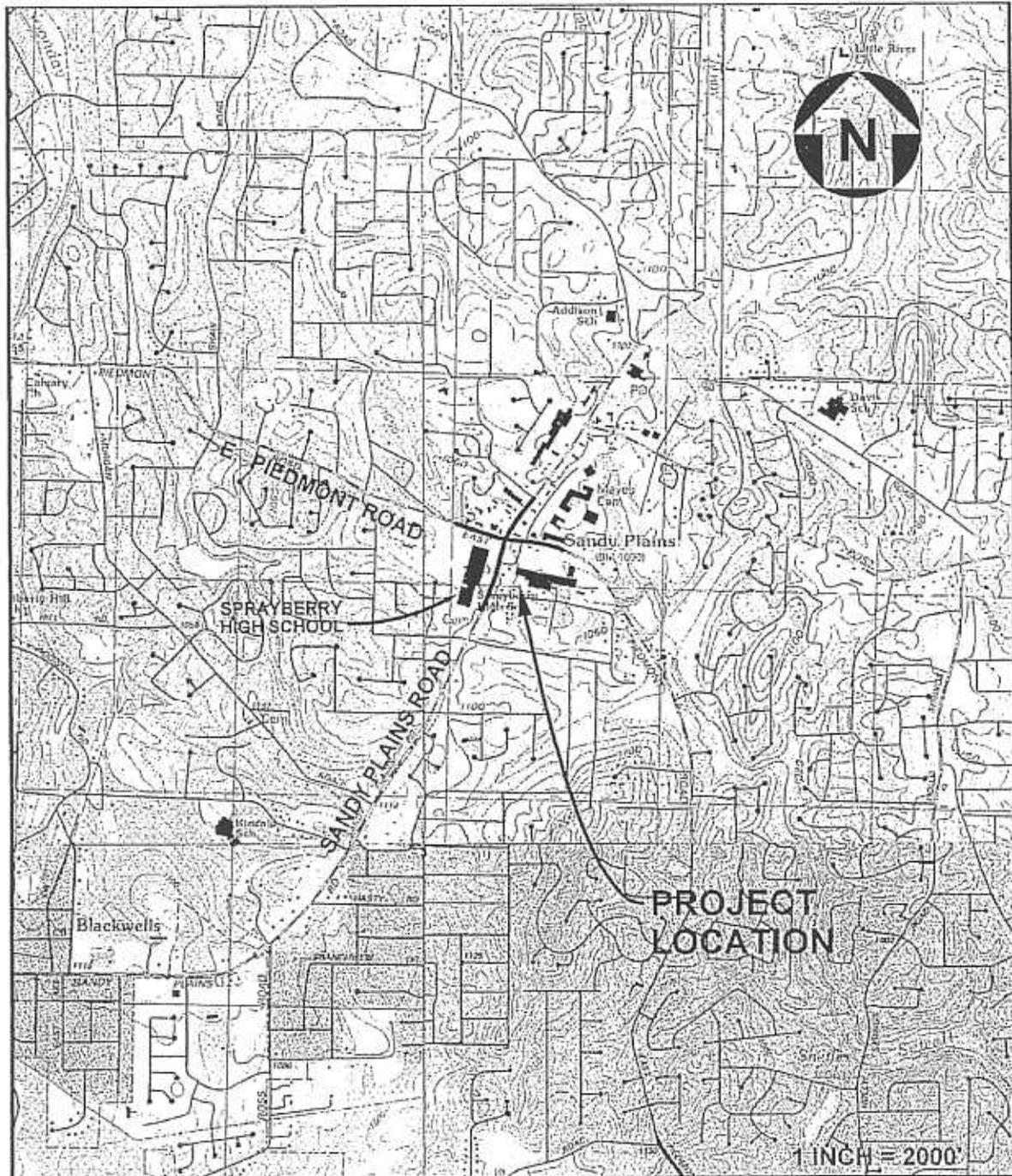
State Environmental/Location Engineer

DATE _____

State Traffic Safety & Design Engineer

DATE _____

Project Review Engineer



C.R. 4402/SANDY PLAINS ROAD AT C.R. 4406/EAST PIEDMONT ROAD
PROJECT NO. CSSTP-0006-00(868)
P.I. NO. 0006868
INTERSECTION IMPROVEMENTS

NEED AND PURPOSE

The signalized intersection of Sandy Plains Road and East (E.) Piedmont Road is located northeast of the City of Marietta in Cobb County, Georgia. Sandy Plains Road is an urban minor arterial that runs north-south from its intersection with Canton Road (Highway 5) in Cobb County to its intersection with Woodstock Road (Highway 92) in Fulton County. E. Piedmont Road is an urban minor arterial that runs east-west. It begins in Cobb County at its intersection with Roswell Road and then becomes Barrett Parkway at its intersection with Bells Ferry Road in Cobb County. Presently, Sandy Plains Road is a four lane facility with 11-foot lanes and a raised median south of E. Piedmont Road, and is a four lane facility with 11-foot lanes and a flush median/turn lane north of E. Piedmont Road. E. Piedmont Road is a four lane facility with 11-foot lanes and a raised median. Both roads have curb and gutter and sidewalks.

In 2005, within the vicinity of the intersection, the Average Annual Daily Traffic (AADT) on Sandy Plains Road was 38,460 vehicles per day (vpd) and on E. Piedmont Road was 22,750 vpd. Within the project area, both Sandy Plains Road and E. Piedmont Road are lined with heavy commercial development, including Sprayberry High School, which is located at the intersection. Some minor residential development is also nearby. This project proposes to increase the safety and operational improvements of the intersection by adding dual left-turn lanes and right-turn lanes, median modifications, curb and gutter, sidewalks, crosswalks, and ramps. The existing traffic signal at the intersection will also be upgraded as required. This intersection improvement would serve to alleviate daily traffic congestion and to improve safety.

For the year 2009, the projected traffic volumes are approximately 40,022 vpd for Sandy Plains Road and approximately 23,208 vpd for E. Piedmont Road. Projected volumes for the year 2029 (design year) are approximately 42,703 vpd for Sandy Plains Road and 24,033 vpd for E. Piedmont Road. Currently, the existing left-turn lanes have delays greater than 150 seconds in the AM peak hour and approximately 200 seconds in the PM peak hour. These heavy delays in the left-turn lanes and the higher approach delays at the intersection affect the intersection's performance, which is reflected in the Level of Service (LOS) F during both the AM and PM peak hours. Therefore, the existing four-lane roadway is already inadequate to handle current traffic volumes.

Accident data was obtained from GDOT for a consecutive four-year period (2002 through 2005) at the intersection. In 2002, 2003, and 2004, the data showed that rear-end accident rates at the intersection were above statewide averages for an urban minor arterial (which is 18.3 accidents per mile). In 2002 and 2003, the accident data also showed that angle-type collisions were above the statewide average. Therefore, intersection analyses, as well as the accident history and accident rates, indicate that dual-left and right-turn lanes are needed for each approach at the intersection to handle the increased traffic volumes and to improve safety.

The project is identified in the FY 2006-2011 Transportation Improvement Program (TIP) as reference number CO-331.

NEED AND PURPOSE

The signalized intersection of Sandy Plains Road and East (E.) Piedmont Road is located northeast of the City of Marietta in Cobb County, Georgia. Sandy Plains Road is an urban minor arterial that runs north-south from its intersection with Canton Road (Highway 5) in Cobb County to its intersection with Woodstock Road (Highway 92) in Fulton County. E. Piedmont Road is an urban minor arterial that runs east-west. It begins in Cobb County at its intersection with Roswell Road and then becomes Barrett Parkway at its intersection with Bells Ferry Road in Cobb County. Presently, Sandy Plains Road is a four lane facility with 11-foot lanes and a raised median south of E. Piedmont Road, and is a four lane facility with 11-foot lanes and a flush median/turn lane north of E. Piedmont Road. E. Piedmont Road is a four lane facility with 11-foot lanes and a raised median. Both roads have curb and gutter and sidewalks.

In 2005, within the vicinity of the intersection, the Average Annual Daily Traffic (AADT) on Sandy Plains Road was 38,460 vehicles per day (vpd) and on E. Piedmont Road was 22,750 vpd. Within the project area, both Sandy Plains Road and E. Piedmont Road are lined with heavy commercial development, including Sprayberry High School, which is located at the intersection. Some minor residential development is also nearby. This project proposes to increase the safety and operational improvements of the intersection by adding dual left-turn lanes and right-turn lanes, median modifications, curb and gutter, sidewalks, crosswalks, and ramps. The existing traffic signal at the intersection will also be upgraded as required. This intersection improvement would serve to alleviate daily traffic congestion and to improve safety.

For the year 2009, the projected traffic volumes are approximately 40,022 vpd for Sandy Plains Road and approximately 23,208 vpd for E. Piedmont Road. Projected volumes for the year 2029 (design year) are approximately 42,703 vpd for Sandy Plains Road and 24,033 vpd for E. Piedmont Road. Currently, the existing left-turn lanes have delays greater than 150 seconds in the AM peak hour and approximately 200 seconds in the PM peak hour. These heavy delays in the left-turn lanes and the higher approach delays at the intersection affect the intersection's performance, which is reflected in the Level of Service (LOS) F during both the AM and PM peak hours. Therefore, the existing four-lane roadway is already inadequate to handle current traffic volumes.

Accident data was obtained from GDOT for a consecutive four-year period (2002 through 2005) at the intersection. In 2002, 2003, and 2004, the data showed that rear-end accident rates at the intersection were above statewide averages for an urban minor arterial (which is 18.3 accidents per mile). In 2002 and 2003, the accident data also showed that angle-type collisions were above the statewide average. Therefore, intersection analyses, as well as the accident history and accident rates, indicate that dual-left and right-turn lanes are needed for each approach at the intersection to handle the increased traffic volumes and to improve safety.

The project is identified in the FY 2006-2011 Transportation Improvement Program (TIP) as reference number CO-331.

Description of the proposed project: This project proposes to increase the safety and operational improvements of the intersection of Sandy Plains Road at E. Piedmont Road located in Marietta, Georgia in Cobb County.

The improvements on E. Piedmont Road will begin approximately 800 feet west of the intersection with Sandy Plains Road and will end approximately 800 feet east of the intersection. The improvements on Sandy Plains Road will begin approximately 850 feet south of the intersection with E. Piedmont Road and will end approximately 750 feet north of the intersection. The total project length is approximately 0.6 mile.

Two 11-foot travel lanes in each direction will be maintained as well as the existing 11-foot left turn and 11-foot right turn lanes. To improve the intersection, a second 11-foot left turn in each direction will be added for additional storage capacity. A 30-inch by 8-inch curb and gutter, a two-foot stamped concrete strip, a five-foot wide sidewalk, ADA compliant wheel chair ramps, and cross walks will also be included. The intersection improvements will be constructed with the traffic maintained on the existing pavement during construction.

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

Concept is consistent with the model which indicates intersection improvement along Sandy Plains Road.

PDP Classification: Major _____ Minor X

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

Functional Classification: Urban Minor Arterial

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

State Route Number(s): N/A

Traffic (AADT):

Current Year: (2009)	23,208 ADT - East Piedmont Road
	40,022 ADT - Sandy Plains Road
Design Year: (2029)	24,033 ADT - East Piedmont Road
	42,703 ADT - Sandy Plains Road

Existing design features:

- Typical Section: Four 11 foot lanes divided road with 11 foot left and right turn lanes at the intersection with curb and gutter and 4 to 5 foot wide sidewalks.
- Posted speed 45 mph Minimum radius for curve: 1000 feet
- Maximum super-elevation rate for curve: 3.8%

- Maximum grade: 6.4% Sandy Plains Road
 7% East Piedmont Road
 11% Driveways
- Width of right of way: Varies 100 – 130 feet
- Major structures: N/A
- Major interchanges or intersections along the project: Sandy Plains Road at East Piedmont Road
- Existing length of roadway segment: 0.3 miles Sandy Plains Road and 0.3 miles East Piedmont Road

Proposed Design Features

- Proposed typical section(s): Two 11 foot travel lanes in each direction for a total of four travel lanes with a raised 20 feet median. At the intersection dual 11 foot left turn lanes will be added as well as a single 11 foot right turn lane for each approach. The shoulder will be upgraded as necessary with 30 inch x 8 inch curb and gutter, two foot stamped concrete strip and five foot sidewalks for a twelve foot shoulder.
- Proposed Design Speed Mainline 45 mph
- Proposed Maximum grade E. Piedmont Road 6.4% Maximum grade allowable 7%.
- Proposed Maximum grade Sandy Plains Road 7% Maximum grade allowable 7%.
- Proposed Maximum grade driveway 11%
- Proposed Minimum radius for curve 1000 feet Maximum radius allowable 5930 feet
- Proposed Maximum super-elevation rate for curve: 3.8%
- Proposed Maximum degree of curve 5°54'00" Maximum degree allowable 8°00'00"
- Right of way
 - Width Varies 100-130 feet
 - Easements: Temporary (X), Permanent (X), Utility (), Other ().
 - Number of parcels: 18 Number of displacements:
 - Business: 1
 - Residences: 0
 - Mobile homes: 0
- Structures:
 - Bridges N/A
 - Retaining walls: May be needed to minimize right of way impacts.
- Major intersections and interchanges. Sandy Plains Road at East Piedmont Road
- Traffic control during construction: Traffic maintained on existing pavement.
- Design Exceptions to controlling criteria anticipated:

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
HORIZONTAL ALIGNMENT:	()	()	(X)
ROADWAY WIDTH:	()	(X)	()
SHOULDER WIDTH:	()	()	()
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: A Brownfield is located at Junction Cleaners, 2635 Sandy Plains Road, Marietta, GA 30066 which is within project limits. The Phase I EA would also determine the presence or absence of any USTs that are within the project limits.
- Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes (X), No (),
 - Categorical exclusion (X),
 - Environmental Assessment/Finding of No Significant Impact (FONSI) (), or
 - Environmental Impact Statement (EIS) ().
- Utility involvements: Gas, Water, Distribution and Transmission Power, Telephone, Cable TV, Cobb County ATMS

Project responsibilities:

- Design – Cobb County
- Right of Way Acquisition – Cobb County
- Relocation of Utilities - Cobb County and/or Utility Owner
- Letting to contract – Cobb County
- Supervision of construction – Cobb County
- Providing material pits - Contractor
- Providing detours - Contractor

Coordination

- Initial Concept Meeting date and brief summary
- Concept meeting date and brief summary – April 10, 2007 See attached minutes.
- P. A. R. meetings, dates and results – None Anticipated
- FEMA, USCG, and/or TVA – None Anticipated
- Public involvement – PIOH will be conducted by Cobb County
- Local government comments. A concept meeting was held by Cobb County on January 30, 2007. See attached minutes. Cobb County supports the project by providing PE activities.
- Other projects in the area – STP-000-00(555), PI 0000555 Chastain Road at Bells Ferry Road, STP-0005-00(788), PI 0005788, SR 5 at Sandy Plains Road, MLP-754(1)01 PI 750995 Canton Highway from Blackwell Road to Shallowford Road, CSSTP-M002-00(561) PI 002561 SR 120 from East Piedmont Road to Fulton County Line and CSSTP-0007-00(677) PI 0007677 Sandy Plains Road at 19 Locations Upgrade Traffic Signals
- Other coordination to date.
- Railroads – Not Applicable

Scheduling – Responsible Parties' Estimate

- Time to complete the environmental process: 6-9 Months.

- Time to complete preliminary construction plans: 5 Months.
- Time to complete right of way plans: 4 Months.
- Time to complete the Section 404 Permit: 0 Months.
- Time to complete final construction plans: 5 Months.
- Time to complete to purchase right of way: 9 Months.
- List other major items that will affect the project schedule: N/A

Alternates Considered: (1) Add turn lanes by symmetrical widening. (2) Widen to the east side on Sandy Plains and the north side on East Piedmont for the addition of turn lanes. (3) Widen to the west side of Sandy Plains and south side of East Piedmont for the addition of turn lanes. (4) No Build

Comments: Alternate (3) was chosen as the preferred Alternate due to its overall improved operation and minimal impact to commercial developments. (See attached Cost Estimate). Alternate (1) was not chosen because this option creates the biggest impact to all commercial developments within the project limits. Alternate (2) was also not chosen due its impact to many commercial developments. Several businesses would require displacements. Alternate (4) was not chosen because the operational and safety of the intersection would not be improved.

Attachments:

1. Cost Estimates
2. Typical sections
3. Traffic Study
4. Concept Team Meeting Minutes (April 10, 2007)
5. Minutes of Concept Meeting with Cobb County (January 30, 2007)
6. Location and Design Notice

Estimate Report for file "CSSTP-0006-00(868) CONCEPT"

Section ROADWAY					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	500000.00	TRAFFIC CONTROL -	500000.00
210-0100	1	LS	500000.00	GRADING COMPLETE -	500000.00
310-5080	5000	SY	16.00	GR AGGR BASE CRS, 8 INCH, INCL MATL	80000.00
318-3000	400	TN	20.00	AGGR SURF CRS	8000.00
402-3112	550	TN	100.00	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	55000.00
402-3113	1700	TN	100.00	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	170000.00
402-3121	825	TN	100.00	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	82500.00
413-1000	150	GL	2.00	BITUM TACK COAT	300.00
441-0104	2000	SY	60.00	CONC SIDEWALK, 4 IN	120000.00
441-0748	2400	SY	45.00	CONCRETE MEDIAN, 6 IN	108000.00
441-6222	3600	LF	35.00	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	126000.00
441-6720	5000	LF	35.00	CONC CURB & GUTTER, 6 IN X 30 IN, TP 7	175000.00
446-1100	500	LF	6.00	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	3000.00
500-3201	60	CY	750.00	CLASS B CONCRETE, RETAINING WALL	45000.00
500-9999	1000	CY	230.00	CLASS B CONC, BASE OR PVMT WIDENING	230000.00
550-1180	3000	LF	50.00	STORM DRAIN PIPE, 18 IN, H 1-10	150000.00
611-8000	30	EA	1700.00	ADJUST CATCH BASIN TO GRADE	51000.00
641-1200	500	LF	20.00	GUARDRAIL, TP W	10000.00
641-5001	2	EA	700.00	GUARDRAIL ANCHORAGE, TP 1	1400.00
641-5012	2	EA	2000.00	GUARDRAIL ANCHORAGE, TP 12	4000.00
668-1100	20	EA	2500.00	CATCH BASIN, GP 1	50000.00
668-1110	20	LF	250.00	CATCH BASIN, GP 1, ADDL DEPTH	5000.00
Section Sub Total:					\$2,474,200.00

Section EROSION CONTROL					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	1	AC	600.00	TEMPORARY GRASSING	600.00
163-0240	9	TN	300.00	MULCH	2700.00
163-0520	500	LF	20.00	CONSTRUCT AND REMOVE TEMPORARY PIPE SLOPE DRAIN	10000.00
163-0550	30	EA	300.00	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	9000.00
165-0010	1200	LF	2.00	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	2400.00
165-0105	15	EA	150.00	MAINTENANCE OF INLET SEDIMENT TRAP	2250.00
167-1000	2	EA	1400.00	WATER QUALITY MONITORING AND SAMPLING	2800.00
167-1500	12	MO	1100.00	WATER QUALITY INSPECTIONS	13200.00
171-0010	2400	LF	3.00	TEMPORARY SILT FENCE, TYPE A	7200.00
603-2180	25	SY	45.00	STN DUMPED RIP RAP, TP 3, 12 IN	1125.00
603-7000	25	SY	5.00	PLASTIC FILTER FABRIC	125.00
700-6910	2	AC	1000.00	PERMANENT GRASSING	2000.00
700-7000	9	TN	70.00	AGRICULTURAL LIME	630.00
700-7010	8	GL	25.00	LIQUID LIME	200.00
700-8000	1	TN	350.00	FERTILIZER MIXED GRADE	350.00
700-8100	150	LB	3.00	FERTILIZER NITROGEN CONTENT	450.00
716-2000	900	SY	2.00	EROSION CONTROL MATS, SLOPES	1800.00
Section Sub Total:					\$56,830.00

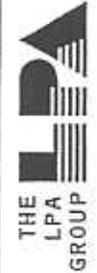
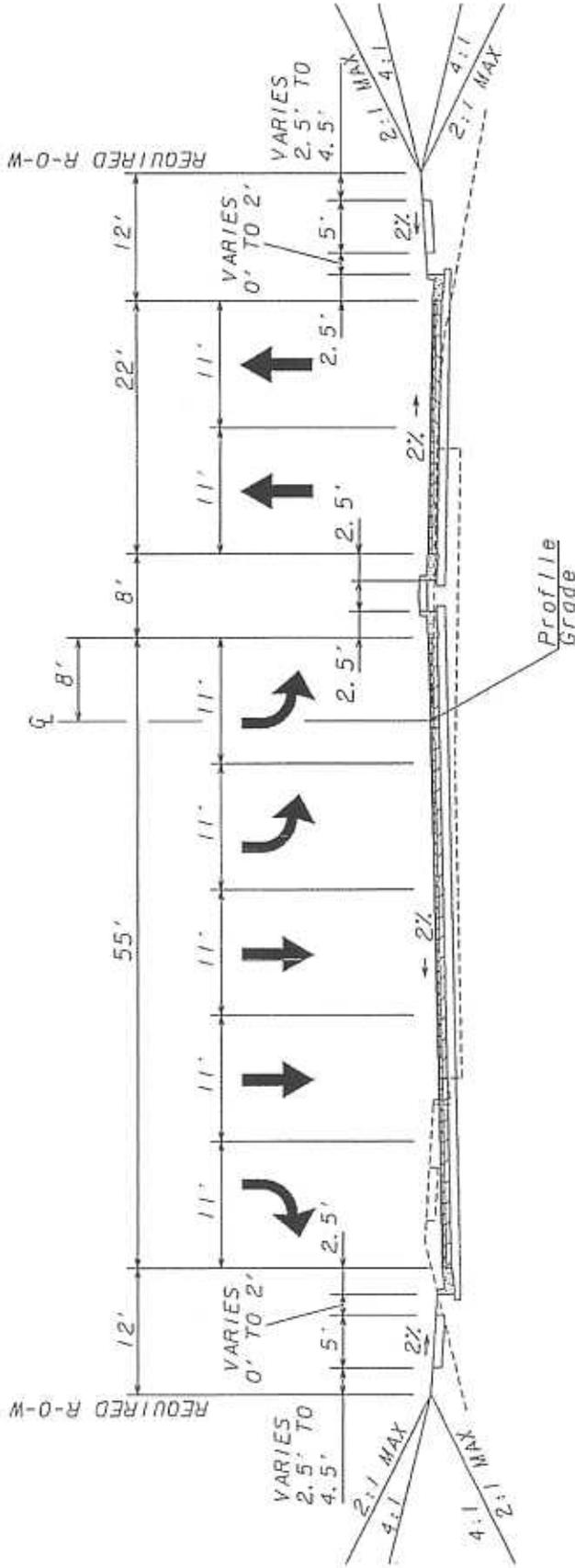
Section SIGNING & MARKING					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	20	SF	20.00	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	400.00
636-1033	20	SF	25.00	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	500.00
636-2070	120	LF	10.00	GALV STEEL POSTS, TP 7	1200.00
647-1000	1	LS	125000.00	TRAFFIC SIGNAL INSTALLATION NO -	125000.00
653-0120	27	EA	80.00	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	2160.00

653-0210	1B	EA	120.00	THERMOPLASTIC PVMT MARKING, WORD, TP 1	2160.00
653-1501	8000	LF	0.70	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	5600.00
653-1502	5000	LF	0.70	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	3500.00
653-1704	200	LF	7.00	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	1400.00
653-1804	2000	LF	2.00	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	4000.00
653-3501	6200	GLF	0.50	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	3100.00
653-6004	800	SY	3.00	THERMOPLASTIC TRAF STRIPING, WHITE	2400.00
653-6006	200	SY	3.50	THERMOPLASTIC TRAF STRIPING, YELLOW	700.00
682-6262	300	LF	10.00	TRAFFIC SIGNAL LOOPS REPLACEMENT	3000.00
Section Sub Total:					\$155,120.00

Total Estimated Cost: \$2,686,150.00

Subtotal Construction Cost	\$2,686,150.00
E&C Rate 10.0 %	\$268,615.00
Inflation Rate 5.0 % @ 2.0 Years	\$302,863.41
	<hr/>
Total Construction Cost	\$3,257,628.41
Right Of Way	\$500,000.00
ReImb. Utilities	\$300,000.00
	<hr/>
Grand Total Project Cost	\$4,057,628.41

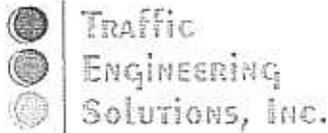
STATE	COUNTY	PROJECT NUMBER	SHEET TOTAL SHEETS
GA.	COBB	CSSTP-0006-001(668)	



THE LPA GROUP INCORPORATED
 TRANSPORTATION CONSULTANTS
 3535 ENGINEERING DRIVE
 #0805237 2831-9113

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION



2470 Sandy Plains Rd
Suite A
Marietta, GA 30066
(770) 321-3936ofc
(770) 321-3935fax

March 7, 2007

Beth Ann Marks

Via email: BMarks@lpagroup.com

RE: Sandy Plains Road at East Piedmont Road Intersection Improvement
Traffic Data for Concept Report
Cobb County, GA

Dear Beth Ann,

The following traffic data has been prepared for the concept report and design of the Sandy Plains Road at East Piedmont Road Intersection Improvement Project in Cobb County, GA. Traffic volumes were collected in 2006 as part of this project and 2005 average daily traffic volumes (AADT) were provided by Georgia Department of Transportation (GDOT). The data was used to generate the design data including the 2009 AADT, 2029 AADT, 2009 One-Way AADT, and 2029 One-Way AADT for each location. The projections were based on a 1% growth rate experienced on Sandy Plains Road and 0.5% for East Piedmont Road for the base year and 2019 year projections and a 0.5% growth rate was used for Sandy Plains Road and no growth rate was used for East Piedmont Road for the 2019-2029 projections. The volume data was projected for a 3 year and 21 year design time frame. Also included below is the traffic data relevant to the overall pavement designs for the project.

Sandy Plains Road at East Piedmont Road						
	2005		2009		2029	
	Two-Way	One-Way	Two-Way	One-Way	Two-Way	One-Way
Sandy Plains Rd	38,460	19,400	40,022	20,188	42,703	24,032
E. Piedmont Rd	22,750	12,070	23,208	12,313	24,033	13,008

PAVEMENT DESIGN INFO

The following traffic data was based on the highest Sandy Plains Road and the highest East Piedmont Road volume collected for this project, the 2005 traffic volume data collected by GDOT and then projected to the year 2009 and 2029. These conservative design volumes are given below for the design of the pavement for the project.

Sandy Plains Road

Existing Volumes (2005)	38,460 AADT
Initial Design Year (2009)	40,022 AADT
One-Way Volume	20,188 vpd
Final Design Year (2029)	42,703 AADT
One-Way Volume	24,032 vpd

East Piedmont Road

Existing Volumes (2005)	22,750 AADT
Initial Design Year (2009)	23,208 AADT
One-Way Volume	12,313 vpd
Final Design Year (2029)	24,033 AADT
One-Way Volume	13,008 vpd

CAPACITY ANALYSIS

At the intersection, Sandy Plains Road is oriented north-south and East Piedmont Road is oriented east-west. The intersection is a signalized, four leg intersection with dual lanes along both Sandy Plains Road and East Piedmont Road. East Piedmont Road has exclusive left-turn and right-turn lane on the eastbound approach and has exclusive left-turn lane on the westbound approach. At the intersection, Sandy Plains Road has two lanes in both directions and exclusive left-turn lane on both approaches. The speed limit on both East Piedmont Road and Sandy Plains Road is 45 mph.

The proposed intersection improvements are listed below:

- Dual left-turn lanes on all approaches
- Exclusive right-turn lane on west, north and southbound approaches

These improvements were applied to the intersection for the buildout year 2009 with the 2009 projected volumes and intersection analysis was performed. Traffic volumes were grown for 21 years and the intersection analysis was performed for the year 2029.

The results for all the analysis years are shown in the table below:

Level of Service											
2006				2009				2029			
AM Pk Hr		PM Pk Hr		AM Pk Hr		PM Pk Hr		AM Pk Hr		PM Pk Hr	
LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c
F	1.14	F	1.29	E	0.95	E	0.92	E	1.06	F	1.24

ACCIDENT HISTORY

Based on the information provided by the Georgia Department of Transportation to date, the accident history for the years 2002-2005 is shown in the following table.

Accidents								
Year	Rear-end	Side-swipe	Angle	Object	Other	Total	Injury	Fatal
2002	29	4	21	0	6	60	13	0
2003	35	1	20	2	2	60	14	0
2004	18	1	11	3	2	35	7	0
2005	17	3	12	1	3	36	8	0

2004 Statewide Average Accident Data for Urban Minor Arterial – 18.3 per mile.

Turn lane lengths suggested for each approach are listed in the following table:

Turn Lane Length by Approach		
Approach	Left-Turn	Right-Turn
E. Piedmont Eastbound Approach	250'	250'
E. Piedmont Westbound Approach	250'	150'
Sandy Plains Road Northbound Approach	350'	150'
Sandy Plain Road Southbound Approach	250'	150'

Please call if you need additional information. Thank you.

Best regards,

Teresa Epple, PE
Traffic Engineer

Enclosures

ACCIDENT HISTORY

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Year	Rear-end	Side-swipe	Angle	Object	Other	Total	Injury	Fatal
2002	29	4	21	0	6	60	13	0
2003	35	1	20	2	2	60	14	0
2004	18	1	11	3	2	35	7	0
2005	17	3	12	1	3	36	8	0

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Approach	Left-Turn	Right-Turn
E. Piedmont Eastbound Approach	250'	250'
E. Piedmont Westbound Approach	250'	150'
Sandy Plains Road Northbound Approach	350'	150'
Sandy Plain Road Southbound Approach	250'	150'

Please call if you need additional information. Thank you.

Best regards,

Teresa Epple, PE
Traffic Engineer

Enclosures

E. Piedmont Road at Sandy Plains Road
 TRAFFIC VOLUME DATA WORKSHEET
 14-Nov-06
 Page 1 of 1

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Existing-AM	120	773	57	505	1398	270	346	673	160	191	267	98
Existing-PM	182	1328	71	171	859	442	402	402	94	189	635	226
Future AM-2009	124	796	59	520	1440	278	351	683	162	194	271	99
Future PM -2009	188	1368	73	176	885	455	408	408	95	192	645	229
Future AM -2019	133	854	63	558	1544	298	364	707	168	201	281	103
Future PM -2019	201	1467	78	189	949	488	423	423	99	199	667	238
Future AM -2029	146	943	70	616	1706	329	364	707	168	201	281	103
Future PM -2029	222	1620	87	209	1048	539	423	423	99	199	667	238

HCM Signalized Intersection Capacity Analysis
 3: E. Piedmont Rd & Sandy Plains Rd

Existing AM
 11/28/2006



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↗	↖	↖↖		↖	↖↖		↖	↖↖	
Volume (vph)	346	673	160	191	267	98	120	773	57	505	1398	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3422		1770	3499		1770	3452	
Flt Permitted	0.17	1.00	1.00	0.22	1.00		0.12	1.00		0.10	1.00	
Satd. Flow (perm)	310	3539	1583	403	3422		222	3499		191	3452	
Peak-hour factor, PHF	0.88	0.88	0.87	0.80	0.61	0.79	0.79	0.87	0.79	0.77	0.92	0.91
Adj. Flow (vph)	393	765	184	239	438	124	152	889	72	656	1520	297
RTOR Reduction (vph)	0	0	93	0	20	0	0	4	0	0	12	0
Lane Group Flow (vph)	393	765	91	239	542	0	152	957	0	656	1805	0
Turn Type	pm+pt		Perm	pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	44.5	27.5	27.5	30.0	18.5		40.0	33.5		74.5	62.5	
Effective Green, g (s)	44.5	27.5	27.5	30.0	18.5		40.0	33.5		74.5	62.5	
Actuated g/C Ratio	0.34	0.21	0.21	0.23	0.14		0.31	0.26		0.57	0.48	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	336	749	335	214	487		146	902		541	1660	
w/s Ratio Prot	c0.18	0.22		0.10	0.16		0.05	0.27		c0.33	0.52	
w/s Ratio Perm	c0.22		0.06	0.16			0.27			c0.36		
w/c Ratio	1.17	1.02	0.27	1.12	1.11		1.04	1.06		1.21	1.09	
Uniform Delay, d1	38.2	51.2	42.9	46.8	55.8		63.9	48.2		39.4	33.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	103.6	38.4	2.0	96.4	75.6		85.8	47.3		111.9	49.8	
Delay (s)	141.8	89.6	44.9	143.2	131.3		149.7	95.6		151.3	83.6	
Level of Service	F	F	D	F	F		F	F		F	F	
Approach Delay (s)		98.8			134.9			103.0			101.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	105.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 3: E. Piedmont Rd & Sandy Plains Rd

Existing PM
 11/28/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	402	402	94	189	635	226	182	1328	71	171	859	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Fr't	1.00	1.00	0.85	1.00	0.96		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3386		1770	3505		1770	3356	
Flt Permitted	0.12	1.00	1.00	0.38	1.00		0.08	1.00		0.08	1.00	
Satd. Flow (perm)	220	3539	1583	710	3386		154	3505		154	3356	
Peak-hour factor, PHF	0.89	0.81	0.81	0.91	0.93	0.82	0.80	0.92	0.71	0.78	0.93	0.91
Adj. Flow (vph)	452	496	116	208	683	276	228	1443	100	219	924	486
RTOR Reduction (vph)	0	0	86	0	34	0	0	4	0	0	53	0
Lane Group Flow (vph)	452	496	30	208	925	0	228	1539	0	219	1357	0
Turn Type	pm+pt		Perm	pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	55.4	33.9	33.9	44.6	28.5		58.0	48.5		58.0	48.5	
Effective Green, g (s)	55.4	33.9	33.9	44.6	28.5		58.0	48.5		58.0	48.5	
Actuated g/C Ratio	0.43	0.26	0.26	0.34	0.22		0.45	0.37		0.45	0.37	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	350	923	413	375	742		187	1308		187	1252	
v/s Ratio Prot	c0.21	0.14		0.07	0.27		c0.09	0.44		0.09	0.40	
v/s Ratio Perm	c0.34		0.02	0.12			c0.46			0.44		
w/c Ratio	1.29	0.54	0.07	0.55	1.25		1.22	1.18		1.17	1.08	
Uniform Delay, d1	56.4	41.3	36.2	31.9	50.8		62.4	40.8		62.4	40.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	150.9	2.2	0.3	5.8	122.4		137.2	87.8		119.5	51.5	
Delay (s)	207.4	43.5	36.6	37.7	173.1		199.6	128.6		181.9	92.2	
Level of Service	F	D	D	D	F		F	F		F	F	
Approach Delay (s)		112.4			149.0			137.7			104.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	125.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	113.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 3: E. Piedmont Rd & Sandy Plains Rd

Buildout AM
 12/5/2006



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗
Volume (vph)	351	683	162	194	271	99	124	796	59	520	1440	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.87	0.80	0.61	0.79	0.79	0.87	0.79	0.77	0.92	0.91
Adj. Flow (vph)	399	776	186	242	444	125	157	915	75	675	1565	305
RTOR Reduction (vph)	0	0	91	0	0	89	0	0	26	0	0	62
Lane Group Flow (vph)	399	776	95	242	444	36	157	915	49	675	1565	243
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	21.0	35.5	35.5	12.5	27.0	27.0	8.5	46.2	46.2	33.8	71.5	71.5
Effective Green, g (s)	21.0	35.5	35.5	12.5	27.0	27.0	8.5	46.2	46.2	33.8	71.5	71.5
Actuated g/C Ratio	0.14	0.24	0.24	0.08	0.18	0.18	0.06	0.31	0.31	0.23	0.48	0.48
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	481	838	375	286	637	285	195	1090	488	774	1687	755
w/s Ratio Prot	c0.12	c0.22		0.07	0.13		0.05	0.26		c0.20	c0.44	
w/s Ratio Perm			0.06			0.02			0.03			0.15
w/c Ratio	0.83	0.93	0.25	0.85	0.70	0.12	0.81	0.84	0.10	0.87	0.93	0.32
Uniform Delay, d1	62.8	56.0	46.5	67.8	57.7	51.6	69.9	48.4	37.1	56.0	36.8	24.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.2	17.6	1.6	25.3	6.2	0.9	28.7	7.8	0.4	12.9	10.4	1.1
Delay (s)	78.0	73.6	48.1	93.1	63.9	52.5	98.7	56.2	37.5	69.0	47.2	25.4
Level of Service	E	E	D	F	E	D	F	E	D	E	D	C
Approach Delay (s)		71.4			70.9			60.8			50.4	
Approach LOS		E			E			E			D	

Intersection Summary		
HCM Average Control Delay	60.1	HCM Level of Service E
HCM Volume to Capacity ratio	0.95	
Actuated Cycle Length (s)	150.0	Sum of lost time (s) 22.0
Intersection Capacity Utilization	86.1%	ICU Level of Service E
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 3: E. Piedmont Rd & Sandy Plains Rd

Buildout PM
 12/5/2006



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖	↕	↗	↖↗	↕	↗	↖↗	↕	↗
Volume (vph)	408	408	95	192	645	229	188	1368	73	176	885	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.89	0.81	0.81	0.91	0.93	0.82	0.80	0.92	0.71	0.78	0.93	0.91
Adj. Flow (vph)	458	504	117	211	694	279	235	1487	103	226	952	500
RTOR Reduction (vph)	0	0	94	0	0	111	0	0	22	0	0	168
Lane Group Flow (vph)	458	504	23	211	694	168	235	1487	81	226	952	332
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	21.0	29.0	29.0	22.5	30.5	30.5	16.6	65.6	65.6	10.9	59.9	59.9
Effective Green, g (s)	21.0	29.0	29.0	22.5	30.5	30.5	16.6	65.6	65.6	10.9	59.9	59.9
Actuated g/C Ratio	0.14	0.19	0.19	0.15	0.20	0.20	0.11	0.44	0.44	0.07	0.40	0.40
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	481	684	306	266	720	322	380	1548	692	249	1413	632
v/s Ratio Prot	c0.13	0.14		0.12	c0.20		0.07	c0.42		c0.07	0.27	
v/s Ratio Perm			0.01			0.11			0.05			0.21
v/c Ratio	0.95	0.74	0.07	0.79	0.96	0.52	0.62	0.96	0.12	0.91	0.67	0.53
Uniform Delay, d1	64.0	56.9	49.5	61.5	59.2	53.3	63.7	40.9	25.0	69.1	37.0	34.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	30.7	7.0	0.5	21.2	25.8	6.0	7.4	15.2	0.3	37.4	2.6	3.1
Delay (s)	94.7	63.9	50.0	82.7	85.0	59.2	71.0	56.2	25.4	106.4	39.6	37.4
Level of Service	F	E	D	F	F	E	E	E	C	F	D	D
Approach Delay (s)		75.5			78.5			56.4			47.9	
Approach LOS		E			E			E			D	

Intersection Summary		
HCM Average Control Delay	62.0	HCM Level of Service
HCM Volume to Capacity ratio	0.92	E
Actuated Cycle Length (s)	150.0	Sum of lost time (s)
Intersection Capacity Utilization	90.6%	16.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		E

HCM Signalized Intersection Capacity Analysis
 3: E. Piedmont Rd & Sandy Plains Rd

Future AM
 12/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	364	707	168	201	281	103	146	943	70	616	1706	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.87	0.80	0.61	0.79	0.79	0.87	0.79	0.77	0.92	0.91
Adj. Flow (vph)	414	803	193	251	461	130	185	1084	89	800	1854	362
RTOR Reduction (vph)	0	0	86	0	0	91	0	0	26	0	0	62
Lane Group Flow (vph)	414	803	107	251	461	39	185	1084	63	800	1854	300
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	20.4	32.5	32.5	10.9	23.0	23.0	8.5	50.1	50.1	34.5	76.1	76.1
Effective Green, g (s)	20.4	32.5	32.5	10.9	23.0	23.0	8.5	50.1	50.1	34.5	76.1	76.1
Actuated g/C Ratio	0.14	0.22	0.22	0.07	0.15	0.15	0.06	0.33	0.33	0.23	0.51	0.51
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	467	767	343	249	543	243	195	1182	529	790	1795	803
v/s Ratio Prot	0.12	c0.23		0.07	c0.13		0.05	0.31		c0.23	c0.52	
v/s Ratio Perm			0.07			0.02			0.04			0.19
v/c Ratio	0.89	1.05	0.31	1.01	0.85	0.16	0.95	0.92	0.12	1.01	1.03	0.37
Uniform Delay, d1	63.7	58.8	49.4	69.6	61.8	55.1	70.5	48.0	34.6	57.8	37.0	22.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.0	45.4	0.5	59.1	11.8	0.3	49.3	12.6	0.5	35.2	30.2	1.3
Delay (s)	81.7	104.2	49.9	128.6	73.6	55.4	119.8	60.5	35.1	92.9	67.2	23.8
Level of Service	F	F	D	F	E	E	F	E	D	F	E	C
Approach Delay (s)		90.1			87.2			67.0			68.8	
Approach LOS		F			F			E			E	

Intersection Summary		
HCM Average Control Delay	75.3	HCM Level of Service
HCM Volume to Capacity ratio	1.06	
Actuated Cycle Length (s)	150.0	Sum of lost time (s)
Intersection Capacity Utilization	94.9%	ICU Level of Service
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 3: E. Piedmont Rd & Sandy Plains Rd

Future PM
 12/5/2006

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	423	423	99	199	667	238	222	1620	87	209	1048	539
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.87	0.80	0.61	0.79	0.79	0.87	0.79	0.77	0.92	0.91
Adj. Flow (vph)	481	481	114	249	1093	301	281	1862	110	271	1139	592
RTOR Reduction (vph)	0	0	85	0	0	88	0	0	19	0	0	165
Lane Group Flow (vph)	481	481	29	249	1093	213	281	1862	91	271	1139	427
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	16.5	38.6	38.6	15.4	37.5	37.5	15.1	64.5	64.5	9.5	58.9	58.9
Effective Green, g (s)	16.5	38.6	38.6	15.4	37.5	37.5	15.1	64.5	64.5	9.5	58.9	58.9
Actuated g/C Ratio	0.11	0.26	0.26	0.10	0.25	0.25	0.10	0.43	0.43	0.06	0.39	0.39
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	378	911	407	352	885	396	346	1522	681	217	1390	622
v/s Ratio Prot	c0.14	0.14		0.07	c0.31		0.08	c0.53		c0.08	0.32	
v/s Ratio Perm			0.02			0.13			0.06			0.27
w/c Ratio	1.27	0.53	0.07	0.71	1.24	0.54	0.81	1.22	0.13	1.25	0.82	0.69
Uniform Delay, d1	66.8	47.9	42.1	65.1	56.2	48.8	66.1	42.8	25.9	70.2	40.8	37.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	141.8	0.6	0.1	6.4	115.5	1.4	13.5	106.6	0.4	144.3	5.5	6.1
Delay (s)	208.6	48.4	42.2	71.5	171.8	50.2	79.6	149.4	26.3	214.5	46.3	43.9
Level of Service	F	D	D	E	F	D	E	F	C	F	D	D
Approach Delay (s)		119.4			134.3			134.7			68.4	
Approach LOS		F			F			F			E	

Intersection Summary		
HCM Average Control Delay	113.2	HCM Level of Service
HCM Volume to Capacity ratio	1.24	F
Actuated Cycle Length (s)	150.0	Sum of lost time (s)
Intersection Capacity Utilization	99.6%	22.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		F

Sandy Plains Road at E. Piedmont Road Concept Team Meeting

Project Number: CSSTP-0006-00(868)

County: Cobb

P. I. Number: 0006868

April 10, 2007

Meeting notes from the April 10, 2007 concept team meeting at the GDOT District Seven Office for the Sandy Plains Road at E. Piedmont Road Intersection Improvement Project.

Attendees:

Merishia Robinson	GDOT D7	(770) 986-1111	merishia.robinson@dot.state.ga.us
James Hudgins	Arcadis/CCDOT	(770) 420-6658	james.hudgins@cobbcounty.org
Sunita Nadella	SEI	(770) 321-3936	sunita@seengineering.com
Danny Godwin	LPA	(770) 263-9118	dgodwin@lpagroup.com
Mike Lobdell	GDOT	(770) 986-1257	mike.lobdell@dot.state.ga.us
Tyler McIntosh	LPA	(770) 263-9118	dtncintosh@lpagroup.com
Jennifer Poirier	LPA	(770) 263-9118	jmpoirier@lpagroup.com
Beth Ann Marks	LPA	(770) 263-9118	bmarks@lpagroup.com
Chris Woods	GDOT	(770) 986-1260	chris.woods@dot.state.ga.us
Alex Laffey	GDOT	(770) 988-1773	alex.laffey@dot.state.ga.us
Lowell James	GDOT	(770) 986-1111	lowell.james@dot.state.ga.us

Meeting Notes:

- Lowell James opened the meeting and introductions were given.
- LPA gave an overview of the concept report and project layout.
- GDOT suggested closing off the 1st driveway for Wal-Greens on Sandy Plains north of the intersection with E. Piedmont and extend the right turn lane into the 2nd driveway. Cobb County is in agreement to close off this driveway.
- The two foot strip between the sidewalk and curb will be stamped concrete as requested by Cobb County and the raised islands will also be stamped concrete instead of grass.
- A design exception will be required for 11 foot lanes but not for a 12 foot shoulder.
- A Brownfield was identified at Junction Cleaners on Sandy Plains Road and therefore, all proposed construction limits will be maintained within the existing right of way and if needed, the median will be reduced to minimize construction limits. The Wal-Greens in the north east corner of the intersection used to be a gas station and has documented LUSTs. Also, two other sites were identified as State Spills sites and are both dry cleaners within the project limits. LPA recommends a Phase 1 Environmental Assessment be performed.
- Currently, the project has \$1 million construction funding and the right of way funding is scheduled for December 2007 and let date of December 2008.
- Cobb County will submit a letter requesting temporary easements at right of way plan submission.
- Cobb County will be responsible for utility markup requests and GDOT asked to be copied on all correspondence with utility owners.
- All plan reviews will be handled by District 7 instead of GDOT's Engineering Services.

• **REPORT COMMENTS:**

- Add intersection name to the cover sheet of the report
- Remove "Office Head" from the 2nd signature line
- Remove the word "Improvement" from the Regional Transportation Program.
- Removed 2nd signature line for District Engineer.
- Correct PI Number with 3 zeros instead of 2.
- Additional information should be added to the Need and Purpose such as dimensions, accident data, explanation of intersection delays, etc.
- Dimensioning should be added the proposed description such as 11' lanes, 2.5' curb and gutter, etc.
- Add explanation statement under the Non-Attainment statement concerning air. GDOT to send statement to LPA.
- Verify Traffic data years and volumes.
- Add dimensioning to Proposed Design Features and change grass strip to stamped concrete strip.
- Remove design exception for shoulder width because 16' shoulder is desirable but not a minimum
- Information regarding UST's will be added to the environmental concerns.
- List the potentially historic property in the report but no construction is proposed along the property.
- Remove the January 30, 2007 date from the initial concept meeting and move to coordination with local government since the meeting was held by and with Cobb County on January 30, 2007
- Added concept team meeting minutes and date to the coordination section

Minutes Prepared by Beth Ann Marks

Sandy Plains Road at E. Piedmont Road Initial Concept Team Meeting

January 30, 2007

Cobb County Department of Transportation

Attendees: Nar Chaudhry, CCDOT nar.chaudhry@cobbcounty.org
Bob Galante, CCDOT bgalante@cobbcounty.org
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Mike Wright, CCDOT michael.wright@cobbcounty.org
Ray Youmans, THC ray.youmans@cobbcounty.org

1. Proposed lane widths can be reduced from 12' to 11' and a design exception from GDOT will be requested.
2. The proposed right turn lane on southbound Sandy Plains Road can be reduced in length to minimize impacts to two commercial properties.
3. Sandy Plains Road is a bike friendly road therefore additional two feet of pavement is required between the edge of the travel lane and the gutter. The right turn lane pavement can be considered bike friendly pavement therefore additional pavement in this area is not required.
4. The driveway on Sandy Plains Road to the abandoned gas station should be either closed or reduced to a right turn in only and not allow an exit.
5. Additional pavement will be required for U-turns at the intersection for each approach.
6. On Sandy Plains Road there are two existing traffic signals at Kinjac Drive and Sprayberry Crossing shopping center and the signal at Sprayberry Crossing shopping center is currently being removed.
7. A gas regulation is located on the Wal-Greens property along E. Piedmont Road.
8. The existing utility owners in the intersection area are Cobb/Marietta Water Authority, Cobb County Water, Cobb EMC, Georgia Power, Georgia Transmission, BellSouth (aerial and underground), Comcast Cable, and Atlanta Gas Light.