

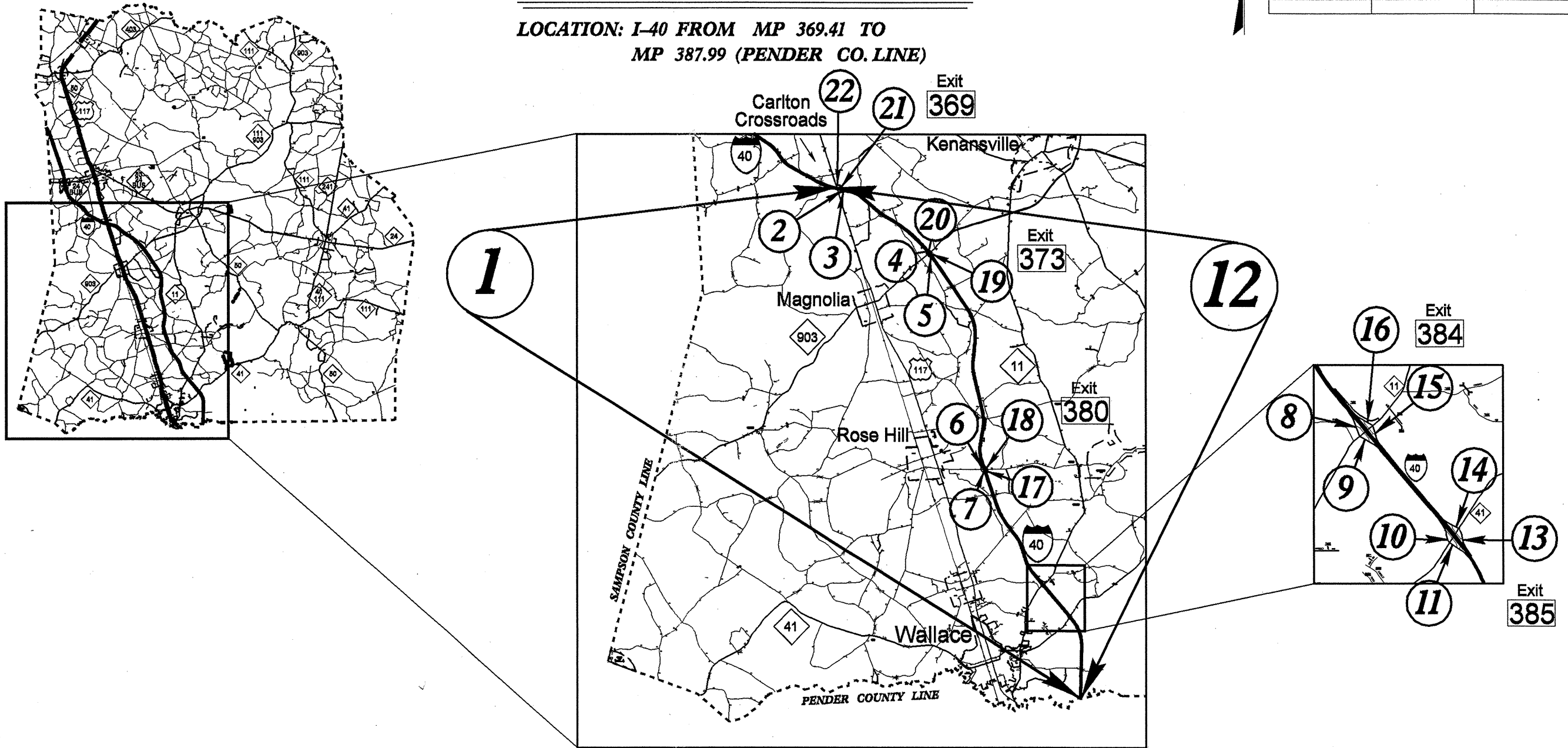
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5001A (41154.3.ST2)	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

TYPE OF WORK: RESURFACING, MILLING, RUMBLE STRIPS  
POLYUREA PAVEMENT MARKING S AND  
PAVEMENT MARKERS, ETC.

**DUPLIN COUNTY**

LOCATION: I-40 FROM MP 369.41 TO  
MP 387.99 (PENDER CO. LINE)

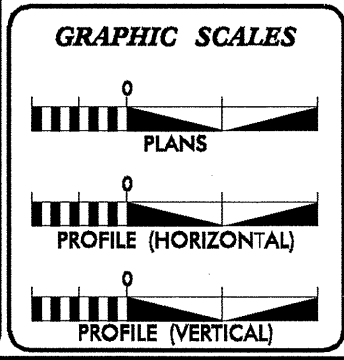


NOT TO SCALE

WBS NUMBER: 41154.3.ST2

CONTRACT: 202491

22-OCT-2009 13:44 s:\contracts\resurfacing projects\division 3\I-5001a\I-40-b.mp 369 41 to 389 50.dgn \$\$\$USERNAME\$\$\$



**PROJECT LENGTH**

LENGTH OF ROADWAY PROJECT 41154.3.ST2

MAP NO.1 & MAP NO.12 = 18.58 MI.  
MAP NO.23 & MAP NO.24 = 1.51 MI.

**TOTAL LENGTH OF PROJECT  
(EXCLUDING RAMPS) = 20.09 MI.**

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
124 Division Dr., Wilmington, NC 28401

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: \_\_\_\_\_

LETTING DATE:  
JAN 19, 2010

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

**ROADWAY DESIGN  
TECHNICIAN**

DNL

SIGNATURE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

**SEAL  
20224**

CHARLES A. SCHOONOVER  
ENGINEER  
NORTH CAROLINA PROFESSIONAL ENGINEER

DIVISION DESIGN ENGINEER

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s:\contracts\resurfacing projects\division 3\I-500\I-40.b.mp 369 41 to 389 50.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

09/08/99

**WBS NUMBER: 41154.3.ST2**

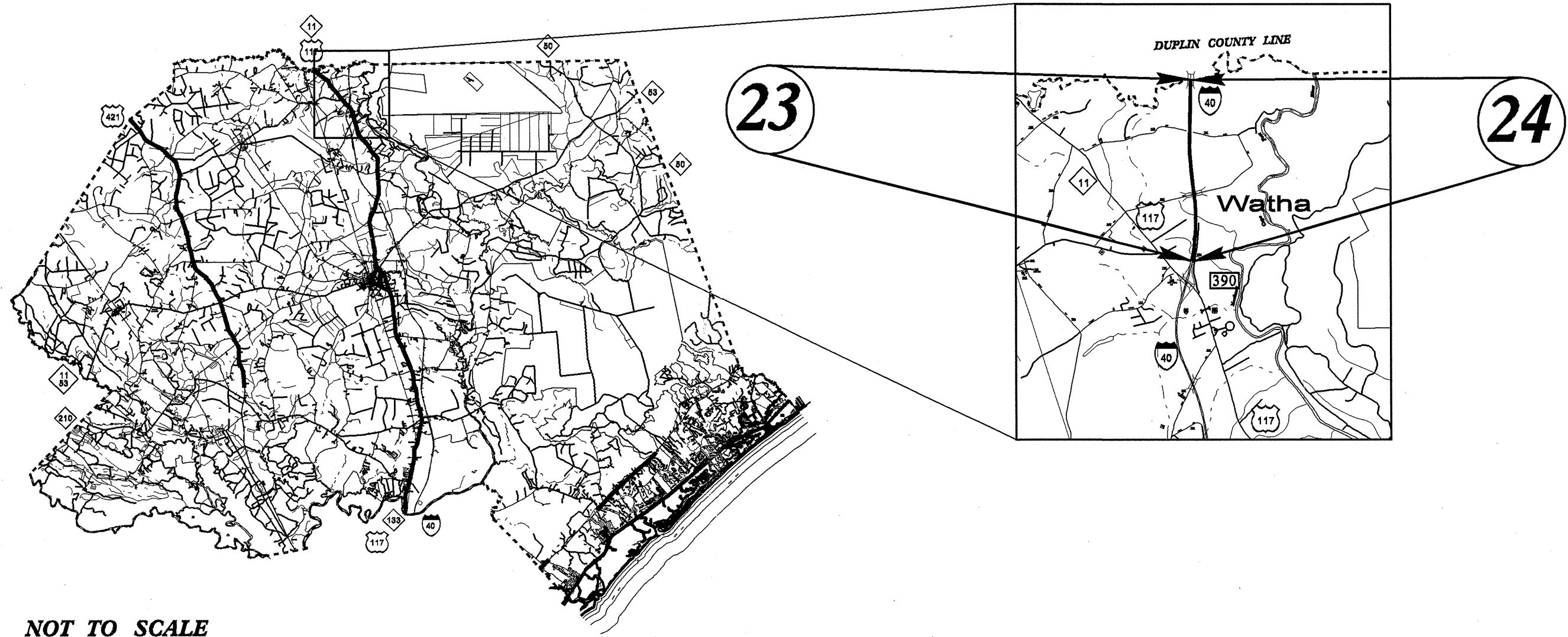
**CONTRACT:**

# PENDER COUNTY

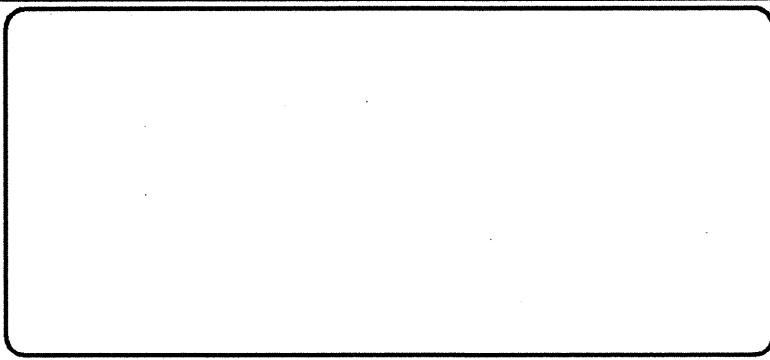
LOCATION: I-40 MP 387.99 (DUPLIN CO. LINE) TO  
MP 389.50



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5001A (41154.3.ST2)	2	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

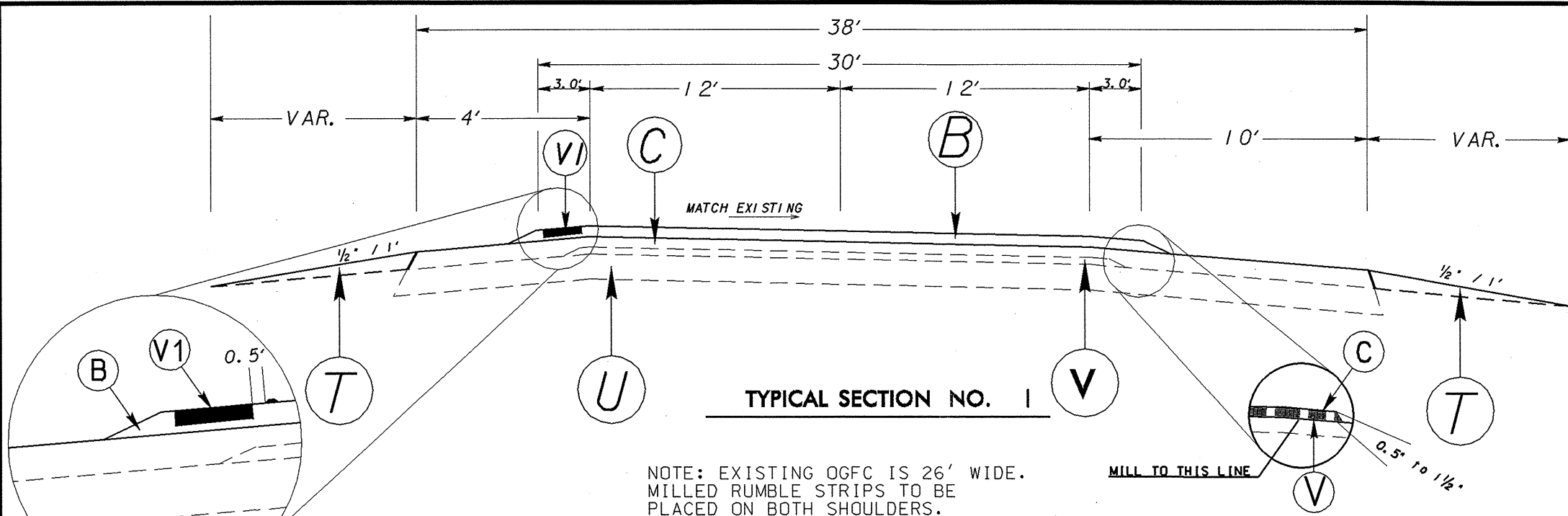


NOT TO SCALE



PROJECT REFERENCE NO. I-5001A (41154.3.ST2)	SHEET NO. 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5/14/99



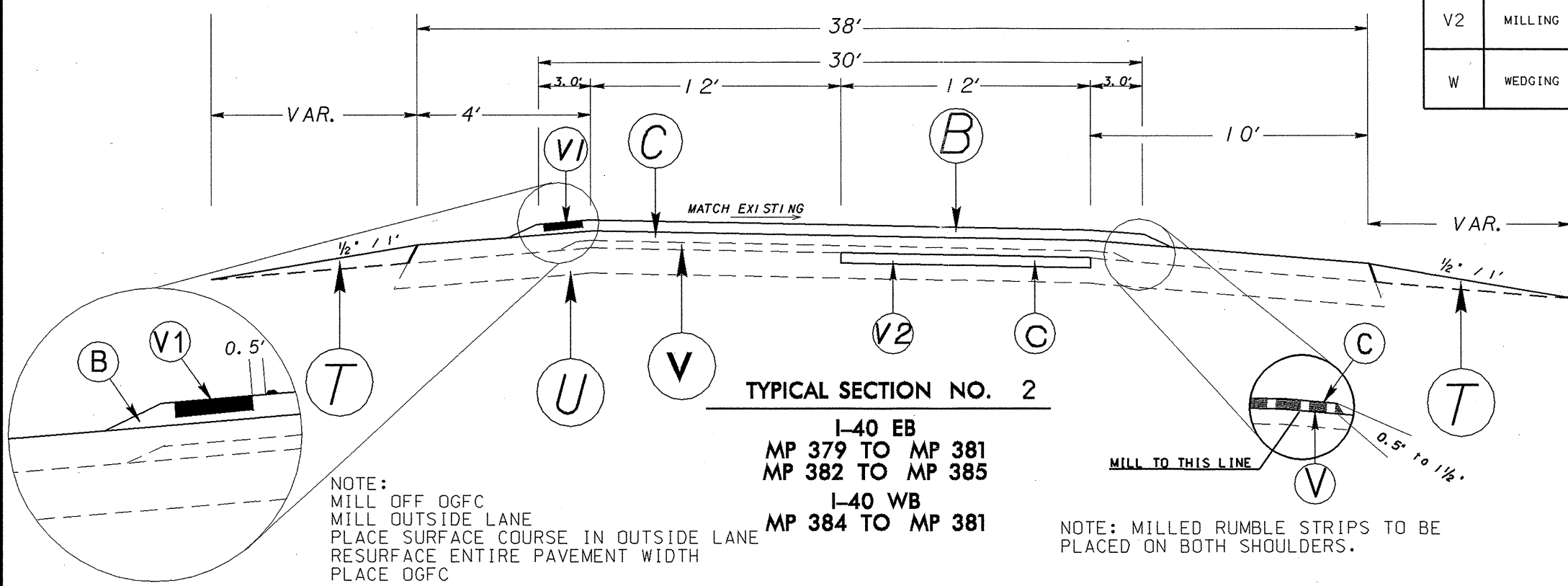
TYPICAL SECTION NO. 1

NOTE: EXISTING OGFC IS 26' WIDE.  
MILLED RUMBLE STRIPS TO BE PLACED ON BOTH SHOULDERS.

MILL TO THIS LINE

PAVEMENT SCHEDULE			
B	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-2 MODIFIED, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YD.	T	EARTH MATERIAL.
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
C	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S12.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	V	MILLING ASPHALT PAVEMENT 0.5" TO 1 1/4" DEPTH TO REMOVE EXISTING OPEN-GRADED FRICTION COURSE.
		V1	MILLED RUMBLE STRIP
		V2	MILLING ASPHALT PAVEMENT 2"
		W	WEDGING (SURFACE MIX)

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surfactant\_projects\division 3\I-5001a\1-40-b.mp 369 41 to 389 50.dgn



TYPICAL SECTION NO. 2

I-40 EB  
MP 379 TO MP 381  
MP 382 TO MP 385  
I-40 WB  
MP 384 TO MP 381

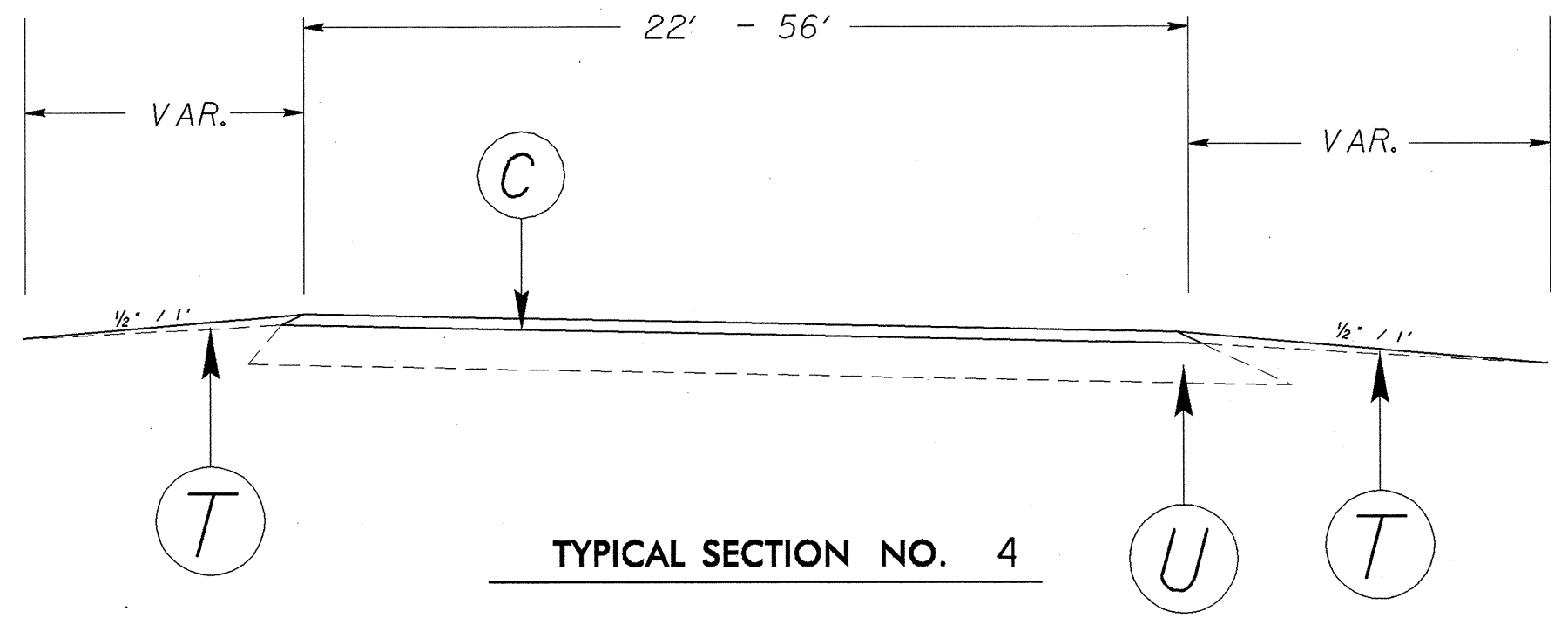
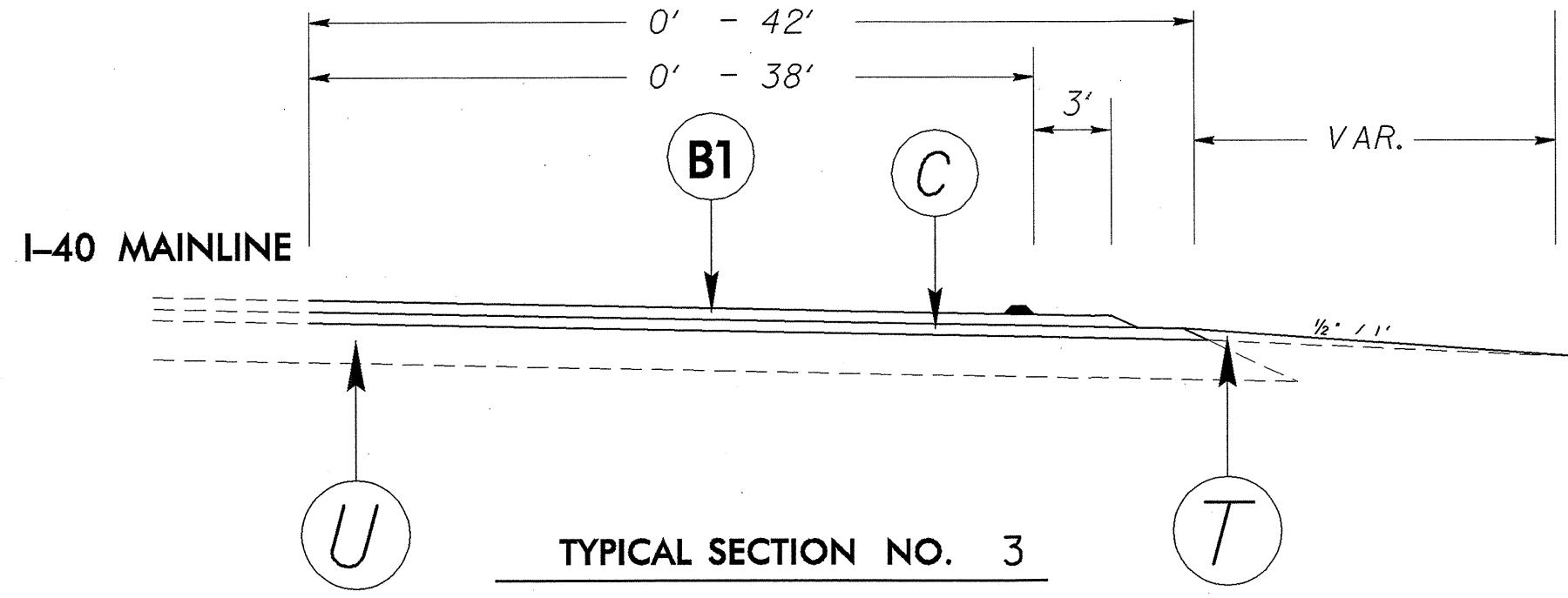
NOTE:  
MILL OFF OGFC  
MILL OUTSIDE LANE  
PLACE SURFACE COURSE IN OUTSIDE LANE  
RESURFACE ENTIRE PAVEMENT WIDTH  
PLACE OGFC

NOTE: MILLED RUMBLE STRIPS TO BE PLACED ON BOTH SHOULDERS.

MILL TO THIS LINE

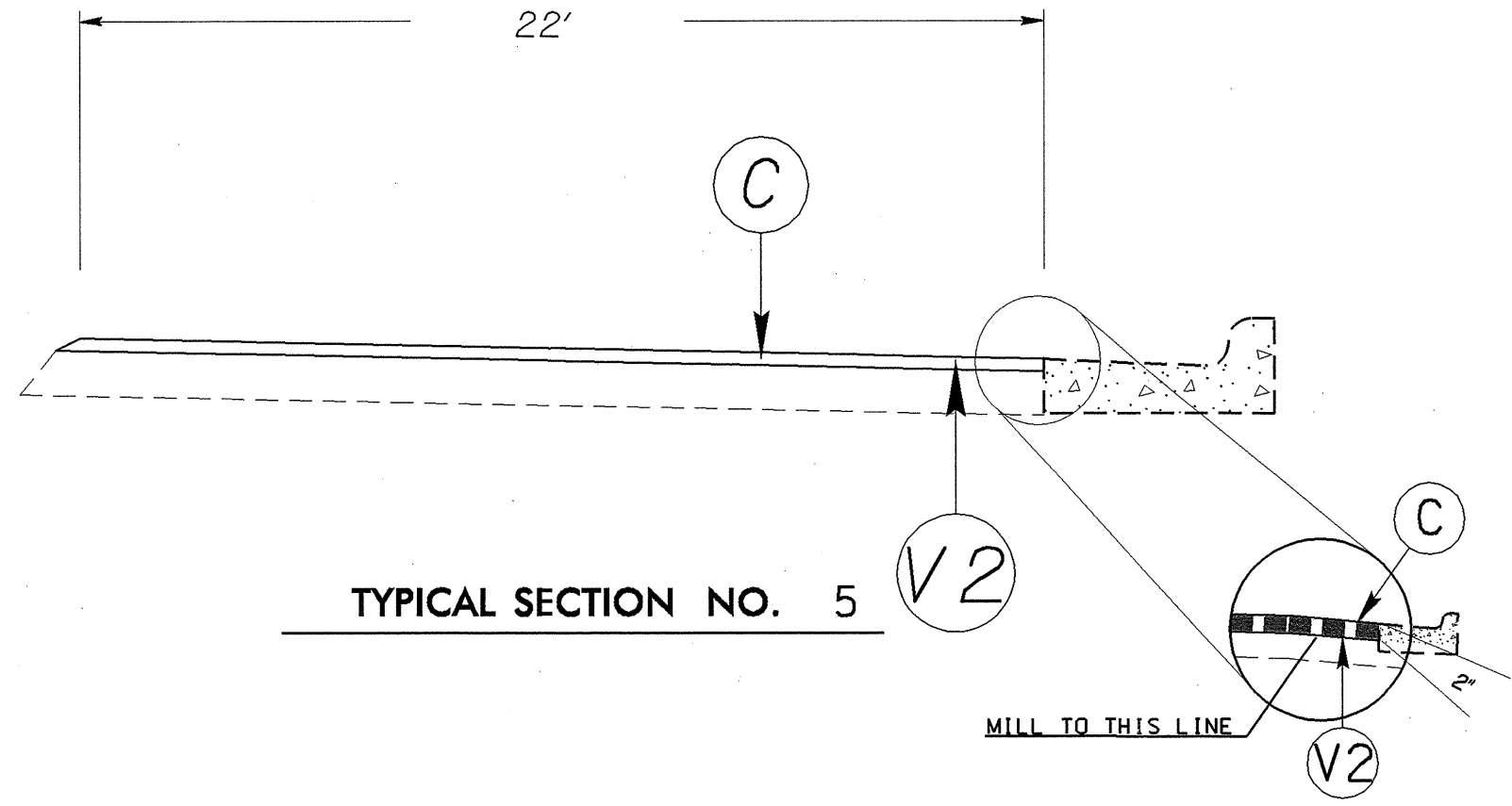
5/14/99

PROJECT REFERENCE NO. I-5001A (41154.3.ST2)	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



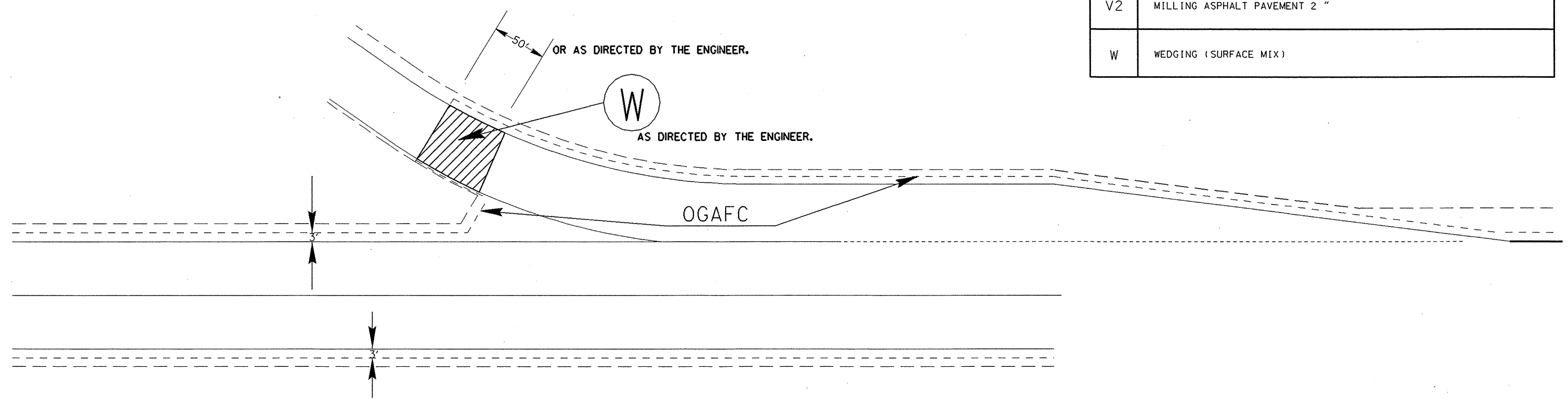
PAVEMENT SCHEDULE	
B	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-2 MODIFIED, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YD.
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
C	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S12-5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING ASPHALT PAVEMENT 0.5" TO 1 1/4" DEPTH TO REMOVE EXISTING OPEN-GRADED FRICTION COURSE.
V1	MILLED RUMBLE STRIP
V2	MILLING ASPHALT PAVEMENT 2"
W	WEDGING (SURFACE MIX)

PROJECT REFERENCE NO. I-5001A (41154.3.ST 2)	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 5

PAVEMENT SCHEDULE	
B	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-2 MODIFIED, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YD.
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
C	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S12.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING ASPHALT PAVEMENT 0.5" TO 1 1/4" DEPTH TO REMOVE EXISTING OPEN-GRADED FRICTION COURSE.
V1	MILLED RUMBLE STRIP
V2	MILLING ASPHALT PAVEMENT 2"
W	WEDGING (SURFACE MIX)

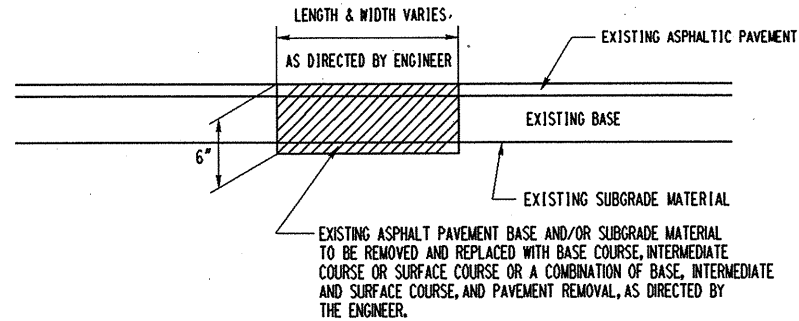


PAVING LIMITS FOR OGFC AT EXIT AND ENTRANCE RAMPS

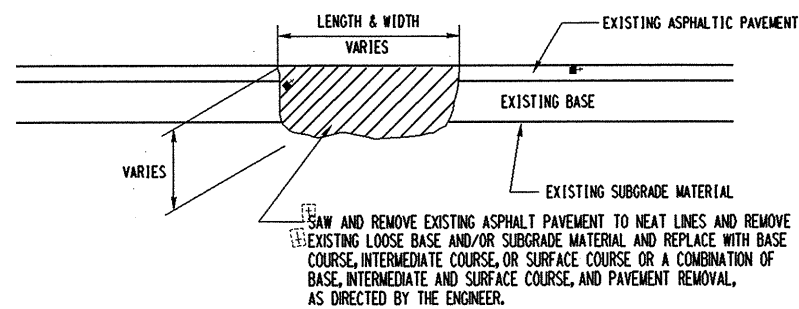
22-OCT-2009 13:36 Division 3\1-5001a\1-40.b.mp 369 41 to 389 50.dgn  
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PROJECT REFERENCE NO. 1-5001A (41154.3, ST 2)	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

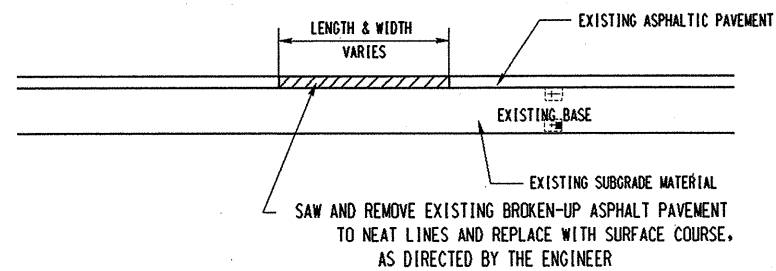
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



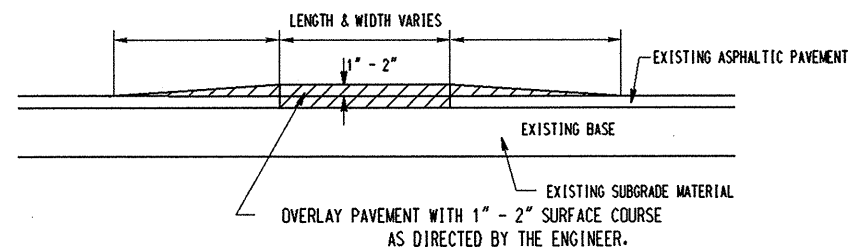
DETAIL NO. 1



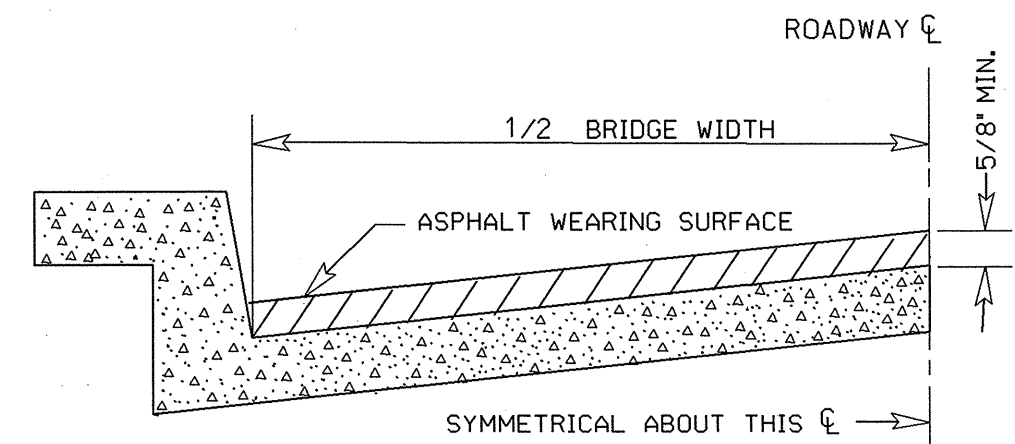
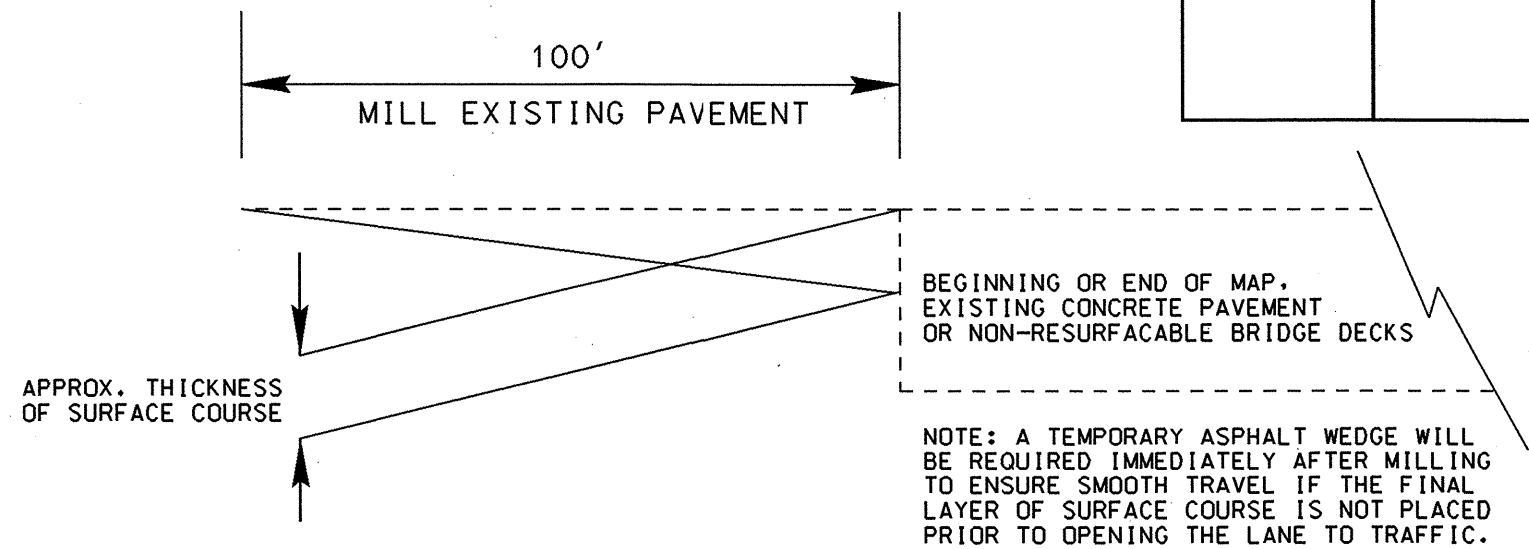
DETAIL NO. 2



DETAIL NO. 3



DETAIL NO. 4



BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

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PROJECT NO.	SHEET NO.	TOTAL NO.
I-5001A (41154.3.ST2)	7	10

### SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	LENGTH	WIDTH	BORROW EXC.	INC. STONE BASE	SHOULDER RECON.	2" MILLING	1/2" TO 1 1/4" MILLING	INC. MILLING	SURFACE COURSE	LEVELING COURSE	PG 70-22 PLANT MIX	PG 76-22 PLANT MIX	OGFC, FC-1 MODIFIED	OGFC, FC-2 MODIFIED	PATCHING (MILL)	PATCHING (FULL DEPTH)	MILLED RUMBLE STRIPS	WEDGING EXISTING PAVEMENT	ADD'L GR POSTS	GR ANCHOR UNITS, TYPE 350 EA	GR ANCHOR UNITS, TYPE B-77 EA	REMOVE & RESET EXIST. GR	REPAIR STEEL BEAM GR LF	TEMP. SILT FENCE	TEMP. MULCHING	SEED FOR TEMP SEEDING	MATTING (EROSION CONTROL)	SEED & MULCHING	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)		
NO		NO			NO	MI	FT	CY	TONS	SMI	SY	SY	SY	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	LF	TONS	EA	EA	EA	EA	EA	EA	EA	LBS	SY	AC	LF	LF		
I-5001A (41154.3.ST2)	Duplin	1	I-40 EB	MP 369.41 TO MP 379, MP 381 TO MP 382, MP 385 TO MP 387.99	1	13.58	38	5,188		27.16		207,140	844	39,164	840	2,201	651			515	52	143,405		20	4	4	400	400	1,358	13.58	339.50	100	20.37	60	200		
				MP 379 TO MP 381	2	2	38	764		4.00	14,080	30,507		7,607		418	96			520	52	21,120						200	2.00	50.00			3.00				
				MP 382 TO MP 385	2	3	38	1,146		6.00	21,120	45,760	1,688	11,410		628	144			795	80	31,680						300	3.00	75.00			4.50				
<b>TOTAL FOR MAP NO. 1</b>						<b>18.58</b>		<b>7,098</b>		<b>37.16</b>	<b>35,200</b>	<b>283,407</b>		<b>58,181</b>	<b>840</b>	<b>3,247</b>	<b>891</b>			<b>14,844</b>	<b>1,830</b>	<b>184</b>	<b>196,205</b>	<b>20</b>	<b>4</b>	<b>4</b>	<b>400</b>	<b>400</b>	<b>1,858</b>	<b>18.58</b>	<b>464.50</b>	<b>100</b>	<b>27.87</b>	<b>60</b>	<b>200</b>		
		2	EXIT RAMP TO US 117	EXIT 369, EXIT RAMP TAPER (0'-42')	3	0.2	21							335		18	4	67																			
				EXIT 369, EXIT RAMP FULL WIDTH (C&G)	5	0.12	22				1,549			201		11																					
				EXIT 369, EXIT RAMP FULL WIDTH	4	0.02	22	10	150	0.04				33		2							3													0.03	
<b>TOTAL FOR MAP NO. 2</b>						<b>0.34</b>		<b>10</b>	<b>150</b>	<b>0.04</b>	<b>1,549</b>			<b>569</b>		<b>31</b>	<b>4</b>	<b>67</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>					<b>0.03</b>		
		3	ENTRANCE RAMP FROM US 117	EXIT 369, ENTRANCE RAMP FULL WIDTH	4	0.27	22	137	150	0.54				452		25							3													0.41	
				EXIT 369, ENTRANCE RAMP TAPER (0'-42')	3	0.24	21							384		21	5	80					3	0	0											0.41	
<b>TOTAL FOR MAP NO. 3</b>						<b>0.51</b>		<b>137</b>	<b>150</b>	<b>0.54</b>				<b>836</b>		<b>46</b>	<b>5</b>	<b>80</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.41</b>	
		4	EXIT RAMP TO NC 24/903	EXIT 373, EXIT RAMP TAPER (0'-42')	3	0.1	21							160		9	2	33																		0.30	
				EXIT 373, EXIT RAMP FULL WIDTH	4	0.2	22	102	150	0.40				335		18							3	0	0											0.30	
<b>TOTAL FOR MAP NO. 4</b>						<b>0.3</b>		<b>102</b>	<b>150</b>	<b>0.40</b>				<b>495</b>		<b>27</b>	<b>2</b>	<b>33</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.30</b>	
		5	ENTRANCE RAMP FROM NC 24/903	EXIT 373, ENTRANCE RAMP FULL WIDTH	4	0.2	22	102	150	0.40				335		18							3													0.30	
				EXIT 373, ENTRANCE RAMP TAPER (0'-42')	3	0.24	21							384		21	5	80					3	0	0											0.30	
<b>TOTAL FOR MAP NO. 5</b>						<b>0.44</b>		<b>102</b>	<b>150</b>	<b>0.40</b>				<b>719</b>		<b>39</b>	<b>5</b>	<b>80</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.30</b>	
		6	EXIT RAMP TO SR 1102	EXIT 380, EXIT RAMP TAPER (0'-42')	3	0.13	21							208		11	3	43																			
				EXIT 380, EXIT RAMP FULL WIDTH	4	0.19	22	97	150	0.38				318		18							3													0.29	
<b>TOTAL FOR MAP NO. 6</b>						<b>0.32</b>		<b>97</b>	<b>150</b>	<b>0.38</b>				<b>526</b>		<b>29</b>	<b>3</b>	<b>43</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.29</b>	
		7	ENTRANCE RAMP FROM SR 1102	EXIT 380, ENTRANCE RAMP FULL WIDTH	4	0.25	22	127	150	0.50				419		23							3													0.38	
				EXIT 380, ENTRANCE RAMP TAPER (0'-42')	3	0.22	21							352		19	5	73					3	0	0											0.38	
<b>TOTAL FOR MAP NO. 7</b>						<b>0.47</b>		<b>127</b>	<b>150</b>	<b>0.50</b>				<b>771</b>		<b>42</b>	<b>5</b>	<b>73</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.38</b>	
		8	EXIT RAMP TO NC 11	EXIT 384, EXIT RAMP TAPER (0'-42')	3	0.12	21							192		11	3	40																			
				EXIT 384, EXIT RAMP FULL WIDTH	4	0.2	22	102	150	0.40				335		18							3	0	0											0.30	
<b>TOTAL FOR MAP NO. 8</b>						<b>0.32</b>		<b>102</b>	<b>150</b>	<b>0.40</b>				<b>527</b>		<b>29</b>	<b>3</b>	<b>40</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.30</b>	
		9	ENTRANCE RAMP FROM NC 11	EXIT 384, ENTRANCE RAMP FULL WIDTH	4	0.2	22	102	150	0.40				335		18							3													0.30	
				EXIT 384, ENTRANCE RAMP TAPER (0'-42')	3	0.23	21							368		20	5	77					3	0	0											0.30	
<b>TOTAL FOR MAP NO. 9</b>						<b>0.43</b>		<b>102</b>	<b>150</b>	<b>0.40</b>				<b>703</b>		<b>38</b>	<b>5</b>	<b>77</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.30</b>	
		10	EXIT RAMP TO NC 41	EXIT 385, EXIT RAMP TAPER (0'-42')	3	0.1	21							160		9	2	33																			
				EXIT 385, EXIT RAMP FULL WIDTH	4	0.2	22	102	150	0.40	489			335		18							3													0.30	
<b>TOTAL FOR MAP NO. 10</b>						<b>0.3</b>		<b>102</b>	<b>150</b>	<b>0.40</b>	<b>489</b>			<b>495</b>		<b>27</b>	<b>2</b>	<b>33</b>					<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.30</b>	
		11	ENTRANCE RAMP FROM NC 41	EXIT 385, ENTRANCE RAMP FULL WIDTH	4	0.2	22	102	150	0.40	489			335		18							3													0.30	
				EXIT 385, ENTRANCE RAMP TAPER (0'-42')	3	0.22	21							352		19	12	73	123				3	0	0											0.30	
<b>TOTAL FOR MAP NO. 11</b>						<b>0.42</b>		<b>102</b>	<b>150</b>	<b>0.40</b>	<b>489</b>			<b>687</b>		<b>37</b>	<b>12</b>	<b>73</b>	<b>123</b>				<b>3</b>	<b>0</b>	<b>0</b>					<b>0.00</b>						<b>0.30</b>	

2006 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

- STD.NO. TITLE
- DIVISION 6 - ASPHALT BASES AND PAVEMENTS
- 665.01 Milled Rumble Strips - Asphalt Pavements
- DIVISION 8 - INCIDENTALS
- 816.04 Markers for Drainage Structure and Concrete Pad
- 862.01 Guardrail Placement
- 862.02 Guardrail Installation
- 862.03 Structure Anchor Units
- 862.04 Anchoring End of Guardrail - B-77 and B-83 Anchor Units

PROJECT NO.	SHEET NO.	TOTAL NO.
I-5001A (41154.3.ST2)	8	10

## SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	BORROW EXC. CY	INC. STONE BASE TONS	SHOULDER RECON. SMI	2" MILLING SY	1/2" TO 1 1/4" MILLING SY	INC. MILLING SY	SURFACE COURSE, \$12.5C TONS	LEVELING COURSE, \$12.5C TONS	PG 70-22 PLANT MIX TONS	PG 76-22 PLANT MIX TONS	OGFC, FC-1 MODIFIED TONS	OGFC, FC-2 MODIFIED TONS	PATCHING (MILL) TON	PATCHING (FULL DEPTH) TONS	MILLED RUMBLE STRIPS LF	WEDGING EXISTING PAVEMENT TONS	ADD'L GR POSTS EA	GR ANCHOR UNITS, TYPE 350 EA	GR ANCHOR UNITS, TYPE B-77 EA	REMOVE & RESET EXIST. GR LF	REPAIR STEEL BEAM GR LF	TEMP. SILT FENCE LF	TEMP MULCHING AC	SEED FOR TEMP SEEDING LBS	MATTING (EROSION CONTROL) SY	SEED & MULCHING AC	INDUCTIVE LOOP SAWCUT LF	LEAD-IN CABLE (14-2) LF																
I-5001A (41154.3.ST2)	Duplin	12	I-40 WB	MP 387.99 (CO. LINE) TO MP 384, MP 381 TO MP 369.41	1	15.58	38	5,952		31.16		237,646	1,688	44,932	840	2,518	747		12,447	1,110	111	164,525		20	4	4	400	400	1,558	15.58	389.50	100	23.37	60	200																
				MP 384 TO MP 381	2	3	38	1,146		6.00	21,120	45,760	844	11,410			628	144		2,397	1,230	123	31,680								300	3.00	75.00		4.50																
TOTAL FOR MAP NO. 12						18.58		7,098		37.16	21,120	283,406	2,532	56,342	840	3,146	891		14,844	2,340	234	196,205		20	4	4	400	400	1,858	18.58	464.50	100	27.87	60	200																
		13	EXIT RAMP TO NC 41	EXIT 385, EXIT RAMP TAPER (0'-42')	2	0.14	21							224		12	3	47																																	
		*	*	EXIT 385, EXIT RAMP FULL WIDTH	4	0.19	22	97	150	0.38	489			318		18																						0.29													
TOTAL FOR MAP NO. 13						0.33		97	150	0.38	489			318		30	3	47																																	
		14	ENTRANCE RAMP FROM NC 41	EXIT 385, ENTRANCE RAMP FULL WIDTH	4	0.18	22	92	150	0.36	489			301		17																							0.27												
		*	*	EXIT 385, ENTRANCE RAMP TAPER (0'-42')	3	0.21	21							336		18	4	70																						0.27											
TOTAL FOR MAP NO. 14						0.39		92	150	0.36	489			637		35	4	70																							0.27										
		15	EXIT RAMP TO NC 11	EXIT 384, EXIT RAMP TAPER (0'-42')	3	0.11	21							176		10	2	37																																	
		*	*	EXIT 384, EXIT RAMP FULL WIDTH	4	0.2	22	102	150	0.40				335		18																									0.30										
TOTAL FOR MAP NO. 15						0.31		102	150	0.40				511		28	2	37																								0.30									
		16	ENTRANCE RAMP FROM NC 11	EXIT 384, ENTRANCE RAMP FULL WIDTH	4	0.2	22	102	150	0.40				335		18																										0.30									
		*	*	EXIT 384, ENTRANCE RAMP TAPER (0'-42')	3	0.22	21							352		19	5	73																								0.30									
TOTAL FOR MAP NO. 16						0.42		102	150	0.40				687		37	5	73																								0.30									
		17	EXIT RAMP TO SR 1102	EXIT 380, EXIT RAMP TAPER (0'-42')	3	0.11	21							176		10	2	37																																	
		*	*	EXIT 380, EXIT RAMP FULL WIDTH	4	0.22	22	112	150	0.44				368		20																										0.33									
TOTAL FOR MAP NO. 17						0.33		112	150	0.44				544		30	2	37																									0.33								
		18	ENTRANCE RAMP FROM SR 1102	EXIT 380, ENTRANCE RAMP FULL WIDTH	4	0.23	22	59	150	0.46				385		21																											0.35								
		*	*	EXIT 380, ENTRANCE RAMP TAPER (0'-42')	3	0.27	21							432		24	6	90																										0.35							
TOTAL FOR MAP NO. 18						0.5		59	150	0.46				817		45	6	90																										0.35							
		19	EXIT RAMP TO NC 24/903	EXIT 373, EXIT RAMP TAPER (0'-42')	3	0.13	21							208		11	3	43																																	
		*	*	EXIT 373, EXIT RAMP FULL WIDTH	4	0.22	22	112	150	0.44				368		20																												0.33							
TOTAL FOR MAP NO. 19						0.35		112	150	0.44				576		31	3	43																											0.33						
		20	ENTRANCE RAMP FROM NC 24/903	EXIT 373, ENTRANCE RAMP FULL WIDTH	4	0.18	22	92	150	0.36				301		17																												0.27							
		*	*	EXIT 373, ENTRANCE RAMP TAPER (0'-42')	3	0.28	21							448		25	6	93																										0.27							
TOTAL FOR MAP NO. 20						0.46		92	150	0.36				749		42	6	93																											0.27						
		21	EXIT RAMP TO US 117	EXIT 369, EXIT RAMP TAPER (0'-42')	3	0.12	21							192		11	3	40																																	
		*	*	EXIT 369, EXIT RAMP FULL WIDTH	4	0.35	22	178	150	0.70				586		32																												0.53							
TOTAL FOR MAP NO. 21						0.47		178	150	0.70				778		43	3	40																											0.53						
		22	ENTRANCE RAMP FROM US 117	EXIT 369, ENTRANCE RAMP FULL WIDTH	4	0.04	22	20	150	0.08				67		4																													0.06						
		*	*	EXIT 369, ENTRANCE RAMP FULL WIDTH, C&G	5	0.2	22				2,581			335		18																												0.06							
TOTAL FOR MAP NO. 22						0.24		20	150	0.08	2,581			402		22																													0.06						
	Pender	23	I-40 EBL	MP 387.99 TO MP 389.50	1	1.51	38	577		3.02		23,032	422	4,355		240	72		1,206	100	10	15,946																					151	1.51	37.75	2.27					
TOTAL FOR MAP NO. 23						1.51		577		3.02		23,032	422	4,355		240	72				1,206	100	10	15,946																						151	1.51	37.75	2.27		
		24	I-40 WBL	MP 389.50 TO 387.99	1	1.51	38	577		3.02		23,032	422	4,355		240	72		1,206	150	15	15,946																								151	1.51	37.75	2.27		
TOTAL FOR MAP NO. 24						1.51		577		3.02		23,032	422	4,355		240	72				1,206	150	15	15,946																								151	1.51	37.75	2.27
TOTAL FOR PROJ NO. I-5001A (41154.3.ST2)						47.83		17,299	3,000	88.24	62,406	612,877	5,908	135,804	1,680	7,561	2,006	1,129	32,223	4,420	443	424,302	60	40	8	8	800	800	4,018	40.18	1,004.50	200	66.19	120	400																
GRAND TOTAL						47.83		17,299	3,000	88.24	62,406	612,877	5,908	135,804	1,680	7,561	2,006	1,129	32,223	4,420	443	424,302	60	40	8	8	800	800	4,018	40.18	1,004.50	200	66.19	120	400																



PROJECT NO.	SHEET NO.	TOTAL NO.
I-5001A (41154.3.ST2)	9	10

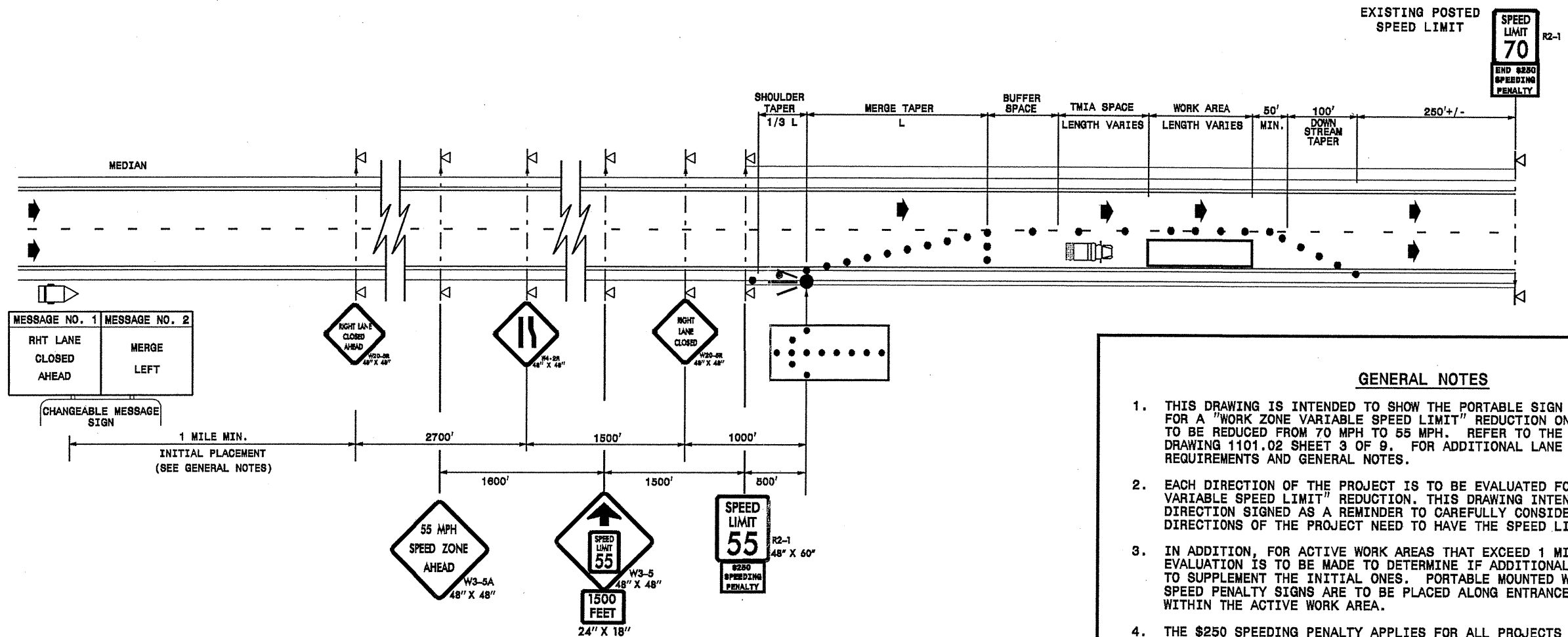
**POLYUREA, THERMOPLASTIC AND PAINT QUANTITIES**

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4415000000-N	4420000000-N	4480000000-N	4710000000-E	4725000000-E				4810000000-E		4820000000-E	4835000000-E	4840000000-N			4845000000-N			4847100000-E		4847120000-E	4895000000-N	4900000000-N	4905000000-N				
					FLASHING ARROW PANELS, TYPE C	CHANGEABLE MESSAGE SIGNS	TMIA	24" X 120 M WHITE THERMO	THERMO MSG EXT 120 MILS	THERMO STR ARROW 90 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT	8" WHITE PAINT	24" WHITE PAINT	PAINT MSG EXT	PAINT STR ARROW	PAINT LT ARROW	PAINT RT ARROW	6" WHITE POLYUREA Highly Reflective Elements LF	6" YELLOW POLYUREA Highly Reflective Elements LF	12" WHITE POLYUREA Highly Reflective Elements LF	SHOULDER MARKER FOR DRAINS 90 MILS	CYAN & RED MARKERS	SNOW PLOWABLE MARKERS (C/R)						
NO					EA	EA	EA	LF	EA	EA	EA	EA	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA				
I-5001A (41154.3.ST2)	Duplin	1	I-40 EB	MP 369.41 TO MP 379, MP 381 TO MP 382, MP 385 TO MP 387.99	2	2	2						179,256	143,405	3,056										89,628	71,702	1,535	15	1,793	896		
				MP 379 TO MP 381									26,400	21,120	450										13,200	10,560	226	1	264	132		
				MP 382 TO MP 385									39,600	31,680	675										19,800	15,840	339	8	396	198		
<b>TOTAL FOR MAP NO. 1</b>					<b>2</b>	<b>2</b>	<b>2</b>						<b>245,256</b>	<b>196,205</b>	<b>4,181</b>									<b>122,628</b>	<b>98,102</b>	<b>2,100</b>	<b>24</b>	<b>2,453</b>	<b>1,226</b>			
		2	EXIT RAMP TO US 117	EXIT 369, EXIT RAMP TAPER (0'-42')																										15		
				EXIT 369, EXIT RAMP FULL WIDTH (C&G)																										634		
				EXIT 369, EXIT RAMP FULL WIDTH																										211		
<b>TOTAL FOR MAP NO. 2</b>																								<b>211</b>	<b>106</b>	<b>300</b>				<b>3</b>		
		3	ENTRANCE RAMP FROM US 117	EXIT 369, ENTRANCE RAMP FULL WIDTH																											1,782	
				EXIT 369, ENTRANCE RAMP TAPER (0'-42')																											300	
<b>TOTAL FOR MAP NO. 3</b>									<b>3</b>	<b>3</b>							<b>3</b>	<b>3</b>							<b>1,782</b>	<b>1,426</b>	<b>400</b>				<b>15</b>	
		4	EXIT RAMP TO NC 24/903	EXIT 373, EXIT RAMP TAPER (0'-42')																											300	
				EXIT 373, EXIT RAMP FULL WIDTH																											1,320	
<b>TOTAL FOR MAP NO. 4</b>																	<b>3</b>								<b>1,320</b>	<b>1,056</b>	<b>400</b>				<b>41</b>	
		5	ENTRANCE RAMP FROM NC 24/903	EXIT 373, ENTRANCE RAMP FULL WIDTH																											1,320	
				EXIT 373, ENTRANCE RAMP TAPER (0'-42')																											9	
<b>TOTAL FOR MAP NO. 5</b>									<b>9</b>	<b>3</b>							<b>3</b>	<b>3</b>							<b>1,320</b>	<b>1,056</b>	<b>400</b>				<b>15</b>	
		6	EXIT RAMP TO SR 1102	EXIT 380, EXIT RAMP TAPER (0'-42')																											300	
				EXIT 380, EXIT RAMP FULL WIDTH																											1,254	
<b>TOTAL FOR MAP NO. 6</b>																									<b>1,254</b>	<b>1,003</b>	<b>400</b>				<b>25</b>	
		7	ENTRANCE RAMP FROM SR 1102	EXIT 380, ENTRANCE RAMP FULL WIDTH																											1,650	
				EXIT 380, ENTRANCE RAMP TAPER (0'-42')																											300	
<b>TOTAL FOR MAP NO. 7</b>									<b>9</b>	<b>3</b>							<b>3</b>	<b>3</b>							<b>1,650</b>	<b>1,320</b>	<b>400</b>				<b>15</b>	
		8	EXIT RAMP TO NC 11	EXIT 384, EXIT RAMP TAPER (0'-42')																											300	
				EXIT 384, EXIT RAMP FULL WIDTH																											1	
<b>TOTAL FOR MAP NO. 8</b>																										<b>1,320</b>	<b>1,056</b>	<b>400</b>				<b>26</b>
		9	ENTRANCE RAMP FROM NC 11	EXIT 384, ENTRANCE RAMP FULL WIDTH																											1,320	
				EXIT 384, ENTRANCE RAMP TAPER (0'-42')																											9	
<b>TOTAL FOR MAP NO. 9</b>									<b>9</b>	<b>3</b>							<b>3</b>	<b>3</b>							<b>1,320</b>	<b>1,056</b>	<b>400</b>				<b>15</b>	
		10	EXIT RAMP TO NC 41	EXIT 385, EXIT RAMP TAPER (0'-42')																											300	
				EXIT 385, EXIT RAMP FULL WIDTH																											60	
<b>TOTAL FOR MAP NO. 10</b>																										<b>1,320</b>	<b>1,056</b>	<b>400</b>				<b>41</b>
		11	ENTRANCE RAMP FROM NC 41	EXIT 385, ENTRANCE RAMP FULL WIDTH																											1,320	
				EXIT 385, ENTRANCE RAMP TAPER (0'-42')																											9	
<b>TOTAL FOR MAP NO. 11</b>									<b>9</b>	<b>3</b>							<b>3</b>	<b>3</b>							<b>1,320</b>	<b>1,056</b>	<b>400</b>				<b>15</b>	

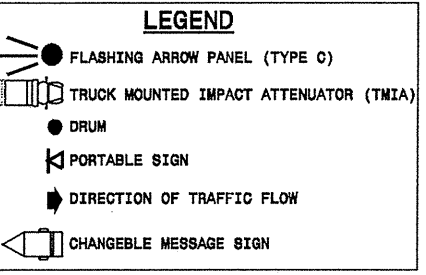
PROJECT NO.	SHEET NO.	TOTAL NO.
I-5001A (41154.3.ST2)	10	10

### POLYUREA, THERMOPLASTIC AND PAINT QUANTITIES

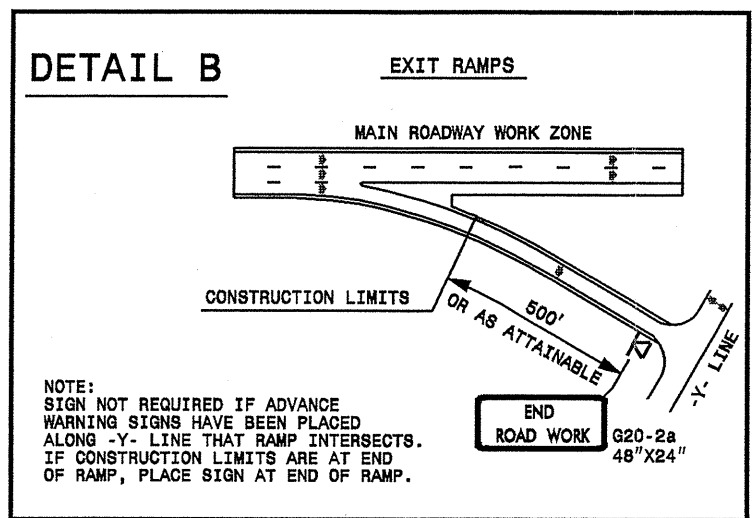
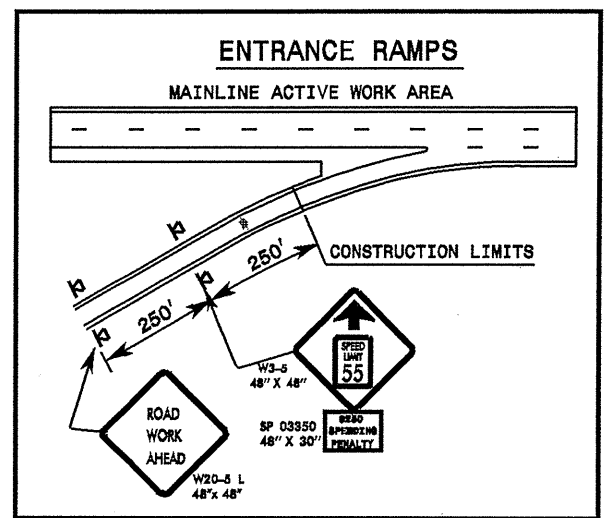
PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	4415000000-N	4420000000-N	4480000000-N	4710000000-E	4721000000-E	4725000000-E				4810000000-E		4820000000-E	4835000000-E	4840000000-N	4845000000-N			4847100000-E	4847120000-E	4895000000-N	4900000000-N	4905000000-N		
					FLASHING ARROW PANELS, TYPE C EA	CHANGEABLE MESSAGE SIGNS EA	TMIA EA	24" X 120 M WHITE THERMO LF	THERMO MSG EXT 120 MILS EA	THERMO STR ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	8" WHITE PAINT LF	24" WHITE PAINT LF	PAINT MSG EXT EA	PAINT STR ARROW EA	PAINT LT ARROW EA	PAINT RT ARROW EA	6" WHITE POLYUREA Highly Reflective Elements LF	6" YELLOW POLYUREA Highly Reflective Elements LF	12" WHITE POLYUREA Highly Reflective Elements LF	SHOULDER MARKER FOR DRAINS 90 MILS EA	CYAN & RED MARKERS EA	SNOW PLOWABLE MARKERS (C/R) EA		
I-5001A (41154.3.ST2)	Duplin	12	I-40 WB	MP 387.99 (CO. LINE) TO MP 384, MP 381 TO MP 369.41 MP 384 TO MP 381	1	2	1							205,656	164,525	3,506							102,828	82,262	1,761	26	2,057	1,028
TOTAL FOR MAP NO. 12					1	2	1							39,600	31,680	675							19,800	15,840	339	1	396	198
		13	EXIT RAMP TO NC 41	EXIT 385, EXIT RAMP TAPER (0'- 42')																								15
		"	"	EXIT 385, EXIT RAMP FULL WIDTH																								25
TOTAL FOR MAP NO. 13																												40
		14	ENTRANCE RAMP FROM NC 41	EXIT 385, ENTRANCE RAMP FULL WIDTH																								24
		"	"	EXIT 385, ENTRANCE RAMP TAPER (0'-42')																								15
TOTAL FOR MAP NO. 14																												39
		15	EXIT RAMP TO NC 11	EXIT 384, EXIT RAMP TAPER (0'- 42')																								15
		"	"	EXIT 384, EXIT RAMP FULL WIDTH																								26
TOTAL FOR MAP NO. 15																												41
		16	ENTRANCE RAMP FROM NC 11	EXIT 384, ENTRANCE RAMP FULL WIDTH																								26
		"	"	EXIT 384, ENTRANCE RAMP TAPER (0'-42')																								15
TOTAL FOR MAP NO. 16																												41
		17	EXIT RAMP TO SR 1102	EXIT 380, EXIT RAMP TAPER (0'- 42')																								15
		"	"	EXIT 380, EXIT RAMP FULL WIDTH																								29
TOTAL FOR MAP NO. 17																												44
		18	ENTRANCE RAMP FROM SR 1102	EXIT 380, ENTRANCE RAMP FULL WIDTH																								30
		"	"	EXIT 380, ENTRANCE RAMP TAPER (0'-42')																								15
TOTAL FOR MAP NO. 18																												45
		19	EXIT RAMP TO NC 24/903	EXIT 373, EXIT RAMP TAPER (0'- 42')																								15
		"	"	EXIT 373, EXIT RAMP FULL WIDTH																								29
TOTAL FOR MAP NO. 19																												44
		20	ENTRANCE RAMP FROM NC 24/903	EXIT 373, ENTRANCE RAMP FULL WIDTH																								24
		"	"	EXIT 373, ENTRANCE RAMP TAPER (0'-42')																								15
TOTAL FOR MAP NO. 20																												39
		21	EXIT RAMP TO US 117	EXIT 369, EXIT RAMP TAPER (0'- 42')																								15
		"	"	EXIT 369, EXIT RAMP FULL WIDTH																								46
TOTAL FOR MAP NO. 21																												61
		22	ENTRANCE RAMP FROM US 117	EXIT 369, ENTRANCE RAMP FULL WIDTH																								5
		"	"	EXIT 369, ENTRANCE RAMP FULL WIDTH, C&G																								5
TOTAL FOR MAP NO. 22																												5
	Pender	23	I-40 EBL	MP 387.99 TO MP 389.50										19,932	15,946	340												100
TOTAL FOR MAP NO. 23														19,932	15,946	340												100
		24	I-40 WBL	MP 389.50 TO 387.99										19,932	15,946	340												100
TOTAL FOR MAP NO. 24														19,932	15,946	340												100
TOTAL FOR PROJ. NO. I-5001A (41154.3.ST2)					3	4	3	60	39	27	2	2	530,376	424,302	9,342	60	18	27	2	2	291,271	234,643	12,142	51	5,304	3,307		
GRAND TOTAL					3	4	3	60	39	27	2	2	530,376	424,302	9,342	60	18	27	2	2	291,271	234,643	12,142	51	5,304	3,307		



MESSAGE NO. 1	MESSAGE NO. 2
RHT LANE CLOSED AHEAD	MERGE LEFT



- GENERAL NOTES**
- THIS DRAWING IS INTENDED TO SHOW THE PORTABLE SIGN LOCATIONS REQUIRED FOR A "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION ON A FREEWAY WHICH IS TO BE REDUCED FROM 70 MPH TO 55 MPH. REFER TO THE ROADWAY STANDARD DRAWING 1101.02 SHEET 3 OF 9. FOR ADDITIONAL LANE CLOSURE REQUIREMENTS AND GENERAL NOTES.
  - EACH DIRECTION OF THE PROJECT IS TO BE EVALUATED FOR THE "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION. THIS DRAWING INTENTIONALLY HAS 1 DIRECTION SIGNED AS A REMINDER TO CAREFULLY CONSIDER WHETHER BOTH DIRECTIONS OF THE PROJECT NEED TO HAVE THE SPEED LIMIT REDUCED.
  - IN ADDITION, FOR ACTIVE WORK AREAS THAT EXCEED 1 MILE IN LENGTH, AN EVALUATION IS TO BE MADE TO DETERMINE IF ADDITIONAL SIGNS ARE NEEDED TO SUPPLEMENT THE INITIAL ONES. PORTABLE MOUNTED W3-5 SIGNS WITH SPEED PENALTY SIGNS ARE TO BE PLACED ALONG ENTRANCE RAMP LOCATED WITHIN THE ACTIVE WORK AREA.
  - THE \$250 SPEEDING PENALTY APPLIES FOR ALL PROJECTS THAT QUALIFY FOR A "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION. PORTABLE SIGNS ARE TO BE USED TO DISPLAY THE \$250 SPEEDING PENALTY.
  - THE "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION IS ONLY IN EFFECT WHEN WORKERS ARE PRESENT WHILE A LANE CLOSURE IS IN PLACE AND/OR THERE IS IS A 2" OR GREATER DROP-OFF BETWEEN OPEN LANES OF TRAFFIC. THE PORTABLE SPEED LIMIT AND SPEED PENALTY SIGNS ARE TO BE REMOVED WHEN WORKERS AREN'T PRESENT OR THE LANE CLOSURES ARE REMOVED. AT THE COMPLETION OF THE PROJECT, THE RESIDENT ENGINEER SHALL NOTIFY THE REGIONAL TRAFFIC ENGINEER, TO RESCIND THE ORDINANCE.
  - WHEN "WORK ZONE VARIABLE SPEED LIMIT" REDUCTIONS ARE IN EFFECT, THE CONTRACTOR IS TO COVER ANY EXISTING SPEED LIMIT SIGNS LOCATED WITHIN THE ACTIVE WORK AREA THAT CONFLICT WITH THE "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION.
  - DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
  - ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
  - SINGLE MOUNTED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.
  - THE "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION MUST BE ORDINANCED AND SIGNED BY THE STATE TRAFFIC ENGINEER BEFORE ANY SPEED LIMIT SIGNS ARE USED FOR REDUCING THE SPEED LIMIT.

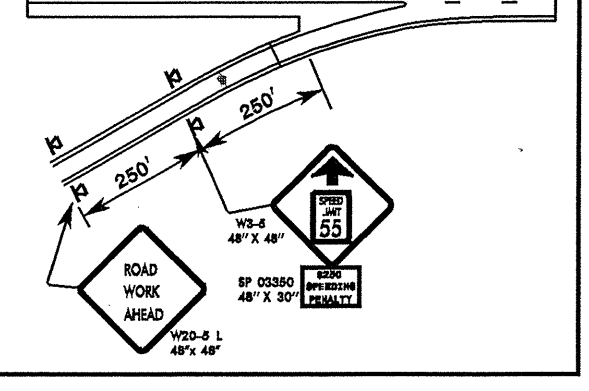
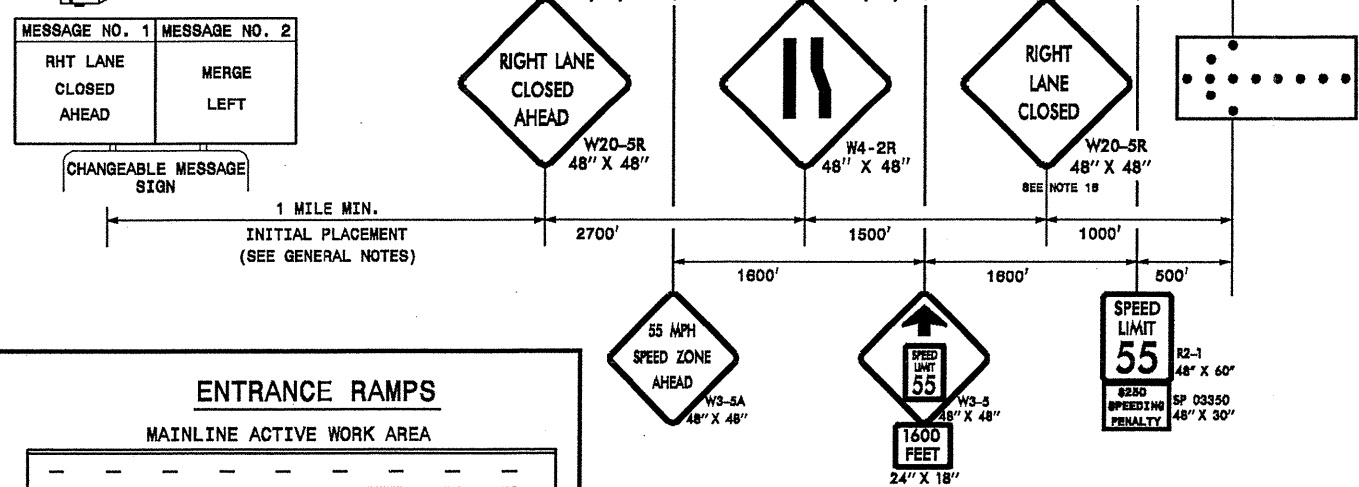
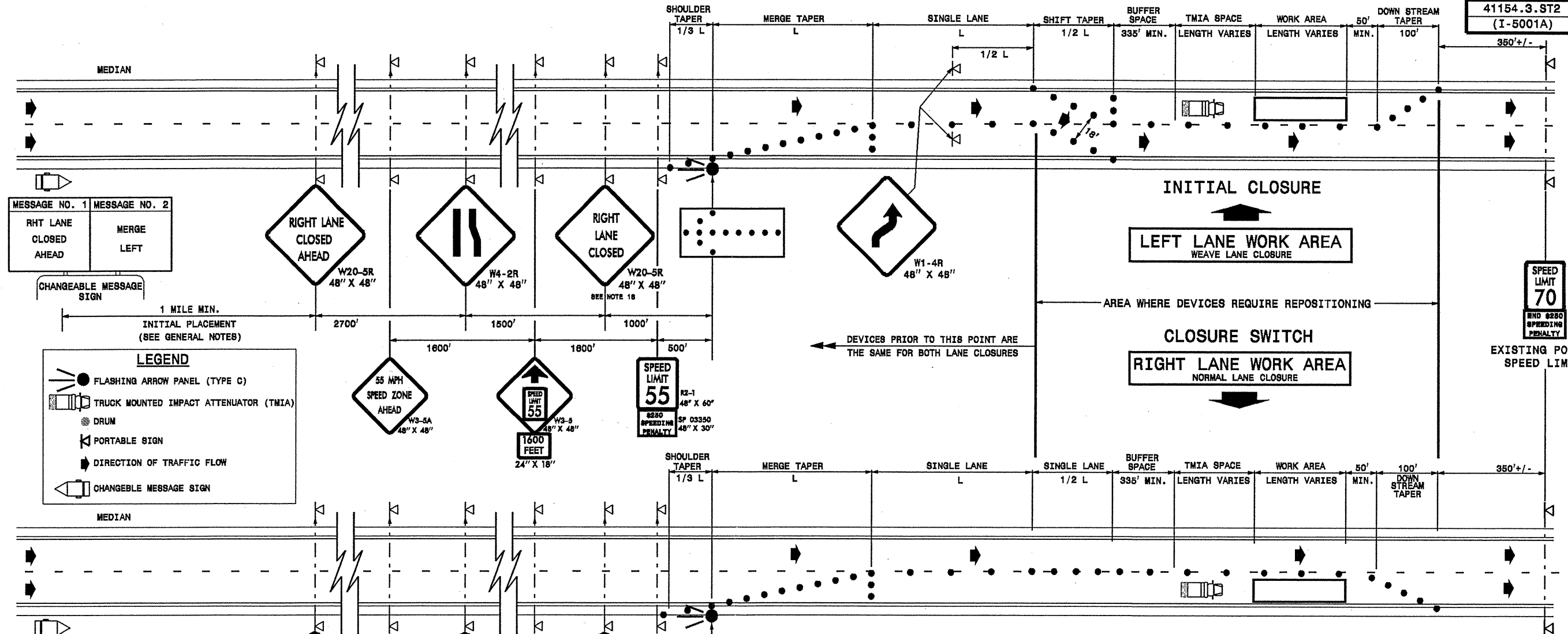


APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

**"WORK ZONE VARIABLE SPEED LIMIT" REDUCTION WITH PORTABLE SIGNS**

SCALE: NONE		REVISIONS
DATE: 10-09		
DWG. BY:		
DESIGN BY: SK		
REVIEWED BY: SK		

13-NOV-2009 10:51  
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- GENERAL NOTES**
- WEAVE LANE CLOSURES ARE TO BE USED ONLY ON DIVIDED, CONTROLLED ACCESS ROADWAYS, WITH POSTED SPEED LIMITS OF 55 MPH, OR GREATER.
  - FLASHING ARROW PANELS SHALL BE PLACED ON THE SHOULDER (PAVED OR UNPAVED). THE LOCATION OF THE ARROW PANEL SHALL MEET THE REQUIREMENTS FOR STOPPING SIGHT DISTANCE. LANE CLOSURES SHALL BE EXTENDED IF NEEDED, WITHIN THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE TO THE BEGINNING OF THE LANE CLOSURE OR FLASHING ARROW PANEL IS MET. SEE ROADWAY STANDARD DRAWING (RSD) 1101.11 SHEET 2 FOR STOPPING SIGHT DISTANCE & BUFFER SPACE TABLES.
  - THE MAXIMUM SPACING OF DRUMS IN TAPERS SHALL BE EQUAL IN FEET TO THE POSTED SPEED LIMIT. THE MAXIMUM SPACING OF DRUMS ALONG THE BUFFER SPACE, AND WORK AREA, SHALL BE EQUAL IN FEET TO (2) TIMES THE POSTED SPEED LIMIT.
  - SEE RSD 1101.11-SHEETS 1 & 4, FOR VALUES OF "L", AND SIGN SPACING DISTANCES.
  - SEE RSD 1101.02-SHEETS 6 & 7 FOR TREATMENT OF LANE CLOSURES THRU INTERCHANGES.

- GENERAL NOTES (continued)**
- LANE CLOSURES SHALL BE INSTALLED WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. LANE CLOSURES SHALL BE REMOVED AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
  - LANE CLOSURE SWITCHES TO BE PERFORMED BY A ROLLING ROADBLOCK OPERATION. SEE RSD 1101.07, SHEET 2 OF 2.
  - TRUCK MOUNTED IMPACT ATTENUATOR SHALL BE USED TO PROTECT THE WORK AREA. TMIA'S SHALL BE PLACED IN ADVANCE OF THE WORK AREA AT DISTANCES SPECIFIED BY THEIR MANUFACTURER.
  - SKINNY DRUMS MAY BE USED IN LIEU OF DRUMS EXCEPT IN TAPERS.
  - CHANGEABLE MESSAGE SIGN SHALL BE PLACED EITHER IN THE MEDIAN, OR ON THE OUTSIDE OF THE TRAVELWAY, AS DIRECTED BY THE ENGINEER. THE SIGN SHOULD INITIALLY BE LOCATED APPROXIMATELY 2 MILES IN ADVANCE OF THE MERGE TAPER. IF IT IS ANTICIPATED THAT TRAFFIC WILL BACK UP TO WHERE THE SIGN IS LOCATED, THE SIGN SHOULD THEN INITIALLY BE PLACED APPROXIMATELY 1 MILE PRIOR TO ANTICIPATED BACKUPS. BACKUPS SHOULD BE MONITORED SUCH THAT FOR FUTURE LANE CLOSURES, THE SIGN IS PLACED APPROXIMATELY 1 MILE PRIOR TO WHERE TRAFFIC IS ANTICIPATED TO BACK UP.
  - CHANGEABLE MESSAGE SIGN MESSAGES OTHER THAN THE ONES SHOWN MAY BE PORTRAYED AS DEEMED NECESSARY BY THE ENGINEER. NO MORE THAN 2 MESSAGE DISPLAYS SHOULD BE USED WITH ANY CYCLE.
  - THIS DRAWING IS INTENDED TO SHOW THE LOCATIONS AND SIGNING REQUIRED FOR A "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION ON A FREEWAY WHICH IS TO BE REDUCED FROM 70 MPH TO 55 MPH. REFER TO THE ROADWAY STANDARD DRAWING (RSD) 1101.02 SHEET 3 OF 9 FOR ADDITIONAL LANE CLOSURE REQUIREMENTS AND GENERAL NOTES.

- GENERAL NOTES (continued)**
- EACH DIRECTION OF THE PROJECT IS TO BE EVALUATED FOR THE "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION. THIS DRAWING INTENTIONALLY HAS 1 DIRECTION SIGNED AS A REMINDER TO CAREFULLY CONSIDER WHETHER BOTH DIRECTIONS OF THE PROJECT NEED TO HAVE THE SPEED LIMIT REDUCED.
  - IN ADDITION, FOR ACTIVE WORK AREAS THAT EXCEED 2 MILE IN LENGTH, AN EVALUATION IS TO BE MADE TO DETERMINE IF ADDITIONAL SIGNS ARE NEEDED TO SUPPLEMENT THE INITIAL ONES. PORTABLE MOUNTED W3-5 SIGNS WITH SPEED PENALTY SIGNS ARE TO BE PLACED ALONG ENTRANCE RAMP LOCATED WITHIN THE ACTIVE WORK AREA.
  - THE \$250 SPEEDING PENALTY APPLIES FOR ALL PROJECTS THAT QUALIFY FOR A "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION.
  - THE "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION IS ONLY IN EFFECT WHEN WORKERS ARE PRESENT WHILE A LANE CLOSURE IS IN PLACE OR A GREATER THAN 2" DROP-OFF BETWEEN OPEN LANES OF TRAFFIC EXISTS. THE SPEED LIMIT AND SPEED PENALTY SIGNS ARE TO BE REMOVED WHEN EITHER OF THESE CONDITIONS NO LONGER EXISTS. OTHER PERTINENT SIGNS MAY BE DISPLAYED AT THE DIRECTION OF THE ENGINEER IN COORDINATION WITH THE WORK ZONE TRAFFIC CONTROL UNIT (918-250-4158). AT THE COMPLETION OF THE PROJECT, THE ENGINEER SHALL NOTIFY THE REGIONAL TRAFFIC ENGINEER TO RESCIND THE ORDINANCE.
  - WHEN "WORK ZONE VARIABLE SPEED LIMIT" REDUCTIONS ARE IN EFFECT, THE CONTRACTOR IS TO COVER ANY EXISTING SPEED LIMIT SIGNS LOCATED WITHIN THE ACTIVE WORK AREA THAT CONFLICT WITH THE "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION.
  - IF A LANE CLOSURE REMAINS INSTALLED WHILE WORKERS ARE NOT PRESENT, AN ADVISORY SPEED PLAQUE MAY BE ADDED TO THE LAST "RIGHT LANE CLOSED" SIGN.

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SEAL

**LANE CLOSURE SWITCHES FOR DIVIDED ROADWAYS WITH "WORK ZONE VARIABLE SPEED LIMIT" REDUCTION**

SCALE: NONE	REVISIONS
DATE: 07-07	03-09
DWG. BY: PS	
DESIGN BY: CL	
REVIEWED BY: CL	

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 psey@more

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RALEIGH, N.C.

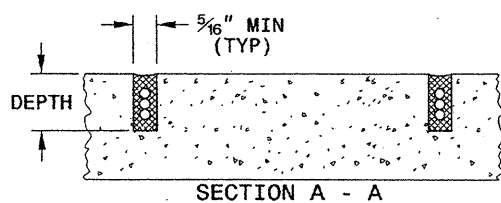
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ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**

SHEET 1 OF 3  
**1725D01**

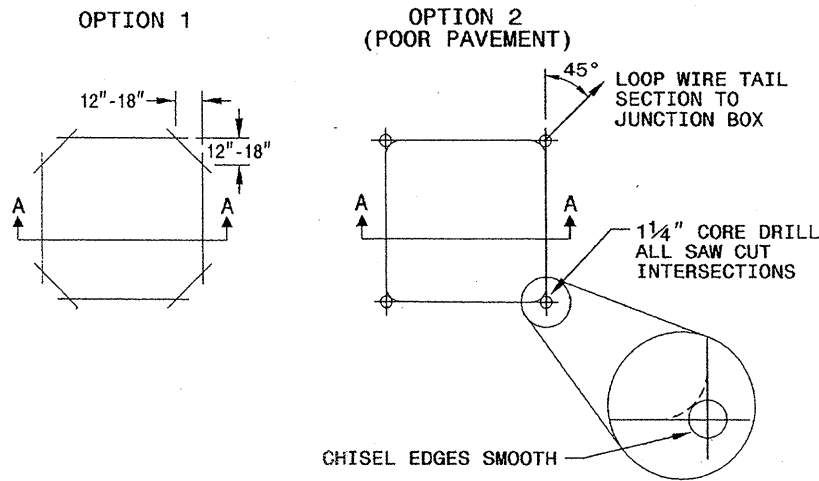
**SAW SLOT DEPTH CHART**

DEPTH (IN)	NO. OF WIRE TURNS				
	2	3	4	5	6
CONCRETE	2.0	2.0	2.5	2.5	3.0
ASPHALT	2.0	2.5	3.0	3.0	3.0

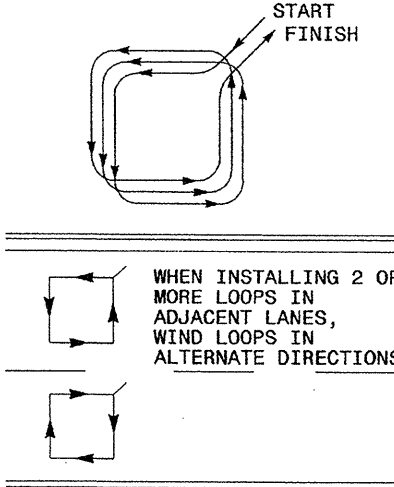


**CONVENTIONAL 4-SIDED LOOP**

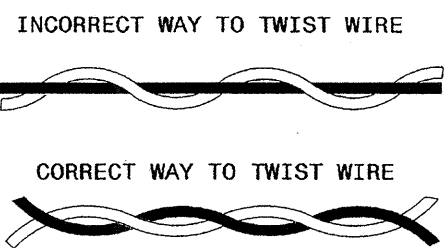
**SAW CUT OPTIONS**



**LOOP WINDING METHOD**



**LOOP WIRE TWISTING METHOD**

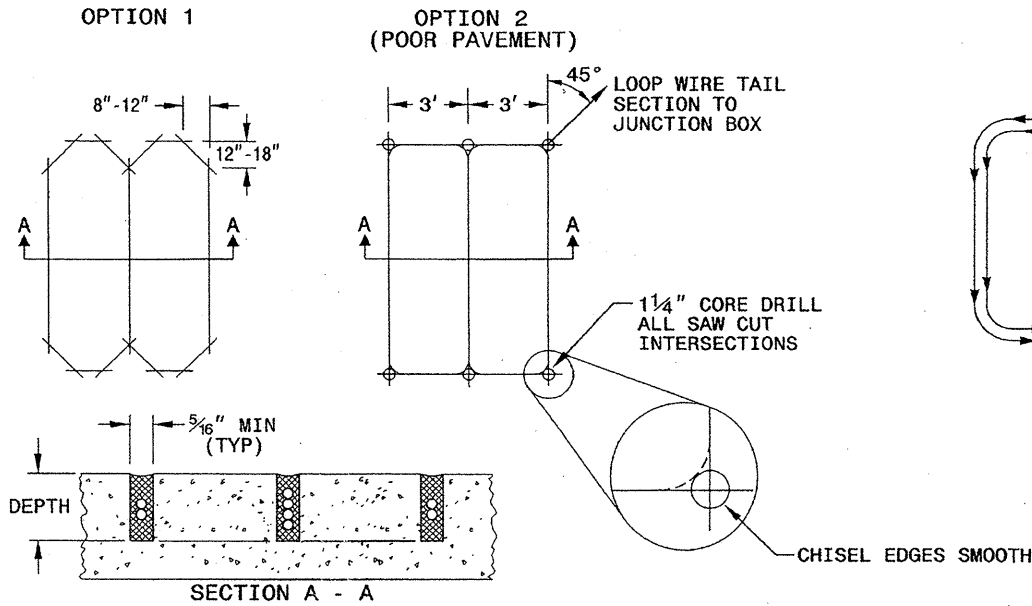


**NOTES**

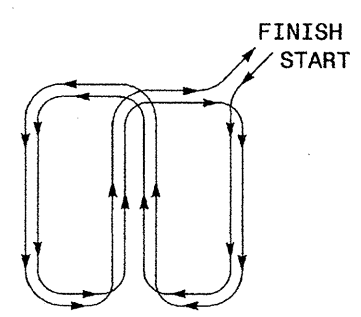
- OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
- MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
- WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
- LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

**QUADRUPOLE LOOP**

**SAW CUT OPTIONS**



**LOOP WINDING METHOD**



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

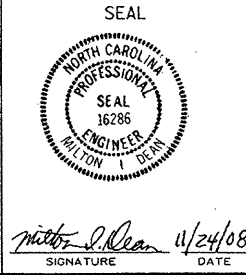
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RALEIGH, N.C.

11-08

ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**

SHEET 1 OF 3  
**1725D01**

See Plate for Title

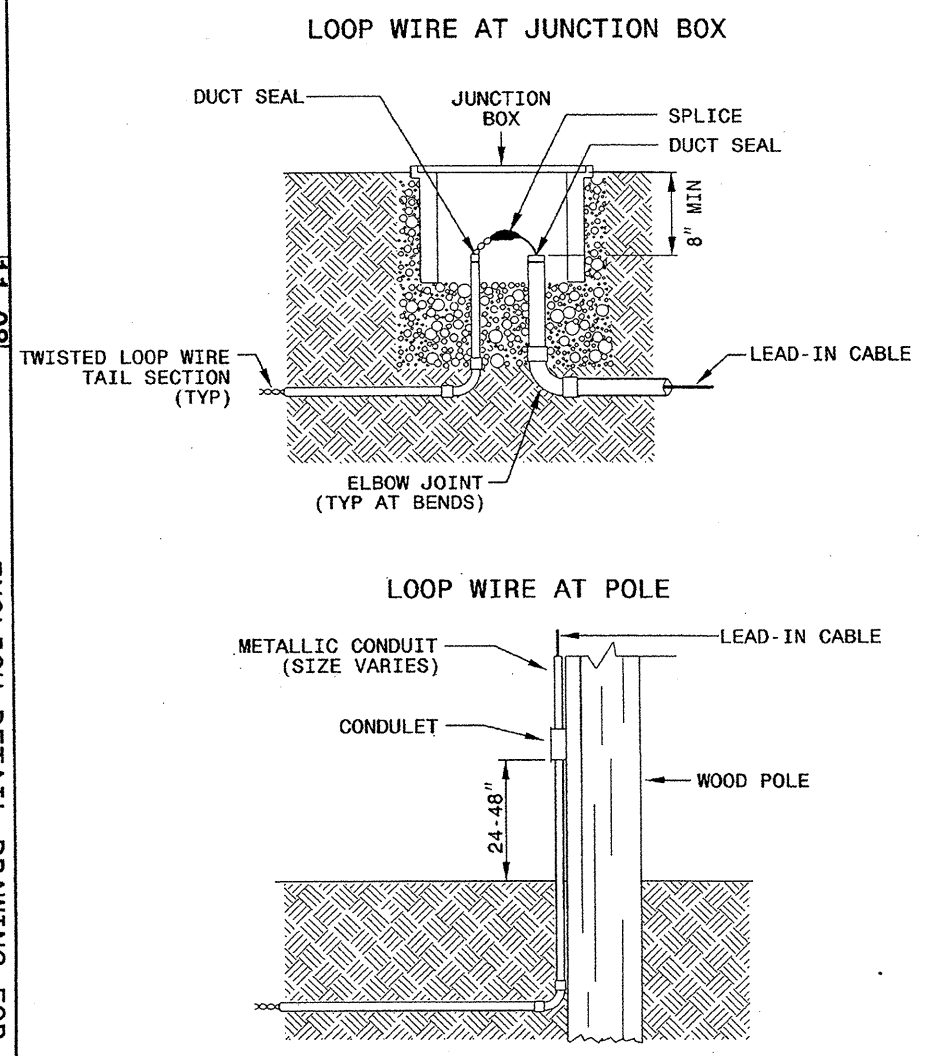


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ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**  
 LOOP WIRE DETAILS

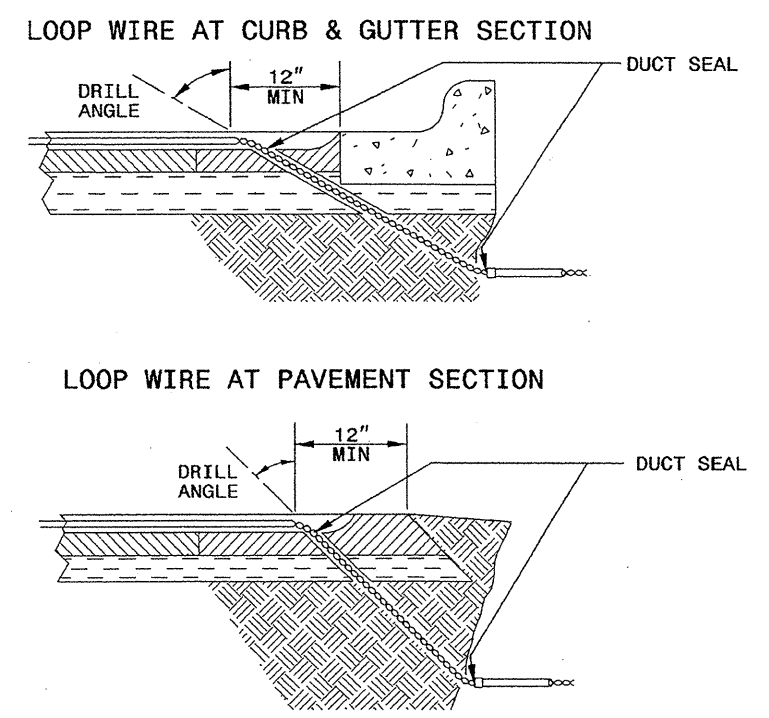
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 SHEET 2 OF 3  
**1725D01**

**LOOP WIRE SPLICE POINT DETAILS**



**NOTE**  
 SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

**LOOP WIRE PAVEMENT EDGE DETAILS**



- NOTES**
- DO NOT EXCAVATE UNDER CURB AND GUTTER SECTIONS FOR CONDUIT INSTALLATION.
  - TWIST LOOP WIRE TAIL SECTIONS FROM WHERE LOOP WIRE TAIL LEAVES SAW CUT TO JUNCTION BOX, INCLUDING THROUGH CONDUIT.
  - BEFORE SEALING LOOPS, INSTALL DUCT SEAL WHERE LOOP WIRE TAIL SECTION LEAVES SAW CUT IN PAVEMENT AND AT ENTRANCE OF CONDUIT TO JUNCTION BOX.

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ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**  
 LOOP WIRE DETAILS

11-08  
 SHEET 2 OF 3  
**1725D01**

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway  
 Garner, NC 27529

SEAL

*Milton I. Dean* 11/24/08  
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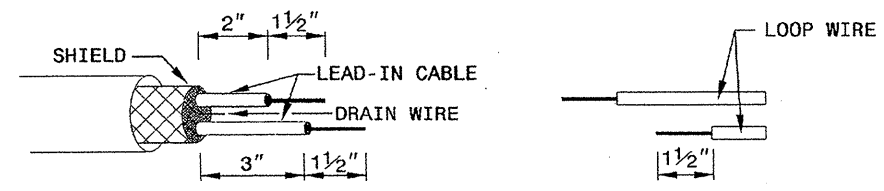
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11-08

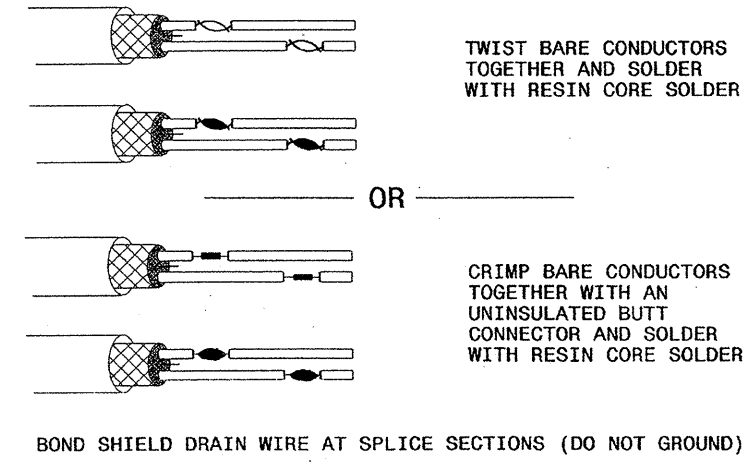
ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**  
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3  
**1725D01**

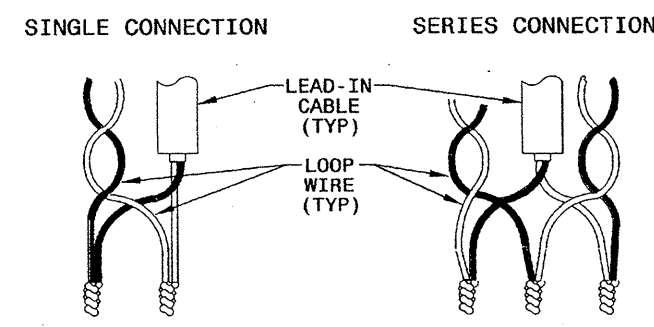
**STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE**



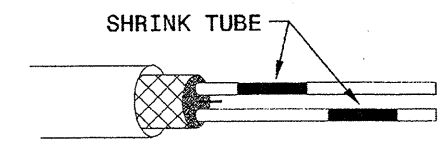
**STEP 2. CONNECT AND SOLDER**



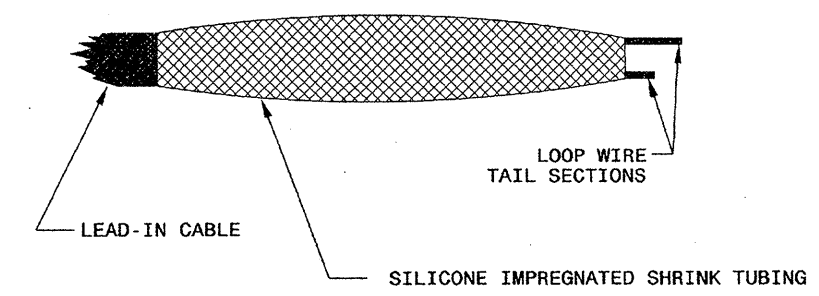
**LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS**



**STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY**



**STEP 4. ENVIRONMENTALLY PROTECT SPLICE**



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ENGLISH DETAIL DRAWING FOR  
**INDUCTIVE DETECTION LOOPS**  
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3  
**1725D01**

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 SIGNATURE DATE

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