

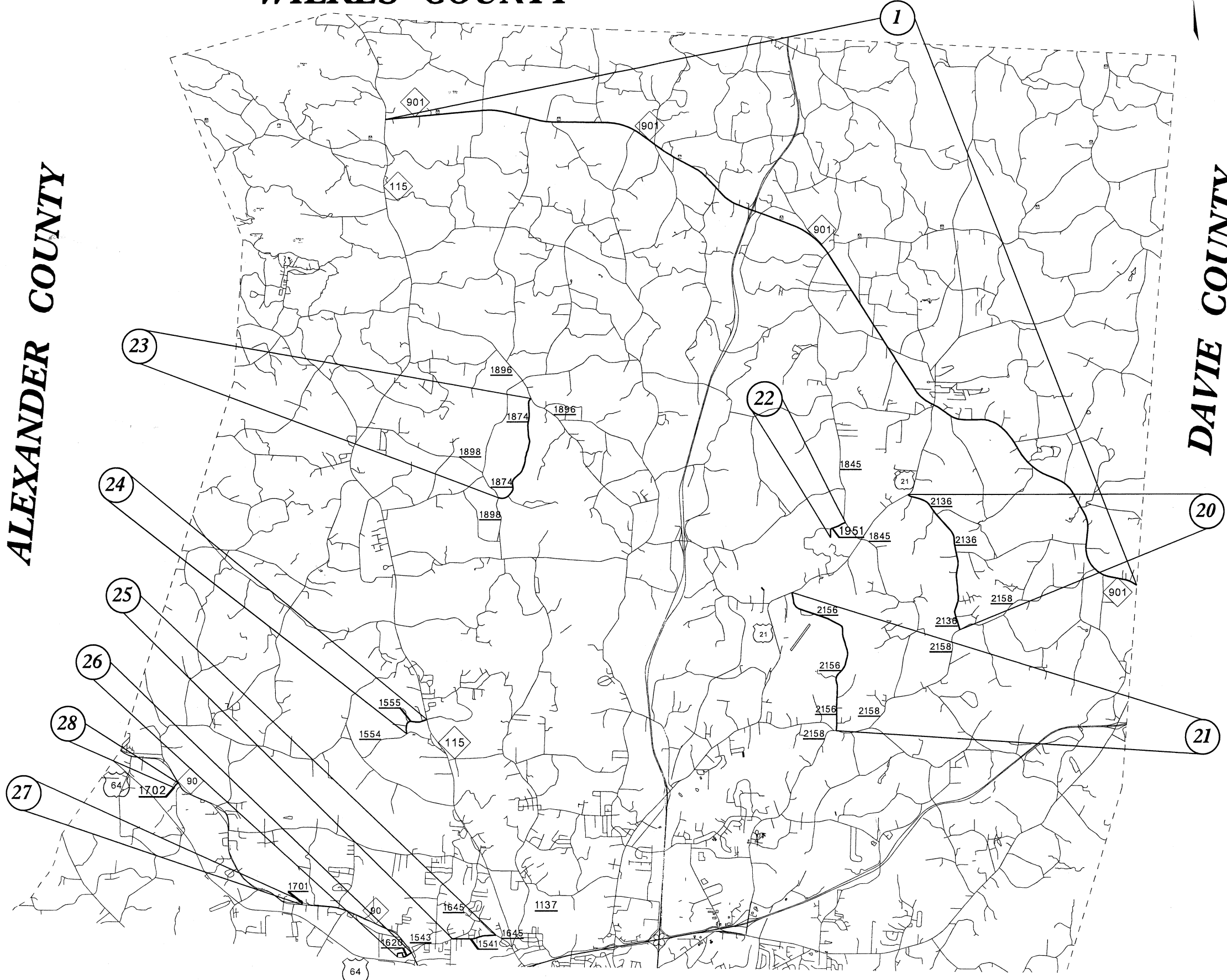
IREDELL RESURFACING WILKES COUNTY YADKIN COUNTY

PROJECT REFERENCE NO. 12CR10491J7 & 12CR2049J8	SHEET NO. 1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ALEXANDER COUNTY

DAVIE COUNTY



5/14/96

123456789101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899100

IREDELL RESURFACING

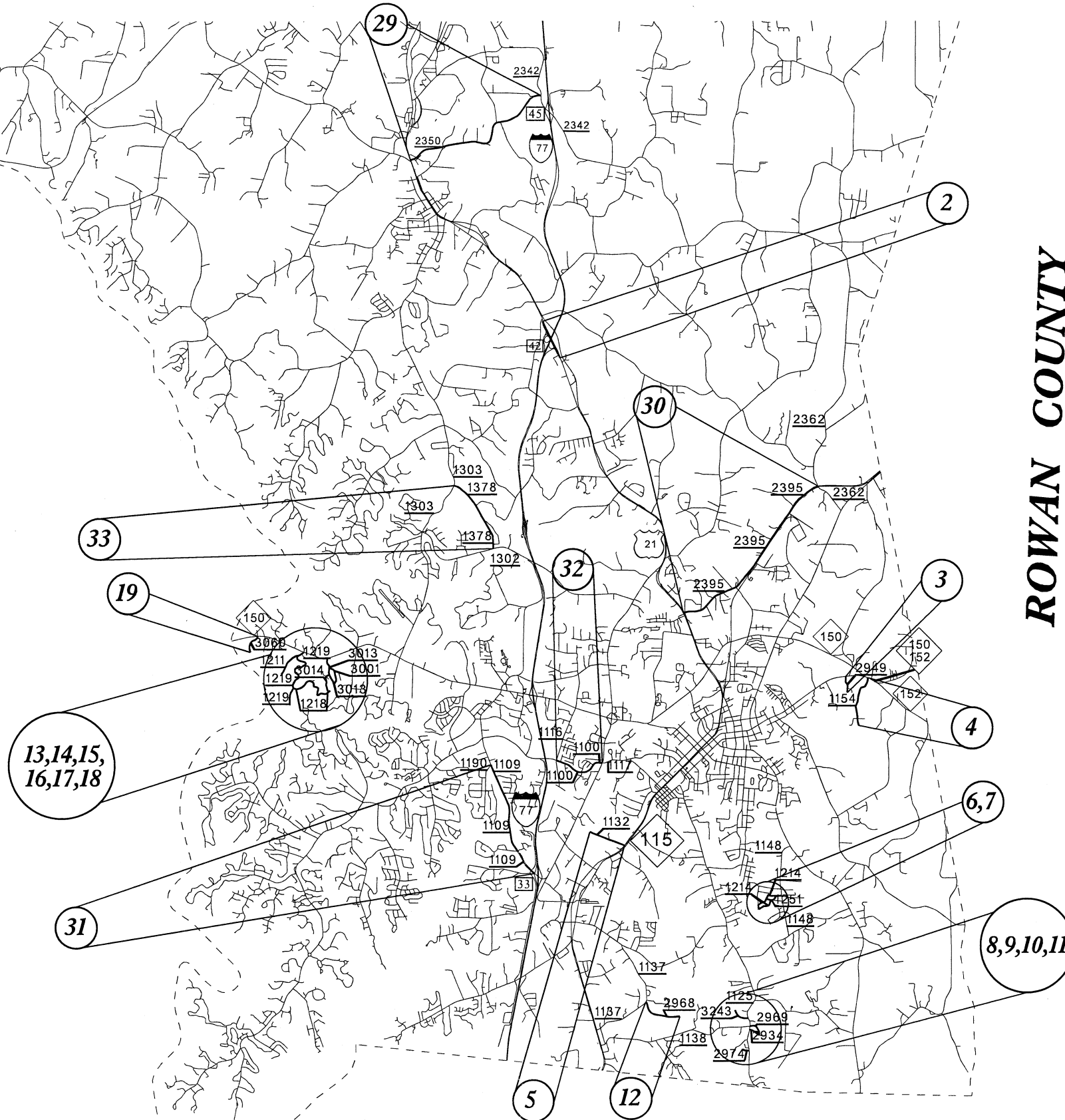
PROJECT REFERENCE NO. 12CRJ0491J7 & 12CR20491J8	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CATAWBA COUNTY

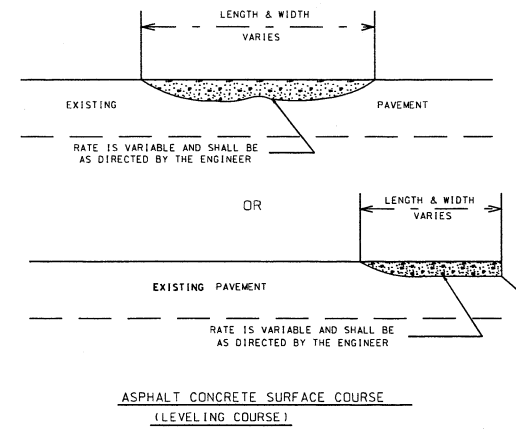
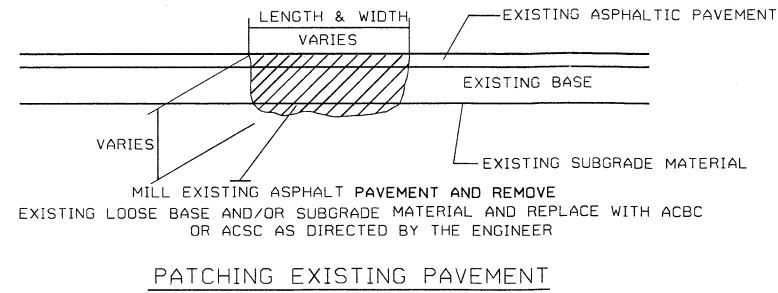
ROWAN COUNTY

MECKLENBURG COUNTY

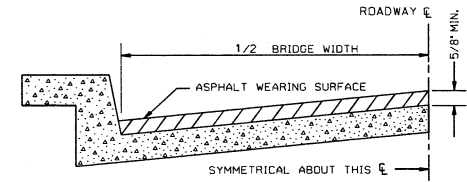


5/14/18

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.0" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.
E	PROP. APPROX. 5" ASPHALT CONCRETE SURFACE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
Y	SHOULDER RECONSTRUCTION
Z	1.5 INCH MILLING



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
TREDELL COUNTY	1 OF 1	2
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
12CR.18491.17		
12CR.28491.18		



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 ROAD, OR AS DIRECTED BY THE ENGINEER.

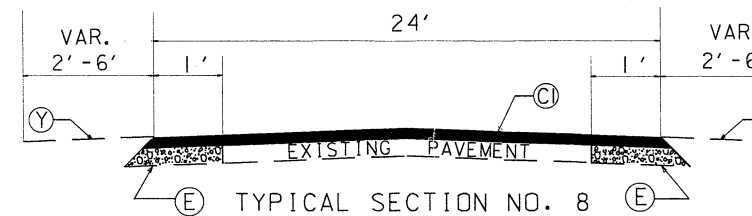
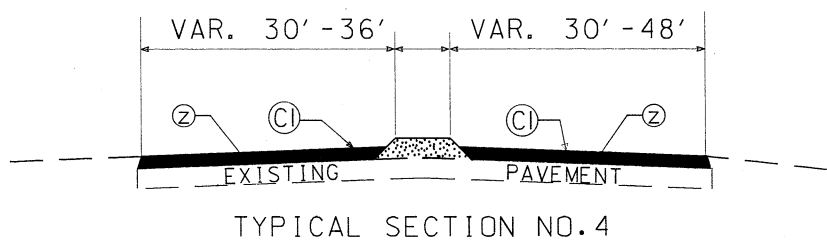
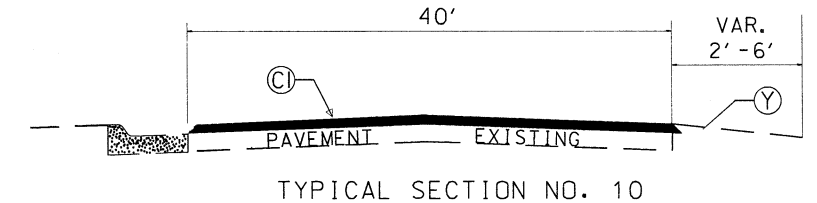
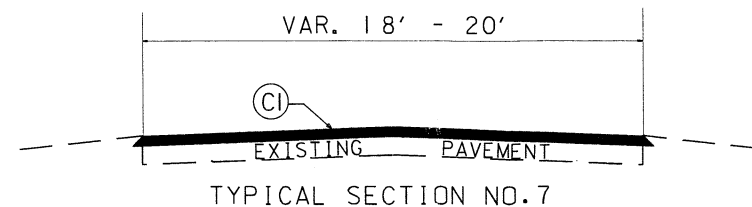
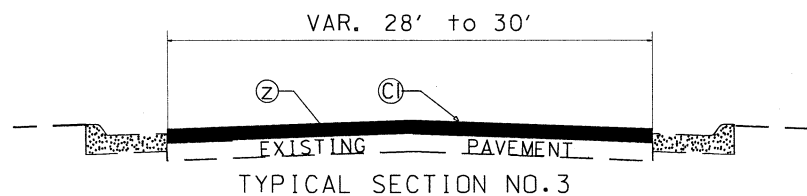
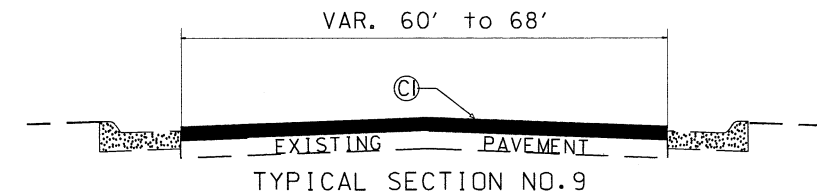
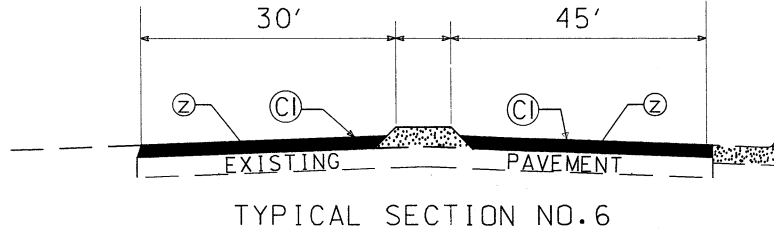
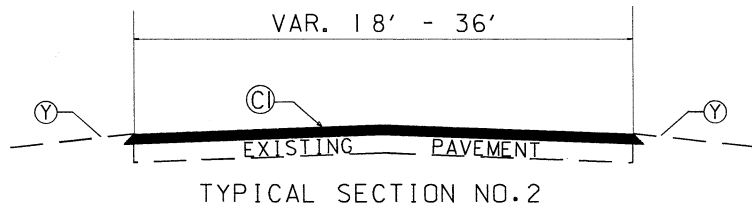
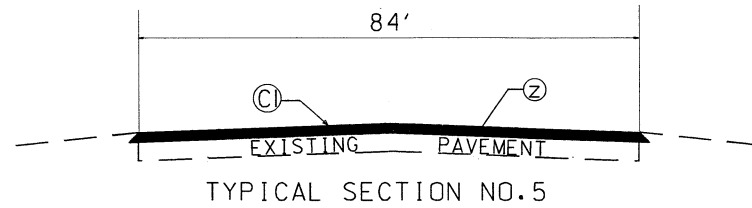
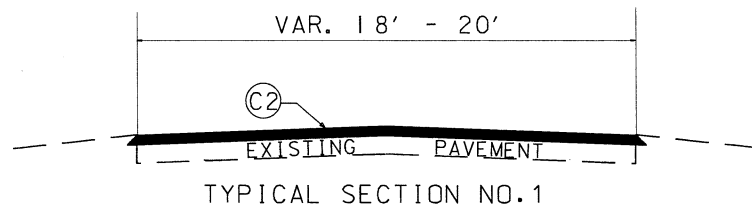
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.

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

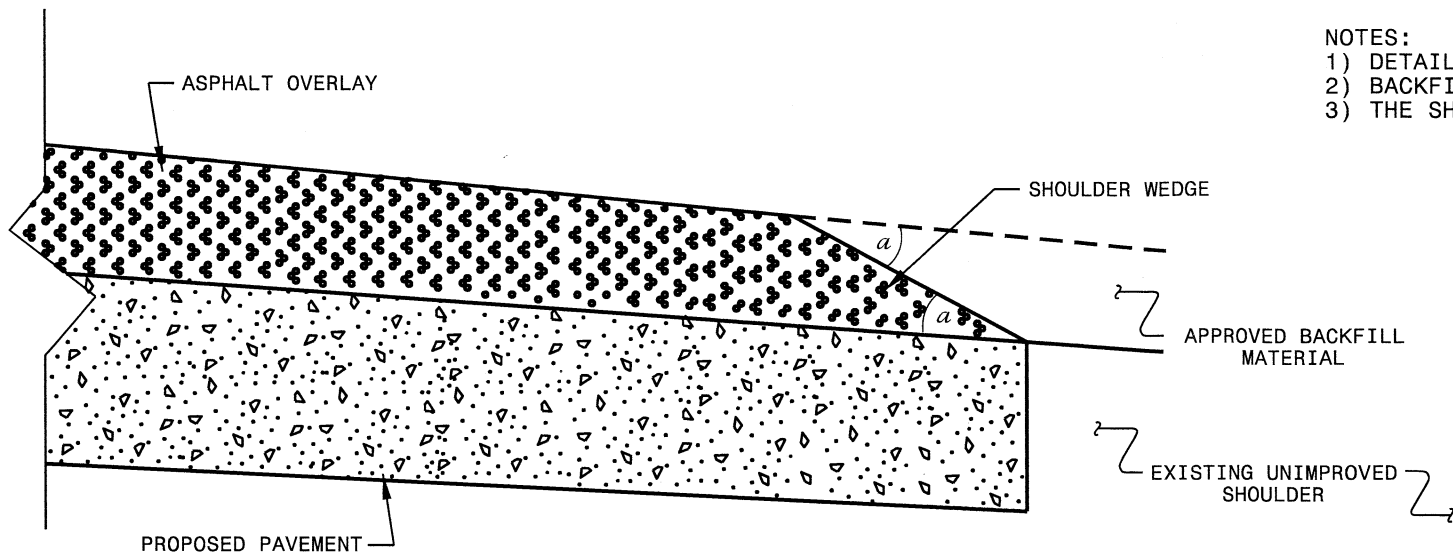
BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

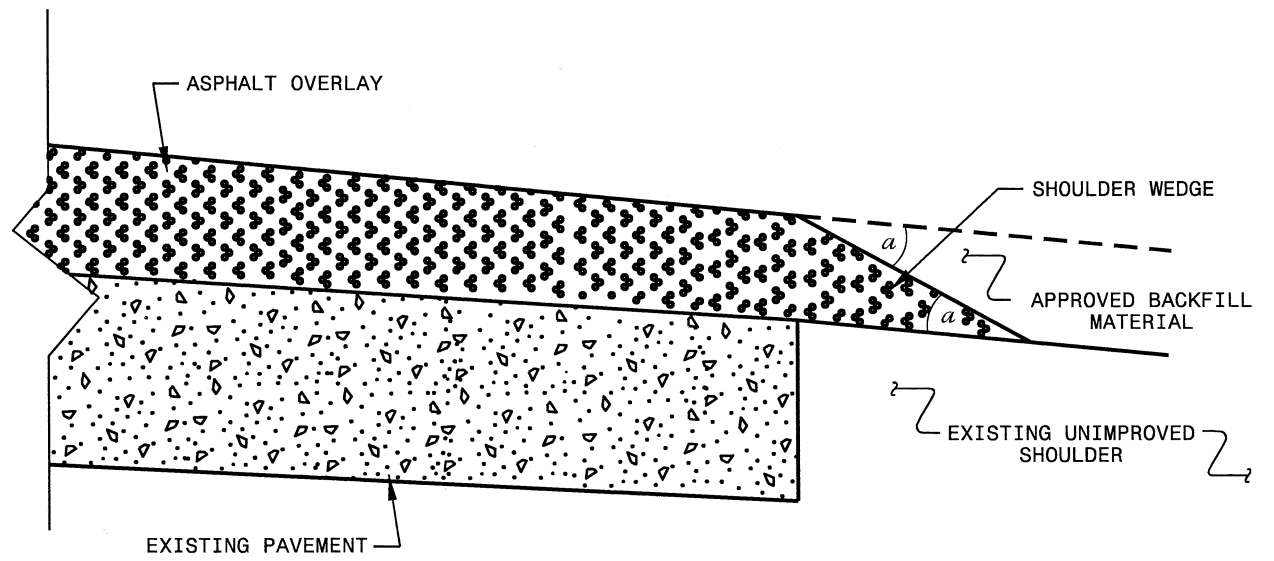
MILL BRIDGE APPROACHES 100' TO PROVIDE A SMOOTH TRANSITION AS DIRECTED, THIS WILL BE PAID FOR AS INCIDENTAL MILLING.



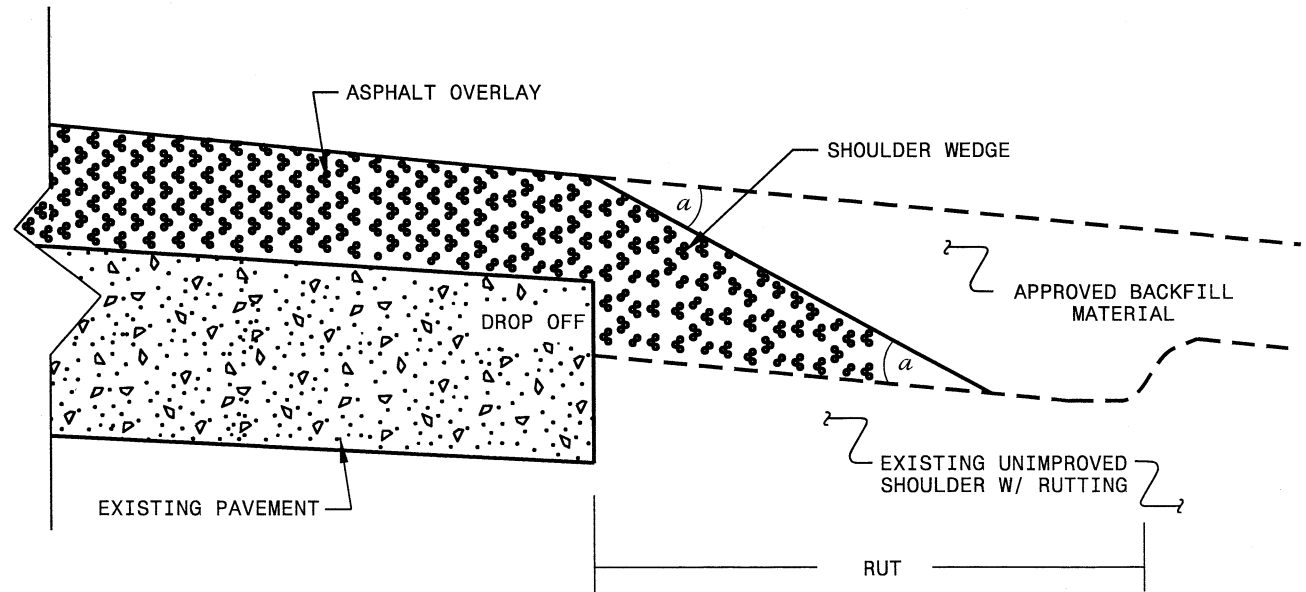
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ Widening or
 with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS
 AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

**SHOULDER WEDGE
 DETAILS**

ORIGINAL BY: T.SPELL DATE: 7-19-11
 MODIFIED BY: DATE: 10/16/12
 CHECKED BY: DATE:
 FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn

*****SYSTEMTIME*****
 *****PLT*****
 *****PLOT*****

PROJECT NO.	SHEET NO.	TOTAL NO.
12CR.10491.17 (Primary)	5	
12CR.20491.18 (Secondary)		

SUMMARY OF QUANTITIES

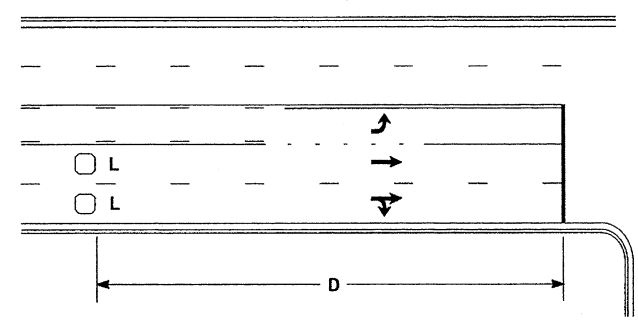
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LENGTH MI	WIDTH FT	AGGREGATE SHOULDER BORROW TON	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	1 1/2" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	LEVELING COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TONS	LEVELING COURSE, SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJ. OF DROP INLET EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	PORTABLE LIGHTING LS	INDUCTIVE LOOP LF
12CR.10491.17 (Primary)	Iredell	1	NC 901	FROM NC 115 TO DAVIE COUNTY LINE	2	2	17.66	Var. 18'-36'	2,861	775	35.76	3,850	800		22,839	1,142			1,445	2,283	2				
TOTAL FOR MAP NO. 1							17.88		2,861	775	35.76	3,850	800		22,839	1,142			1,445	2,283	2				
12CR.10491.17 (Primary)	Iredell	2	US 21	FROM 100' SOUTH OF FLOWER HOUSE LOOP (SR-1312) TO END OF WIDENING	4	4	0.43	Var. 60'-84'											199	100		3	3	1.00	1,400
TOTAL FOR MAP NO. 2							0.840												199	100		3	3	1.00	1,400
TOTAL FOR PROJ NO. 12CR.10491.17 (Primary)							18.72		2,861	775	35.76	37,489	800		26,157	1,142			1,644	2,383	2	3	3	1.00	1,400
12CR.20491.18 (Secondary)	Iredell	3	PICKWYCK DR (SR-2949)	FROM NC152 TO DEAD END	1	2	0.267	Var. 18'-20'		15								196	30	15	50				
12CR.20491.18 (Secondary)	Iredell	4	ALEXANDER ACRES (SR-1154)	FROM NC150 TO DEAD END	1	2	0.809	Var. 18'-20'		30								535	40	38	50				
12CR.20491.18 (Secondary)	Iredell	5	FOURSQUARE DR (SR-1132)	FROM NC115 TO DEAD END	1	2	0.561	Var. 18'-20'		25								371	33	27	37				
12CR.20491.18 (Secondary)	Iredell	6	TIMBERLAND LOOP (SR-1214)	FROM KISTLER FARM RD (SR-1148) TO OLD MEADOWBROOK LN (SR-1251)	1	2	0.758	Var. 18'-20'		55								502	40	36	50	8	1		
12CR.20491.18 (Secondary)	Iredell	7	OLD MEADOWBROOK RD (SR-1251)	FROM TIMBERLAND LOOP (SR-1214) TO TIMBERLAND LOOP (SR-1214)	1	2	0.18	Var. 18'-20'		15								120	15	9	20				
12CR.20491.18 (Secondary)	Iredell	8	EASTER LANE (SR-2974)	FROM SHEARERS RD (SR-1125) TO DEAD END	1	2	0.11	Var. 18'-20'		10								81	10	6	15				
12CR.20491.18 (Secondary)	Iredell	9	VILLA LANE (SR-2934)	FROM SHEARERS RD (SR-1125) TO DEAD END	1	2	0.216	Var. 18'-20'		15								143	15	10	21				
12CR.20491.18 (Secondary)	Iredell	10	VISTA DR (SR-2969)	FROM SHEARERS RD (SR-1125) TO VILLA LANE (SR-2934)	1	2	0.241	Var. 18'-20'		15								160	15	12	25				
12CR.20491.18 (Secondary)	Iredell	11	HUNTINGTON RIDGE RD (SR-3243)	FROM SHEARERS RD (SR-1125) TO DEAD END	1	2	0.284	Var. 18'-20'		15								210	15	15	20				
12CR.20491.18 (Secondary)	Iredell	12	BERACAH RD (SR-2968)	FROM MIDWAY LAKE RD (SR-1137) TO DEAD END	1	2	0.591	Var. 18'-20'		25								392	20	27	40				
12CR.20491.18 (Secondary)	Iredell	13	PARADISE PENINSULA RD (SR-1211)	FROM NC150 TO DEAD END	1	2	0.536	Var. 18'-20'		20								395	25	28	40				
12CR.20491.18 (Secondary)	Iredell	14	GREENBAY RD (SR-1218)	FROM PARADISE PENINSULA (SR-1211) TO RIDGETOP RD (SR-3014)	1	2	1.576	Var. 18'-20'		75								1,159	80	82	115				
12CR.20491.18 (Secondary)	Iredell	15	RIDGE TOP RD (SR-3014)	FROM GREENBAY RD (SR-1218) TO QUIET COVE RD (SR-3013)	1	2	0.293	Var. 18'-20'		15								322	15	22	35				
12CR.20491.18 (Secondary)	Iredell	16	QUIET COVE RD (SR-3013)	FROM NC150 TO DEAD END	1	2	0.413	Var. 18'-20'		20								456	25	32	45				
12CR.20491.18 (Secondary)	Iredell	17	TROLLINGWOOD LANE (SR-3001)	FROM QUIET COVE RD (SR-3013) TO QUIET COVE RD (SR-3013)	1	2	0.292	Var. 18'-20'		15								321	15	22	35				
12CR.20491.18 (Secondary)	Iredell	18	HOGAN LANE (SR-1219)	FROM GREENBAY RD (SR-1218) TO DEAD END	1	2	0.289	Var. 18'-20'		20								215	10	15	10				
12CR.20491.18 (Secondary)	Iredell	19	MARINER POINT LANE (SR-3060)	FROM NC150 TO DEAD END	1	2	0.32	Var. 18'-20'		20								283	15	20	30				
12CR.20491.18 (Secondary)	Iredell	20	MT BETHEL RD (SR-2136)	FROM US 21 TO OLD MOCKSVILLE RD (SR-2158)	2	2	2.926	Var. 18'-36'	470	200	5.86		400		2,907	785			225	300					
12CR.20491.18 (Secondary)	Iredell	21	CHURCH LAKE RD (SR-2156)	FROM US 21 TO OLD MOCKSVILLE RD (SR-2158)	2	2	3.191	Var. 18'-36'	510	100	6.38		425		3,346	335			223	335					
12CR.20491.18 (Secondary)	Iredell	22	HENKEL FARM RD (SR-1951)	FROM TABOR RD (SR-1845) TO DEAD END	7	2	0.468	Var. 18'-20'		60								465	50	31	50				
12CR.20491.18 (Secondary)	Iredell	23	BESS RD (SR-1874)	FROM N. CHIPLEY FORD RD (SR-1898) TO FRIENDSHIP RD (SR-1896)	7	2	2.11	Var. 18'-20'		125								2,329	230	155	350				
12CR.20491.18 (Secondary)	Iredell	24	WESTON RD (SR-1555)	FROM TRINITY RD (SR-1554) TO NC 115	7	2	0.572	Var. 18'-20'		25								631	60	42	65				
12CR.20491.18 (Secondary)	Iredell	25	BRADLEY FARM RD (SR-1541)	FROM MONTICELLO RD (SR-1543) TO OLD WILKESBORO RD (SR-1645)	7	2	0.783	Var. 18'-20'		45								865	80	57	90				
12CR.20491.18 (Secondary)	Iredell	26	BUTTERFIELD CIRCLE (SR-1620)	FROM NC 90 TO DEAD END	7	2	0.39	Var. 18'-20'		40								390	30	25	40				
12CR.20491.18 (Secondary)	Iredell	27	FOOTHILLS DR (SR-1701)	FROM NC 90 TO DEAD END	7	2	0.047	Var. 18'-20'		50			225					53	10	4	10				
12CR.20491.18 (Secondary)	Iredell	28	CAM-A-WILL CIRCLE (SR-1702)	FROM NC 90 TO DEAD END	7	2	0.125	Var. 18'-20'		20								138	10	9	15				
12CR.20491.18 (Secondary)	Iredell	29	MURDOCK RD (SR-2350)	FROM US 21 TO AMITY HILL RD (SR-2342)	8	2	1.70	Var. 18'-36'	395	100	4.93			950	3,650	200			274	350					
TOTAL FOR MAP NO. 29							2.462		395	100	4.93			950	3,650	200			274	350					
12CR.20491.18 (Secondary)	Iredell	30	MAZEPPA RD (SR-2395)	FROM 300' EAST OF NC 115 AT END OF NEW PAVMT TO TRIPLETT RD (SR-2362)	2	2	2.737	22	440	250	5.48				3,765	200			239	350				1.00	
12CR.20491.18 (Secondary)	Iredell	31	WILLIAMSON RD (SR-1109)	FROM SUNDOWN RD (SR-1190) TO I-77 BRIDGE	2	3	1.61	Var. 18'-36'	305	100	3.82		800		3,907	250			251	390				1.00	
TOTAL FOR MAP NO. 31							1.913		305	100	3.82		800		3,907	250			251	390				1.00	
12CR.20491.18 (Secondary)	Iredell	32	BRAWLEY SCHOOL RD (SR-1100)	FROM 400' EAST OF TALBERT RD (SR-1116) AT END OF INTERCHANGE PROJECT LIMITS TO US 21	2	2	0.44	Var. 18'-36'	115	100	1.44				1,204	120			80	200				1.00	
TOTAL FOR MAP NO. 32							0.72	40'	115	100	1.44				1,204	120			80	200				1.00	
12CR.20491.18 (Secondary)	Iredell	33	JUDAS RD (SR-1378)	FROM PERTH RD (SR-1303) TO CORNELIUS RD (SR-1302)	2	2	1.186	20	191	100	2.38				1,310	100			85	130				1.00	
TOTAL FOR PROJ NO. 12CR.20491.18 (Secondary)							27.366		2,426	1,700	30.29		1,850	950	24,960	2,460	5,861	418	2,116	3,313		8	1	1.00	
GRAND TOTAL							46.086		5,287	2,475	66.05	37,489	2,650	950	51,117	3,602	5,861	418	3,760	5,696	2	11	4	1.00	1,400

PROJECT NO.	SHEET NO.	TOTAL NO.
12CR.10491.17 (Primary)	6	
12CR.20491.18 (Secondary)		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4399000000-N	4400000000-E	4510000000-N	4685000000-E	4686000000-E	4695000000-E		4697000000-E	4705000000-E	4710000000-E	4721000000-E			4725000000-E			4810000000-E		4905000000-N						
										TEMPORARY TRAFFIC CONTROL	WORK SONE ADVANCE/GENERAL WARNING SIGNING	LAW ENFORCEMENT	4" X 90 M WHITE THERMO	4" X 120 M YELLOW THERMO	8" X 90 M YELLOW THERMO	8" X 90 M WHITE THERMO	8" X 120 M YELLOW THERMO	16" X 120 M WHITE THERMO	24" X 120 M WHITE THERMO	THERMO MSG SCHOOL 120 M	THERMO RXR 120 M	THERMO MSG ONLY 120 M	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT	SNOW PLOWABLE MARKERS					
NO		NO			NO					LS	SF	HR	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA					
12CR.10491.17 (Primary)	Iredell	1	NC 901	FROM NC 115 TO DAVIE COUNTY LINE		2		17.88	23	1	1,430	10	188,800	188,800			400		196	12			15	1					1,445					
TOTAL FOR MAP NO. 1										1	1,430	10	188,800	188,800			400		196	12			15	1					1,445					
12CR.10491.17 (Primary)	Iredell	2	US 21	FROM 100' SOUTH OF FLOWER HOUSE LOOP (SR-1312) TO END OF WIDENING		2		0.84	48				9,000	9,000	200	300			180				20	3		13			165					
TOTAL FOR MAP NO. 2													9,000	9,000	200	300			180				20	3		13			165					
TOTAL FOR PROJ NO. 12CR.10491.17 (Primary)										1	1,430	10	197,800	197,800	200	300	400		376	12			35	4		13				1,610				
										500					12			52																
12CR.20491.18 (Secondary)	Iredell	3	PICKWYCK DR (SR-2949)	FROM NC152 TO DEAD END		2		0.267	20																									
12CR.20491.18 (Secondary)	Iredell	4	ALEXANDER ACRES (SR-1154)	FROM NC150 TO DEAD END		2		0.809	18																									
12CR.20491.18 (Secondary)	Iredell	5	FOURSQUARE DR (SR-1132)	FROM NC115 TO DEAD END		2		0.561	18																									
12CR.20491.18 (Secondary)	Iredell	6	TIMBERLAND LOOP (SR-1214)	FROM KISTLER FARM RD (SR-1148) TO OLD MEADOWLARK LN (SR-1251)		2		0.758	18																									
12CR.20491.18 (Secondary)	Iredell	7	OLD MEADOWBROOK RD (SR-1251)	FROM TIMBERLAND LOOP (SR-1214) TO TIMBERLAND LOOP (SR-1214)		2		0.18	18																									
12CR.20491.18 (Secondary)	Iredell	8	EASTER LANE (SR-2974)	FROM SHEARERS RD (SR-1125) TO DEAD END		2		0.11	20																									
12CR.20491.18 (Secondary)	Iredell	9	VILLA LANE (SR-2934)	FROM SHEARERS RD (SR-1125) TO DEAD END		2		0.216	18																									
12CR.20491.18 (Secondary)	Iredell	10	VISTA DR (SR-2969)	FROM SHEARERS RD (SR-1125) TO VILLA LANE (SR-2934)		2		0.241	18																									
12CR.20491.18 (Secondary)	Iredell	11	HUNTINGTON RIDGE RD (SR-3243)	FROM SHEARERS RD (SR-1125) TO DEAD END		2		0.284	20																									
12CR.20491.18 (Secondary)	Iredell	12	BERACAH RD (SR-2968)	FROM MIDWAY LAKE RD (SR-1137) TO DEAD END		2		0.591	18																									
12CR.20491.18 (Secondary)	Iredell	13	PARADISE PENINSULA RD (SR-1211)	FROM NC150 TO DEAD END		2		0.536	20																									
12CR.20491.18 (Secondary)	Iredell	14	GREENBAY RD (SR-1218)	FROM PARADISE PENINSULA (SR-1211) TO RIDGETOP RD (SR-3014)		2		1.576	20																									
12CR.20491.18 (Secondary)	Iredell	15	RIDGE TOP RD (SR-3014)	FROM GREENBAY RD (SR-1218) TO QUIET COVE RD (SR-3013)		2		0.293	20																									
12CR.20491.18 (Secondary)	Iredell	16	QUIET COVE RD (SR-3013)	FROM NC150 TO DEAD END		2		0.413	20																									
12CR.20491.18 (Secondary)	Iredell	17	TROLLINGWOOD LANE (SR-3001)	FROM QUIET COVE RD (SR-3013) TO QUIET COVE RD (SR-3013)		2		0.292	20																									
12CR.20491.18 (Secondary)	Iredell	18	HOGAN LANE (SR-1219)	FROM GREENBAY RD (SR-1218) TO DEAD END		2		0.289	20																									
12CR.20491.18 (Secondary)	Iredell	19	MARINER POINT LANE (SR-3060)	FROM NC150 TO DEAD END		2		0.32	24																									
12CR.20491.18 (Secondary)	Iredell	20	MT BETHEL RD (SR-2136)	FROM US 21 TO OLD MOCKSVILLE RD (SR-2158)		2		2.926	18																									
12CR.20491.18 (Secondary)	Iredell	21	CHURCH LAKE RD (SR-2156)	FROM US 21 TO OLD MOCKSVILLE RD (SR-2158)		2		3.191	19																									
12CR.20491.18 (Secondary)	Iredell	22	HENKEL FARM RD (SR-1951)	FROM TABOR RD (SR-1845) TO DEAD END		2		0.468	18																									
12CR.20491.18 (Secondary)	Iredell	23	BESS RD (SR-1874)	FROM N. CHIPLEY FORD RD (SR-1898) TO FRIENDSHIP RD (SR-1896)		2		2.11	20																									
12CR.20491.18 (Secondary)	Iredell	24	WESTON RD (SR-1555)	FROM TRINITY RD (SR-1554) TO NC 115		2		0.572	20																									
12CR.20491.18 (Secondary)	Iredell	25	BRADLEY FARM RD (SR-1541)	FROM MONTICELLO RD (SR-1543) TO OLD WILKESBORO RD (SR-1645)		2		0.783	20																									
12CR.20491.18 (Secondary)	Iredell	26	BUTTERFIELD CIRCLE (SR-1620)	FROM NC 90 TO DEAD END		2		0.39	18																									
12CR.20491.18 (Secondary)	Iredell	27	FOOTHILLS DR (SR-1701)	FROM NC 90 TO DEAD END		2		0.047	20																									
12CR.20491.18 (Secondary)	Iredell	28	CAM-A-WILL CIRCLE (SR-1702)	FROM NC 90 TO DEAD END		2		0.125	20																									
12CR.20491.18 (Secondary)	Iredell	29	MURDOCK RD (SR-2350)	FROM US 21 TO AMITY HILL RD (SR-2342)		2		2.462	24				26,000	26,000	200				36				7						165					
12CR.20491.18 (Secondary)	Iredell	30	MAZEPPA RD (SR-2395)	FROM 300' EAST OF NC 115 AT END OF NEW PAVMT TO TRIPLETT RD (SR-2362)		2		2.737	22				28,900	28,900	200			100		98		4							180					
12CR.20491.18 (Secondary)	Iredell	31	WILLIAMSON RD (SR-1109)	FROM SUNDOWN RD (SR-1190) TO I-77 BRIDGE		2		1.913	24				20,200	20,200	200							8		14		11		10	2	200				
12CR.20491.18 (Secondary)	Iredell	32	BRAWLEY SCHOOL RD (SR-1100)	FROM 400' EAST OF TALBERT RD (SR-1116) AT END OF INTERCHANGE PROJECT LIMITS TO US 21		2		0.72	24				7,600	7,600															50					
12CR.20491.18 (Secondary)	Iredell	33	JUDAS RD (SR-1378)	FROM PERTH RD (SR-1303)		2		1.186	20																									
TOTAL FOR PROJ NO. 12CR.20491.18 (Secondary)													27,366								4		8		36		11		14		7	318,792	308,912	595
										600					12			68			627,704													
GRAND TOTAL										1	3,823	10	280,500	280,500	800	300	400	100	690	12	4	8	71	15	27	7	318,792	308,912	2,205					
										1,100					24			120			627,704													

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

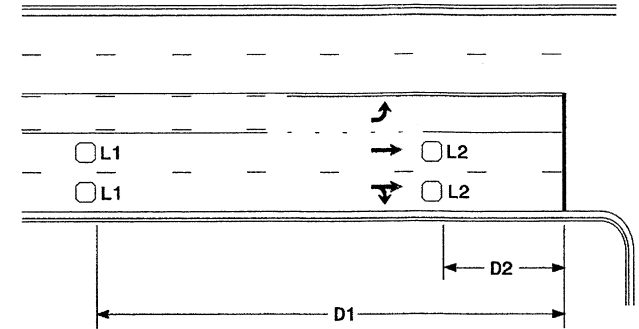


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

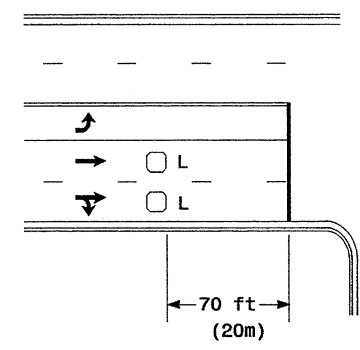


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

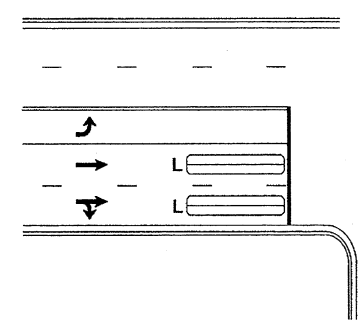
Low Speed Detection [≤35 mph (56 km/hr)]



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

Volume Density Operation

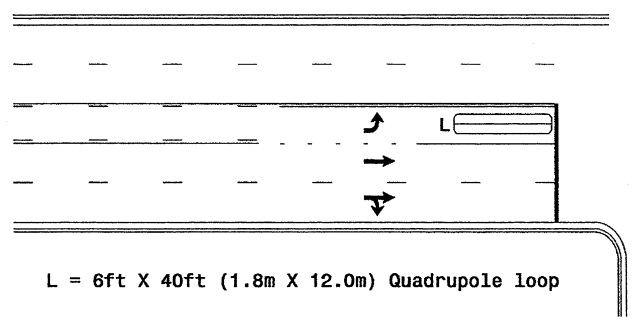
OR



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

"Stretch" Operation

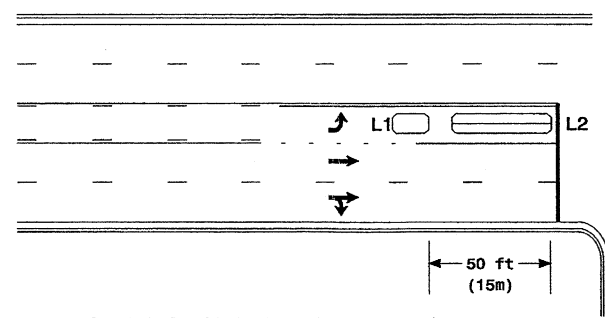
Left Turn Lane Detection



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

Presence Loop Detection

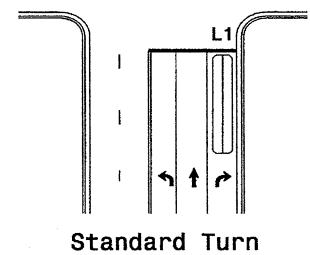
OR



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

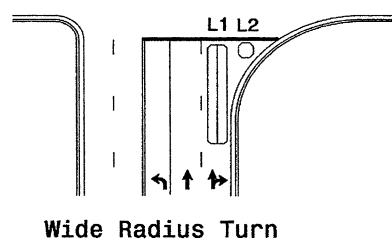
Queue Loop Detection

Right Turn Lane Detection

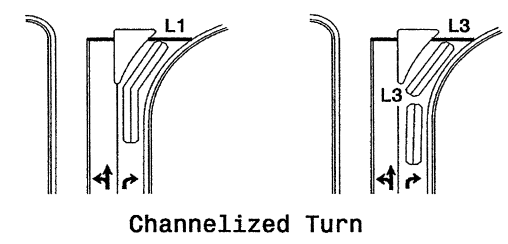


Standard Turn

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

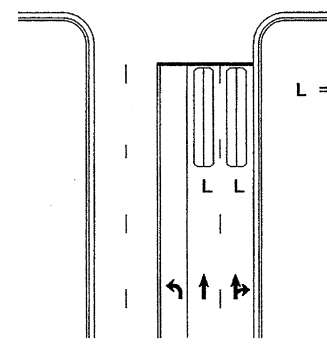


Wide Radius Turn



Channelized Turn

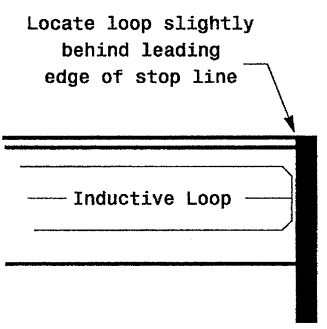
Side Street Detection



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

Side Street Detection

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.

Presence Loop Placement at Stop Lines

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 PREPARED BY: P. L. Alexander	REVIEWED BY: REVIEWED BY:	
122 N. McDowell St., Raleigh, NC 27603		INIT. DATE SIGNATURE DATE	SIG. INVENTORY NO.