

Naive Before and After Analysis

Before Period: August 1, 2007 through August 31, 2010 (3 years, 1 month)

Const. Period: September 1, 2010 through November 30, 2010

After Period: December 1, 2010 through December 31, 2013 (3 years, 1 month)

Analysis Criteria: Treatment data consisted of all crashes within the subject milepost range on SR 1117 (Nursery Road) with a 0-foot y-line. All crashes from 150-feet south of NC 27 to 150-feet north of SR 1120 (Overhills Road) were included (MP 0.028 – 6.415)

Target Crashes: Lane Departure – Ran-Off Road (Left, Right, Straight), Sideswipe (Opposite Direction), Fixed Object, and Head-On

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	57	64	12.3 %
Total Severity Index	8.53	8.40	- 1.5 %
Target Crashes	27	27	0.0 %
Target Crash Severity Index	9.90	15.52	56.8 %
Volume (2009, 2012)	2,200	2,400	9.1 %

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	2	4	100.0 %
Class A injury Crashes	2	0	- 100.0 %
Class B injury Crashes	2	9	200+ %
Class C Injury Crashes	15	14	- 6.7 %
Property Damage Only	36	37	2.8 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crash Rate	359.94	370.47	2.9 %
Fatal Crash Rate	12.63	23.15	83.3 %
Animal Crashes	15	9	- 40.0 %
Night Crashes	21	20	4.8 %
Wet Roadway Crashes	6	8	33.3 %
Alcohol/Drugs Involvement Crashes	3	7	133.3 %

Overall Summary Results

Total Crashes:	12 %	(increase)
Total Crash Severity:	- 1.5 %	(reduction)
Target Crashes:	0 %	(no change)
Target Crash Severity:	57 %	(increase)
Volume:	9 %	(increase)

Items for Discussion/Concerns

Referencing the *GIS Collision Diagrams*, the overall roadway crash patterns are very similar in the before and after periods. The evaluation indicates no change in lane departure crashes with a 57% increase in lane departure crash severity.

Microstation Collision Diagrams are provided from milepost 3.26 to 6.415 in order to capture the four (4) after period fatal collisions along this segment. With each fatal crash, an investigation was completed at the subject locations, including ball bank readings of the curves. The conclusion from the investigations yielded “no roadway fault apparent.” After the third fatal in the curves south of SR 1121, county maintenance was asked to check the pavement edge drop-off on the inside of the curve (note – shoulders were not an issue in the fatal collision).

The intersection of SR 1121 (Ray Road) with SR 1117 experienced a spike in crashes in the after period. As seen in the *Microstation Collision Diagrams*, the before period presented a pattern of four (4) left-turn same road collisions including one fatal. In the after period, this intersection experienced four (4) left-turn different roadway crashes and four (4) rear-end collisions approaching the stop sign.

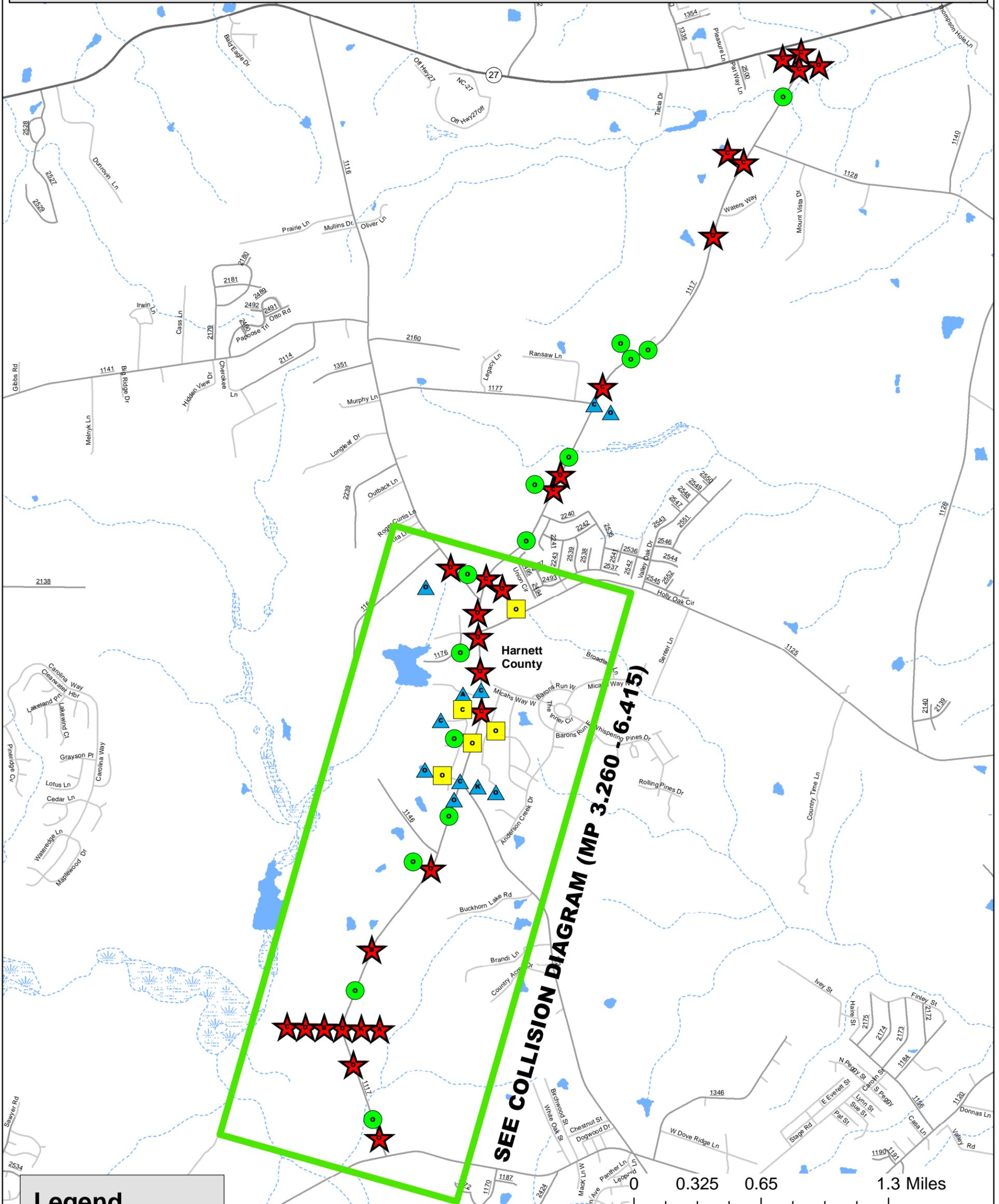
Data Prepared For

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: Jason B. Schronce, EI
Work Group/Consultant: NCDOT - Safety Evaluation Group
Date: March 19, 2014

SS# 06-08-219 (Harnett County)
SR 1117 (Nursery Rd) From NC-27 to SR 1120 (Overhills Rd)
Study Milepost Range 0.028 - 6.415
BEFORE PERIOD - 8/1/2007 to 8/31/2010 (3.08 Yrs)



SEE COLLISION DIAGRAM (MP 3.260 - 6.415)

Legend

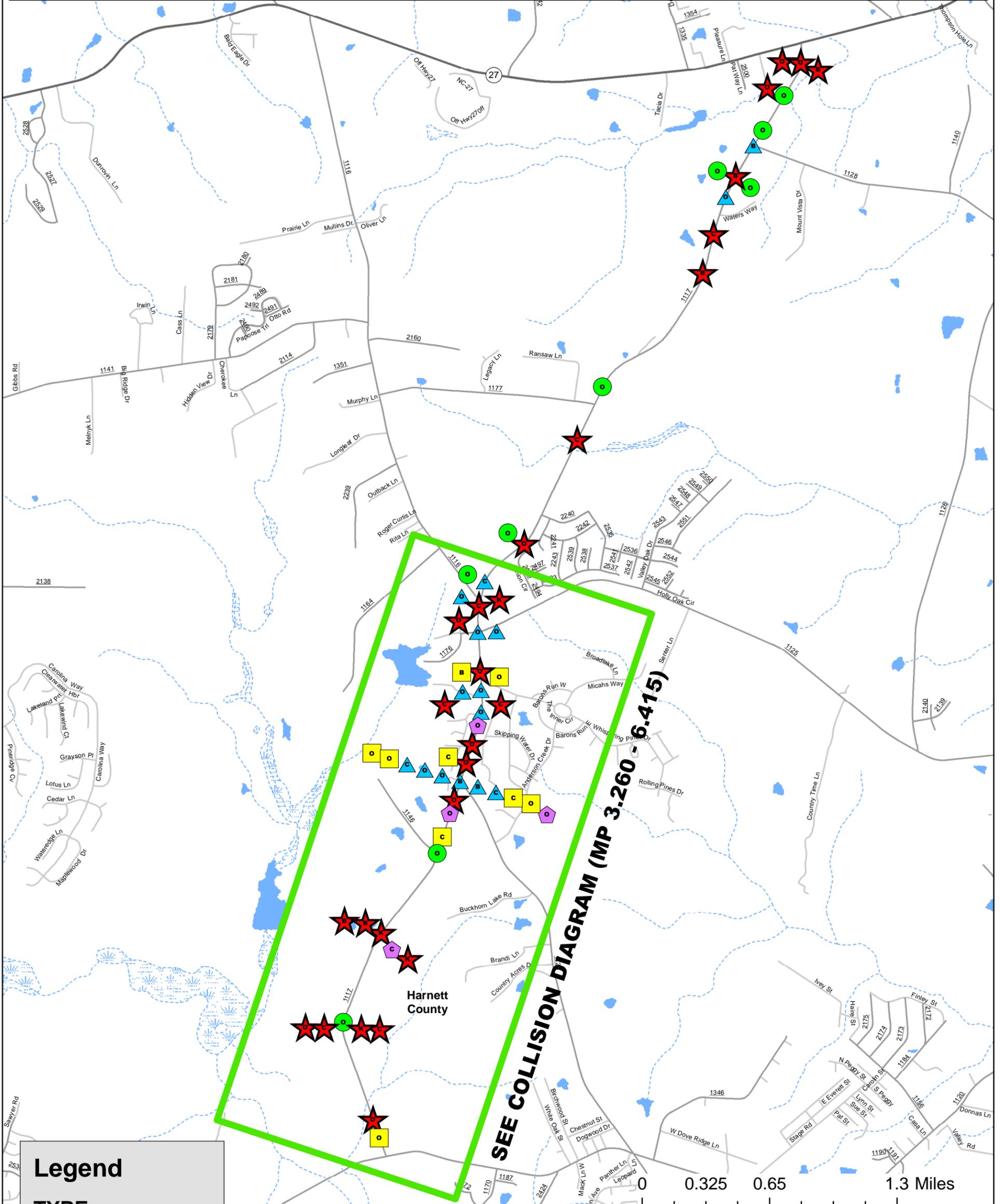
TYPE

- Animal
- ▲ Frontal Impact
- ★ Lane Dep
- Rear-End

NC Department of Transportation
Division of Highways
Mobility and Safety Division
Traffic Safety Unit

Date: 3/13/2014
J. Schronce

SS# 06-08-219 (Harnett County)
SR 1117 (Nursery Rd) From NC-27 to SR 1120 (Overhills Rd)
Study Milepost Range 0.028 - 6.415
AFTER PERIOD - 12/1/2010 to 12/31/2013 (3.08 Yrs)



SEE COLLISION DIAGRAM (MP 3.260 - 6.415)

Legend

TYPE

- Animal
- ▲ Frontal Impact
- ★ Lane Dep
- ⬠ Other
- Rear-End

Countermeasure:
Add 2-Foot Paved Shoulders
on both sides of the Roadway

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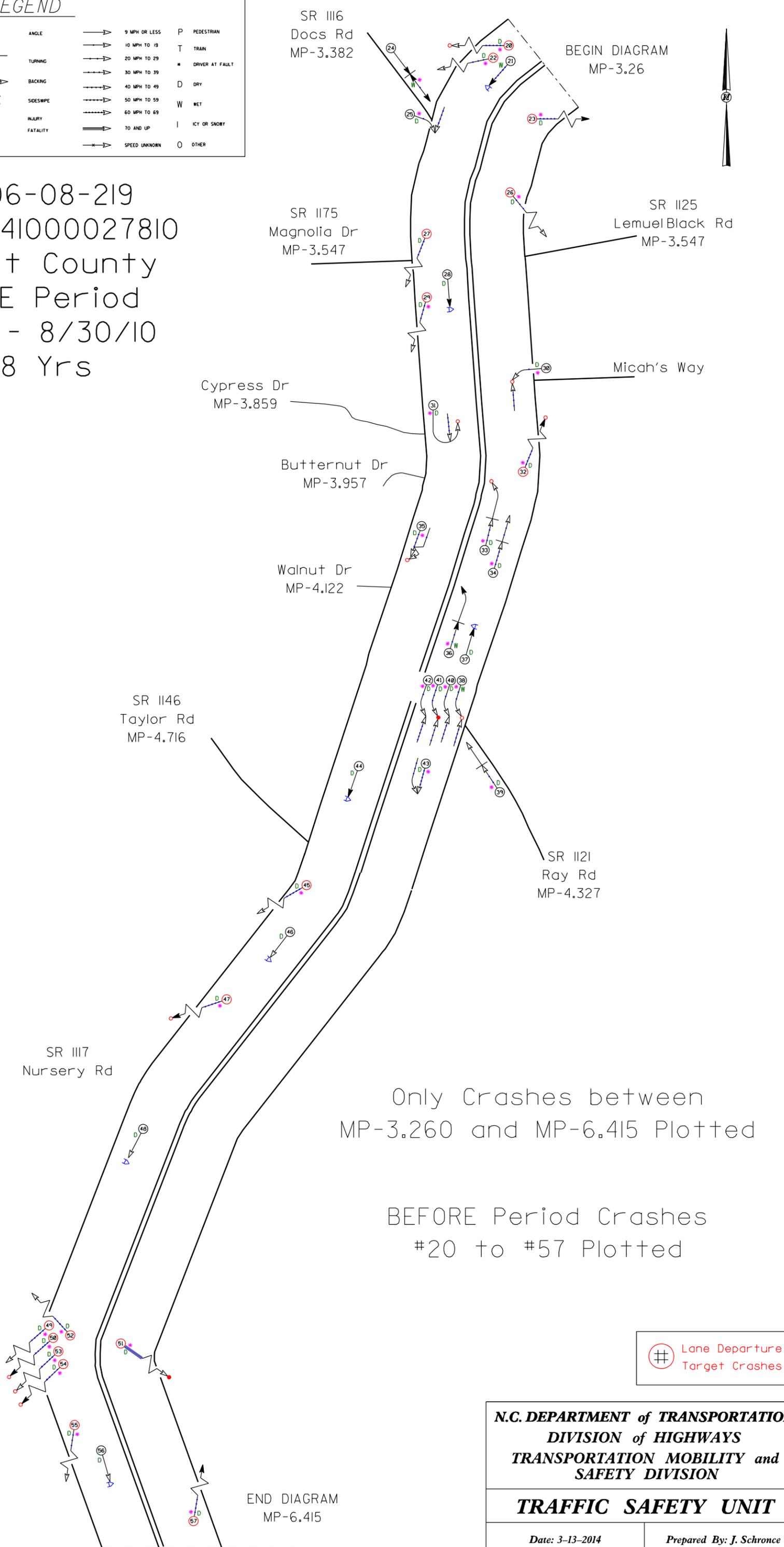
Date: 3/11/2014
J. Schronce



LEGEND

	MOVING VEHICLE		ANGLE		9 MPH OR LESS		P PEDESTRIAN
	PARKED VEHICLE		TURNING		10 MPH TO 19		T TRAIN
	PARKING VEHICLE		BACKING		20 MPH TO 29		* DRIVER AT FAULT
	FIXED OBJECT		SIDESWIPE		30 MPH TO 39		D DRY
	HEAD ON		INJURY		40 MPH TO 49		W WET
	REAR END		FATALITY		50 MPH TO 59		I ICY OR SNOWY
	RAN OFF ROAD				60 MPH TO 69		O OTHER
					70 AND UP		
					SPEED UNKNOWN		

SS# 06-08-219
 Order# 41000027810
 Harnett County
 BEFORE Period
 8/1/07 - 8/30/10
 3.08 Yrs



Only Crashes between
 MP-3.260 and MP-6.415 Plotted

BEFORE Period Crashes
 #20 to #57 Plotted

Lane Departure
 Target Crashes

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DIVISION of HIGHWAYS
TRANSPORTATION MOBILITY and
SAFETY DIVISION

TRAFFIC SAFETY UNIT

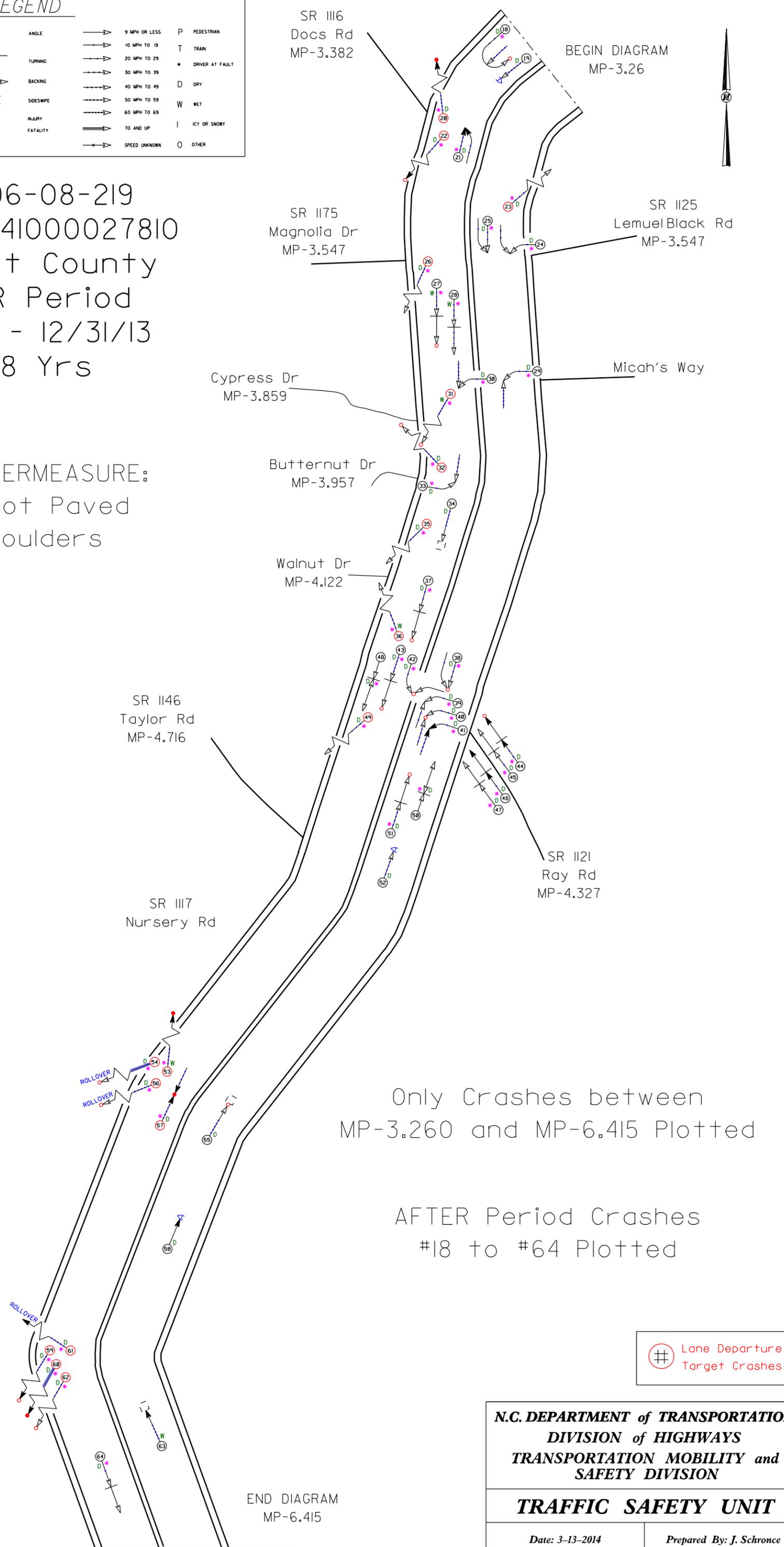
Date: 3-13-2014 Prepared By: J. Schronce

LEGEND

	MOVING VEHICLE		ANGLE		9 MPH OR LESS		P PEDESTRIAN
	PARKED VEHICLE		TURNING		10 MPH TO 19		T TRAIN
	PARKING VEHICLE		BACKING		20 MPH TO 29		D DRIVER AT FAULT
	FIXED OBJECT		SIDESWIPE		30 MPH TO 39		D DRY
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	RAN OFF ROAD		SPEED UNKNOWN		60 MPH TO 69		O OTHER

SS# 06-08-219
 Order# 41000027810
 Harnett County
 AFTER Period
 12/1/10 - 12/31/13
 3.08 Yrs

COUNTERMEASURE:
 2-Foot Paved
 Shoulders



Only Crashes between
 MP-3.260 and MP-6.415 Plotted

AFTER Period Crashes
 #18 to #64 Plotted

Lane Departure
 Target Crashes

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

TRAFFIC SAFETY UNIT

Date: 3-13-2014

Prepared By: J. Schronce

END DIAGRAM
 MP-6.415