

Spot Safety Project Evaluation

Project Information

Order ID: 41000033966

Project ID: 03-10-8571

Location: Intersection of US 74 (Eastwood Road) and Racine Drive

County: New Hanover

City: Wilmington

Division: 3

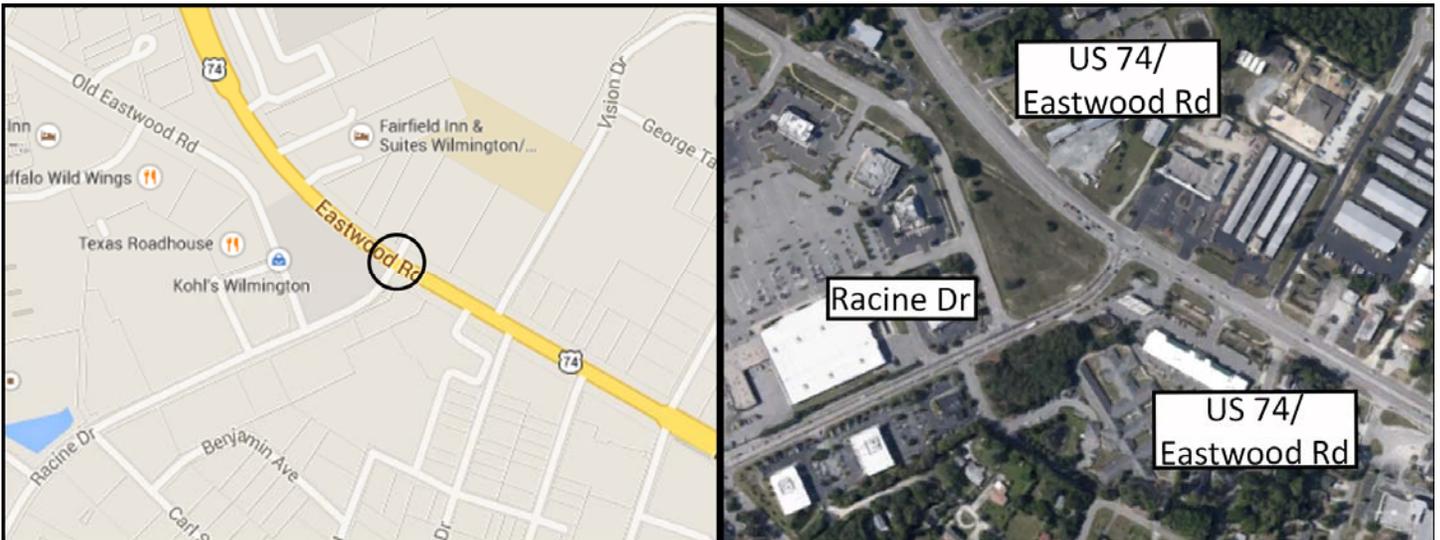
Signal ID: 03-0624

Countermeasures: Install Flashing Yellow Arrow heads on Eastwood Road

Project Completion: April 30, 2011

Project Cost: \$17,000.00

Map and Aerial (from Google Maps, Coordinates are 34.247970, -77.863799)



Naive Before and After Analysis

Before Period: February 1, 2007 through January 31, 2011 (4 years)

Const. Period: February 1, 2011 through April 30, 2011 (3 months)

After Period: May 1, 2011 through April 30, 2015 (4 years)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the US 74 (Eastwood Road) at Racine Drive intersection.

Target Crashes: Left Turn Same Roadway (LTSR) Crashes on US 74 (Eastwood Road), where the Flashing Yellow Arrow was installed in the after period.
Note- LTSR crashes that did not occur within the intersection were not included as target crashes.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	41	28	- 31.7 %
Total Severity Index	4.07	4.17	+ 2.5 %
Target Crashes	14	9	- 35.7 %
Target Crash Severity Index	5.23	5.11	- 2.3 %
Volume (2009, 2013)	28,300	34,300	+ 21.2 %

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	0	0	N/A
Class B injury Crashes	7	2	- 71.4 %
Class C Injury Crashes	10	10	0.0 %
Property Damage Only	24	16	- 33.3 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Northbound Rear-End Crashes	2	4	+ 100.0 %
Eastbound Rear-End Crashes	3	4	+ 33.3 %
Westbound Rear-End Crashes	7	1	- 85.7 %
Sideswipe Crashes	2	1	- 50.0 %
Pedestrian Crashes	2	1	- 50.0 %

Overall Summary Results

Total Crashes:	- 32 %	(reduction)
Total Crash Severity:	+ 3 %	(increase)
Target Crashes:	- 36 %	(reduction)
Target Crash Severity:	- 2 %	(reduction)
Volume:	+ 21 %	(increase)

Additional Summary Results

Northbound Rear-End Crashes:	+ 100 %	(increase)
Eastbound Rear-End Crashes:	+ 33 %	(increase)
Westbound Rear-End Crashes:	- 86 %	(reduction)
Sideswipe Crashes:	- 50 %	(reduction)
Pedestrian Crashes:	- 50 %	(reduction)

Items for Discussion/Concerns

Left Turn, Same Roadway crashes within the intersections decreased from the before period (14 crashes) to the after period (8 crashes) at the US 74 (Eastwood Road) at Racine Drive intersection. The severity of the target crashes also decreased from the before period (5.23) to the after period (4.70).

Westbound Rear-End crashes decreased from the before period (8 crashes) to the after period (1 crash). However, the Eastbound Rear-End crashes increased from the before period (3 crashes) to the after period (4 crashes). Also, the Northbound Rear-End crashes increased from the before period (2 crashes) to the after period (4 crashes).

Pedestrian crashes decreased from the before period (2 crashes) to the after period (1 crash). However, there was no change in the severity index from the before period to the after period for the Pedestrian crashes.

It appears that the speed limit on US 74 (Eastwood Road) was changed at some point during the before period. The speed limit is shown as 45 mph on some of the crash reports and as 55 mph on others. There is no distinct point in time at which the crash reports begin to show a different speed limit; the crash report speed limits are interspersed throughout the study period.

Data Prepared For

The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

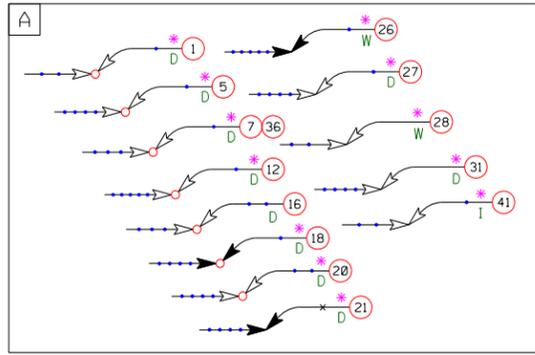
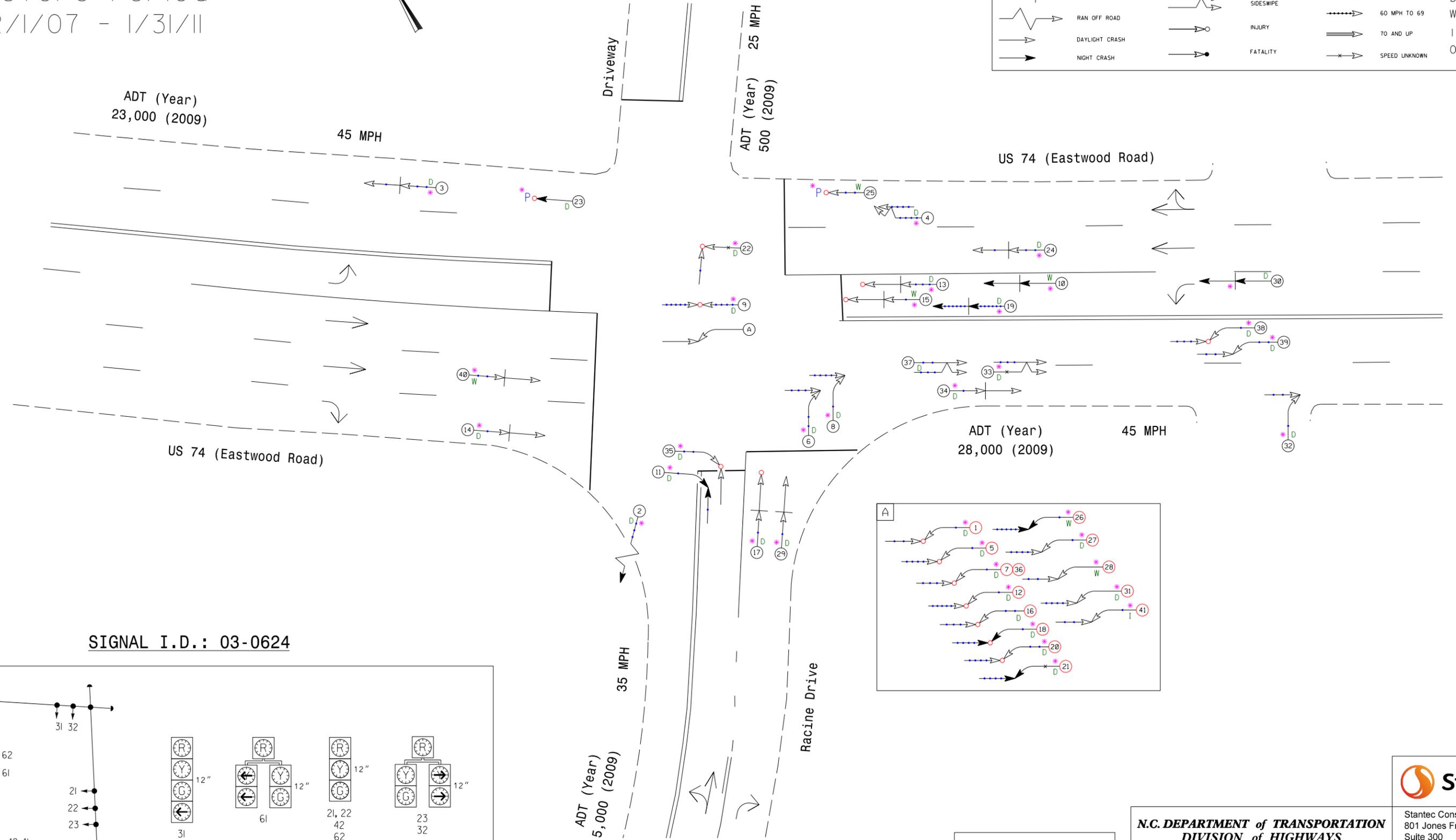
Data Prepared By

Principal Investigator: Sam Williams, EI
Work Group/Consultant: Stantec Consulting Services Inc
Date: June 26, 2015

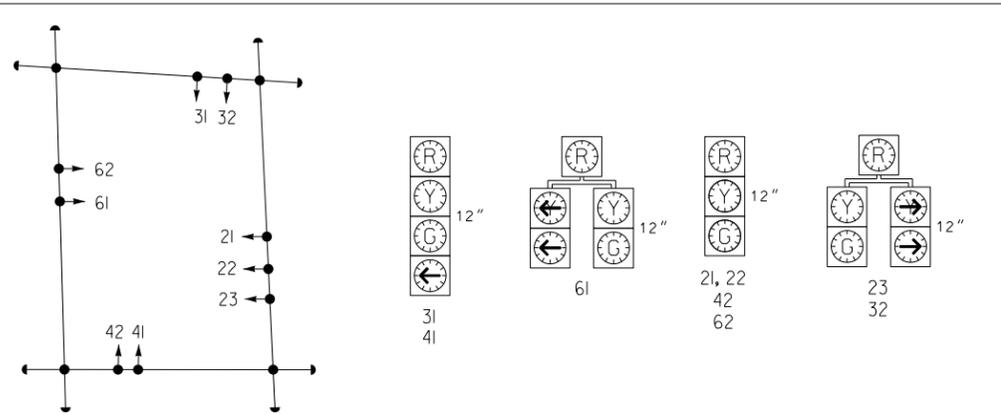
SS# 03-10-8571
 Order# 41000033966
 New Hanover County
 Before Period
 2/1/07 - 1/31/11



LEGEND							
	MOVING VEHICLE		ANGLE		9 MPH OR LESS		ANIMAL
	PARKED VEHICLE		10 MPH TO 19		PEDESTRIAN		BICYCLE
	PARKING VEHICLE		20 MPH TO 29		TRAIN		DRIVER AT FAULT
	MOVABLE OBJECT		30 MPH TO 39		DRY		WET
	HEAD ON		40 MPH TO 49		ICY OR SNOWY		Other
	REAR END		50 MPH TO 59		60 MPH TO 69		70 AND UP
	RAN OFF ROAD		SIDESWIPE		INJURY		FATALITY
	DAYLIGHT CRASH		70 AND UP		SPEED UNKNOWN		
	NIGHT CRASH						



SIGNAL I.D.: 03-0624



Target Crashes

N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
TRANSPORTATION MOBILITY and
SAFETY DIVISION

Date: 6/26/2015

Prepared By: SKW

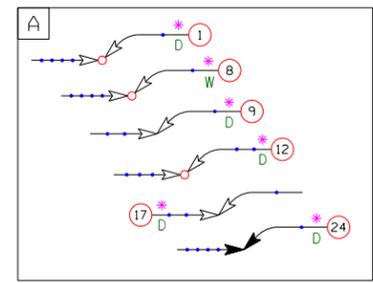
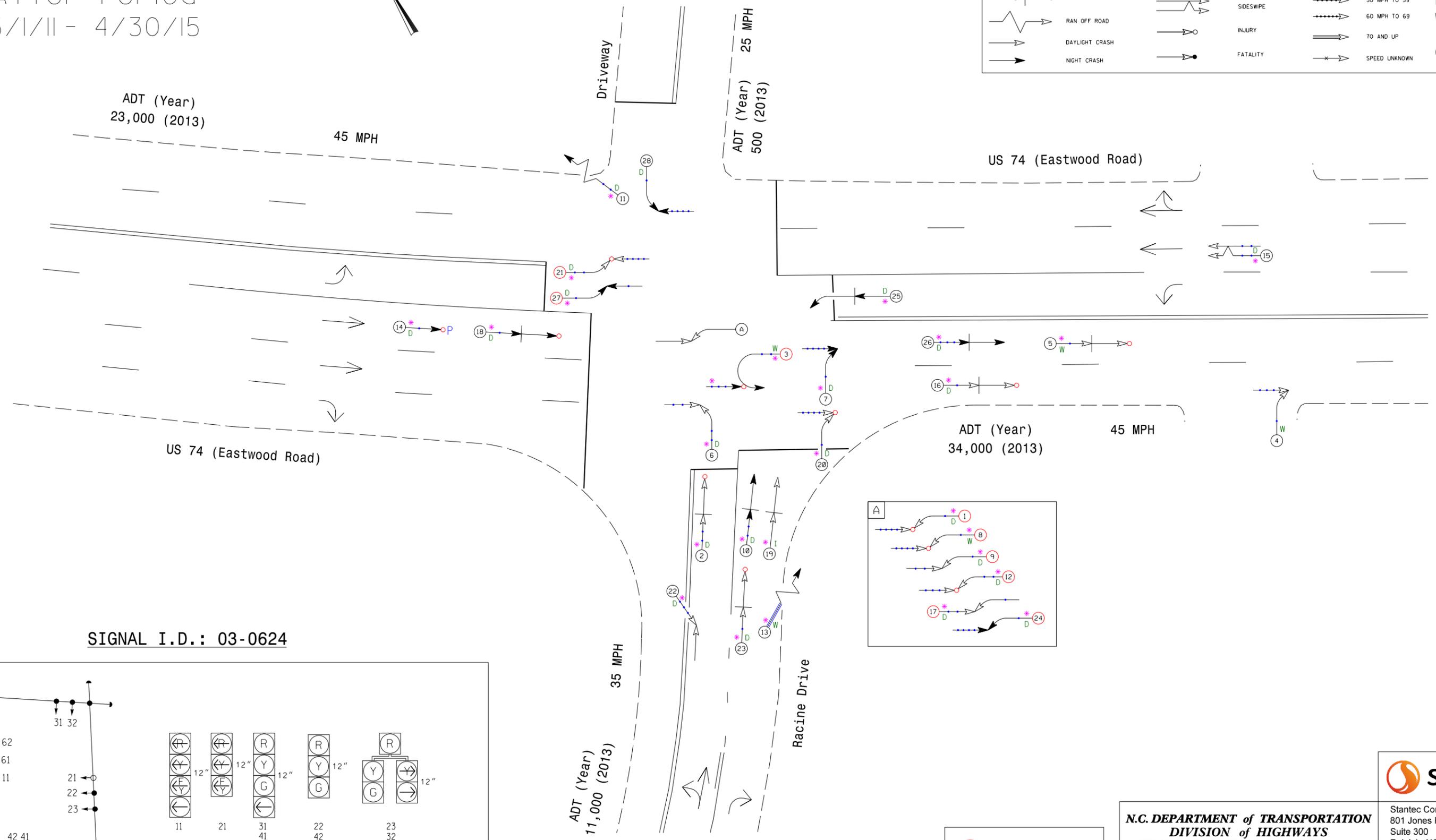


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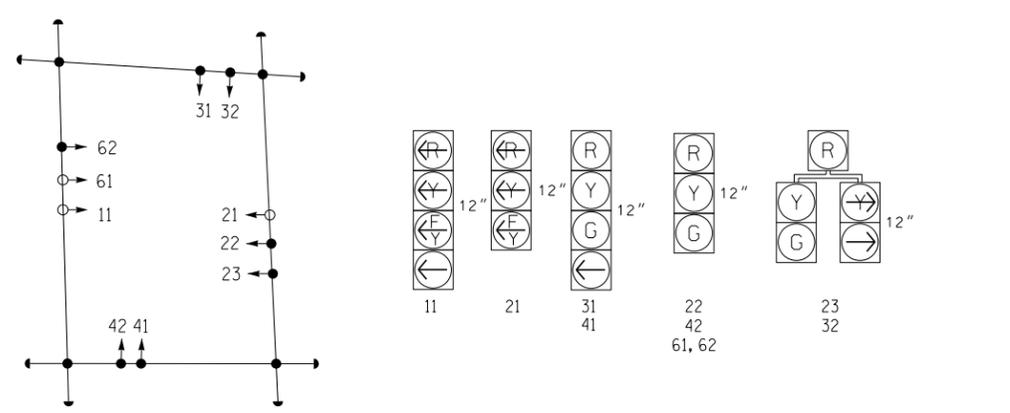
SS# 03-10-8571
 Order#41000033966
 New Hanover County
 After Period
 5/1/11 - 4/30/15



LEGEND							
	MOVING VEHICLE		ANGLE		9 MPH OR LESS		A ANIMAL
	PARKED VEHICLE		10 MPH TO 19		P PEDESTRIAN		B BICYCLE
	PARKING VEHICLE		20 MPH TO 29		T TRAIN		* DRIVER AT FAULT
	MOVABLE OBJECT		30 MPH TO 39		D DRY		W WET
	HEAD ON		40 MPH TO 49		I ICY OR SNOWY		O Other
	REAR END		50 MPH TO 59		INJURY		
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