

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 521855-
STP00-0064-01(040)

Chatham County

GDOT District 5 - Jesup

SR 26 Improvements – From I-516 to

CS 188/Victory Drive

OFFICE Design Policy & Support

DATE 4/23/2015

FROM  for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED REVISED CONCEPT REPORT

Attached is the approved Revised Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Glenn Bowman, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Hiral Patel, State Environmental Administrator
Ben Rabun, State Bridge Engineer
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Mike Bolden, State Utilities Engineer
Richard Cobb, Statewide Location Bureau Chief
Karon Ivery, District Engineer
Will Murphy, District Preconstruction Engineer
Dallory Rozier, District Utilities Engineer
David Moyer, Project Manager
BOARD MEMBER - 1st Congressional District

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
REVISED PROJECT CONCEPT REPORT**

Project Type: <u>Widening</u>	P.I. Number: <u>-521855</u>
GDOT District: <u>5</u>	County: <u>Chatham</u>
Federal Route Number: <u>80</u>	State Route Number: <u>26</u>
Project Number: <u>STP00-0064-01(040)</u>	

The roadway typical will be changed to one 11-foot and one 12-foot lane in each direction with a 16-foot raised median and bicycle lanes. The bridge over CSX will be replaced versus widened and the arch structures over Springfield Canal will be removed with one being replaced by a culvert.

Submitted for approval: (email to "Concept Reports"; remove notes in italics & delete any inapplicable signature lines)

 Consultant Designer & Firm	TranSystems	<u>2/18/15</u> Date
<u>Albert Shelby</u>	<u>BVA</u>	<u>2/25/15</u> Date
State Program Delivery Engineer		Date
 GDOT Project Manager		<u>2/18/15</u> Date

Recommendation for approval:

State Environmental Administrator	<u>HIRSH PATEL*/EKP</u>	<u>3/17/2015</u> Date
State Traffic Engineer	<u>ANDREW HEATH*/EKP</u>	<u>3/2/2015</u> Date
State Bridge Engineer	<u>BEN ROBUN*/EKP</u>	<u>2/27/2015</u> Date

- ☒ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).
- ☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

State Transportation Planning Administrator	<u>CINDY VANDUYKE*/EKP</u>	<u>3/4/2015</u> Date
---	----------------------------	-------------------------

** - RECOMMENDATION ON FILE*

PLANNING, APPROVED CONCEPT, AND BACKGROUND

Project Justification Statement: See Attachment.

Existing conditions: The project begins as a 4 lane roadway with a 16-foot raised median that tapers down to a 2 lane 24-foot roadway with rural shoulders with no median. West Victory Drive is a 4 lane with 9-foot lanes and a 6-foot flush median.

Description of the approved concept: The approved concept calls for four 12' travel lanes (two in each direction), 4' bicycle lanes (one in each direction) and a 20' raised center median. The existing bridge over CSX Railroad is to be widened. A new bridge would be constructed for the eastbound lanes on West Victory Drive adjacent to the existing brick arch structures, which would carry the proposed westbound lanes. There were no plans to disturb the brick arch structure on Ogeechee Road. Removal of the existing structure carrying Ogeechee Road over Stiles Avenue and the CSX Railroad spur, which would result in an at grade "T" intersection.

Federal Oversight: ☐ PoDI ☒ Exempt ☐ State Funded ☐ Other

Projected Traffic as shown in the approved Concept Report: ADT

Open Year (1996): 25,500

Design Year (2016): 38,000

Updated Traffic: ADT

24 HR T: 4 %

Open Year (2019): 28,600

Design Year (2039): 37,775

Functional Classification (Mainline): Urban Minor Arterial Street

VE Study anticipated: ☒ No ☐ Yes ☐ Completed – Date:

PROPOSED REVISIONS

Approved Features:	Proposed Features:
• Typical section – 2 – 12-foot lanes in each direction and a 20-foot raised median <i>+ 4ft bike lanes</i> • Widen the existing bridge (051-0047-0) over CSX to meet proposed typical section. • New bridge for eastbound lanes on West Victory Drive.	• 1-12-foot lane and 1-11-foot lane in each direction with a 16-foot raised median <i>+ 4ft bike lanes</i> • Replace the existing bridge over CSX with a new 194' x 89' wide bridge • Replacement of the exiting bridge with a culvert that will carry both east and westbound traffic – double 6' x 7'
Reason(s) for change: This will reduce the cost and right-of-way impacts in an area that is extremely tight with developments and environmental concerns. Using a box culvert on West Victory Drive will reduce the amount that the vertical grade will have to be raised and thus reducing impacts to the surrounding parcels.	

Design Variances and/or Exceptions needed: Design Variance – Median width: GDOT standards (table 6.6 from Design Policy Manual) recommend the use of a 20 ft raised median when base year ADT is greater than 18,000 & design year ADT is greater than 24,000. The project

corridor has a higher ADT than the threshold required by GDOT. Therefore, a raised median is warranted. A 16-ft raised median is proposed to minimize project footprint, reduce right of way impacts, minimize overall project cost and at the same time provide much needed access control to improve operations and safety along the corridor.

ENVIRONMENTAL AND PERMITS

Potential environmental impacts of proposed revision: No change to impacts expected.

Have proposed revisions been reviewed by environmental staff? ☐ No ☒ Yes

Environmental responsibilities (Studies/Documents/Permits): GDOT

Air Quality:

Is the project located in a PM 2.5 Non-attainment area? ☒ No ☐ Yes

Is the project located in an Ozone Non-attainment area? ☒ No ☐ Yes

Is a Carbon Monoxide hotspot analysis required? ☒ No ☐ Yes

Environmental Comments and Information: No change to impacts expected

PROJECT COST AND ADDITIONAL INFORMATION

Item	Estimated Cost	Date of Estimate	Funded By
Base Construction Cost:	9,899,089.95	9/29/2014	M001
Engineering and Inspection:	494,954.50	9/29/2014	
Contingencies:	1,559,106.67		
Liquid AC Adjustment:	402,770.06		
<u>Total Construction Cost:</u>	12,355,921.17		
Right-of-Way:	6,248,000.00	9/29/2014	M230S
Utilities (reimbursable costs):	177,500.00	10/4/2014	M001
Environmental Mitigation:			
TOTAL PROJECT COST:	18,781,421.17		

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

Comments:

Attachments:

1. Project Location Map
2. Project Justification Statement
3. Cost Estimate(s)

County: Chatham

4. Bridge SIA Report
5. Typical Section
6. Bridge Typical Section
7. Updated Traffic

APPROVALS

Concur:



Director of Engineering

Approve:

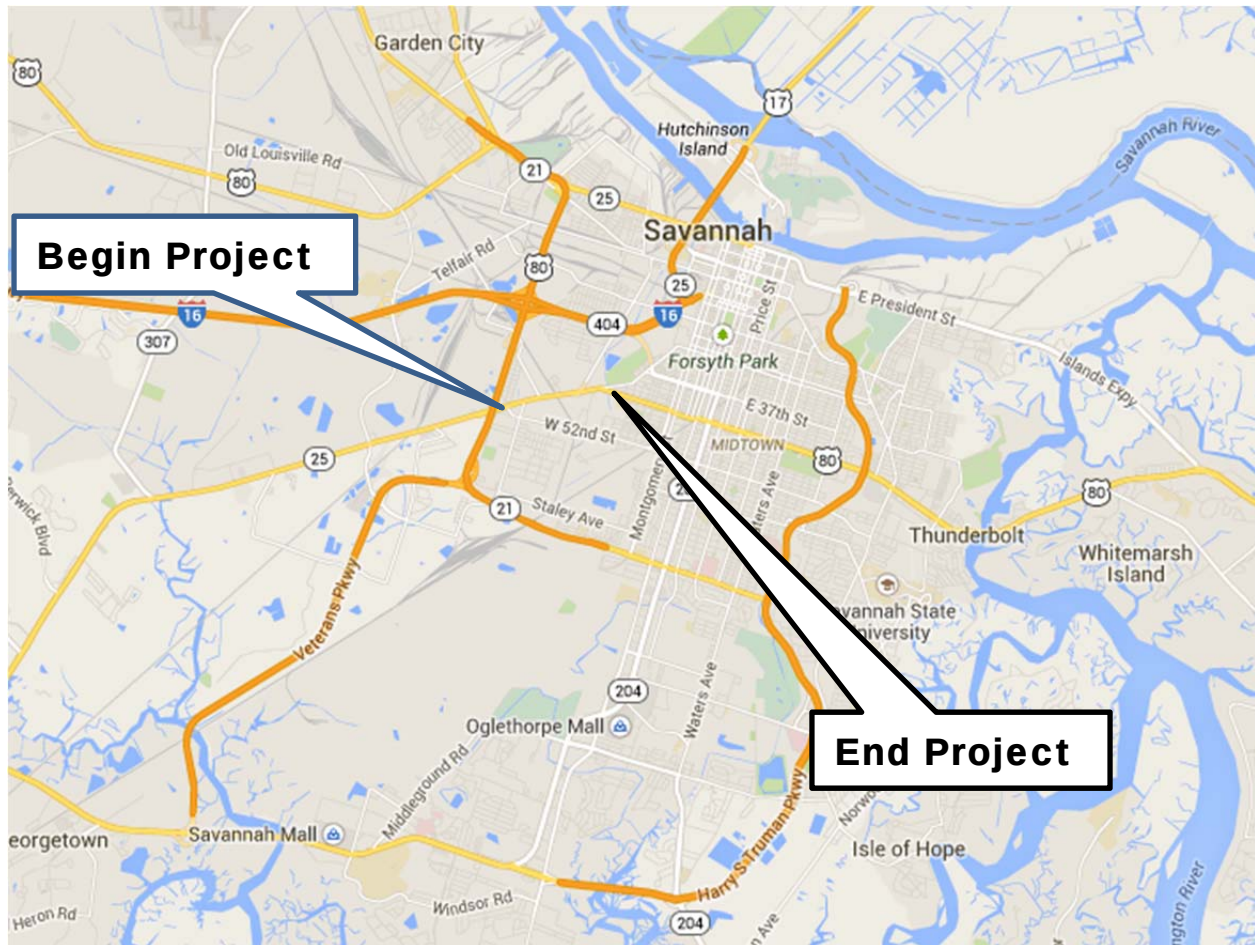


Chief Engineer

4.20.15

Date

PROJECT LOCATION MAP
PROJECT NUMBER STP00-0064-01(040)



Project: STP00-0064-01(040), Chatham County, P.I. No. 0521855.
US 80/SR 26 (Ogeechee Road) FM East of Lynes Parkway to West Victory Drive
in Savannah, GA

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE PI 521855
Chatham County

OFFICE Planning

DATE January 24, 2012

FROM  Cynthia L. VanDyke, State Transportation Planning Administrator

TO Bobby Hilliard, State Program Delivery Engineer
Attn: David Moyer, Project Manager

SUBJECT Project Justification Statement

The Office of Planning is providing the Project Justification Statement for the above mentioned project as defined in the Plan Development Process Manual. If you have any questions, please contact Kaycee Mertz at 404-347-0245 or kmertz@dot.ga.gov.

CLV: kem

Project Justification Statement
PI 521855 – US 80/SR 26/Ogeechee Road from East of I-516 to Victory Drive

The Coastal Region MPO has identified the proposed widening of SR 26/US 80/Ogeechee Road to four lanes between I-516 and Victory Drive in their year 2035 Long Range Transportation Plan (LRTP). It was originally added to the MPO's Transportation Improvement Program (TIP) in 1987 and was included in Chatham County's 1989 1% Special Local Option Sales Tax (SPLOST). It was consequently added to the GDOT work program in October 1990. The project's right-of-way phase is programmed in the current TIP and construction is planned for long range. No other GDOT projects are planned for this location.

Within the limits of this project, this two-lane segment is known locally as Ogeechee Road and connects I-516 to Victory Drive in the Midtown Savannah area, serving commuters traveling between Savannah and growing residential areas to the west of the City. This roadway is part of a hurricane evacuation route and is functionally classified as an Urban Principal Arterial.

Sidewalks are present on the four-lane section of Ogeechee Road to the west of this project, but no sidewalks or bike lanes are present within the project limits. The MPO has designated this location as a bike route in their LRTP. The road is also served by Chatham Area Transit (CATS) bus route 17, which connects downtown Savannah with Abercorn Road near I-95.

According to GDOT crash records for years 2006-2008, this corridor experienced crash rates above the statewide average for comparable routes. About 52% were recorded as "rear-end" type crashes and 25% were "angle" crashes. Almost half of the recorded crashes occurred in the vicinity of the Stiles Avenue intersection.

According to GDOT traffic count stations (STARS), year 2010 traffic along this segment ranges from 15,840 AADT to 18,200 AADT, which translates to level-of-service (LOS) "E". Without improvements, the regional travel demand model projects that the roadway will operate at LOS "E" and "F" in the horizon year 2035. LOS "E" and "F" are seen as unacceptable with regards to statewide LOS performance measures as referenced in the 2005-2035 Statewide Transportation Plan, as well as in the MPO's LRTP.

To the east, this project ties into US 80/SR 26/Victory Drive, an existing four-lane divided section where 2010 traffic drops from 15,840 AADT to 8,100 AADT, according to GDOT traffic counts. At this location, Ogeechee Road also becomes a separate two-lane local roadway. To the west, this project ties into an existing four-lane divided section just east of I-516, which continues through the interchange.

Improvements to this corridor are needed to help relieve traffic congestion and reduce the frequency and severity of crashes. The proposed limits accommodate the primary purpose of this project, which is to relieve congestion and improve conditions for traffic between Midtown Savannah and I-516.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No.

521855

OFFICE

Program Delivery

PROJECT DESCRIPTION

State Route 26 from I-516 to CS 188/Victory Drive

DATE

September 29, 2014

 From: Albert V. Shelby

To: Lisa L. Myers, State Project Review Engineer

Subject: REVISIONS TO PROGRAMMED COSTS

PROJECT MANAGER

David G. Moyer

MGMT LET DATE

12/15/2016

MGMT ROW DATE

6/15/2014

PROGRAMMED COSTS (TPro W/OUT INFLATION)

LAST ESTIMATE UPDATE

CONSTRUCTION \$ 10,796,814.51

DATE 10/4/2013

RIGHT OF WAY \$ 6,248,000.00

DATE 10/4/2013

UTILITIES \$ 177,500.00

DATE 10/4/2013

REVISED COST ESTIMATES

CONSTRUCTION* \$ 12,355,921.17

RIGHT OF WAY \$ 6,248,000.00

UTILITIES \$ 177,500.00

*Cost Contains 15 % Contingency

REASONS FOR COST INCREASE AND CONTINGENCY JUSTIFICATION:

This is a no change cost estimate update. GDOT has just given a design consultant NTP for this project. Based on the chart and what is currently unknown it is reasonable to have a contingency of 15%. The last cost estimate update did not include the contingency amount. The first task for the consultant is concept validation. As part of that work an updated concept cost estimate will be prepared.

CONTINGENCY SUMMARY

A. CONSTRUCTION COST ESTIMATE:	\$ 9,899,089.95	Base Estimate From CES	
B. ENGINEERING AND INSPECTION (E & I):	\$ 494,954.50	Base Estimate (A) x	5 %
C. CONTINGENCY:	\$ 1,559,106.67	Base Estimate (A) + E & I (B) x	15 %
		See % Table in "Risk Based Cost Estimation" Memo	
D. TOTAL LIQUID AC ADJUSTMENT:	\$ 402,770.06	Total From Liquid AC Spreadsheet	
E. CONSTRUCTION TOTAL:	\$ 12,355,921.17	(A + B + C + D = E)	

REIMBURSABLE UTILITY COSTS

UTILITY OWNER	REIMBURSABLE COST
AGL	\$ 25,000.00
AT&T	\$ 50,000.00
Georgia Power Co. Distribution	\$ 102,500.00
TOTAL	\$ 177,500.00

ATTACHMENTS:

Detailed Cost Estimate Printout From TRAQS
Liquid AC Adjustment Spreadsheet

DETAILED COST ESTIMATE



Job: 521855

JOB NUMBER 521855

FED/STATE PROJECT NUMBER STP00-0064-01(140)

SPEC YEAR: 01

DESCRIPTION: SR 26/OGEECHEE RD FM 4-LN E/LYNES PKWY TO CS 188/VICTORY DR

ITEMS FOR JOB 521855

0010 - ROADWAY

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0055	150-1000	1.000	LS	\$150,000.00000	TRAFFIC CONTROL - STP00-0064-01(040)	\$150,000.00
0135	153-1300	1.000	EA	\$70,640.86833	FIELD ENGINEERS OFFICE TP 3	\$70,640.87
0090	210-0100	1.000	LS	\$2,000,000.00000	GRADING COMPLETE - STP00-0064-01(040)	\$2,000,000.00
0030	310-5100	43623.000	SY	\$16.37820	GR AGGR BS CRS 10IN INCL MATL	\$714,466.22
0005	402-1812	981.000	TN	\$91.41309	RECYL AC LEVELING,INC BM&HL	\$89,676.24
0025	402-3121	7198.000	TN	\$72.02725	RECYL AC 25MM SP,GP1/2,BM&HL	\$518,452.15
0020	402-3190	8476.000	TN	\$75.03943	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	\$636,034.21
0060	402-4510	6357.000	TN	\$87.27817	RECYL AC 12.5 MM SP,GP2ONLY,INC P-MBM&HL	\$554,827.33
0010	413-1000	7758.000	GL	\$2.88821	BITUM TACK COAT	\$22,406.73
0160	432-0206	33432.000	SY	\$1.64159	MILL ASPH CONC PVMT/ 1.50" DEP	\$54,881.64
0095	433-1100	960.000	SY	\$143.38085	REF CONC APPR SL/INCL CURB	\$137,645.62
0040	441-0104	6453.000	SY	\$21.18828	CONC SIDEWALK, 4 IN	\$136,727.97
0035	441-0748	9387.000	SY	\$27.47308	CONC MEDIAN, 6 IN	\$257,889.80
0050	441-4020	637.000	SY	\$34.28251	CONC VALLEY GUTTER, 6 IN	\$21,837.96
0045	441-6222	22400.000	LF	\$10.15343	CONC CURB & GUTTER/ 8"X30"TP2	\$227,436.83
0105	550-1180	8000.000	LF	\$31.32413	STM DR PIPE 18",H 1-10	\$250,593.04
0110	550-1240	2500.000	LF	\$36.57333	STM DR PIPE 24",H 1-10	\$91,433.33
0115	550-1300	3100.000	LF	\$49.10170	STM DR PIPE 30",H 1-10	\$152,215.27
0120	641-1200	2000.000	LF	\$16.50653	GUARDRAIL, TP W	\$33,013.06
0125	641-5001	10.000	EA	\$655.91162	GUARDRAIL ANCHORAGE, TP 1	\$6,559.12
0130	641-5012	10.000	EA	\$1,844.51940	GUARDRAIL ANCHORAGE, TP 12	\$18,445.19
0100	668-1100	100.000	EA	\$2,237.63655	CATCH BASIN, GP 1	\$223,763.66
SUBTOTAL FOR ROADWAY:						\$6,368,946.24

0020 - CULVERT

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0165	207-0203	374.000	CY	\$46.51196	FOUND BK FILL MATL, TP II	\$17,395.47
0170	500-3101	324.980	CY	\$464.76431	CLASS A CONCRETE	\$151,039.11
0175	511-1000	36086.000	LB	\$0.72038	BAR REINF STEEL	\$25,995.63
SUBTOTAL FOR CULVERT:						\$194,430.21

0030 - BRIDGE 1

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0065	540-1102	1.000	LS	\$47,229.00000	REM OF EX BR, BR NO - 051-0047-0	\$47,229.00
SUBTOTAL FOR BRIDGE 1:						\$47,229.00

0040 - BRIDGE 2

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0070	540-1102	1.000	LS	\$14,385.00000	REM OF EX BR, BR NO - 051-0048-0	\$14,385.00
SUBTOTAL FOR BRIDGE 2:						\$14,385.00

DETAILED COST ESTIMATE



Job: 521855

0050 - BRIDGE 3

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0075	540-1102	1.000	LS	\$16,968.00000	REM OF EX BR, BR NO - 051-0049-0	\$16,968.00
SUBTOTAL FOR BRIDGE 3:						\$16,968.00

0060 - BRIDGE 4

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0085	204-0001	1500.000	CY	\$9.98000	CHANNEL EXCAVATION SPRIGFIELD CANAL	\$14,970.00
SUBTOTAL FOR BRIDGE 4:						\$14,970.00

0070 - SIGNAL

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0140	647-1000	1.000	LS	\$80,000.00000	TRAF SIGNAL INSTALLATION NO - 1	\$80,000.00
0145	647-1000	1.000	LS	\$80,000.00000	TRAF SIGNAL INSTALLATION NO - 2	\$80,000.00
0150	647-1000	1.000	LS	\$80,000.00000	TRAF SIGNAL INSTALLATION NO - 3	\$80,000.00
0155	647-1000	1.000	LS	\$80,000.00000	TRAF SIGNAL INSTALLATION NO - 4	\$80,000.00
SUBTOTAL FOR SIGNAL:						\$320,000.00

COST GROUP FOR JOB 521855

LINE NUMBER	UNIT	CALCULATION RULE	QUANTITY	PRICE	COST GROUP ID	DESCRIPTION	AMOUNT
00000001	SF	NORM	11684.000	\$122.95	STRO	STRUCTURES, OTHER (127 X 92 SF)	\$1,436,548.50
00000002	SF	NORM	10120.000	\$131.87	STRO	STRUCTURES, OTHER (110 X 92 SF)	\$1,334,537.25
00000003	EA	PCTO	29221.615	\$0.21	LTNGPCTO	LIGHTING (PERCENT OF JOB)	\$6,136.54
00000004	SY	PCTO	29221.615	\$4.46	EROCPCCTO	EROSION CONTROL (PERCENT OF JOB)	\$130,328.40
00000005	EA	PCTO	29221.615	\$0.50	SIGNPCTO	SIGNS (PERCENT OF JOB)	\$14,610.81
SUBTOTAL:							\$2,922,161.50

TOTALS FOR JOB 521855

ITEMS COST:	\$6,976,928.45
COST GROUP COST:	\$2,922,161.50
ESTIMATED COST:	\$9,899,089.95
CONTINGENCY PERCENT:	0.00
ENGINEERING AND INSPECTION:	494,954.50
ESTIMATED COST WITH CONTINGENCY AND E&I:	\$ 10,394,044.45

PROJ. NO.

STP00-0064-01(040)

CALL NO.

P.I. NO.

521855

DATE

6/11/2013

INDEX (TYPE)

DATE

INDEX

REG. UNLEADED

Jun-13

\$ 3.424

DIESEL

\$ 3.805

LIQUID AC

\$ 567.00

Link to Fuel and AC Index:

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>**LIQUID AC ADJUSTMENTS****PA=[((APM-APL)/APL)]xTMTxAPL****Asphalt**

Price Adjustment (PA)

391434.12

\$

391,434.12

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$ 907.20

Monthly Asphalt Cement Price month project let (APL)

\$ 567.00

Total Monthly Tonnage of asphalt cement (TMT)

1150.6

ASPHALT	Tons	%AC	AC ton
Leveling	981	5.0%	49.05
12.5 OGFC		5.0%	0
12.5 mm	6357	5.0%	317.85
9.5 mm SP		5.0%	0
25 mm SP	7198	5.0%	359.9
19 mm SP	8476	5.0%	423.8
	23012		1150.6

BITUMINOUS TACK COAT

Price Adjustment (PA)

\$ **11,335.94**

\$

11,335.94

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$ 907.20

Monthly Asphalt Cement Price month project let (APL)

\$ 567.00

Total Monthly Tonnage of asphalt cement (TMT)

33.32139295

Bitum Tack

Gals	gals/ton	tons
7758	232.8234	33.321393

PROJ. NO.

STP00-0064-01(040)

CALL NO.

P.I. NO.

521855

DATE

6/11/2013

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)						0	\$	-
Monthly Asphalt Cement Price month placed (APM)		Max. Cap	60%	\$	907.20			
Monthly Asphalt Cement Price month project let (APL)				\$	567.00			
Total Monthly Tonnage of asphalt cement (TMT)					0			

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

TOTAL LIQUID AC ADJUSTMENT	\$	402,770.06
-----------------------------------	-----------	-------------------

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE STP00-0064-01(040), PI 521855-, Chatham
 SR 26 from I-516 to CS 188/Victory Drive

OFFICE Jesup

DATE 10-4-14

FROM Dallory Rozier, District Utilities Engineer

TO David Moyer, Project Manager

SUBJECT UPDATED UTILITY COST ESTIMATE

The District Utilities Office is furnishing you with an Updated Utility Cost Estimate of each Utility with facilities potentially located within the above referenced project limits.

Facility Owner	Non-Reimbursable	Reimbursable	Comments
AGL	\$1,457,280.00	\$25,000.00	
AT&T	\$364,320.00	\$50,000.00	
City of Savannah (water & sewer)	\$4,881,888.00	\$0.00	
Comcast	\$145,728.00	\$0.00	
Georgia Power Co - D	\$307,500.00	\$102,500.00	
Georgia Public Web	\$291,456.00		
Totals	\$7,448,172.00	\$177,500.00	
Total Reimbursement		\$177,500.00	

CC: Jun Birnkammer, Utilities Preconstruction Engineer (via e-mail)
 Nicholas Fields, Utilities Preconstruction Engineer (via e-mail)
 Yulanda Pride-Foster, Utilities Preconstruction Engineer
 Vahid Munshi, Management Specialist
 District Office files
 Utility Office Files

Department of Transportation

State of Georgia

Interdepartmental Correspondence

FILE	R/W Cost Estimate	OFFICE	Atlanta
		DATE	March 14, 2012
FROM	Phil Copeland, Right of Way Administrator		
TO	Billy Gordan, Moreland Altobelli Associates		
SUBJECT	Preliminary Right of Way Cost Estimate Project: STP-218-1(1) Chatham County P.I. No.: 521855 <i>00-0064-01(40) (48)</i> Description: SR 26/US 80 Ogeechee Road Widening		

As per your request, attached is a copy of the approved Preliminary Right of Way Cost Estimates on the above referenced projects.

If you have any questions, please contact LaShone Alexander at One Georgia Center 600 West Parkway Street, NW Atlanta, GA 30308, Right of Way Office at (478) 553-1569 or (478) 232-4045.

PC:LA
Attachments
c:File

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 7/20/2011 Project: STP00-0064-01(40)
Revised: County: Chatham
PI: 521855

Description: SR 26/US 80/Ogeechee Road Widening
Project Termini: I-516 to West Victory Drive

Existing ROW: Varies
Required ROW: Varies
Parcels: 66

Land and Improvements \$4,448,633.78

Proximity Damage \$0.00

Consequential Damage \$912,500.00

Cost to Cures \$320,000.00

Trade Fixtures \$125,000.00

Improvements \$538,900.00

Valuation Services \$224,500.00

Legal Services \$419,550.00

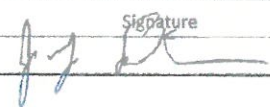
Relocation \$292,000.00

Demolition \$288,000.00

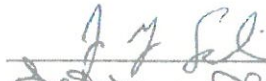
Administrative \$574,500.00

TOTAL ESTIMATED COSTS \$6,247,183.78

TOTAL ESTIMATED COSTS (ROUNDED) \$6,248,000.00

Preparation Credits	Hours	Signature
J.G. Simshauser	1	

Prepared By:



CG#:

2992

(DATE) 3-13-12

Approved By:



CG#:

286999

(DATE) 3/14/12

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

Bridge Inventory Data Listing



Parameters: Bridge Serial Num

Structure ID:051-0047-0

Chatham

SUFF. RATING: 73.60

Location & Geography

Structure ID: 051-0047-0
 200 Bridge Information: 06
 *6A Feature Int: CSX RAILROAD (641173J)
 *6B Critical Bridge:
 *7A Route No Carried: SR00026
 *7B Facility Carried: US 80/SR26
 9 Location: W SECTION OF SAVANNAH
 2 Dot District: 4841500000 - D5 District Five Jesup
 207 Year Photo: 2012
 *91 Inspection Frequency: 24 Date: 09/10/2014
 92A Fract Crit Insp Freq: 0 Date: 02/01/1901
 92B Underwater Insp Freq: 00 Date: 02/01/1901
 92C Other Spc. Insp Freq: 00 Date: 02/01/1901
 * 4 Place Code: 69000
 *5 Inventory Route(O/U): 1
 Type: 2 - U.S. Numbered
 Designation: 1- Mainline
 Number: 00080
 Direction: 0. Not applicable
 *16 Latitude: 32.0000- 3.3828 HMMS Prefix:SR
 *17 Longitude: 81.0000- 3.3828 HMMS Suffix:00
 MP: 16.67
 98 Border Bridge: % Shared:00
 99 ID Number: 0000000000000000
 *100 STRAHNET: 2- The Feature is on a Non-Interstate
 STRAHNET route
 12 Base Highway Network:
 13A LRS Inventory Route: 511002600
 13B Sub Inventory Route: 0.00
 *101 Parallel Structure: N. No parallel structure exists
 *102 Direction of Traffic: 2- Two Way
 *264 Road Inventory Mile Post: 016.73
 *208 Inspection Area: Area 05 Initials: KAS
 Engineer's Initials: bcn
 * Location ID No: 051-00026D-016.67E

*104 Highway System: 1- Bridge does carry a route on the NHS.
 *26 Functional Classification: 14- Urban - Other Principal Arterial
 *204 Federal Route Type: F - Primary. No: 64-1S
 105 Federal Lands Highway: 0. Not applicable
 *110 Truck Route: 0
 206 School Bus Route: 1
 217 Benchmark Elevation: 0000.00
 218 Datum: 0- Not Applicable
 *19 Bypass Length: 2
 *20 Toll: 3- On a Free Road or Non-Highway
 *21 Maintenance: 01-State Highway Agency.
 *22 Owner: 01-State Highway Agency.
 *31 Design Load: 5- HS 20
 37 Historical Significance: 5- Not eligible for the National Register of Historic Places
 205 Congressional District: 12 - TWELVE
 27 Year Constructed: 1938
 106 Year Reconstructed: 0
 33 Bridge Median : 0-None
 34 Skew: 20
 35 Structure Flared: No
 38 Navigation Control: N- Bridge is not over water
 213 Special Steel Design: 0- Not applicable or other
 267 Type of Paint: 1- Lead Chromate Oil Alkyd System.
 *42 Type of Service On: 5-Highway-Pedestrian
 Type of Service Under: 2-Railroad
 214 Movable Bridge: 0
 203 Type Bridge: D - Concn - O. Concrete M. Steel - O. Concrete
 259 Pile Encasement 3
 *43 Structure Type Main: 3-Steel 2-Stringer/Multi-Beam or Girder
 45 No.Spans Main: 3
 44 Structure Type Appr: 0- Other 0- Other
 46 No Spans Appr: 0 Vert: 1.00
 226 Bridge Curve Horiz 0 Vert: 1.00
 111 Pier Protection N - Navigation Control item coded 0, or Feature not a waterway
 107 Deck Structure Type:
 108 Wearing Structure Type:
 Membrane Type:
 Deck Protection:

Signs & Attachments

225 Expansion Joint Type: 02- Open or sealed concrete joint (silicone sealant).
 242 Deck Drains: 0- None.
 243 Parapet Location: 0- None present.
 Height: 0.00
 Width: 0.00
 238 Curb Height: 1
 Curb Material: 1- Concrete.
 239 Handrail 1- Concrete. 1- Concrete.
 *240 Median Barrier Rail: 0- None.
 241 Bridge Median Height: 0
 * Bridge Median Width: 0
 230 Guardrail Loc. Dir. Rear: 3- Both sides.
 Fwd: 3- Both sides.
 Oppo. Dir. Rear: 0- None.
 Oppo. Fwd: 0- None.
 244 Approach Slab 3- Forward and Rear.
 224 Retaining Wall: 0- None.
 233Posted Speed Limit: 45
 236 Warning Sign: 0.00
 234 Delineator: 1.00
 235 Hazard Boards: 1
 237 Utilities Gas: 00- Not Applicable
 Water: 00- Not Applicable
 Electric: 00- Not Applicable
 Telephone: 00- Not Applicable
 Sewer: 00- Not Applicable
 247 Lighting Street: 0
 Navigation: 0
 Aerial: 0- Not :
 *248 County Continuity No.: 00

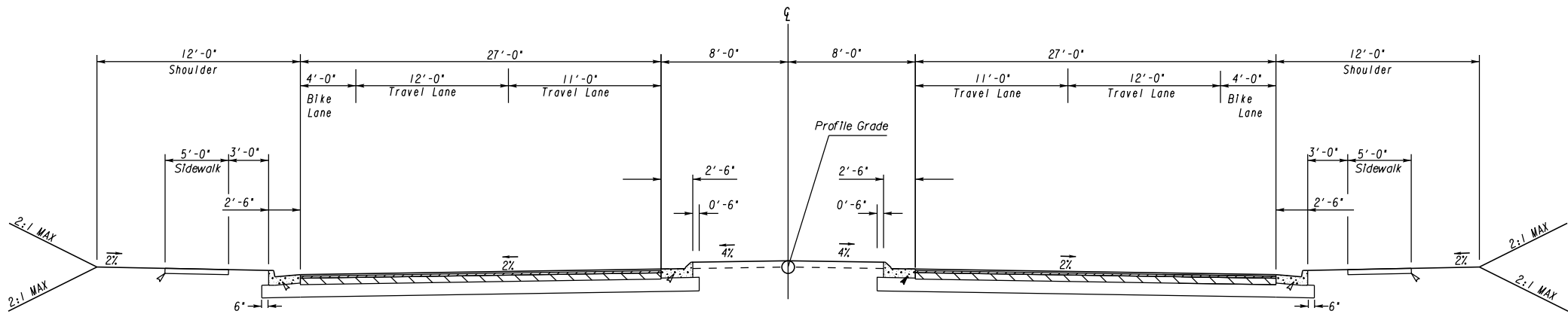
Bridge Inventory Data Listing



Parameters: Bridge Serial Num

Structure ID:051-0047-0

Programming Data			Measurements:					
201 Project No:	WPGH-2597-D		*29 ADT	18670	Year:2011	65 Inventory Rating Method:	1-Load Factor (LF)	
202 Plans Available:	0- No Plans Available.		109 %Trucks:	4		63 Operating Rating Method:	1-Load Factor (LF)	
249 Prop Proj No:	000000000000000000000000		* 28 Lanes On:	3	Under:0	66 Inventory Type:	2 - HS loading. Rating: 42	
250 Approval Status:	0000		210 No. Tracks On:	00	Under:02	64 Operating Type:	2 - HS loading. Rating: 70	
251 PI Number:	0000000		* 48 Max. Span Length	43		231Calculated Loads:		
252 Contract Date:	02/01/1901		* 49 Structure Length:	129		H-Modified:	21	0
260 Seismic No:	00000		51 Br. Rwdy. Width	40.00		HS-Modified:	30	0
75 Type Work:	0- Not Applicable	0- Initial Inventory	52 Deck Width:	52.30		Type 3:	33	0
94 Bridge Imp. Cost:	\$641		* 47 Tot. Horiz. Cl:	40		Type 3s2:	40	0
95 Roadway Imp. Cost:	\$64		50 Curb / Sidewalk Width	5.00	/ 5.00	Timber:	37	0
96 Total Imp Cost:	\$962		32 Approach Rdwy. Width	26		Piggyback:	40	0
76 Imp Length:	0		*229 Shoulder Width:			261 H Inventory Rating:	30	
97 Imp Year:	2013		Rear Lt:	9.00	Type:2 - Rt:10	262 H Operating Rating	50	
114 Future ADT:	28005	Year:2031	Fwd. Lt:	1.00	Type:8 - Grass Rt:8	67 Structural Evaluation:		
Hydraulic Data			Pavement Width:			58 Deck Condition:	6 - Satisfactory Condition	
215Waterway Data:			Rear:	26.00	Type: 2- Asphalt.	59 Superstructure Condition:	6 - Satisfactory Condition	
High Water Elev:	0000.0	Year:1900		37.50	Type: 2- Asphalt.	* 227 Collision Damage:		
Flood Elev:	0000.0	Freq:00	Intersaction Rear:	0	Fwd: 0	60A Substructure Condition:	6 - Satisfactory Condition	
Avg Streambed Elev:	0000.0		36Safety Features Br. Rail:	2- Inspected feature meets acceptable construction date standards.		60B Scour Condition:	N - Not Applicable	
Drainage Area:	00000		Transition:	2- Inspected feature meets acceptable construction date standards.		60C Underwater Condition	N - Not Applicable	
Area of Opening:	000000		App. G. Rail:	2- Inspected feature meets acceptable construction date standards.		71 Waterway Adequacy:	Not Applicable.	
113 Scour Critical	N. Bridge not over waterway.		App. Rail End:	2- Inspected feature meets acceptable construction date standards.		61 Channel Protection Cond.:	10	
216 Water Depth:	00.0	Br.Height:00.0	53 Minimum Cl. Over:	99'99"		68 Deck Geometry:		
222 Slope Protection:	4		Under: R- Railroad beneath structure.	20.00'8.00"		69 UnderClr. Horz/Vert:		
221Spur Dikes Rear	0	Fwd:0	*228 Minimum Vertical Cl			72 Appr. Alignment:	8-No reduction of vehicle operating speed required.	
219 Fender System	0- None.		Act. Odm Dir:.	99 ' 99"		62 Culvert:	N - Not Applicable	
220 Dolphin:			Oppo. Dir:	99' 99"		Posting Data		
223 Culvert Cover:	000		Posted Odm. Dir:	00' 00"		70 Bridge Posting Required	5. Equal to or above legal loads	
Type:	0- Not Applicable		Oppo. Dir:	00'00 "		41 Struct Open, Posted, CL:	A. Open, no restriction	
No. Barrels:	0		55 Lateral Undercl. Rt:	R- Railroad beneath structure.	12.20	* 103 Temporary Structure:	0	
Width:	0.00	Height:0	56 Lateral Undercl. Lt:	0.00		232 Posted Loads		
Length:	0	Apron:0	*10 Max Min Vert Cl:	99' 99" Dir:0		H-Modified:	00	
*265 U/W Insp. Area	0	Diver:ZZZ	39 Nav Vert Cl:	000 Horiz:0		HS-Modified:	00	
*Location ID No:	051-00026D-016.67E		116 Nav Vert Cl Closed:	000		Type 3:	00	
			245 Deck Thickness Main	8.00		Type 3s2:	00	
			Deck Thick Approach:	0.00		Timber:	00	
			246 Overlay Thickness:	1.50		Piggyback	00	
			212 Year Last Painted:	Sup:1960 Sub:0000		253 Notification Date:	02/01/1901	
						258 Fed Notify Date:	02/01/1901	



TYPICAL SECTION
Widening/Urban Section
NORMAL CROWN

**TRAFFIC STUDY
FOR
SR 26/OGEECHEE ROAD
FROM I-516 TO CS 188/VICTORY DRIVE
STP00-064-00-1(40), PI No. 521855
DRAFT**

CHATHAM COUNTY, GEORGIA

Prepared for:



Prepared by:



1800 Peachtree Street
Suite 825
Atlanta, GA 30309
Tel. (404) 355-4010
Fax. (404) 355-0604

FEBRUARY 2015

TABLE OF CONTENTS

1. INTRODUCTION	1
2. EXISTING ROADWAY CONDITIONS.....	3
Roadway Inventory	3
Planned Roadway Improvements	4
3. STUDY METHODOLOGY.....	5
4. EXISTING TRAFFIC CONDITIONS.....	6
Existing Traffic Volumes	6
Existing Conditions.....	9
Intersection Analysis	9
Roadway Analysis	11
5. FUTURE YEAR TRAFFIC CONDITIONS	12
Opening Year 2019 Traffic Volumes	12
Opening Year 2019 Conditions	12
Intersection Analysis – No-Build.....	12
Intersection Analysis – Build	14
Roadway Analysis – No-Build	17
Roadway Analysis – Build	17
Design Year 2039 Traffic Volumes	18
Design Year 2039 Conditions	18
Intersection Analysis – No-Build.....	18
Intersection Analysis – Build	20
Roadway Analysis – No-Build	22
Roadway Analysis – Build	23
6. CRASH ANALYSIS	26
Crash Data Analysis	26
7. CONCLUSIONS	36
APPENDIX	

LIST OF TABLES

Table 1. Intersection Levels of Service Delay Criteria	5
Table 2. Roadway Levels of Service Criteria	5
Table 3. Existing Conditions Intersection Levels of Service	10
Table 4a. Existing Conditions Roadway Levels of Service (Multi-lane).....	11
Table 4b. Existing Conditions Roadway Levels of Service (Two-lane)	11
Table 5. Opening Year 2019 No-Build Conditions Intersection Levels of Service	13
Table 6. Opening Year 2019 Build Conditions Intersection Levels of Service	15
Table 7a. Opening Year 2019 No-Build Conditions Roadway Levels of Service (Multi-lane)	17
Table 7b. Opening Year 2019 No-Build Conditions Roadway Levels of Service (Two-lane).....	17
Table 8. Opening Year 2019 Build Conditions Roadway Levels of Service (Multi-lane)	18
Table 9. Design Year 2039 No-Build Conditions Intersection Levels of Service	19
Table 10. Design Year 2039 Build Conditions Intersection Levels of Service	21
Table 11a. Design Year 2039 No-Build Conditions Roadway Levels of Service (Multi-lane)	22
Table 11b. Design Year 2039 No-Build Conditions Roadway Levels of Service (Two-lane)	22
Table 12. Design Year 2039 Build Conditions Roadway Levels of Service (Multi-lane).....	23
Table 13a. Crash Rates for Ogeechee Road between I-516 ramps and Mills Lane/Plymouth Avenue	26
Table 13b. Crash Rates for Ogeechee Road between Mills Lane/Plymouth Avenue and Tremont Road	27
Table 13c. Crash Rates for Ogeechee Road between Tremont Road and Stiles Avenue	27
Table 13d. Crash Rates for Ogeechee Road between Stiles Avenue and W. Victory Drive	27

LIST OF FIGURES

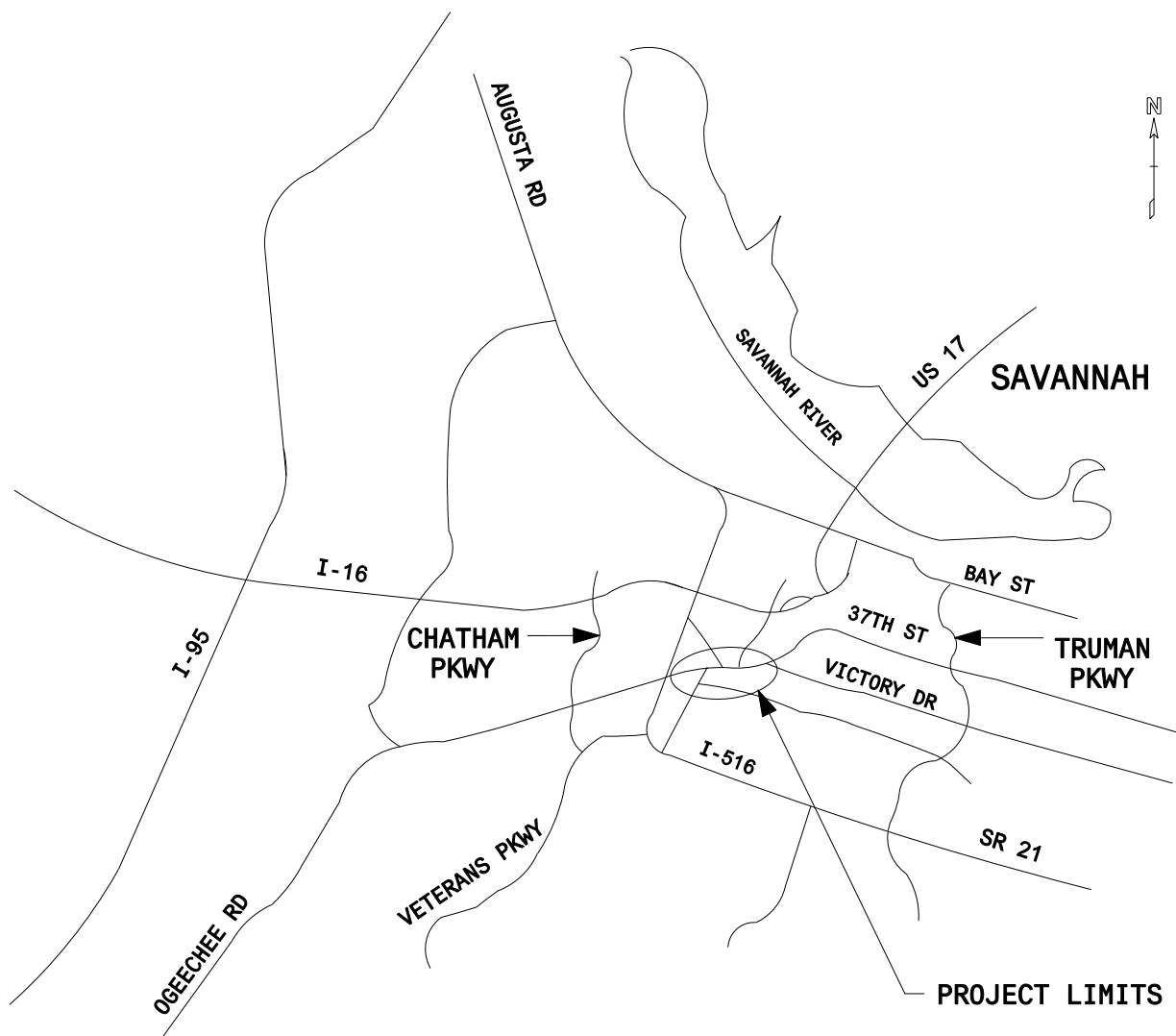
Figure 1. Site Location	2
Figure 2a. Existing Year (2011) – Lane Geometry – p1	7
Figure 2b. Existing Year (2011) – Lane Geometry – p2	8
Figure 3a. Recommended Lane Geometry and Traffic Control – p1	24
Figure 3b. Recommended Lane Geometry and Traffic Control – p2	25
Figure 4a. Three Year Crash History at Intersections – p1	29
Figure 4b. Three Year Crash History at Intersections – p2	30
Figure 4c. Three Year Crash History at Intersections – p3	31
Figure 4d. Three Year Crash History at Intersections – p4	32
Figure 4e. Three Year Crash History at Intersections – p5	33
Figure 5a. Three Year Crash History along Segments – p1	34
Figure 5b. Three Year Crash History along Segments – p2	35

1. INTRODUCTION

This study presents the existing and future traffic operating conditions along US 80/SR 26/Ogeechee Road from just east of the I-516 southbound ramps to CS 188/W. Victory Drive. The GDOT project ID is STP00-064-00-1(40), PI #521855 and the length of the project is 1.38 miles.

The purpose of this traffic study is to identify the future year traffic operating conditions for both the No-Build and Build conditions. The existing year (2011) conditions, opening year traffic conditions (2019), and design year traffic conditions (2039) were evaluated for the study corridor. The proposed typical section for the project is a four-lane urban section with one 12-foot lane and one 11-foot lane in each direction with a 16-foot raised median. Median openings will be provided at select locations. Figure 1 shows the location of the subject corridor.

Historic crash information was also analyzed for the major roadways within the study area. The crash data was summarized and compared to the statewide average for similar facilities.



STP00-0064-01(040)
CHATHAM COUNTY
P.I.# 521855

SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
SITE LOCATION
FIGURE 1

2. EXISTING ROADWAY CONDITIONS

Roadway Inventory

To determine existing traffic conditions for the study intersections, an inventory was made of the roads involved. The following is a description of major roadways:

- **US 80/SR 26/Ogeechee Road** is an east-west oriented predominantly two-lane undivided roadway in the study area. Between the I-516 ramps and Mills Lane/Plymouth Avenue, Ogeechee Road is a four-lane divided roadway. East of Mills Lane/Plymouth Avenue, Ogeechee Road is a two-lane undivided roadway with a short four-lane section near Stiles Avenue. Ogeechee Road provides access to primarily commercial developments. Ogeechee Road is classified as an urban principal arterial with a speed limit of 45 mph in the study area.
- **I-516** is an east-west oriented four-lane divided interstate highway. However, in the vicinity of Ogeechee Road, I-516 is orientated north-south. I-516 has a full movement diamond interchange at Ogeechee Road. I-516 is classified as an interstate highway with a speed limit of 55 mph in the study area.
- **Mills Lane** is a two-lane undivided roadway to the south of Ogeechee Road and connecting with 52nd Street. Mills Lane extends north of Ogeechee Road as Plymouth Avenue and is also a two-lane undivided roadway. Mills Lane and Plymouth Avenue primarily provide access to residential and commercial developments. Mill Lane has a speed limit of 40 mph, while Plymouth Avenue has a speed limit of 25 mph.
- **Liberty Parkway** is a two-lane undivided roadway to the south of Ogeechee Road. Liberty Parkway primarily provides access to commercial and residential developments and has a 35 mph speed limit.
- **Tremont Road** is a two-lane undivided roadway to the north of Ogeechee Road and has an interchange with I-516 south facing ramps. Tremont Road primarily provides access to commercial developments and has a 40 mph speed limit.
- **Stiles Avenue** is a two-lane undivided roadway to the north of Ogeechee Road. However, in the vicinity of Ogeechee Road, it is a four-lane divided roadway. The southbound approach forms a tee-intersection with Ogeechee Road while the northbound connection forms a “jug-handle” with Ogeechee Road. Stiles Avenue provides access to primarily residential developments and has a 35 mph speed limit.
- **W. Victory Drive** is a four-lane divided roadway. W. Victory Drive is a major roadway providing access to commercial and residential developments as well as a connection to

the Savannah area. W. Victory Drive is classified as an urban principal arterial with a speed limit of 35 mph in the study area.

Planned Roadway Improvements

The proposed typical section for the project is a four-lane urban section with one 12-foot lane and one 11-foot lane in each direction with a 16-foot raised median. Median openings will be provided at select locations. The existing median opening at Mills Lane/Plymouth Avenue will be retained. Stiles Avenue will be realigned to form a tee-intersection by removing the “jug-handle” and Ogeechee Road will be aligned with W. Victory Drive as the major roadway and the realigned Ogeechee Road to form the sidestreet. Median openings will be provided at the following locations:

- Liberty Parkway
- Tremont Avenue
- Owens Industrial Drive
- Ross Road
- Stiles Avenue
- Ogeechee Rd

The following sidestreets will become right-in/right-out only:

- Corvair Avenue
- Overland Avenue
- Central Junction Drive
- Julia Law Street
- Dawes Avenue
- Kilowatt Street

3. STUDY METHODOLOGY

Intersection capacity and roadway segment analyses were performed using procedures in the Transportation Research Board's *Highway Capacity Manual (HCM)*, *Millennium Edition*. *Synchro 8* was used to perform the intersection analyses and HCS 2010 was used to perform segment analyses.

Operating conditions at intersections and along roadway segments are evaluated in terms of Levels of Service (LOS). The Levels of Service for an intersection is based on vehicular delay at the intersection, and for a roadway it is based on travel speed or density. Generally, in the opening year of a project, Levels of Service A through D are considered to be acceptable peak hour operations. Levels of Service E and F are generally considered to be undesirable conditions during the peak hour. The Levels of Service criteria for signalized and unsignalized intersections, and roadway segments are shown in Tables 1 and 2, respectively.

Table 1. Intersection Levels of Service Delay Criteria

Levels of Service	Control Delay (seconds per vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Source: *Highway Capacity Manual*.

Table 2. Roadway Levels of Service Criteria

Levels of Service	Two-lane Avg. Travel Speed (mi/h)	Multi-lane Density (pc/mi/ln)
A	> 55	≤ 11
B	> 50 -55	> 11 and ≤ 18
C	> 45 -50	> 18 and ≤ 26
D	> 40 -45	> 26 and ≤ 35
E	≤ 40	> 35 and ≤ 45
F	-	> 45

Source: *Highway Capacity Manual*.

4. EXISTING TRAFFIC CONDITIONS

Existing Traffic Volumes

Existing year (2011) Average Daily Traffic (ADT) volumes and the Design Hourly Volumes (DHV) were provided by GDOT for the study area and include the following intersections:

- Ogeechee Road at I-516 southbound ramps
- Ogeechee Road at I-516 northbound ramps
- Ogeechee Road at Mills Lane/Plymouth Avenue
- Ogeechee Road at Corvair Avenue
- Ogeechee Road at Overland Avenue
- Ogeechee Road at Liberty Parkway
- Ogeechee Road at Tremont Road
- Ogeechee Road at Central Junction Drive
- Ogeechee Road at Julia Law Street
- Ogeechee Road at Owens Industrial Drive
- Ogeechee Road at Dawes Avenue
- Ogeechee Road at Stiles Avenue northbound on-ramp
- Ogeechee Road at Stiles Avenue southbound off-ramp
- Ogeechee Road at Ross Road
- Ogeechee Road at Kilowatt Street
- Ogeechee Road at W. Victory Drive

The existing year (2011) Average Daily Traffic volumes and the Design Hourly Volumes are shown in Appendix A. The existing lane geometry is shown in Figures 2a-b.

EXISTING STOP SIGN CONTROL

EXISTING LANE CONFIGURATION



SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
THREE YEAR (2011-2013)
CRASH HISTORY
ALONG SEGEMENTS

GCA

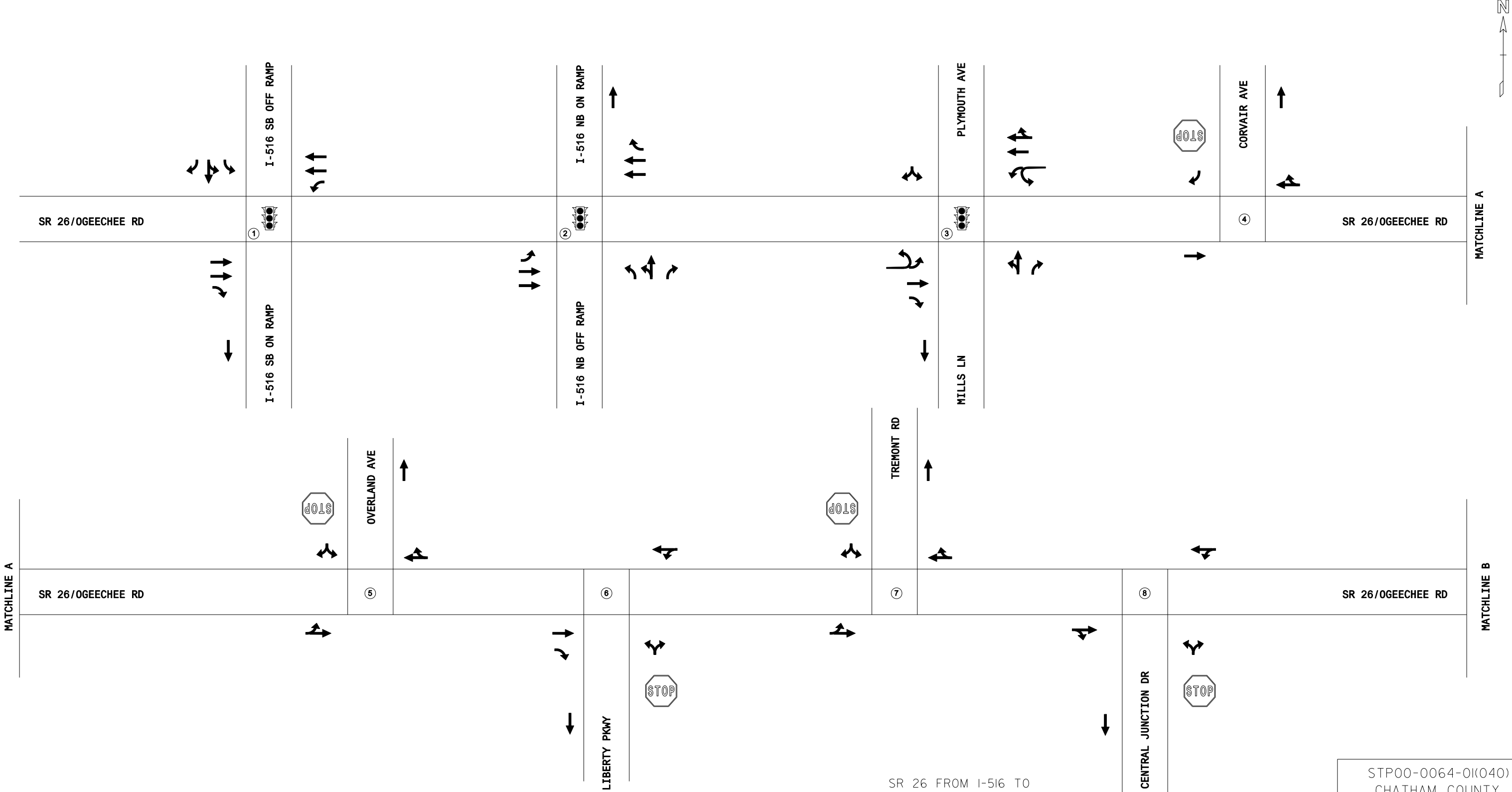
GCA, INC.

1800 PEACHTREE STREET, N.W.
SUITE 825
ATLANTA, GEORGIA 30309
PH. 404-355-4010 FAX 404-355-0604

STP00-0064-01(040)
CHATHAM COUNTY
P.I.# 521855

SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
EXISTING LANE
GEOMETRY
AND TRAFFIC CONTROL
FIGURE 2a

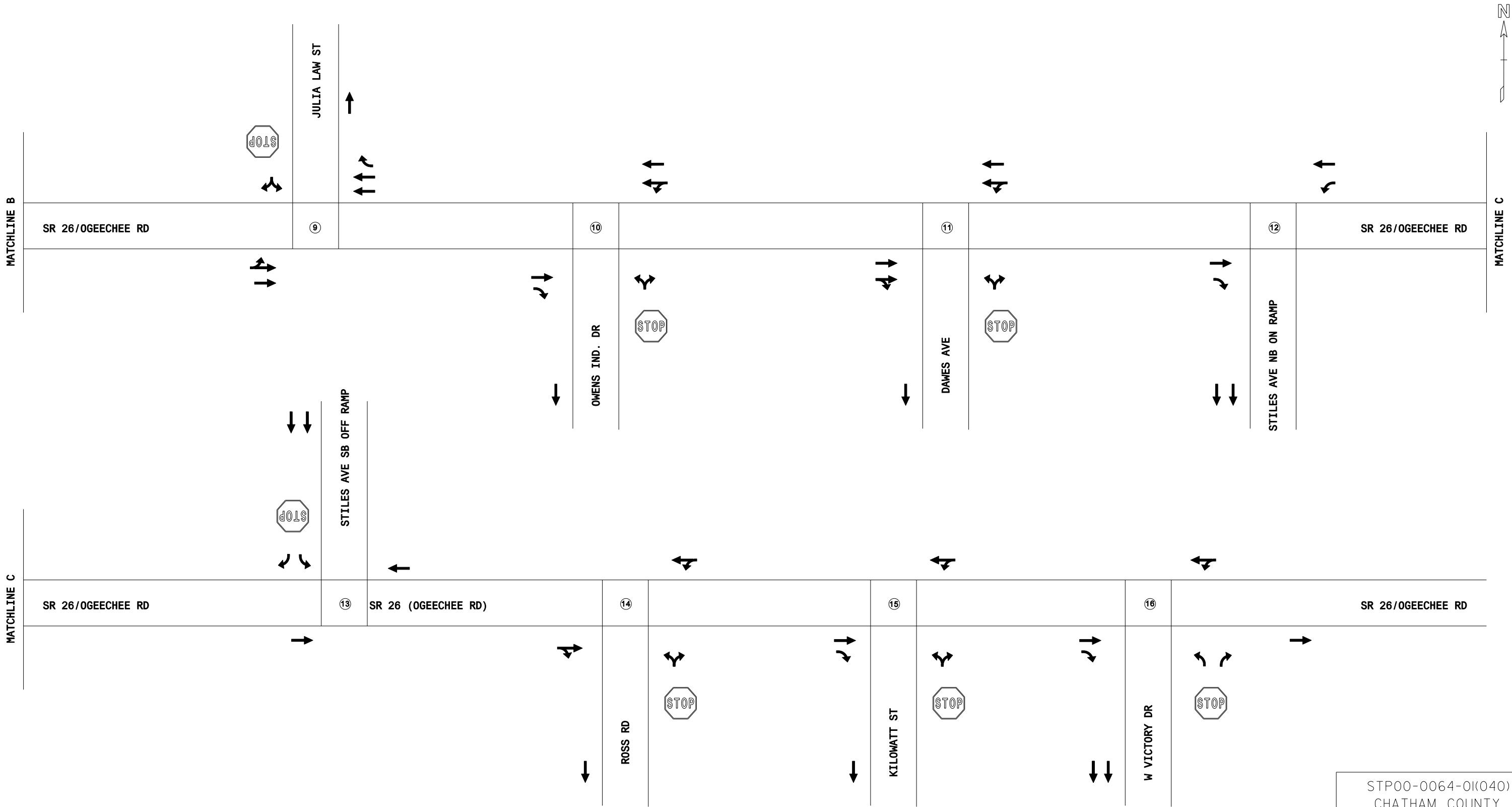
FEBRUARY 2015



EXISTING STOP SIGN CONTROL

EXISTING LANE CONFIGURATION





STP00-0064-01(040)
CHATHAM COUNTY
P.I.# 521855

SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
EXISTING LANE
GEOMETRY
AND TRAFFIC CONTROL
FIGURE 2b

FEBRUARY 2015

GCA

GCA, INC.

1800 PEACHTREE STREET, N.W.

SUITE 825

ATLANTA, GEORGIA 30309

PH. 404-355-4010 FAX 404-355-0604

Existing Conditions

The existing year design hourly traffic volumes were used for the traffic analysis. Peak hour analyses were performed for the study intersections and roadway sections in the study area.

Intersection Analysis

Intersection capacity analyses were performed for the study intersections. The results of the capacity analyses for existing conditions (using the existing year design hourly traffic volumes provided by GDOT and the intersection geometries) at the study intersections are presented in Table 3. The intersection capacity analysis printouts are included in Appendix B.

Table 3. Existing Conditions Intersection Levels of Service

Intersection		Control	Movement	AM Peak Hour		PM Peak Hour	
#	Name			LOS	Delay (sec)	LOS	Delay (sec)
1	Ogeechee Rd at I-516 EB ramps	Signal	Overall	C	25.2	C	26.5
2	Ogeechee Rd at I-516 WB ramps	Signal	Overall	C	23.0	C	23.2
3	Ogeechee Rd at Plymouth Ave/ Mills Ln	Signal	Overall	B	14.7	C	27.8
4	Ogeechee Rd at Corvair Ave	Stop Control	SBR	B	12.4	C	17.8
5	Ogeechee Rd at Overland Ave	Stop Control	EBL	A	0.0	A	0.0
			SBL+R	B	12.4	C	17.5
6	Ogeechee Rd at Liberty Pkwy	Stop Control	WBL	A	9.3	A	8.6
			NBL+R	F	>100.0	F	>100.0
7	Ogeechee Rd at Tremont Rd	Stop Control	EBL	A	6.5	A	4.4
			SBL+R	F	>100.0	F	>100.0
8	Ogeechee Rd at Central Junction Dr	Stop Control	WBL	A	0.0	A	1.2
			NBL+R	F	64.0	F	>100.0
9	Ogeechee Rd at Julia Law St	Stop Control	EBL	A	0.8	A	0.0
			SBL+R	C	18.1	C	16.4
10	Ogeechee Rd at Owens Industrial Dr	Stop Control	WBL	A	0.0	A	1.0
			NBL+R	D	28.5	F	70.9
11	Ogeechee Rd at Dawes Ave	Stop Control	WBL	A	0.0	A	0.0
			NBL+R	C	22.3	C	17.7
12	Ogeechee Rd at Stiles Ave NB on-ramp	Stop Control	WBL	B	11.6	A	9.9
13	Ogeechee Rd at Stiles Ave SB off-ramp	Signal	Overall	C	23.1	C	26.2
14	Ogeechee Rd at Ross Rd	Stop Control	WBL	A	0.0	A	0.0
			NBL+R	C	22.3	F	54.0
15	Ogeechee Rd at Kilowatt St	Stop Control	WBL	A	1.7	A	1.1
			NBL+R	D	28.1	C	24.0
16	Ogeechee Rd at W. Victory Dr	Stop Control	WBL	A	1.0	A	0.4
			NBL+R	E	49.2	F	>100.0

As seen in Table 3, all of the study intersections along Ogeechee Road currently operate at acceptable Levels of Service (LOS) during the peak hours with the exception of the following:

- Ogeechee Road at Liberty Parkway in both the AM and PM peak hours
- Ogeechee Road at Tremont Road in both the AM and PM peak hours

- Ogeechee Road at Central Junction Drive in both the AM and PM peak hours
- Ogeechee Road at Owens Industrial Drive in the PM peak hour
- Ogeechee Road at Ross Road in the PM peak hour
- Ogeechee Road at W. Victory Drive in both the AM and PM peak hours

Roadway Analysis

Roadway analyses were performed for the roadway segments in the study area for existing conditions using the existing year design hourly traffic volumes and the existing roadway configuration. The results of the roadway segment analyses are presented in Tables 4a-b. The roadway capacity analysis printouts are included in Appendix C.

Table 4a. Existing Conditions Roadway Levels of Service (Multi-lane)

Multi-Lane Section	Direction	AM Peak Hour		PM Peak Hour	
		LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Ogeechee Rd between I-516 and Plymouth Ave/Mills Ln	EB	C	18.1	B	15.0
	WB	A	8.7	B	14.5
Ogeechee Ave between Julia Law St and Stiles Ave	EB	B	12.8	A	10.2
	WB	A	8.1	B	12.3

Table 4b. Existing Conditions Roadway Levels of Service (Two-lane)

Two-Lane Section	AM Peak Hour		PM Peak Hour	
	LOS	Speed (mi/h)	LOS	Speed (mi/h)
Ogeechee Rd between Plymouth Ave/Mills Ln and Julia Law St	E	27.4	E	26.7
Ogeechee Rd between Stiles Ave and Victory Dr	E	30.2	E	29.5

As seen in Tables 4a-b, the multi-lane roadway segments are expected to operate with acceptable Levels of Service, and the two-lane sections are expected to operate at undesirable Levels of Service during the AM and PM peak hours.

5. FUTURE YEAR TRAFFIC CONDITIONS

Opening Year 2019 Traffic Volumes

Design hourly and daily traffic projections were developed and provided by GDOT for the study area from the I-516 west ramps to W. Victory Drive. The opening year 2019 No-Build and Build traffic volumes are shown in Appendix A.

Opening Year 2019 Conditions

The 2019 design hourly volumes were used for the traffic analysis. Peak hour analyses were performed for the study intersections and roadway sections in the study area.

Intersection Analysis – No-Build

Intersection capacity analyses were performed for the study intersections for Year 2019 No-Build conditions using the opening year 2019 design hourly traffic volumes and the existing intersection geometries. The results of the capacity analyses at the study intersections are presented in Table 5. The intersection capacity analysis printouts are included in Appendix B.

Table 5. Opening Year 2019 No-Build Conditions Intersection Levels of Service

Intersection		Control	Movement	AM Peak Hour		PM Peak Hour	
#	Name			LOS	Delay (sec)	LOS	Delay (sec)
1	Ogeechee Rd at I-516 EB ramps	Signal	Overall	C	27.3	C	28.6
2	Ogeechee Rd at I-516 WB ramps	Signal	Overall	C	24.7	C	31.0
3	Ogeechee Rd at Plymouth Ave/ Mills Ln	Signal	Overall	B	18.1	C	33.8
4	Ogeechee Rd at Corvair Ave	Stop Control	SBR	B	13.1	C	20.4
5	Ogeechee Rd at Overland Ave	Stop Control	EBL	A	0.0	A	0.0
			SBL+R	B	13.1	C	19.7
6	Ogeechee Rd at Liberty Pkwy	Stop Control	WBL	C	17.5	B	13.3
			NBL+R	F	>100.0	F	>100.0
7	Ogeechee Rd at Tremont Rd	Stop Control	EBL	A	9.1	A	6.1
			SBL+R	F	>100.0	F	>100.0
8	Ogeechee Rd at Central Junction Dr	Stop Control	WBL	A	0.0	A	1.8
			NBL+R	F	>100.0	F	>100.0
9	Ogeechee Rd at Julia Law St	Stop Control	EBL	A	0.8	A	0.0
			SBL+R	C	21.0	C	18.3
10	Ogeechee Rd at Owens Industrial Dr	Stop Control	WBL	A	0.0	A	1.0
			NBL+R	E	37.0	F	>100.0
11	Ogeechee Rd at Dawes Ave	Stop Control	WBL	A	0.0	A	0.0
			NBL+R	D	26.0	C	19.9
12	Ogeechee Rd at Stiles Ave NB on-ramp	Stop Control	WBL	B	12.6	B	10.3
13	Ogeechee Rd at Stiles Ave SB off-ramp	Signal	Overall	C	25.9	C	30.5
14	Ogeechee Rd at Ross Rd	Stop Control	WBL	A	0.0	A	0.2
			NBL+R	D	30.2	F	>100.0
15	Ogeechee Rd at Kilowatt St	Stop Control	WBL	A	2.1	A	1.1
			NBL+R	E	41.3	D	30.9
16	Ogeechee Rd at W. Victory Dr	Stop Control	WBL	A	1.0	A	0.4
			NBL+R	F	99.0	F	>100.0

As seen in Table 5, all of the study intersections are expected to operate at acceptable overall Levels of Service during the peak hours with the exception of the following:

- Ogeechee Road at Liberty Parkway in both the AM and PM peak hours
- Ogeechee Road at Tremont Road in both the AM and PM peak hours

- Ogeechee Road at Central Junction Drive in both the AM and PM peak hours
- Ogeechee Road at Owens Industrial Drive in both the AM and PM peak hours
- Ogeechee Road at Ross Road in the PM peak hour
- Ogeechee Road at Kilowatt Street in the AM peak hour
- Ogeechee Road at W. Victory Drive in both the AM and PM peak hours

Intersection Analysis – Build

Intersection capacity analyses were performed for the study intersections for Year 2019 Build conditions using the opening year 2019 Build design hourly traffic volumes. The results of the intersection capacity analyses at the study intersections are presented in Table 6.

Table 6. Opening Year 2019 Build Conditions Intersection Levels of Service

Intersection		Control	Movement	AM Peak Hour		PM Peak Hour	
#	Name			LOS	Delay (sec)	LOS	Delay (sec)
1	Ogeechee Rd at I-516 EB ramps	Signal	Overall	C	29.6	C	28.8
2	Ogeechee Rd at I-516 WB ramps	Signal	Overall	C	22.3	B	19.4
3	Ogeechee Rd at Plymouth Ave/ Mills Ln	Signal	Overall	C	21.4	C	31.0
4	Ogeechee Rd at Corvair Ave	Stop Control	SBR	A	9.7	B	10.5
5	Ogeechee Rd at Overland Ave	Stop Control	SBR	A	9.6	B	10.4
6	Ogeechee Rd at Liberty Pkwy	Signal	Overall	B	19.4	C	24.5
7	Ogeechee Rd at Tremont Rd	Stop Control	EBL	B	11.0	B	12.2
			SBL+R	F	>100.0	F	>100.0
8	Ogeechee Rd at Central Junction Dr	Stop Control	NBR	C	15.4	B	13.3
9	Ogeechee Rd at Julia Law St	Stop Control	SBR	A	9.3	A	9.6
10	Ogeechee Rd at Owens Industrial Dr	Stop Control	WBL	A	0.0	B	10.6
			NBL+R	C	16.5	F	86.4
11	Ogeechee Rd at Dawes Ave	Stop Control	NBR	B	13.7	B	12.3
13	Ogeechee Rd at Stiles Ave	Signal	Overall	B	19.4	D	39.1
14	Ogeechee Rd at Ross Rd	Stop Control	WBL	A	0.0	A	9.8
			NBL+R	B	11.8	C	21.4
15	Ogeechee Rd at Kilowatt St	Stop Control	NBR	B	11.6	B	12.0
16	Ogeechee Rd at W. Victory Dr	Signal	Overall	C	21.8	C	27.6

As seen in Table 6, the study intersections are expected to operate with acceptable overall Levels of Service with the exception of the following:

- Ogeechee Road at Tremont Road in both the AM and PM peak hours
- Ogeechee Road at Owens Industrial Drive in the PM peak hour

In order to evaluate the need for traffic signals, warrant analyses were performed for the opening year 2019 Build traffic conditions at the following intersections:

- Ogeechee Road at Liberty Parkway
- Ogeechee Road at Stiles Avenue
- Ogeechee Road at W. Victory Drive

Approach volumes for each intersection were compared to the traffic signal warrants criteria contained in the 2010 Manual on Uniform Traffic Control Devices (MUTCD). Based on the 100% criteria with sidestreet right-turning traffic, all three intersections satisfy the warrants for installing a traffic signal for the opening year 2019 Build traffic conditions. However, without sidestreet right-turning traffic, only Ogeechee Road at Stiles Avenue meets the warrants. It should be noted that both Ogeechee Road at Liberty Parkway and Ogeechee Road at W. Victory Drive have significant right turning traffic and, therefore, should be considered as meeting warrants with right-turning traffic. The results of the traffic signal warrant analyses are contained in Appendix D.

As per GDOT Policy 4A-2, the three intersections above were analyzed to determine if a roundabout will perform acceptably at each location. The analyses indicate that a multi-lane roundabout would be feasible at the intersections of Ogeechee Road at Liberty Parkway and Ogeechee Road at W. Victory Drive, and would operate with acceptable Levels of Service during both the AM and PM peak hours. However, the intersection of Ogeechee Road at Stiles Avenue is expected to operate with undesirable Levels of Service during the PM peak hour with a roundabout. The results of the roundabout analyses are contained in Appendix E.

A Traffic Engineering Report will be prepared for each of the three intersections above which will provide signal warrant analysis, roundabout analysis and crash analysis. The analyses will evaluate the need and most appropriate type of traffic control at each intersection.

Roadway Analysis – No-Build

Roadway analyses were performed for the roadway segments in the study area for Year 2019 No-Build conditions using the opening year 2019 design hourly traffic volumes and the existing roadway configuration. The results of the roadway segment analyses are presented in Tables 7a-b. The roadway capacity analysis printouts are included in Appendix C.

Table 7a. Opening Year 2019 No-Build Conditions Roadway Levels of Service (Multi-lane)

Multi-Lane Section	Direction	AM Peak Hour		PM Peak Hour	
		LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Ogeechee Rd between I-516 and Plymouth Ave/Mills Ln	EB	C	20.3	B	16.7
	WB	A	9.8	B	16.2
Ogeechee Rd between Julia Law St and Stiles Ave	EB	B	14.2	B	11.4
	WB	A	9.0	B	13.8

Table 7b. Opening Year 2019 No-Build Conditions Roadway Levels of Service (Two-lane)

Two-Lane Section	AM Peak Hour		PM Peak Hour	
	LOS	Speed (mi/h)	LOS	Speed (mi/h)
Ogeechee Rd between Plymouth Ave/Mills Ln and Julia Law St	E	25.7	E	24.9
Ogeechee Rd between Stiles Ave and Victory Dr	E	28.8	E	28.0

As seen in Tables 7a-b, the multi-lane roadway segments are expected to operate with acceptable Levels of Service, and the two-lane sections are expected to operate at undesirable Levels of Service during the AM and PM peak hours.

Roadway Analysis – Build

Roadway analyses were performed for the roadway segments for Year 2019 Build conditions using the opening year 2019 Build design hourly traffic volumes. The results of the roadway segment analysis are presented in Tables 8.

Table 8. Opening Year 2019 Build Conditions Roadway Levels of Service (Multi-lane)

Multi-Lane Section	Direction	AM Peak Hour		PM Peak Hour	
		LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Ogeechee Rd between I-516 and Plymouth Ave/Mills Ln	EB	C	21.4	B	17.7
	WB	A	10.2	B	17.1
Ogeechee Rd between Plymouth Ave/Mills Ln and Julia	EB	B	16.0	B	12.7
	WB	A	10.2	B	14.8
Ogeechee Rd between Julia Law St and Stiles Ave	EB	B	15.0	B	12.0
	WB	A	9.6	B	14.7
Ogeechee Rd between Stiles Ave and Victory Dr	EB	B	13.3	A	10.4
	WB	A	8.0	B	12.2

As seen in Table 8, the multi-lane roadway segments are expected to operate with acceptable Levels of Service during the AM and PM peak hours.

Design Year 2039 Traffic Volumes

Design hourly and daily traffic projections were developed and provided by GDOT for the study area from the I-516 west ramps to W. Victory Drive. The design year 2039 No-Build and Build traffic volumes are shown in Appendix A.

Design Year 2039 Conditions

The 2039 design hourly volumes were used for the traffic analysis. Peak hour analyses were performed for the study intersections and roadway sections in the study area.

Intersection Analysis – No-Build

Intersection capacity analyses were performed for the study intersections for Year 2039 No-Build conditions using the design year 2039 design hourly traffic volumes and the existing intersection geometries. The results of the capacity analyses at the study intersections are presented in Table 9.

Table 9. Design Year 2039 No-Build Conditions Intersection Levels of Service

Intersection		Control	Movement	AM Peak Hour		PM Peak Hour	
#	Name			LOS	Delay (sec)	LOS	Delay (sec)
1	Ogeechee Rd at I-516 EB ramps	Signal	Overall	E	55.8	D	43.8
2	Ogeechee Rd at I-516 WB ramps	Signal	Overall	C	31.8	F	85.3
3	Ogeechee Rd at Plymouth Ave/ Mills Ln	Signal	Overall	E	55.5	F	80.4
4	Ogeechee Rd at Corvair Ave	Stop Control	SBR	C	16.2	D	34.2
5	Ogeechee Rd at Overland Ave	Stop Control	EBL	A	0.0	A	0.0
			SBL+R	C	16.0	D	31.7
6	Ogeechee Rd at Liberty Pkwy	Stop Control	WBL	F	>100.0	F	52.2
			NBL+R	F	>100.0	F	>100.0
7	Ogeechee Rd at Tremont Rd	Stop Control	EBL	C	15.5	C	18.5
			SBL+R	F	>100.0	F	>100.0
8	Ogeechee Rd at Central Junction Dr	Stop Control	WBL	A	0.0	B	10.0
			NBL+R	F	>100.0	F	>100.0
9	Ogeechee Rd at Julia Law St	Stop Control	EBL	A	1.1	A	0.0
			SBL+R	E	46.4	D	29.5
10	Ogeechee Rd at Owens Industrial Dr	Stop Control	WBL	A	0.0	A	1.5
			NBL+R	F	>100.0	F	>100.0
11	Ogeechee Rd at Dawes Ave	Stop Control	WBL	A	0.0	A	0.0
			NBL+R	E	44.5	D	31.0
12	Ogeechee Rd at Stiles Ave NB on-ramp	Stop Control	WBL	C	18.1	B	12.2
13	Ogeechee Rd at Stiles Ave SB off-ramp	Signal	Overall	D	35.3	E	73.3
14	Ogeechee Rd at Ross Rd	Stop Control	WBL	A	0.0	A	0.5
			NBL+R	F	>100.0	F	>100.0
15	Ogeechee Rd at Kilowatt St	Stop Control	WBL	A	7.5	A	2.9
			NBL+R	F	>100.0	F	>100.0
16	Ogeechee Rd at W. Victory Dr	Stop Control	WBL	A	1.6	A	0.8
			NBL+R	F	>100.0	F	>100.0

As seen in Table 9, the study intersections are expected to operate with acceptable Levels of Service with the exception of the following:

- Ogeechee Road at I-516 southbound ramps in the AM peak hour
- Ogeechee Road at I-516 northbound ramps in the PM peak hour
- Ogeechee Road at Mills Lane/Plymouth Avenue – in both the AM and PM peak hours
- Ogeechee Road at Liberty Parkway in both the AM and PM peak hours
- Ogeechee Road at Tremont Road in both the AM and PM peak hours
- Ogeechee Road at Central Junction Drive in both the AM and PM peak hours
- Ogeechee Road at Julia Law Street in the AM peak hour
- Ogeechee Road at Owens Industrial Drive in both the AM and PM peak hours
- Ogeechee Road at Dawes Avenue in the AM peak hour
- Ogeechee Road at Stiles Avenue southbound off-ramp in the PM peak hour
- Ogeechee Road at Ross Road in both the AM and PM peak hours
- Ogeechee Road at Kilowatt Street in both the AM and PM peak hours
- Ogeechee Road at W. Victory Drive in both the AM and PM peak hours

Intersection Analysis – Build

Intersection capacity analyses were performed for the study intersections for Year 2039 Build conditions using the design year 2039 Build traffic volumes. The results of the intersection capacity analyses at the study intersections are presented in Table 10.

Table 10. Design Year 2039 Build Conditions Intersection Levels of Service

Intersection		Control	Movement	AM Peak Hour		PM Peak Hour	
#	Name			LOS	Delay (sec)	LOS	Delay (sec)
1	Ogeechee Rd at I-516 EB ramps	Signal	Overall	D	50.2	D	44.9
2	Ogeechee Rd at I-516 WB ramps	Signal	Overall	C	29.2	C	27.0
3	Ogeechee Rd at Plymouth Ave/ Mills Ln	Signal	Overall	C	26.3	D	52.5
4	Ogeechee Rd at Corvair Ave	Stop Control	SBR	B	10.2	B	11.5
5	Ogeechee Rd at Overland Ave	Stop Control	SBR	B	10.1	B	11.5
6	Ogeechee Rd at Liberty Pkwy	Signal	Overall	C	24.2	C	26.4
7	Ogeechee Rd at Tremont Rd	Stop Control	EBL	B	14.9	C	17.0
			SBL+R	F	>100.0	F	>100.0
8	Ogeechee Rd at Central Junction Dr	Stop Control	NBR	C	21.7	C	17.1
9	Ogeechee Rd at Julia Law St	Stop Control	SBR	A	9.4	B	10.6
10	Ogeechee Rd at Owens Industrial Dr	Stop Control	WBL	A	0.0	B	12.7
			NBL+R	C	24.5	F	>100.0
11	Ogeechee Rd at Dawes Ave	Stop Control	NBR	C	16.9	B	14.6
13	Ogeechee Rd at Stiles Ave	Signal	Overall	D	40.3	D	45.8
14	Ogeechee Rd at Ross Rd	Stop Control	WBL	A	0.0	B	11.1
			NBL+R	B	13.2	E	44.9
15	Ogeechee Rd at Kilowatt St	Stop Control	NBR	B	12.9	B	13.5
16	Ogeechee Rd at W. Victory Dr	Signal	Overall	C	24.5	C	34.1

As seen in Table 10, the study intersections are expected to operate with acceptable Levels of Service with the exception of the following:

- Ogeechee Road at Tremont Road in both the AM and PM peak hours
- Ogeechee Road at Owens Industrial Drive in the PM peak hour
- Ogeechee Road at Ross Road in the PM peak hour

Since traffic signals are warranted based on the opening year 2019 Build conditions for the intersections of: Ogeechee Road at Liberty Parkway; Ogeechee Road at Stiles Avenue; and Ogeechee Road at W. Victory Drive, signal warrant analyses was not conducted for the design year 2039 Build conditions.

Roundabout analyses were also conducted for the design year 2039 Build conditions. The analyses indicated that a multi-lane roundabout would operate at undesirable Levels of Service at the intersections of Ogeechee Road at Liberty Parkway and Ogeechee Road at Stiles Avenue during both the AM and PM peak hours. The intersection of Ogeechee Road at W. Victory Drive would operate with undesirable Levels of Service during the PM peak hour only.

A Traffic Engineering Report will be prepared for each of the three intersections above which will provide signal warrant analysis, roundabout analysis and crash analysis. The analyses will evaluate the need and most appropriate type of traffic control at each intersection.

Roadway Analysis – No-Build

Roadway analyses were performed for the roadway segments in the study area for Year 2039 No-Build conditions using the design year 2039 traffic volumes and the existing roadway configuration. The results of the roadway segment analyses are presented in Tables 11a-b.

Table 11a. Design Year 2039 No-Build Conditions Roadway Levels of Service (Multi-lane)

Multi-Lane Section	Direction	AM Peak Hour		PM Peak Hour	
		LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Ogeechee Rd between I-516 and Plymouth Ave/Mills Ln	EB	D	26.8	C	22.1
	WB	B	12.8	C	21.5
Ogeechee Rd between Julia Law St and Stiles Ave	EB	C	18.8	B	15.1
	WB	B	12.0	C	18.3

Table 11b. Design Year 2039 No-Build Conditions Roadway Levels of Service (Two-lane)

Two-Lane Section	AM Peak Hour		PM Peak Hour	
	LOS	Speed (mi/h)	LOS	Speed (mi/h)
Ogeechee Rd between Plymouth Ave/Mills Ln and Julia Law St	F	20.2	E	19.1
Ogeechee Rd between Stiles Ave and Victory Dr	E	24.2	E	23.3

As seen in Tables 11a-b, the multi-lane roadway segments are expected to operate with acceptable Levels of Service, and the two-lane sections are expected to operate at undesirable Levels of Service during the AM and PM peak hours.

Roadway Analysis – Build

Roadway analyses were performed for the roadway segments along the study corridor for Year 2039 Build conditions using the design year 2039 Build traffic volumes. The results of the roadway segment analysis are presented in Table 12a.

Table 12. Design Year 2039 Build Conditions Roadway Levels of Service (Multi-lane)

Multi-Lane Section	Direction	AM Peak Hour		PM Peak Hour	
		LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Ogeechee Rd between I-516 and Plymouth Ave/Mills Ln	EB	D	28.3	C	23.4
	WB	B	13.5	C	22.6
Ogeechee Rd between Plymouth Ave/Mills Ln and Julia	EB	C	21.1	B	16.9
	WB	B	13.5	C	19.5
Ogeechee Rd between Julia Law St and Stiles Ave	EB	C	19.9	B	15.9
	WB	B	12.6	C	19.3
Ogeechee Rd between Stiles Ave and Victory Dr	EB	B	17.6	B	13.6
	WB	A	10.5	B	16.2

As seen in Table 12, the multi-lane roadway segments are expected to operate with acceptable Levels of Service during the AM and PM peak hours.

Figures 3a-b graphically shows the recommended lane geometry and the traffic control at the study intersections for the design year 2039 Build conditions.

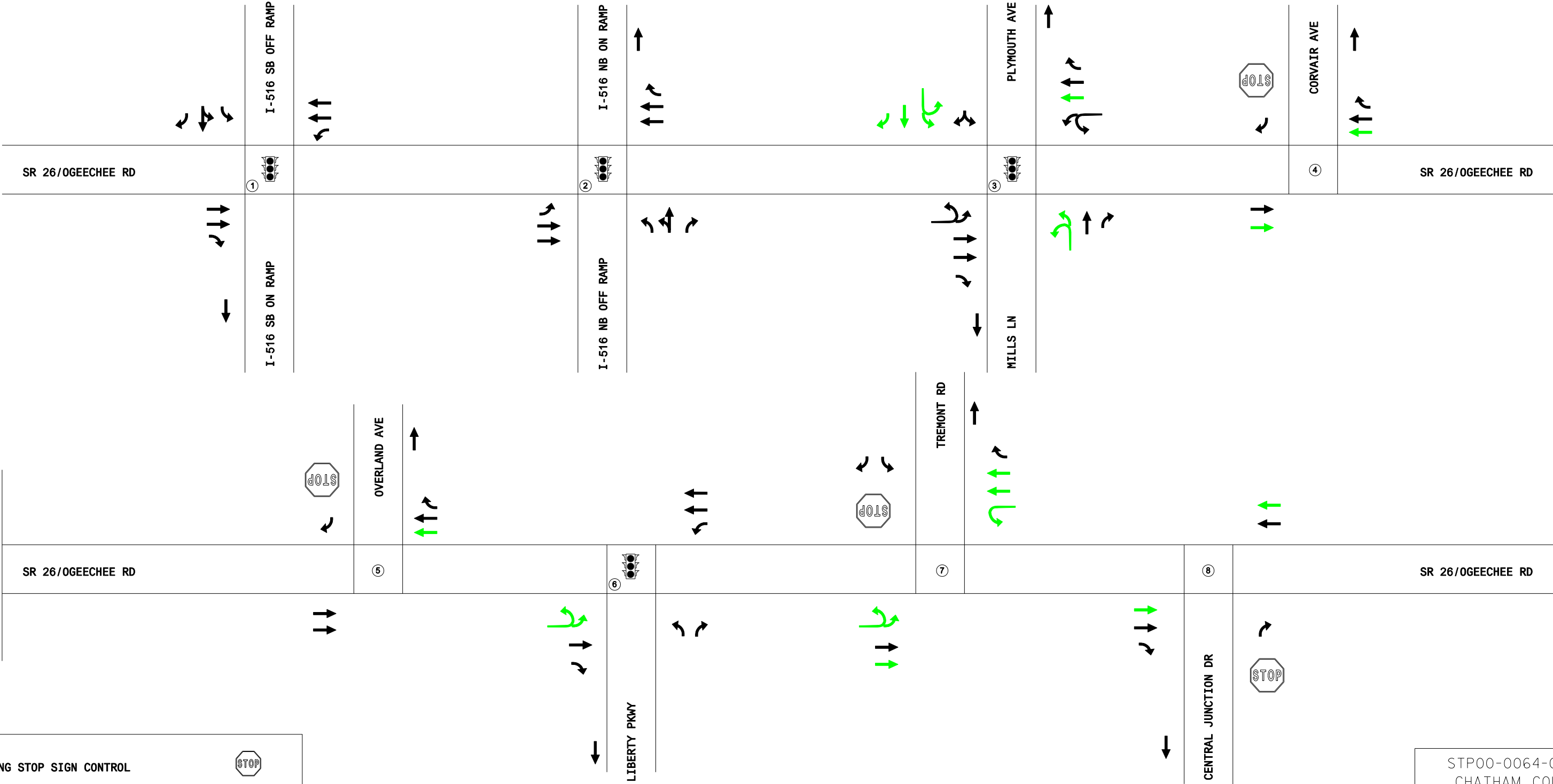
EXISTING STOP SIGN CONTROL

EXISTING TRAFFIC SIGNAL CONTROL

EXISTING LANE CONFIGURATION

BUILD LANE CONFIGURATION





GCA

GCA, INC.

1800 PEACHTREE STREET, N.W.

SUITE 825

ATLANTA, GEORGIA 30309

PH. 404-355-4010 FAX 404-355-0604

STP00-0064-01(040)

CHATHAM COUNTY

P.I.# 521855

SR 26 FROM I-516 TO

US 80/W VICTORY DRIVE

EXISTING LANE

GEOMETRY

AND TRAFFIC CONTROL

FIGURE 3a

EXISTING STOP SIGN CONTROL

EXISTING TRAFFIC SIGNAL CONTROL

EXISTING LANE CONFIGURATION

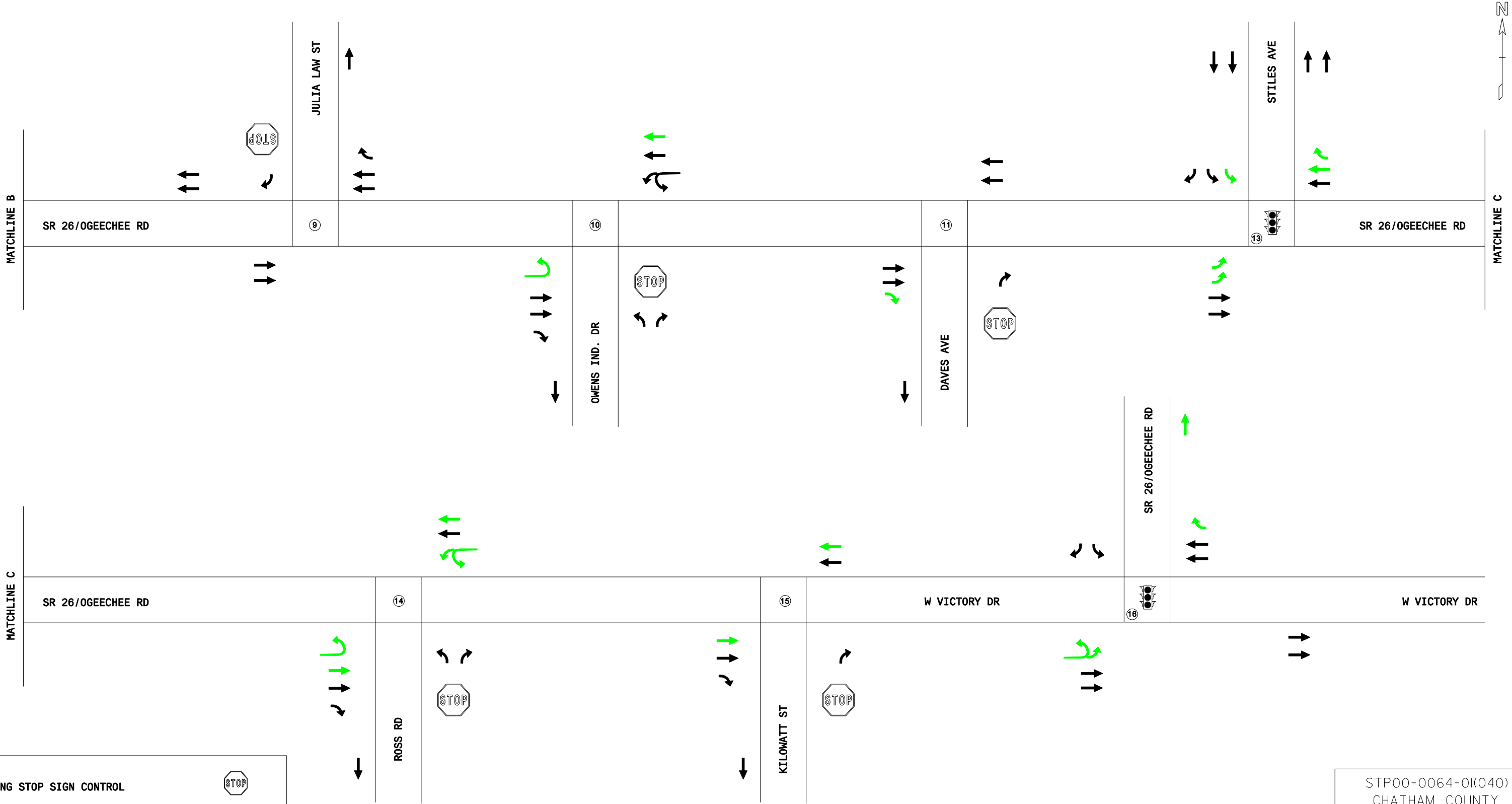
BUILD LANE CONFIGURATION











GCA GCA, INC.
1800 PEACHTREE STREET, N.W.
SUITE 825
ATLANTA, GEORGIA 30309
PH. 404-355-4010 FAX 404-355-0604

STP00-0064-01(040)
CHATHAM COUNTY
P.I.# 521855

SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
EXISTING LANE
GEOMETRY
AND TRAFFIC CONTROL
FIGURE 3b

6. CRASH ANALYSIS

Crash Data Analysis

Historic crash data was analyzed for years 2011-2013 for the study area. Crash data was analyzed for the study intersections and along roadway segments. The summary of crash history at the intersections and along the roadway segments are shown in Figures 4a-e and 5a-b, respectively. The 2011-2013 crash data records provided by GDOT are contained in Appendix F.

In summary, over the three-year period, 74 crashes occurred on Ogeechee Road between the I-516 southbound ramps and Mills Lane/Plymouth Avenue; 21 crashes on Ogeechee Road between Mills Lane/Plymouth Avenue and Tremont Road; 58 crashes on Ogeechee Road between Tremont Avenue and Stiles Avenue; and 32 crashes on Ogeechee Road between Stiles Avenue and W. Victory Drive. This is a total of 185 crashes along the roadway segments during the three-year period of 2011-2013.

In order to gauge the frequency of collisions occurring in the study area, crash rates were calculated for the US 26/Ogeechee Road Corridor segments and were compared to the statewide average for similar facilities with a classification of Urban Principal Arterial. Tables 13a-d summarize how the compiled 2011-2013 crash data compare with statewide averages for total, injury and fatality crash rates.

Table 13a. Crash Rates for Ogeechee Road between I-516 ramps and Mills Lane/Plymouth Avenue

Year	Total			Injury			Fatal		
	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM
2011	28	1069	517	6	229	115	0	0.00	1.23
2012	14	527	579	0	0	126	0	0.00	1.18
2013	32	1188	686	10	371	142	0	0.00	1.29

Table 13b. Crash Rates for Ogeechee Road between Mills Lane/Plymouth Avenue and Tremont Road

Year	Total			Injury			Fatal		
	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM
2011	6	206	517	3	103	115	0	0.00	1.23
2012	7	237	579	0	0	126	0	0.00	1.18
2013	8	267	686	5	167	142	0	0.00	1.29

Table 13c. Crash Rates for Ogeechee Road between Tremont Road and Stiles Avenue

Year	Total			Injury			Fatal		
	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM
2011	6	180	517	2	60	115	0	0.00	1.23
2012	26	767	579	10	295	126	0	0.00	1.18
2013	26	756	686	7	204	142	0	0.00	1.29

Table 13d. Crash Rates for Ogeechee Road between Stiles Avenue and W. Victory Drive

Year	Total			Injury			Fatal		
	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM	# of Crashes	Crash Rate per 100 MVM	Statewide Average Crash Rate per 100 MVM
2011	10	633	517	1	63	115	0	0.00	1.23
2012	6	374	579	2	125	126	0	0.00	1.18
2013	16	984	686	5	308	142	0	0.00	1.29

As shown in Tables 13a-d, the statewide total crash rate averages are exceeded along the Ogeechee Road corridor as follows:

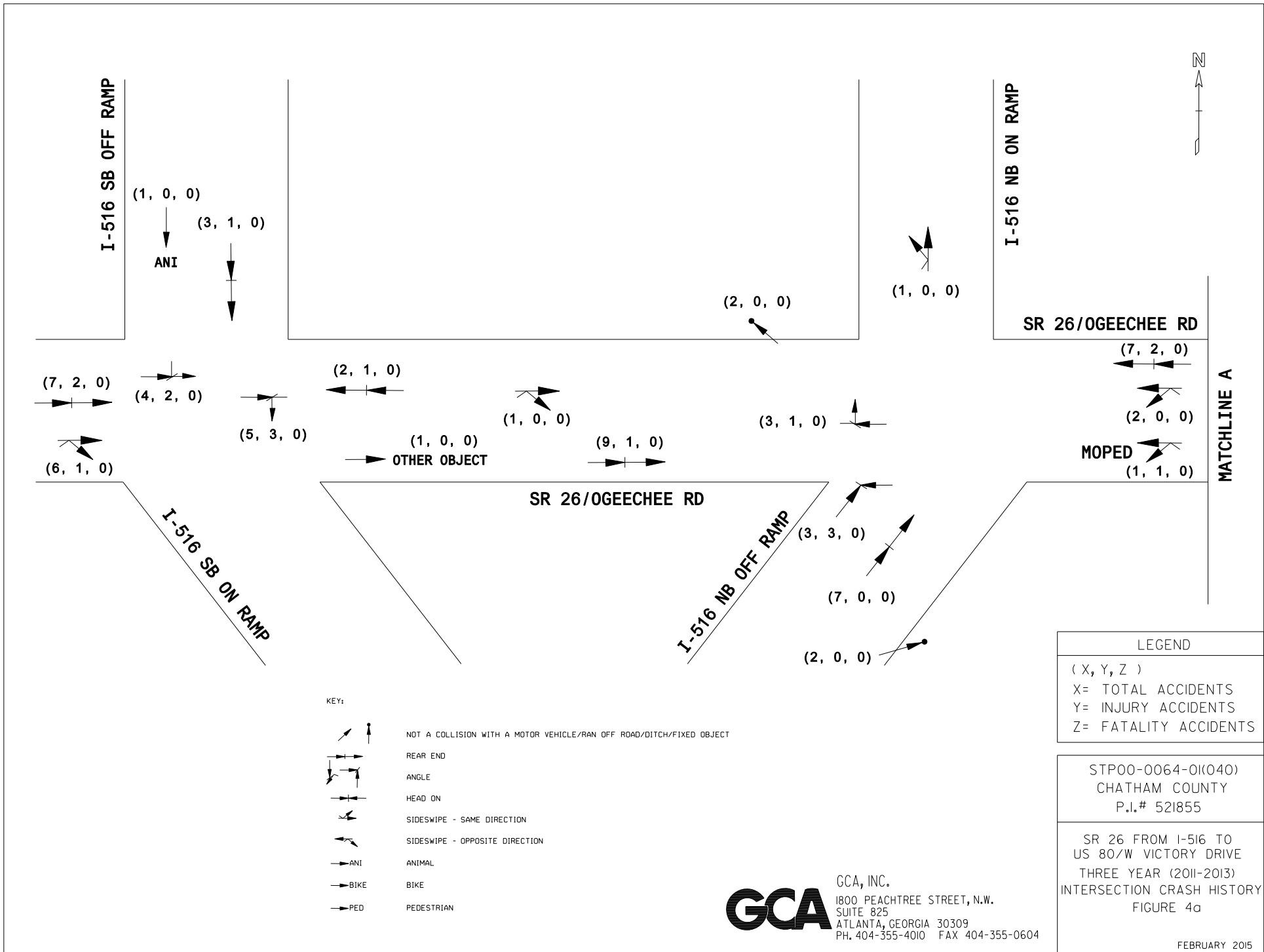
- Between I-516 and Mills Lane/Plymouth Avenue in years 2011 and 2013
- Between Tremont Road and Stiles Avenue in years 2012 and 2013
- Between Stiles Avenue and W. Victory Drive in years 2011 and 2013

The statewide injury-related crash rate averages along the study corridor are exceeded as follows:

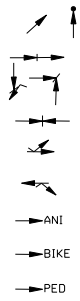
- Between I-516 and Mills Lane/Plymouth Avenue in years 2011 and 2013
- Between Mills Lane/Plymouth Avenue in year 2013
- Between Tremont Road and Stiles Avenue in years 2012 and 2013
- Between Stiles Avenue and W. Victory Drive in year 2013

In the three year period, no fatality crashes occurred in the study area.

Figures 4a-e presents the three-year crash history at the study area intersections and Figures 5a-b present the three-year crash history along the study area roadway segments.



KEY:



NOT A COLLISION WITH A MOTOR VEHICLE/RAN OFF ROAD/DITCH/FIXED OBJECT
 REAR END
 ANGLE
 HEAD ON
 SIDESWIPE - SAME DIRECTION
 SIDESWIPE - OPPOSITE DIRECTION
 ANI
 BIKE
 PEDESTRIAN

MATCHLINE A

PLYMOUTH AVE

CORVAIR AVE

OVERLAND AVE



MATCHLINE B

(1, 0, 0) (1, 0, 0)

(1, 0, 0)

(1, 0, 0)

(1, 0, 0)
 (5, 1, 0)
 (2, 2, 0)
 (2, 1, 0)

(1, 0, 0)

SR 26/OGEECHEE RD

(1, 0, 0)

(4, 1, 0)

MILLS LN

LIBERTY PKWY

LEGEND

(X, Y, Z)
 X= TOTAL ACCIDENTS
 Y= INJURY ACCIDENTS
 Z= FATALITY ACCIDENTS

STP00-0064-0K040
 CHATHAM COUNTY
 P.I.# 521855

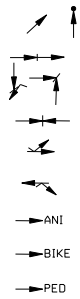
SR 26 FROM I-516 TO
 US 80/W VICTORY DRIVE
 THREE YEAR (2011-2013)
 INTERSECTION CRASH HISTORY
 FIGURE 4b



GCA, INC.
 1800 PEACHTREE STREET, N.W.
 SUITE 825
 ATLANTA, GEORGIA 30309
 PH. 404-355-4010 FAX 404-355-0604

FEBRUARY 2015

KEY:



NOT A COLLISION WITH A MOTOR VEHICLE/RAN OFF ROAD/DITCH/FIXED OBJECT
 REAR END
 ANGLE
 HEAD ON
 SIDESWIPE - SAME DIRECTION
 SIDESWIPE - OPPOSITE DIRECTION
 ANI
 BIKE
 PEDESTRIAN



MATCHLINE B

(1, 0, 0) → ANI
 (1, 1, 0) →
 (2, 0, 0) →
 (1, 0, 0) →
 (1, 0, 0) → BIKE

SR 26/OGEECHEE RD

CUL DE SAC

(1, 0, 0)

(1, 0, 0)

TREMONT RD

(2, 0, 0)

CENTRAL JUNCT BLVD

MATCHLINE C

LEGEND

(X, Y, Z)
 X= TOTAL ACCIDENTS
 Y= INJURY ACCIDENTS
 Z= FATALITY ACCIDENTS

STP00-0064-01(040)
 CHATHAM COUNTY
 P.I.# 521855

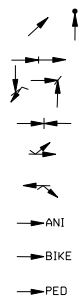
SR 26 FROM I-516 TO
 US 80/W VICTORY DRIVE
 THREE YEAR (2011-2013)
 INTERSECTION CRASH HISTORY
 FIGURE 4c



GCA, INC.
 1800 PEACHTREE STREET, N.W.
 SUITE 825
 ATLANTA, GEORGIA 30309
 PH. 404-355-4010 FAX 404-355-0604

FEBRUARY 2015

KEY:



NOT A COLLISION WITH A MOTOR VEHICLE/RAN OFF ROAD/DITCH/FIXED OBJECT

REAR END

ANGLE

HEAD ON

SIDESWIPE - SAME DIRECTION

SIDESWIPE - OPPOSITE DIRECTION

ANI

ANIMAL

BIKE

BIKE

PED

PEDESTRIAN

MATCHLINE C

(1, 0, 0)

(1, 1, 0)

JULIAN LAW ST

(2, 1, 0)

OWENS INT BLVD

(2, 0, 0)

(1, 0, 0)

SR 26/OGEECHEE RD

(1, 0, 0)

(1, 1, 0)

(2, 1, 0)

(1, 0, 0)

(2, 1, 0)

DAWES AVE

(2, 0, 0)

(3, 1, 0)

STILES AVE

(1, 0, 0)

(2, 1, 0)

(4, 1, 0)

(19, 6, 0)

(15, 4, 0)

(1, 0, 0)

(1, 1, 0)

STILES AVE

MATCHLINE D

LEGEND

(X, Y, Z)

X= TOTAL ACCIDENTS

Y= INJURY ACCIDENTS

Z= FATALITY ACCIDENTS

STP00-0064-01(040)

CHATHAM COUNTY

P.I.# 521855

SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
THREE YEAR (2011-2013)
INTERSECTION CRASH HISTORY
FIGURE 4d

FEBRUARY 2015

GCA

GCA, INC.

1800 PEACHTREE STREET, N.W.

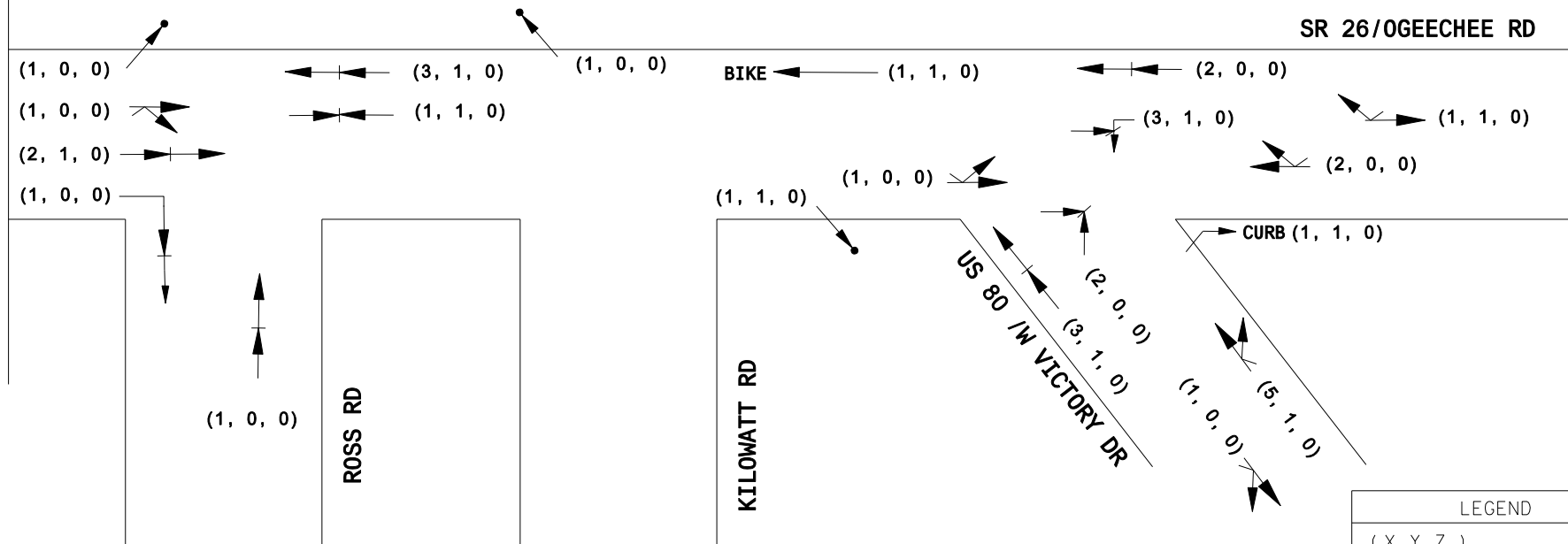
SUITE 825

ATLANTA, GEORGIA 30309

PH. 404-355-4010 FAX 404-355-0604



MATCHLINE D



KEY:



NOT A COLLISION WITH A MOTOR VEHICLE/RAN OFF ROAD/DITCH/FIXED OBJECT



REAR END



ANGLE



HEAD ON



SIDESWIPE - SAME DIRECTION



SIDESWIPE - OPPOSITE DIRECTION



ANIMAL



BIKE



PEDESTRIAN

LEGEND

(X, Y, Z)

X= TOTAL ACCIDENTS

Y= INJURY ACCIDENTS

Z= FATALITY ACCIDENTS

STP00-0064-01(040)

CHATHAM COUNTY

P.L.# 521855

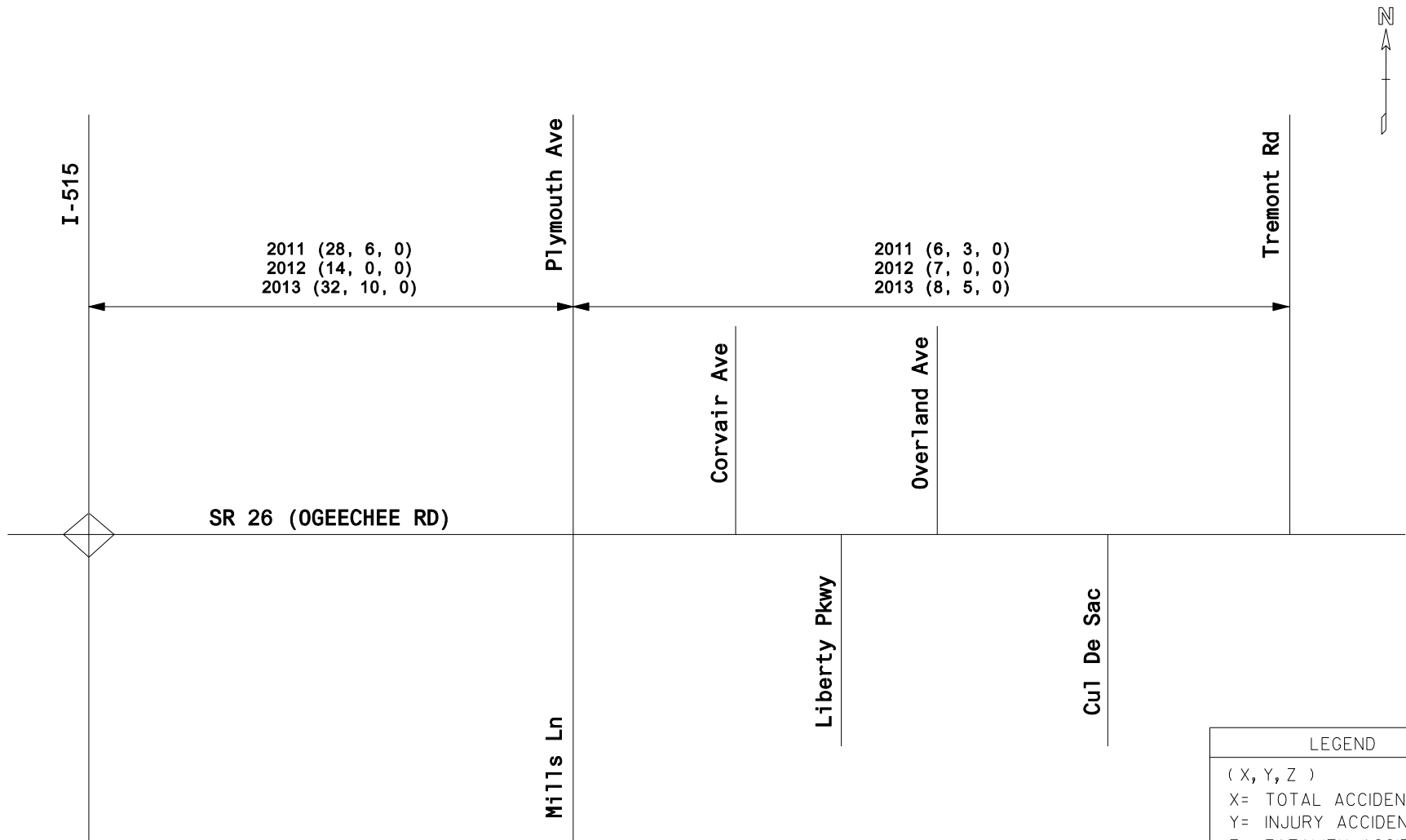
SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
THREE YEAR (2011-2013)
INTERSECTION CRASH HISTORY

FIGURE 4e

FEBRUARY 2015



GCA, INC.
1800 PEACHTREE STREET, N.W.
SUITE 825
ATLANTA, GEORGIA 30309
PH. 404-355-4010 FAX 404-355-0604



LEGEND

(X, Y, Z)

X= TOTAL ACCIDENTS

Y= INJURY ACCIDENTS

Z= FATALITY ACCIDENTS

STP00-0064-01(040)

CHATHAM COUNTY

P.I.# 521855

SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
THREE YEAR (2011-2013)

CRASH HISTORY
ALONG SEGEMENTS

FIGURE 5a



GCA, INC.

1800 PEACHTREE STREET, N.W.

SUITE 825

ATLANTA, GEORGIA 30309

PH. 404-355-4010 FAX 404-355-0604

FEBRUARY 2015

Tremont Rd

2011 (6, 2, 0)
2012 (26, 10, 0)
2013 (26, 7, 0)

Stiles Ave
SB Off-Ramp

2011 (10, 1, 0)
2012 (6, 2, 0)
2013 (16, 5, 0)



SR 26 (OGEECHEE RD)

Julian Law St

Central Junction Blvd

Owens Ind Blvd

Dawes Ave

Stiles Ave
NB On-Ramp

Ross Rd

Kilowatt Rd

Victory Dr

LEGEND

(X, Y, Z)

X= TOTAL ACCIDENTS

Y= INJURY ACCIDENTS

Z= FATALITY ACCIDENTS

STP00-0064-0(K040)
CHATHAM COUNTY
P.I.# 521855

SR 26 FROM I-516 TO
US 80/W VICTORY DRIVE
THREE YEAR (2011-2013)
CRASH HISTORY
ALONG SEGMENTS

FIGURE 5b

FEBRUARY 2015



GCA, INC.
1800 PEACHTREE STREET, N.W.
SUITE 825
ATLANTA, GEORGIA 30309
PH. 404-355-4010 FAX 404-355-0604

7. CONCLUSIONS

The purpose of this traffic study is to identify the geometric lane improvements and the traffic control needed for future year traffic operations for the US 26/Ogeechee Road corridor from just east of the I-516 southbound ramps to W. Victory Drive. The project includes: widening the corridor to a four-lane urban section to accommodate one 12-foot lane and one 11-foot lane in each direction with a 16-foot raised median throughout the corridor; the existing median opening at Mills Lane/Plymouth Avenue will be retained; Stiles Avenue will be realigned to form a tee-intersection by removing the “jug-handle”; and Ogeechee Road will be aligned with W. Victory Drive as the major roadway and the realigned Ogeechee Road to form the sidestreet.

Median openings will be provided at the following locations:

- Liberty Parkway
- Tremont Avenue
- Owens Industrial Drive
- Ross Road
- Stiles Avenue
- Ogeechee Road (realigned sidestreet)

The following sidestreets will become right-in/right-out only:

- Corvair Avenue
- Overland Avenue
- Central Junction Drive
- Julia Law Street
- Dawes Avenue
- Kilowatt Street

The existing year (2011) conditions, opening year (2019) Build and No-Build traffic conditions, and design year (2039) Build and No-Build traffic conditions were evaluated for the study area.

The results of the existing conditions analyses indicated that six study intersections are operating at undesirable Levels of Service in one or both peak hours. The multi-lane roadway segments are expected to operate with acceptable Levels of Service, whereas the two-lane sections are expected to operate at undesirable Levels of Service during both peak hours.

In the opening year 2019 No-Build conditions, seven study intersections are expected to operate at undesirable Levels of Service in one or both peak hours. The multi-lane roadway segments are expected to operate with acceptable Levels of Service, whereas the two-lane sections are expected to operate at undesirable Levels of Service during both peak hours.

In the design year 2039 No-Build conditions, thirteen study intersections are expected to operate at undesirable Levels of Service in one or both peak hours. The multi-lane roadway segments are expected to operate with acceptable Levels of Service, whereas the two-lane sections are expected to operate at undesirable Levels of Service during both peak hours.

In the opening year 2019 Build conditions, the intersections along the study corridor are expected to operate with acceptable Levels of Service with the exception of: Ogeechee Road at Tremont Road; and Ogeechee Road at Owen Industrial Drive in one or both peak hours. This is primarily due to the left-turn movement from the sidestreet. The multi-lane roadway segments are expected to operate with acceptable Levels of Service.

For the opening year 2019 Build conditions, the following intersections satisfy the criteria for installing a traffic signal:

- Ogeechee Road at Liberty Parkway
- Ogeechee Road at Stiles Avenue
- Ogeechee Road at W. Victory Drive

In the design year 2039 Build conditions, the intersections along the study corridor are expected to operate with acceptable Levels of Service with the exception of: Ogeechee Road at Tremont Road; Ogeechee Road at Owen Industrial Drive; and Ogeechee Road at Ross Road in one or both peak hours. This is primarily due to the left-turn movement from the sidestreet. The multi-lane roadway segments are expected to operate with acceptable Levels of Service.

Over the 2011-2013 three-year period, 185 crashes occurred along the study corridor. Of these, 51 crashes involved injuries. No fatalities occurred during the three-year crash analysis period.

In summary, the analysis contained in this report concludes:

- A four-lane divided roadway with one 12-foot lane and one 11-foot lane in each direction with a 16-foot raised median would be appropriate for this section of Ogeechee Road.
- Realigning Stiles Avenue to form a tee-intersection by removing the “jug-handle”.
- Realigning Ogeechee Road with W. Victory Drive as the major roadway and the realigned Ogeechee Road forming the sidestreet.
- Providing median breaks on Ogeechee Road at:
 - Mills Lane/Plymouth Avenue (existing traffic signal)
 - Liberty Parkway
 - Tremont Avenue
 - Owens Industrial Drive
 - Ross Road
 - Stiles Avenue (realigned)
 - Ogeechee Road (realigned)

- Installing a traffic signal at:
 - o Ogeechee Road at Liberty Parkway
 - o Ogeechee Road at Stiles Avenue (realigned)
 - o W. Victory Drive at Ogeechee Road (realigned)

Based on opening year 2019 roundabout analyses for the three above intersections, a multi-lane roundabout would be feasible at the intersections of Ogeechee Road at Liberty Parkway and Ogeechee Road at W. Victory Drive. However, in the design year 2039, a multi-lane roundabout would not be feasible at these three intersections as they are expected to operate at undesirable Levels of Service.

A Traffic Engineering Report will be prepared for each of the three intersections above which will provide signal warrant analysis, roundabout analysis and crash analysis. The analyses will evaluate the need and most appropriate type of traffic control at each intersection.