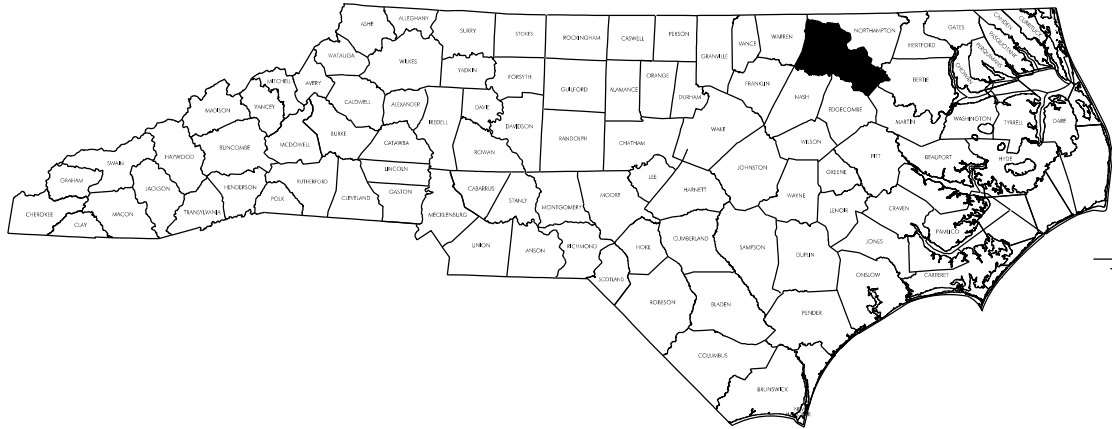


CONTRACT NO. DO00128 TIP PROJECT: I-5204A

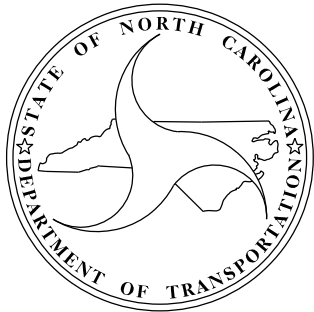
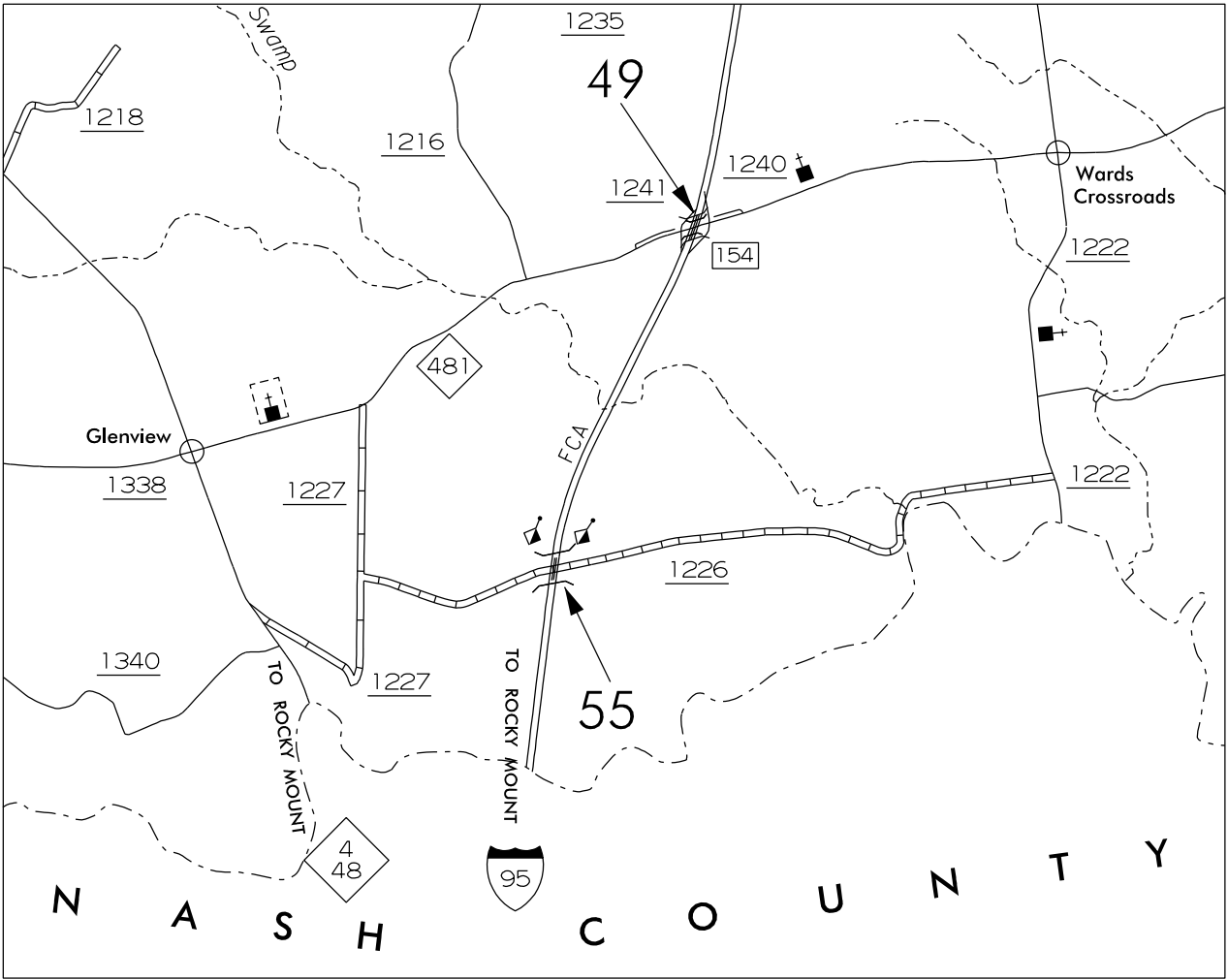


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HALIFAX COUNTY

LOCATION: SR 1913 OVER I 95.
TYPE OF WORK: BRIDGE PRESERVATION: CLEANING
AND PAINTING OF BRIDGES #49 & #55.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5204A	1	1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
47050.1.2	IMPP-095-3(107)173	P.E.	
47050.3.2	IMPP-095-3(107)173	CONST	



DESIGN DATA

PROJECT LENGTH

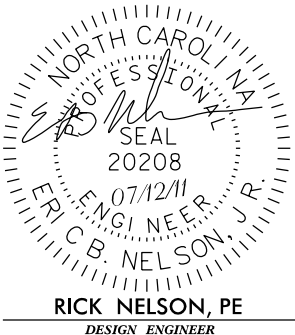
Prepared In the Office of:
BRIDGE MANAGEMENT UNIT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 31, 2011

DAN HOLDERMAN, PE
STATE BRIDGE
MANAGEMENT ENGINEER

MIKE SUMMERS
BRIDGE MANAGEMENT
PROJECT MANAGER



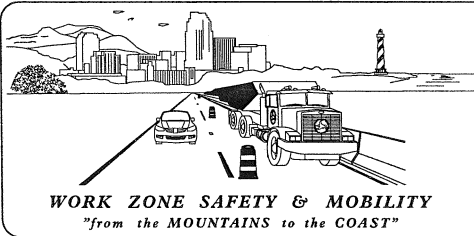
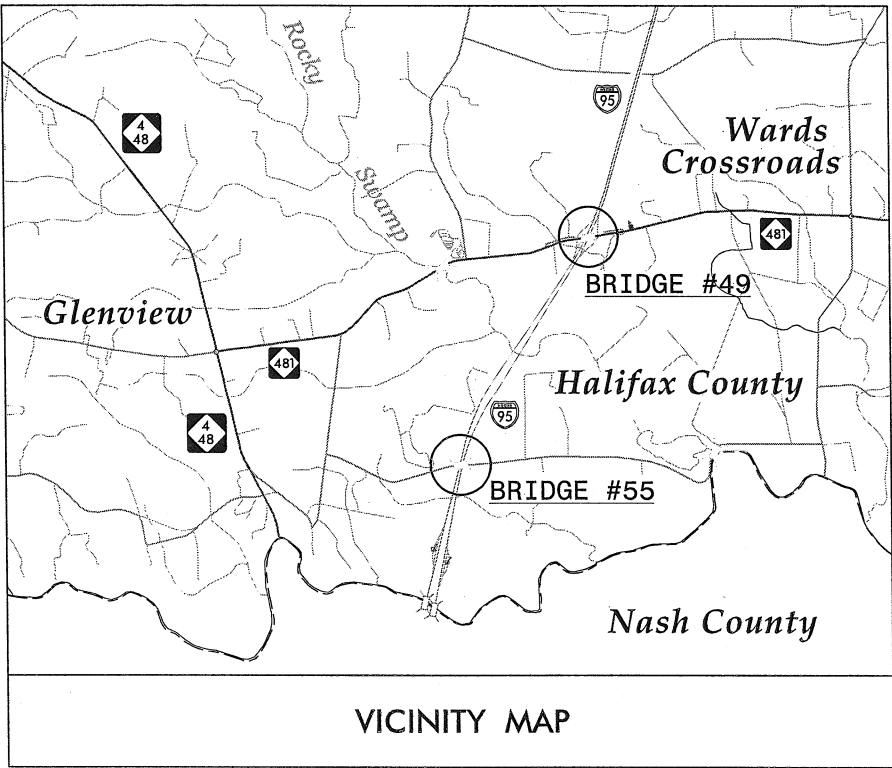
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

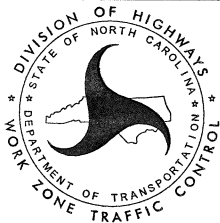
HALIFAX COUNTY
DIVISION 4



BRIDGE #49 – NC 481 OVER I-95 AND
BRIDGE #55 – SR 1226 (BELLAMY LAKE RD) OVER I-95
BRIDGE PAINTING



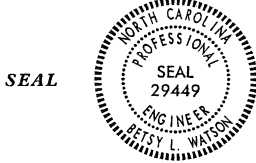
PLAN PREPARED FOR NCDOT BRIDGE MANAGEMENT UNIT
RALEIGH, NC



PLAN PREPARED BY:
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www.stantec.com

BETSY L. WATSON, P.E.
TRAFFIC ENGINEER
GEORGE KARAGEORGE
TRANSPORTATION DESIGNER

APPROVED: *Betsy L. Watson*
DATE: 6/23/11



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	GENERAL NOTES
TMP-2	TRAFFIC CONTROL PHASING
TMP-3	DETAIL OF LEFT LANE CLOSURE WITH SHIFT
TMP-3A	TRAFFIC CONTROL PLAN DESIGN TABLES

TRAFFIC MANAGEMENT STRATEGY

PROPOSED REPAIRS TO BRIDGES #49 AND #55 WILL BE PERFORMED USING DAY AND TIME RESTRICTED LANE CLOSURES. REFER TO SHEET TMP-2 FOR TRAFFIC CONTROL PHASING.

SHEET NO.

TMP-1

WBS 47050.1.2

I-5204A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW PANELS
1130.01	DRUMS
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR

GENERAL

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

WORK AREA

PAVEMENT REMOVAL

NORTH ARROW

LEGEND

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

CONE

DRUM SKINNY DRUM TUBULAR MARKER

TEMPORARY CRASH CUSHION

FLASHING ARROW PANEL (TYPE C)

FLAGGER

LAW ENFORCEMENT

TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

CHANGEABLE MESSAGE SIGN (CMS)

PORTABLE CONCRETE BARRIER (PCB)

TEMPORARY SIGNING

PORTABLE SIGN

STATIONARY SIGN

STATIONARY OR PORTABLE SIGN

SIGNALS

EXISTING

PROPOSED

TEMPORARY

PAVEMENT MARKINGS

EXISTING PAVEMENT MARKING (GRAY)

SKIP LINES

MINI-SKIP LINES

SOLID LINES

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

EXISTING PAVEMENT MARKING SYMBOLS (HOLLOW)

ONLY PAVEMENT MARKING ALPHANUMERIC CHARACTERS

PAVEMENT MARKERS

CRYSTAL/CRYSTAL

CRYSTAL/RED

YELLOW/YELLOW

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APPROVED: _____ DATE: _____

SEAL

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS
&
LEGEND

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GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
I-5204A	TMP-1B

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

LANE CLOSURE TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-95	12:00 P.M. (NOON) FRIDAY THRU 9:00 A.M. MONDAY

HOLIDAY & HOLIDAY WEEKEND LANE CLOSURE TIME RESTRICTIONS

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND HOLIDAY WEEKENDS AS FOLLOWS:

ROAD NAME
ALL ROADS

1) FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2) FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2nd. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.

3) FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.

4) FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.

5) FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY; THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6) FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.

7) FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.

8) FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

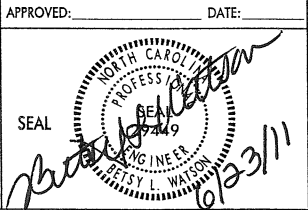
- C) LANE CLOSURES ARE REQUIRED WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN ANY PORTION OF A TRAVEL LANE. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- D) INSTALL ALL LANE CLOSURES ACCORDING TO THE PLANS, ROADWAY STANDARD DRAWINGS (1101.02), OR AS DIRECTED BY THE ENGINEER.
- E) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

MISCELLANEOUS

- I) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER. LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE REVISED AS THE OFFICER OR THE ENGINEER DEEM NECESSARY.
- J) ALL DIMENSIONS AND STATIONS IN THE TRAFFIC MANAGEMENT PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- K) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.
- L) CHANGEABLE MESSAGE SIGN MESSAGES SHOWN ARE EXAMPLES. OTHER MESSAGES MAY BE USED AS CONDITIONS WARRANT. ALL MESSAGES AND LOCATIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO INCORPORATING.
- M) DO NOT PERFORM WORK FROM THE ROADWAY ON TOP OF ANY BRIDGE, UNLESS SPECIFICALLY ALLOWED IN THE PLAN OR BY THE ENGINEER.



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GENERAL NOTES

TRAFFIC CONTROL PHASING

DO NOT WORK ON BRIDGE #49 AND #55 SIMULTANEOUSLY IN THE SAME DIRECTION OF TRAVEL.

BRIDGE #49 - OVER I-95 NORTHBOUND LANES

WHEN PAINTING THE OVER I-95 NORTHBOUND LEFT LANE, USE A LEFT LANE CLOSURE AS SHOWN ON SHEET TCP-3.

WHEN PAINTING THE OVER I-95 NORTHBOUND RIGHT LANE, USE A LEFT LANE CLOSURE WITH A SHIFT AS SHOWN ON SHEET TCP-3.

BRIDGE #49 - OVER I-95 SOUTHBOUND LANES

WHEN PAINTING THE OVER I-95 SOUTHBOUND LEFT LANE, USE A LEFT LANE CLOSURE AS SHOWN ON SHEET TCP-3.

WHEN PAINTING THE OVER I-95 SOUTHBOUND RIGHT LANE, USE A LEFT LANE CLOSURE WITH A SHIFT AS SHOWN ON SHEET TCP-3.

BRIDGE #55 - OVER I-95 NORTHBOUND LANES

WHEN PAINTING THE OVER I-95 NORTHBOUND LEFT LANE, USE A LEFT LANE CLOSURE AS SHOWN ON SHEET TCP-3.

WHEN PAINTING THE OVER I-95 NORTHBOUND RIGHT LANE, USE A LEFT LANE CLOSURE WITH A SHIFT AS SHOWN ON SHEET TCP-3.

BRIDGE #55 - OVER I-95 SOUTHBOUND LANES

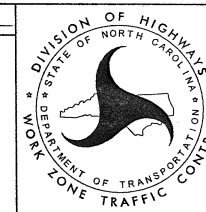
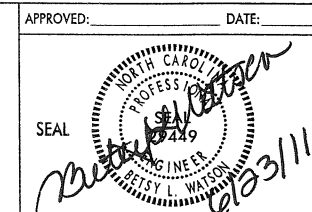
WHEN PAINTING THE OVER I-95 SOUTHBOUND LEFT LANE, USE A LEFT LANE CLOSURE AS SHOWN ON SHEET TCP-3.

WHEN PAINTING THE OVER I-95 SOUTHBOUND RIGHT LANE, USE A LEFT LANE CLOSURE WITH A SHIFT AS SHOWN ON SHEET TCP-3.

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TRAFFIC CONTROL PHASING

TABLE 1			
ADVANCE WARNING SIGN SPACING			
ROAD TYPE & POSTED SPEED LIMIT (MPH)	DISTANCE BETWEEN SIGNS (FEET)		
	(A)	(B)	(C)
URBAN ≤ 35	100	100	100
RURAL ≤ 35	200	200	200
40-50	350	350	350
55	500	500	500
CONTROLLED ACCESS ROADS (≥ 55)	1000	1500	2700

SIGN SPACING DISTANCES ARE RECOMMENDED AND APPROXIMATE. THESE DISTANCES SHOULD BE ADJUSTED FOR FIELD CONDITIONS, BY INCREASING OR DECREASING THE RECOMMENDED DISTANCES.

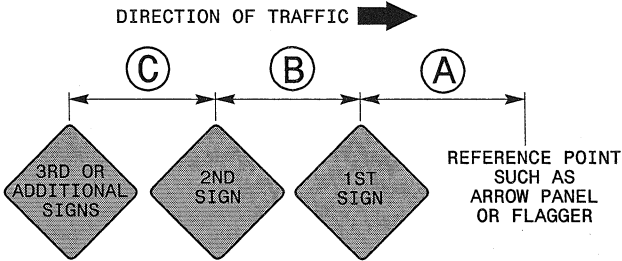


TABLE 2	
POSTED SPEED LIMIT (MPH)	LONGITUDINAL BUFFER SPACE & STOPPING SIGHT DISTANCE (FEET)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730

TAPER LENGTHS FOR CHANNELIZING DEVICES & PAVEMENT MARKINGS	
TYPE OF TAPER	TAPER LENGTH
MERGE	L
SHIFT	1/2 L
SHOULDER	1/3 L
DOWNSTREAM (OPTIONAL)	100' PER LANE
ONE-LANE, TWO-WAY TRAFFIC	50'-100'

M.U.T.C.D. FORMULAS FOR TAPER LENGTH OF CHANNELIZING DEVICES AND PAVEMENT MARKINGS:

SPEED LIMIT (S)	TAPER LENGTH (L) IN FEET
40 MPH OR LESS	$L = W \times S$
45 MPH OR GREATER	$L = \frac{W \times S^2}{60}$

L = TAPER LENGTH (FEET)

W = OFFSET WIDTH (FEET)

S = POSTED SPEED LIMIT, OFF-PEAK 85 PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED (MPH)

WHENEVER TAPERS ARE TO BE USED IN CLOSE PROXIMITY TO AN INTERCHANGE RAMP, CROSSROADS, CURVES, OR OTHER INFLUENCING FACTORS, THE LENGTH OF THE TAPERS MAY BE ADJUSTED.

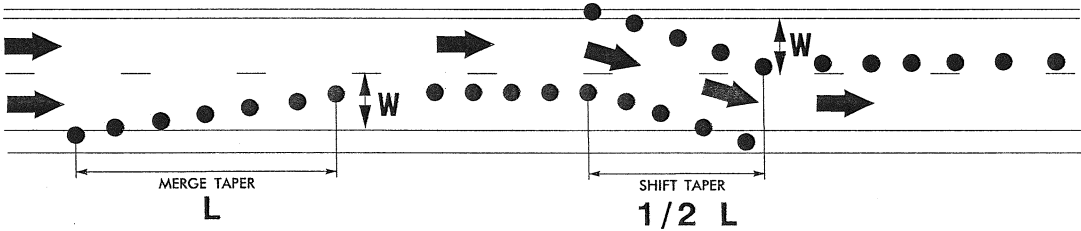
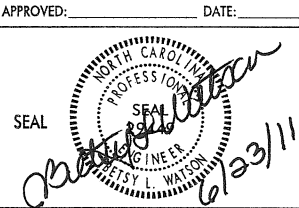


TABLE 3												
TAPER (L)												
OFFSET WIDTH (FEET) W	1	2	3	4	5	6	7	8	9	10	11	12
POSTED SPEED (MPH) S	MINIMUM TAPER (L) LENGTH (FEET) L											
20	10	15	20	30	35	40	50	55	60	70	75	80
25	15	25	35	45	55	65	75	85	95	105	115	125
30	15	30	45	60	75	90	105	120	135	150	165	180
35	25	45	65	85	105	125	145	165	185	205	225	245
40	30	55	80	110	135	160	190	215	240	270	295	320
45	45	90	135	180	225	270	315	360	405	450	495	540
50	50	100	150	200	250	300	350	400	450	500	550	600
55	55	110	165	220	275	330	385	440	495	550	605	660
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840



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TRAFFIC CONTROL PLAN
DESIGN TABLES