

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** STP-030-1(18) Sumter  
P. I. No.: 322780  
S.R. 27/U.S. 280 Widening/Reconstruction

**OFFICE:** Engineering Services

**DATE:** April 22, 2008

**FROM:** Brian Summers, P.E., Project Review Engineer *RES*

**TO:** Brent A. Story, P.E. State Road and Airport Design Engineer

**SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES**

Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT No.	Description	Savings PW & LCC	Implement	Comments
P-3	Reduce Pavement width of inside lanes to 11' and use 12' on the outside lanes	\$770,000	Yes	This should be done.
R-6	Reduce the Design Speed from 65 mph to 55 mph	Design Suggestion	No	The posted speed limits are assigned by the 85 <sup>th</sup> percentile speed of a roadway. This is a multi-lane roadway with a divided median that is located in a rural area and running speeds will be greater than 55 mph. Many of these types of facilities are later signed at 65 mph. This was why a 65 mph Design Speed was used.
P-6	Retain and overlay the existing roadway in certain areas and add two lanes parallel to the existing alignment	\$4,640,000	Yes	This should be done.

ALT No.	Description	Savings PW & LCC	Implement	Comments
R-2	Reduce median width from 44' to 32'	\$820,000	Yes	This should be done.
R-8	Revise S.R. 49 Realignment	\$210,000	No	This revised alignment would result in a skew crossing a railroad just before tying to the S.R. 27/U.S. 280 intersection. The alignment currently shown provides for more of a 90 degree crossing.
S-1	Use two bridges in lieu of extending the existing box culvert	-\$50,000 (Cost Increase)	No	This will result in a net cost increase; however, once final hydraulic information is available, this could still be considered.
1	Eliminate Landscaping Budget	Design Suggestion	Yes	This should be done.
2	Use Short Retaining Wall	Design Suggestion	Yes	This should be done.

A meeting was held on April 21, 2008 to discuss the above recommendations. Andy Casey and Tim Matthews with Road Design, and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance.

Approved: Gerald M. Ross Date: 4/22/08  
Gerald M. Ross, P. E., Chief Engineer

BKS/REW

Attachments

c: Gus Shanine  
Todd Long  
Paul Liles  
Brent Story

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VE Study Implementation  
Page 3.

Andy Casey  
Tim Matthews  
Josh Taylor  
Richard Marshall  
Lamar Pruitt  
Andy Lindsey  
Ken Werho  
Bruce Hart  
Lisa Myers

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## INTERDEPARTMENT CORRESPONDENCE



**FILE** STP-030-1(18) Sumter County  
P.I. No. 322780  
SR 27/US 280 FM SR 45 in Plains to SR 49 SW of Americus

**OFFICE** Road Design  
Atlanta, Georgia

**DATE** March 31, 2008

**FROM**   
Brent A. Story, P.E., State Road & Airport Design Engineer

**TO** Brian Summers, P.E., Project Review Engineer

**SUBJECT** Value Engineering Study Final Report Response

This is the response to the VE study conducted on February 18-21, 2008 for the above referenced projects. The VE study recommendations/responses are listed in the table below.

Idea No.	Description	Response
P-3	Reduce Pavement Width of Inside Lanes to 11 feet.	Yes. Considering trucks will travel on the outside lanes, traffic volumes are 8600 (2012) and 14100 (3032) with 11% trucks.
R-6	Reduce the design speed from 65MPH to 55MPH.	No. Posted speed limits are assigned by the 85 <sup>th</sup> % speed of a roadway. Constructing a facility of this nature will most definitely produce a running speed greater than 55mph. If the geometry is designed for 65 and posted for 55, future speed limit increases will not carry negative safety implications.
P-6	Build one Direction, New Roadway and overlay Existing Roadway.	Yes. However, due to extensive environmental recourses, using some of the existing road may not be viable. Each section will be evaluated during design. The condition of the existing pavement is not known at this time.
R-2	Reduce median width from 44ft to 32ft.	Yes. There are substantial environmental impacts as a result of this project. Because of the traffic volumes, future widening is not inevitable.
R-8	Revise SR 49 realignment.	No. This alignment crosses a RR and ties in to the mainline just past a horizontal curve. The effects of even a slight skew combined with the horizontal curve can cause safety implications related to sight distance for both trains and vehicle traffic.

S-1	Use two bridges in lieu of box culvert extension.	No. At this time there is not enough information to warrant a bridge. During design we will consider all options which may warrant a bridge in lieu of a culvert extension.
Design Suggestions	Eliminate landscaping budget.	Yes. Landscaping will not be used due to management directive.
Design Suggestions	Use short retaining walls.	Yes. Design will consider using retaining walls to mitigate impacts and RW cost.

If there are any questions or comments concerning these recommendations, please contact Tim Matthews at (404) 656-5406.

BAS:CAC:twm

cc: Todd Long, Director of Preconstruction  
 Brent Story/Tim Matthews, Road Design  
 Bobby Dollar, OEL  
 Richard Marshall, Construction  
 Lamar Pruitt/Andy Lindsey, District 3 Construction  
 Ken Werho, Traffic Safety and Design  
 Lisa Myers, Engineering Services

## **Recommendation Highlights**

### **P-3 Reduce Pavement Width of Inside Lanes to 11'**

The VE Team believes that this concept would provide an acceptable functionality for a roadway of this low traffic volume. Most trucks would be expected to use the outside lanes which would remain at 12'. A one-foot reduction in the width of the inside lanes would likely be imperceptible to the motorist.

*The total potential savings if accepted is \$770,000 plus a nominal reduction in O&M over time.*

### **R-6 Reduce Design Speed from 65 MPH to 55 MPH.**

A 55 mph design and posted speed would be appropriate for a low-volume roadway such as this one. This change would reduce R/W impacts, especially in the area of Sta. 305+00 to Sta. 315+00 where the horizontal curve flattening would be minimized.

*The total potential savings if accepted was not estimated, but would be significant.*

### **P-6 Build One Direction, New Roadway and Overlay Existing Roadway**

For the most part, the existing roadway meets a 55 mph design speed. Under this concept; the existing roadway, in the depressed median section, would be upgraded only where needed to attain a 55 mph design speed and elsewhere would only have standard shoulders constructed and an overlay. The relatively flat terrain in this area would facilitate this concept. The VE Team did not have access to a formal appraisal of the existing pavement condition but we were under the impression that it was in at least fair condition.

*The total potential savings if accepted is \$4,640,000.*

### **R-2 Reduce Median Width from 44' to 32'**

This section of SR 27 has low existing and projected volumes of traffic. A 32' median would provide a safe and enhanced facility to meet GRIP goals while reducing right of way costs and impacts significantly.

*The total potential savings if accepted is \$820,000.*

### **R-8 Revise SR 49 Realignment**

The baseline realignment achieves a desirable 90 degree intersection but requires the acquisition of a significant amount of R/W and the realignment of a portion of Jenkins Road. A 70 degree intersection would meet the minimum standard and reduce project costs.

*The total potential savings if accepted is \$210,000.*

## **S-1 Two Bridges in lieu of Box Culvert Extension**

The baseline profile indicates an embankment of approximately 8' to be placed over the existing box culvert. It is not known at this point whether the existing box would provide the required future hydraulic capacity or support the additional load. Based on the VE Team's estimate of proposed culvert extension length and a conservative bridge size, the construction costs for bridge and culvert would be approximately the same but the bridge would avoid these potential problems.

*The additional construction cost was estimated at \$50,000.*

## **Design Suggestions**

The following concepts were not advanced as Recommendations but the VE Team believed they may have merit. We suggest that the Design Team consider them as project development continues.

### **1. Eliminate Landscaping Budget**

The preliminary estimate includes \$784,000 for landscaping. The Design Team has indicated that landscaping will not be a part of this project and the VE Team wanted to convey this decision and express its agreement with that approach.

### **2. Short Retaining Walls**

The use of these easily constructable walls might avoid or mitigate impact on some properties at a modest cost. They can also be aesthetic additions to the project which tend to be graffiti resistant. We suggest that the Design Team review the project for any such opportunities.



# Preconstruction Status Report By PI Number

Print Date: 04/22/2008

PROJ ID	COUNTY	DESCRIPTION	MGMT. ROW DATE	SCHED DATE	MGMT. LET DATE
322780-	Sumter	SR 27/US 280 FROM SR 45 IN PLAINS TO SR 49 SW OF AMERICUS			

STP00-0030-01(018) **FIELD DIST:** 3  
**TIP #:** **TWIN:** **US:** 280  
**MPO:** Not Urban **EST DATE:** 10/1/2007  
**MODEL YR:**  
**PROJ MGR:** Matthews, Tim **PROJ LENGTH:** 7.85  
**PROG** Reconstruction/Rehabili **TYPE** Widening  
**TYPE:** tation **WORK:**  
**CONCEPT:** ADD 4R(MED 44) **LET RESP:** DOT Congressional 2

Phase	Approved	Proposed	Cost	Fund	Status
PE	2000	2000	909,594.70	Q25	AUTHORIZED
ROW	LR	LR	12,732,000.00	L050	PRECST
CST	LR	LR	25,281,000.00	L050	PRECST

SCHED START	SCHED FINISH	ACTIVITY	ACTUAL START	ACT/EST FINISH	PCT	DISTRICT COMMENTS
						WON'T MAKE FY06 RW [10/12/04] - CONCEPT UNDERWAY - PIM LATE CAL YR 05 [1/10/05]

BIKE PROVISIONS INCLUDED?: N MEASUREMENT SYSTEM: E CONSULTANT: N UT EST: \$ 0.00

**PDD:** [01R] FY01 CONSULTANT 9/24/99  
**Bridge:** NO BRIDGE REQUIRED  
**Design:** JT/JBT-FINAL CONCEPT TEAM MEETING 1-9-08 (1-2008)  
**EIS:** EA|NotApvd|NotOnSchedRW|Updated1-29-08|BH | Dollar  
**LGPA:** REQ SUMTER DO UTIL 2-4-03|PLAINS SGN DO UTIL 2-20-03|RESCISSON LETTER SENT TO PLAINS & SUMTER 7-26-07.  
**Programming:** ADDED BY SHIP COMMITTEE 1-27-94|#1 10-02|#2 9-07  
**Traffic Op:** KBH.SEND PLANS FOR SIGN & MKG WHEN 50% COMP 3/9/94  
**Utility:** SUE  
**EMG:** 2147 (H85(94)-W/V88); DOT=M/S, CONSULT=D

**R/W INFORMATION:**

PREL PARCEL CT: 145 TOTAL PARCEL CT: ACQUIRED BY: DOT ACQ MGR:  
 UNDER-REVIEW CT: RELEASED CT: OPT-PEND CT: DEEDS CT: COND-PEND CT: COND-FILED CT:  
 RW CERT DT: ACQUIRED CT: RELOCATION CT:

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**  
Office of Road Design  
*District Three*

**PROJECT CONCEPT REPORT**

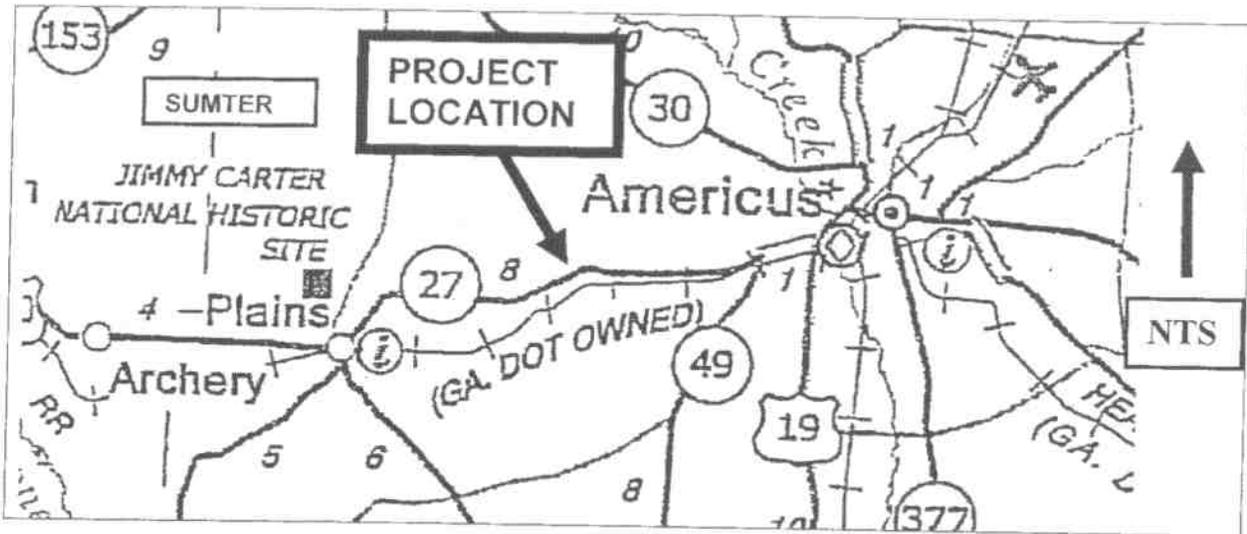
Project Number: STP-030-1(18)

County: Sumter

P. I. Number: 322780

Federal Route Number: US 280

State Route Number: SR 27



**Widening & Reconstruction of SR 27/US 280  
from SR45 in Plains to SR 49 South of Americus**

Recommendation for approval:

DATE \_\_\_\_\_

\_\_\_\_\_

DATE \_\_\_\_\_

Office of Road Design

The concept as 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).

DATE \_\_\_\_\_

State Transportation Planning Administrator

DATE \_\_\_\_\_

State Transportation Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety & Design Engineer

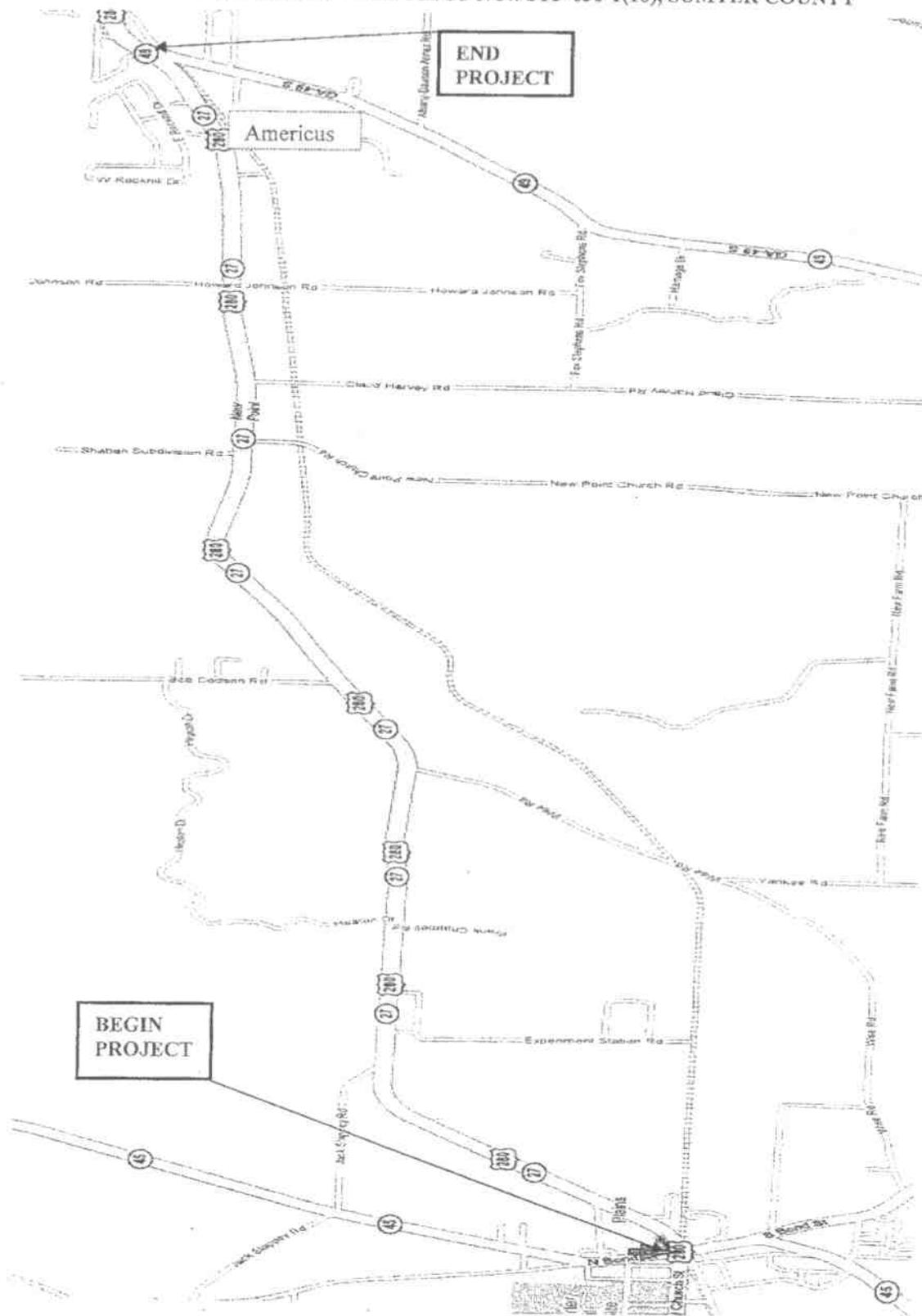
DATE \_\_\_\_\_

District Engineer

DATE \_\_\_\_\_

Project Review Engineer

PROJECT MAP - PROJECT NO.: STP-030-1(18), SUMTER COUNTY



NTS



Table 1  
 SR 27/US 280 Concept Traffic Report  
 Accident Summary - January 1, 2003 to December 31, 2005

Date	Time	Route	Milelog	Intersecting Rt.	Injuries	Fatalities	Harmful Event	Collision	Light	Between	Dir/Went	Dir/Veh2	Mov/Veh1	Mov/Veh2
3/4/2003	12:55 AM	0027/00	3.4		0	0	Overturn	Not A Collision With A Motor Vehicle	Dark Not Lighted	Wet	E		Wet/Veh1	
2/24/2003	6:50 PM	0027/00	4.1		0	0	Overturn	Not A Collision With A Motor Vehicle	Dark Not Lighted	Wet	W		Wet/Veh1	
6/26/2003	6:20 PM	0027/00	4.27		0	0	Motor Vehicle In Motion	Rear End	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
7/21/2003	5:57 AM	0027/00	4.41		0	0	Highway Traffic Sign Post	Not A Collision With A Motor Vehicle	Daylight	Wet	E		Wet/Veh1	Wet/Veh2
3/12/2003	5:02 PM	0027/00	7.16		0	0	Encroachment	Not A Collision With A Motor Vehicle	Daylight	Wet	E		Wet/Veh1	Wet/Veh2
11/16/2003	8:20 PM	0027/00	7.76		0	0	Motor Vehicle In Motion	Side-swipe - Opposite Direction	Daylight	Wet	E		Wet/Veh1	Wet/Veh2
4/26/2003	6:55 AM	0027/00	7.76		0	0	Highway Traffic Sign Post	Not A Collision With A Motor Vehicle	Daylight	Wet	E		Wet/Veh1	Wet/Veh2
5/20/2003	2:15 PM	0027/00	6.23		0	0	Tree	Not A Collision With A Motor Vehicle	Dark	Wet	W		Wet/Veh1	Wet/Veh2
1/12/2003	7:10 AM	0027/00	8.73		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
6/6/2003	6:21 AM	0027/00	10.02		0	0	Encroachment	Not A Collision With A Motor Vehicle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
4/12/2003	12:31 PM	0027/00	10.84		0	0	Motor Vehicle In Motion	Rear End	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
8/22/2003	6:58 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Side-swipe - Same Direction	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
8/9/2003	7:00 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
4/17/2003	7:10 AM	0027/00	10.89		0	0	Motor Vehicle In Motion	Rear End	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
12/13/2003	10:34 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Rear End	Dark Lighted	Wet	W		Wet/Veh1	Wet/Veh2
10/15/2003	6:42 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
2/15/2003	2:48 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
3/25/2004	9:33 AM	0027/00	2.84		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
10/18/2004	8:50 AM	0027/00	4.1		0	0	Drain	Not A Collision With A Motor Vehicle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
6/7/2004	12:31 AM	0027/00	5.51		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
3/5/2004	7:13 AM	0027/00	6.28		0	0	Other Object (Tree Flare)	Not A Collision With A Motor Vehicle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
4/13/2004	6:18 PM	0027/00	6.38		0	0	Motor Vehicle In Motion	Rear End	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
12/13/2004	8:35 PM	0027/00	6.51		0	0	Motor Vehicle In Motion	Angle	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
7/8/2004	5:30 PM	0027/00	6.73		0	0	Drain	Not A Collision With A Motor Vehicle	Dark	Wet	W		Wet/Veh1	Wet/Veh2
10/19/2004	2:00 PM	0027/00	6.9		0	0	Highway Traffic Sign Post	Not A Collision With A Motor Vehicle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
8/22/2004	2:25 PM	0027/00	10.12		0	0	Motor Vehicle In Motion	Rear End	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
1/29/2004	4:39 PM	0027/00	10.12		0	0	Motor Vehicle In Motion	Angle	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
3/1/2004	4:34 PM	0027/00	10.12		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
10/17/2004	4:34 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
1/21/2004	3:48 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
8/12/2004	5:41 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
10/21/2004	3:51 PM	0027/00	10.89		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
1/26/2004	13:48 PM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Dark Lighted	Wet	W		Wet/Veh1	Wet/Veh2
7/26/2004	5:07 PM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
4/12/2005	9:27 AM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
4/12/2005	9:27 AM	0027/00	2.88		0	0	Other Fixed Object	Not A Collision With A Motor Vehicle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
6/10/2005	9:57 AM	0027/00	2.88		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
12/16/2005	5:12 AM	0027/00	3.23		0	0	Drain	Not A Collision With A Motor Vehicle	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
7/5/2006	5:24 AM	0027/00	4.83		0	0	Highway Traffic Sign Post	Not A Collision With A Motor Vehicle	Dark	Wet	W		Wet/Veh1	Wet/Veh2
8/10/2006	6:21 AM	0027/00	4.83		0	0	Tree	Not A Collision With A Motor Vehicle	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
8/24/2006	6:21 PM	0027/00	5.15		0	0	Motor Vehicle In Motion	Side-swipe - Same Direction	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
4/20/2005	6:28 PM	0027/00	5.55		0	0	Motor Vehicle In Motion	Side-swipe - Same Direction	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
11/1/2005	3:20 PM	0027/00	5.96		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
5/10/2005	6:25 PM	0027/00	7.78		0	0	Clear Non-Collision	Not A Collision With A Motor Vehicle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
1/26/2005	6:51 AM	0027/00	8.22		0	0	Motor Vehicle In Motion	Side-swipe - Same Direction	Dark	Wet	W		Wet/Veh1	Wet/Veh2
6/23/2005	8:50 AM	0027/00	9.2		0	0	Clear	Not A Collision With A Motor Vehicle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
7/2/2005	1:38 AM	0027/00	9.3		0	0	Motor Vehicle In Motion	Angle	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
1/19/2005	8:40 PM	0027/00	9.3		0	0	Motor Vehicle In Motion	Angle	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
5/20/2005	5:53 PM	0027/00	9.6		0	0	Motor Vehicle In Motion	Rear End	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
3/27/2005	4:11 PM	0027/00	9.8		0	0	Motor Vehicle In Motion	Rear End	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
4/10/2005	12:38 PM	0027/00	10.2		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
5/12/2005	12:57 PM	0027/00	10.62		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
5/11/2005	6:53 AM	0027/00	10.62		0	0	Clear Non-Collision	Not A Collision With A Motor Vehicle	Dark	Wet	W		Wet/Veh1	Wet/Veh2
3/16/2005	10:04 AM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
1/17/2005	6:35 PM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Dark Not Lighted	Wet	W		Wet/Veh1	Wet/Veh2
12/28/2005	3:34 PM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
12/16/2005	2:51 PM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
11/16/2005	8:31 AM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
5/7/2006	2:49 PM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
10/10/2005	8:42 AM	0027/00	18.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
10/10/2005	12:10 PM	0027/00	18.77		0	0	Motor Vehicle In Motion	Angle	Daylight	Wet	W		Wet/Veh1	Wet/Veh2
8/28/2006	11:07 PM	0027/00	10.77		0	0	Motor Vehicle In Motion	Angle	Dark Lighted	Wet	W		Wet/Veh1	Wet/Veh2