

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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

**FILE** P.I. #132790 **OFFICE** Design Policy & Support  
APD00-0056-01(063)  
GDOT District 1 - Gainesville  
Dawson County **DATE** July 1, 2011  
SR 400 @ SR 53 – Intersection Improvements,  
Continuous Flow Intersection

**FROM**  for Brent Story, State Design Policy Engineer

**TO** SEE DISTRIBUTION

**SUBJECT** APPROVED REVISED CONCEPT REPORT

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

Attachment

**DISTRIBUTION:**

Genetha Rice-Singleton, Program Control Administrator  
Bobby Hilliard, State Program Delivery Engineer  
Cindy VanDyke, State Transportation Planning Administrator  
Angela Robinson, Financial Management Administrator  
Glenn Bowman, State Environmental Administrator  
Andy Casey, State Roadway Design Engineer  
Attn: Neal O'Brien, Design Group Manager  
Kathy Zahul, State Traffic Engineer  
Georgene Geary, State Materials & Research Engineer  
Ron Wishon, State Project Review Engineer  
Jeff Baker, State Utilities Engineer  
Ken Thompson, Statewide Location Bureau Chief  
Michael Henry, Systems & Classification Branch Chief  
Todd McDuffie, District Engineer  
Robert Mahoney, District Preconstruction Engineer  
Allen Ferguson, District Utilities Engineer  
Robert Murphy, Project Manager  
Rodney Barry, Federal Highway Administration  
BOARD MEMBER - 9th Congressional District

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

REVISED PROJECT CONCEPT REPORT

Project Number: APD00-0056-01(063)  
County: DAWSON  
P.I. No. 132790  
Federal Route Number: US 19  
State Route Number: SR 400 & SR 53

Intersection Improvement on SR 400/US 19 at SR 53

Submitted for approval:

DATE 2/14/2011

Russell R. McMurtry  
State Roadway Design Engineer

DATE 5/25/2011

Bobby Hubbard  
State Program Delivery Engineer

DATE 5/24/2011

Paul P. Murphy  
Project Manager

Recommendation for Approval:

DATE \_\_\_\_\_

\_\_\_\_\_  
Program Control Administrator

DATE 3/14/2011

GLENN BOWMAN\*/EKP  
State Environmental Administrator

DATE 4/7/2011

KATHY FAHLE\*/EKP  
State Traffic Engineer

DATE 3/14/2011

RON WISHON\*/EKP  
Project Review Engineer

DATE 3/25/2011

FOR ANDREW HOENIG\*/EKP  
State Utilities Engineer

DATE 3/16/2011

TODD McDUFFIE\*/EKP  
District Engineer / District Utilities Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Mgmt Financial Administrator

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

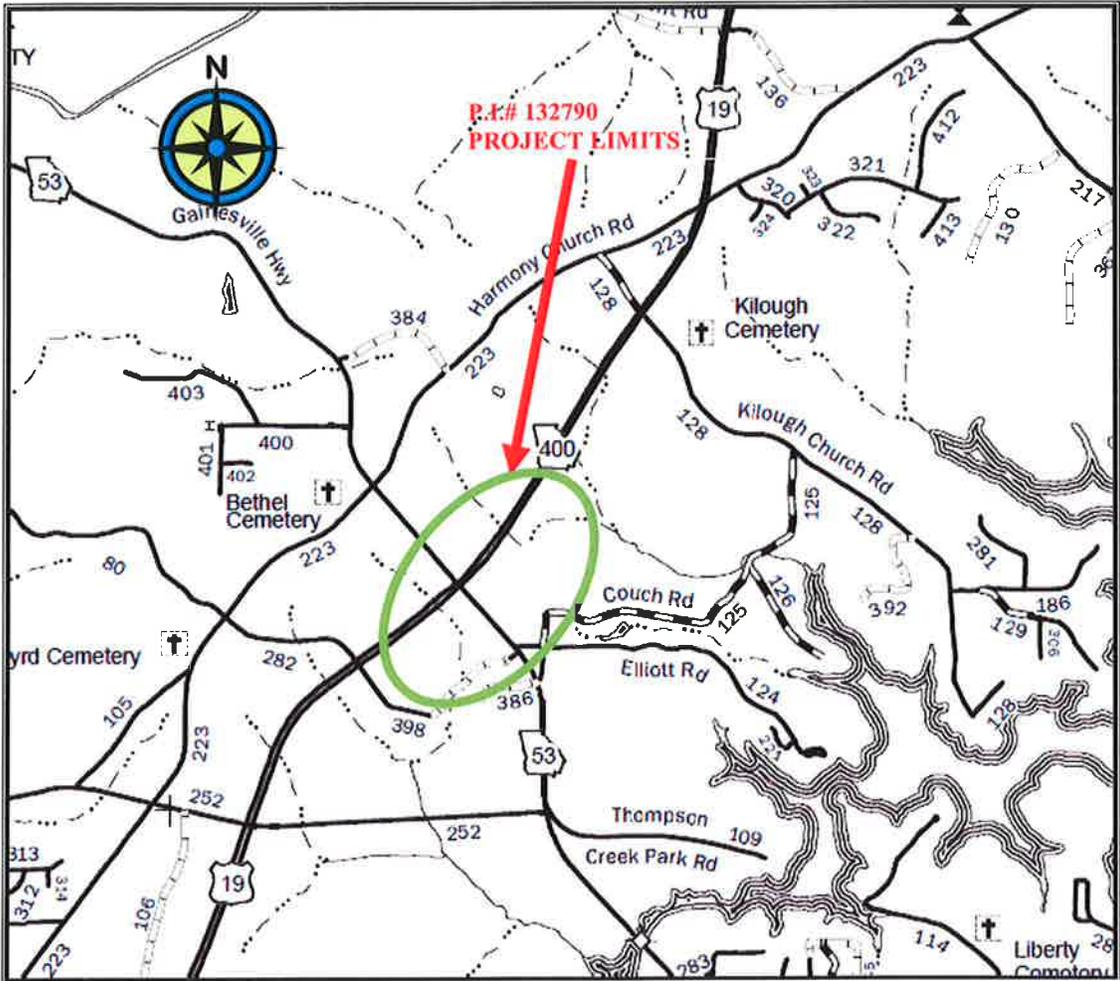
DATE 3-16-11

CYNTHIA L. VANDYKE\*/EKP  
State Transportation Planning Administrator

\* - RECOMMENDATION ON FILE

Revised Project Concept Report page 2  
Project Number: APD00-0056-01(063)  
P.I. Number: 132790-  
County: Dawson

**PROJECT LOCATION MAP**  
Intersection Improvement on SR 400/US 19 at SR 53

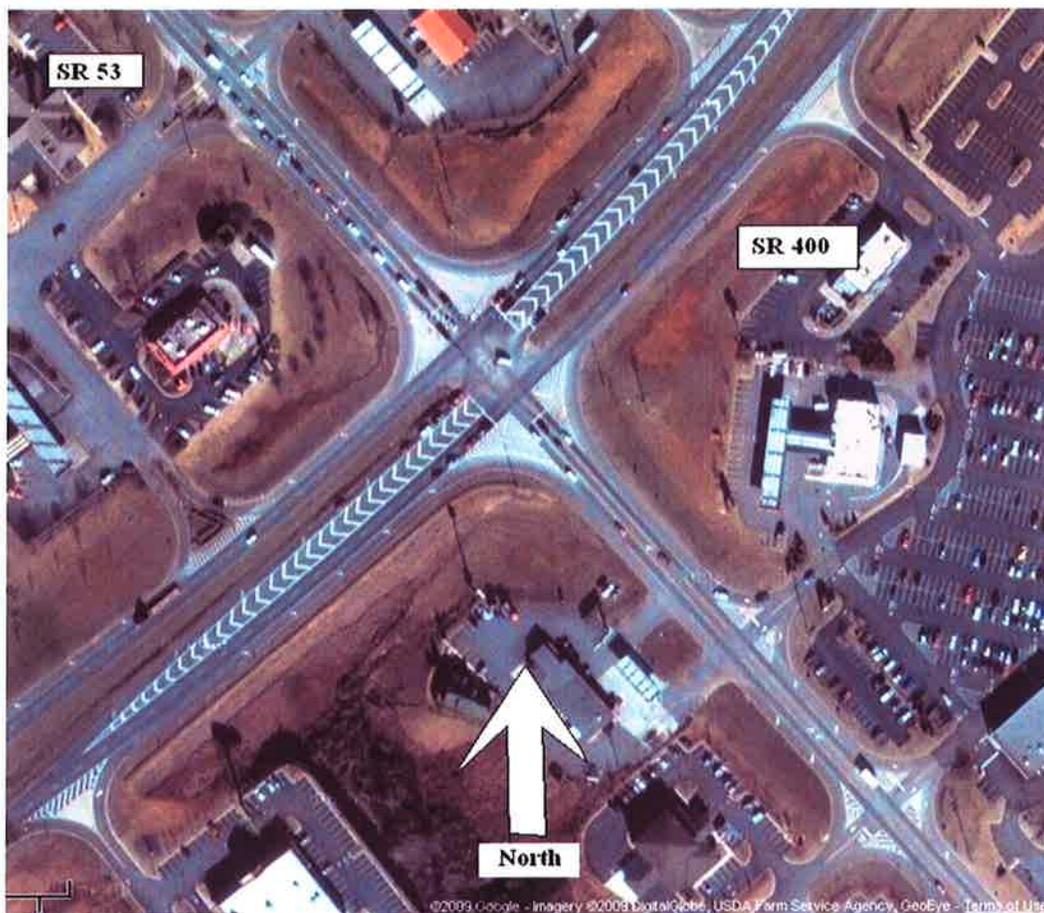


**NEED AND PURPOSE:**

Background

The intersection of SR 400/US 19 at SR 53 is located in Dawson County near the North Georgia Premium Outlet Mall and is the hub for both the SR 400/US 19 and SR 53 corridors. SR 53 provides east-west connectivity through Georgia and is functionally classified as a rural principal arterial through Dawson County. SR 400/US 19 provides north-south connectivity from Atlanta to North Georgia and is functionally classified as a rural principal arterial. These two routes connect the city of Dawsonville, Chattahoochee National Forest and the Amicalola Falls State Park to the west, Hall County and the City of Gainesville to the southeast, Dahlonega and Cleveland to the north and Atlanta to the south.

**Figure 1: SR 400/US 19 at SR 53**



This section of SR 400 is a part of Corridor A1 of the Appalachian Developmental Highway. This specific project was identified as part of the Appalachian Development Highway System (ADHS) based on the President's Appalachian Regional Commission (ARC) recommendations to Congress regarding the economic growth in Appalachia.

Revised Project Concept Report page 4  
 Project Number: APD00-0056-01(063)  
 P.I. Number: 132790-  
 County: Dawson

This intersection was included in the SR 400 Corridor Study that was completed by the Office of Planning in April 2009. The SR 400 Corridor Study recommends this intersection as a grade separated access point along the proposed limited access SR 400 Corridor. Additionally, this intersection is recommended to be the first improvement of the study's two part phasing plan.

Existing Conditions

Currently, SR 400/US 19 is four lanes both north and south of this intersection and SR 53 is two lanes both east and west of this intersection. The SR 400/US 19 northbound and southbound approaches to this intersection consist of one designated left turn lane, one designated right turn lane and two through lanes. The SR 53 eastbound and westbound approaches to this intersection consist of one designated left turn lane, one designated right turn lane and one through lane.

Existing and Projected Traffic Volumes

In the adjacent corridors to which this intersection connects, existing Level of Service (LOS) is 'D' on SR 53 to the west, LOS 'D' on SR 53 to the east, LOS 'C' on SR 400/US 19 to the south and LOS 'C' on SR 400/US 19 to the north. Existing capacity on these facilities is able to accommodate the current volumes traversing this intersection based on the volume/capacity relationship (See Table 1 for details of corridor LOS). However, the LOS on these facilities is projected to be 'E' on SR 400/US 19 (north and south of the intersection) and 'E' on SR 53 (north and south of the intersection) in 2035.

**Table 1: Adjacent Corridor Peak LOS**

Corridor	2009 AADT	2015 AADT	2035 AADT	2010 LOS	2015 LOS	2035 LOS
SR 53 (west)	16,300	20,600	33,800	D	D	E
SR 53 (east)	15,000	18,950	31,000	D	D	E
SR 400/US 19 (south)	29,400	37,200	61,000	C	C	E
SR 400/US 19 (north)	27,500	34,850	57,100	C	C	E

Crash Data:

An analysis of crashes within the project limits was performed (see Table 2 for more details). Of the crash types, approximately 75% of all accidents are rear end collisions, 14% are angle collisions and 8% are sideswipes from the same direction. Further investigation of the primary collision types (rear end and angle), revealed the following: The primary conditions for rear end collisions at this intersection occurred when one vehicle was heading northbound or southbound on SR 400/US 19 and turned into the left turn lane to SR 53 and the second vehicle, also turning into the left turn lane, failed to stop. Similar incidents occurred for vehicles travelling east and westbound on SR 53, as well as vehicles turning into right turn lanes at all four approaches. The primary conditions for angle collisions occurred when one vehicle was turning left out of a commercial property on SR 53 in proximity to the intersection and colliding with a second vehicle that was in the center turn lane on SR 53 preparing to turn left into another commercial property. While this type of incident did not occur at the SR 400/US 19 at SR 53 intersection, other vehicles in queue along SR 53 at the intersection had obstructed the vision of the drivers at fault.

**Table 2: Accidents for SR 400/US 19 at SR 53  
 During the Years 2006, 2007 and 2008**

Year	2006	2007	2008
Accidents	13	13	10
Injuries	4	8	8
Fatalities	0	0	0

**Table 3: Types of Accidents on SR 400/US 19 at SR 53**

	Angle Intersect	Rear End	Sideswipe	Head On	Collision Not With a Vehicle	Total By Year By Location
2006	3	9	0	1	0	1
2007	0	10	3	0	0	13
2008	2	8	0	0	0	10
Total By Type	5	27	3	1	0	36

**Table 4: Accidents for SR 53 at SR 400/US 19  
 During the Years 2006, 2007 and 2008**

Year	2006	2007	2008
Accidents	103	100	91
Injuries	48	38	35
Fatalities	0	0	0

**Table 5: Types of Accidents on SR 53 at SR 400/US 19**

	Angle Intersect	Rear End	Sideswipe	Head On	Collision Not With a Vehicle	Total By Year By Location
2006	39	55	5	3	1	103
2007	24	67	6	1	2	100
2008	18	67	4	2	0	91
Total By Type	81	189	15	6	3	294

**Project Linkage:**

Currently, there is one project programmed in proximity to the intersection of SR 400/US 19 at SR 53. Project ID No. 0008378 (CR 252/Dawson Forest Rd from Lumpkin Campground Rd to SR 53) will widen Dawson Forest Road to a four lane roadway. Dawson Forest Road connects SR 400/US 19 to SR 53, south of the SR 400/US 19 at SR 53 intersection.

Revised Project Concept Report page 6  
Project Number: APD00-0056-01(063)  
P.I. Number: 132790-  
County: Dawson

Logical Termini:

An analysis of the existing conditions of both SR 400/US 19 at SR 53 indicates that existing volumes have not exceeded capacity and level of service is 'D' or 'E' for all sections of both SR 400/US 19 and SR 53 adjacent to the intersection. In 2035, level of service is projected to be 'E' or better for both the SR 400/US 19 and SR 53 corridors. This project has independent utility as improvements will enhance the efficiency of traffic flow through this intersection by taking advantage of existing and projected roadway capacity in both the SR 400/US 19 and SR 53 corridors.

Need and Purpose:

The need for this project is to reduce congestion of existing and projected traffic volumes in the AM and PM peak periods where intersection volume exceeds capacity. There is also a need to reduce crashes at this intersection.

The purpose of this project is to improve the intersection capacity to reduce congestion for the existing and projected traffic volumes and also to reduce crash frequency and severity.

Revised Project Concept Report page 7  
Project Number: APD00-0056-01(063)  
P.I. Number: 132790-  
County: Dawson

**Description of the proposed project:**

The proposed project would reconstruct the existing, at-grade intersection of SR 400/US 19 at SR 53 in Dawson County, Georgia, to a two-legged, continuous flow intersection (CFI) also known as displaced left-turn (DLT) intersection. The project limits along SR 400/US 19 extend from 0.13 miles north of Industrial Park Road (MP 2.10) to approximately 0.46 miles north of intersection of SR 400/US 19 at SR 53 (MP 2.78), a length of 0.68 miles. The project limits along SR 53 extend from Lumpkin Campground Road (MP 15.46) to 0.07 miles east of Elliot Drive (MP 16.15), a length of 0.69 miles. The work would include construction of the two-legged CFI along SR 400/US 19 (one leg on each approach of the intersection) and operational improvements along SR 53.

Is the project located in a PM 2.5 Non-attainment area? \_\_\_ Yes  X  No

Is the project located in an Ozone Non-attainment area? \_\_\_ Yes  X  No

PDP Classification: Major  X  Minor \_\_\_

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

Functional Classification: SR 400/US 19 Rural Principal Arterial; SR 53 Rural Principal Arterial

U.S Route Number(s): 19 State Route Number(s): 400 & 53

**Traffic (AADT):**

SR 400/US 19	Base Year (2015): <u>38,350</u>	Design Year (2035): <u>62,800</u>
SR 53	Base Year (2015): <u>20,000</u>	Design Year (2035): <u>32,650</u>

**Existing design features:**

- Typical Section: State Route 400/US 19 consists of four, 12-foot wide lanes (two in each direction) with variable width (64-foot to 40-foot) depressed grassed median, 12-foot wide left-turn and right-turn auxiliary lanes, and a mix of rural and urban shoulders. State Route 53 consists of one, 12-foot wide lane in each direction including left-turn and right-turn lanes at the intersection with SR 400/US 19.
- Posted speed: SR 400/US 19-55 mph, Minimum radius of curve: 5730-ft  
SR 53-35 mph, Minimum radius of curve: 1450-ft
- Maximum Super-elevation rate for curve: 8%
- Maximum grade mainline: 3.5 %
- Maximum grade cross roads: 3.5 %
- Maximum grade driveways: 10 %
- Width of right of way SR 400/US 19: 360-ft
- Width of right of way SR 53: Varies 60-ft to 200-ft
- Major structures: None
- Major interchanges or intersections along the project: SR 400/US 19 at SR 53
- Existing length of roadway segment and beginning mile logs for each county segment: State Route 400/US 19 in Dawson County from mile post 2.10 to mile post 2.78, a length of 0.68 miles. State Route 53 in Dawson County from mile post 15.46 to mile post 16.15, a length of 0.69 miles.

Revised Project Concept Report page 8  
Project Number: APD00-0056-01(063)  
P.I. Number: 132790-  
County: Dawson

**Proposed Design Features:**

- Proposed Typical Sections:
  - SR 400/US 19:
    - Two, 12-foot wide through lanes northbound.
    - Two, 12-foot wide through lanes southbound.
    - A 64-foot to 40-foot variable width depressed median with 10-foot wide usable shoulders (4-foot paved, 6-foot grassed).
    - One, 12-foot wide auxiliary lane northbound (south of SR 53 only).
    - One, 12-foot wide auxiliary lane southbound.
    - 12-foot wide urban (curb and gutter) shoulders.
    - 10-foot wide rural shoulder (6.5-foot paved, 3.5-foot grassed).
  - SR 53 Raised Median Section:
    - Two, 12-foot wide through lanes eastbound.
    - Two, 12-foot wide through lanes westbound.
    - A 15-foot to 32-foot variable width raised median.
    - 16-foot wide urban (curb and gutter) shoulders with 5-foot sidewalk.
  - SR 53 Flush Median Section:
    - One to two, 12-foot wide through lanes eastbound and westbound.
    - A 0-foot to 18-foot variable width flush median.
    - 16-foot wide urban (curb and gutter) shoulders with 5-foot sidewalk.
  - CFI: SR 400/US 19 approach to SR 53
    - Two, 12-foot wide left-turn lanes within the median that begin downstream of the intersection of SR 400/US 19 at SR 53.
    - A two-lane crossover movement, downstream of the intersection of SR 400/US 19 at SR 53, to move the two left-turn lanes from within the median to outside the oncoming through lanes of SR 400/US 19.
    - Two, 12-foot wide left-turn lanes, from the crossover movement to the intersection of SR 400/US 19 at SR 53 located outside the oncoming through lanes of SR 400/US 19, separated by a raised median.
    - Two, 12-foot wide right-turn lanes from SR 53 parallel to the outside two left-turn lanes, from the crossover movement to the intersection of SR 400/US 19 at SR 53, separated by a raised median.
- Proposed Design Speed SR 400/US 19: 55 mph, SR 53: 45 mph
- Proposed Maximum grade SR 400/US 19: 3 %
- Maximum grade allowable SR 400/US 19: 5 %
- Proposed Maximum grade SR 53: 3 %
- Maximum grade allowable SR 53: 6 %
- Proposed Maximum grade driveway: 11 %
- Proposed Minimum radius for curve SR 400/US 19: 5730-foot, SR 53: 1450-foot
- Minimum radius allowable SR 400/US 19: 1060-foot, SR 53: 711-foot
- Maximum allowable superelevation rate SR 400/US 19: 6% , SR 53: 4%
- Proposed maximum superelevation rate SR 400/US 19: 2.3% , SR 53: 3.3%
- Right of Way: SR 400/US 19, SR 53
  - Width: SR 400/US 19: 360-foot; SR 53: 65-foot to 200-foot
  - Easement: Temporary ( ), Permanent (X), Utility ( ), Other ( )
  - Type of access control: SR 400/US 19 Full ( ), Partial ( ), By Permit (X), Other ( )  
SR 53 Full ( ), Partial ( ), By Permit (X), Other ( )
  - Number of parcels: 14      Number of displacements: 0
    - Business: 0
    - Residences: 0
    - Mobile homes: 0      Other: N/A

Revised Project Concept Report page 9  
 Project Number: APD00-0056-01(063)  
 P.I. Number: 132790-  
 County: Dawson

- Structures: None
  - Bridges: None
  - Retaining wall: None
- Major interchanges or intersections along SR 400/US 19: SR 400/US 19 at SR 53,
- Traffic control during construction: Traffic will be maintained on the existing roadway with lane shifts during construction.
- Transportation Management Plan Anticipated: Yes ( ) No (X)
- Design Exceptions to controlling criteria anticipated:

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

Design Exception would be required for substandard skew intersection angle between SR 53 and Elliot Drive. The intersection angle between the SR 53 and Elliot Drive is 50°-02'-01.7", which is less than the minimum acceptable intersection angle of 60°.

- Design Variances: None Expected
- Environmental concerns:
- Anticipated Level of environmental analysis
  - Are Time Savings Procedures appropriate? Yes ( ), No (X)
  - Categorical Exclusion (X),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( ),
  - Environmental Impact Statement (EIS) ( ).
- Utility involvements: Utility owners in the area includes;
  1. Georgia Transmission Corp
  2. Sawnee EMC
  3. Etowah Water
  4. Atlanta Gas Light
  5. Georgia Power – Distribution
- VE Study: Yes (X) No ( ) – VE Study held and Implementation letter signed December 3, 2008. No further VE Study is required with this concept report as per Office of Engineering Services.
- Benefit/Cost Ratio 52.03

**Project Cost Estimate and Funding Responsibilities:**

	PE	ROW	UTILITY	CST	MITIGATION
By Whom	GDOT	GDOT	GDOT	GDOT	GDOT
Amount	\$ 2,415,373.69	\$2,560,000.00	\$ 481,000.00	\$11,040,389.24	\$ 0.00

*\*CST Cost Includes: Construction, Engineering and Inspection, Fuel Cost Adjustment, and Asphalt Cement Cost Adjustment*

Revised Project Concept Report page 10  
Project Number: APD00-0056-01(063)  
P.I. Number: 132790-  
County: Dawson

**Project Activities Responsibilities:**

- Design - GDOT
- Right of Way Acquisition - GDOT
- Right of way funding (real property) - GDOT
- Relocation of Utilities - Utility owners
- Letting to contract - GDOT
- Supervision of construction - GDOT
- Providing material pits – Contractor
- Providing detours - N/A
- Environmental Studies/Documents/Permits - GDOT
- Environmental Mitigation – GDOT

**Coordination:**

- Initial Concept Meeting date and brief summary: 11/17/09 (Attachment 6 – Meeting Minutes)
- Concept meeting date and brief summary: 09/09/10 (Attachment 6 – Meeting Minutes)
- P. A. R. meetings, dates and results: N/A
- FEMA, USCG, and/or TVA: FEMA Coordination will not be required
- Public involvement:
- PIOH held 4-15-10 (Attachment 7 – PIOH Summary of Comments)
- Stakeholders meeting held: 3/10/10
- Local government comments: N/A
- Other projects in the area: CSSTP-0008-00(378), PI 0008378
- Railroads: N/A
- Other Coordination to date: None

**Scheduling – Responsible Parties' Estimate**

- |  |                       |                     |
|--|-----------------------|---------------------|
| • Time to complete the environmental process:              | Begin: <u>01/2010</u> | End: <u>04/2011</u> |
| • Time to complete preliminary construction plans:         | Begin: <u>09/2009</u> | End: <u>03/2011</u> |
| • Time to complete right of way plans:                     | Begin: <u>03/2011</u> | End: <u>05/2011</u> |
| • Time to complete the section 404 Permit:                 | N/A                   |                     |
| • Time to complete final construction plans:               | Begin: <u>04/2011</u> | End: <u>04/2012</u> |
| • Time to complete to purchase right of way:               | Begin: <u>06/2011</u> | End: <u>06/2012</u> |
| • Other major items that will affect the project schedule: | N/A                   |                     |

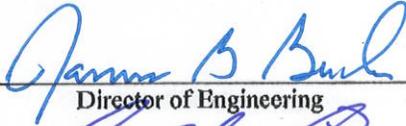
**Other alternates considered:** The Concept Report, approved on April 6, 2001, proposed the construction of an interchange at the current intersection with SR 400/US 19 to span over SR 53 to include frontage roads for access to adjacent development. This alternate was eliminated due to high cost and concerns raised by the community.

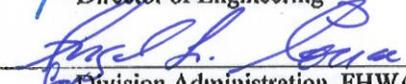
**Comments:** N/A

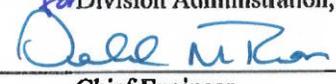
Revised Project Concept Report page 11  
Project Number: APD00-0056-01(063)  
P.I. Number: 132790-  
County: Dawson

**Attachments:**

1. Detailed Cost Estimates
  - a. Construction including Engineering and Inspection.
  - b. Completed Fuel & Asphalt Price Adjustment forms.
  - c. Right of Way
  - d. Utilities
2. Typical sections
3. Accident summaries
4. Traffic Diagrams
5. Capacity analysis summary
6. Minutes of Concept Meetings
7. PIOH Summary of Comments
8. Benefit Cost Analysis
9. Concept Layout

Concur:   
Director of Engineering

Approve:   
Division Administration, FHWA

Approve:   
Chief Engineer

Date: 6/6/11

# **ATTACHMENT # 1**

## **COST ESTIMATE**

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## ----- INTERDEPARTMENT CORRESPONDENCE

FILE PROJECT No.  ,  OFFICE   
 DATE

P.I. No.

FROM

TO Ronald E. Wishon, Project Review Engineer

**SUBJECT REVISIONS TO PROGRAMMED COSTS**

PROJECT MANAGER

MNGT LET DATE

MNGT R/W DATE

**PROGRAMMED COST (TPro W/OUT INFLATION)**

CONSTRUCTION \$

RIGHT OF WAY \$

UTILITIES \$

**LAST ESTIMATE UPDATE**

DATE

DATE

DATE

**REVISED COST ESTIMATES**

CONSTRUCTION\* \$

RIGHT OF WAY \$

UTILITIES \$

\* Costs contain  % Engineering and Inspection

**REASON FOR COST INCREASE**

There is increase to the construction and right of way costs in the revised estimate due to design changes made to incorporate in the plans the recommendations made during the project constructability review meeting.

**CONTINGENCY SUMMARY**

Construction Cost Estimate:	\$ <input type="text" value="8,000,170.65"/>	(Base Estimate)
Engineering and Inspection:	\$ <input type="text" value="400,008.53"/>	(Base Estimate x <input type="text" value="5"/> %)
Total Fuel Adjustment	\$ <input type="text" value="877,188.09"/>	(From attached worksheet)
Total Liquid AC Adjustment	\$ <input type="text" value="1,763,021.97"/>	(From attached worksheet)
<b>Construction Total:</b>	\$ <input type="text" value="11,040,389.24"/>	

**REIMBURSABLE UTILITY COST**

Utility Owner	Reimbursable Cost
<input type="text" value="GEORGIA TRANSMISSION CORP."/>	<input type="text" value="\$150,000.00"/>
<input type="text" value="SAWNEE EMC"/>	<input type="text" value="\$100,000.00"/>
<input type="text" value="ETOWAH WATER"/>	<input type="text" value="\$60,000.00"/>
<input type="text" value="ATLANTA GAS LIGHT"/>	<input type="text" value="\$60,000.00"/>
<input type="text"/>	<input type="text"/>

Attachments

## DETAILED COST ESTIMATE

JOB NUMBER: 132790

FED/STATE PROJECT NUMBER APD00-0056-01(063)

SPEC YEAR: 01

ENGINEERING AND INSPECTION:

DESCRIPTION: SR400@SR53 INTERSECTION IMPROVEMENT - DAWSON COUNTY

### ITEMS FOR JOB 132790

#### 0010 - ROADWAY

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0020	150-1000	1.000	LS	\$160,000.00	TRAFFIC CONTROL - APD00-0056-01(063)	\$160,000.00
0025	153-1300	1.000	EA	\$75,511.58	FIELD ENGINEERS OFFICE TP 3	\$75,511.58
0030	210-0100	1.000	LS	\$200,000.00	GRADING COMPLETE - APD00-0056-01(063)	\$200,000.00
0035	310-1101	30231.000	TN	\$15.12	GR AGGR BASE CRS, INCL MATL	\$457,092.72
0040	402-1812	10653.000	TN	\$70.70	RECYL AC LEVELING,INC BM&HL	\$753,167.10
0045	402-3121	16308.000	TN	\$54.60	RECYL AC 25MM SP,GP1/2,BM&HL	\$890,416.80
0050	402-3130	6836.000	TN	\$60.95	RECYL AC 12.5MM SP,GP2,BM&HL	\$416,654.20
0055	402-3190	14174.000	TN	\$58.39	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	\$827,619.86
0060	413-1000	7887.000	GL	\$2.17	BITUM TACK COAT	\$17,114.79
0065	432-0214	59362.000	SY	\$1.28	MILL ASPH CONC PVMT, 3.5" DPTH	\$75,983.36
0070	432-5010	200.000	SY	\$8.49	MILL ASPH CONC PVMT,VARB DEPTH	\$1,698.00
0080	441-0104	2554.000	SY	\$24.83	CONC SIDEWALK, 4 IN	\$63,415.82
0082	441-0303	2.000	EA	\$1,758.39	CONC SPILLWAY, TP 3	\$3,516.78
0083	441-0304	3.000	EA	\$1,868.30	CONC SPILLWAY, TP 4	\$5,604.91
0084	441-0740	1176.000	SY	\$25.95	CONC MEDIAN, 4 IN	\$30,514.25
0085	441-0754	4590.000	SY	\$41.24	CONC MEDIAN, 7 1/2 IN	\$189,291.60
0090	441-4030	480.000	SY	\$39.00	CONC VALLEY GUTTER, 8 IN	\$18,720.00
0099	441-5003	94.000	LF	\$17.79	CONC HEADER CURB, 8", TP 3	\$1,672.62
0100	441-6222	12926.000	LF	\$10.92	CONC CURB & GUTTER/ 8"X30"TP2	\$141,129.04
0105	441-6740	9871.000	LF	\$11.01	CONC CURB & GUTTER/ 8"X30" TP7	\$108,640.72
0110	446-1100	11317.000	LF	\$3.36	PVMT REF FAB STRIPS, TP2,18 INCH WIDTH	\$38,025.12
0113	500-3101	82.000	CY	\$422.44	CLASS A CONCRETE	\$34,640.30
0114	500-3201	53.300	CY	\$566.75	CL B CONC, RET WALL	\$30,208.01
0115	500-9999	76.000	CY	\$145.80	CL B CONC,BASE OR PVMT WIDEN	\$11,080.80
0119	515-2015	174.000	LF	\$49.00	GALV STEEL PIPE HANDRAIL - SR 53 - STA 208 +32 TO STA210+06 LT	\$8,525.93
0120	620-0100	720.000	LF	\$23.83	TEMP BARRIER, METHOD NO. 1	\$17,156.97
0125	632-0003	4.000	EA	\$8,809.52	CHANGEABLE MESS SIGN,PORT,TP 3	\$35,238.08
0130	634-1200	35.000	EA	\$91.69	RIGHT OF WAY MARKERS	\$3,209.15
0135	641-1200	640.000	LF	\$16.69	GUARDRAIL, TP W	\$10,681.60
0140	641-5001	2.000	EA	\$658.99	GUARDRAIL ANCHORAGE, TP 1	\$1,317.98
0145	641-5012	2.000	EA	\$1,800.11	GUARDRAIL ANCHORAGE, TP 12	\$3,600.22
<b>Total for ROADWAY</b>						<b>\$4,631,448.31</b>

#### 0020 - DRAINAGE

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0150	550-1180	8089.000	LF	\$26.40	STM DR PIPE 18",H 1-10	\$213,549.60
0155	550-1240	801.000	LF	\$31.87	STM DR PIPE 24",H 1-10	\$25,527.87
0160	550-1300	6.000	LF	\$52.01	STM DR PIPE 30",H 1-10	\$312.09
0165	550-1360	488.000	LF	\$50.26	STM DR PIPE 36",H 1-10	\$24,526.88
0169	550-2180	173.000	LF	\$26.91	SIDE DR PIPE 18",H 1-10	\$4,654.91
0173	550-2360	154.000	LF	\$42.82	SIDE DR PIPE 36",H 1-10	\$6,593.85
0174	550-4118	2.000	EA	\$410.67	FLARED END SECT 18 IN, SIDE DR	\$821.35
0175	550-4218	16.000	EA	\$472.70	FLARED END SECT 18 IN, ST DR	\$7,563.19
0180	550-4224	3.000	EA	\$627.21	FLARED END SECT 24 IN, ST DR	\$1,881.62
0185	576-1018	112.000	LF	\$26.49	SLOPE DRAIN PIPE, 18 IN	\$2,966.90
0189	611-3030	1.000	EA	\$1,124.25	REC STORM SEW MANHOLE, TYPE 1	\$1,124.25

## DETAILED COST ESTIMATE

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0190	611-8040	5,000	EA	\$931.24	ADJUST DROP INLET TO GRADE	\$4,656.22
0195	611-9000	6,000	EA	\$446.06	CAPPING MINOR STRUCTURE	\$2,676.39
0200	668-1100	70,000	EA	\$1,996.37	CATCH BASIN, GP 1	\$139,745.90
0205	668-1110	23,000	LF	\$155.05	CATCH BASIN, GP 1, ADDL DEPTH	\$3,566.15
0210	668-2100	39,000	EA	\$1,687.95	DROP INLET, GP 1	\$65,830.05
0215	668-2110	19,000	LF	\$150.07	DROP INLET, GP 1, ADDL DEPTH	\$2,851.33
0220	668-4300	4,000	EA	\$1,720.89	STORM SEW MANHOLE, TP 1	\$6,883.54
0225	668-4311	1,000	LF	\$197.94	ST SEW MANHOLE, TP 1, A DEP, CL 1	\$197.94
<b>Total for DRAINAGE</b>						<b>\$515,930.03</b>

### 0030 - EROSION CONTROL - PERMANENT

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0230	603-2024	1014.000	SY	\$38.79	STN DUMPED RIP RAP, TP 1, 24"	\$39,328.21
0235	603-2180	250.000	SY	\$33.62	STN DUMPED RIP RAP, TP 3, 12"	\$8,405.00
0240	603-6006	9.000	SY	\$132.02	SAND-CEMENT BAG RIP RAP, 6 IN	\$1,188.17
0245	603-7000	1273.000	SY	\$3.23	PLASTIC FILTER FABRIC	\$4,111.79
0250	700-6910	8.000	AC	\$458.56	PERMANENT GRASSING	\$3,668.48
0255	700-7000	24.000	TN	\$48.67	AGRICULTURAL LIME	\$1,168.08
0260	700-7010	20.000	GL	\$19.81	LIQUID LIME	\$396.20
0265	700-8000	5.000	TN	\$391.48	FERTILIZER MIXED GRADE	\$1,957.40
0270	700-8100	400.000	LB	\$1.95	FERTILIZER NITROGEN CONTENT	\$780.00
0274	715-2100	10.000	SY	\$1.80	BITUM TRTD ROVING, SLOPES	\$18.03
<b>Total for EROSION CONTROL - PERMANENT</b>						<b>\$61,021.36</b>

### 0040 - EROSION CONTROL - TEMPORARY

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0280	163-0232	4.000	AC	\$153.14	TEMPORARY GRASSING	\$612.56
0285	163-0240	192.000	TN	\$185.26	MULCH	\$35,569.51
0290	163-0300	4.000	EA	\$1,126.51	CONSTRUCTION EXIT	\$4,506.04
0295	163-0503	13.000	EA	\$331.40	CONSTR AND REMOVE SILT CONTROL GATE, TP 3	\$4,308.24
0300	163-0527	45.000	EA	\$255.50	CONSTR/REM RIP RAP CKDM, STN P RIPRAP/SN BG	\$11,497.50
0305	163-0528	3000.000	LF	\$3.04	CONSTR AND REM FAB CK DAM - TP C SLT FN	\$9,120.00
0310	163-0529	1118.000	LF	\$3.10	CONSTR/REM TEMP SED BAR OR BLD STRW CK DM	\$3,468.10
0315	163-0550	101.000	EA	\$142.63	CONS & REM INLET SEDIMENT TRAP	\$14,405.63
0320	165-0010	2544.000	LF	\$0.54	MAINT OF TEMP SILT FENCE, TP A	\$1,373.76
0325	165-0030	53.500	LF	\$1.26	MAINT OF TEMP SILT FENCE, TP C	\$67.49
0330	165-0041	737.000	LF	\$0.89	MAINT OF CHECK DAMS - ALL TYPES	\$655.93
0335	165-0071	272.000	LF	\$1.18	MAINT OF SEDIMENT BARRIER - BALED STRAW	\$321.17
0340	165-0087	13.000	EA	\$99.69	MAINT OF SILT CONTROL GATE, TP 3	\$1,295.93
0345	165-0101	4.000	EA	\$457.15	MAINT OF CONST EXIT	\$1,828.58
0350	165-0105	101.000	EA	\$44.96	MAINT OF INLET SEDIMENT TRAP	\$4,540.96
0355	167-1000	4.000	EA	\$525.82	WATER QUALITY MONITORING AND SAMPLING	\$2,103.28
0360	167-1500	18.000	MO	\$410.53	WATER QUALITY INSPECTIONS	\$7,389.54
0365	171-0010	5088.000	LF	\$1.70	TEMPORARY SILT FENCE, TYPE A	\$8,649.60
0370	171-0030	107.000	LF	\$2.77	TEMPORARY SILT FENCE, TYPE C	\$296.39
0275	716-2000	5100.000	SY	\$0.97	EROSION CONTROL MATS, SLOPES	\$4,930.73
<b>Total for EROSION CONTROL - TEMPORARY</b>						<b>\$116,940.94</b>

### 0050 - TRAFFIC SIGNAL

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0375	639-3014	4.000	EA	\$14,100.00	STEEL STR POLE, TP 4, LUMIN ARM	\$56,400.00
0380	639-4004	8.000	EA	\$8,300.00	STRAIN POLE, TP IV	\$66,400.00
0385	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-01	\$73,000.00
0390	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01(063)-02	\$73,000.00

## DETAILED COST ESTIMATE

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0395	647-1000	1.000	LS	\$30,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-03	\$30,000.00
0400	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-04	\$73,000.00
0405	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-05	\$73,000.00
0410	647-1000	1.000	LS	\$30,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-06	\$30,000.00
0415	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-07	\$73,000.00
0420	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - ADP00-0056-01 (063)-08	\$73,000.00
0425	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-09	\$73,000.00
0430	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-10	\$73,000.00
0435	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - ADP00-0056-01 (063)-11	\$73,000.00
0440	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - ADP00-0056-01 (063)-12	\$73,000.00
0445	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - ADP00-0056-01 (063)-13	\$73,000.00
0450	647-1000	1.000	LS	\$73,000.00	TRAF SIGNAL INSTALLATION NO - APD00-0056-01 (063)-14	\$73,000.00
<b>Total for TRAFFIC SIGNAL</b>						<b>\$1,058,800.00</b>

### 0060 - SIGNING AND MARKING

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0455	636-1041	730.000	SF	\$33.78	HWY SIGNS,TP 2MAT,REFL SH TP 9	\$24,658.87
0460	636-1077	2500.000	SF	\$28.69	HWY SIGN,ALUM EXT PL,REFL SHT,TP 9	\$71,725.00
0465	636-2070	1600.000	LF	\$7.24	GALV STEEL POSTS, TP 7	\$11,584.00
0470	636-3010	18.000	EA	\$586.67	GROUND-MOUNTED BREAKAWAY SIGN SUPPORT	\$10,560.06
0475	638-1001	1.000	LS	\$67,223.88	STR SUPPORT OVHD SIGN,TP I,STA APD00-0056-01(063)	\$67,223.88
0480	638-1001	1.000	LS	\$67,223.88	STR SUPPORT OVHD SIGN,TP I,STA APD00-0056-01(063)	\$67,223.88
0485	638-1001	1.000	LS	\$67,223.88	STR SUPPORT OVHD SIGN,TP I,STA APD00-0056-01(063)	\$67,223.88
0490	638-1001	1.000	LS	\$67,223.88	STR SUPPORT OVHD SIGN,TP I,STA APD00-0056-01(063)	\$67,223.88
0495	639-3003	8.000	EA	\$7,076.45	STEEL STRAIN POLE, TP III	\$56,611.63
0500	639-3014	12.000	EA	\$13,381.20	STEEL STR POLE,TP 4,LUMIN ARM	\$160,574.38
0505	653-0110	70.000	EA	\$65.60	THERM PVMT MARK, ARROW, TP 1	\$4,592.00
0510	653-0120	58.000	EA	\$67.90	THERM PVMT MARK, ARROW, TP 2	\$3,938.20
0515	653-0160	2.000	EA	\$122.19	THERM PVMT MARK, ARROW, TP 6	\$244.38
0520	653-1704	800.000	LF	\$3.69	THERM SOLID TRAF STRIPE,24",WH	\$2,952.00
0525	653-1804	7300.000	LF	\$1.68	THERM SOLID TRAF STRIPE, 8",WH	\$12,264.00
0530	653-2501	14.000	LM	\$1,436.28	THERMO SOLID TRAF ST, 5 IN, WH	\$20,107.92
0535	653-2502	4.000	LM	\$1,427.08	THERMO SOLID TRAF ST, 5 IN YE	\$5,708.32
0545	653-3502	1000.000	GLF	\$0.22	THERMO SKIP TRAF ST, 5 IN, YEL	\$224.05
0540	653-4501	6.000	GLM	\$801.06	THERMO SKIP TRAF ST, 5 IN, WHI	\$4,806.36
0550	653-6004	3800.000	SY	\$2.70	THERM TRAF STRIPING, WHITE	\$10,260.00
0555	653-6006	400.000	SY	\$2.90	THERM TRAF STRIPING, YELLOW	\$1,160.79
<b>Total for SIGNING AND MARKING</b>						<b>\$670,867.48</b>

### 0070 - LIGHTING

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0559	511-1000	3255.000	LB	\$0.78	BAR REINF STEEL	\$2,554.72
0560	524-0010	522.000	LF	\$1,154.71	DRILLED CAISSON - APD00-0056-01(063)	\$602,758.62
0565	615-1200	400.000	LF	\$11.69	DIRECTIONAL BORE - APD00-0056-01(063)	\$4,676.00
0570	681-4215	87.000	EA	\$1,210.00	LIGHTING STD,35 FT MH,POST TOP	\$105,270.00
0575	681-6646	87.000	EA	\$1,295.00	LUMINAIRE,TP A, 250W,HP SODIUM	\$112,665.00
0580	682-1404	12154.000	LF	\$0.64	CABLE, TP XHHW, AWG NO 10	\$7,778.56
0585	682-1407	6800.000	LF	\$1.60	CABLE, TP XHHW, AWG NO 4	\$10,880.00
0590	682-1408	13600.000	LF	\$2.25	CABLE, TP XHHW, AWG NO 2	\$30,617.41

## DETAILED COST ESTIMATE

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0595	682-6120	400.000	LF	\$9.38	CONDUIT, RIGID, 2 IN	\$3,752.00
0600	682-6222	6800.000	LF	\$4.62	CONDUIT, NONMETL, TP 2, 2 IN	\$31,416.00
0605	682-9000	1,000	LS	\$4,919.36	MAIN SVC PICK UP POINT	\$4,919.36
0610	682-9000	1,000	LS	\$4,919.36	MAIN SVC PICK UP POINT	\$4,919.36
0615	682-9000	1,000	LS	\$4,919.36	MAIN SVC PICK UP POINT	\$4,919.36
0620	682-9000	1,000	LS	\$4,919.36	MAIN SVC PICK UP POINT	\$4,919.36
0625	682-9021	6,000	EA	\$2,186.13	ELEC JCT BX, CONC GRD MOUNTED	\$13,116.78
<b>Total for LIGHTING</b>						<b>\$945,162.53</b>
<b>GRAND TOTAL FOR JOB 132790</b>						<b>\$8,000,170.65</b>

**TOTALS FOR JOB 132790**

<b>ESTIMATED COST:</b>	<b>\$8,000,170.65</b>
<b>CONTINGENCY PERCENT (0.0):</b>	<b>0.00</b>
<b>ENGINEERING AND INSPECTION (0.0):</b>	<b>0.00</b>
<b>ESTIMATED TOTAL:</b>	<b>\$8,000,170.65</b>

P.I. Number 132790

County Dawson

Date 5/20/2011

Project Number APD00-0056-01(063)

**Special Provision, Section 109-Measurement and Payment**  
**FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)**

ENTER FPL DIESEL	4.079
ENTER FPM DIESEL	9.178

ENTER FPL UNLEADED	3.862
ENTER FPM UNLEADED	8.6895

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 (CUBIC YARD)		0.29		0.15		
Excavations paid as specified by Sections 206 (CUBIC YARD)		0.29		0.15		
GAB paid as specified by the ton under Section 310 (TON)	30231.000	0.29	8766.99	0.24	7255.44	
Hot Mix Asphalt paid as specified by the ton under Sections 400 (TON)		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 (TON)	47971.000	2.90	139115.90	0.71	34059.41	
PCC Pavement paid as specified by the square yard under Section 430 (SY)		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
PSC Beams____ (LF) Section 507				8.00		1.50		
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		
Bar Reinf Steel (LB) Section 511				8.00		1.50		
Piling__ inch (LF) Section 520				8.00		1.50		
Piling__ inch (LF) Section 520				8.00		1.50		
Piling__ inch (LF) Section 520				8.00		1.50		
Piling__ inch (LF) Section 520				8.00		1.50		
Piling__ inch (LF) Section 520				8.00		1.50		
Piling__ inch (LF) Section 520				8.00		1.50		
Drilled Caisson____ (LF) Section 524				8.00		1.50		
Drilled Caisson____ (LF) Section 524				8.00		1.50		
Drilled Caisson____ (LF) Section 524				8.00		1.50		
Pile Encasement____(LF) Section 547				8.00		1.50		
Pile Encasement____(LF) Section 547				8.00		1.50		
<b>SUM QF DIESEL=</b>			<b>147882.89</b>	<b>SUM QF UNLEADED=</b>			<b>41314.85</b>	
<b>DIESEL PRICE ADJUSTMENT(\$)</b>				<b>\$693,696.45</b>				
<b>UNLEADED PRICE ADJUSTMENT(\$)</b>				<b>\$183,491.64</b>				



## ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

ENTER APL

ENTER APM

<b>125.00%</b>	<b>INCREASE ADJUSTMENT</b>
----------------	----------------------------

Use this side for Asphalt Emulsion Only		
L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT = <input style="width: 100px;" type="text"/>		
REMARKS: <input style="width: 95%;" type="text"/>		

Use this side for Asphalt Cement Only		
L.I.N.	TYPE	TACK (GALLONS)
TMT = <input style="width: 100px;" type="text"/>		
REMARKS: <input style="width: 95%;" type="text"/>		

<b>MONTHLY PRICE ADJUSTMENT(\$)</b>	
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### ADJUSTMENT SUMMARY

<b>FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)</b>	
DIESEL PRICE ADJUSTMENT(\$)	<u>\$693,696.45</u>
UNLEADED PRICE ADJUSTMENT(\$)	<u>\$183,491.64</u>
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	<u>\$24,552.93</u>
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	<u>\$1,738,469.04</u>
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	

REMARKS:	<input style="width: 85%;" type="text"/>
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<b>TOTAL ADJUSTMENTS</b>	<b>\$2,640,210.07</b>
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D.O.T. 66

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE: R/W Cost Estimate

OFFICE: District 1 - Gainesville

DATE: May 12, 2010

FROM: Michelle W. Brock, District Right of Way Team Manager

TO: Howard P. Copeland, State Right of Way Administrator  
ATTN: Floyd Williams

SUBJECT: RIGHT OF WAY COST ESTIMATE  
PROJECT: APD00-0056-01(063)  
COUNTY: DAWSON  
P.I. NUMBER: 132790

Attached is the project Right of Way Cost Estimate on the above referenced project. It is estimated that the cost of right of way plus all related expenses will be \$ 2,560,000.00 (rd).

If we can offer further assistance, please contact me at 770.718.5043 or Jim McNeely at 770.718.5052.

Copy: Wes Brock



**Georgia Department of Transportation  
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

APD00-0056-01(063)

Dawson

132790

	A	B	C	D
<b>Land and Improvements</b>				
1 Fee Simple Estimate	\$827,657.30			
2 Perm Esmt Estimate	\$0.00			
3 Temp Esmt Estimate	\$0.00			
4 Potential Excess Estimate	\$0.00			
5 Damages	\$110,000.00			
6 Improvements	\$0.00			
7 Trade Fixtures	\$0.00			
8 Cost to Cures	\$250,000.00			
9 Minimum Award Adjustment	\$0.00			
10				
11				
12				
13				
14				
15				
16				
17				
18	<b>SUB TOTAL PROPERTY TYPES</b>			<b>\$1,187,657.30</b>
19	Counter Offers and Condemnation Increases (50%)			\$593,828.65
20	Lot Date (MM/YYYY)			December-14
20	Projected Market Appreciation (10%)			\$554,782.38
21	<b>GRAND TOTAL LANDS AND IMPROVEMENTS</b>			<b>\$2,336,268.33</b>

**Georgia Department of Transportation  
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

APD00-0056-01(063)

Dawson

132790

	A	B	C	D
<b>Valuation Services</b>	<b>Agriculture</b>	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>
1 Appraisals (# of Parcels)	0	0	9	0
2 Estimated Fees (per Parcel)	\$0.00	\$0.00	\$2,600.00	\$0.00
3 <b>TOTAL APPRAISALS</b>	\$0.00	\$0.00	\$23,400.00	\$0.00
4 Sign Estimates	0	0	12	0
5 Estimated Fees	\$0.00	\$0.00	\$300.00	\$0.00
6 <b>TOTAL SIGN ESTIMATES</b>	\$0.00	\$0.00	\$3,600.00	\$0.00
7 Specialty Reports	0	0	2	0
8 Estimated Fees	\$0.00	\$0.00	\$1,800.00	\$0.00
9 <b>TOTAL SPECIALTY REPORTS</b>	\$0.00	\$0.00	\$3,600.00	\$0.00
10 Septic/Well Reports	0	0	0	0
11 Estimated Fees	\$0.00	\$0.00	\$0.00	\$0.00
12 <b>TOTAL SEPTIC/WELL REPORTS</b>	\$0.00	\$0.00	\$0.00	\$0.00
13				
14				
15				
16 <b>TOTAL VALUATION FEES</b>	\$0.00	\$0.00	\$30,600.00	\$0.00
17	<b>SUB TOTAL VALUATION SERVICES</b>			\$30,600.00
18	Updates and Incidentals (Min \$2,500 or 25%)			\$7,650.00
19	<b>GRAND TOTAL VALUATION SERVICES</b>			\$38,250.00

**Georgia Department of Transportation  
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

APD00-0056-01(063)

Dawson

132790

	A	B	C	D
	Parcels	Estimated Fees		TOTALS
1	Legal Services			
1	Meeting with Attorney	9	\$125.00	\$1,125.00
2	Preliminary Titles	9	\$200.00	\$1,800.00
3	Closing and Final Title	9	\$300.00	\$2,700.00
4	Recording Fees	9	\$50.00	\$450.00
5	Condemnation Filing	2	\$5,000.00	\$10,000.00
6	Litigation Costs	2	\$25,000.00	\$50,000.00
7	Updates and Incidentals	2	\$7,500.00	\$15,000.00
8				
9				
10				
11				
12				
13				
14				
15				
16				
17			<b>GRAND TOTAL LEGAL SERVICES</b>	<b>\$81,075.00</b>

**Georgia Department of Transportation  
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

APD00-0056-01(053)

Dawson

132790

	A	B	C	D
	Displacements	Estimated Costs		TOTALS
1	0	\$25,000.00		\$0.00
2	0	\$25,000.00		\$0.00
3	0	\$45,000.00		\$0.00
4	9	\$1,000.00		\$9,000.00
5	9	\$1,250.00		\$11,250.00
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17		<b>GRAND TOTAL RELOCATION</b>		<b>\$20,250.00</b>

**Georgia Department of Transportation  
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

AP000-0056-01(063)

Dawson

132790

	A	B	C	D
	Demolition	Items/Improvements	Estimated Costs	TOTALS
1	Residential Structures	0	\$17,500.00	\$0.00
2	Detached Garages/Outbuildings	0	\$8,000.00	\$0.00
3	Commercial Structures	0	\$25,000.00	\$0.00
4	Hotels/Apartments	0	\$65,000.00	\$0.00
5	UST's - Dispensers	0	\$50,000.00	\$0.00
6	Billboards	2	\$8,000.00	\$16,000.00
7	Signs - Ught Standards	12	\$2,500.00	\$30,000.00
8	Water Vaults	2	\$15,000.00	\$30,000.00
9	Gas/Water Service Separation	0	\$2,500.00	\$0.00
10				
11				
12				
13				
14				
15				
16				
17			<b>GRAND TOTAL DEMOLITION</b>	<b>\$76,000.00</b>

**Georgia Department of Transportation  
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

AP000-0056-01(063)

Dawson

192790

	A	B	C	D
	Inhouse	Parcels	Man hours per Parcel	TOTALS
1	Pre-Acquisition	0	50	\$0.00
2	Acquisition	0	125	\$0.00
3	Relocation	0	50	\$0.00
4	Administrative Appeals	0	50	\$0.00
5	Post-Acquisition	0	125	\$0.00
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17			<b>GRAND TOTAL INHOUSE</b>	<b>\$0.00</b>

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE**      **APD00-0056-01(063) Dawson**      **OFFICE**   **Gainesville**  
                 **P.I. No. 132790**      **DATE**      **March 18, 2011**

**FROM**      **Allen Ferguson**  
                 **District Utilities Engineer**

**TO**            **Bobby Hilliard, P.E., State Program Delivery Engineer**  
**ATTN**        **Robert Murphy, Project Manager**

**SUBJECT**    **PRELIMINARY REIMBURSABLE UTILITY COST (ESTIMATE)**

As requested by your office, we are furnishing you with a Preliminary Reimbursable Utility Cost estimate for the subject project.

<b>FACILITY OWNER</b>	<b>NON - REIMBURSABLE</b>	<b>REIMBURSABLE</b>
<b>Ga Transmission Corp.</b>		<b>\$ 150,000.00</b>
<b>Sawnee EMC</b>		<b>\$ 211,000.00</b>
<b>Etowah Water</b>	<b>\$ 180,000.00</b>	<b>\$ 60,000.00</b>
<b>Atlanta Gas Light</b>		<b>\$ 60,000.00</b>
<b>Totals</b>	<b>\$ 180,000.00</b>	<b>\$ 481,000.00</b>

The Department's utility cost responsibility could increase by \$ 180,000.00 if Etowah Water was included in the roadway contract by utility aid approval or public interest determination.

If you have any questions, please contact Allen Ferguson at 770-532-5510.

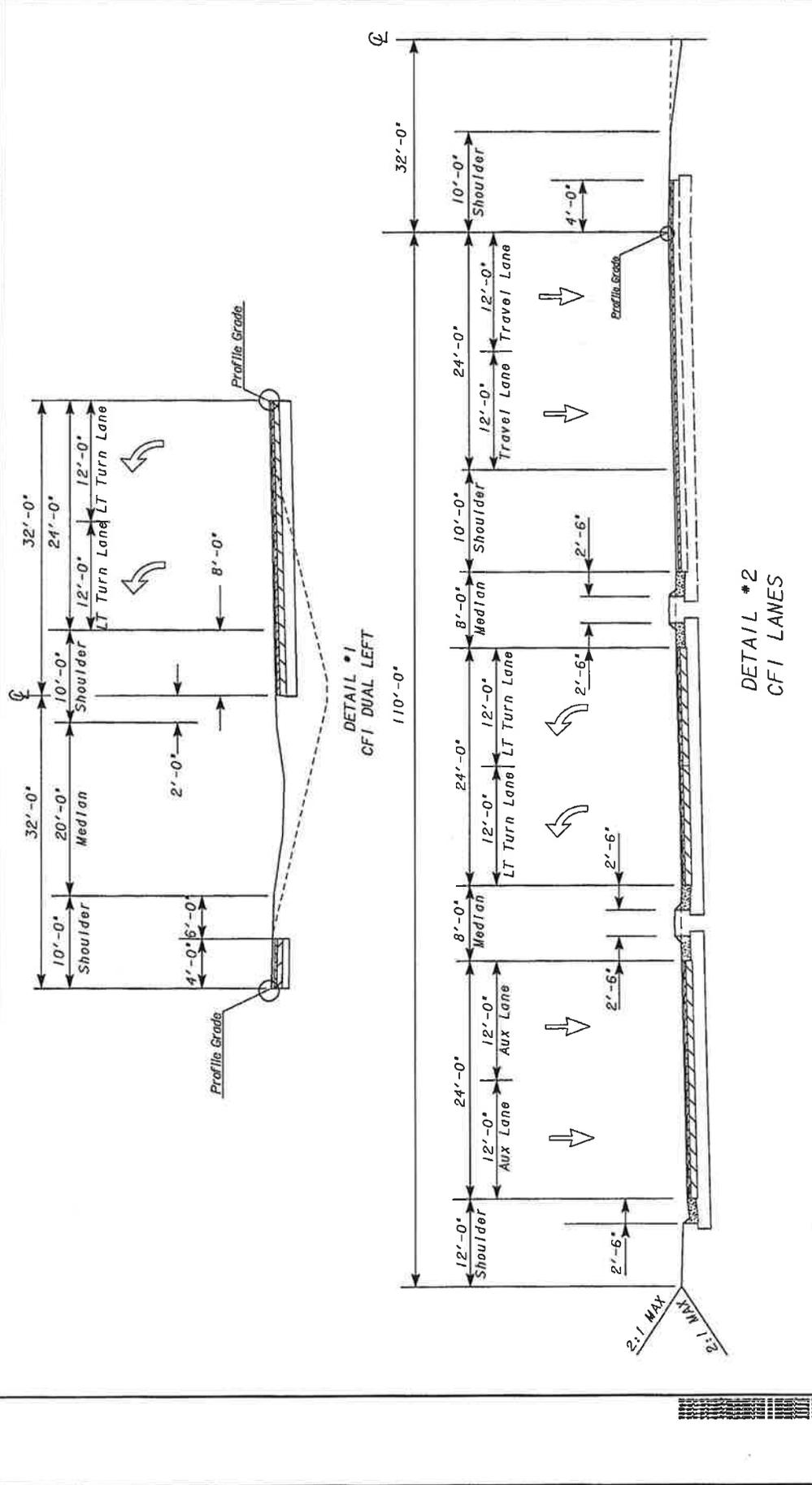
**RAF:RBO**

**C: Jeff Baker, State Utilities Engineer**  
**Angie Robinson, Office of Financial Management**  
**Matt Needham, Area Engineer**  
**File**

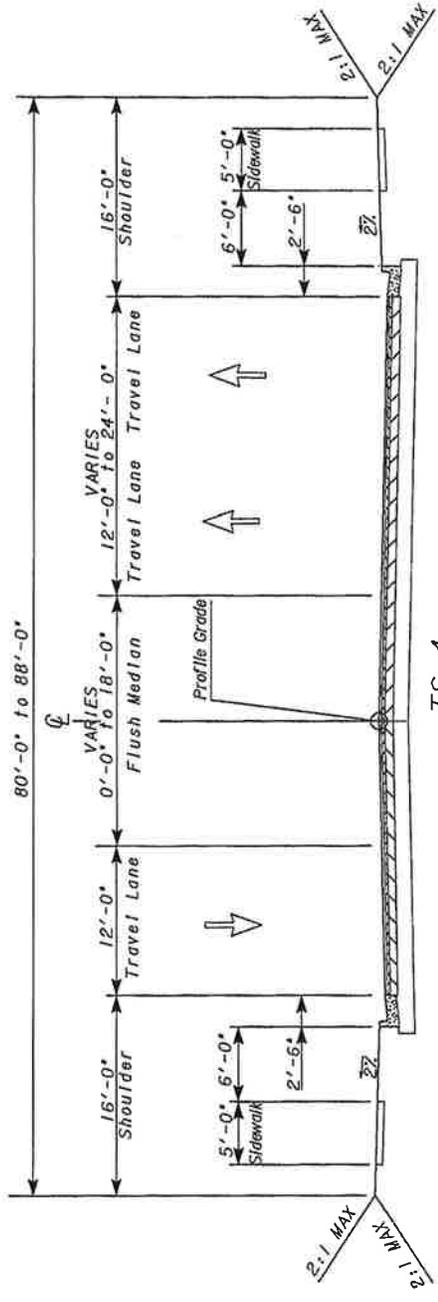
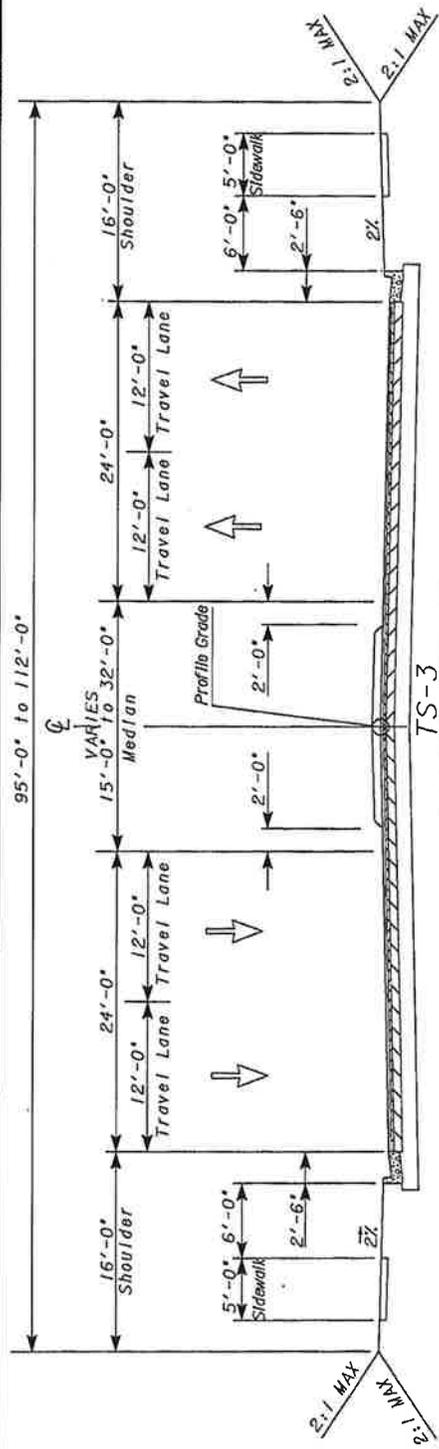
# **ATTACHMENT # 2**

## **TYPICAL SECTIONS**





REVISION DATES	STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE, ROADWAY DESIGN	TYPICAL SECTIONS
	<b>NOT TO SCALE</b>	<b>GEORGIA</b> DEPARTMENT OF TRANSPORTATION



STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: ROADWAY DESIGN		REVISION DATES	
TYPICAL SECTIONS			
<b>GEORGIA</b> DEPARTMENT OF TRANSPORTATION		<b>NOT TO SCALE</b>	



# **ATTACHMENT # 3**

## **ACCIDENT** **SUMMARIES**

**Table 2: Accidents for SR 400/US 19 at SR 53  
 During the Years 2006, 2007 and 2008**

Year	2006	2007	2008
Accidents	13	13	10
Injuries	4	8	8
Fatalities	0	0	0

**Table 3: Types of Accidents on SR 400/US 19 at SR 53**

	Angle Intersect	Rear End	Sideswipe	Head On	Collision Not With a Vehicle	Total By Year By Location
2006	3	9	0	1	0	1
2007	0	10	3	0	0	13
2008	2	8	0	0	0	10
<b>Total By Type</b>	5	27	3	1	0	36

**Table 4: Accidents for SR 53 at SR 400/US 19  
 During the Years 2006, 2007 and 2008**

Year	2006	2007	2008
Accidents	103	100	91
Injuries	48	38	35
Fatalities	0	0	0

**Table 5: Types of Accidents on SR 53 at SR 400/US 19**

	Angle Intersect	Rear End	Sideswipe	Head On	Collision Not With a Vehicle	Total By Year By Location
2006	39	55	5	3	1	103
2007	24	67	6	1	2	100
2008	18	67	4	2	0	91
<b>Total By Type</b>	81	189	15	6	3	294

Project Linkage:

Currently, there is one project programmed in proximity to the intersection of SR 400/US 19 at SR 53. Project ID No. 0008378 (CR 252/Dawson Forest Rd from Lumpkin Campground Rd to SR 53) will widen Dawson Forest Road to a four lane roadway. Dawson Forest Road connects SR 400/US 19 to SR 53, south of the SR 400/US 19 at SR 53 intersection.

# **ATTACHMENT # 4**

## **TRAFFIC DIAGRAMS**

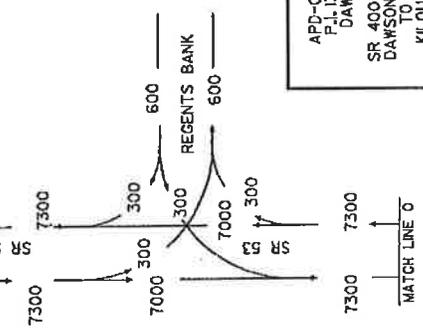
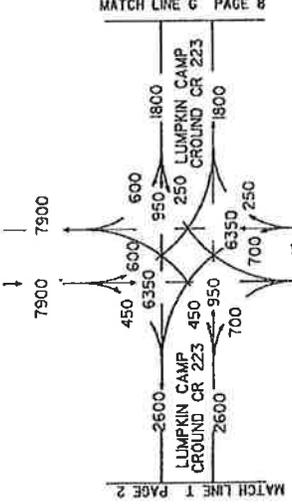
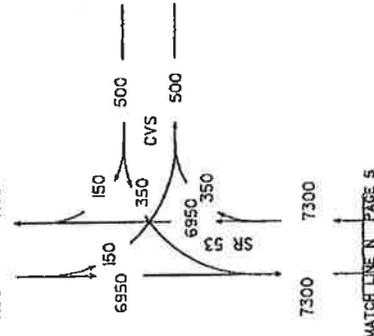
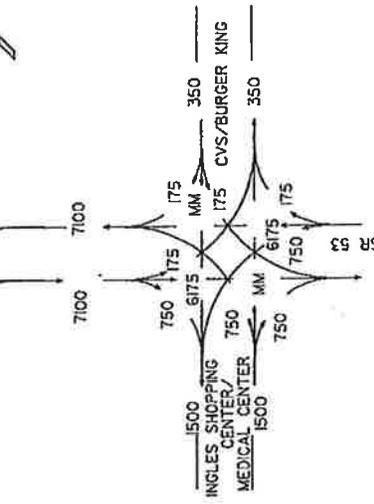
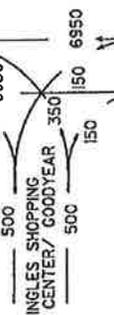
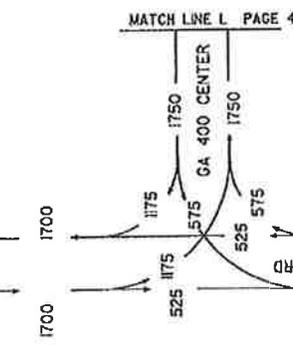
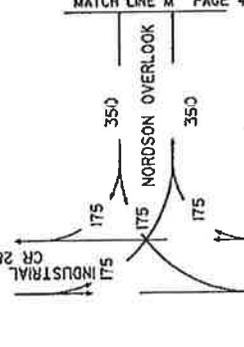
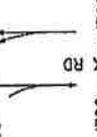




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GEORGIA DEPARTMENT OF TRANSPORTATION  
OFFICE OF PLANNING

# DAWSON COUNTY



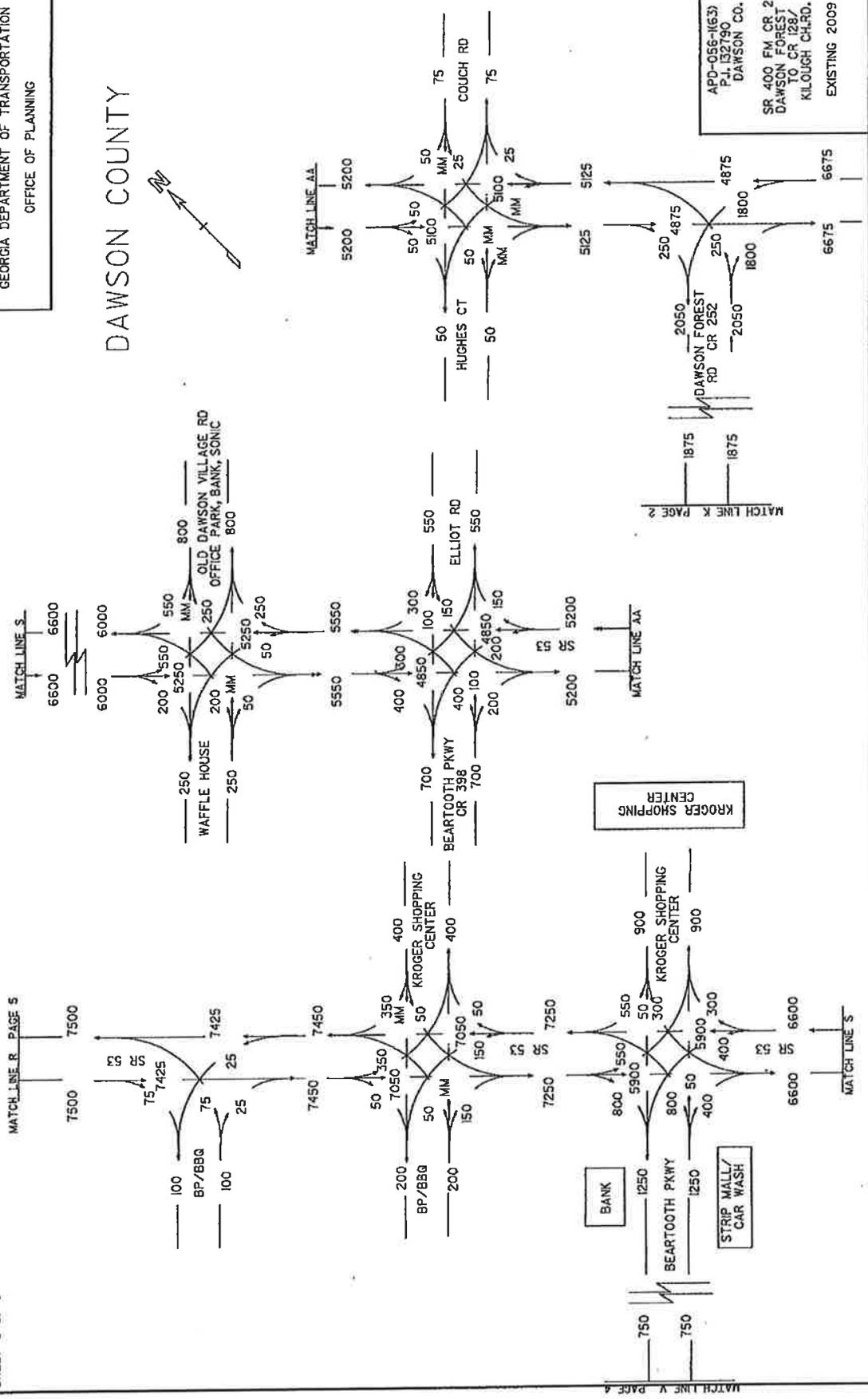
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P.L. 132790  
DAWSON CO.  
SR 400 FM CR 262/  
DAWSON FOREST RD.  
TO CR 1367  
KILOUGH CH. RD.  
EXISTING 2009

RFN  
6-0

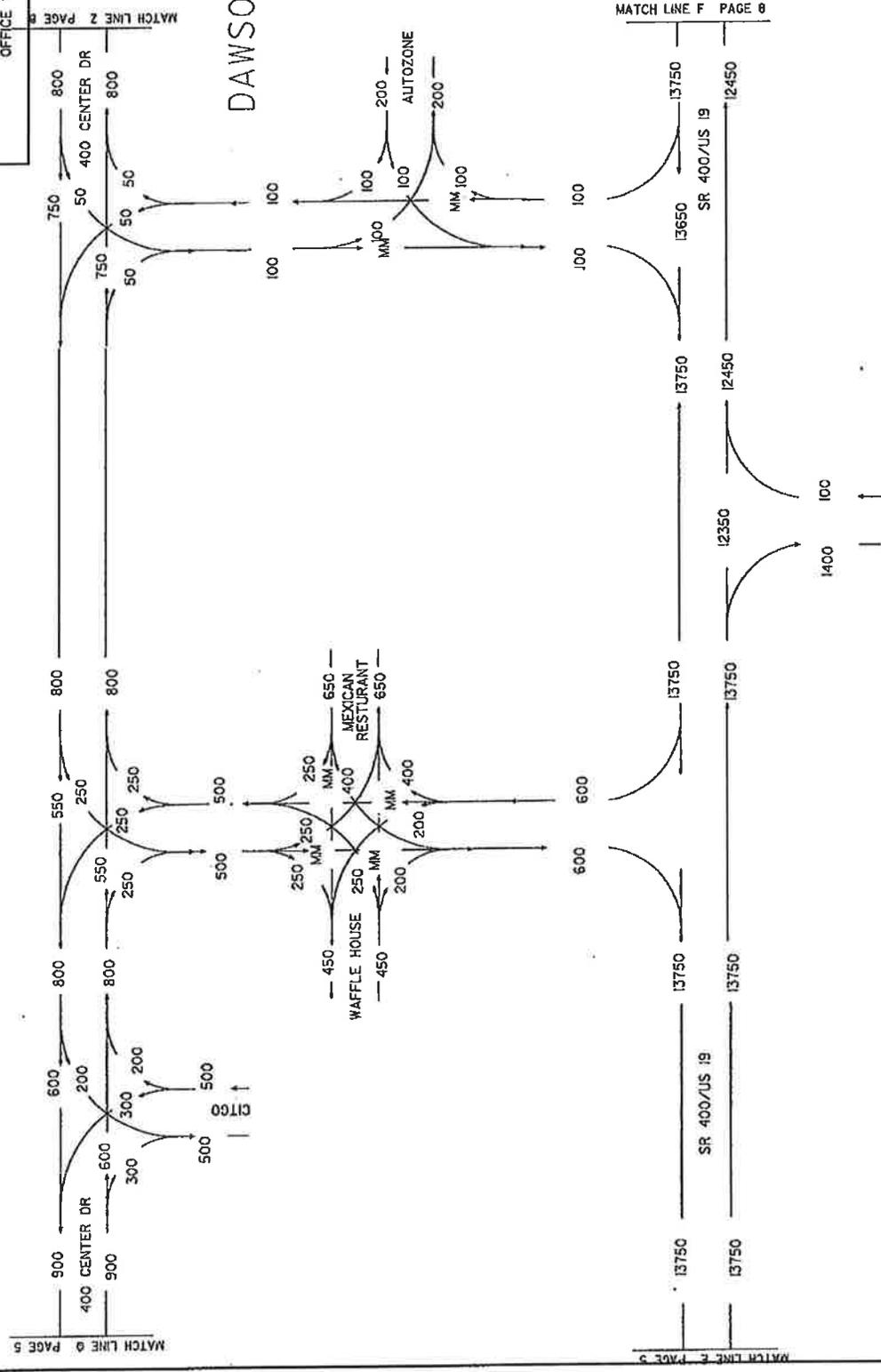




# DAWSON COUNTY



DAWSON COUNTY



APD-056-1631  
P.L. 132790  
DAWSON CO.  
SR 400 FM CR 252/  
DAWSON FOREST RD.  
TO CR 1267  
KLOUGH CH.RD.  
EXISTING 2009  
PER  
6-5





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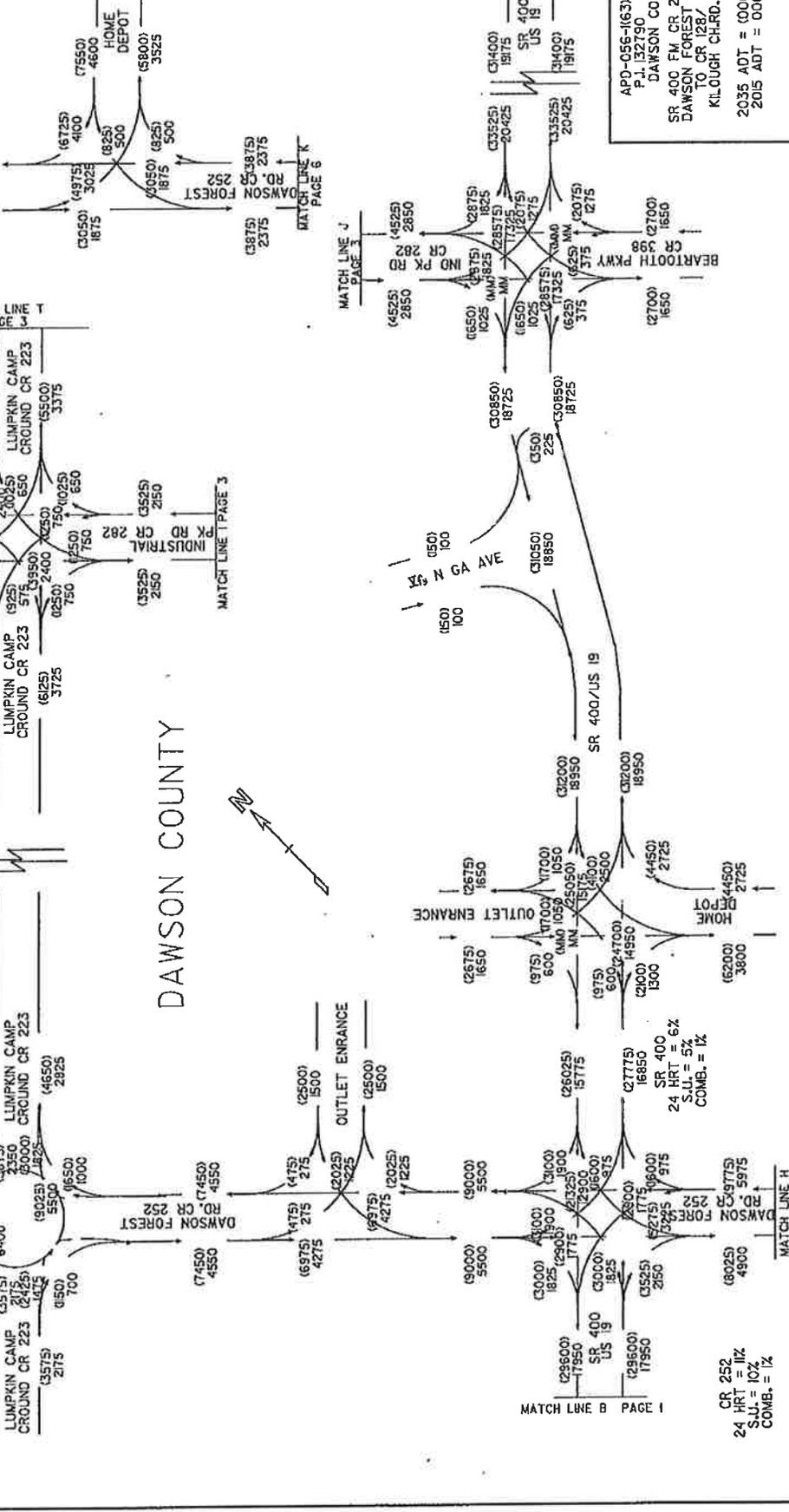
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# DAWSON COUNTY



APD-056-1163  
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DAWSON CO.  
SR 400 FM CR 252/  
DAWSON FOREST RD.  
TO CR 128/  
KILBOUGH CH.RD.

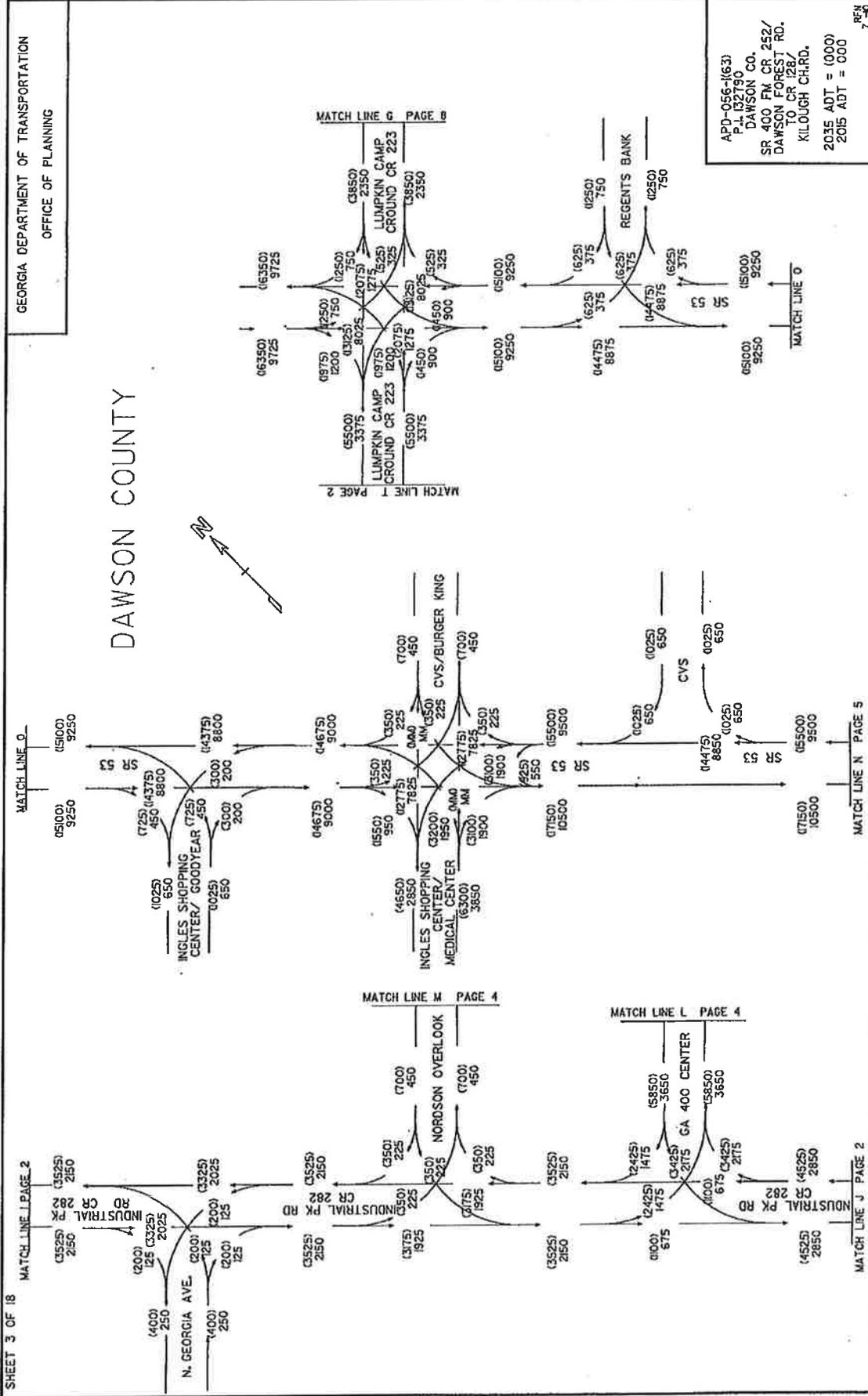
2035 ADT = 1000  
2015 ADT = 000

REN  
7-10

CR 252  
24 HRT = 11%  
S.U. = 10%  
COMB. = 1%

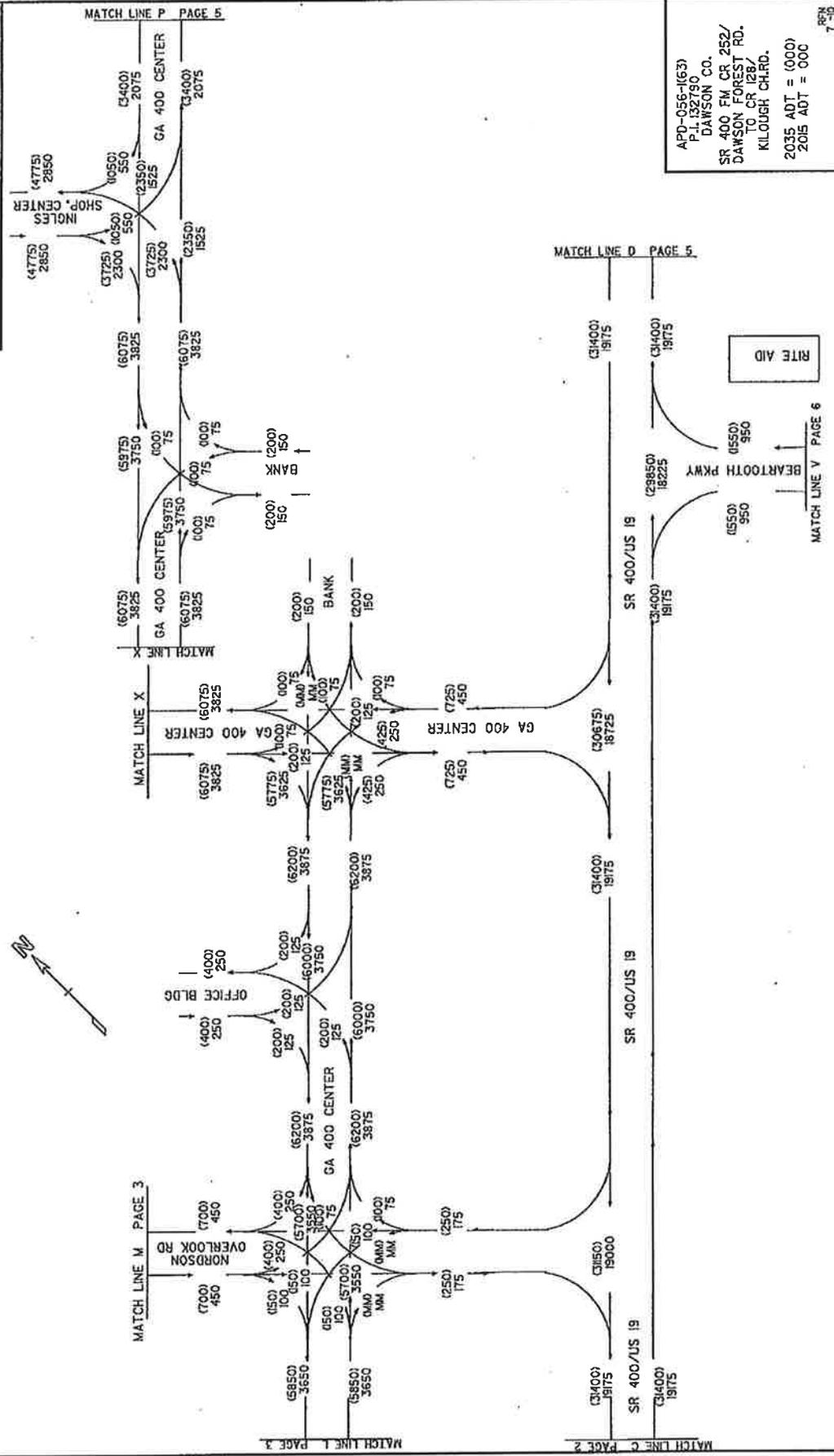
SR 400  
24 HRT = 6%  
S.U. = 5%  
COMB. = 1%

# DAWSON COUNTY



APD-056-(163)  
P.L. 132790  
DAWSON CO.  
SR 400 FM CR 252/  
DAWSON FOREST RD.  
TO CR 128/  
KILLOUGH CH.RD.  
2035 ADT = (000)  
2015 ADT = 000

# DAWSON COUNTY

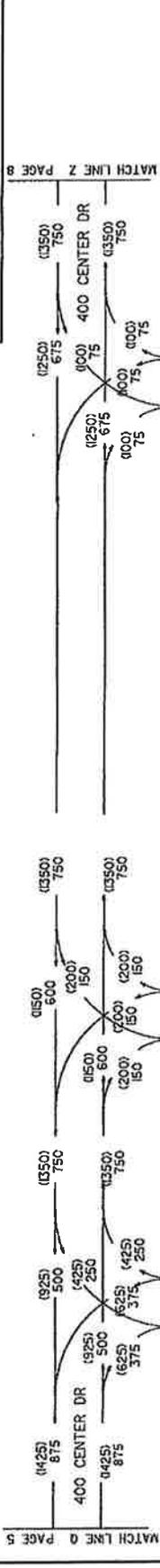


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 PL 13279D  
 DAWSON CO.  
 SR 400 FM CR 252/  
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 TO CR 128/  
 KILOUGH CHRD.  
 2035 ADT = 1000  
 2015 ADT = 000

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DAWSON COUNTY



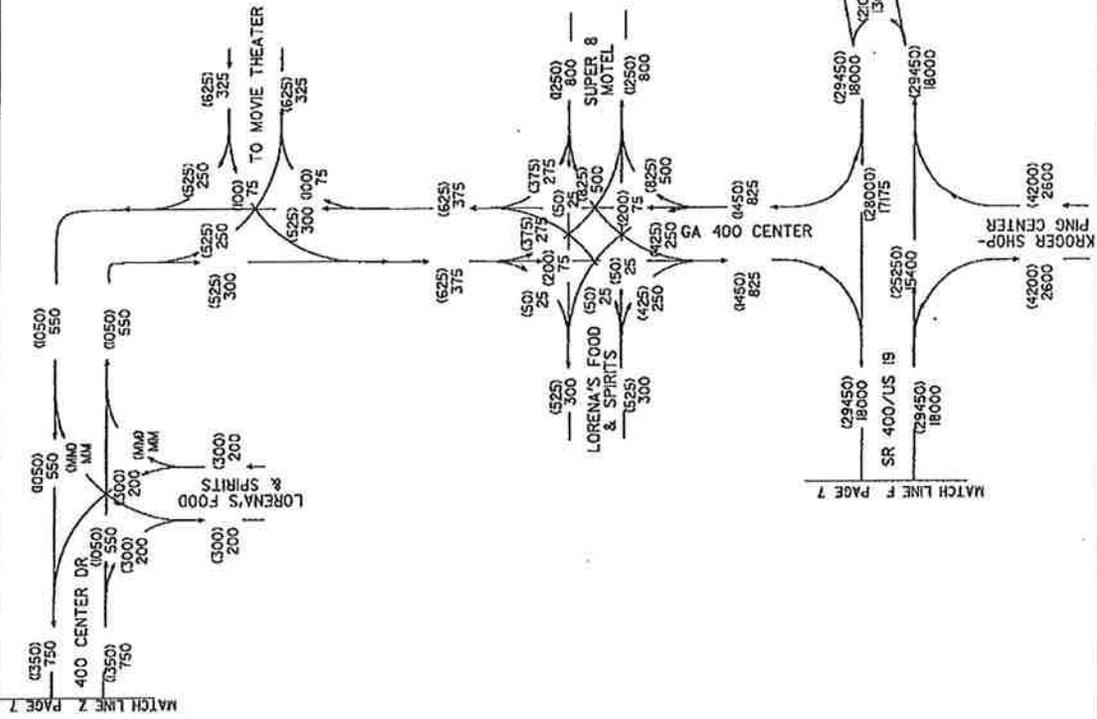
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SR 400 FM CR 252/  
DAWSON FOREST RD.  
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KILLOUGH CHRD.  
2035 ADT = 1000  
2015 ADT = 000

DAWSON COUNTY



SHEET 8 OF 18

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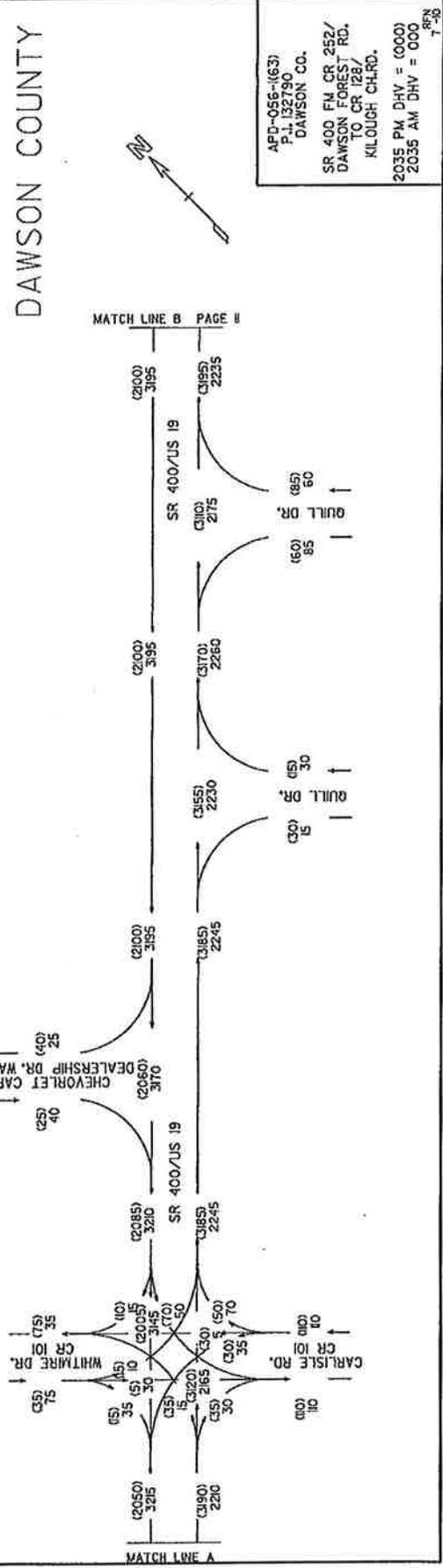
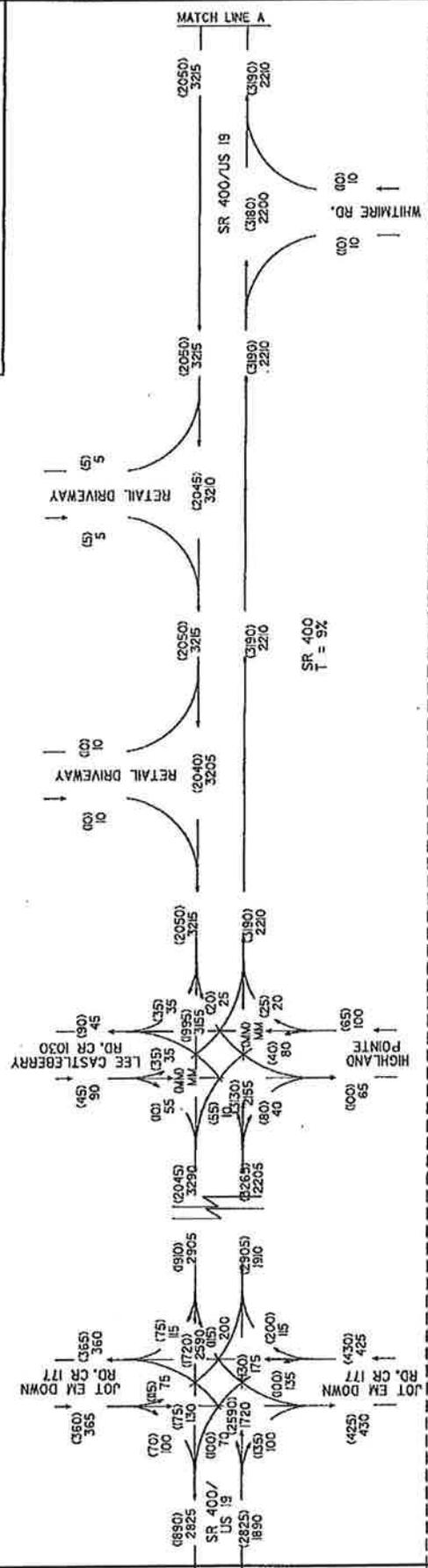
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P.L. 132790  
DAWSON CO.

SR 400 FM CR 252/  
DAWSON FOREST RD.  
TO CR 128/  
KILOUGH CHRD.  
2035 ADT = (000)  
2015 ADT = 000

REN  
7-10

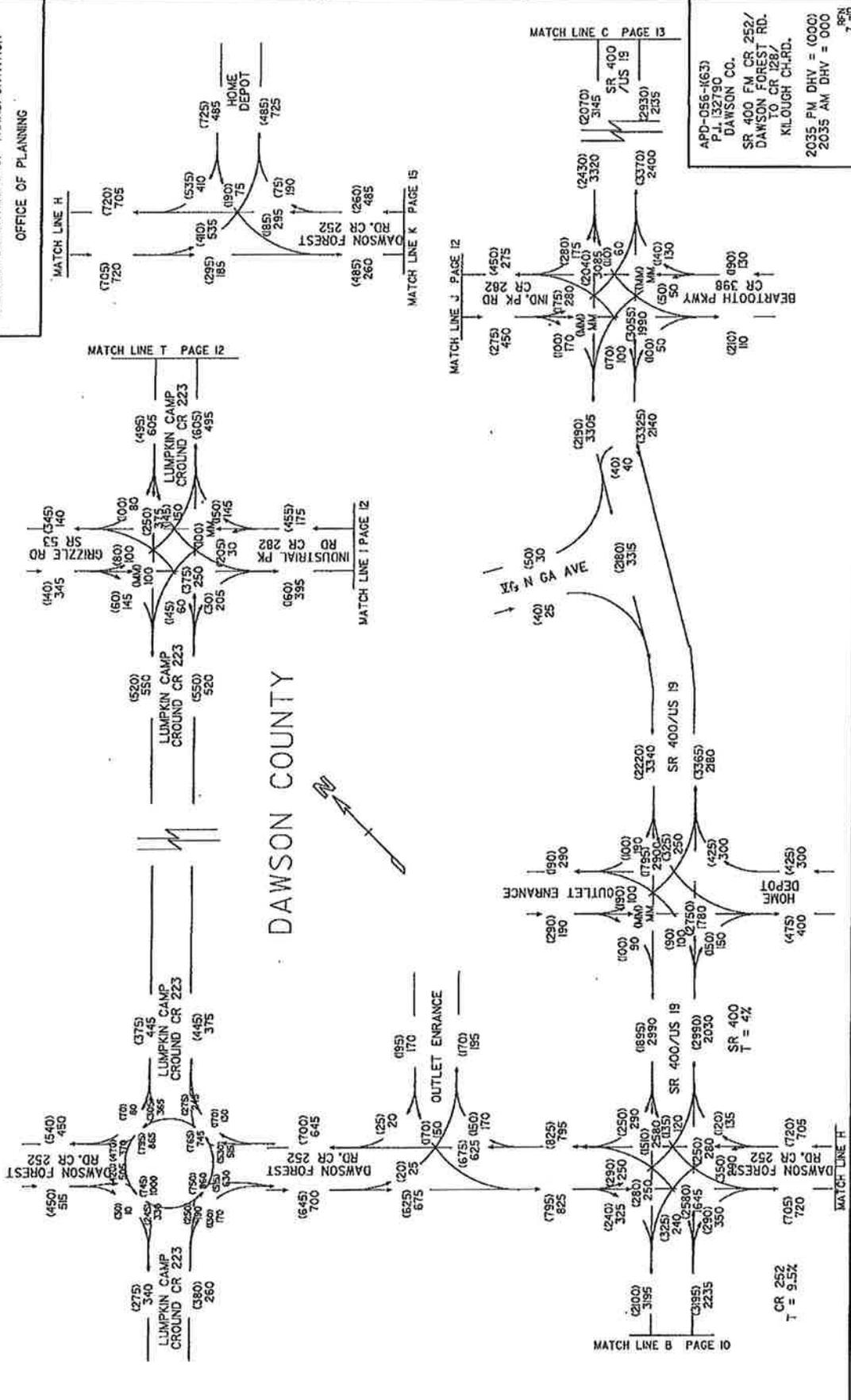




DAWSON COUNTY

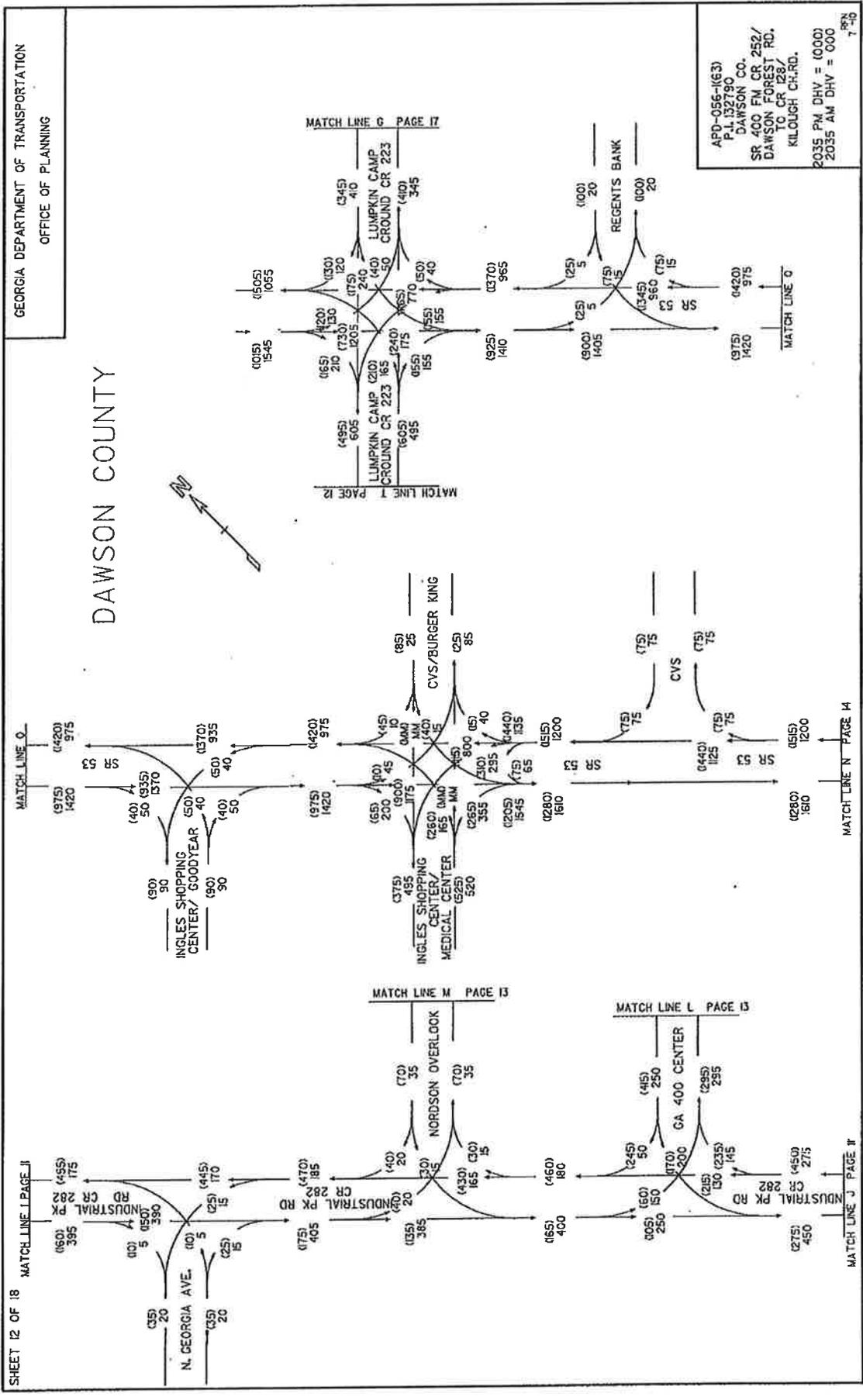


APR-055-(63)  
P-1 122730  
DAWSON CO.  
SR 400 FM CR 252/  
DAWSON FOREST RD.  
LO CP 12B  
KILGUGH CHRD.  
2035 PM DHV = (000)  
2035 AM DHV = 000  
7-50



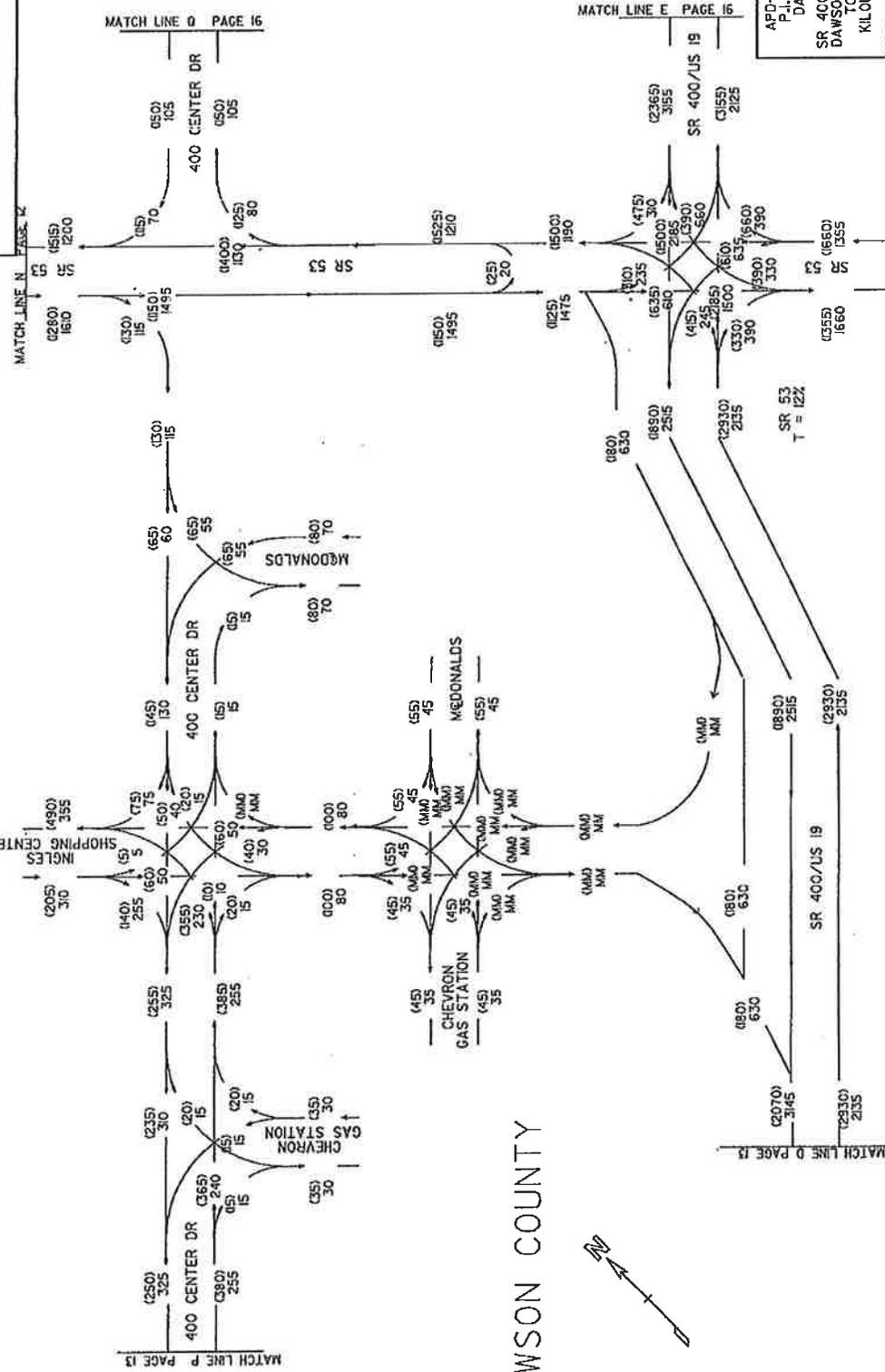
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SR 400 FM CR 252/  
DAWSON FOREST RD.  
TO CR 128/  
KILGUGH CH. RD.  
2035 PM DHV = (000)  
2035 AM DHV = 000  
7-98

DAWSON COUNTY



APD-056-(63)  
P.L. 132790  
DAWSON CO.  
SR 400 FM CR 252/  
DAWSON FOREST RD.  
TO CR 128/  
KILOUGH CH. RD.  
2035 PM DHV = 1000  
2035 AM DHV = 000





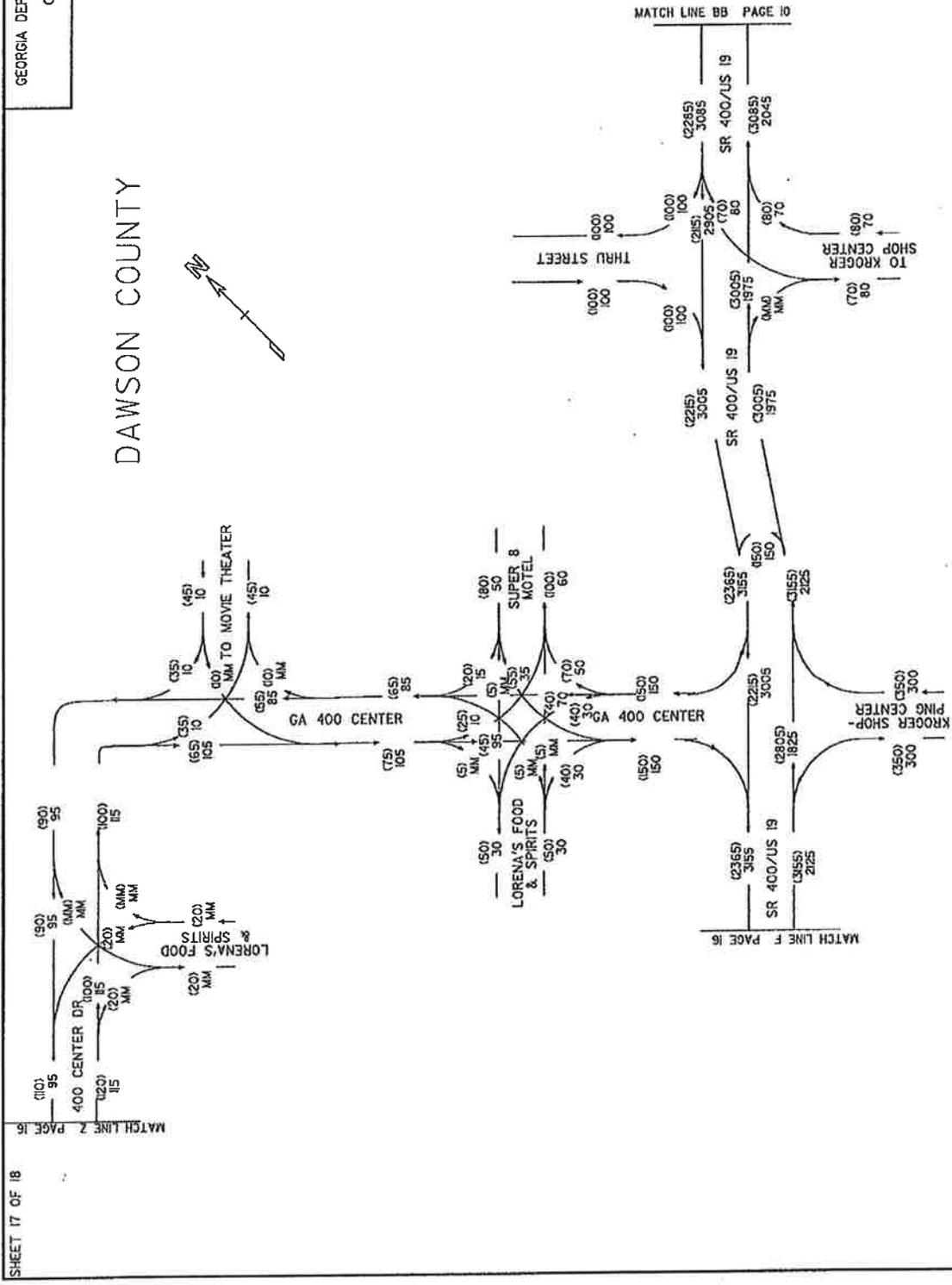
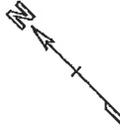
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SR 400 FM CR 252/  
DAWSON FOREST RD.  
TO CR 128/  
KILLOUGH CHRD.  
2035 PM DHV = 1000  
2035 AM DHV = 000

REF  
7-16





DAWSON COUNTY



APD-056-(63)  
P.L. 132790  
DAWSON CO.  
SR 400 FM CR 252/  
DAWSON FOREST RD.  
TO CR 128/  
KILGOUGH CH.RD.  
2035 PM. DHV = (000)  
2035 AM. DHV = (000)

REN  
7-10



# **ATTACHMENT # 5**

## **CAPACITY** **ANALYSIS** **SUMMARIES**

## Level of service at the SR 400/SR 53 Intersection

	Year	AM Peak Hour		PM Peak Hour	
		LOS	Delays (sec)	LOS	Delays (sec)
Existing Condition	2009	D	39.5	D	41.5
No Build Condition	2015	E	55.5	E	66.7
	2035	F	271.8	F	280.6
Build Condition (2-Leg CFI on SR 400)	2015	C	22.6	C	25.3
	2035	C	32.3	D	42.8

# **ATTACHMENT # 6**

## **MINUTES OF** **CONCEPT** **MEETINGS**

## INITIAL CONCEPT MEETING MINUTES

Project number: APD00-0056-01(063)  
County: Dawson  
P. I. Number: 132790  
Project Description: SR 400 @ SR 53 Intersection Improvements  
Date and Time: November 17, 2009 at 10:00 AM  
Place: District One Office, Gainesville Georgia

Robert Mahoney (District 1 Pre-Construction Engineer) began the meeting by welcoming the participants and asked everyone to sign the attendance sheet. He reminded everyone that the information being presented is very preliminary at this stage and that comments and suggestions are welcomed. Mr. Mahoney then introduced Robert Murphy (Project Manager) and turned the meeting over to him.

Robert Murphy thanked everyone for attending the meeting and asked participants to introduce themselves. Following the introduction, he stated his responsibilities with regards to the project and gave a brief overview of the project background. Robert Murphy then introduced Neal O'Brien (Design Group Manager) who moderated the rest of the meeting.

### Need and Purpose

Neal O'Brien noted that everyone has a copy of the Need and Purpose and asked all persons to take a moment to read through it and make comments or ask questions if they have any.

Comments/ questions are as follows:

- V/C ratio stated for design year a.m. and p.m. peak period do not match table 2 as indicated.
- Table 1 need to be reviewed when updated traffic data is available.
- Add to "improve" operations" to the purpose of this project.
- Review entire need and purpose document and make any necessary corrections

Following the comments/ questions, Neal O'Brien stated that all comments will be forwarded to the Office of Planning to address. He talked about two possible alternate designs for the intersection of SR 400 @SR 53 which includes Grade Separated Diamond Interchange, which was proposed in previous concept report, and a Continuous Flow Intersection (CFI) which is currently being proposed. Neal stated that the project was in preliminary stage and that the Office of Roadway Design was waiting on updated traffic counts to be completed and later analyzed in a traffic simulation model to better determine project design features which include but not limited to project termini, storage lengths, median breaks, and 4-legged versus 2-legged CFI.

### Grade Separation, SR 400 over SR 53:

Neal O'Brien provided an overview of the approved concept report for grade separation interchange. He talked about the project scope, the proposed lane geometry and speed, associated cost (\$57.5M for construction and \$10M for ROW) and environmental issues that were identified with grade separation. Neal noted that the Department is currently developing a new a concept which proposes a (CFI) for this project.

### Continuous Flow Intersection:

X:\132790-SR 400 INTERCHANGE at SR 53 Dawson County\Administration\MInutes\INITIAL CONCEPT MEETING111709.doc

Jay Bockisch and Scott Shelton (Gresham, Smith and Partners) gave an overview of a CFI. Jay mentioned that the name Displaced Left Turn (DLT) has been used in recent literature as an alternative to the name Continuous Flow Intersection. Jay demonstrated how a CFI functions using a video of an operational CFI in Baton Rouge, Louisiana and traffic simulation of the proposed CFI on US 78 @ SR 124 in Gwinnet County. He discussed the advantages of this type of intersection with regards to cost, capacity, and safety. Finally, he noted the positive response to CFI from the public in Baton Rouge as documented in the local media.

Scott Shelton using layout displays for the proposed CFI in US 78 @ SR 124 also showed how CFI functions and noted that access and ROW issues on the project are still to be worked out with stakeholders.

Questions from the participants include:

- How do CFI accommodate pedestrians?
- How do CFI function in the event of power failure?
- What type of signing should be used?
- What is the construction time?
- How long do the mast arms have to be?

In response, Jay stated that a CFI can be designed to accommodate pedestrian traffic, however it is not recommended in locations with heavy pedestrian use. Jay recommended the use of backup power sources (i.e. gas or battery operated) in the event of a power failure at the CFI. He stated that no standard signing policies have been developed for a CFI at the moment, but pointed out that Louisiana employed most of the guidelines in the MUTCD. Everyone agreed that educating the public on the CFI is critical. Referring to the CFI in Baton Rouge, Jay estimated construction time to be about 9 months. Mast arms of about 30 to 40 feet will be adequate according to Jay.

Charles Robinson (GDOT) presented an overview of the proposed CFI on SR 400 @ SR 53 using concept layout displays. Charles reiterated that the design was in a preliminary stage and encouraged comments and/or suggestions from the meeting attendees to improve the design as the project progresses. He described the alternatives being proposed which included the four (4) and two (2) legged CFI that are being considered by the Department. He stated that the information shown on the layout (storage length, number of left turn lanes, median width, and project termini) is not based on current traffic data and will change as updated traffic information becomes available and is analyzed using VISSIM. Charles stated that the Department will decide on the appropriate alternative after the traffic data has been updated and analyzed.

Following the presentation, comments and discussion centered on various issues including need to provide access to the area businesses (i.e. Kroger grocery store), required right of way, plans to allow for future widening (6 lanes), incorporating flexibility in design to allow for modifying the intersection for future traffic volume after construction, and staging concerns. The need to study traffic at Dawson Forest Road for improvement due to heavy left turn movement was also mentioned. Design challenges such as appropriate shoulder widths, clear zone, proposed raised median on a 55 mph design speed roadway, design variance consideration, and the use of return lane as auxiliary lane. Charles noted that all the concerns will be taken into consideration as the Department moves forward with the design.

#### Environmental /Public Involvement

Amber Phillips provided an overview of the environmental impacts identified with the grade separation design in the approved concept. Amber pointed out that the environmental resources being studied in the previous approved concept were One (1) historic resource, three (3) wetland areas, and eight (8) streams. She stated that due to the controversy generated by the proposed design; EA was being processed for the project. Amber said that with the smaller foot print of CFI concept and working with the community, a CE may be possible. She recommended setting up stakeholder meetings to address issues prior to holding a Public Information Open House (PIOH). She advised to hold the first stakeholders' meeting after deciding on a 4 or 2 legged CFI alternative and a better project layout has been developed. Amber also said that she will review the environmental resources and update the studies based on the new concept.

Following Amber's presentation, comments / questions from participants included; who will be invited to the stakeholders meeting?, recommendation to invite Steve Gooch, DOT Board Member from the 9<sup>th</sup> Congressional District

to the stakeholders meetings, recommendation to invite Marion Waters to participate in the stakeholders meetings, and Medina will probably attend the stakeholders meeting as they have done in the past. It was noted that such meetings were held in the past and a list of invitees to the stakeholder meeting for this project can be drawn from the existing list and should be coordinated through the County.

#### Schedule

Robert Murphy noted that he will request for schedule update when the traffic data is completed, but currently he is targeting for a 2011 ROW authorization.

#### Comments/Questions and Response

##### Dawson County:

- The County setup the previous stakeholders meetings. It will be ideal if they do it again. Contact person from the County to organize the meetings this time is David Headley. ROW/Access issues to be addressed in stakeholder meetings.

##### District Utility/Utility owners:

- District utilities - will review old plans to determine if there is any utility impact.
- GTC - Have overhead lines on Dawson Forest to SR 53 on private easement.
- Water/Sewer - 8" and 6" water line exist at the intersection and on both sides of SR 53.
- Atlanta Gas 6" line in the area but will need plan to confirm exact location and if it will be impacted.
- Wind Stream - fiber/copper on north side of SR53 and SR 400
- SUE will be used on this project

##### District/GO Traffic Operations:

- Need to consider heavy left turn traffic on Dawson Forest
- Office of traffic operation noted that they have never done a signal design for a CFI
- Participants advise that we may have to contact the Louisiana DOT or other DOTs with CFI experience to find out how theirs was signed.
- CFI signals will be pretimed.
- Recommendation to possibly put into contract who will be responsible for signal timing
- Office of Roadway Design should obtain latest permits for SR400 and SR53

##### District Construction

- When will the concept team meeting be held? Response - Depends on traffic data update and setting a realistic schedule. Summer/Fall 2010 probably.
- Would construction take place during day or night? Response - Construction can be done on both day and night.
- What is the schedule for construction? Response - Currently project is in long range (LR), it depends on funding.
- Will drainage be an issue? Can catch basins be used? Response - If sufficient width is available catch basins will be utilized
- Will Staging be a problem for this project? Response - Staging this project will be a challenge but can be done.
- This project will need a constructability review and GDOT-Utilities and Utility companies should be invited to this meeting

##### District /GO ROW

- Noted that access will be an issue.

The meeting ended at about 11:25 a.m. with Robert Murphy re-iterating the need to provide access to businesses because of their economic role in the area. Once again, he thanked everyone for coming to the meeting.

## MEETING MINUTES

CFI at SR 400 at SR 53  
PI No. 132790, Dawson County

Date of Meeting: November 16, 2010

Location: District 1 Conference Room, Gainesville GA

Attendees: Robert Murphy – GDOT Project Manager  
Neal O'Brien – GDOT Roadway Design  
Peter Eze – GDOT Roadway Design  
Charles Robinson – GDOT Roadway Design  
Thao Truong – GDOT Roadway Design  
Rishee Shah – GDOT Roadway Design  
James Harry – GDOT Construction  
Glenn Williams – GDOT Utilities  
Steve Matthews – GDOT Engineering Services.  
Robby Oliver – GDOT D1 Utilities  
Allen Ferguson – GDOT D1 Utilities  
Matt Needham – GDOT D1  
Jason Dykes – GDOT D1 Construction  
Ken Werho – GDOT TMC  
Shane Dover – GDOT D1 Preconstruction  
Kendra Bunker – FHWA  
Bruce Nicholson – GDOT D1 Construction  
Todd McDuffie – GDOT D1

### AGENDA:

Robert Murphy asked all to introduce themselves and the office which they are representing.

Charles Robinson briefly described the project.

Robert Murphy asked whether there was any environmental comment concerning the project. Replied there was no major concern as long as the construction limits stay out of Lumpkin Campground. The surveys conducted and the assessment concluded that there is no impact within the current construction limits. Bruce Nicholson of D1 Construction asked what impacts would there be on Lumpkin Campground. Robert Murphy replied they are 4F impacts. Bruce Nicholson commented that the limits should extend to include the return of radii on the other side of the intersection at SR 53 and Lumpkin Campground, and asked whether the environmental impacts concern the intersection area. Neal O'Brien answered the impacts are not at the intersection and that the return of radii will be improved.

Robert Murphy asked for comments from Utilities. Allen Ferguson replied there is no comment at this time. Robert Murphy asked

Charles Robinson reviewed the concept layout. Charles explained there will be limited ROW acquisition on SR 53 and no ROW acquisition on SR 400. Charles pointed out two driveway access points on SR 53 are modified into right-in-only and explained how it is necessary due to operation and safety concerns.

Robert Mahoney asked whether overhead or mountable signs will be used, and where should the signs begin. Neal O'Brien and Robert Murphy replied signing design is still in discussion with TMC. Robert Mahoney asked whether the right turn from SR 400 onto SR 53 operates in yield condition. Charles Robinson replied It is in yield condition, but there will be a short auxiliary distance to allow for the merge.

Steve Matthews asked if there will be pedestrian crosswalk. Robert Murphy replied there is no existing pedestrian traffic. Neal O'Brien added that, however, TMC recommends crosswalks to be added to the preliminary plans due to current guidelines.

Ken Werho of TMC commented crosswalks will need to operate in 3 stages due to the wide intersection.

James Harry of Construction asked how traffic signals will be installed to span the entire width from shoulder to shoulder at the intersection. Neal O'Brien answered mass-arms will be used and further investigation is being pursued.

Charles Robinson showed modeled animations and real-life videos of the Baton Rouge, Louisiana CFI.

Robert Murphy opened the floor for discussions and comments.

David Headley of Dawson County stated he had initial concerns about the access to the commercial areas, but that these concerns have been addressed.

David McKee of Dawson County mentioned that the pedestrian volume at this intersection is not heavy and that there is currently no sidewalk.

Corey Guthrie of Dawson County asked for the LOS associated with the build scenario (CFI). Neal O'Brien answered by 2015 it will be LOS D and by design year, it will be LOS E and eventually a lane on SR 400 will need to be added. But in a no-build scenario, the intersection will operate under LOS F.

David Headley asked if there will be landscaping requirements. Robert Murphy answered there will be low shrubbery (as to not prohibit sight) in grassed areas. He also stated that there will be a project management agreement (PMA) with the local government for the maintenance of the landscape.

Angel Correa of FHWA asked what the horizontal alignment design exception is for. Charles Robinson answered it is for the intersection between SR 53 and Elliot Drive, where the skew angle is substandard. Redesigning the intersection will involve costly impacts due to reconstruction.

Angel Correa asked whether the mall will be impacted. The answer is no. Angel Correa asked whether left-turn traffic into the mall at the median opening will affect traffic flow southbound on SR 400. Charles Robinson answered the modeled analysis extended to include the intersection of SR 400 at Dawson Forrest and it was shown that there will be no adverse impact.

Angel Correa asked whether there will be separation between the different directions of traffic flow on SR 400 since the configuration will be confusing for drivers. Neal O'Brien and Charles Robinson answered there will be skip striping and proper lighting directing left turning traffic from SR 53 to the appropriate lanes.

James Harry of Construction commented that the estimated \$6.5 million seems too low for construction. Robert Murphy replied the cost estimation is up-to-date and will be further updated as changes are made to the design.

Brent Cook of D1 Traffic Ops stated that the intersection of SR 53 at Lumpkin Campground Road will need a signal revision and that all signal revisions will be done under one permit. He also asked for traffic count information at said intersection, and then confirmed the office has received it.

Jim McNeely of D1 ROW requested design plans once the design has reached preliminary stage to get a more accurate ROW cost estimate.

Robert Mahoney of D1 Preconstruction asked whether there will be speed reduction on SR 400. Neal O'Brien replied that there will not be a speed reduction on SR 400 within the project limits.

Ken Werho of TMC suggested closer investigation into sidewalk and crosswalk needs because of the current guidelines. Ken Werho asked for an aerial photo of the Baton Rouge CFI for guidelines on signing. Neal O'Brien answered plans can be obtained from the Baton Rouge designers. Charles Robinson added that internet can also be used to access the satellite aerial imagery of area.

# **ATTACHMENT # 7**

## **PIOH SUMMARY OF** **COMMENTS**



Summary of Comments  
APD00-0056-01(063), PI No. 132790, Dawson County  
**Error! Reference source not found.**  
Page 2

OFFICIALS:

Officials attending included the following:

- Gary Pichon, County Commissioner
- James Swafford, District 2 Commissioner
- Steve Gooch, DOT Board
- Cathy Paba, D.C.A Field Rep.
- Mike Berg, County Commission Chair
- Tom Foley, Vice Chair – Board of Elections

MEDIA:

- Dawson Community News
- WDUN
- Adwson News & Advertisement

DISPOSITION OF COMMENTS:

The following represents a breakdown of a review of comments by the offices to which they pertain. The project manager will review all responses.

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Design	2, 3, 21, 24, 26, 28	<ul style="list-style-type: none"> <li>- Highway 53 &amp; Lumpkin Campground Road Intersection needs to be addressed.</li> <li>- Project will cause a bottle neck at this road.</li> <li>- Put in a turn light at this area.</li> <li>- A left turn lane from Lumpkin Campground Road west onto SR 53 is needed.</li> <li>- The light at Highway 53 &amp; Lumpkin Campground Road needs to identify when a car is there so that when there are no cars coming in the other direction it will turn allowing you to proceed through the intersection instead of sitting there when no one is coming.</li> <li>- How does traffic back up at Highway 53 &amp; Lumpkin Campground road affect traffic turning from Northbound SR 400 to Westbound SR 53?</li> </ul>
	10, 29	A traffic light needs to be placed at the entrance to Ingles shopping center to allow left turns into the plaza.
	<del>13, 15, 18, 24, 27, 32</del>	A traffic light is needed at the intersection of SR 400 & Kilough Church Road, where many accidents have occurred.
	16	There should be more design to prevent left turn movements from the Kroger Shopping Center onto GA 400 S.
	21	Project should consider exit from the Premium Outlets mall that allows exiting traffic to cross southbound 400 and turn left onto northbound 400. This at a minimum should be studied to see how traffic in this area affects our proposed project.
	22	If westbound traffic on Highway 53 is blocking the entrance to the Kroger Center how would I turn from eastbound SR 53 into the plaza? Will there be "Do not Block Intersection" signs placed here?
	22	Will impervious storm water be retained in existing retention pond north of Ryan's?
	23	You need to plant lots of trees. These trees should screen the view northbound and

Summary of Comments  
 APD00-0056-01(063), PI No. 132790, Dawson County  
 Error! Reference source not found.  
 Page 4

		southbound and direct the view for the choices that you are being asked to make.
	26	Concerned with drainage at the intersection, currently it holds water.
	26	Concerned that U-Turn provisions are not made for people who mess up and go through the intersection when they wanted to go left.
	28	SR 53 needs to be widened.

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Right-of-Way	None	

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Traffic Operations	11	Please study how traffic back up at Highway 53 & Lumpkin Campground road might affect traffic turning from Northbound SR 400 to Westbound SR 53.
	21	Project should consider exit from the Premium Outlets mall that allows exiting traffic to cross southbound 400 and turn left onto northbound 400. This at a minimum should be studied to see how traffic in this area affects our proposed project.
	26	I would like to see the traffic data shows this intersection would support traffic thought 2030.

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Planning	13, 15, 18, 24, 27, 32	A traffic light is needed at the intersection of SR 400 & Kilough Church Road, where many accidents have occurred.
	28	SR 53 needs to be widened.
	2, 3, 21, 24, 26, 28	<ul style="list-style-type: none"> <li>- Highway 53 &amp; Lumpkin Campground Road Intersection needs to be addressed.</li> <li>- Put in a turn light at this area.</li> <li>- A left turn lane from Lumpkin Campground Road west onto SR 53 is needed.</li> <li>- The light at Highway 53 &amp; Lumpkin Campground Road needs to identify when a car is there so that when there are no cars coming in the other direction it will turn allowing you to proceed through the intersection instead of sitting there when no one is coming.</li> </ul>

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
--------------------	-----------	-------------------

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Environmental Services	All Letters	<p>Thank you for your input regarding the public information open house for the proposed project. Your interest in this meeting and your comments are appreciated. Your comments will be made a part of the official record of the project.</p> <p>The attendees of the open house and those persons sending in comments afterwards raised the following questions and concerns. The GDOT has prepared one response to all comments so that everyone can be aware of the concerns raised and the responses given. Please find the comments, concerns, and questions listed below along with their response.</p>

Summary of Comments  
APD00-0056-01(063), PI No. 132790, Dawson County  
**Error! Reference source not found.**  
Page 6

Please review the comments and email responses to Amber Phillips ([aphillips@dot.ga.gov](mailto:aphillips@dot.ga.gov)) by May 14, 2010.

Attached is a complete transcript of the comments received during the comment period and a copy of the public information open house handout.

If you have any questions about the comments, please either email or call Amber Phillips at (404) 631-1117.

GB/AP

Attachments

**DISTRIBUTION:**

Ben Buchan, w/attachments  
Russell R. McMurry, w/attachments  
Robert Murphy, w/attachments  
District 1 Attn: Todd McDuffie, w/attachments  
Angela T. Alexander, w/attachments  
Kathy Zahul, P.E., w/attachments  
Howard (Phil) Copeland (Attn: Troy Byers), w/attachments

# **ATTACHMENT # 8**

## **B/C RATIO**

RECEIVED  
JAN 05 2011  
ROADWAY DESIGN

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

McMurry	_____
Casey	_____
Hasty	<i>Neal (Peter)</i>
McCook	_____
Richardson	_____
Other	_____
File	_____

INTERDEPARTMENTAL CORRESPONDENCE

OFFICE: Planning

DATE: December 20, 2010

*Cynthia VanDyke*  
FROM Cindy L. VanDyke, State Transportation Planning Administrator  
TO Bobby Hilliard, P.E., Transportation Engineering Administrator  
ATTN Robert Murphy, Project Manager  
SUBJECT Benefit/Cost Calculation for Concept Report – SR 400 at SR 53 CFI  
DAWSON COUNTY - P.I. No. 132790

The Office of Planning is providing the Benefit/Cost Calculation for Project ID No. 132790. Based on the December 17, 2010 review, the Benefit/Cost Ratio for this project is 52.03, as calculated in the attached documentation.

Please note that there were some concerns with the micro-simulation models that were provided and utilized for this analysis. The no build scenario was modeled in SYNCHRO and the build was modeled using VISSIM. There were fatal errors in the SYNCHRO model which had to be corrected in order to run the model. The changes made to the model are detailed in the attachment to the B/C spreadsheet.

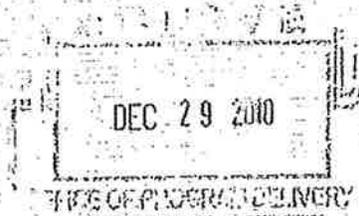
Please note that this B/C ratio is provided for incorporation into the project's concept report. The B/C ratio should not be used to determine the project's importance or need. A project's need is articulated in the need and purpose statement. A project's importance can be determined based on the project's schedule in the Construction Work Program and/or STIP.

If any changes occur to the proposed concept, please notify this office immediately. If you have any questions, please call Steve Walker at (404) 631-1789.

CLV:sw

cc: Genetha Rice-Singleton

Attachments



### GDOT Benefit-Cost Calculator

enter information in green cells

#### Project Information

ID 132790  
 Description SR 400 @ SR 53

Cost Estimate  
 Date of estimate 3/9/09  
 PE cost \$ 2,415,373  
 ROW cost \$ 2,574,208  
 UTILITY cost \$ 431,000  
 CST cost \$ 7,231,369

Total \$ 12,701,950

#### Traffic in 2035

Source of traffic data Analysis in Synchro 7 for no-build. Signals added and optimized network analysis of both hour peak AM and 1 hour peak PM periods. Build analysis was in VISSIM

Without project (nobuild)  
 Annual VMT 4,346,750  
 Annual VHT 2,138,250  
 Average speed (mph) 2

#### With project (build)

Annual VMT 5,960,250  
 Annual VHT 2,732,250  
 Average speed (mph) 22

#### Parameters

	Default	Override	Used
Analysis year	2035	2035	2035
Discount rate	4.0%	4%	4%
Design life (years)	25	20	20
Base year of cost estimate	N/A	2008	2008
Current CST program year	N/A	2015	2015
Fuel price (\$/gallon)	3.22	3.22	3.22
Fuel economy (mpg)	18.03	18.03	18.03
Value of auto travel (\$/hr)	13.75	13.75	13.75
Value of truck travel (\$/hr)	72.65	72.65	72.65
Percent trucks	12%	12%	12%
Include GSP benefits	No	No	No

<b>Costs</b>		
Total cost	\$	12,701,950
Annualized cost	\$	740,693
<b>Auto Delay Costs</b>		
Nobuild	\$	25,872,825
Build	\$	3,306,325
Auto delay savings	\$	22,566,500
<b>Truck Delay Costs</b>		
Nobuild	\$	18,641,284
Build	\$	2,382,194
Truck delay savings	\$	16,259,070
<b>Fuel Costs</b>		
Nobuild	\$	776,291
Build	\$	1,064,448
Fuel cost savings	\$	(288,157)
<b>Change in GSP</b>		
Auto delay cost adjustment		NA
Truck delay cost adjustment		NA
Fuel cost adjustment		NA
Total benefit adjustment		NA
<b>Benefits in 2035</b>	\$	38,537,413
<b>Benefit-Cost Ratio</b>		52.03

#### Notes

Please see attached word document in folder for changes made to no-build SYNCHRO model.

## GDOT Benefit-Cost Equations

### 1. Annualized Cost

$$A = P \times \frac{i}{1 - (1+i)^{-n}}$$

where

A annualized cost  
 P total cost (PE + ROW + CST)  
 n design life  
 i discount rate

### 2. Auto Delay Savings

$$DC_A = (VHT_{NB} - VHT_B) \times (1 - T) \times Value_A$$

where

DC<sub>A</sub> auto delay cost savings  
 VHT<sub>NB</sub> vehicle hours traveled in 2035 - no build  
 VHT<sub>B</sub> vehicle hours of travel in 2035 - build  
 T percent of traffic consisting of trucks  
 Value<sub>A</sub> value of time for autos

### 3. Truck Delay Savings

$$DC_T = (VHT_{NB} - VHT_B) \times T \times Value_T$$

where

DC<sub>T</sub> truck delay cost savings  
 VHT<sub>NB</sub> vehicle hours traveled in 2035 - no build  
 VHT<sub>B</sub> vehicle hours of travel in 2035 - build  
 T percent of traffic consisting of trucks  
 Value<sub>T</sub> Value of time for trucks

### 4. Fuel Cost Savings

$$FC = (VMT_{NB} - VMT_B) \times \left( \frac{\text{Fuel Price}}{\text{Fuel Economy}} \right)$$

where

FC fuel cost savings  
 VMT<sub>NB</sub> vehicle hours of travel in 2035 - no build  
 VMT<sub>B</sub> vehicle hours of travel in 2035 - build

### 5. Change in gross state product

$$GSP = (DC_A \times 0.0000071) + (DC_T \times 0.0000701)$$

where

GSP Change in GSP  
 DC<sub>A</sub> auto delay cost savings  
 DC<sub>T</sub> truck delay cost savings

### 6.a Benefits with no GSP component

$$Benefits = DC_A + DC_T + FC$$

where

DC<sub>A</sub> auto delay cost savings  
 DC<sub>T</sub> truck delay cost savings  
 FC fuel cost savings

### 6.b. Benefits with GSP component

$$Benefits = 0.7 \times (FC_A + DC_A) + GSP$$

where

FC<sub>A</sub> auto fuel cost savings  
 DC<sub>A</sub> auto delay cost savings

### 7. Benefit-Cost Ratio

$$B/C = \frac{Benefits}{Annualized Cost}$$

Notes on SYNCHRO runs for PI 132790 (JFC -- 12/17/10)

General model notes:

- 1) 2035 AM and PM Build models are in VISSIM and 2035 AM and PM No-build models are in SYNCHRO.
- 2) No existing model provided; Model not calibrated to existing conditions.
- 3) Since the VISSIM and SYNCHRO models were not done for the exact same lane miles of the network, utilizing network wide statistics may not equitably compare the two models. It should also be noted that the entire VISSIM network model was assumed due to the inability for GDOT Planning staff to access and operate the VISSIM files, as we do not have the software. If this software is acquired, we have received the VISSIM files from the consultant team. For that reason, the entire SYNCHRO model was used as well.
- 4) An issue with using the entire SYNCHRO model network for this analysis is that some roadways are generating delay that are not directly associated with the conditions of the SR 400 and SR 53 of which this project is intended to address. This has the potential to overestimate the delay associated with the SR 400 and SR 53 intersection in the no-build conditions.
- 5) VISSIM seems to be the best model choice for the build (2 leg CFI) based on our conversation with Jay at GS&P.
- 6) We initially could not get the 2035 AM or PM no-build SYNCHRO models to run due to fatal run errors. After speaking with the consultant team (GS&P), they recommended several improvements to eliminate the fatal model errors:
  - Node 1 – extend the EBR lane length to 125 feet
  - Node 3 – extend the SBL lane length to 450 feet
  - Node 3 – add shared left/through lane to eastbound and westbound approaches
  - Node 19 – extend the SBR turn lane to 75 feet
- 7) There were Errors (code 212) where the “link distance is too short for lane changes with upstream channelized right.” This occurred at Nodes 5, 6, 7, 8, 9, 10, 11, 18, and 19. Due to the short distances of the links between nodes, it was not possible to correct these errors. It is possible that CORSIM or VISSIM could allow the functionality of adjusting the channelization distances for purposes of model decision making for right turning vehicles without eliminating the channelization altogether.
- 8) After the fatal errors were corrected, the model showed average speeds of 2 MPH across the entire network. Not sure if this is due to overall congestion of the network and/or due to the channelization errors. Therefore, the model was reviewed for any issues or non-optimal functionality.

9) In order to allow traffic to perform optimally in the future year (2035) AM and PM no-build micro-simulation models, some minor adjustments were made to allow vehicles to move realistically. Those improvements are as follows:

- Node 18 was removed. Cars were arbitrarily stopping at this node while there was capacity downstream. The purpose of this improvement is so that traffic headed west along SR 53 could continue west to the SR 400 and SR 53 intersection. This improvement is realistic as the model did not generate vehicles northbound at the node intersection where an existing restaurant with two entrances is currently located.
- Node 5 was removed. Cars were arbitrarily stopping at this node while there was capacity downstream. The purpose of this improvement is so that traffic headed south along SR 400 could continue. This improvement is realistic as the model did not generate vehicles turning left at this node as there is not a median access break, nor an intersection in the existing conditions.

10) In order to allow traffic to perform optimally in the future year (2035) AM and PM no-build micro-simulation models, some operational improvements were assumed to accommodate minor operational deficiencies. Those improvements are as follows:

- A pretimed signal was added at SR 400 and Industrial Park Road/Beartooth Pkwy. The purpose of this improvement is to accommodate the delay on the side streets where vehicles were not able to make turning movements onto SR 400. This improvement is realistic as it is possible that no ROW would be required. Signal was optimized.
- A pretimed signal was added at SR 400 and the Outlet entrance/Home Depot entrance. The purpose of this improvement is to accommodate the delay on the side streets where vehicles were not able to make turning movements onto SR 400. This improvement is realistic as it is possible that no ROW would be required. Signal was optimized.

# **ATTACHMENT # 9**

## **CONCEPT LAYOUT**

# CONCEPT LAYOUT

## 2-LEGGED CFI

SR400 @ SR53 - CONTINUOUS FLOW INTERSECTION (CFI)

P.I.# 132790

PROJECT # APD00-0056-01(063)

DAWSON COUNTY

SR400

SR53

### LEGEND

- EXISTING PROPERTY LINES
- PROPOSED RIGHT OF WAY (ROW)
- EDGE OF PAVEMENT
- CURB AND GUTTER
- SIDEWALK
- PROPOSED MEDIAN/TURNLANE (CONCRETE)
- PROPOSED MEDIAN/TURNLANE (GRAVEL)
- EXISTING SIGNAL (PROPOSED UPGRADE)
- PROPOSED SIGNAL

