

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE**

FILE P.I. # 0009846 **OFFICE** Design Policy & Support
Colquitt County
GDOT District 4 - Tifton **DATE** December 12, 2012
SR 33/US 319 @ SR 33 SO Roundabout

FROM  Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED CONCEPT REPORT

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

Attachment

DISTRIBUTION:

Bobby Hilliard, Program Control Administrator
Genetha Rice-Singleton, State Program Delivery Engineer
Glenn Bowman, State Environmental Administrator
Cindy VanDyke, State Transportation Planning Administrator
Kathy Zahul, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Jeff Baker, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Joe Sheffield, District Engineer
Shane Pridgen, District Preconstruction Engineer
Tim Warren, District Utilities Engineer
Charles Robinson, Project Manager
BOARD MEMBER - 8th Congressional District

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
PROJECT CSSFT-0009-00(846)
CONCEPT REPORT**

Project Type: <u>Intersection Improvement</u>	P.I. Number: <u>0009846</u>
GDOT District: <u>District 4</u>	County: <u>Colquitt</u>
Federal Route Number: <u>US 319</u>	State Route Number: <u>SR 33 & SR 33 South</u>

SR 33 / US 319 at SR 33 South

Submitted for approval:

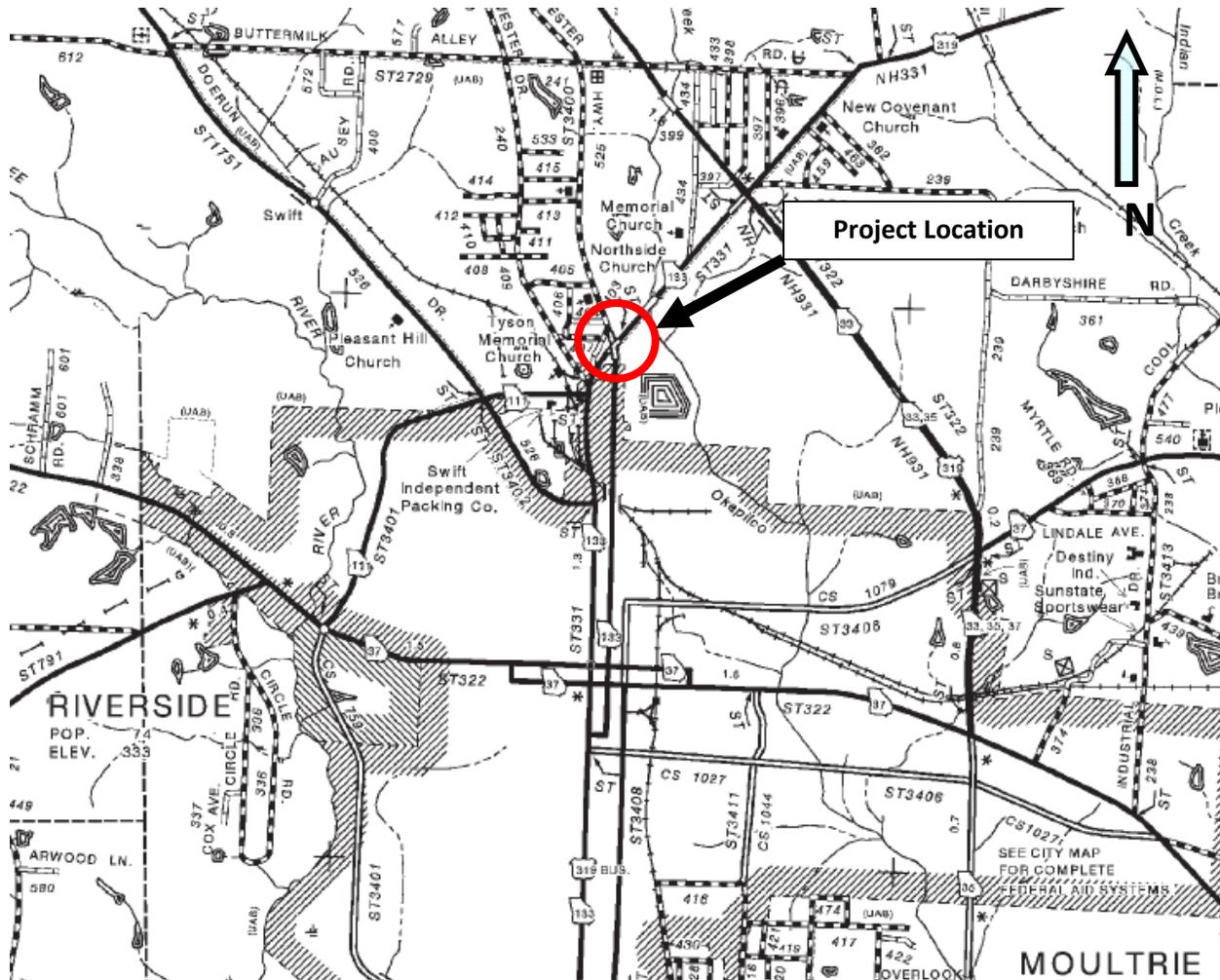
<u><i>[Signature]</i></u> Eric J. Rickert, PE, Gresham, Smith & Partners	<u>8/20/2012</u> DATE
<u><i>[Signature]</i></u> Office Head (Program Delivery)	<u>9-10-12</u> DATE
<u><i>[Signature]</i></u> GDOT Project Manager	<u>8/27/12</u> DATE

** Recommendations on file*
Recommendation for approval:

Program Control Administrator	DATE
<i>* Glenn Bowman / KLP</i>	<u>9-23-12</u>
State Environmental Administrator	DATE
<i>* Kathy Zahal / KLP</i>	<u>9-25-12</u>
State Traffic Engineer	DATE
<i>* Lisa Myers / KLP</i>	<u>9-13-12</u>
Project Review Engineer	DATE
<i>* For Patrick Allen / KLP</i>	<u>9-12-12</u>
State Utilities Engineer	DATE
<i>* Joe Sheffield / KLP</i>	<u>9-13-12</u>
District Engineer	DATE
State Transportation Financial Management Administrator	DATE

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

<u><i>[Signature]</i></u> State Transportation Planning Administrator	<u>9-19-12</u> DATE
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Project CSSFT-0009-00(846)
Location Map

PLANNING& BACKGROUND DATA

Project Justification Statement: GDOT Project CSSFT-0009-00(846) proposes to reduce the crash frequency and severity and improve the operation of the US 319 Business (SR 33/ Tifton Highway on the north leg and SR 33 South/ North Main Street on the south leg) intersection with the side streets 1st Street/ SR 33 and Sylvester Highway/CR 525 in the City of Moultrie within Colquitt County. US 319 Business is posted for a 45 mph speed limit and has two through southbound lanes, a northbound through lane, a northbound right turn lane, a southbound channelized right turn radius, and a relatively wide raised median through the intersection. US 319 Business outside of the intersection has two through lanes in each direction as the outside northbound through lane is dropped into a right turn lane onto 1st Street/ SR 33 and then resumes it receives a free flow right turn lane from this same roadway. 1st Street/ SR 33 is posted for a 45mph speed limit and changes into Sylvester Highway/ CR 525 on the opposite side of the intersection. Sylvester Highway/ CR 525 is posted for a 35 mph speed limit within the project limits. 1st Street/ SR 33 has two through southbound lanes (the inside lane beginning in the middle of the intersection within the median of US 319 Business), a northbound through lane, a northbound right turn lane, and a raised median into the intersection. 1st Street/ SR 33 outside of the intersection has two through lanes in each direction as the outside northbound through lane becomes a drop right turn lane. Sylvester Highway/CR 525 has a through lane in each direction, a southbound channelized right turn radius, and a raised median into the intersection. This raised median on Sylvester Highway/ CR 525 extends 400 ft. north from the intersection with US 319 Business and deters left turn movements onto Swift Street from Sylvester Highway/ CR 525. Very short left turn refuge lanes are provided on 1st Street/ SR 33 and Sylvester Highway/CR 525 within the median of US 319 Business. US 319 Business is a through movement within the intersection while both side streets are currently stop controlled on each respective side.

Operational issues that will be addressed by the project are as follows:

- This intersection of 1st Street/ SR 33 with US 319 Business has had 28 angle crashes and 21 rear end crashes over the latest seven year period where complete data was available (2004-2010). Approximately 25 percent of the crashes at this intersection were injury crashes.
- The 1st Street/ SR 33 corridor in the vicinity of the intersection has had 34 crashes with eight of these being injury crashes over the most recent six year period where complete data was available (2004-2009). This is above the statewide crash rate for total crashes and injury crashes on rural principal arterials.
- The intersection currently operates at a level of service C/C for the AM/PM peak hours and the 2036 future no-build anticipated level of service is F/E for the AM/PM peak hours.
- The existing median opening at the intersection is approximately 50 feet wide. Due to this relatively large width, vehicles from 1st Street/ SR 33 and Sylvester Highway/CR 525 typically stop twice to cross or turn left at US 319 Business. The through lanes with the very short left turn refuge lanes on 1st Street/ SR 33 and Sylvester Highway/CR 525 within the median impede the intersection sight distance as a vehicle cued on one lane blocks the line of sight of a motorist on the other lane.
- The existing median opening at the intersection on US 319 Business does not have left turn deceleration lanes in either direction. The *GDOT Design Policy Manual* recommends left turn

lanes be incorporated inside the median at all median opening locations and have taper and deceleration lengths that comply with GDOT Construction Detail M-3 when the design speed is 45 mph or greater. These existing left turn lanes also do not comply with the AASHTO guidelines in *A Policy of Geometric Design for Highways and Streets-2011 Edition* for auxiliary lane lengths.

- The *GDOT Design Policy Manual* recommends right turn deceleration lanes on multi-lane roadways having median widths greater than 12 ft. and with posted speeds of 45 mph or more with intersections of paved public streets. US 319 Business southbound at Sylvester Highway/CR 525 northbound lacks a right turn deceleration lane and would meet these criteria.
- The existing 37-48 ft. long left turn refuge lanes on 1st Street/ SR 33 and Sylvester Highway/CR 525 within the median of US 319 Business does not adhere to the *GDOT Design Policy Manual* which recommends at a minimum that left turn lanes have taper and deceleration lengths and tapers that comply with GDOT Construction Detail M-3 when the design speed is 45 mph, as in the case of 1st Street/ SR 33, or the *GDOT Regulations for Driveway and Encroachment Control*. These existing left turn lanes also do not comply with the AASHTO guidelines in *A Policy of Geometric Design for Highways and Streets-2011 Edition* for auxiliary lane lengths.
- The existing intersection skew between US 319 Business and both 1st Street/ SR 33 and Sylvester Highway/CR 525 is 52 degrees. The *GDOT Design Policy Manual* stipulates that a 70 degree intersection skew should be the minimum for intersections.
- There is presently sidewalk on all four quadrants of the intersection as the project is within an urban area. However, there are no crosswalks present on any of the roadways or bypass lanes at the intersection providing an interface between pedestrian and vehicle traffic in order to minimize conflicts between them.
- The existing intersection skew between Sylvester Highway/CR 525 and Swift Street is 45 degrees. The *GDOT Design Policy Manual* stipulates that a 70 degree intersection skew should be the minimum for intersections.
- The curbed right turn bypasses from US 319 Business southbound to Sylvester Highway/CR 525 northbound and US 319 Business northbound to 1st Street/ SR 33 southbound cannot accommodate a WB-67 design vehicle. The *GDOT Design Policy Manual* recommends a WB-67 design vehicle for state routes. US 319 Business and SR 33 /1st Street with Sylvester Highway/ CR 525 have truck percentages of 8% and 12%, respectively.

GDOT Project CSSFT-0009-00(846) originated from a Traffic Engineering Report dated September 14, 2010 from GDOT District 4 Traffic Operations which is included as an attachment to this concept report. The recommendations from this traffic engineering report have been incorporated into the project concept.

The project limits for GDOT Project CSSFT-0009-00(846) along US 319 Business, 1st Street/ SR 33 and Sylvester Highway/CR 525 are dictated by the length of proposed lane tapers and raised medians for the intersection. The project limits end where these tie to the existing pavement width.

Description of the proposed project: The project begins on US 319 Business 650 ft. south of the intersection with 1st Street / SR 33 and Sylvester Highway/CR 525 at MP 11.44 and ends 800 ft. north of the intersection at MP 11.73 for a total project length of 0.29 miles. The entire project is located within Colquitt County and the City of Moultrie. The project limits along 1st Street / SR 33 are located

approximately 720 ft. south of the intersection and 700 ft. north of the intersection for Sylvester Highway/CR 525.

The project proposes improving the intersection of SR 33/US 319 Business, 1st Street/ SR 33 South and Sylvester Highway/CR 525 as follows:

- The existing intersection of US 319 Business with 1st Street/ SR 33 and Sylvester Highway/CR 525 will be replaced by a single lane roundabout with an elliptical 136 ft. x 156 ft. inscribed diameter. A roundabout intersection at this location will provide traffic calming, have fewer conflicting turn movements and lessen right of way impacts versus a conventional intersection by eliminating the need for the left turn lanes as per the *GDOT Design Policy Manual*. The intersection sight distance is also improved by negating the intersection skew angle, eliminating the stop-controlled left turn lanes that block the motorists' line of sight, and having a lower operating speed. A roundabout is anticipated to reduce the number of angle and rear end crashes as well as their severity.
- US 319 Business' outside southbound through lane will be reconfigured into a drop right turn deceleration lane with Sylvester Highway/CR 525 northbound at the intersection. This would comply with the guidelines within the *GDOT Design Policy Manual* for right turn lanes. The outside southbound through lane of US 319 Business would resume once it is past the roundabout. The capacity analysis for the design year LOS has determined that only a single circular lane is necessary for the roundabout.
- The right turn bypasses within the acute intersection angles of US 319 Business southbound with Sylvester Highway/CR 525 northbound and US 319 Business northbound with 1st Street/ SR 33 southbound will be adjusted to have larger radii and a wider roadway width. These improvements will allow both right turn bypasses to accommodate a WB-67 design vehicle. The right turn onto 1st Street/ SR 33 southbound will continue to be a free flow lane that becomes a travel lane while the right turn onto Sylvester Highway/CR 525 northbound will continue to merge into the travel lane leaving the intersection.
- The right turn bypass lane between the obtuse intersection angle of Sylvester Highway/CR 525 southbound and US 319 Business southbound will be removed as it will be displaced by the roundabout, is not necessary to provide an adequate design year level of service for the roundabout, does not provide exclusive access to any parcels, and allows vehicles to travel at a high rate of speed creating potential conflicts with pedestrians crossing the roundabout. The right turn bypass lane between the obtuse intersection angle of 1st Street/ SR 33 northbound and US 319 Business northbound will also be removed as it is not necessary to provide an adequate design year level of service for the roundabout and allows vehicles to travel at a high rate of speed creating potential conflicts with pedestrians crossing the roundabout. Access to the properties between 1st Street/ SR 33 northbound and US 319 Business northbound formerly accessed by the turn lane will be maintained and improved by a two-way, joint use driveway on 1st Street/ SR 33 as well as a driveway that connects to US 319 Business' northbound departure lane from the roundabout.
- Crosswalks will be placed on all four legs of the roundabout with refuges located within the splitter islands and the right turn bypass lanes to improve the conveyance of pedestrians.

Sidewalks will be placed within the right turn bypass islands (but not the roundabout's center island) to connect the crosswalks with the existing sidewalks along the roadway legs.

- Swift Street will be slightly realigned to achieve a 70 degree intersection skew with Sylvester Highway/CR 525. This will comply with the guidance in the *GDOT Design Policy Manual* pertaining to intersection skews.

Federal Oversight: Full Oversight Exempt State Funded Other

MPO: N/A MPO Project ID : N/A

Regional Commission: *Southwest Georgia RC* RC Project ID # RC10-000019

Congressional District(s):8

Projected Traffic: AADT

Current Year (2012): 8,250 **Open Year (2016):** 8,640 **Design Year (2036):** 10,930
Traffic Projections Performed by: Gresham, Smith and Partners (approved by the GDOT Office of Planning on June 4, 2012)

Functional Classification (Mainline): *Urban Principal Arterial*

Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project? No Yes

Is this project on a designated Bike Route, Pedestrian Plan, or Transit Network?

None Bike Route Pedestrian Plan Transit Network

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern: The project traverses an established commercial and industrial urban area within the City of Moultrie consisting primarily of older buildings. There are access concerns for properties in the immediate vicinity of the project as the installation of a roundabout will create a significant change in both vehicle and pedestrian traffic patterns at the intersection. Also, the raised median on US 319 Business immediately north of the intersection is landscaped with shrubbery. Therefore, there are aesthetic concerns if this raised median with its landscaping is eliminated.

Context Sensitive Solutions: The roundabout was placed not only to avoid direct impacts, but also with the consideration of retaining vehicle access to the properties at the intersection. This was accomplished by adding a joint use driveway on 1st Street/ SR 33 NB and a right in-right out driveway on US 319 Business northbound. Pedestrian access on US 319 Business, 1st Street/ SR 33 and Sylvester Highway/CR 525 will be enhanced by upgrading the sidewalks to comply with ADA guidelines and by the placement of crosswalks. Finally, landscaping and/ or hardscaping will be placed within the roundabout's center island and right turn lane islands to help placate the aesthetic concerns.

DESIGN AND STRUCTURAL DATA

Mainline Design Features: US 319 Business (SR 33/Tifton Highway on intersection’s north leg and SR 33 South /North Main Street on intersection’s south leg) (Urban Principal Arterial)

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	one NB and two SB through intersection	N/A	one circular lane within roundabout
- Lane Width(s)	Varies 12-24 ft.	12 ft.	18 ft. circular roadway within roundabout, 16 ft. lanes on approaches, and 12-23 ft. lanes outside of approaches
- Median Width & Type	Varies 0-70 ft. raised	20 ft. raised	Splitter islands varies 10-37 ft.
- Outside Shoulder Width& Type	10 ft. urban border area	16 ft. urban border area	16 ft. urban border area
- Outside Shoulder Slope	>4:1	4:1	4:1
- Inside Shoulder Width& Type	N/A	N/A	12'-9" truck apron with type 9 header curb and type 7 curb and gutter within roundabout
- Sidewalks	5 ft.	5 ft.	5 ft.
- Auxiliary Lanes	NB drop free flow right turn lane at intersection	NB and SB right and left turn lanes at intersection	SB right turn bypass lane at roundabout
- Bike Lanes	None	N/A	N/A
Posted Speed	45 mph		45 mph
Design Speed	45 mph	45 mph	45 mph outside of roundabout splitter islands and 15-25 mph within
Min Horizontal Curve Radius	490 ft.	711 ft.	5000 ft. (excluding within roundabout)
Superelevation Rate	2%	4% maximum	4% maximum
Grade	4.3%	6% maximum (assuming standard intersection)	2.0%
Access Control	N/A	N/A	N/A

Right-of-Way Width	100 ft.	N/A	Varies 120-200 ft.
Design Vehicle	N/A	WB-67	WB-67

*According to current GDOT design policy if applicable

Side Road Design Features: Sylvester Hwy/ CR 525 (Urban Minor Arterial) and SR 33/1st Street (Urban Principal Arterial)

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	one NB and one SB through intersection	N/A	one circular lane within roundabout
- Lane Width(s)	Varies 12-23 ft.	12 ft.	18 ft. circular roadway within roundabout, 16 ft. lanes on approaches, and 12-25 ft. lanes outside of approaches
- Median Width & Type	Varies 0-38 ft. raised	N/A	Splitter islands varies 10-37 ft.
- Outside Shoulder Width & Type	10 ft. urban border area	16 ft. urban border area	16 ft. urban border area
- Outside Shoulder Slope	>4:1	4:1	4:1
- Inside Shoulder Width & Type	N/A	N/A	N/A
- Sidewalks	5 ft.	5 ft.	5 ft.
- Auxiliary Lanes	NB drop free flow right turn lane at intersection. NB and SB left turn pockets within median opening.	NB and SB right and left turn lanes at intersection	None
- Bike Lanes	N/A	N/A	N/A
Posted Speed	Sylvester Hwy. is 35 mph and SR 33/1st Street is 45 mph		Sylvester Hwy. is 35 mph and SR 33/1st Street is 45 mph
Design Speed	45 mph for SR 33/1st Street and 35 mph for Sylvester Hwy.	45 mph for SR 33/1st Street and 35 mph for Sylvester Hwy.	45 mph for SR 33/1st Street and 35 mph for Sylvester Hwy. outside of roundabout tapers and 15-25 mph within
Min Horizontal Curve Radius	2800 ft.	711 ft. for SR 33/1st Street and 371 ft. for Sylvester	1000 ft. for SR 33/1st Street and 1593 ft. for Sylvester

		Highway	Highway (excluding within roundabout)
Superelevation Rate	2%	4% maximum	4% maximum
Grade	0.5%	6% max. for SR 33/1st Street and 7% max. for Sylvester Hwy.	1.0 % for SR 33/1st Street and 0.5% for Sylvester Hwy.
Access Control	None	None	None
Right-of-Way Width	Varies 110-115 ft.	N/A	Varies 125-155 ft.
Design Vehicle	N/A	WB-67	WB-67

*According to current GDOT design policy if applicable

Side Road Design Features: Swift Street (Urban Local)

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	two	N/A	two
- Lane Width(s)	10 ft.	12 ft.	10 ft.
- Median Width & Type	N/A	N/A	N/A
- Outside Shoulder Width & Type	2 ft. rural shoulders	16 ft. urban border area	10 ft. urban border area
- Outside Shoulder Slope	>4:1	4:1	4:1
- Inside Shoulder Width & Type	N/A	N/A	N/A
- Sidewalks	None	5 ft.	None
- Auxiliary Lanes	None	None	None
- Bike Lanes	N/A	N/A	N/A
Posted Speed	25 mph		25 mph
Design Speed	30 mph	30 mph	30 mph
Min Horizontal Curve Radius	110 ft.	150 ft.	150 ft.
Superelevation Rate	2%	normal crown	normal crown
Grade	3.2%	8% max.	3.2%
Access Control	None	None	None
Right-of-Way Width	Varies 110-115 ft.	N/A	80 ft.
Design Vehicle	N/A	SU	SU

*According to current GDOT design policy if applicable

Major Structures: N/A

Major Interchanges/Intersections: Intersection at US 319 Business with Sylvester Hwy and 1st Street/ SR 33

Utility Involvements:

- City of Moultrie- Water and Gas
- Georgia Power Distribution- Electric Distribution
- Georgia Power Transmission- Electric Transmission
- Mediacom- Cable Television
- Windstream- Telephone

Public Interest Determination Policy and Procedure recommended (Utilities)? Yes No

SUE Required: Yes No

Railroad Involvement: US 319 Business/ SR 33 South crosses over a spur siding track operated by the Georgia and Florida Railway approximately 450 feet south of the project limits. This side track, which crosses over the existing Georgia DOT right of way, was formerly used to access a feed mill on the east side of US 319 Business from the G&F Railway mainline that is located approximately 700 ft. away on the west side of the roadway. There are no warning gates or flashers present, just crossbucks and pavement markings. It was observed during a field visit that the feed mill was being demolished and that the rails in the siding were missing on the west side of US 319 Business between the crossing and the G&F Railway mainline. Since this siding is apparently permanently out of service, not on a separate, dedicated railroad right of way when crossing US 319 Business, and not immediately affected by the project, railroad coordination is not needed.

Complete Streets - Bicycle, Pedestrian, and/or Transit Warrants:

Warrants met: None Bicycle Pedestrian Transit

This project does not meet the pedestrian, bicycle, or transit warrant standard criteria as per the guidance of the *GDOT Design Policy Manual*. While this project is not on a U.S., state, or local bicycle route, a Multimodal Transportation Plan Technical Memorandum was completed for Colquitt County in September of 2009 that identified the SR 33 corridor within the project as a potential new bike route in Colquitt County.

This project is an intersection improvement, not a corridor improvement, and the preferred alternative is a single lane roundabout. The Transportation Research Board publication, *NCHRP 672-Roundabouts: An Informational Guide*, does not recommend the placement of a bicycle within a roundabout's circular roadway and advises instead that bicycle lanes entering the roundabout should terminate, thus allowing the bicyclists to merge into the roadway travel lanes. Since there are no existing bicycle lanes on SR 33, proposed bicycle lanes could only be placed on short segment along the approach and departure lanes. As such, this would be operationally impractical as this would necessitate bicyclists to diverge from the vehicle travel lanes to the bicycle lanes and then almost immediately merge back into them prior to entering the roundabout circular roadway.

Right-of-Way:

Required Right-of-Way anticipated: YES NO Undetermined
Easements anticipated: Temporary Permanent Utility Other

Anticipated number of impacted parcels: 13

Anticipated number of displacements (Total): 0

Location and Design approval: Not Required Required

Off-site Detours Anticipated: No Yes Undetermined

Transportation Management Plan Anticipated: Yes No

Design Exceptions to FHWA/AASHTO controlling criteria anticipated:

FHWA/AASHTO Controlling Criteria	YES	Appvl Date (if applicable)	NO	Undetermined
1. Design Speed	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Lane Width	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Shoulder Width	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Bridge Width	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Horizontal Alignment	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Superelevation	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Vertical Alignment	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Grade	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Stopping Sight Distance	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Cross Slope	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Vertical Clearance	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Lateral Offset to Obstruction	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Design Variances to GDOT standard criteria anticipated:

GDOT Standard Criteria	Reviewing Office	YES	Appvl Date (if applicable)	NO	Undetermined
1. Access Control - Median Opening Spacing	DP&S	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Median Usage & Width	DP&S	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Intersection Skew Angle	DP&S	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Lateral Offset to Obstruction	DP&S	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Intersection Sight Distance	DP&S	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Bike & Pedestrian Accommodations	DP&S	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. GDOT Drainage Manual*	DP&S	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Georgia Standard Drawings*	DP&S	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Roundabout Illumination	DP&S	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

*Compliance with the GDOT Drainage Manual and GDOT Standard Drawings will be investigated in the preliminary design phase, but no variances are anticipated.

VE Study anticipated: No Yes

ENVIRONMENTAL DATA

Anticipated Environmental Document:

GEPA: NEPA: Categorical Exclusion EA/FONSI EIS

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

MS4 Compliance – Is the project located in an MS4 area? No Yes

Environmental Permits/Variations/Commitments/Coordination anticipated:

Permit/Variance/Commitment/Coordination Anticipated	YES	NO	Remarks
1. U.S. Coast Guard Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Forest Service/Corps Land	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. CWA Section 404 Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NWP 23 anticipated
4. Tennessee Valley Authority Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5. Buffer Variance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. Coastal Zone Management Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7. NPDES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8. FEMA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9. Cemetery Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10. Other Permits	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11. Other Commitments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12. Other Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Is a PAR required? No Yes

NEPA/GEPA: Categorical Exclusion (CE) anticipated. Special studies completion required prior to CE submittal. Five potentially eligible historic resources/Section 4(f) resources within project area, though no adverse effects are anticipated. A Section 4(f) evaluation is not anticipated based upon concept layout.

Ecology: Fieldwork has been conducted. No protected species or suitable habitat identified, no seasonal surveys required.

History: Five potentially eligible historic resources within project area. Adverse impacts are not anticipated. SHPO concurrence will be required for the eligibility and effects determinations.

Archeology: Initial surveys have not been completed

Air & Noise: No modeling would be required.

Public Involvement: A Public Information Open House (PIOH) was held November 13, 2012

Major stakeholders: City of Moultrie and traveling public.

ROUNDABOUTS

Lighting agreement/commitment letter received: No Yes
 (See attachment)

Planning Level assessment: A Traffic Engineering Report from GDOT District 4, dated September 14, 2010, recommended the placement of a roundabout at this location and that a traffic signal was not warranted. This TE Report is included as an attachment.

Peer Review required: No Yes Completed – Date: 6/13/2012

CONSTRUCTION

Issues potentially affecting constructability/construction schedule: Construction of roundabout’s concrete apron while in proximity to larger truck design vehicles.

The two-way traffic on US 319 Business can be temporarily diverted to the existing by-pass lane during the construction of the roundabout’s concrete apron and portions of the circular roadway. The north leg of US 319 Business could be tied to connect with 1st Street/ SR 33. The south leg of US 319 Business and Sylvester Highway/CR 525 could potentially each tie into the above roadway in a split tee configuration.

Early Completion Incentives recommended for consideration: No Yes

PROJECT RESPONSIBILITIES

Project Activities:

Project Activity	Party Responsible for Performing Task(s)
Concept Development	GDOT/Consultant
Design	GDOT/Consultant
Right-of-Way Acquisition	GDOT
Utility Relocation	Utility Companies
Letting to Contract	GDOT
Construction Supervision	GDOT
Providing Material Pits	Contractor
Providing Detours	Contractor
Environmental Studies, Documents, and Permits	GDOT/Consultant
Environmental Mitigation	TBD
Construction Inspection & Materials Testing	GDOT

Lighting required: No Yes

GDOT will be responsible for the lighting installation and the City of Moultrie will be responsible for the maintenance. The roundabout support letter from the City of Moultrie is included as an attachment.

Concept Meeting: - A concept meeting was held on August 2, 2012. *(See attachments for meeting minutes).*

Other projects in the area: GDOT Project CSSFT-0008-00(398) is a safety project for a Railroad crossing warning device on SR 111 where it crosses the Georgia and Florida Railway approximately a quarter mile from PI #0009846. The begin MP is 15.31 and the end MP is 15.71 with a proposed length of 0.40 miles.

GDOT Project STP00-0000-00(520) widens the existing SR 133 to a four lane median divided roadway with turning lanes at intersections from South of SR 35/US 319 to North of the Colquitt

County line for a distance of 13.87 miles. It is presently in preliminary plans and is located approximately one mile from the project.

GDOT Project M004463 entails milling and inlaying SR 33 South/ US 319 Businesses' travel lanes immediately south of the intersection of 1st Street/ SR 33 and Sylvester Highway to the intersection with 4th Avenue in the City of Moultrie. The project length is 1.6 miles long and is currently under construction with an anticipated March 31, 2013 completion.

Other coordination to date:

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Utility	CST*	Environmental Mitigation	Total Cost
By Whom	GDOT	GDOT	GDOT	GDOT	GDOT	
\$ Amount	\$438,200.00	\$491,000.00	\$0.00	\$1,532,447.26	\$13,140.00	\$2,474,787.26
Date of Estimate	12/1/2011	9/27/2012	6/27/2012	10/18/2012	7/2/2012	

*CST Cost includes: Construction, Engineering and Inspection, and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Alternative selection:

Preferred Alternative: Placement of a single lane roundabout on US 319 Business intersection with the side streets 1st Street/ SR 33 and Sylvester Highway/CR 525. Free flow drop right turn lanes would be placed from US 319 Business SB to Sylvester Highway NB, US 319 Business NB to 1st Street/ SR 33 SB, and 1st Street/ SR 33 NB to US 319 Business NB.			
Estimated Property Impacts:	13 parcels, no displacements	Estimated Total Cost:	\$2,474,787.26
Estimated ROW Cost:	\$491,000.00	Estimated CST Time:	18 months
Rationale: This alternative potentially reduces future angle crashes at the intersection as the number of conflicting turning movements will be reduced by the roundabout. It also improves the intersection to comply with AASHTO and GDOT guidelines for turn lanes and intersection skews, which would decrease the potential for rear end and angle crashes. Further, this alternative has the least right of way impacts.			

No-Build Alternative: No improvements to US 319 Business intersection with the side streets 1st Street/ SR 33 and Sylvester Highway/CR 525			
Estimated Property Impacts:	None	Estimated Total Cost:	\$0.00
Estimated ROW Cost:	\$0.00	Estimated CST Time:	None
Rationale: This alternative does not potentially reduce the number or severity of future angle crashes at the intersection nor improve the existing intersection to comply with AASHTO and GDOT guidelines for turn lanes or intersection skews. Therefore, this alternative is not recommended.			

Alternative 1: Improve US 319 Business intersection by realigning 1st Street/ SR 33 and Sylvester Highway/CR 525 to cross at 70 degree intersection skew as per GDOT guidelines, placement of median opening that complies with GDOT Detail M-3, and placement of right turn lanes as per GDOT guidelines			
Estimated Property Impacts:	7 parcels, 1 potential displacement	Estimated Total Cost:	\$3,400,000.00
Estimated ROW Cost:	\$1,030,000.00	Estimated CST Time:	18 months
Rationale: This alternative creates adverse property impacts including displacing a portion of the parking lot of the recently built gas station located on the southeast corner of the intersection. Since a traffic signal is not warranted for this intersection based on the GDOT District 4 TE Report, the side streets will need to be stop controlled and there would be no protected movement for left turn movements. Additional intermittent stream impacts would be incurred by the relocated Swift Street. Therefore, this alternative is not recommended.			

Alternative 2: Realign 1st Street/ SR 33 and Sylvester Highway/CR 525 separately into US 319 Business at perpendicular angles to form two single roundabouts along US 319 Business 1000 ft. apart.			
Estimated Property Impacts:	2 displacements	Estimated Total Cost:	\$3,200,000
Estimated ROW Cost:	\$760,000.00	Estimated CST Time:	18 months
Rationale: This alternative creates adverse property impacts including displacing the building in the northwest corner of US 319 Business and Sylvester Highway as well as the restaurant on the east side of US 319 Business just south of the above intersection. Additional intermittent stream impacts would be incurred by the relocated Sylvester Highway. Therefore, this alternative is not recommended.			

Comments:

Attachments:

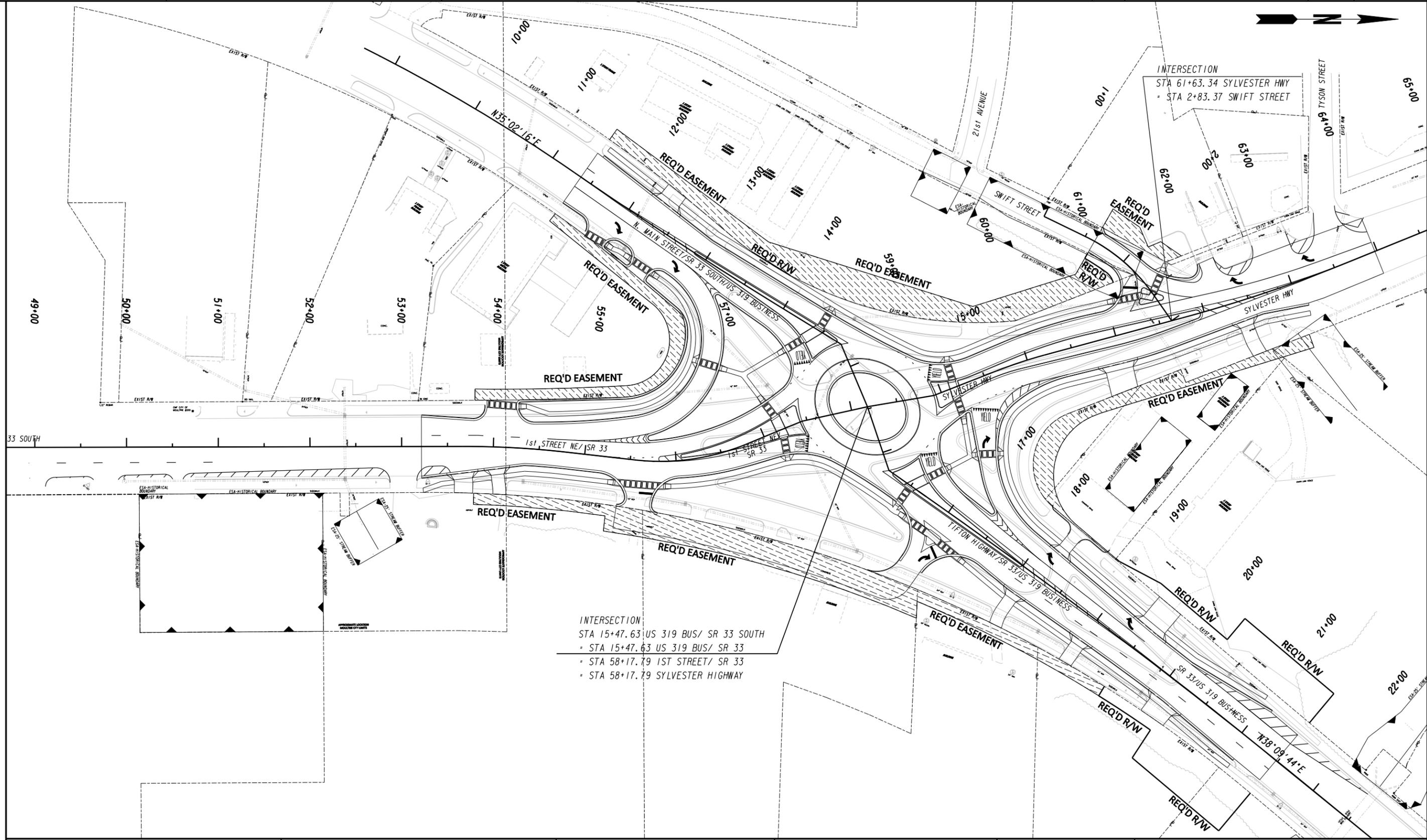
1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
 - a. Construction including Engineering and Inspection
 - b. Completed Fuel & Asphalt Price Adjustment forms
 - c. Right-of-Way
 - d. Utilities
 - e. Environmental Mitigation
4. Crash summaries
5. Traffic diagrams
6. Capacity analysis summary (*tabular format*)
7. TE Study from GDOT District 4
8. Roundabout Data
 - a. Concept comparison matrix and other concept options studied
 - b. Roundabout design vehicle turning paths
 - c. Roundabout fastest path analyses
 - d. Roundabout support letter from the City of Moultrie
 - e. Peer Review and responses
9. Minutes of Concept meetings
10. PIOH Summary of Comments and Responses - **TBD**

APPROVALS

Concur: Bill R. McHenry
Director of Engineering

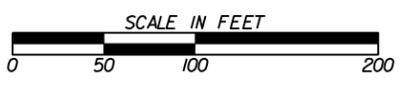
Approve: Gerald M. [Signature]
Chief Engineer

12/7/12
Date



INTERSECTION
 STA 15+47.63 US 319 BUS/ SR 33 SOUTH
 = STA 15+47.63 US 319 BUS/ SR 33
 = STA 58+17.79 1ST STREET/ SR 33
 = STA 58+17.79 SYLVESTER HIGHWAY

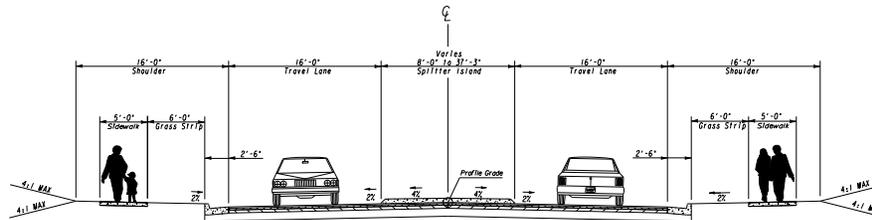
GEORGIA
 DEPARTMENT
 OF
 TRANSPORTATION



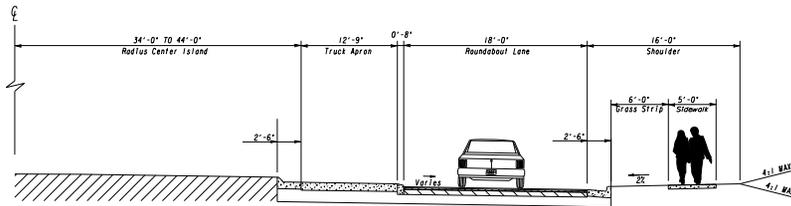
REVISION DATES

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: PROGRAM DELIVERY
CONCEPT DISPLAY
SR 33 /US 319 BUS. AT SR 33 SOUTH
 PROJECT: CSSFT-0009-00(846)
 COUNTY: COLQUITT

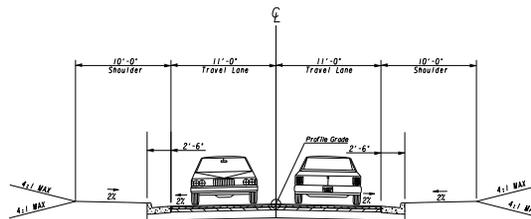
DRAWING No.
01-001



Typical Section No. 1
Roundabout Splitter Islands
SR 33/US 319 Business, 1st Street & Sylvester Hwy



Typical Section No. 2
Roundabout Circular Roadway
at SR 33/US 319 Business



Typical Section No. 4
Swift Street

GEORGIA
DEPARTMENT
OF
TRANSPORTATION



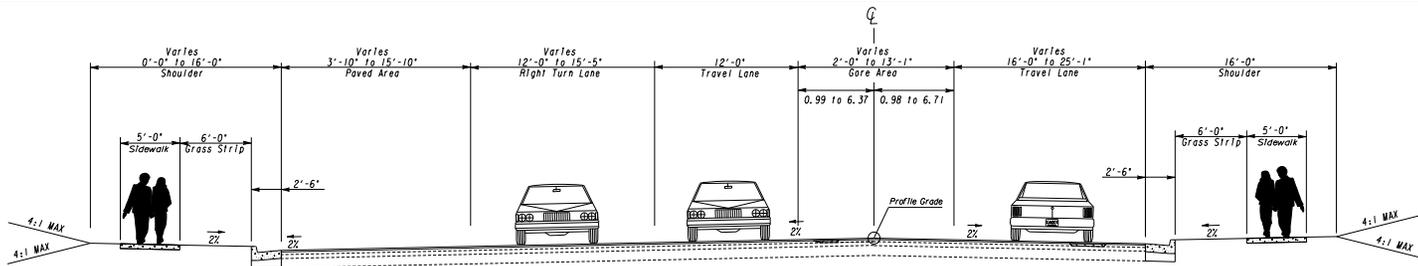
NOT TO SCALE

REVISION DATES

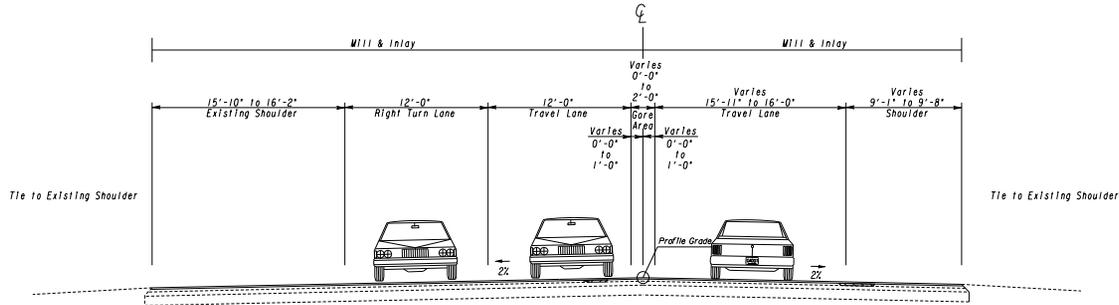
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
TYPICAL SECTIONS

PROJECT: CSSFT-0009-001846
COUNTY: COLQUITT

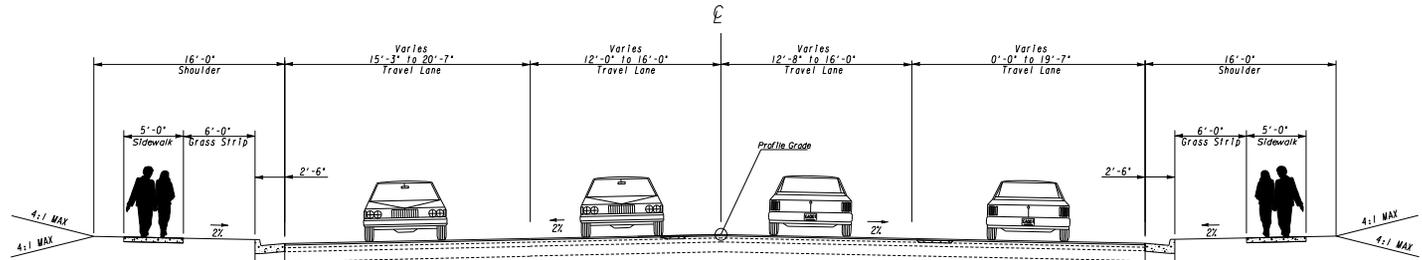
DRAWING NO.
05001



Typical Section No. 5
Sylvester Hwy



Typical Section No. 6
Sylvester Hwy



Typical Section No. 7
1st Street NE

GEORGIA
DEPARTMENT
OF
TRANSPORTATION



NOT TO SCALE

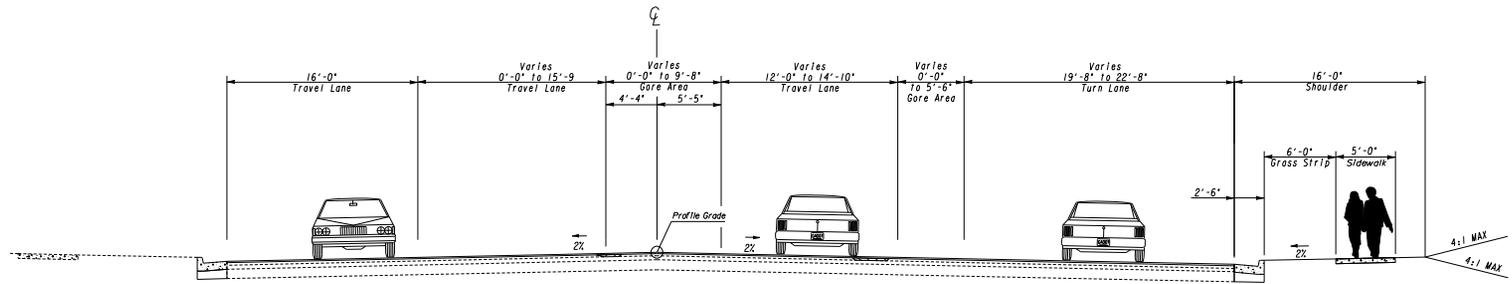
REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
TYPICAL SECTIONS

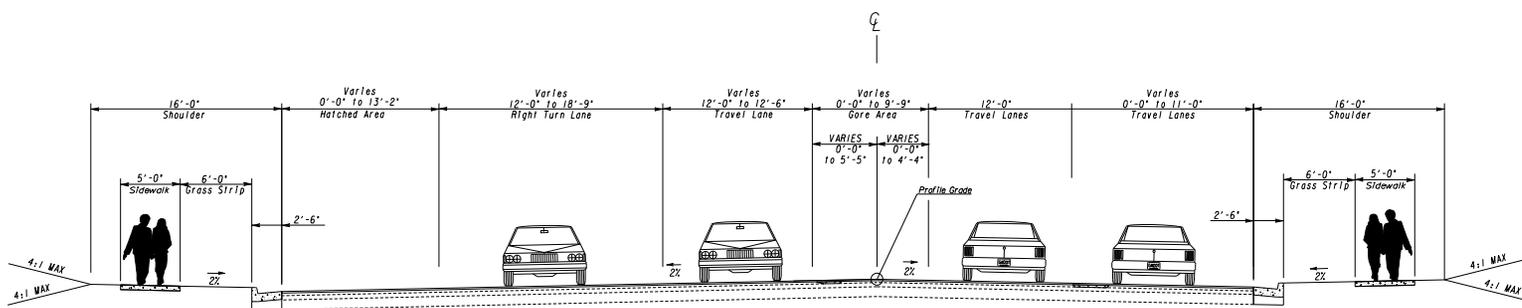
PROJECT: CSSFT-0009-0018461
COUNTY: COLQUITT

DRAWING NO.
05-002

DATE## RUSERS	TIME## RPPENTABLE##	APP## RPPENTABLE##	ROUTE##	STATE	PROJECT NUMBER CSSFT-0009-0018461	SHEET NO.	TOTAL SHEETS
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Typical Section No. 8
SR 33/ US 319 Business
(South of Intersection)



Typical Section No. 9
SR 33/ US 319 Business
(North of Intersection)

6/20/2019
GPM

GEORGIA
DEPARTMENT
OF
TRANSPORTATION



NOT TO SCALE

REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
TYPICAL SECTIONS

PROJECT: CSSFT-0009-0018461
COUNTY: COLQUITT

DRAWING NO.
05-003

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE PROJECT No. CSSFT-0009-00(846), Colquitt
SR 33/US 319 at SR 33 South
P.I. No. 0009846

OFFICE Program Delivery

DATE 10/18/2012

FROM Bobby Hilliard, P.E., State Program Delivery Engineer

TO GDOT Contracts Administration

SUBJECT REVISIONS TO PROGRAMMED COSTS

PROJECT MANAGER Charles Robinson

MNGT LET DATE 9/1/2014

MNGT R/W DATE 9/2/2013

PROGRAMMED COST (TPro W/OUT INFLATION)

LAST ESTIMATE UPDATE

CONSTRUCTION \$867,000.00

DATE 12/1/2011

RIGHT OF WAY \$ 100,000.00

DATE 12/1/2011

UTILITIES \$ N/A

DATE N/A

REVISED COST ESTIMATES

CONSTRUCTION* \$1,532,447.26

RIGHT OF WAY \$ 491,000.00

UTILITIES** \$0.00

* Costs contain 5% Engineering and Inspection and 0% Construction Contingencies.

** Costs contain 0% contingency.

REASON FOR COST INCREASE Revised concept based upon further development

CONTINGENCY SUMMARY

Construction Cost Estimate:	\$1,396,275.34	(Base Estimate)
Engineering and Inspection:	\$ 69,813.77	(Base Estimate x 5 %)
Construction Contingency:	\$0.00	(Base Estimate x 0 %) (The Construction Contingency is based on the Project Improvement Type in TPro.)
Total Liquid AC Adjustment (50% cap)	\$ 66,358.15	(From attached worksheet)
Construction Total:	\$ 1,532,447.26	
Utility Cost Estimate:	\$0.00	
Utility Contingency:	\$0.00	
Utility Total:	\$0.00	

NON-REIMBURSABLE UTILITY COST

<u>Utility Owner</u>	<u>Reimbursable Costs</u>
Georgia Power Co.-Distribution	\$0.00
Georgia Power Co.-Transmission	\$0.00
City of Moultrie-Water and Gas	\$0.00
Mediacom-Cable Television	\$0.00
Windstream-Telephone	\$0.00

Attachments

- 1.) PI #0009864 CES Output
- 2.) PI #0009864 Asphalt and Fuel Price Adjustment Spreadsheet
- 3.) PI #0009864 Right of Way Estimate
- 4.) PI #0009864 Utility Estimate

c: Genetha Rice-Singleton, State Program Control Administrator

GEORGIA DEPARTMENT OF TRANSPORTATION

JOB ESTIMATE REPORT

JOB NUMBER: PI 0009864 SPEC YEAR: 01
 DESCRIPTION: SR 33/US 319 @ SR 33 SOUTH ROUNDABOUT

**ITEMS FOR PROJECT CSSFT-0009-00(846)
 JOB PI 0009846**

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
ROADWAY ITEMS							
3	150-1000	LS		TRAFFIC CONTROL - CSSFT-0009-00(846)	1	\$140,000.00	\$140,000.00
4	210-0100	LS		GRADING COMPLETE - CSSFT-0009-00(846)	1	\$200,000.00	\$200,000.00
20	310-5100	SY		GR AGGR BS CRS 10IN INCL MATL	8690	\$17.06	\$148,251.40
40	402-1812	TN		RECYL AC LEVELING,INC BM&HL	200	\$83.96	\$16,792.00
15	402-3121	TN		RECYL AC 25MM SP,GP1/2,BM&HL	1680	\$80.27	\$134,853.60
5	402-3130	TN		RECYL AC 12.5MM SP,GP2,BM&HL	1065	\$85.58	\$91,142.70
10	402-3190	TN		RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	840	\$85.22	\$71,584.80
25	413-1000	GL		BITUM TACK COAT	720	\$3.95	\$2,844.00
30	432-5010	SY		MILL ASPH CONC PVMT,VARB DEPTH	5240	\$2.99	\$15,667.60
55	441-0104	SY		CONC SIDEWALK, 4 IN	920	\$36.07	\$33,184.40
50	441-0748	SY		CONC MEDIAN, 6 IN	500	\$38.02	\$19,010.00
44	441-5025	LF		CONC HEADER CURB, 4", TP 9	350	\$10.72	\$3,752.00
45	441-6022	LF		CONC CURB & GUTTER, 6"X30"TP2	3180	\$20.35	\$64,713.00
49	441-6740	LF		CONC CURB & GUTTER/ 8"X30" TP7	800	\$14.89	\$11,912.00
35	446-1100	LF		PVMT REF FAB STRIPS, TP2,18 INCH WIDTH	540	\$5.76	\$3,110.40
56	550-1180	LF		STM DR PIPE 18",H 1-10	1713	\$32.14	\$55,055.82
60	550-1240	LF		STM DR PIPE 24",H 1-10	88	\$42.69	\$3,756.72
61	550-4218	EA		FLARED END SECT 18 IN, ST DR	2	\$480.85	\$961.70
66	550-4224	EA		FLARED END SECT 24 IN, ST DR	1	\$541.44	\$541.44
76	611-8050	EA		ADJUST MANHOLE TO GRADE	6	\$878.29	\$5,269.74
86	668-1100	EA		CATCH BASIN, GP 1	18	\$2,132.90	\$38,392.20
81	668-2100	EA		DROP INLET, GP 1	10	\$2,073.95	\$20,739.50
71	668-4300	EA		STORM SEW MANHOLE, TP 1	1	\$1,644.74	\$1,644.74
91	668-4300	EA		STORM SEW MANHOLE, TP 1	1	\$1,644.74	\$1,644.74
SIGNING AND MARKING ITEMS							
146	636-1033	SF		HWY SIGNS, TP1MAT,REFL SH TP 9	130	\$19.42	\$2,524.60
141	636-2080	LF		GALV STEEL POSTS, TP 8	300	\$9.69	\$2,907.00
96	653-0120	EA		THERM PVMT MARK, ARROW, TP 2	4	\$77.52	\$310.08
126	653-0296	EA		THERMO PVMT MARKING,WORD,TP 15	4	\$46.17	\$184.68
101	653-1501	LF		THERMO SOLID TRAF ST 5 IN, WHI	3300	\$0.52	\$1,716.00
106	653-1502	LF		THERMO SOLID TRAF ST, 5 IN YEL	515	\$0.66	\$339.90
111	653-1704	LF		THERM SOLID TRAF STRIPE,24",WH	61	\$4.96	\$302.56
136	653-1804	LF		THERM SOLID TRAF STRIPE, 8",WH	1255	\$1.82	\$2,284.10
131	653-3501	GLF		THERMO SKIP TRAF ST, 5 IN, WHI	1030	\$0.32	\$329.60
116	653-6004	SY		THERM TRAF STRIPING, WHITE	1200	\$3.32	\$3,984.00
121	653-6006	SY		THERM TRAF STRIPING, YELLOW	475	\$3.48	\$1,653.00
LIGHTING ITEMS							
151	500-3101	CY		CLASS A CONCRETE	21	\$462.59	\$9,714.39
156	511-1000	LB		BAR REINF STEEL	4200	\$0.86	\$3,612.00
161	615-1200	LF		DIRECTIONAL BORE - SPECIAL PROVISION	280	\$11.68	\$3,270.40
166	647-2130	EA		PULL BOX, PB-3	5	\$439.39	\$2,196.95
171	647-2140	EA		PULL BOX, PB-4	1	\$951.20	\$951.20
176	681-4120	EA		LT STD, 12' MH, POST TOP	8	\$1,658.00	\$13,264.00

181	681-4220	EA	LT STD, 40' MH, POST TOP	13	\$2,745.39	\$35,690.07
186	681-6220	EA	LUMINAIRE, TP 2, 150W, HP SODIUM	7	\$1.00	\$7.00
191	681-6346	EA	LUMINAIRE, TP 3, 250W, HP SODIUM	10	\$1,081.00	\$10,810.00
196	681-6366	EA	LUMINAIRE, TP 3, 400W, HP SODIUM	4	\$1.00	\$4.00
201	682-1504	LF	CABLE, TP RHH/RHW, AWG NO 10	9489	\$1.00	\$9,489.00
206	682-1505	LF	CABLE, TP RHH/RHW, AWG NO 8	948	\$1.00	\$948.00
211	682-6219	LF	CONDUIT, NONMETL, TP 2, 1 IN	2413	\$4.23	\$10,206.99
216	939-5010	EA	ELEC PWR SVC ASSEMBLY, AERIAL SVC POINT	1	\$1,763.90	\$1,763.90

LANDSCAPING ITEMS

221	700-9300	SY	SOD	1800	\$5.83	\$10,494.00
226	702-0212	EA	CRATAEGUS VIRIDIS - WINTER KING	9	\$160.00	\$1,440.00
231	702-0470	EA	ILEX VOMITORIA - 3-GALLON	615	\$30.00	\$18,450.00
236	702-9005	LB	SPRING APPLICATION FERTILIZER	600	\$2.64	\$1,584.00
241	702-9025	SY	LANDSCAPE MULCH	1200	\$4.22	\$5,064.00

TEMPORARY EROSION CONTROL ITEMS

281	163-0232	AC	TEMPORARY GRASSING	1	\$13.30	\$13.30
271	163-0300	EA	CONSTRUCTION EXIT	4	\$1,327.62	\$5,310.48
251	163-0550	EA	CONS & REM INLET SEDIMENT TRAP	28	\$183.93	\$5,150.04
256	165-0010	LF	MAINT OF TEMP SILT FENCE, TP A	1590	\$1.22	\$1,939.80
313	165-0030	LF	MAINT OF TEMP SILT FENCE, TP C	100	\$0.36	\$36.00
266	165-0101	EA	MAINT OF CONST EXIT	4	\$461.97	\$1,847.88
246	165-0105	EA	MAINT OF INLET SEDIMENT TRAP	28	\$32.80	\$918.40
306	167-1000	EA	WATER QUALITY MONITORING AND SAMPLING	2	\$409.16	\$818.32
311	167-1500	MO	WATER QUALITY INSPECTIONS	12	\$853.33	\$10,239.96
261	171-0010	LF	TEMPORARY SILT FENCE, TYPE A	3180	\$2.52	\$8,013.60
314	171-0030	LF	TEMPORARY SILT FENCE, TYPE C	200	\$3.89	\$778.00
291	700-7000	TN	AGRICULTURAL LIME	50	\$18.37	\$918.50
296	700-8000	TN	FERTILIZER MIXED GRADE	150	\$499.27	\$74,890.50
301	700-8100	LB	FERTILIZER NITROGEN CONTENT	100	\$3.28	\$328.00

PERMANENT EROSION CONTROL ITEMS

286	163-0240	TN	MULCH	200	\$210.08	\$42,016.00
315	603-2181	SY	STN DUMPED RIP RAP, TP 3, 18"	20	\$72.63	\$1,452.60
316	603-7000	SY	PLASTIC FILTER FABRIC	20	\$4.68	\$93.60
276	700-6910	AC	PERMANENT GRASSING	2	\$595.22	\$1,190.44

ITEM TOTAL						\$1,396,275.34
INFLATED ITEM TOTAL						\$1,396,275.34

TOTALS FOR JOB PI #0009846

ESTIMATED COST:						\$1,396,275.34
CONTINGENCY PERCENT (0.0):						\$0.00
ESTIMATED TOTAL:						\$1,396,275.34

PROJ. NO.

CSSFT-0009-00(846)

CALL NO.

P.I. NO.

0009846

DATE

10/18/2012

INDEX (TYPE)

REG. UNLEADED

Oct-12

\$ 3.595

DIESEL

\$ 4.019

LIQUID AC

\$ 575.00

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)

65291.25

\$

65,291.25

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$ 920.00

Monthly Asphalt Cement Price month project let (APL)

\$ 575.00

Total Monthly Tonnage of asphalt cement (TMT)

189.25

ASPHALT	Tons	%AC	AC ton
Leveling	200	5.0%	10
12.5 OGFC		5.0%	0
12.5 mm	1065	5.0%	53.25
9.5 mm SP		5.0%	0
25 mm SP	1680	5.0%	84
19 mm SP	840	5.0%	42
	3785		189.25

BITUMINOUS TACK COAT

Price Adjustment (PA)

\$ 1,066.90

\$

1,066.90

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$ 920.00

Monthly Asphalt Cement Price month project let (APL)

\$ 575.00

Total Monthly Tonnage of asphalt cement (TMT)

3.092472664

Bitum Tack

Gals	gals/ton	tons
720	232.8234	3.09247266

PROJ. NO.

CSSFT-0009-00(846)

CALL NO.

P.I. NO.

0009846

DATE

10/18/2012

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)						0	\$	-
Monthly Asphalt Cement Price month placed (APM)			Max. Cap	60%	\$	920.00		
Monthly Asphalt Cement Price month project let (APL)					\$	575.00		
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						\$	66,358.15
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**GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY**

Date: 9/27/2012 Project: Colquitt County
 Revised: County: Colquitt County
 PI: 9846

Description: SR 33 @ SR 33 South (N. Main @ 1st St) multi-lane
 Project Termini: SR 33 @ SR 33 South (N. Main @ 1st St) multi-lane

Existing ROW: Varies
 Required ROW: Varies
 Parcels: 13

Land and Improvements \$243,420.00

Proximity Damage	\$0.00
Consequential Damage	\$0.00
Cost to Cures	\$0.00
Trade Fixtures	\$0.00
Improvements	\$110,000.00

Valuation Services \$26,250.00

Legal Services \$83,775.00

Relocation \$26,000.00

Demolition \$0.00

Administrative \$111,000.00

TOTAL ESTIMATED COSTS \$490,445.00

TOTAL ESTIMATED COSTS (ROUNDED) \$491,000.00

Preparation Credits	Hours	Signature

Prepared By: Lashone Alexander CG#: 286999 9/27/2012
 Approved By: Lashone Alexander CG#: 286999 9/27/2012

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

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE

Project No: N/A
 County: COLQUITT
 P.I. #: 0009846

OFFICE: Tifton
 DATE: June 27, 2012

Description: SR 33/US 319 @ SR 33 SO

TW
 FROM Tim Warren, P.E., District Utilities Engineer

TO Charles A. Robinson, Project Manager (VIA EMAIL)

SUBJECT UTILITY COST ESTIMATE

A review of utilities located on the above referenced project has been conducted without a design concept.. Listed below is a breakdown of the anticipated reimbursable and non-reimbursable cost.

<u>Utility Owner</u>	<u>Reimbursable</u>	<u>Non-Reimbursable</u>	<u>Estimate Based on</u>
City of Moultrie **	\$0.00	\$142,500.00	Site Visit / Available Drawings
Ga Power Distribution	\$0.00	\$46,000.00	Site Visit / Available Drawings
Ga Power Transmission	\$0.00	\$510,000.00	Site Visit / Available Drawings
Mediacom	\$0.00	\$4,400.00	Site Visit / Available Drawings
Windstream	\$0.00	\$40,000.00	Site Visit / Available Drawings
Total	\$ 0.00	\$742,900.00	

**** Indicates Potential Utility Aid Request from Local Gov't**

Estimate is based on the best available information at the current stage, unforeseen prior rights information may be provided by the Utility Company at a later date that could cause some non-reimbursable costs to shift to the reimbursable cost column.

If additional information is needed, please contact me or Bill Cooper, Assistant District Utilities Engineer at (229) 386-3288.

BC
 TW:BC:KC

c: Jeff Baker, P.E., State Utilities Engineer
 Brent Thomas, District Preconstruction Engineer
 Angela Robinson, State Financial Management Administrator

Rickert, Eric

Subject: PI 0009846 Environmental Mitigation Concept Cost
Attachments: Stream Mitigation SOP Table- 0009846.xlsx

From: Lee Williams [<mailto:lwilliams@edwards-pitman.com>]
Sent: Monday, July 02, 2012 9:48 AM
To: Jill Brown
Subject: RE: PI 0009846, Colquitt County Env Mitigation

Jill,

Assuming that all impacts for IS 7 are from piping the existing stream, the project will require 292 stream mitigation credits. Based on GDOT price estimates for this watershed (\$45/credit), the approximate total stream mitigation cost would be \$13,140. We need to point out that we have a total of only 104 linear feet of impacts for the project (IS 6 = 29, IS 7 = 75). If we can shave off 5 feet on impacts somewhere, we can avoid mitigation all together. I hope this helps. If you need anything else, just let me know.

Lee W.

**CSSFT-0009-00(846) Crash Analysis
July 2012**

**Summary of Traffic Crash History along Tifton Hwy (SR 33/US 319 Bus.) in Colquitt County
(Milelogs: 11.02 to 12.02)**

Year	Accidents			Accidents Per 100 Million Vehicle Miles ¹		
	Total	Injury	Fatal	Total	Injury	Fatal
2004	16	3	0	509 (515)	95 (130)	0.00 (1.10)
2005	9	2	0	286 (573)	64 (144)	0.00 (1.55)
2006	9	4	0	286 (545)	127 (133)	0.00 (1.54)
2007	13	2	0	414 (549)	64 (133)	0.00 (1.46)
2008	8	2	0	255 (524)	64 (125)	0.00 (1.29)
2009	6	3	0	191 (536)	95 (131)	0.00 (1.21)
Total	61	16	0			
Average	10	3	0.00	324 (540)	85 (133)	0.00 (1.36)

Note: (1) The number in parentheses represents the statewide average crash rates for Urban Principal Arterials

**Summary of Traffic Crash History along 1st St NE (SR 33 South) in Colquitt County
(Milelogs: 0.00 to 0.50)**

Year	Accidents			Accidents Per 100 Million Vehicle Miles ¹		
	Total	Injury	Fatal	Total	Injury	Fatal
2004	6	1	0	1012 (515)	169 (130)	0.00 (1.10)
2005	6	1	0	1012 (573)	169 (144)	0.00 (1.55)
2006	7	3	0	1180 (545)	506 (133)	0.00 (1.54)
2007	5	1	0	843 (549)	169 (133)	0.00 (1.46)
2008	5	1	0	843 (524)	169 (125)	0.00 (1.29)
2009	5	1	1	843 (536)	169 (131)	169 (1.21)
Total	34	8	1			
Average	6	1	0.17	956 (540)	236 (133)	28 (1.36)

Note: (1) The number in parentheses represents the statewide average crash rates for Urban Principal Arterials

Summary of Traffic Crash History along Sylvester Hwy (CR 525) in Colquitt County
(Milelogs: 0.00 to 0.50)

Year	Accidents			Accidents Per 100 Million Vehicle Miles ¹		
	Total	Injury	Fatal	Total	Injury	Fatal
2004	0	0	0	0 (490)	0 (123)	0.00 (1.29)
2005	0	0	0	0 (534)	0 (135)	0.00 (1.48)
2006	1	0	0	169 (531)	0 (132)	0.00 (1.38)
2007	2	1	0	337 (514)	169 (126)	0.00 (1.34)
2008	0	0	0	0 (471)	0 (116)	0.00 (1.33)
2009	0	0	0	0 (463)	0 (114)	0.00 (1.05)
Total	3	1	0			
Average	1	0	0.00	84 (501)	29 (124)	0.00 (1.31)

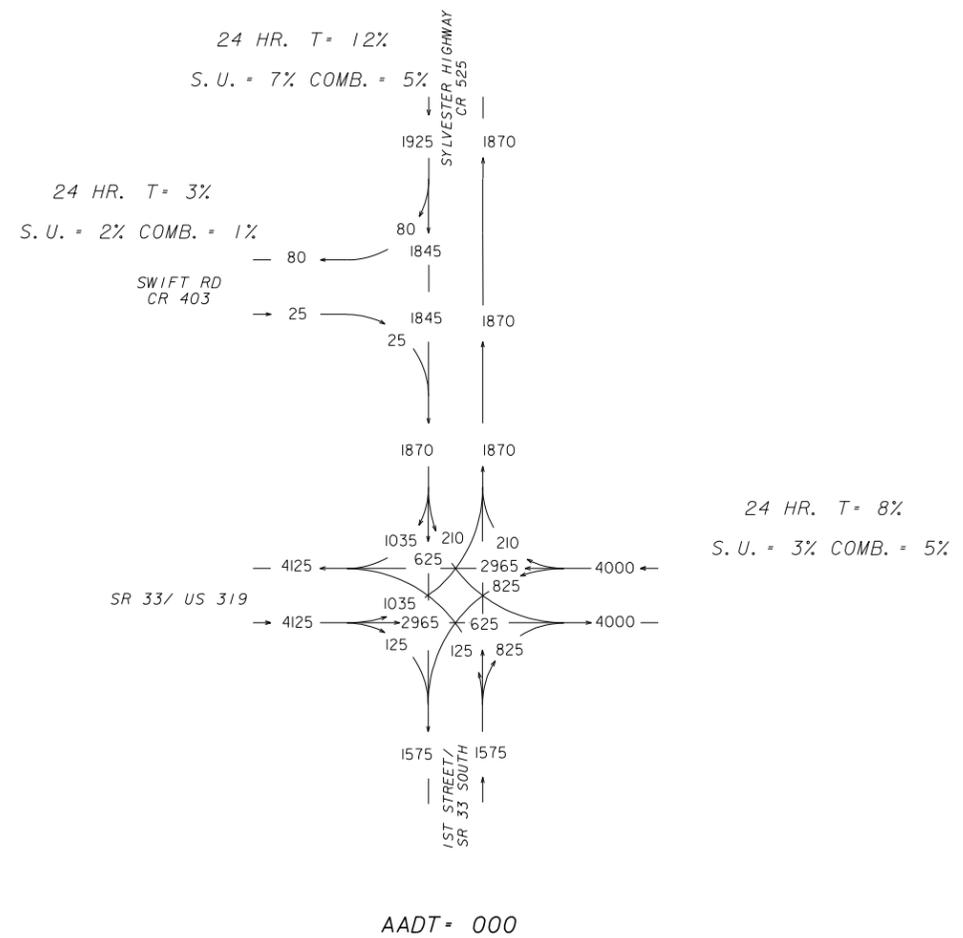
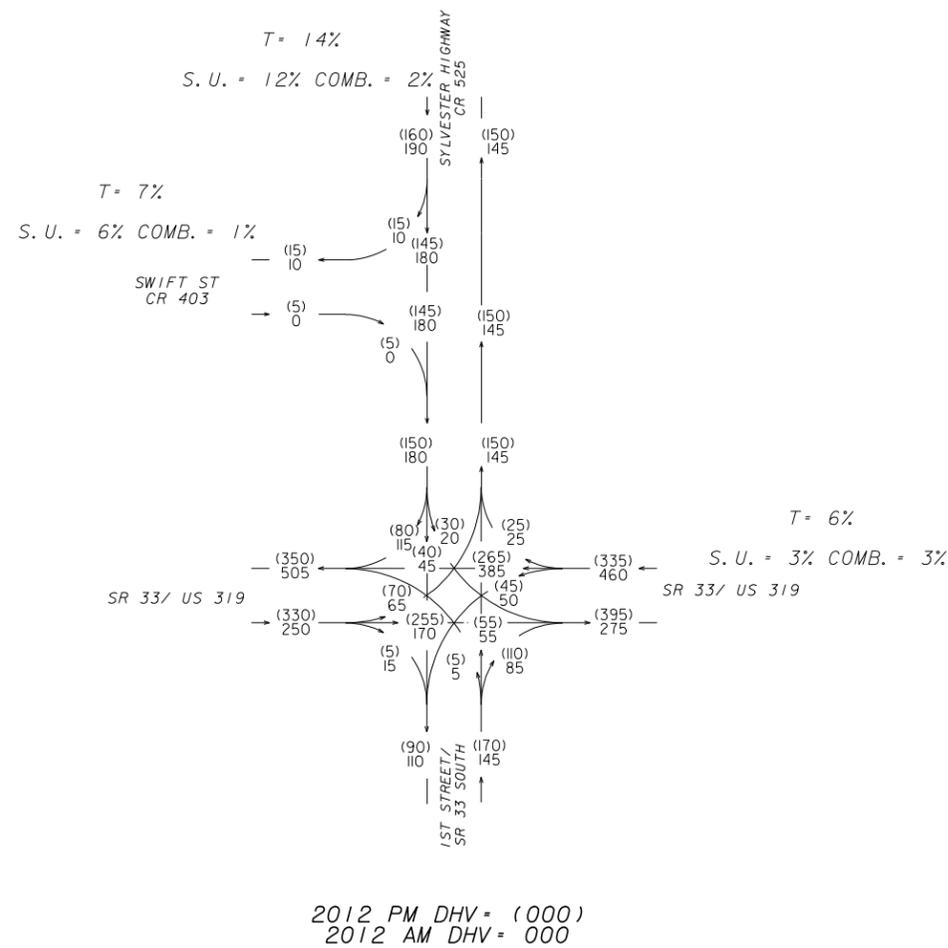
Note: (1) The number in parentheses represents the statewide average crash rates for Urban Minor Arterials

Summary of Crashes at the Tifton Hwy (SR 33/ US 319 Bus.) & 1st St NE (SR 33 South)/Sylvester Hwy (CR525) Intersection

Year	Manner of Collision						Total Crashes	Type of Accident		
	Angle	Head On	Rear End	Sideswipe-Same Direction	Sideswipe-Opposite Direction	Not a Collision With a Motor Vehicle		PDO	Injury	Fatal
2004	6	2	2	0	0	3	13	10	3	0
2005	5	0	0	0	0	1	6	4	2	0
2006	3	0	5	0	0	0	8	5	3	0
2007	4	0	7	1	0	0	12	11	1	0
2008	4	0	2	1	0	1	8	6	2	0
2009	3	0	2	1	0	0	6	3	3	0
2010	3	0	3	1	0	0	7	6	1	0
Total	28	2	21	4	0	5	60	45	15	0
Percentage	46.7%	3.3%	35.0%	6.7%	0.0%	8.3%	100%	75.0%	25.0%	0.0%



2012 EXISTING
AM AND PM PK HR
TRAFFIC VOLUMES



NOT TO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
CSSFT-0009-00(846) PI* 0009846
SR 33/US 319 AT SR 33 SOUTH
CONCEPT LAYOUT
COLQUITT COUNTY

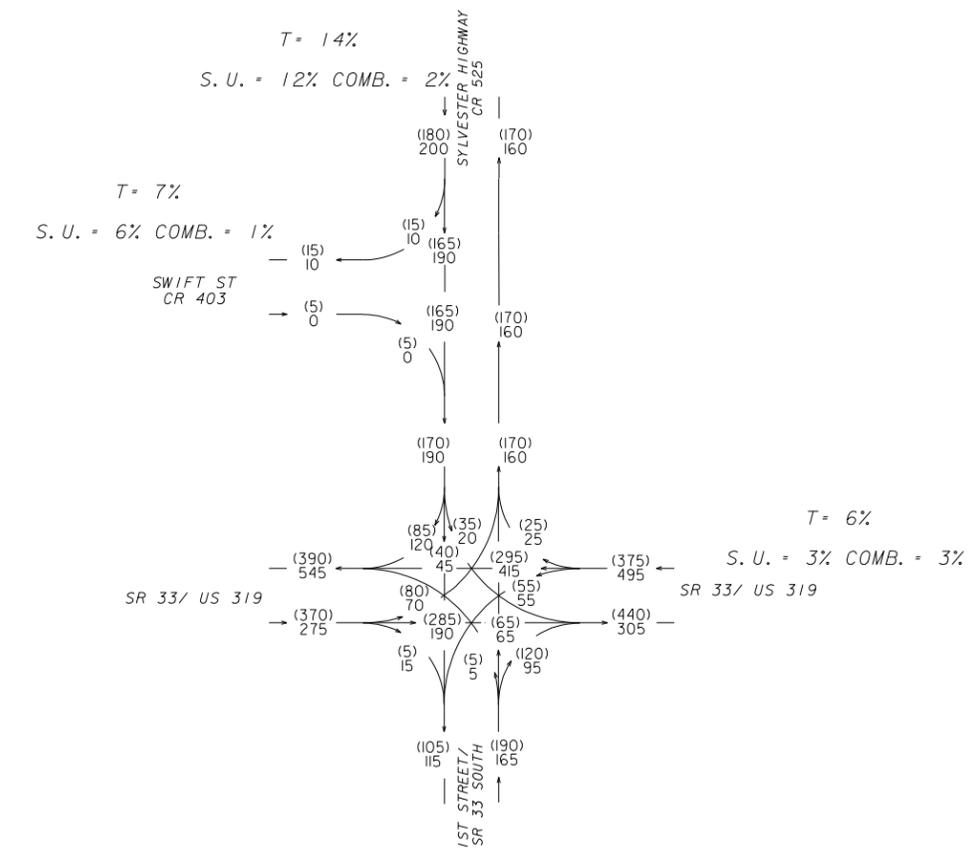
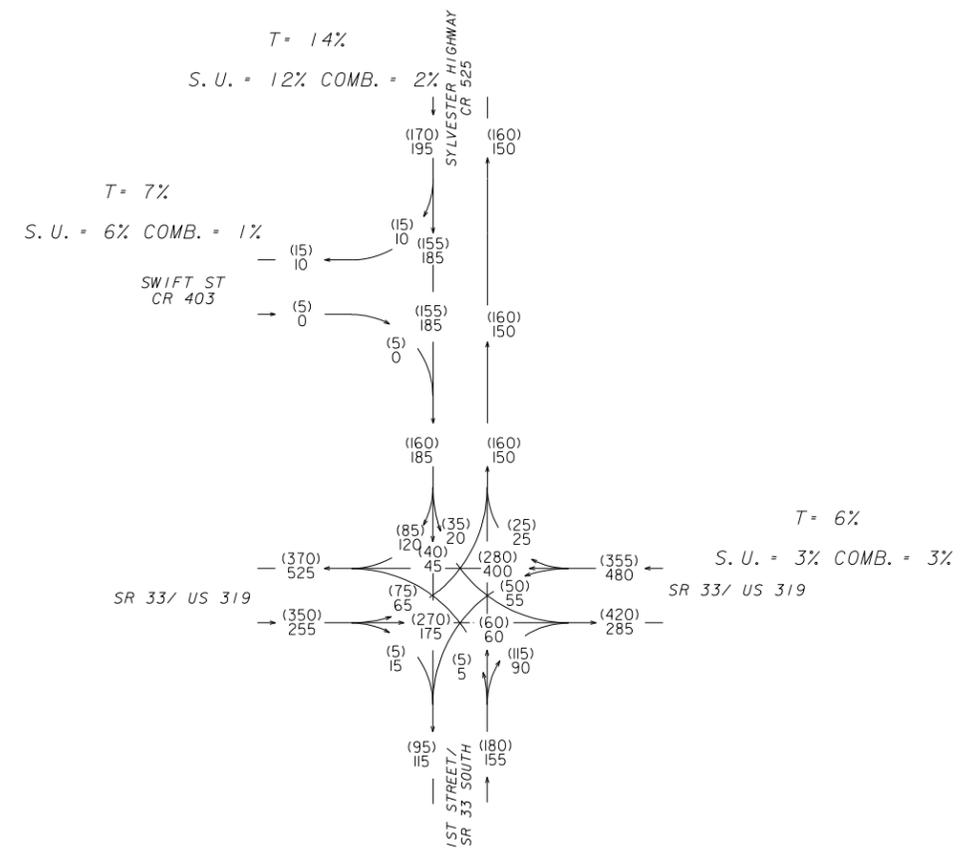
DRAWING No.
10-001

JUNE 1, 2012



2016 OPENING YEAR
 NO BUILD
 AM AND PM PK HR
 TRAFFIC VOLUMES

2016 OPENING YEAR
 BUILD
 AM AND PM PK HR
 TRAFFIC VOLUMES



2016 OPENING YEAR
 AM AND PM PEAK HOUR
 TRAFFIC VOLUMES

LEGEND

PM DHV = (000)
 AM DHV = 000



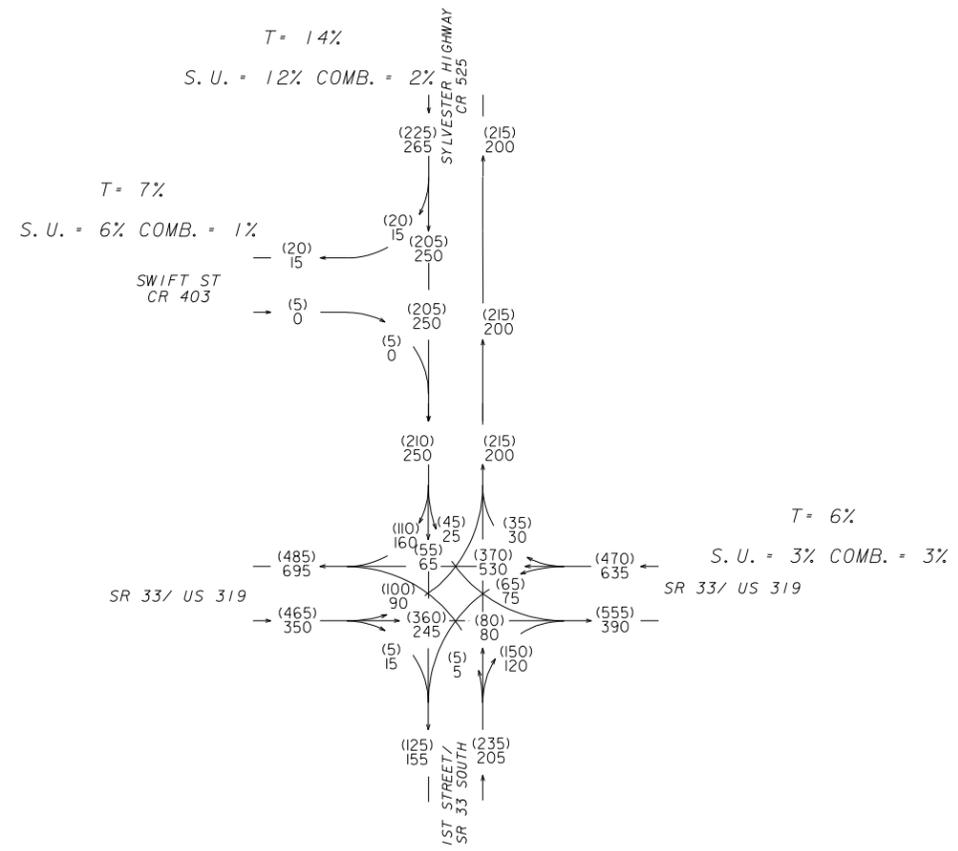
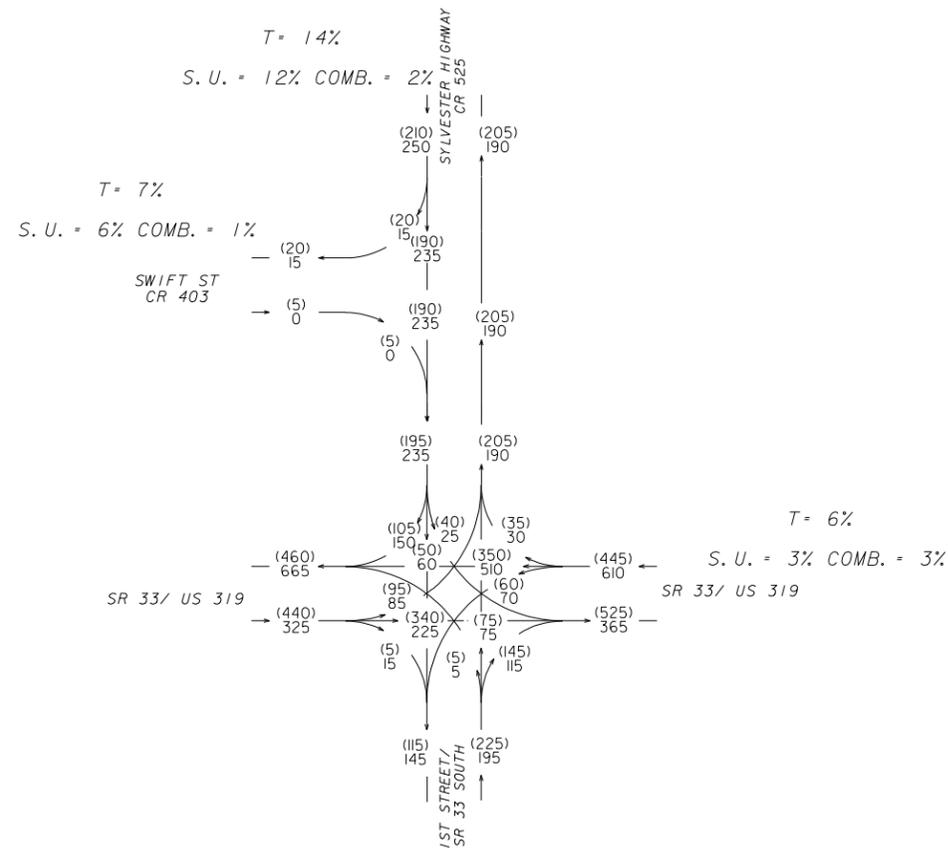
NOT TO SCALE

REVISION DATES		STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION	
		OFFICE: PROGRAM DELIVERY	
		CSSFT-0009-00(846) PI* 0009846	
		SR 33/US 319 AT SR 33 SOUTH	
		CONCEPT LAYOUT	
		COLQUITT COUNTY	
		JUNE 1, 2012	
		DRAWING No. 10-002	



2036 DESIGN YEAR
NO BUILD
AM AND PM PK HR
TRAFFIC VOLUMES

2036 DESIGN YEAR
BUILD
AM AND PM PK HR
TRAFFIC VOLUMES



2036 DESIGN YEAR
 AM AND PM PEAK HOUR
 TRAFFIC VOLUMES

LEGEND

PM DHV = (000)
 AM DHV = 000



GRESHAM
 SMITH AND
 PARTNERS

NOT TO SCALE

REVISION DATES

NO.	DATE	DESCRIPTION

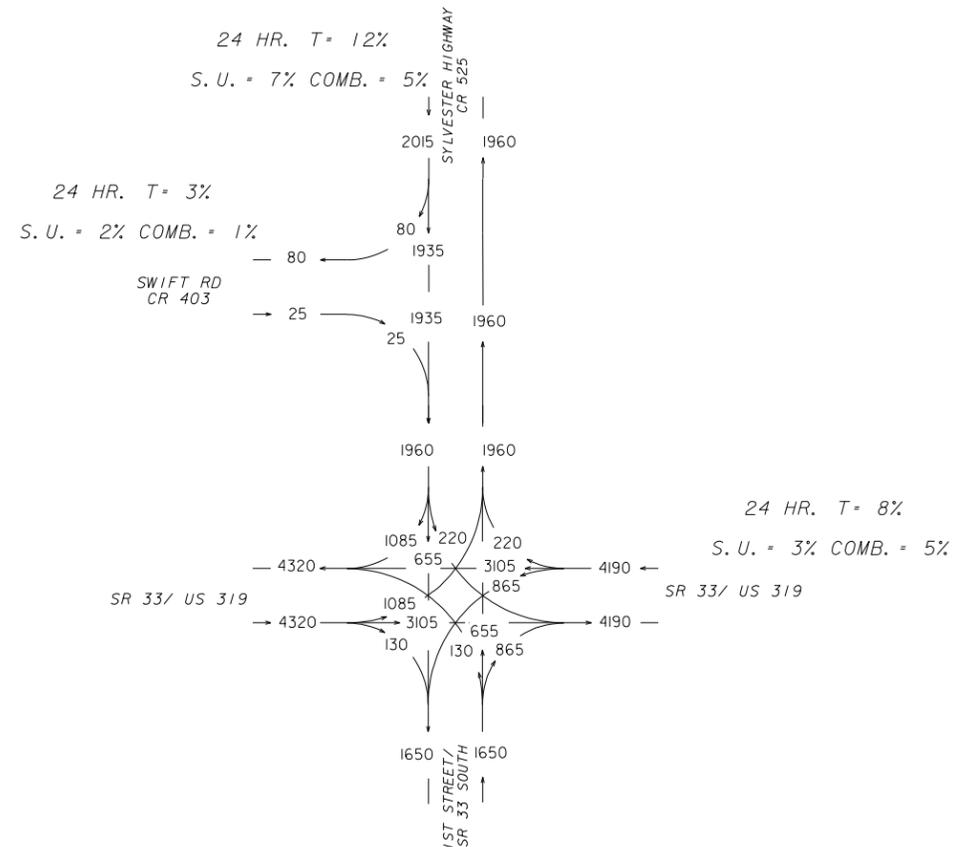
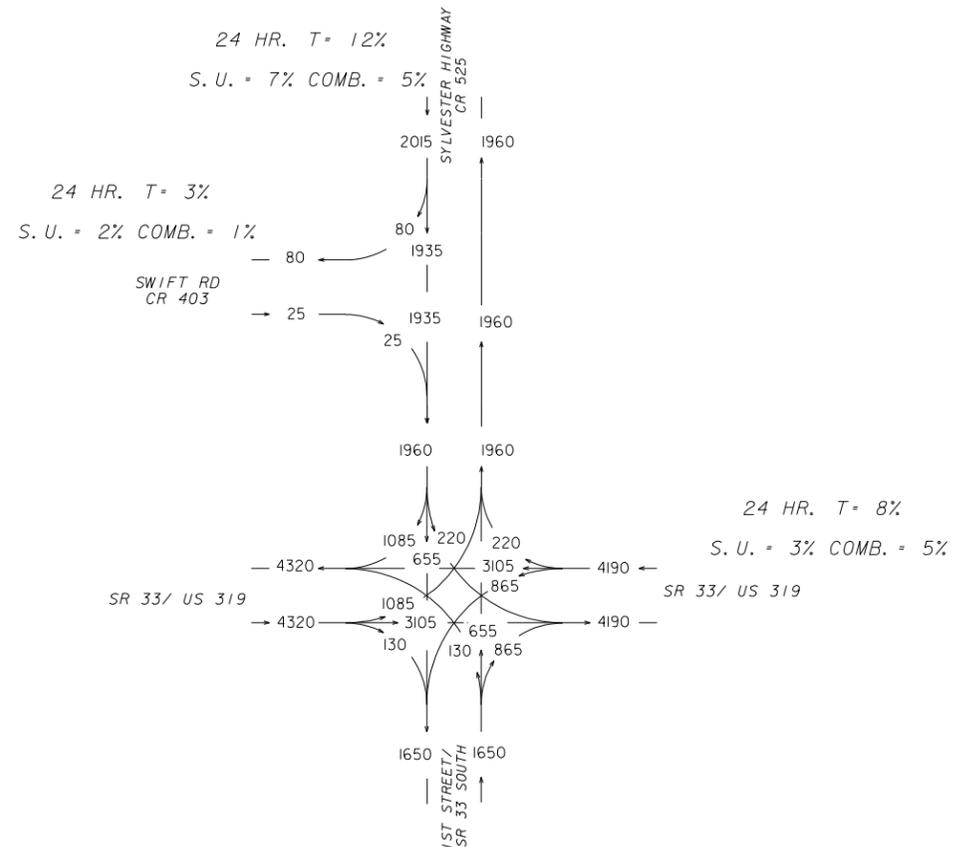
STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: PROGRAM DELIVERY
 CSSFT-0009-00(846) PI* 0009846
 SR 33/US 319 AT SR 33 SOUTH
 CONCEPT LAYOUT
 COLQUITT COUNTY
 JUNE 1, 2012

DRAWING No.
10-003



2016 OPENING YEAR
NO BUILD
AADT TRAFFIC VOLUMES

2016 OPENING YEAR
BUILD
AADT TRAFFIC VOLUMES



SECTION
 10-004
 10-004
 10-004

SECTION
 10-004
 10-004
 10-004

2016 OPENING YEAR
 AADT TRAFFIC VOLUMES

LEGEND
 AADT = 000



NOT TO SCALE

REVISION DATES		

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: PROGRAM DELIVERY
 CSSFT-0009-00(846) PI* 0009846
 SR 33/US 319 AT SR 33 SOUTH
 CONCEPT LAYOUT
 COLQUITT COUNTY

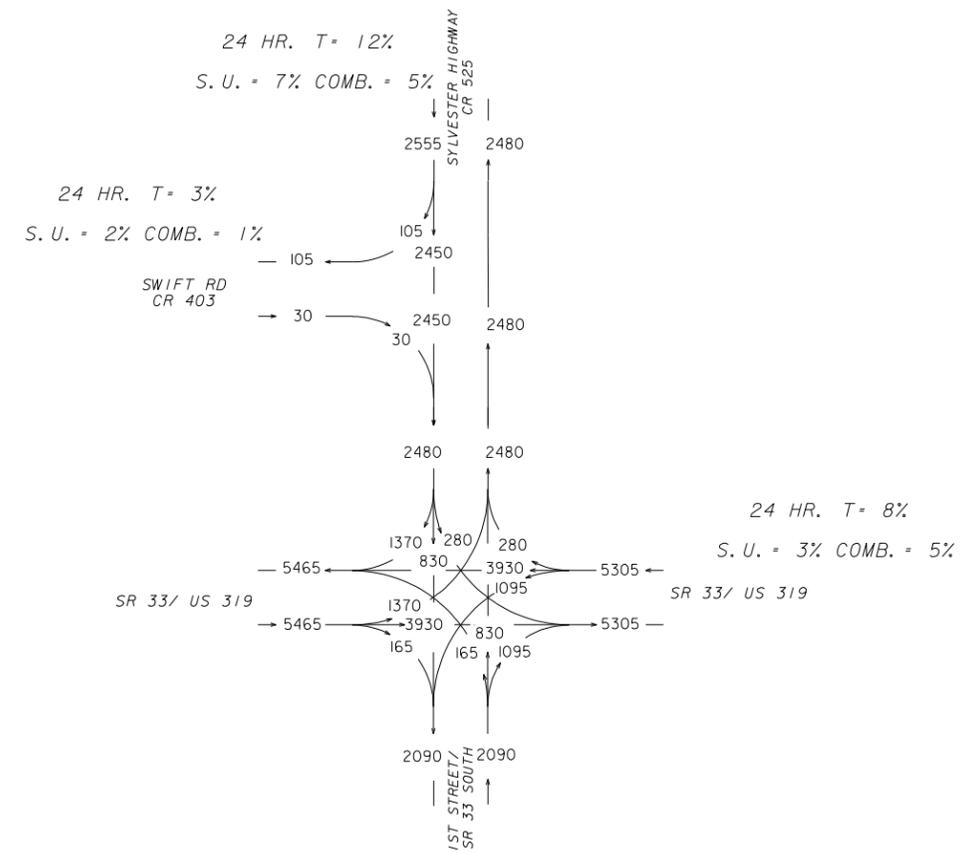
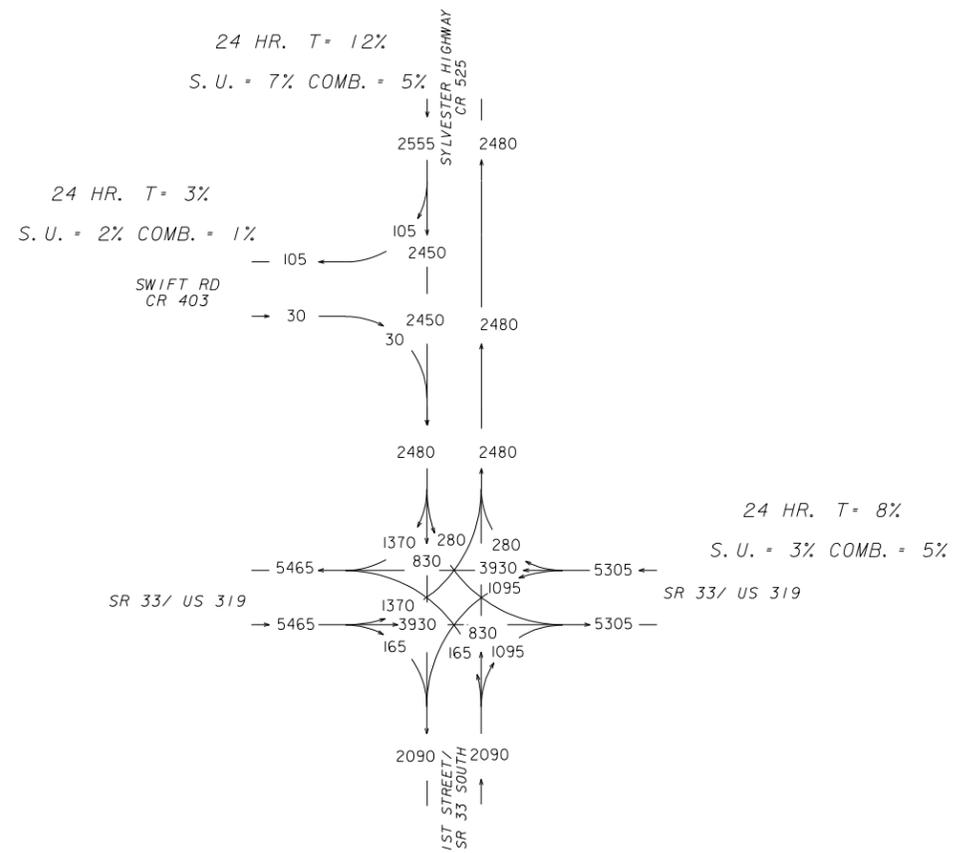
JUNE 1, 2012

DRAWING No.
10-004



2036 DESIGN YEAR
NO BUILD
AADT TRAFFIC VOLUMES

2036 DESIGN YEAR
BUILD
AADT TRAFFIC VOLUMES



2036 DESIGN YEAR
AADT TRAFFIC VOLUMES

LEGEND
AADT = 000



NOT TO SCALE

REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
CSSFT-0009-00(846) PI* 0009846
SR 33/US 319 AT SR 33 SOUTH
CONCEPT LAYOUT
COLQUITT COUNTY
JUNE 1, 2012

DRAWING No.
10-005

CSSFT-0009-00(846) Capacity Analysis Summary

A capacity analysis was conducted at the SR 33/US 319 Bus. at 1st Street (SR 33 South)/Sylvester Highway intersection to determine the operational characteristics based on the existing and anticipated future conditions. The capacity analysis for the existing conditions and future no-build conditions was performed using the methodologies outlined in the 2010 Highway Capacity Manual (HCM) and the Synchro 8.0 software program. The results of the capacity analysis for the existing conditions and future no-build conditions for the anticipated future are summarized in Table 1.

The capacity analysis for a roundabout at the intersection for 2016 and 2036 was conducted using the Sidra software program and the GDOT Roundabout Analysis Tool. The results of the capacity analysis for the proposed roundabout for the anticipated future are summarized in Table 2.

Table 1: Existing and No-Build Anticipated Intersection Level of Service

Intersection	Traffic Control	Level of Service (AM/PM)		
		2012	2016 No-Build	2036 No-Build
SR 33/US 319 Bus. at 1 st Street (SR 33 South)/Sylvester Highway	Stop Control on 1 st Street (SR 33 South)/Sylvester Highway	C/C	D/C	F/E

Table 2. Roundabout Anticipated Intersection Level of Service (AM/PM Peak)

Approach	Sidra Analysis		GDOT Roundabout Analysis Tool ¹	
	2016 "Opening Year"	2036 "Design Year"	2016 "Opening Year"	2036 "Design Year"
East	B/B	B/B	B/A	B/A
West	B/B	B/B	A/A	A/A
South	B/B	B/B	B/A	B/A
North	B/B	C/B	A/A	A/A

1 – Results are based on the 2010 HCM Model for the opening year (2016) and the GDOT calibrated model for the design year (2036).

TRAFFIC ENGINEERING REPORT

September 14, 2010

FILE: SR 33/US 319 BU at Sylvester Hwy

COUNTY: Colquitt

CITY: Moultrie

REASON FOR INVESTIGATION:

Requested by Geno Hasty, District Traffic Operations Manager.

TOPOGRAPHY:

The intersection, which is located within a combined three degree (1,909.858 foot radius) horizontal curve along the northwest and southeast approaches, and short crest and sag vertical curvature along the northeast and southwest legs, is a Two-Way Stop Controlled (TWSC) intersection, with the Sylvester Highway and SR 33 N/US 319 BU N/1st St., NE, approaches being stop controlled, and the SR 33/US 319 BU/Tifton Highway and SR 33 S/US 319 BU S/N. Main Street legs being free movement.

SR 33/US 319 BU/Tifton Highway is a four lane (three through lanes with a right turning roadway at the intersection, then transitions to four through lanes beyond the intersection and to five lanes (1-TWLTL and 4-Through Lanes) several hundred feet north of the intersection) urban principal arterial that runs south to north, and has variable roadway and paved shoulder width. At the intersection, Tifton Highway has three-hundred foot of existing right of way. Traffic markings consist of skip five inch white lane lines, solid five inch white edge lines, and a double-solid five inch yellow centerline.

SR 33S/US 319 BU S/North Main Street is a four lane (transitions to three through lanes, including one dedicated right turn lane at the intersection) urban principal arterial that runs south to north, and has variable roadway and paved shoulder width. There is three-hundred foot of existing right of way, and traffic markings consist of a solid five inch white lane line, skip five inch white lane line, a double solid five inch yellow centerline, type two pavement marking arrow, and type three pavement marking arrow.

SR 33 N/US 319 BU N/1st Street, NE, is a four lane urban principal arterial, with three through lanes and a dedicated right turn lane at the intersection, that runs south to north, has variable roadway and shoulder width, and three-hundred foot of existing right of way. Traffic markings consist of a solid five inch white lane line, skip five inch white lane lines, double solid five inch yellow centerline, solid twenty-four inch white stop line, type two pavement marking arrows, and pavement marking words ("ONLY").

Sylvester Highway is a two lane urban minor arterial, which has two through lanes and a right turning roadway, that runs south to north, has one-hundred foot of existing right of way, and variable roadway width. Traffic markings consist of a solid twenty-four inch white stop line and double solid five inch yellow centerline.

Other miscellaneous traffic markings at the intersection consist of solid five inch white lane lines, two-type one pavement arrows, one-type 3L pavement marking arrow, and one-type 2L pavement marking arrow. Curbed, grassed and raised channelized islands, which provide an area for pedestrian refuge, division and traffic control signage, are delineated by retro-reflective yellow paint on the front and top face of the

TRAFFIC ENGINEERING REPORT

curb. A convenience store is located in the south quadrant, a vacant lot occupies the southwest quadrant, two buildings and a residential dwelling occupy the northeast quadrant, while buildings and a local business occupy the northwest quadrant. Curb and gutter are located on all intersection approaches, and grass buffers and concrete sidewalk exist in the northwest, north, northeast, and southeast quadrants.

VEHICLE VOLUMES:

Average Annual Daily Traffic (AADT) volumes were obtained from the GDOT RC Web Info database. The current AADT on State Route SR 33/US 319 BU is 8,600 vehicles-per-day (VPD), and 1,700 VPD on Sylvester Highway. The 15 year projection at 2% a year for State Route SR 33/US 319 BU is 11,574 VPD. The 15 year projection at 2% a year for Sylvester Highway is 2,287 VPD.

EXISTING TRAFFIC CONTROL:

The intersection of SR 33/US 319 BU at Sylvester Highway is stop controlled by double indicated thirty inch stop signs per stop approach.

Other traffic control in the vicinity of the intersection include regulatory signs that include mandatory lane control, right lane must turn right, R3-7R, do not enter, intersection lane control, left turn prohibition, 45 mph speed limit, and yield signs. Warning signs include a slippery when wet, roadway condition and advance traffic control sign with a 35 mph speed reduction advisory, and a merging/added lane, W4-3R, sign. Guide signs include US and state route signs with route sign and directional arrow auxiliaries, destination and distance, D2-3, sign, general information, D13-1, signs, two street name, D3-1, signs, and a reference location (mile log), D10-1, sign.

PEDESTRIAN MOVEMENTS:

No pedestrians were observed during the study.

SPEED LIMIT:

The posted speed limit on SR 33 / US 319 BU is 45 MPH.
The posted speed limit on Sylvester Highway is 45 MPH.

ACCIDENT HISTORY:

Information on crashes occurring at the study intersection was obtained from the Georgia Department of Transportation accident database. The database revealed 45 accidents, with 22 injuries and no fatalities, at the intersection from February 22, 2004, to October 14, 2009. Of the 45 accidents, 23 were angle, with 19 injuries and no fatalities, 14 rear end, with 2 injuries and no fatalities, 3 sideswipe (same direction) with no injuries or fatalities, and 5 NACWAMV (not a collision with a motor vehicle), with 1 injury and no fatalities.

Accidents grouped by calendar year, including the number of injuries, are reflected below:

- 2004 – 12 accidents, including 7 angle with 2 injuries and no fatalities, 3 NACWAMV with 1 injury and no fatalities, and 2 rear end crashes with no injuries or fatalities
- 2005 – 5 accidents, including 4 angle with 5 injuries and no fatalities, and 1 NACWAMV with no injuries or fatalities

TRAFFIC ENGINEERING REPORT

- 2006 – 8 accidents, including 3 angle with 3 injuries and no fatalities, and 5 rear-end with 1 injury and no fatalities
- 2007 – 7 accidents, including 2 angle, 4 rear end, and 1 sideswipe (same direction) – all with no injuries or fatalities
- 2008 – 7 accidents, including 4 angle with 3 injuries and no fatalities, 1 NACWAMV with no injuries or fatalities, 1 rear end with no injuries or fatalities, and 1 sideswipe (same direction) with no injuries or fatalities
- 2009 – 6 accidents, including 3 angle with 6 injuries and no fatalities, 2 rear end with 1 injury and no fatalities, and 1 sideswipe (same direction) with no injuries or fatalities.

ACCIDENT SUMMARY

From February 22, 2004, to October 14, 2009

SR 33/US 319 BU at Sylvester Highway

Colquitt County

D=DIR. OF TRAVEL		VM=VEH. MANEUVER		TYPE=TYPE ACCIDENT	
1	NORTH	1	TURNING LEFT	1	ANGLE
2	SOUTH	2	TURNING RIGHT	2	HEAD ON
3	EAST	3	U-TURN	3	REAR END
4	WEST	4	STOPPED	4	SIDESWIPE SAME DIR.
		5	STRAIGHT	5	SIDESWIPE OPP DIR.
		6	CHANGING LANES	6	NACWAMV
		7	BACKING		
		10	NEGOTIATING A CURVE		
		12	ENTERING/LEAVING DRIVEWAY		

SU=SURFACE CONDITION

- | | |
|---|-----|
| 1 | DRY |
| 2 | WET |

No	Date	Time	Inj.	Fat.	D1	VM1	D2	VM2	D3	VM3	Type	Sur.
1	02/02/04	06:05 AM	0	0	3	5	1	5			1	2
2	02/03/04	03:22 PM	1	0	1	5	3	5			1	1
3	02/17/04	02:59 PM	0	0	1	5	2	5			1	1
4	04/11/04	02:03 AM	0	0	1	5					6	1
5	04/14/04	04:39 PM	1	0	1	5	4	5			1	1
6	05/01/04	12:25 PM	0	0	2	5	3	5			1	1
7	05/08/04	12:02 PM	0	0	4	2	4	2			3	1
8	06/26/04	06:14 AM	1	0	2	10					6	1
9	07/29/04	05:28 PM	0	0	2	5	4	5			1	1
10	09/23/04	03:37 PM	0	0	2	5	2	4			3	1
11	10/09/04	03:53 PM	0	0	1	5	3	5			1	1
12	10/23/04	01:55 AM	0	0	2	5					6	1
13	03/04/05	01:37 PM	0	0	4	5	2	5			1	1

TRAFFIC ENGINEERING REPORT

14	08/28/05	10:21 AM	3	0	4	5	2	5			1	1
15	09/06/05	02:44 PM	0	0	3	5	1	5			1	1
16	09/18/05	03:11 AM	0	0	2	5					6	1
17	10/31/05	03:46 PM	2	0	4	5	2	5			1	1
18	01/18/06	12:52 PM	1	0	2	5	2	4			3	1
19	01/21/06	03:08 PM	0	0	2	2	2	2			3	1
20	04/13/06	08:03 AM	0	0	2	5	2	5			3	1
21	05/16/06	07:24 AM	0	0	2	5	2	5	2	5	3	1
22	06/06/06	04:36 PM	1	0	4	5	2	5			1	1
23	08/10/06	02:21 PM	0	0	2	5	4	1			1	1
24	08/10/06	02:44 PM	0	0	3	5	3	5			3	1
25	11/05/06	11:46 AM	2	0	1	5	2	5			1	1
26	02/02/07	07:53 AM	0	0	2	2	2	2			3	1
27	02/06/07	09:04 AM	0	0	1	1	1	5			1	1
28	02/22/07	02:45 PM	0	0	2	2	2	2			3	1
39	03/07/07	11:45 AM	0	0	2	5	2	4			3	1
30	04/27/07	09:48 AM	0	0	1	6	1	5			4	1
31	05/23/07	10:50 AM	0	0	4	4	2	5			1	1
32	12/08/07	04:22 PM	0	0	2	2	1	2			3	1
33	03/05/08	03:44 PM	1	0	2	5	2	5			1	1
34	05/14/08	09:28 AM	0	0	3	5	2	5			1	1
35	06/11/08	11:50 AM	0	0	2	2	2	2			3	1
36	07/24/08	08:12 AM	0	0	4	5	2	5			1	1
37	11/05/08	03:14 PM	0	0	1	6	1	5			4	1
38	11/07/08	02:34 PM	2	0	4	5	2	5			1	1
39	11/15/08	08:05 PM	0	0	4	1					6	1
40	03/18/09	12:05 PM	3	0	4	5	2	5			1	1
41	06/13/09	10:32 PM	0	0	2	5	2	5			4	1
42	06/12/09	08:57 AM	0	0	3	5	3	4			3	1
43	07/04/09	05:55 PM	1	0	2	5	2	5			3	1
44	09/20/09	12:40 PM	0	0	1	5	1	5			1	1
45	10/14/09	04:07 PM	3	0	1	1	1	5			1	2

Accident Summary Chart, SR 33/US 319 BU at Sylvester Hwy

Accident rates from February 22, 2004, to October 14, 2009, per MEV (One Million Entering Vehicles) are shown in the following table:

Calendar Year	Total Number of Accidents	Average Daily Traffic (ADT)	Accident Rate per MEV
2004	12	7,920	4.151
2005	5	10,400	1.317
2006	8	10,300	2.128
2007	7	8,900	2.155
2008	7	10,300	1.862
2009	6	8,600	2.289

SIGHT DISTANCE:

On Monday, June 15, 2009, stopping sight distance measurements were obtained, and are shown in the following table.

Approach	Stopping Sight Distance (SSD)
----------	-------------------------------

TRAFFIC ENGINEERING REPORT

1. Approaching the Intersection from the northwest (traveling southeast on Sylvester Highway)	Approximately or Most Nearly 998 Feet
2. Approaching the Intersection from the northeast (traveling southwest on SR 33/US 319 BU/Tifton Highway)	Approximately or Most Nearly 1,389 Feet
3. Approaching the intersection from the southwest (traveling northeast on SR 33 S/US 319 BU/N. Main Street)	Approximately or Most Nearly 627 Feet
4. Approaching the intersection from the south (traveling north on SR 33/US 319 BU/1 st ST NE)	Approximately or Most Nearly 1,058 Feet

As per AASHTO, 2004 Edition, Exhibit 3-1, page 112, the minimum SSD for a design speed of 45 mph is 360 feet. For the posted speed limit of 45 mph, field measured SSD satisfy and exceed minimum AASHTO requirements.

Intersection Sight Distance (ISD) measurements were obtained on Monday, June 15, 2009, from 14.5 to 18 feet (average of 16 feet) from State Route 33/US 319 BU, and are reflected below.

Approach	Intersection Sight Distance (ISD)
1. Traveling southeast, stopped at the intersection on Sylvester Highway, viewing motorists traveling southwest (approaching from the northeast) – Case B3	Approximately or Most Nearly 884 Feet
2. Traveling southeast, stopped or yielding at the yield condition at middle of intersection, viewing motorists traveling northeast (approaching from the southwest) - Cases B1 and B3	Approximately or Most Nearly 660 Feet
3. Traveling north, stopped at the intersection on SR 33 N/US 319 BU N/1 st ST, NE, viewing motorists traveling northeast (approaching from the southwest) – Case B3	Approximately or Most Nearly 563 Feet
4. Traveling northwest, stopped or yielding at the yield condition at middle of intersection, viewing motorists travelling southwest (approaching from the northeast) - Cases B1 and B3	Approximately or Most Nearly 1,116 Feet

According to AASHTO, Case B1 – Left Turn from Stop or Minor Road, for a design speed of 45 mph, the required minimum design ISD is 500 feet; whereas, as per Case B3 – Crossing Maneuver from the Minor Road, for a design speed of 45 mph, the required minimum design ISD is 430 feet. Field measured ISD satisfies and exceeds minimum AASHTO criteria.

TRAFFIC ENGINEERING REPORT

OTHER INFORMATION:

- The stop bar on SR 111 is located 10 feet from the edge of SR 33 SO.
- There are no edge lines on SR 33 SO at the study location.
- A radius improvement was installed on the northwest corner of the intersection on 2-05-2007.
- Traffic signal warrants were calculated using the ADT and the 24 hour counts.
- In 2004 and 2005 there were more than 5 accidents in a calendar year.

Traffic Signal Warrants

A traffic signal warrant analysis was performed for the study intersection of SR 33/US 319 BU at SR 33 S/US 319 BU S/N. Main Street, SR 33 N/US 319 BU N/1st St., NE, and Sylvester Highway using criterion outlined in the 2009 Edition of the Manual on Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration, and eight-hour turning movement traffic counts. According to the MUTCD, the investigation of the need for a traffic signal control shall include an analysis of the applicable factors contained in the following traffic signal warrants and other factors related to existing operations and safety of the overall intersection.

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 6 – Coordinated Signal System
- Warrant 7 – Crash Experience
- Warrant 8 – Roadway Network
- Warrant 9 – Intersection near a grade crossing

According to the MUTCD, a traffic control signal shouldn't be installed unless one or more of the above warrants are met; however, the satisfaction of a traffic signal warrant or warrants should not in itself require the installation of a traffic control signal.

The traffic signal warrant analysis evaluated actual traffic conditions to determine if they satisfy the minimum warrants established by the 2009 Edition of the Manual on Uniform Traffic Control Devices. Refer to the following MUTCD signal warrants summary.

Warrant	Met/Not Met/N/A	Hours Met vs. Required
1A (100%)	Not Met	0/8
1A (80%)	Not Met	2/8
1A (70%)	Not Met	7/8
1A (56%)	Not Met	7/8
1B (100%)	Not Met	0/8
1B (80%)	Not Met	0/8
1B (70%)	Not Met	0/8
1B (56%)	Not Met	0/8
2	Not Met	0/4
2 (70% Factor)	Not Met	0/4
3	Not Met	0/1
3 (70% Factor)	Not Met	0/1
4	Not Met	Not Met
5	N/A	N/A
6	N/A	N/A
7	Met	Crashes satisfied warrant

TRAFFIC ENGINEERING REPORT

		criteria, however volumes didn't
8	Not Met	Not Met
9	Not Met	Not Met

TWO-WAY STOP CONTROL (TWSC) CAPACITY ANALYSIS:

Capacity analysis and Level of Service (LOS) grade for the study intersection were based on procedures provided in the Highway Capacity Manual, 2000 Edition. The study intersection was examined for unsignalized conditions for a Two-Way Stop Condition (TWSC) to determine current operating approach delay and level of service. Refer to the following functional class, delay, and level of service table.

Approach and Functional Class		Average Weekday, AM Peak Hour (11:00 AM to 12:00 Noon)		Average Weekday, PM Peak Hour (5:00 PM to 6:00 PM)	
Approach	Functional Class	Approach LOS	Delay (s/veh)	Approach LOS	Delay (s/veh)
SR 33/US 319 BU/Tifton Hwy	14	A	7.70	A	7.80
SR 33 N/US 319 BU N/1 st ST, NE	14	B	12.9	B	13.0
SR 33 S/US 319 BU S/N. Main St., NE	14	A	7.90	A	7.90
Sylvester Hwy	16	C	15.8	C	18.7

TWSC Functional Class, Approach Delay, and Level of Service (LOS) Table

According to AASHTO, 2004 Edition, Exhibit 2-32, Guidelines for Selection of Design Levels of Service, the appropriate LOS for an urban arterial is grade C, stable flow. All intersection approaches are functioning at their appropriate level of service grade.

ROUNDBOUT CAPACITY ANALYSIS:

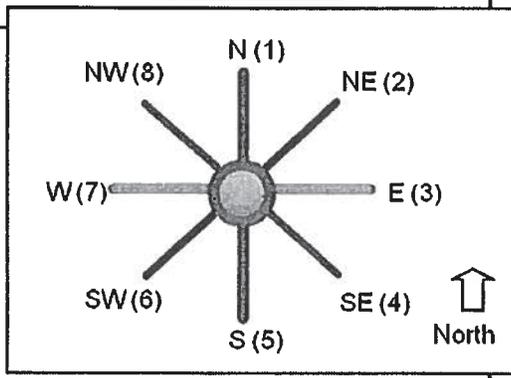
A roundabout is an intersection with a generally circular shape that requires all entering traffic to yield to circulating traffic and will ensure slow entering and circulating speeds. Roundabouts offer traffic calming and have a proven and tried record for reducing motor vehicle crashes, particularly injury related crashes, and will reduce vehicle speeds, vehicle delays, driver decisions, conflict points from 32, for a four-leg intersection, to eight, and conflict severity, since perpendicular left and right turns are eliminated. Other improvements that a roundabout will offer are deflection, which helps to slow entering vehicles - resulting in safer merges with the circulating traffic stream, and flared approaches, which helps to increase capacity by increasing the number of lanes on an approach. Roundabouts are best used at cross intersections where there has been a propensity of cross traffic collisions.

A roundabout traffic capacity analysis at the study intersection was performed using the GDOT Roundabout Analysis Tool and is based upon afternoon peak hour vehicular volumes.

TRAFFIC ENGINEERING REPORT

General & Site Information

Analyst: D4 TRAFFIC OPS
Agency/Company: GDOT
Date: 7/9/2009
Project Name/PI#: SR 33/US 319 at Sylvester Hwy
 TE Study
Intersection: SR 33/US 319 at Sylvester Hwy
 TE Study
Analysis Time Period: 1700 to 1800 Hrs. (PM Peak Hr)
Year: 2009
County/District: Colquitt/D4



Volumes

		Entry Legs (FROM)							
		N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Exit	N (1), vph								
	NE (2), vph								
Legs	E (3), vph								
	(TO) SE (4), vph								
	S (5), vph			31					
	SW (6), vph			208					
	W (7), vph								
	NW (8), vph				16				
	Entry Volume, vph	0	0	239	16	0	0	0	0
		S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
	N (1), vph								
	NE (2), vph		138	188				30	
	E (3), vph								
	SE (4), vph								
	S (5), vph				6			49	
	SW (6), vph	6						58	
	W (7), vph								
	NW (8), vph	62		33					
	Entry Volume, vph	68	138	221	6	0	0	137	0

TRAFFIC ENGINEERING REPORT

Critical Lane Volumes	N	NE	E	SE	S	SW	W	NW
N (1), vph	0	0	0	0	0	0	0	0
NE (2), vph	0	0	0	0	138	188	0	30
E (3), vph	0	0	0	0	0	0	0	0
SE (4), vph	0	0	0	0	0	0	0	0
S (5), vph	0	31	0	0	0	0	0	49
SW (6), vph	0	208	0	0	0	0	0	58
W (7), vph	0	0	0	0	0	0	0	0
NW (8), vph	0	0	0	0	0	33	0	0
Entry Volume, vph	0	239	0	0	138	221	0	137

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	100%	90%	100%	100%	89%	88%	100%	88%
% SU/ Bus	0%	3%	0%	0%	3%	4%	0%	4%
% Trucks	0%	7%	0%	0%	8%	8%	0%	8%
% Bicycles	0%	0%	0%	0%	0%	0%	0%	0%
<i>PHF</i>	<i>0.89</i>							
F_{hv}	1.000	0.922	1.000	1.000	0.913	0.909	1.000	0.909

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	0	0	0	0
Leg # NE (2), pcu/h	0	0	0	0	170	232	0	37
E (3), pcu/h	0	0	0	0	0	0	0	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	0	38	0	0	0	7	0	61
SW (6), pcu/h	0	254	0	0	7	0	0	72
W (7), pcu/h	0	0	0	0	0	0	0	0
NW (8), pcu/h	0	20	0	0	76	41	0	0
Conflicting flow, pcu/h	0	124	0	0	310	135	0	299

TRAFFIC ENGINEERING REPORT

<i>Results</i>								
NCHRP-572 Model	N	NE	E	SE	S	SW	W	NW
Crit. Entry Capacity pcu/h	NA	1036	NA	NA	909	1028	NA	917
Crit. Lane Entry Flow pcu/h	0	291	0	0	170	273	0	169
Leg v/c ratio		0.28			0.19	0.27		0.18
Control Delay s/pcu		4.8			4.9	4.8		4.8
LOS		A			A	A		A
LOS (signalized)		A			A	A		A
95th Percentile Queue veh		1			1	1		1
95th Percentile Queue ft		31			19	30		19

FHWA 2000 Model	N	NE	E	SE	S	SW	W	NW
Crit. Entry Capacity pcu/h	NA	2335	NA	NA	2202	2327	NA	2210
Crit. Lane Entry Flow pcu/h	0	291	0	0	170	273	0	169
Leg v/c ratio		0.12			0.08	0.12		0.08
Control Delay s/pcu		1.8			1.8	1.8		1.8
LOS		A			A	A		A
95th Percentile Queue veh		0			0	0		0
95th Percentile Queue ft		12			7	11		7

Notes:

Default Values:

Equivalency Factors:

Car	1
Single-unit truck or bus	1.5
Truck with trailer	2
Bicycle or motorcycle	0.5
<i>Default Car Length (ft)</i>	25

Should a roundabout be implemented, all movements should operate at a projected LOS grade A, basically free flow, with minimal delay during all peak hours of the day.

TRAFFIC ENGINEERING REPORT

CONCLUSION:

It is concluded based on the information collected and contained in this report that the subject intersection does not meet the warrants for the installation of a traffic signal. The intersection is properly signed and marked according to the M.U.T.C.D. However, the installation of a roundabout would improve the safety of the intersection (LOS A, basically free flow, with minimal delay during all peak hours of the day).

RECOMMENDATION:

Based on an analysis of traffic data, crash experience and potential signalization needs, the following actions are recommended:

- Installation of a roundabout

PREPARED BY: Ricky Little DATE 9-24-10
DISTRICT TRAFFIC OPERATIONS ENGINEER

RECOMMENDED BY: YLM DATE 9/24/10
DISTRICT TRAFFIC ENGINEER

RECOMMENDED BY: _____ DATE _____
STATE TRAFFIC ENGINEER

RECOMMENDED BY: _____ DATE _____
DIRECTOR OF PERMITS AND OPERATIONS

PROJECT CSSFT-0009-00(846) Concept Comparison Matrix

Concept		Traffic Analysis (LOS)		Sight Distance Issues	Navigation	Cost Estimate (\$)	Turning Movement Issues	Route Continuity	Ped. & Bike Access
		Sidra	GDOT						
		AM/PM	AM/PM						
1	Preferred Alternative: Single Lane Roundabout (with outside lanes on SR 33 dropping to right turns)	C/B in North approach, B/B elsewhere	B/A in South and East approaches, A/A elsewhere	None observed		Minimal right of way, but restricts directional access to commercial properties at intersection		Preserved	Would allow crosswalks over all legs as approach traffic would be slowed. No planned or proposed bicycle routes in this area.
2	Alternative1: Realigning 1st Street/ SR 33 South and Sylvester Highway/CR 525 to cross at 70 degree intersection skew, placement of a GDOT M-3 median opening with stop control on the side roads, and right turn lanes (see attached sketch)	Not Analyzed	Not Analyzed	None observed		Excessive right of way and building displacements	No protected left turn movements from SR 33 onto side roads	Preserved	Crosswalks could only be placed across 1st Street and Sylvester Highway since traffic on SR 33 would be free flow.
3	Alternative 2: Linked roundabouts (North to South Link) along SR 33 /319 Business for 1st Street/ SR 33South and Sylvester Highway to tee in seperately (see attached sketch)	Not Analyzed	Not Analyzed	None observed	Challenged way-finding	Excessive right of way and building displacements	Motorists on SR 33 mainline are slowed twice in close succession	Not Preserved	Would allow crosswalks over all legs as approach traffic would be slowed. No planned or proposed bicycle routes in this area.
4	Dual Lane Roundabout	Not Analyzed	Not Analyzed	None observed	Increases complexity for drivers as there are no dual roundabouts in this region	Minimal right of way, but restricts directional access to commercial properties at intersection		Preserved	Would allow crosswalks over all legs as approach traffic would be slowed, but a dual lane roundabout would take longer for pedestrians to cross. No planned or proposed bicycle routes in this area.

Criteria Description/Explanations:

Sight Distance Issues: Stopping sight, decision sight, visibility of the intersection condition, tangent length on approach, combinations of vertical and horizontal curves

Navigation: ease of navigation and adaptability to the driving condition; demand for way-finding guide signs and complexity

Principle Truck Movement Impedance: Does the scheme accommodate or favor the dominant truck movements

Cost Estimate (\$) Costs to include major items of excavation, r.o.w., pavement, curbing, utility relocation and restoration

Turning Movement Issues: How effectively does the scheme accommodate dominant turning movement patterns

Route Continuity: similar to navigation but pertaining to preservation of the principal roadway(s) route continuity

Ped. & Bike Access: number of and length of crossings, speed of traffic at crossings, wayfinding and visibility

SR 33/US 319 BUSINESS



21ST AVENUE

TYSON STREET

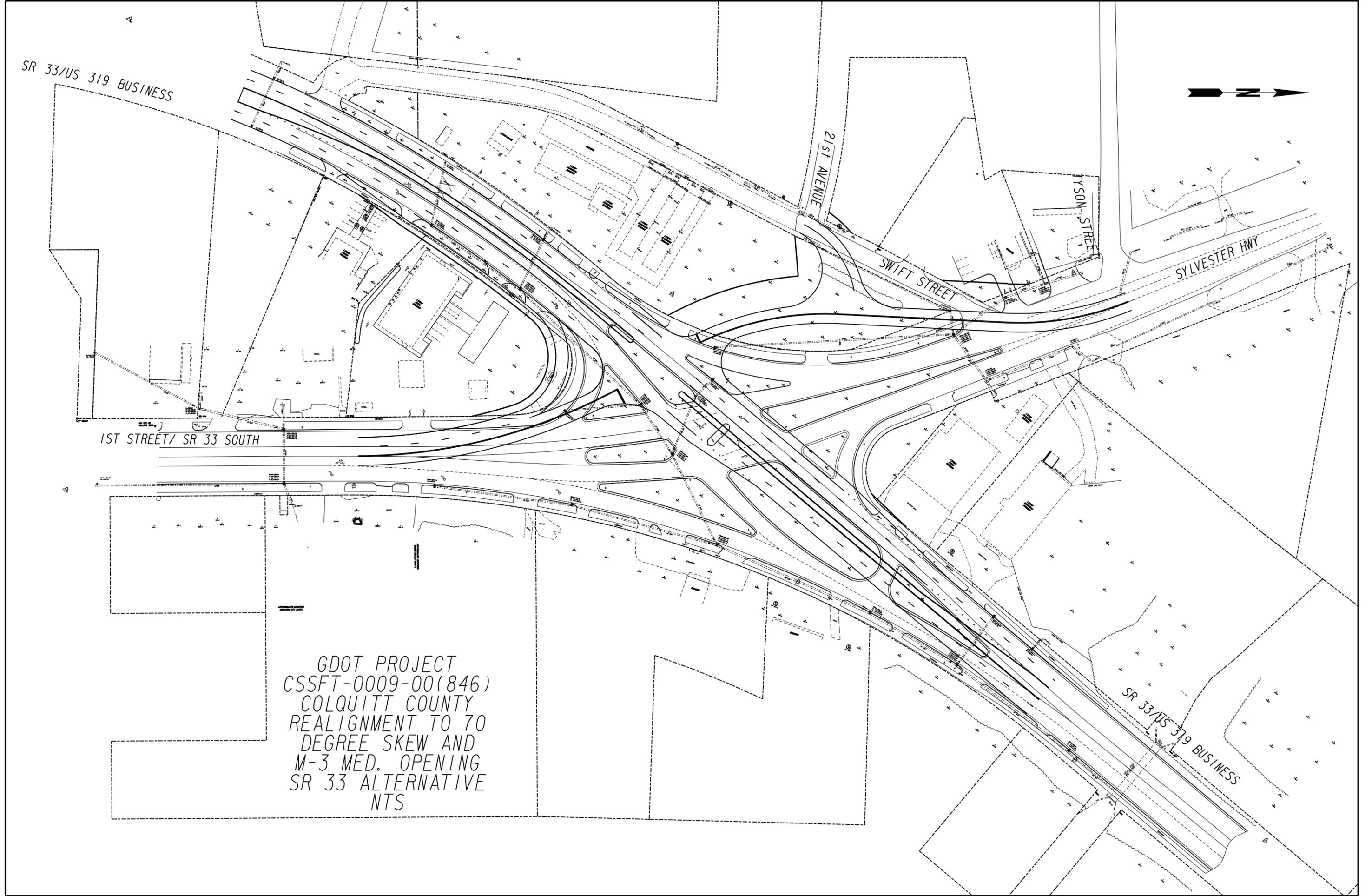
SWIFT STREET

SYLVESTER HWY

1ST STREET/ SR 33 SOUTH

GDOT PROJECT
CSSFT-0009-00(846)
COLQUITT COUNTY
REALIGNMENT TO 70
DEGREE SKEW AND
M-3 MED. OPENING
SR 33 ALTERNATIVE
NTS

SR 33/US 319 BUSINESS



SR 33/US 319 BUSINESS

ST STREET NE / SR 33 SOUTH

21ST AVENUE

SWIFT STREET

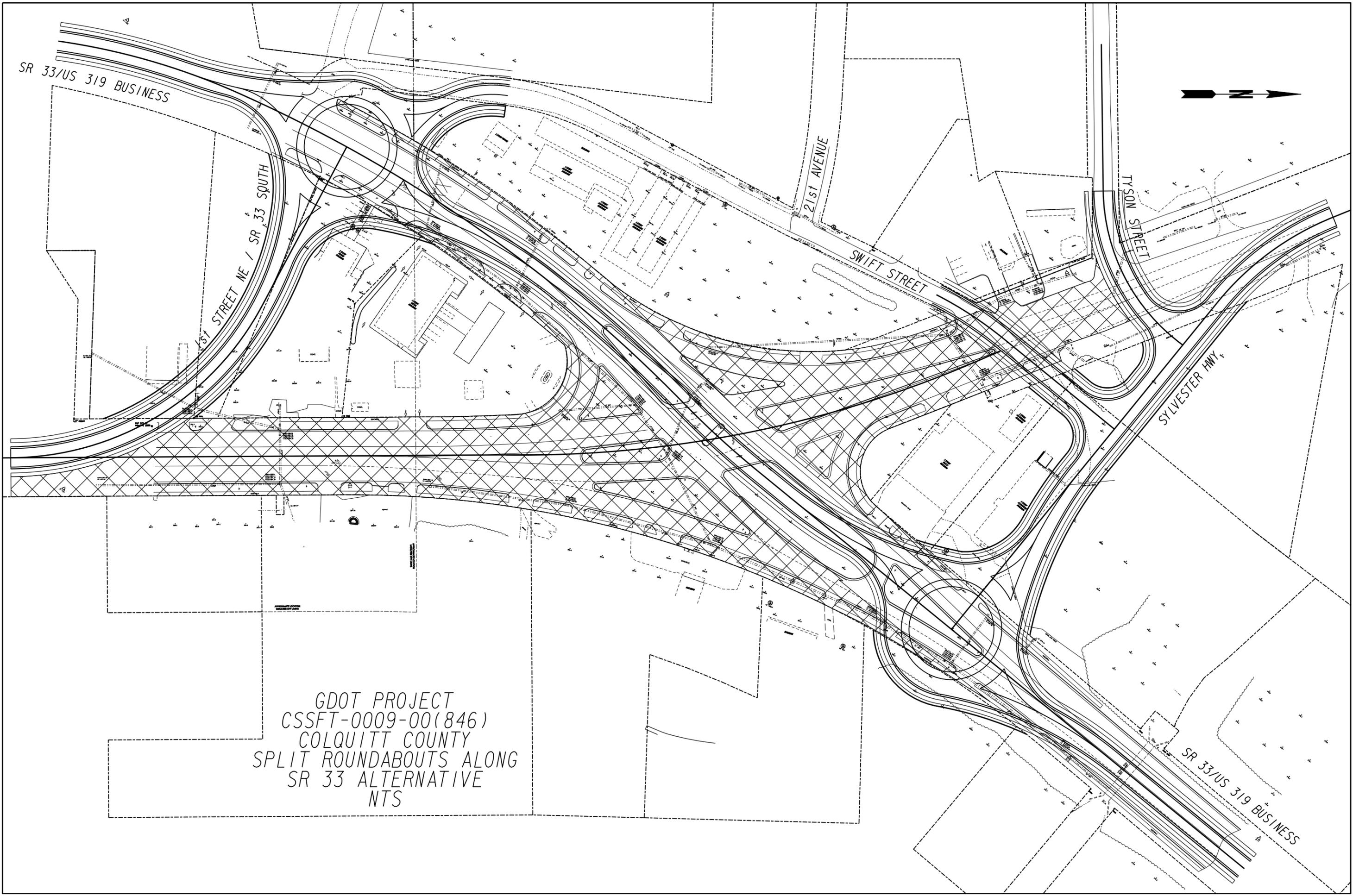
TYSON STREET

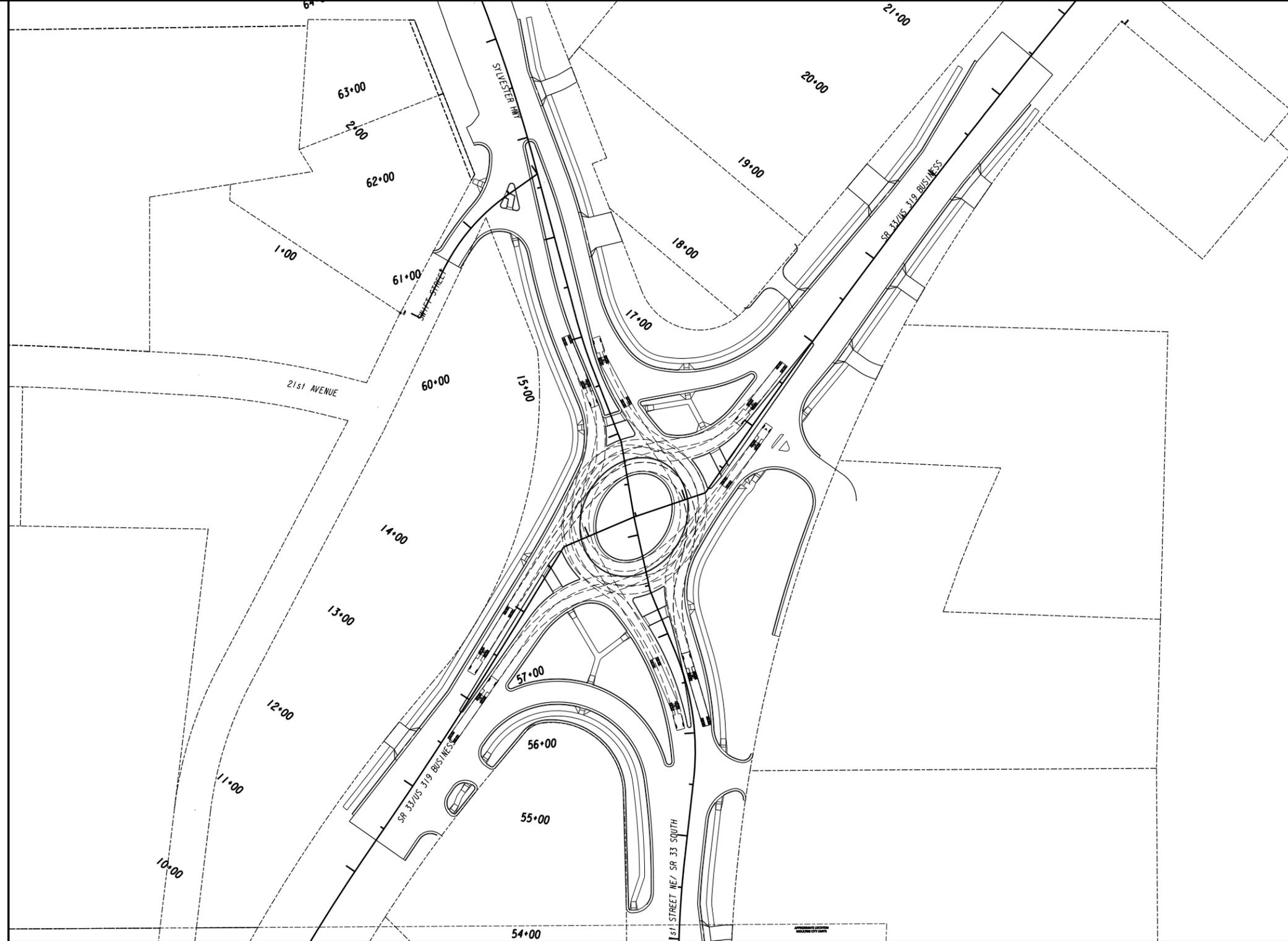
SYLVESTER HWY

SR 33/US 319 BUSINESS

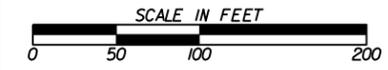


GDOT PROJECT
CSSFT-0009-00(846)
COLQUITT COUNTY
SPLIT ROUNDABOUTS ALONG
SR 33 ALTERNATIVE
NTS





GEORGIA
DEPARTMENT
OF
TRANSPORTATION



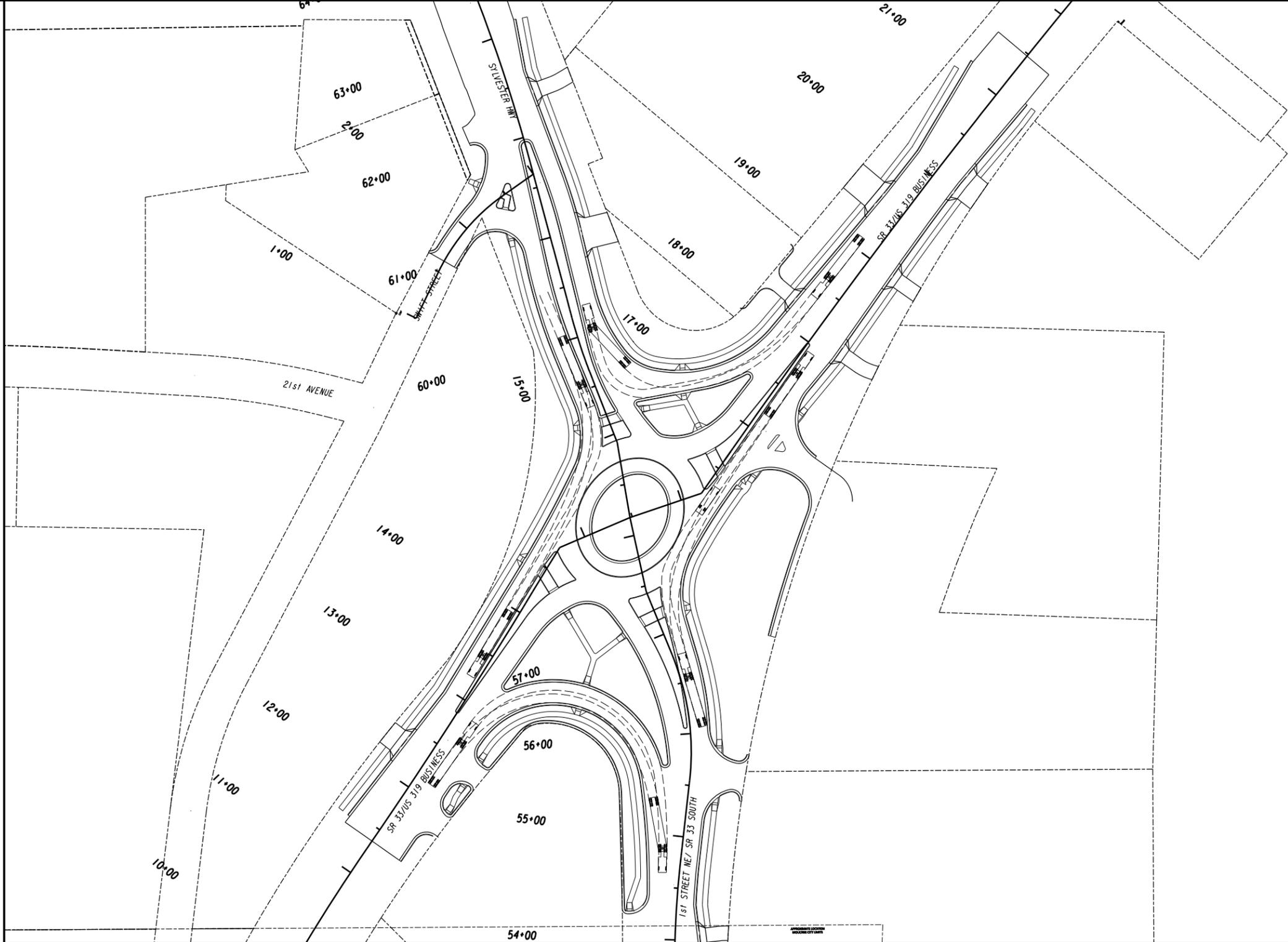
REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY

ROUNDABOUT
WB-67 TRUCK TURNING PATHS-LEFT TURNS

PROJECT: CSSFT-0009-00(846)
COUNTY: COLQUITT

DRAWING No.
13-000



GEORGIA
DEPARTMENT
OF
TRANSPORTATION



GRESHAM
SMITH AND
PARTNERS

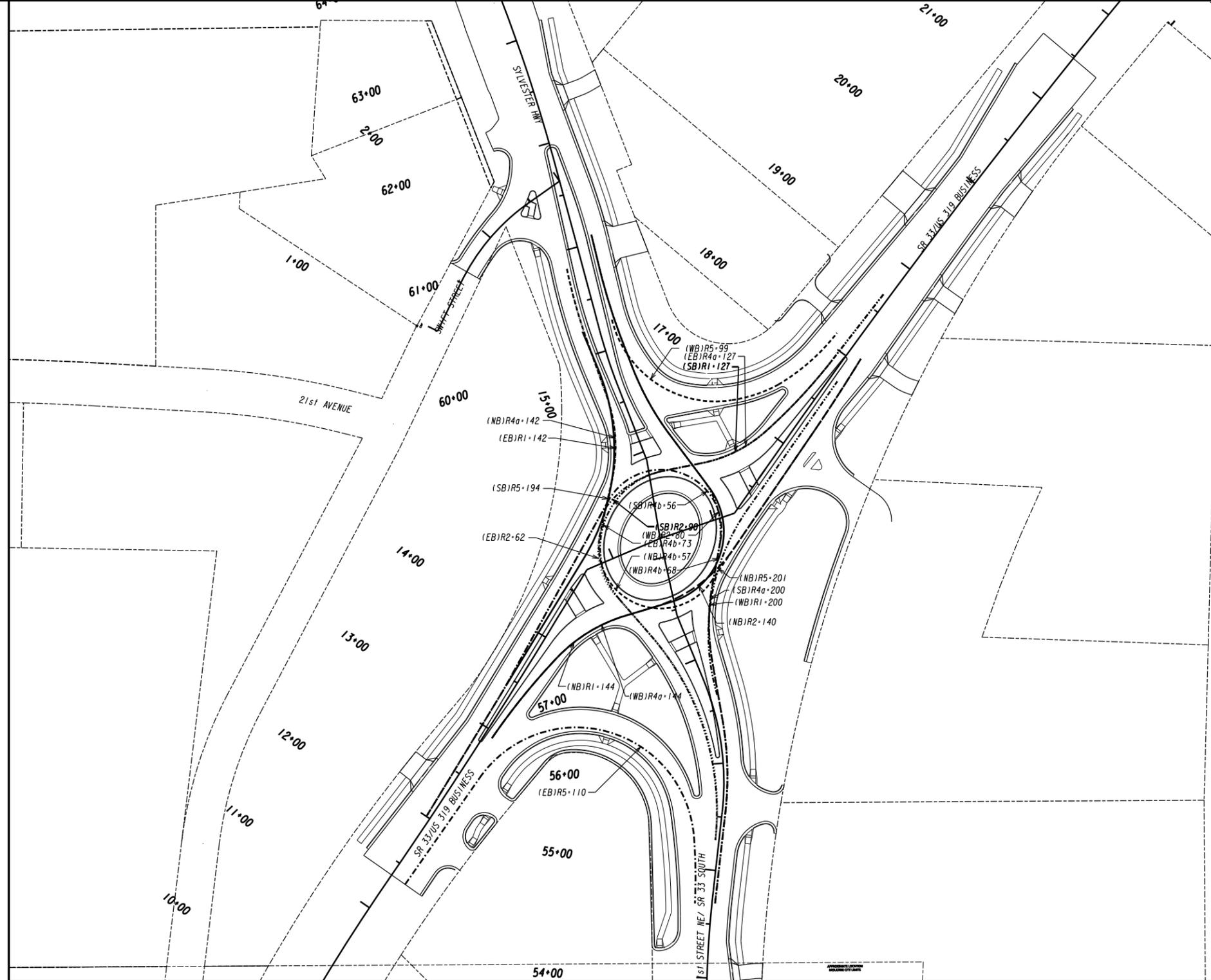


REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY

ROUNDABOUT
WB-67 TRUCK TURNING PATHS-RIGHT TURNS
PROJECT: CSSFT-0009-00(846)
COUNTY: COLQUITT

DRAWING No.
13-000



FASTEST PATH ANALYSES OF VEHICLES APPROACHING AND THROUGH ROUNDABOUT (BASED ON NCHRP REPORT 672)

ROADWAY	DIRECTION	MOVEMENT	FASTEST PATH RADIUS (FT)	PREDICTED SPEED (MPH)
SR 33/US 319 BUSINESS	NB	THROUGH R1	144	21
SR 33/US 319 BUSINESS	NB	THROUGH R2	140	21
SR 33/US 319 BUSINESS	NB	LEFT R4a	142	21
SR 33/US 319 BUSINESS	NB	LEFT R4b	57	15
SR 33/US 319 BUSINESS	NB	RIGHT R5	201	24
SR 33/US 319 BUSINESS	SB	THROUGH R1	127	21
SR 33/US 319 BUSINESS	SB	THROUGH R2	90	18
SR 33/US 319 BUSINESS	SB	LEFT R4a	200	24
SR 33/US 319 BUSINESS	SB	LEFT R4b	56	15
SR 33/US 319 BUSINESS	SB	RIGHT R5	194	24
SYLVESTER HWY / 1ST ST. NE	EB	THROUGH R1	142	21
SYLVESTER HWY / 1ST ST. NE	EB	THROUGH R2	62	16
SYLVESTER HWY / 1ST ST. NE	EB	LEFT R4a	127	21
SYLVESTER HWY / 1ST ST. NE	EB	LEFT R4b	73	17
SYLVESTER HWY / 1ST ST. NE	EB	RIGHT R5	110	19
SYLVESTER HWY / 1ST ST. NE	WB	THROUGH R1	200	24
SYLVESTER HWY / 1ST ST. NE	WB	THROUGH R2	80	17
SYLVESTER HWY / 1ST ST. NE	WB	LEFT R4a	144	21
SYLVESTER HWY / 1ST ST. NE	WB	LEFT R4b	68	16
SYLVESTER HWY / 1ST ST. NE	WB	RIGHT R5	99	19

GEORGIA DEPARTMENT OF TRANSPORTATION	 GRESHAM SMITH AND PARTNERS	REVISION DATES <table border="1" style="width:100%; height: 40px;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>					STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: PROGRAM DELIVERY ROUNDABOUT FASTEST PATH ANALYSES PLAN
3/1/2007 GPLN	 SCALE IN FEET		DRAWING No. 13-001				

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INDICATION OF ROUNDABOUT SUPPORT

To the Georgia Department of Transportation:

Attn: State Traffic Engineer
935 E. Confederate Ave, Building 24
Atlanta, GA 30316

Location

The City of Moultrie in Colquitt County supports the consideration of a roundabout at the location specified below.

Local Street Names: North Main ST at Sylvester Rd

State/County Route Numbers: SR33 / US 319 Business at SR33 South

Associated Conditions

The undersigned agrees to participate in the following maintenance of the intersection in the event that the roundabout is selected as the preferred concept alternative:

- The full and entire cost of the electric energy used for any lighting installed and the maintenance thereof (if needed)
- Any maintenance costs associated with the landscaping as approved by the local government and the Georgia Department of Transportation (after construction is complete)

We agree to participate in a formal Local Government Lighting Project Agreement during the preliminary design phase. This indication of support is submitted and all of the conditions are hereby agreed to. The undersigned are duly authorized to execute this agreement.

This is the 1st day of March, 2011

Attest:

Isabella S. Ellison
Assistant City Clerk

By: [Signature]

Title: City Manager

Lopez Rogu Ruiz
3-1-11



Moultrie
GEORGIA
A Full Service City

March 1, 2011

Georgia Department of Transportation
State Traffic Engineer
935 E. Confederate Avenue, Building 24
Atlanta, Georgia 30316

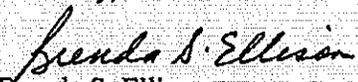
Re: City of Moultrie
Indication of Roundabout Support Form

To Whom It May Concern:

Please find enclosed the signed form for the North Main Street / Sylvester Road / SR33
and US 319 Business / SR33 South location.

Should you need any additional information, please let us know.

Sincerely,


Brenda S. Ellison
Executive Assistant to City Manager
Assistant City Clerk

bse

enclosure



TECHNICAL MEMORANDUM

PREPARED FOR: Charles Robinson, Georgia Department of Transportation

CC Jody Braswell, Gresham, Smith and Partners

PREPARED BY: Mark Lenters, P.E., Ourston Roundabout Engineering, Inc.
Troy Pankratz, Ourston Roundabout Engineering, Inc.

**OUR PROJECT
NUMBER:**

ORE 11977

DATE: June 13, 2012

SUBJECT: **PI# 0009846**
Concept and Operational Review
Intersection of SR 33/US 319 @ SR 33 SO
Colquitt County, Georgia

INTRODUCTION

The purpose of this task order is to perform peer review for a roundabout design proposed for the intersection of SR 33 and US 319. Ourston Roundabout Engineering, Inc. (ORE) has completed a peer review report of the roundabout feasibility study(s) (or Concept Report). This report includes:

1. Review of the 'Draft Concept Report' dated April 26, 2012, including an operational analysis of the projected traffic flows;
2. The first iteration review of the proposed geometry for composition of circle location, alignment of approaches, and validation of the functionality of the roundabouts; and,
3. Redline with comments on the proposed design and basic design guidance for improvements.
4. A proposed conceptual design that addresses the deficiencies outlined herein.

In the next review iteration, a list of key items that should be addressed during the preparation of detailed construction plans will be provided.

REVIEW OF THE DRAFT CONCEPT REPORT

We have reviewed the Draft Concept Report dated April 26, 2012 and agree that there is justification to install a roundabout to improve the safety of this intersection.

The objectives of using a modern roundabout at this intersection are to:

- Improve the safety of SR 33/US 319 Business/Sylvester Hwy/1st Street in Colquitt County.
 - The accident data indicates the intersection experiences accidents at a rate that is above statewide average rates for the most recent six year period.
- The existing wide medians impede the safe flow of traffic through the intersection.
- Turn lanes and deceleration lanes do not exist or are substandard for most of the approaches.
- The existing skew between the roadways exceeds accepted minimum values.

- Pedestrian crosswalks are not present and pedestrian accessibility is inhibited by the high speed vehicle environment.
- The design vehicle is not accommodated with the existing configuration.

The Concept Report (CR) demonstrates adequately that a modern roundabout is a cost beneficial collision reduction countermeasure for the existing conditions. However, we recommend that the CR document the rejection of other types of intersection improvements, e.g. changing the skew, two split tee intersections etc. This should be documented in the Alternatives Discussion section of the CR and further elaborated upon in an Appendix. We recommend using a matrix style evaluation table to provide a comparison of alternatives against the criteria of cost, capacity, safety and environmental measures. We supplied a sample of one such comparison table in a recent email.

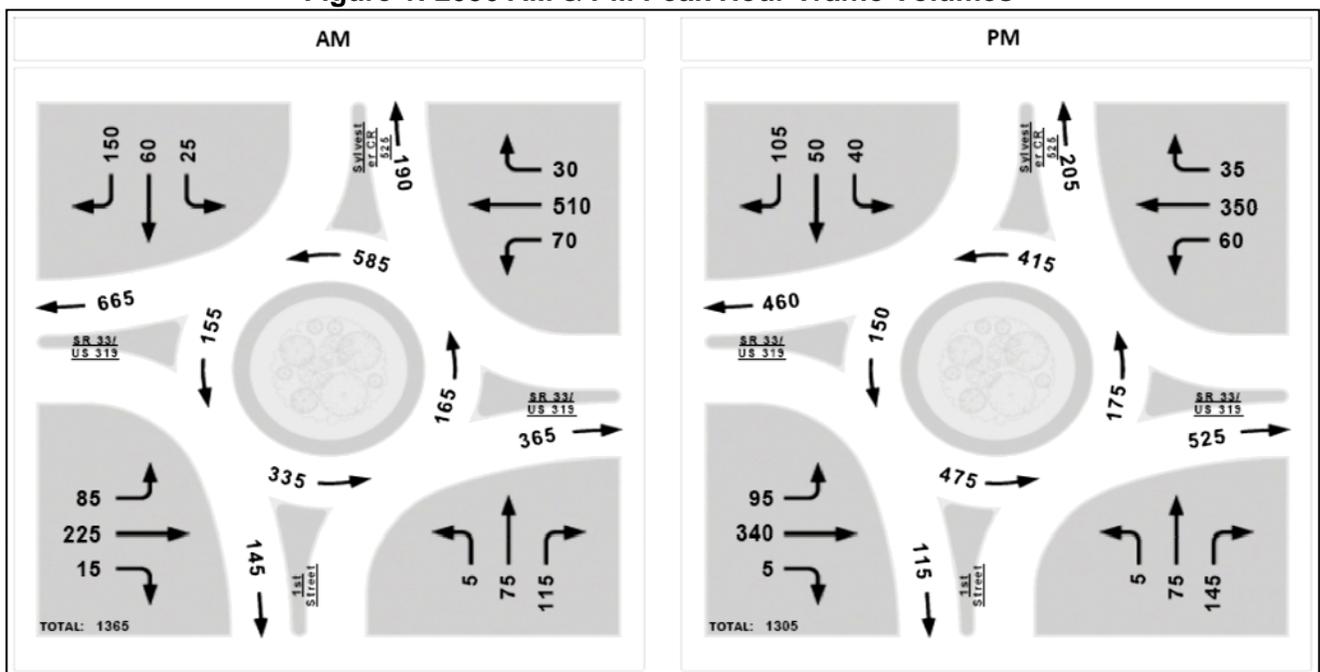
OPERATIONAL ANALYSIS METHODOLOGY

Based on the 2036 AM and PM peak hourly traffic forecasts, the capacity of the roundabout intersection was analyzed using the 2010 HCM equations and the Calibrated HCM Model provided by GDOT. The HCM 2010 formula yields a conservative Entry Capacity and is best applied to the present year when driver familiarity is low; while the Calibrated HCM Model yields a higher Entry Capacity and is best applied in the future year when driver familiarity has increased.

The results for the analysis represents the most probable capacity of the roundabouts and employ capacity measures of level of service, delay and queuing consistent with typical unsignalized level of service (LOS) ranges (Highway Capacity Manual, 2010).

The 2036 AM and PM peak hourly traffic forecasts, provided by Gresham Smith and Partners, are illustrated in Figure 1.

Figure 1: 2036 AM & PM Peak Hour Traffic Volumes



OPERATIONAL ANALYSIS RESULTS

Roundabout Level of Service (LOS/Delay)

The operational analysis was performed with the 2036 traffic forecasts for a single lane roundabout with bypass lanes on the northbound and southbound SR 33/US 319 legs as shown in Figure 1. The overall intersection levels of service and anticipated delay detailed by approach are listed in Table 1.

Table 1: Summary of 2036 Operational Analysis (GDOT HCM tool)

Peak Period	Software	Calibration	Intersection		Average Delay By Approach							
					Sylvester Hwy (NW)		SR 33/US 319 (SW)		1st St. (S)		SR 33/US 319 (NE)	
			Level of Service	Average Delay	Level of Service	Average Delay	Level of Service	Average Delay	Level of Service	Average Delay	Level of Service	Average Delay
AM	HCS 2010	Base ¹	B	14	C	16	A	8	A	9	C	17
	HCS 2010	Calibrated ²	B	10	B	11	A	7	A	7	B	12
PM	HCS 2010	Base ¹	B	11	B	10	B	11	B	13	B	11
	HCS 2010	Calibrated ²	A	8	A	8	A	8	A	9	A	8

LOS Source: 2010 Highway Capacity Manual - Unsignalized Intersections

Delay in Seconds

1. Analysis based on HCM 2010 Delay Model.

2. Analysis based on HCM 2010 Delay Model adjusted to GDOT gap parameters (calibrated)

The operational analysis data for the HCM analysis is documented in Appendix A.

Discussion

The single lane configuration with bypass lanes on SR 33/US319 is expected to operate at or above the desirable LOS of C for GDOT rural collector roadways (see GDOT Design Manual, Table 6.5) for each peak period. Acceptable operations are predicted with both the base and calibrated methods of analysis for the 2036 design year. The bypass lanes on the SR 33/US 319 legs are not required for roadway capacity purposes, but rather to accommodate the design vehicle with the skewed roadway geometry. The free-flow bypass lane on 1st Street is not required since a single lane entry provides acceptable operations.

While a single lane roundabout functions well in terms of operations a secondary consideration is continuity with the approaching roadways. The SR 33/US 319 roadway is currently configured as two lane approach roadways in each direction with both lanes passing through the intersection. Maintaining the lane configuration and providing a two lane roundabout for the SR33/US319 directions was considered. Table 2 provides a listing of the benefits of single lane and two lane configurations.

Table 2: Benefit Comparison – Single Lane and Two Lane Roundabout

Single Lane	Two Lane
<ul style="list-style-type: none"> • Simpler for drivers • Improved expected safety performance • Shorter crosswalks for pedestrians • Smaller footprint 	<ul style="list-style-type: none"> • Lane continuity with the approach roadways • No merging required on approaches

The issue is balancing safety with operational performance; a two-lane roundabout will provide more than adequate operational performance but typically will have decreased safety performance. A single lane roundabout allows for greater ability to control vehicle speed, less complexity for drivers, and shorter crossing distances for pedestrians.

We suggest proceeding with the single lane configuration based on the expected improvement in safety performance. Should there be a desire to provide excess capacity or future capacity, a two lane conversion plan could be developed to convert the roundabout entries from one lane to two in the future.

REVIEW OF THE PROPOSED GEOMETRY

ORE has reviewed the horizontal roundabout design provided by Gresham, Smith and Partners, see Figure 2, and have provided initial comments for your consideration.

Inscribed Circle Size

The selected inscribed circle diameter (ICD) of 173 feet is on the high side of the typical range for a single lane semi-urban roundabout. The skewed geometry of this intersection does require a distinctive ICD to provide good entry geometry for each approach. An elliptical shaped ICD would provide the ability to improve the balance of the geometry of each of the skewed entries. We sketched a version of the ellipse layout as shown on Figure 3.

Inscribed Circle Location

The current location of the circle creates an unbalance between several geometric parameters, e.g. entry speeds are fast from one direction and slow from the opposite side. Shifting the circle easterly will improve the geometric speed control on 1st Street and Sylvester Highway providing an improvement in the balance between entry speeds of all of the approaching roadways.

Entry Path Deflection

The principles of safe operation require passive geometric speed control through careful entry design. Ideally, entry path curvature for single lane roundabout design should allow a maximum speed of 25 mph, although lower speeds can easily be achieved. A detailed review of the entry paths has been conducted; the resulting entry speeds are listed below.

- | | | |
|-----------------------------|---------|--------|
| • SWB SR 33/US 319 | R1=174' | 26 mph |
| • SEB Sylvester Highway | R1=156' | 25 mph |
| • NEB SR 33/US 319 | R1=230' | 29 mph |
| • NB 1 st Street | R1=135' | 23 mph |

Reducing the entry speeds of the entries will benefit the operation of the roundabout by reducing the occurrence and severity of entry/circulating collisions. Creating uniform vehicular speeds will also improve the predictability of speeds by pedestrians at crosswalks. The entry speeds can be improved by applying more deflection on the alignments and/or shifting the circle location.

Bypass Lanes

The free-flow bypass lane on the northbound 1st Street leg is not required for capacity purposes as noted above. This bypass lane will allow vehicles to travel at a high rate of speed reducing the safety of pedestrians crossing the intersection. Eliminating this bypass lane will require all vehicles to reduce their speed to uniform values and will improve the safety of pedestrian crossings.

The partial right-turn bypass lane on the southwest bound SR 33/US 319 leg provides a very poor angle of entry for drivers merging with traffic. This low angle will require drivers to look far over their

left shoulder to identify a safe gap for entry. We suggest increasing the entry angle of this bypass lane by adjusting the geometry.

Property Access

The arrangement of the approach alignments and bypass lanes presents difficulty for access to some of the surrounding properties. The existing and proposed geometry requires drivers accessing the properties along the bypass lane between 1st Street and SR33/US 319 to navigate a complicated set of maneuvers to get to three legs of the intersection. Drivers must enter the stream of traffic on the bypass lane, change to the left lane very quickly after the merge with SR 33/US 319 traffic and then make a U-turn before proceeding back to the intersection. We suggest removing the free-flow bypass lane and considering a frontage road arrangement with a connection to both 1st Street and SR 33/US 319 providing full access to these properties in a low speed environment.

There are several possible configurations for a frontage access road. The choice of how to configure the access depends upon:

- The types of land use served, i.e. future land uses and traffic generated;
- The desire lines for the existing and future land uses;
- Maintenance of the access road;
- The design vehicle for those access points; and,
- Sight distances for the points of access to and from the roundabout entries and exits.

These factors make it difficult to provide certainty that the layouts generated will be acceptable to the land owners and the local planning authorities. We recommend consulting with the local agency and land owners before the frontage road concept is further developed.

Swift Street Intersection

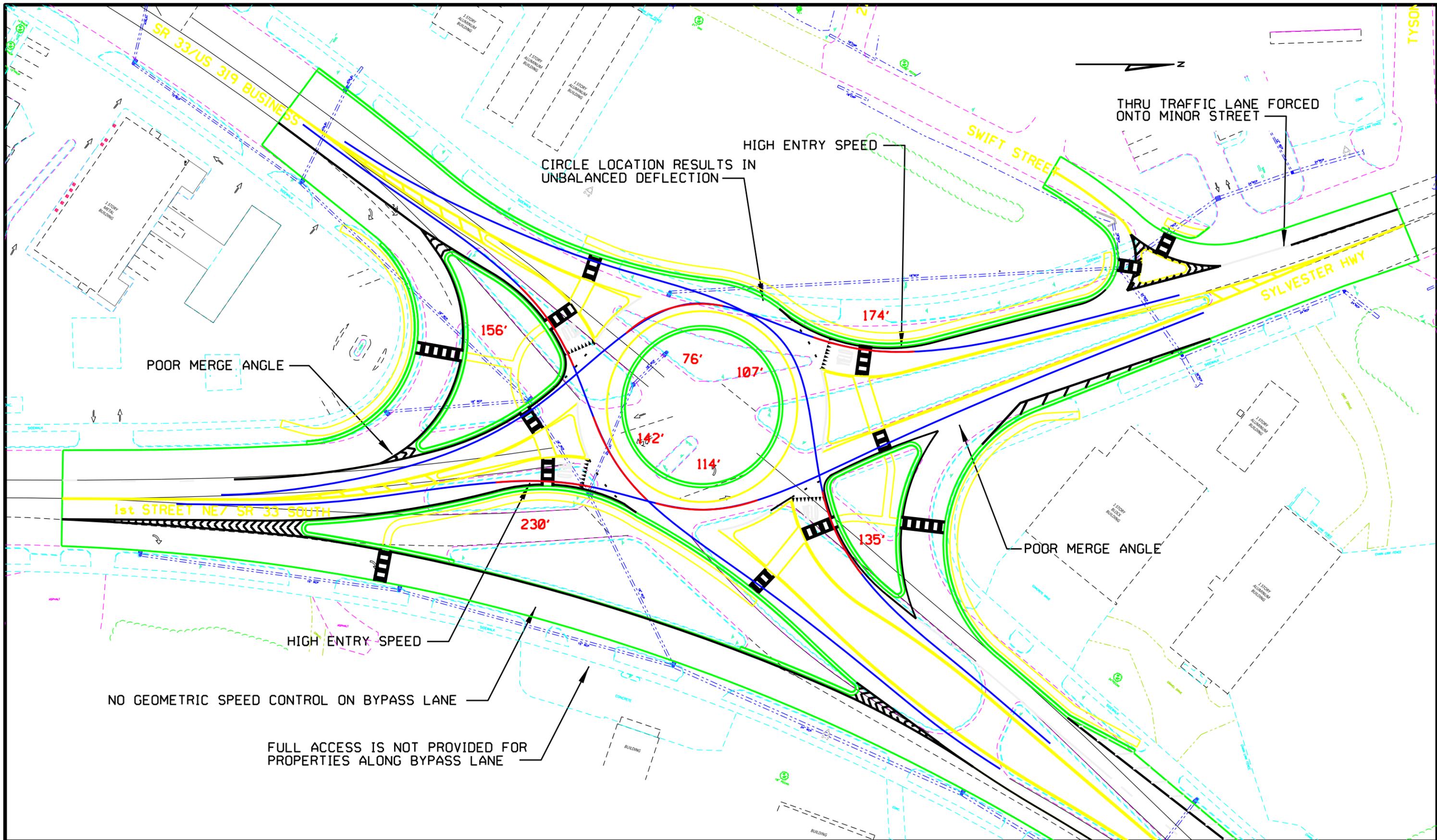
The proposed arrangement requires all traffic in the right lane of southbound Sylvester Highway to turn onto Swift Street. We recommend configuring the two lane approach as a lane drop in advance of the Swift Street intersection so that only one lane passes this intersection.

Construction Staging and Traffic Control

The existing intersection has ample space to shift traffic during construction. The existing by-pass roads can be used for temporary two-way traffic leaving a large area in between to construct the circle. Therefore, we do not see any construction staging constraints that would influence the choice of circle location.

GEOMETRY RECOMMENDATIONS

Significant overall improvements can be expected with the revision of the current proposed design. We have determined these changes necessary through an exploration of circle location and alignment of legs. We have prepared a conceptual design that addresses the issues noted above, as shown in Figure 3.



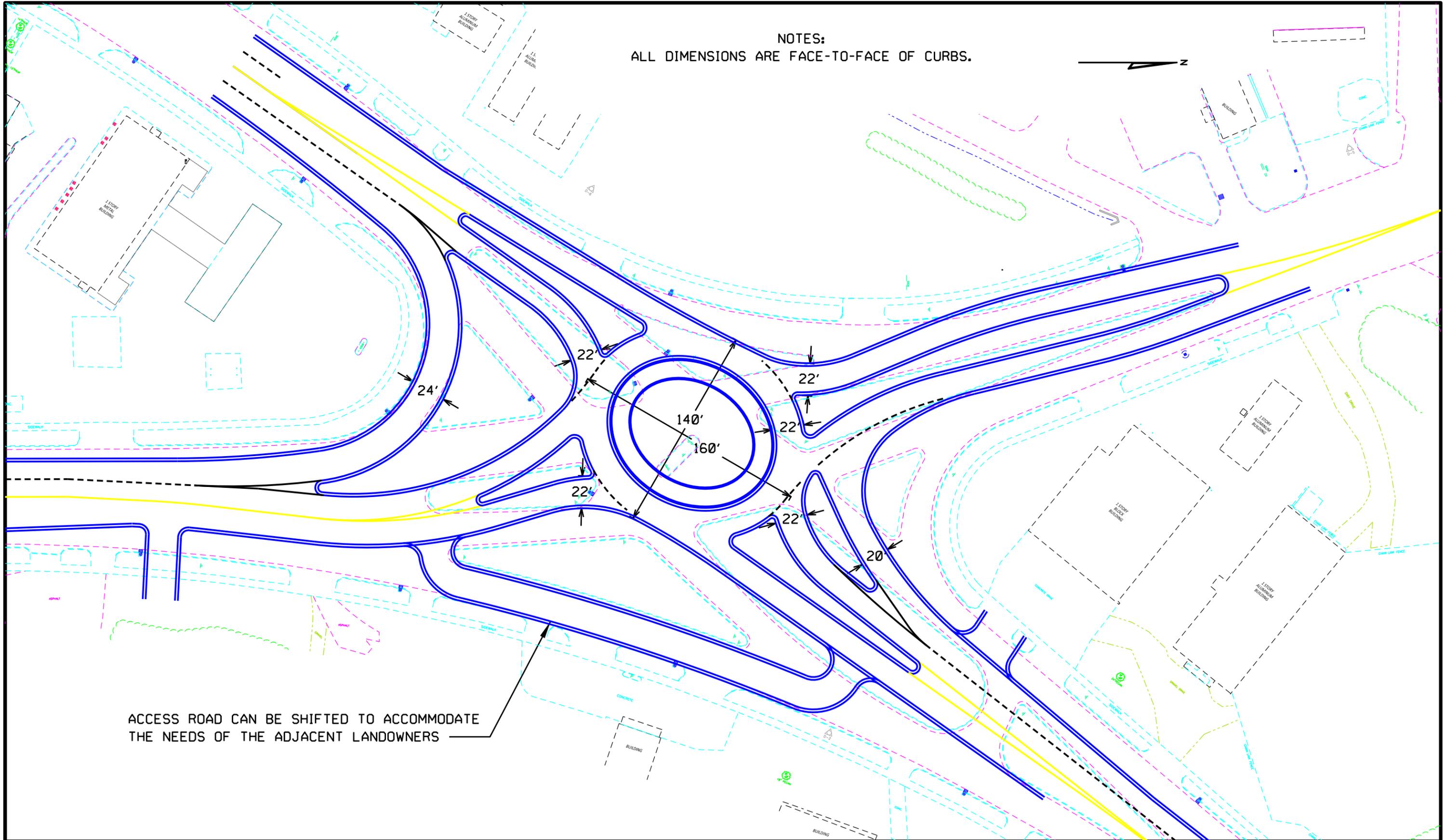
PI 09846 SR 33 & US 319
 COLQUITT COUNTY, GEORGIA
 DESIGN REVIEW COMMENTS



**Ourston
 Roundabout
 Engineering**
 www.OURSTON.com

DATE 5/25/2012	PROJECT No. 11-977
SCALE 1" = 60	FIGURE No. 2

NOTES:
ALL DIMENSIONS ARE FACE-TO-FACE OF CURBS.



ACCESS ROAD CAN BE SHIFTED TO ACCOMMODATE THE NEEDS OF THE ADJACENT LANDOWNERS

PI 09846 SR 33 & US 319
COLQUITT COUNTY, GEORGIA
SUGGESTED CONCEPTUAL DESIGN

**Ourston
Roundabout
Engineering**
www.OURSTON.com

DATE 6/7/2012	PROJECT No. 11-977
SCALE 1" = 60'	FIGURE No. 3

APPENDIX A
SR 33/US 319 AT SR 33 SO
COLQUITT COUNTY, GEORGIA
OPERATIONAL ANALYSIS DOCUMENTATION

A.1 HCS 2036 AM Operational Analysis.....A.1.1 – A.1.2
A.2 HCS 2036 PM Operational Analysis.....A.2.1 – A.2.2

2010 HCM Equations Analysis

2036 AM Peak Period

Roundabout Analysis Tool
Single Lane

6/5/2012
Version 2.1

General & Site Information		v2.1							
Analyst:									
Agency/Co:	Ourston								
Date:	5/15/2012								
Project or PI#:	SR 33/US 319 at SR 33 South								
Year, Peak Hour:	2036 AM								
County/District:	Colquitt County								
Intersection Name:									
Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph								
	NE (2), vph					115	225		25
	E (3), vph								
	SE (4), vph								
	S (5), vph		70						60
	SW (6), vph		510			5			150
	W (7), vph								
	NW (8), vph					75	85		
Output	Total Vehicles	0	580	0	0	195	310	0	235
Volume Characteristics		N	NE	E	SE	S	SW	W	NW
	% Cars	100%	94%	100%	100%	89%	94%	100%	89%
	% Heavy Vehicles	0%	6%	0%	0%	11%	6%	0%	11%
	% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
	# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
	PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	F _{HV}	1.000	0.943	1.000	1.000	0.901	0.943	1.000	0.901
	F _{Ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Entry/Conflicting Flows		N	NE	E	SE	S	SW	W	NW
	Flow to Leg # N (1), pcu/h	0	0	0	0	0	0	0	0
	NE (2), pcu/h	0	0	0	0	139	259	0	30
	E (3), pcu/h	0	0	0	0	0	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	0	81	0	0	0	0	0	72
	SW (6), pcu/h	0	588	0	0	6	0	0	181
	W (7), pcu/h	0	0	0	0	0	0	0	0
	NW (8), pcu/h	0	0	0	0	90	98	0	0
	Entry flow, pcu/h	0	668	0	0	235	357	0	284
	Conflicting flow, pcu/h	0	194	0	0	387	183	0	674
Roundabout Type		Standard Single Lane or Urban Compact							
Enter type here...		Standard Single Lane							

Georgia Department of Transportation
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Results: Approach Measures of Effectiveness								
HCM 2010 Model (build)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	NA	878	NA	NA	691	888	NA	519
Entry Flow Rates, vph	NA	630	NA	NA	212	337	NA	255
V/C ratio		0.72			0.31	0.38		0.49
Control Delay, s/veh		17			9	8		16
LOS		C			A	A		C
95th % Queue (ft)		168			36	47		75
Calibrated Model (future)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	NA	1076	NA	NA	881	1086	NA	700
Entry Flow Rates, vph	NA	630	NA	NA	212	337	NA	255
V/C ratio		0.62			0.27	0.33		0.40
Control Delay, sec/pcu		12			7	7		11
LOS		B			A	A		B
95th % Queue (ft)		120			30	38		55

Notes:

v2.1

Unit Legend:

vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)	SW (6)	NE (2)				
Select Exit Leg for Bypass (TO)	S (5)	NW (8)				
Does the bypass have a dedicated receiving lane?	Yes	No				
Volumes						
Right Turn Volume removed from Entry Leg	15	30				
Volume Characteristics (for entry leg)						
PHF	0.92	0.92				
F _{HV}	0.94	0.94				
F _{ped}	1.00	1.00				
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr	17	35				
Conflicting Flow, pcu/hr	0	188				
Bypass Lane Results (HCM 2010 Model)						
Entry Capacity of Bypass, vph	1066	883				
Flow Rates of Exiting Traffic, vph	16	33				
V/C ratio	0.02	0.04				
Control Delay, s/veh	0.0	4.4				
LOS	A	A				
95th % Queue (ft)	1	3				
Approach w/Bypass Delay, s/veh	8.0	16.8				
Approach w/Bypass LOS	A	C				

Georgia Department of Transportation
Office of Traffic Operations

2010 HCM Equations Analysis

2036 PM Peak Period

Roundabout Analysis Tool
Single Lane

6/5/2012
Version 2.1

General & Site Information		v2.1							
Analyst:									
Agency/Co:		Ourston							
Date:		5/15/2012							
Project or PI#:		SR 33/US 319 at SR 33 South							
Year, Peak Hour:		2036 PM							
County/District:		Colquitt County							
Intersection Name:									

Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph								
	NE (2), vph					145	340		40
	E (3), vph								
	SE (4), vph								
	S (5), vph		60						50
	SW (6), vph		350			5			105
	W (7), vph								
	NW (8), vph					75	95		
Output	Total Vehicles	0	410	0	0	225	435	0	195

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	100%	94%	100%	100%	89%	94%	100%	89%
% Heavy Vehicles	0%	6%	0%	0%	11%	6%	0%	11%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
F _{HV}	1.000	0.943	1.000	1.000	0.901	0.943	1.000	0.901
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	0	0	0	0
NE (2), pcu/h	0	0	0	0	175	392	0	48
E (3), pcu/h	0	0	0	0	0	0	0	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	0	69	0	0	0	0	0	60
SW (6), pcu/h	0	403	0	0	6	0	0	127
W (7), pcu/h	0	0	0	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	90	109	0	0
Entry flow, pcu/h	0	472	0	0	271	501	0	235
Conflicting flow, pcu/h	0	206	0	0	549	178	0	478

Roundabout Type	Standard Single Lane or Urban Compact
Enter type here...	Standard Single Lane

Georgia Department of Transportation
Office of Traffic Operations



Results: Approach Measures of Effectiveness								
HCM 2010 Model (build)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	NA	868	NA	NA	588	892	NA	631
Entry Flow Rates, vph	NA	446	NA	NA	245	473	NA	212
V/C ratio		0.51			0.42	0.53		0.34
Control Delay, s/veh		11			13	11		10
LOS		B			B	B		B
95th % Queue (ft)		79			57	84		41
Calibrated Model (future)	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	NA	1066	NA	NA	774	1091	NA	819
Entry Flow Rates, vph	NA	446	NA	NA	245	473	NA	212
V/C ratio		0.44			0.35	0.46		0.29
Control Delay, sec/pcu		8			9	8		8
LOS		A			A	A		A
95th % Queue (ft)		61			44	65		33

Notes:

v2.1

Unit Legend:

vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)	SW (6)	NE (2)				
Select Exit Leg for Bypass (TO)	S (5)	NW (8)				
Does the bypass have a dedicated receiving lane?	Yes	No				
<i>Volumes</i>						
Right Turn Volume removed from Entry Leg	5	35				
<i>Volume Characteristics (for entry leg)</i>						
PHF	0.92	0.92				
F _{HV}	0.94	0.94				
F _{ped}	1.00	1.00				
<i>NOTE: Volume Characteristics for Exit Leg are already taken into account</i>						
<i>Entry/Conflicting Flows</i>						
Entry Flow, pcu/hr	6	40				
Conflicting Flow, pcu/hr	0	200				
Bypass Lane Results (HCM 2010 Model)						
Entry Capacity of Bypass, vph	1066	873				
Flow Rates of Exiting Traffic, vph	5	38				
V/C ratio	0.01	0.05				
Control Delay, s/veh	0.0	4.6				
LOS	A	A				
95th % Queue (ft)	0	4				
Approach w/Bypass Delay, s/veh	11.0	10.5				
Approach w/Bypass LOS	B	B				

Georgia Department of Transportation
Office of Traffic Operations



G R E S H A M
S M I T H A N D
P A R T N E R S

June 26, 2012

Charles Robinson, Ph.D., P.E.
Project Manager-Office of Program Delivery
Georgia Department of Transportation
600 West Peachtree Street, 24th Floor
Atlanta, Georgia 30308

Subject: Response to Roundabout Peer Review Recommendations
CSSFT-0009-00(846) Colquitt County
P.I. Number: 0009846
SR 33 / US 319 at SR 33 South Intersection Improvements
GS&P Project No. 26340.18

Project Description

GDOT Project CSSFT-0009-00(846) proposes to reduce the crash frequency and severity and improve the operation of the SR 33/US 319 Business intersection with the side streets 1st Street/ SR 33 South and Sylvester Highway/CR 525 in the City of Moultrie within Colquitt County. SR 33/US 319 Business is posted for a 45 mph speed limit and has two through southbound lanes, a northbound through lane, a northbound right turn lane, a southbound channelized right turn radius, and a relatively wide raised median through the intersection. SR 33/US 319 Business outside of the intersection has two through lanes in each direction as the outside northbound through lane is dropped into a right turn lane onto 1st Street/ SR 33 South and then resumes it receives a free flow right turn lane from this same roadway. 1st Street/ SR 33 South is posted for a 45mph speed limit and changes into Sylvester Highway/ CR 525, which is posted for a 35 mph speed limit, after crossing SR 33/US 319 Business. 1st Street/ SR 33 South has two through southbound lanes (the inside lane beginning in the middle of the intersection within the median of SR 33/US 319 Business), a northbound through lane, a northbound right turn lane, and a raised median into the intersection. 1st Street/ SR 33 South outside of the intersection has two through lanes in each direction as the outside northbound through lane becomes a drop right turn lane. Sylvester Highway/CR 525 has a through lane in each direction, a southbound channelized right turn radius, and a raised median into the intersection. This raised median on Sylvester Highway/ CR 525 extends 400 ft. north from the intersection with SR 33/US 319 Business and deters left turn movements onto Swift Street from Sylvester Highway/ CR 525. Very short left turn refuge lanes are provided on 1st Street/ SR 33 South and Sylvester Highway/CR 525 within the median of SR 33/US 319 Business. SR 33/US 319 Business is a through movement within the intersection while both side streets are currently stop controlled on each respective side.

Design Services For The Built Environment

2325 Lakeview Parkway, Suite 400 / Alpharetta, Georgia 30009-7940 / Phone 770.754.0755 / www.gspnet.com



PI #0009846 Peer Review Responses
June 26, 2012
Page 2

A roundabout type intersection is proposed as the preferred alternative at the intersection of SR 33/US 319 Business with 1st Street/ SR 33 South and Sylvester Highway/CR 525. As with current GDOT policy for stand alone intersection projects, GDOT has engaged the firm of Ourston Roundabout Engineering to provide an initial peer review of the concept. This information was received from Ourston Roundabout Engineering in a memorandum dated June 13, 2012. The following is Gresham, Smith and Partners responses to the recommendations contained in memorandum with excerpts from the report in italics and GS&P's responses in bold:

- 1. Two lane circular roadway versus a single lane roadway:** *“We suggest proceeding with the single lane configuration based on the expected improvement in safety performance. Should there be a desire to provide excess capacity or future capacity, a two lane conversion plan could be developed to convert the roundabout entries from one lane to two in the future.”*
GS&P agrees that the concept should show a single circular lane based upon design year levels of service (LOS), the simplicity of a single lane roundabout to drivers, a lesser right of way impact, and shorter pedestrian crossings.
- 2. Inscribed Circle Size:** *“The selected inscribed circle diameter (ICD) of 173 feet is on the high side of the typical range for a single lane semi-urban roundabout. The skewed geometry of this intersection does require a distinctive ICD to provide good entry geometry for each approach. An elliptical shaped ICD would provide the ability to improve the balance of the geometry of each of the skewed entries.”*
GS&P agrees with this recommendation and has revised the concept accordingly.
- 3. Inscribed Circle Location:** *“The current location of the circle creates an unbalance between several geometric parameters, e.g. entry speeds are fast from one direction and slow from the opposite side. Shifting the circle easterly will improve the geometric speed control on 1st Street and Sylvester Highway providing an improvement in the balance between entry speeds of all of the approaching roadways.”*
GS&P agrees with this recommendation and has revised the concept accordingly.
- 4. Entry Path Deflection:** *“Reducing the entry speeds of the entries will benefit the operation of the roundabout by reducing the occurrence and severity of entry/circulating collisions. Creating uniform vehicular speeds will also improve the predictability of speeds by pedestrians at crosswalks. The entry speeds can be improved by applying more deflection on the alignments and/or shifting the circle location.”*
GS&P agrees with this recommendation and has revised the concept accordingly.
- 5. Bypass Lanes:** *“The free-flow bypass lane on the northbound 1st Street leg is not required for capacity purposes as noted above. This bypass lane will allow vehicles to travel at a high rate of speed reducing the safety of pedestrians crossing the intersection. Eliminating this bypass lane will require all vehicles to reduce their speed to uniform values and will improve the safety of pedestrian crossings.”*



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June 26, 2012
Page 3

The partial right-turn bypass lane on the southwest bound SR 33/US 319 leg provides a very poor angle of entry for drivers merging with traffic. This low angle will require drivers to look far over their left shoulder to identify a safe gap for entry. We suggest increasing the entry angle of this bypass lane by adjusting the geometry.”

GS&P agrees with this recommendation and has revised the concept accordingly.

- 6. Property Access:** *“The arrangement of the approach alignments and bypass lanes presents difficulty for access to some of the surrounding properties. The existing and proposed geometry requires drivers accessing the properties along the bypass lane between 1st Street and SR33/US 319 to navigate a complicated set of maneuvers to get to three legs of the intersection. Drivers must enter the stream of traffic on the bypass lane, change to the left lane very quickly after the merge with SR 33/US 319 traffic and then make a U-turn before proceeding back to the intersection. We suggest removing the free-flow bypass lane and considering a frontage road arrangement with a connection to both 1st Street and SR 33/US 319 providing full access to these properties in a low speed environment.”*

GS&P agrees with this recommendation and has revised the concept accordingly.

- 7. Swift Street Intersection:** *“The proposed arrangement requires all traffic in the right lane of southbound Sylvester Highway to turn onto Swift Street. We recommend configuring the two lane approach as a lane drop in advance of the Swift Street intersection so that only one lane passes this intersection.”*

The present lane configuration on Sylvester Highway southbound at the Swift Street intersection consists of a single through approach lane, a right turn lane that begins approx. 220 ft. north of the intersection before ending at Swift Street, and a 10 ft. wide paved shoulder. Terminating the right turn lane at Swift Street retains the present lane configuration and minimizes the project limits on Sylvester Highway.

- 8. Construction Staging and Traffic Control:** *“The existing intersection has ample space to shift traffic during construction. The existing by-pass roads can be used for temporary two-way traffic leaving a large area in between to construct the circle. Therefore, we do not see any construction staging constraints that would influence the choice of circle location.”*

GS&P agrees with this recommendation and has revised the concept accordingly.

Sincerely,

Eric J. Rickert, P.E.
Project Engineer
Gresham, Smith and Partners



G R E S H A M
S M I T H A N D
P A R T N E R S

August 17, 2012

CONCEPT MEETING MINUTES

SR 33/ US 319 (Bus.) at SR 33 South
Intersection Improvement Concept
CSSFT-0009-00(846), Colquitt County, PI No. 0009846
GS&P Project No. 26340.18

MEETING DATE: August 2, 2012

PARTICIPANTS: Charles Robinson - Georgia Department of Transportation (GDOT), Office of Program Delivery
Derrick Cameron - Georgia Department of Transportation (GDOT), Office of Program Delivery
Joe Sheffield - Georgia Department of Transportation (GDOT), District 4
Brent Thomas - Georgia Department of Transportation (GDOT), District 4
Van Mason - Georgia Department of Transportation (GDOT), District 4
Tim Warren - Georgia Department of Transportation (GDOT), District 4
Shane Pridgen - Georgia Department of Transportation (GDOT), District 4
Geno Hasty - Georgia Department of Transportation (GDOT), District 4
Kim Bradford - Georgia Department of Transportation (GDOT), District 4
Sonja Thompson - Georgia Department of Transportation (GDOT), District 4
Donna Garrison - Georgia Department of Transportation (GDOT), Engineering Services
Roger Ruis - City of Moultrie
Daniel Lawson - City of Moultrie
Seth Cannon - City of Moultrie
Chris Hampton - City of Moultrie
Mark Hollifield - AT&T
Jill Brown - Edwards-Pitman Environmental
Scott Zehngraff - Georgia Department of Transportation (GDOT), Traffic Operations (via videoconference)
Ken Werho - Georgia Department of Transportation (GDOT), Traffic Operations (via videoconference)
Paul Denard - Georgia Department of Transportation (GDOT), Traffic Operations (via videoconference)
Jody Braswell - Gresham, Smith and Partners (GS&P)
Eric Rickert - Gresham, Smith and Partners (GS&P)

DISCUSSION: PROJECT CONCEPT TEAM MEETING

A concept team meeting was held on August 2, 2012 for the SR 33/ US 319 (Business) Intersection Improvement Concept, GDOT Project CSSFT-0009-00(846) at the GDOT District 4 Office.

Design Services For The Built Environment



PROJECT TEAM CONCEPT MEETING MINUTES
SR 33/ US 319 (Bus.) at SR 33 South
Intersection Improvement Concept
CSSFT-0009-00(846), Colquitt County, PI No. 0009846
GS&P Project No. 26340.18
Page 2

Charles Robinson (GDOT Project Manager) welcomed everyone to the meeting and then proceeded with brief introductions. Mr. Robinson provided everyone with general project information such as the project name, county, city and project identification number and then discussed the current project baseline schedule with a management let date of September 2014 and an approved right of way date of September 2013.

Mr. Robinson then turned the meeting over to the design consultants, Gresham Smith & Partners, to review the draft concept report and concept layout. GS&P began by discussing the design methodology used to create the findings in the draft concept report and the proposed improvements including a single lane, oval roundabout. GS&P then discussed the project's recommended concept layout and reviewed the content of the draft concept report. Edwards-Pitman next reviewed the project's environmental resources and required environmental permitting.

1. GDOT-District 4 inquired whether the circular driveway that is presently shown east of the roundabout between 1st Street and SR 33 northbound could be omitted. This circular driveway is presently proposed to provide access to the properties on the intersection's east side in the place of the free flow right turn lane from 1st Street to SR 33 northbound which is to be removed. GDOT-District 4 recommended the use of a joint-use driveway on 1st Street (@ Sta. 55+50 Rt.) just south of the proposed intersection and a right in-right out driveway from SR 33 northbound (@ Sta. 17+00 Rt.) to provide east-side access instead. The design team responded that they would consider this in the design of this project.
2. GDOT-District 4 requested that the proposed right turn lane dropped from SR 33 southbound to Sylvester Highway northbound be adjusted so there is greater distance between the turn lane's merge onto Sylvester Highway and roundabout's circular roadway. GDOT-District 4 is concerned that a vehicle in the turn lane could accidentally turn left into Sylvester Highway's northbound lane and enter the roundabout circular roadway backwards. GDOT-Traffic Operations also commented that a greater separation of the right turn lane would create a larger raised island with SR 33's southbound lane and be more accommodating to pedestrians. The design team responded that they would consider this in the design of this project.
3. GDOT-District 4 asked whether the splitter island on 1st Street could be elongated to begin just after the aforementioned, joint use driveway at Sta. 17+00 Rt. GDOT-Traffic Operations added that this would best be accomplished by retaining the present location of the 1st Street's northbound entry lane into the roundabout, but adjusting the curve radii on 1st Street's southbound exit lane in order to produce a greater separation and allow more room for the splitter island.
4. GDOT-Traffic Operations recommended reviewing the WB-67 design vehicle turning paths as the design progresses. Several vehicle paths appear to be close to the proposed gutters.
5. GDOT-Traffic Operations also suggested checking the 4.0% grade shown for the roundabout in the concept report as this combined with trucks turning on the apron may create undesirable conditions. (Post meeting note: this gradient has been revised to 2.0% in the concept report.)



PROJECT TEAM CONCEPT MEETING MINUTES
SR 33/ US 319 (Bus.) at SR 33 South
Intersection Improvement Concept
CSSFT-0009-00(846), Colquitt County, PI No. 0009846
GS&P Project No. 26340.18
Page 3

6. Traffic Operations recommended that right of way shown on the Public Information Open House (PIOH) have required right of way shown to the shoulder break point location and then easement (that isn't labeled temporary or permanent) be shown outside from that point.
7. GDOT-District 4 stated that a Public Interest Determination Policy and Procedure for utility relocation and Subsurface Utility Engineering investigation was not recommended for the project. The City of Moultrie also concurred with this.
8. The potential staging sequencing was discussed as to how best construct the roundabout while maintaining traffic on all roadways. The consensus from the meeting was that it may be most favorable to temporarily widen the existing free flow right turn lane from 1st Street to SR 33 northbound to create a two-way through movement with room for a center left turn lane. The south leg of SR 33 and Sylvester Highway would each tie into this in a 'split-tee' configuration, though this would need to be verified by a traffic review. GDOT-Program Delivery stated that there may need to be a constructability review at 30% plans to help determine the most feasible way to construct the proposed roundabout.
9. It is anticipated the project's Public Information Open House (PIOH) will occur between November 2012 and January 2013. GDOT-Traffic Operations suggested that the wording ' public controversy' be omitted from the concept report under the public involvement.
10. The Quonset huts on the Moultrie Electric property in the intersection's northwest corner may be eligible as a historic resource. However, only the footprint of the buildings would be potentially eligible and should not affect the anticipated approval of April 2013 for the project's Categorical Exclusion environmental document.
11. GDOT-District 4 noted under the *Other Projects in the Area* section that project number for the widening of SR 133 to four lanes appears to be incorrect.
12. The City of Moultrie offered to provide 2008 aerial imagery from their GIS database for use with creating the project's PIOH displays. The City will provide these images directly to GS&P.

This represents our understanding of the items discussed at this meeting. If you have any questions or comments concerning any of the information contained herein, please contact me.

Prepared by: Eric Rickert, PE
Project Engineer

Copy File, Attendees