

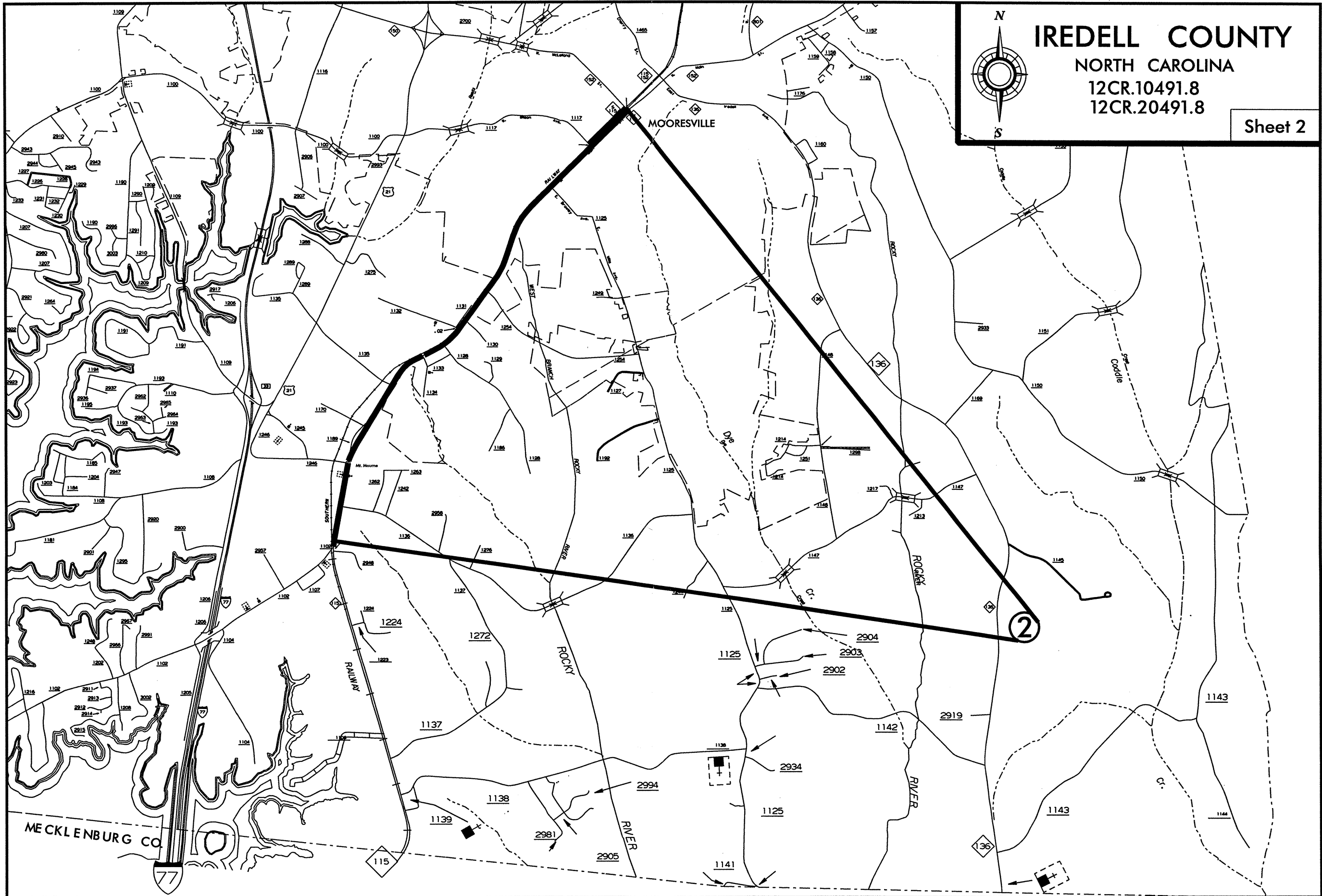
IREDELL COUNTY

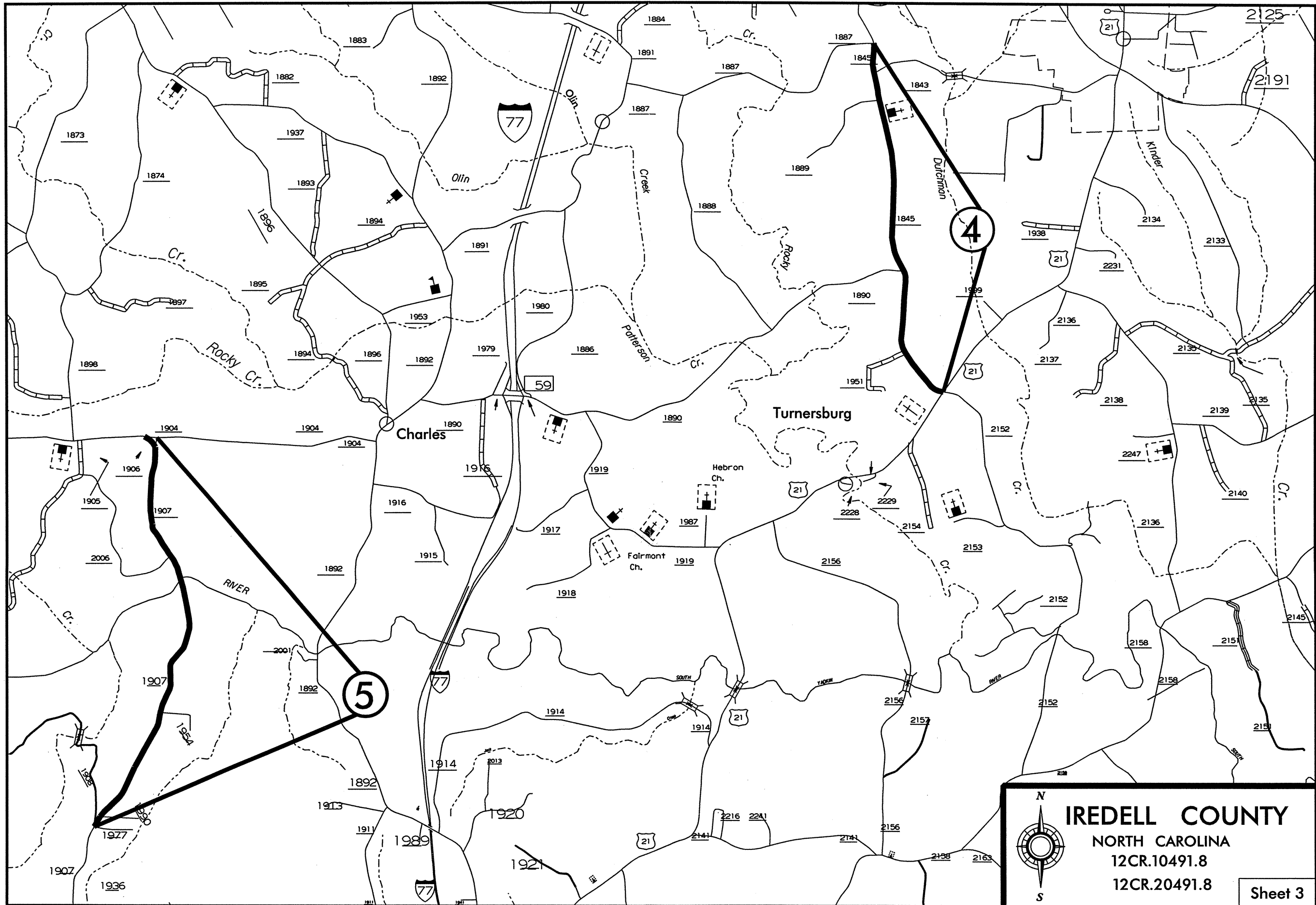
NORTH CAROLINA

12CR.10491.8

12CR.20491.8

Sheet 2



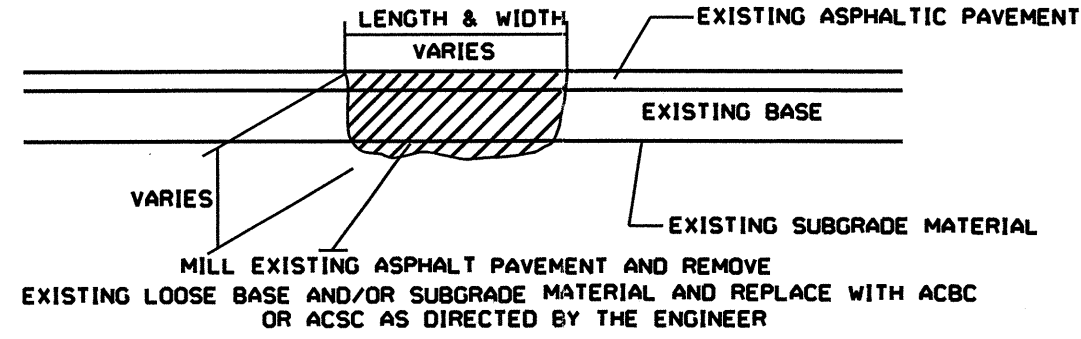


IREDELL COUNTY
NORTH CAROLINA
12CR.10491.8
12CR.20491.8

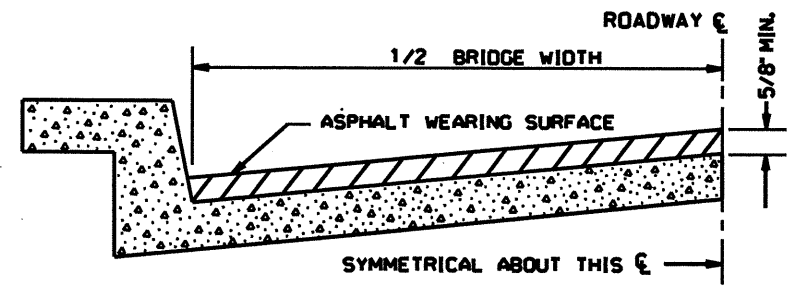
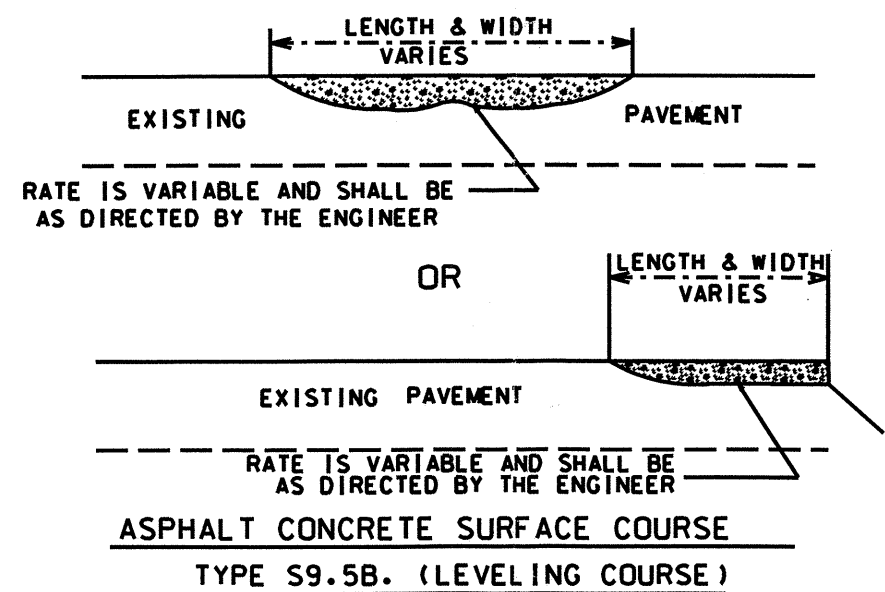
Sheet 3

PROJ. REFERENCE NO. IREDELL COUNTY	SHEET NO. 4	TOTAL SHEETS
STATE PROJ. NO. 12CR.18491.8	F. A. PROJ. NO.	DESCRIPTION
12CR.20491.8		

PAVEMENT SCHEDULE	
A	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
B	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
C	SHOULDER RECONSTRUCTION OR ABC STONE SHOULDER RECONSTRUCTION
D	MILL ASPHALT PAVEMENT APPROX. 1.5" AS DIRECTED BY ENGINEER



PATCHING EXISTING PAVEMENT



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.

NOTES

ALL UNPAVED S.R. ROADS TO BE SURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT.

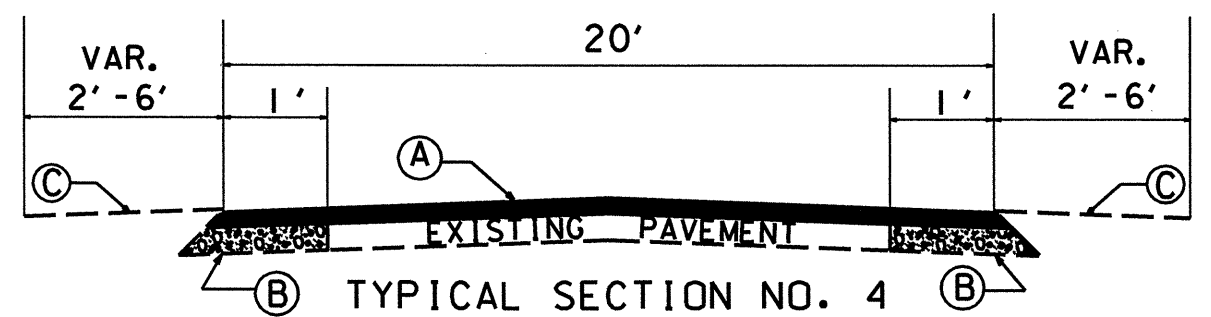
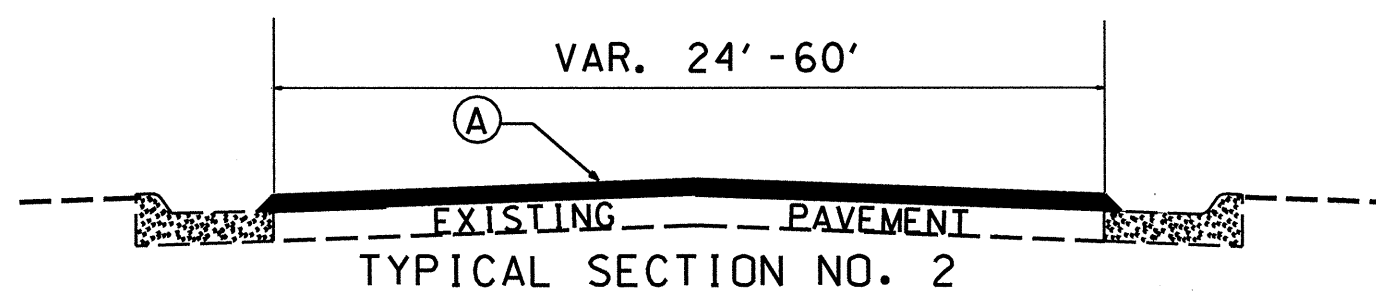
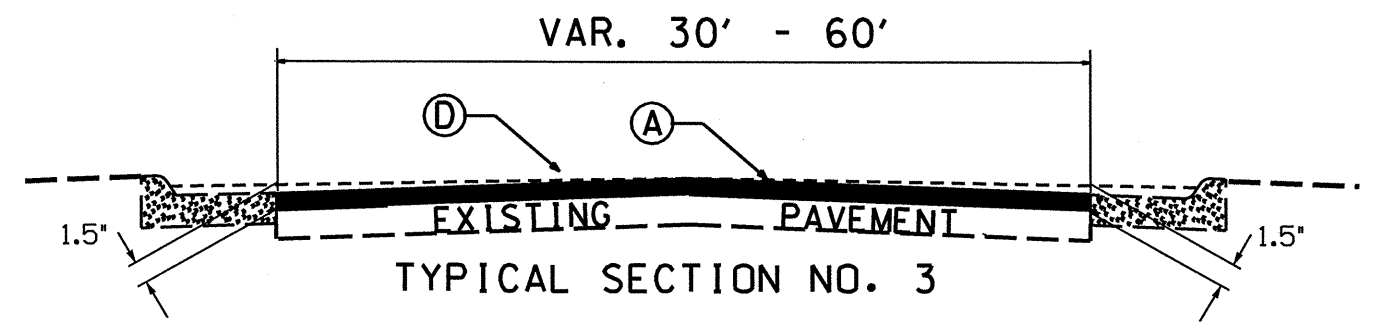
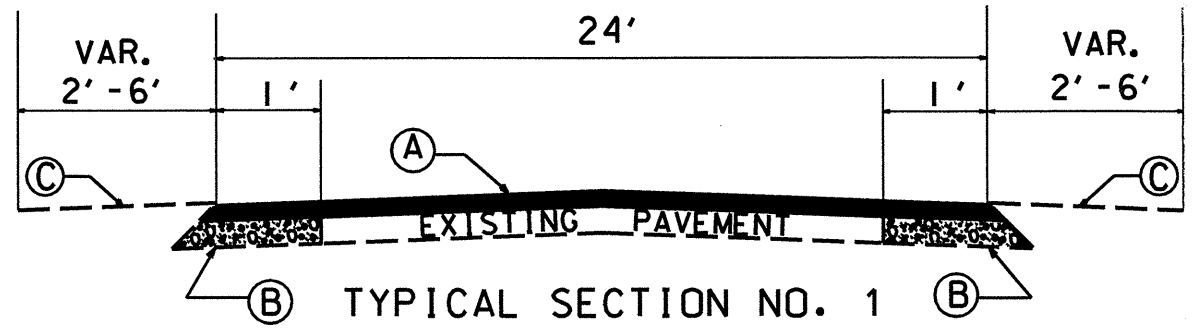
ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.

EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.

SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE NOTED.

BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
MILL BRIDGE APPROACHES 100' TO PROVIDE A SMOOTH TRANSITION AS DIRECTED.



PROJECT NO. 12CR.10491.8 12CR.20491.8	SHEET NO. 5	TOTAL NO.
---	----------------	-----------

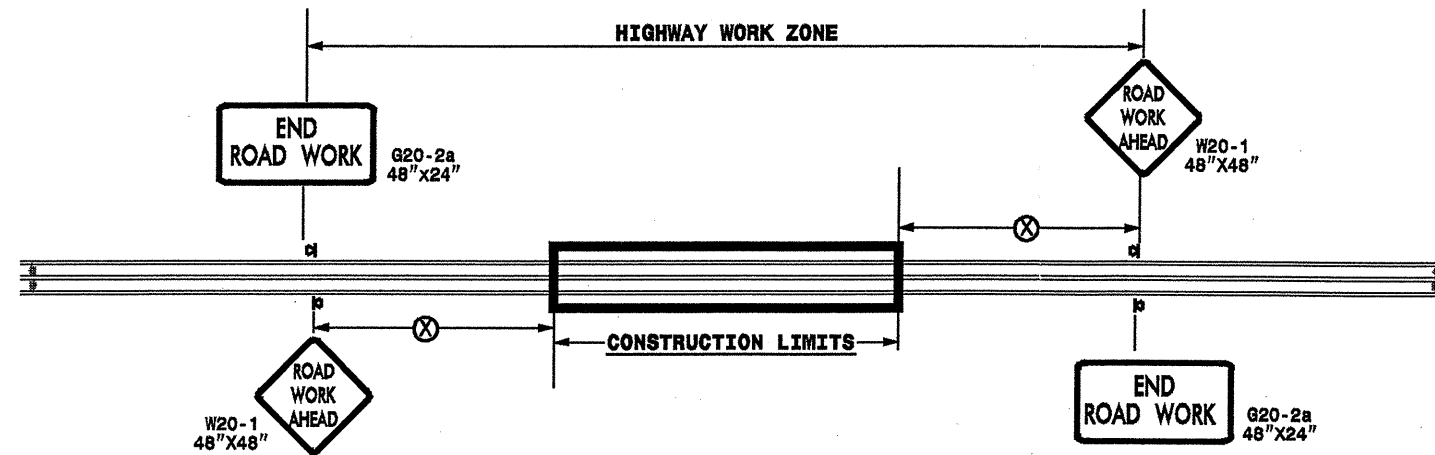
SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	1 1/2" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	LEVELING COURSE, S9.5B TONS	PG 64-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJ. OF DROP INLET EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	INDUCTIVE LOOP LF	PORTABLE LIGHTING LS	FINAL SURFACE TESTING
Primary 12CR.10491.8	Iredell	1	US 21	WIDEN 2' AND RESURFACE FROM SR-2185 TO SR-1923	1	1.63	24	175	3.26			888	2,163	216	182	325		1	1		*	NO
		2	NC 115	WIDEN 2' AND RESURFACE FROM 500' NORTH OF SR-1102 TO MCLELLAND RD	1 2 3	2.31 0.29 0.92	24 Various 24 to 60 30	175	4.62	16,166		1,240	5,087	763	408	1,018	11	20	2	2,856	*	NO
		3	NC 115/ US 21 (CENTER ST.)	DOWNTOWN STATESVILLE FROM US 70 TO WATER ST, MILL AND RESURFACE	2 3	0.05 0.89	Various 24 to 60 Various 30 to 60			26,700		2,668	267	177	267	15	16	6	2,304	*	NO	
TOTAL FOR PROJ NO. Primary 12CR.10491.8						6.09		350	7.88	42,866		2,128	9,918	1,246	767	1,610	26	37	9	5,160	1	
Secondary 12CR.20491.8	Iredell	4	SR-1845 TABOR RD	WIDEN 2' AND RESURFACE FROM US 21 TO SR-1887	4	2.86	20	75	5.72		222	1,578	3,100	310	274	300						NO
		5	SR-1907 S. CHIPLEY FORD RD	WIDEN 2' AND RESURFACE FROM SR-1977 TO SR-1904	4	3.33	20	75	6.67		250	1,876	3,687	150	312	370						NO
TOTAL FOR PROJ NO. Secondary 12CR.20491.8						6.19		150	12.39	0	472	3,454	6,787	460	586	670						
GRAND TOTAL						12.28		500	20.27	42,866	472	5,582	16,705	1,706	1,353	2,280	26	37	9	5,160	1	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E	4686000000-E	4702000000-E	4710000000-E	4721000000-E				4725000000-E			4810000000-E		4835000000-E	4905000000-N	
					4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	12" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO MSG SCHOOL 120 M EA	THERMO MSG ONLY 120 M EA	THERMO RT ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	THERMO STR. ARROW EA	THERMO STR & LT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	24" WHITE PAINT LF	SNOW PLOWABLE MARKERS EA	
Primary 12CR.10491.8	Iredell	1	US 21	WIDEN 2' AND RESURFACE FROM SR-2185 TO SR-1923	17,539	17,539														108
		2	NC 115	WIDEN 2' AND RESURFACE FROM 500' NORTH OF SR-1102 TO MCLELLAND RD	37,875	37,875		388	12		6	16	6	4						235
		3	NC 115/ US 21 (CENTER ST.)	DOWNTOWN STATESVILLE FROM US 70 TO WATER ST, MILL AND RESURFACE	7,000	10,000	2,160	276		8	10	28	15	22	10					125
TOTAL FOR PROJ NO. Primary 12CR.10491.8					62,414	65,414	2,160	664	12	8	16	44	21	26	10					468
									20			117								
Secondary 12CR.20491.8	Iredell	4	SR-1845 TABOR RD	WIDEN 2' AND RESURFACE FROM US 21 TO SR-1887												61,548	61,548	48		
		5	SR-1907 S. CHIPLEY FORD RD	WIDEN 2' AND RESURFACE FROM SR-1977 TO SR-1904												71,662	71,662	40		
TOTAL FOR PROJ NO. Secondary 12CR.20491.8																133,210	133,210	88		
																266,420				
GRAND TOTAL					62,414	65,414	2,160	664	12	8	16	44	21	26	10	133,210	133,210	88		468
									20			117				266,420				

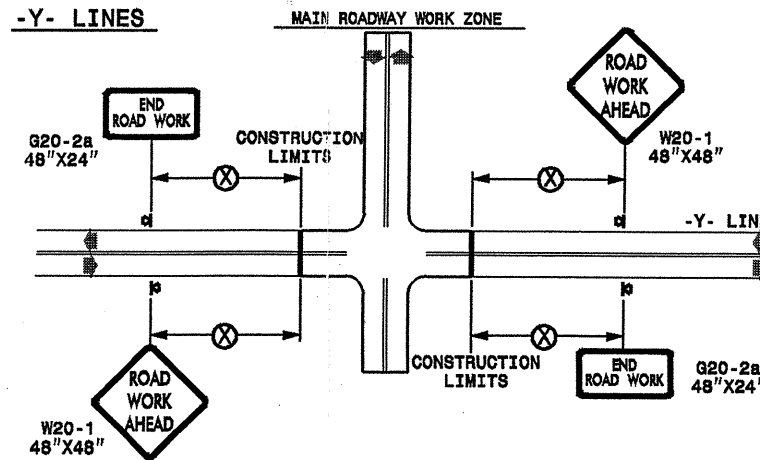
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
≤ 50	500'
≥ 55	1000'

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCE WORK ZONE SIGNS.
- 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.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

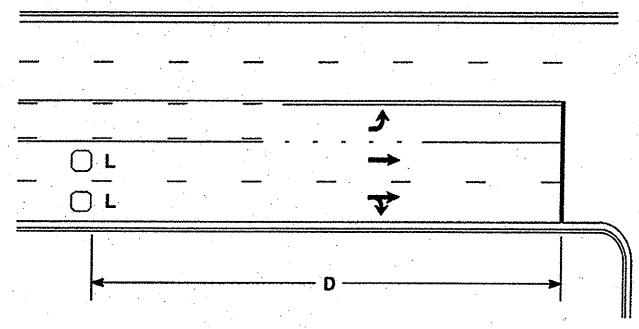
**DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS**

APPROVED:	DATE:
SCALE:	NONE
DATE:	
DWG. BY:	
DESIGN BY:	
REVIEWED BY:	

DETAIL DRAWING FOR TWO-WAY UNDIVIDED ADVANCED WORK ZONE WARNING SIGNS			
REVISIONS			
7-98	10/01		
10-98	03/04		
01/01	11/04		
<table border="1"> <tr> <td>CAD</td> <td>PL</td> </tr> </table>	CAD	PL	
CAD	PL		

I:\MAY-2009 14:09
 S:\Signing\Resurfacing\Resurfacing2009\Div12\C202358_12CR104918.x2_Fedell_US2101c\C202358_12CR104918.x2_2wayundivurbtrvys.july2006_porttable.dgn
 jschleich AT 1E22853

High Speed Detection [≥40 mph (64 km/hr)]

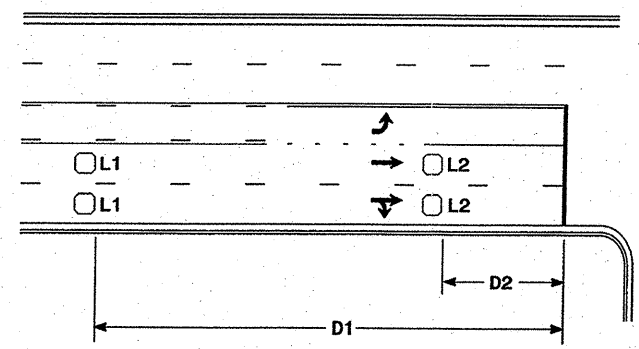


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)
Wired in series for TS1
Controllers
Wired separately for TS2,
170, and 2070L Controllers

Volume Density Operation

OR



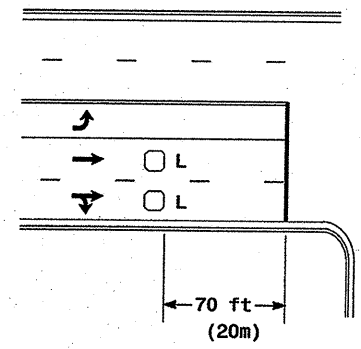
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series
L2 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series

"Stretch" Operation

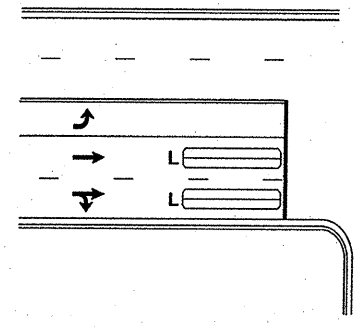
Low Speed Detection [≤35 mph (56 km/hr)]

12CR.10491.8 & 12CR.20491.8



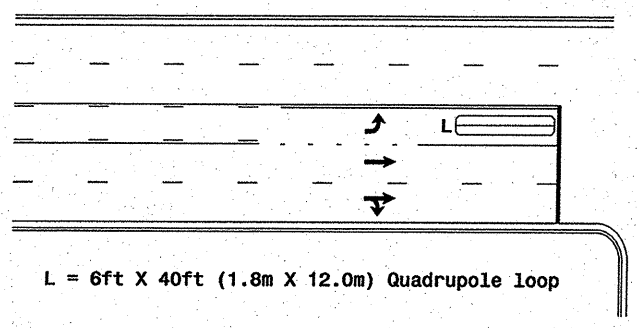
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop, wired separately

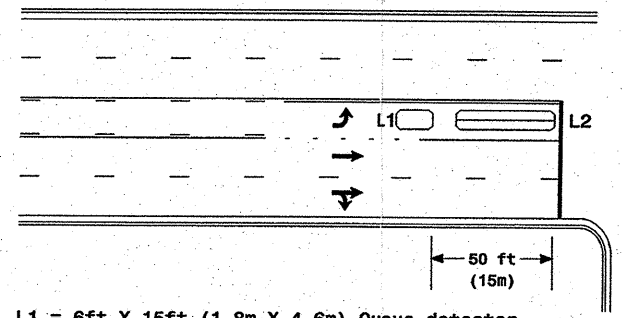
Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

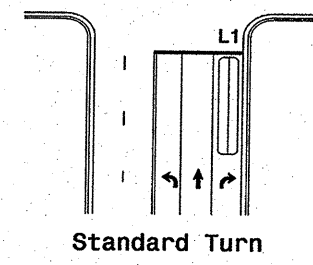
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

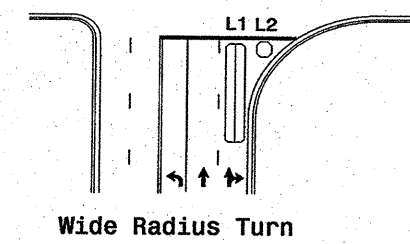
Queue Loop Detection

Right Turn Lane Detection

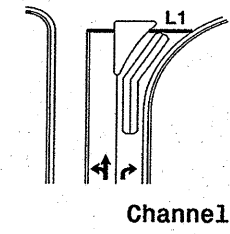


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

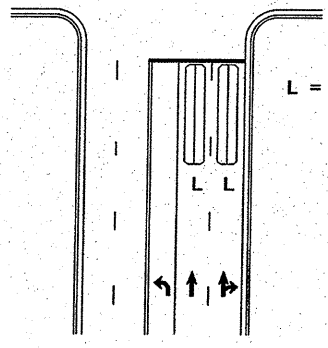


Wide Radius Turn



Channelized Turn

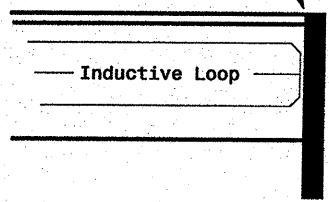
Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines

Locate loop slightly
behind leading
edge of stop line



Note:
Loop may be located in advance
of stop line when stop line is
greater than 15' (4.5m) from edge
of intersecting roadway; or, when
loop detects a permissive or
protected/permissive left turn.

Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns

6' X 15' (1.8m X 4.6m) Loops:
Lead-in < 150' (45 m), use 2 turns
Lead-in > 150' (45 m), use 3 turns

Typical Loop Locations

PLAN DATE: June 2006	REVIEWED BY:
PREPARED BY: P L Alexander	REVIEWED BY:
SCALE: N/A	REVISIONS:
	INIT. DATE
	12/12/06
	SIGNATURE DATE

SIG. INVENTORY NO.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

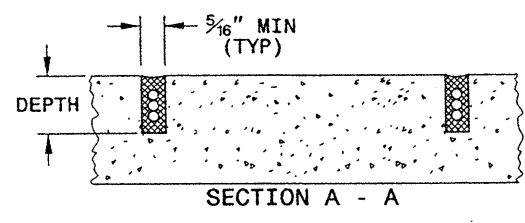
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

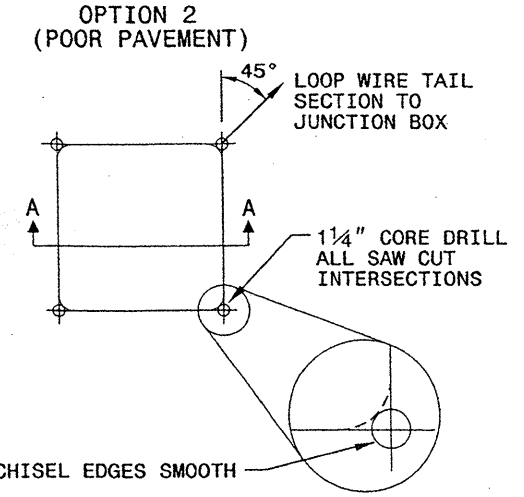
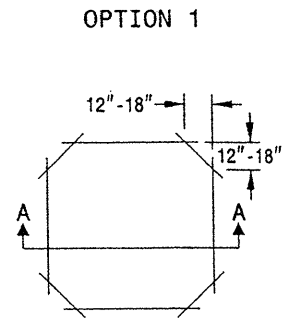
SAW SLOT DEPTH CHART

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

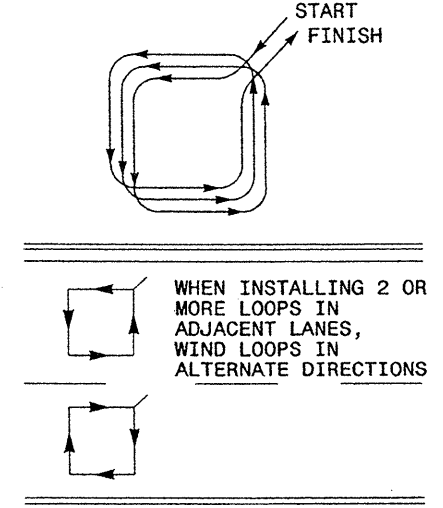


CONVENTIONAL 4-SIDED LOOP

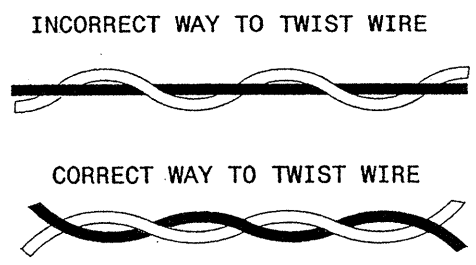
SAW CUT OPTIONS



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

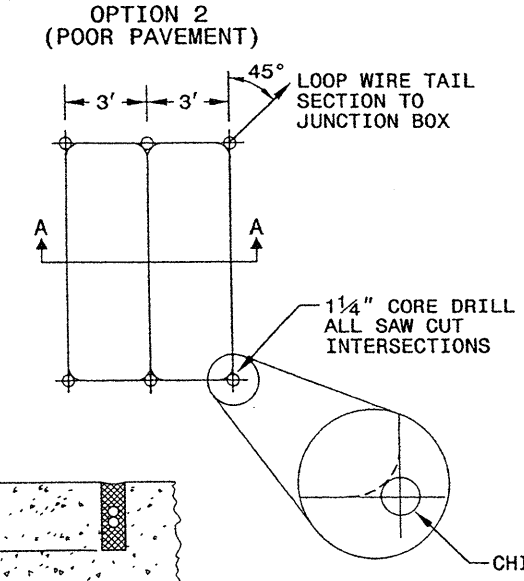
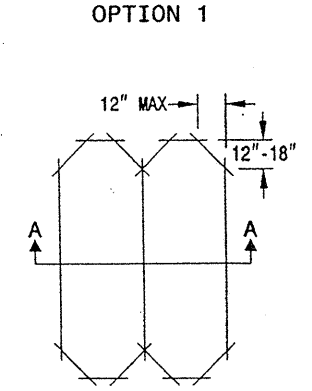


NOTES

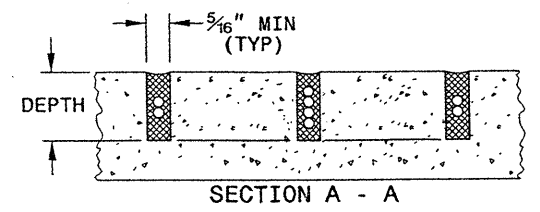
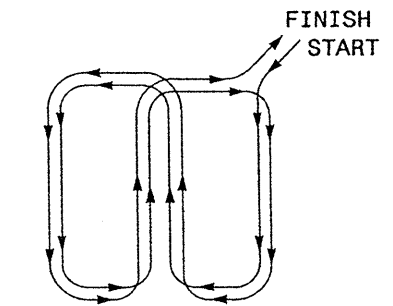
- OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
- MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
- WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
- LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

QUADRUPOLE LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

Milton I. Dean 9/5/07
SIGNATURE DATE

05-SEP-2007 14:00
c:\p1\work\1725\1725D01.dwg
sheet: 1725D01.dwg
user: jld

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

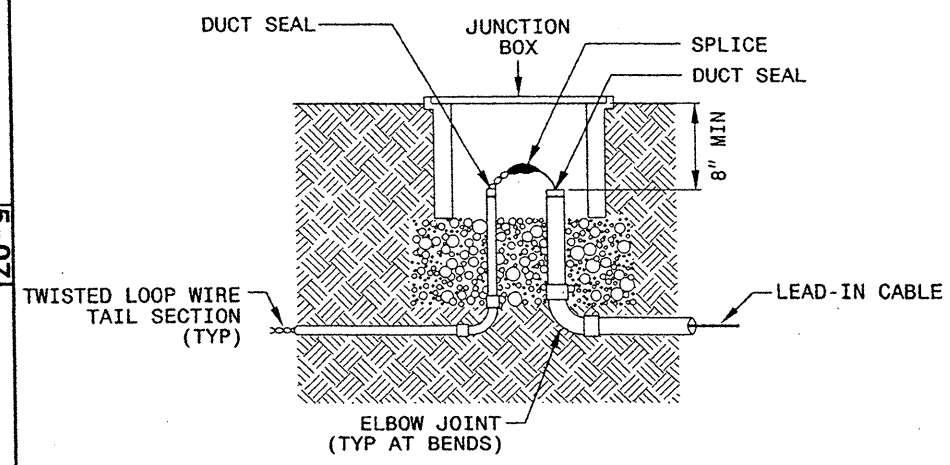
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

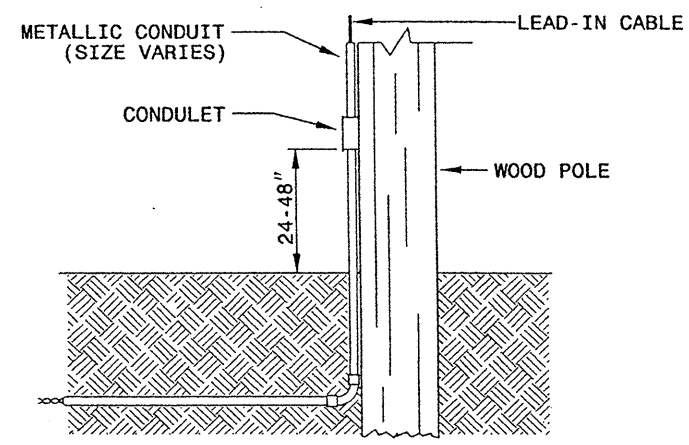
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

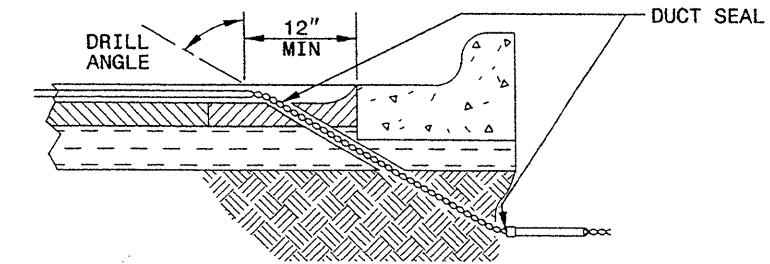


NOTE

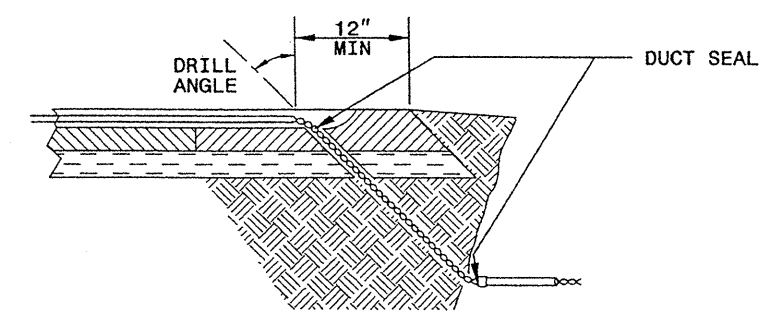
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

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

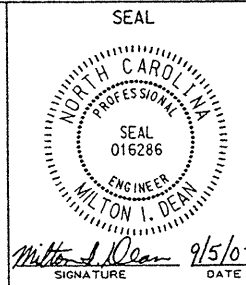
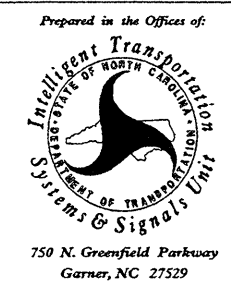
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

SHEET 2 OF 3
1725D01

See Plate for Title

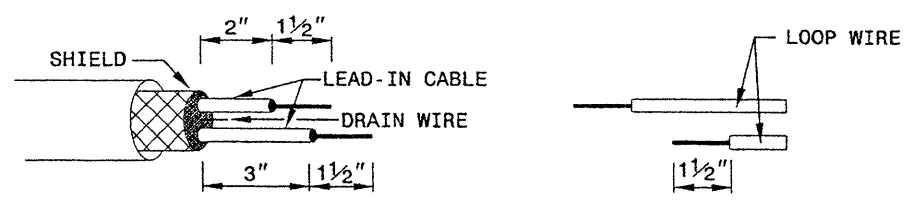


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

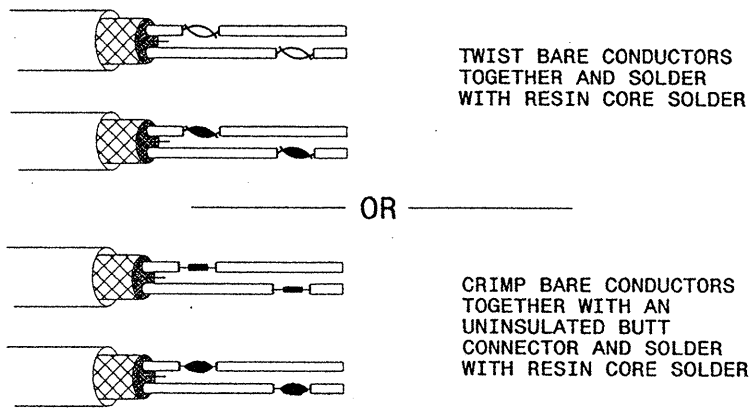
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

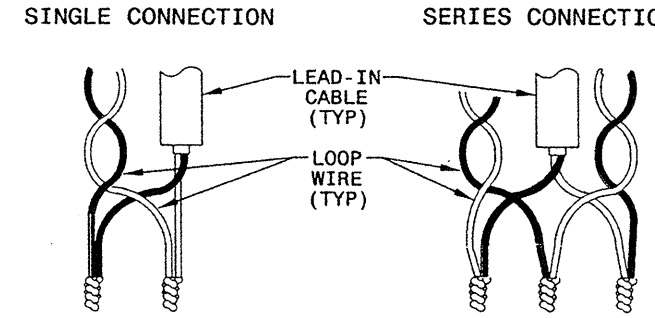


STEP 2. CONNECT AND SOLDER

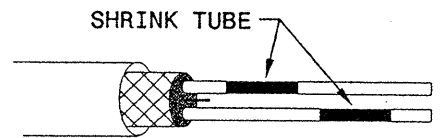


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

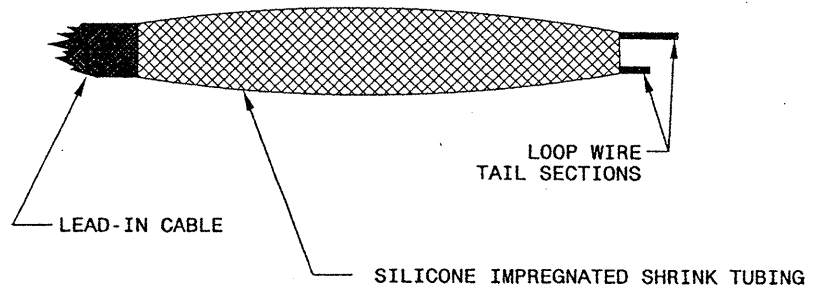
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

SHEET 3 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

Milton I. Deen 9/5/07
SIGNATURE DATE

05-SEP-2007 14:01
c:\documents and settings\zml1116\desktop\standard metal pole sheets\1725D01_03.mxd 2/07.dgn
zml1116