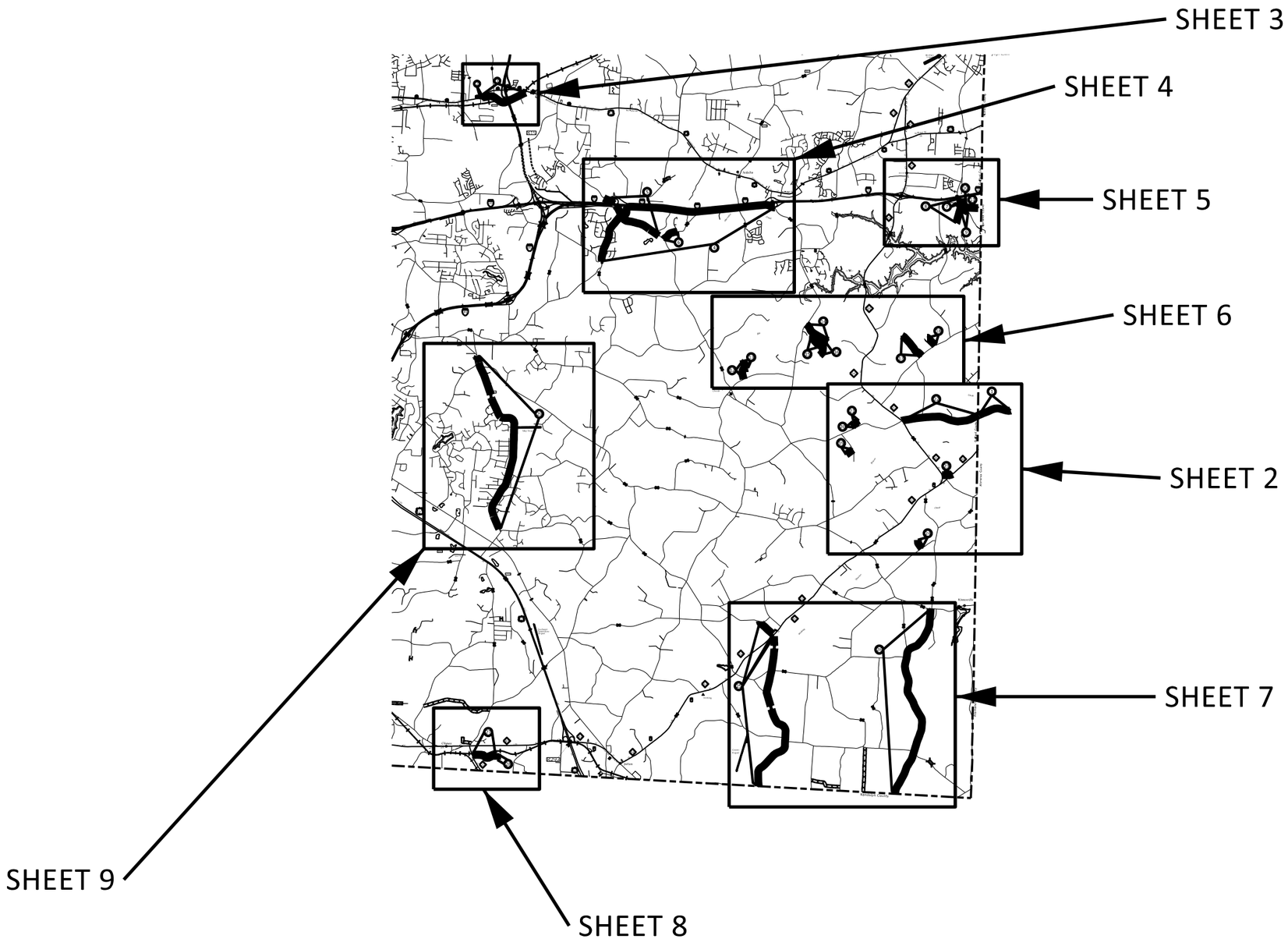
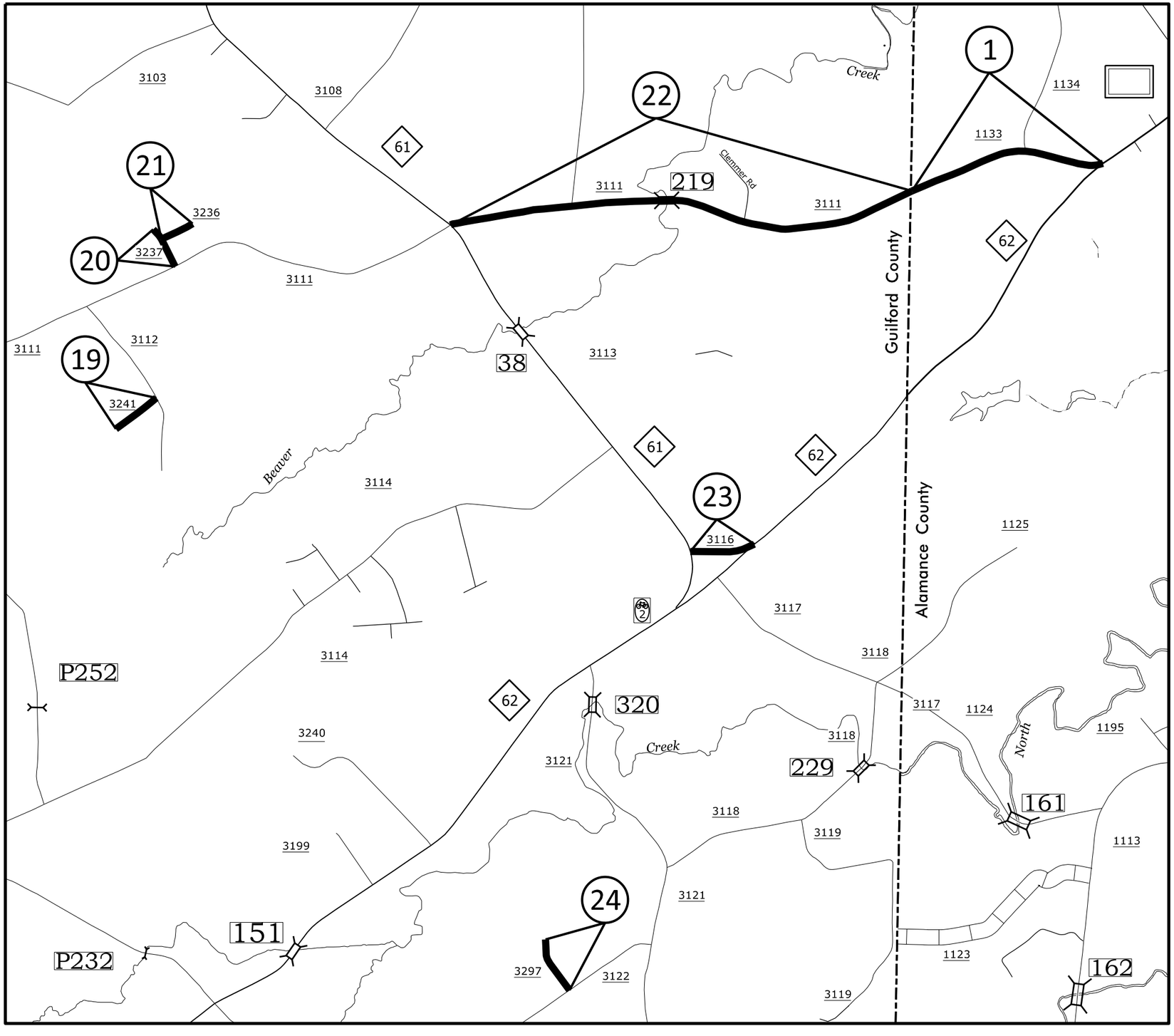
PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	1



GUILFORD COUNTY

NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	2

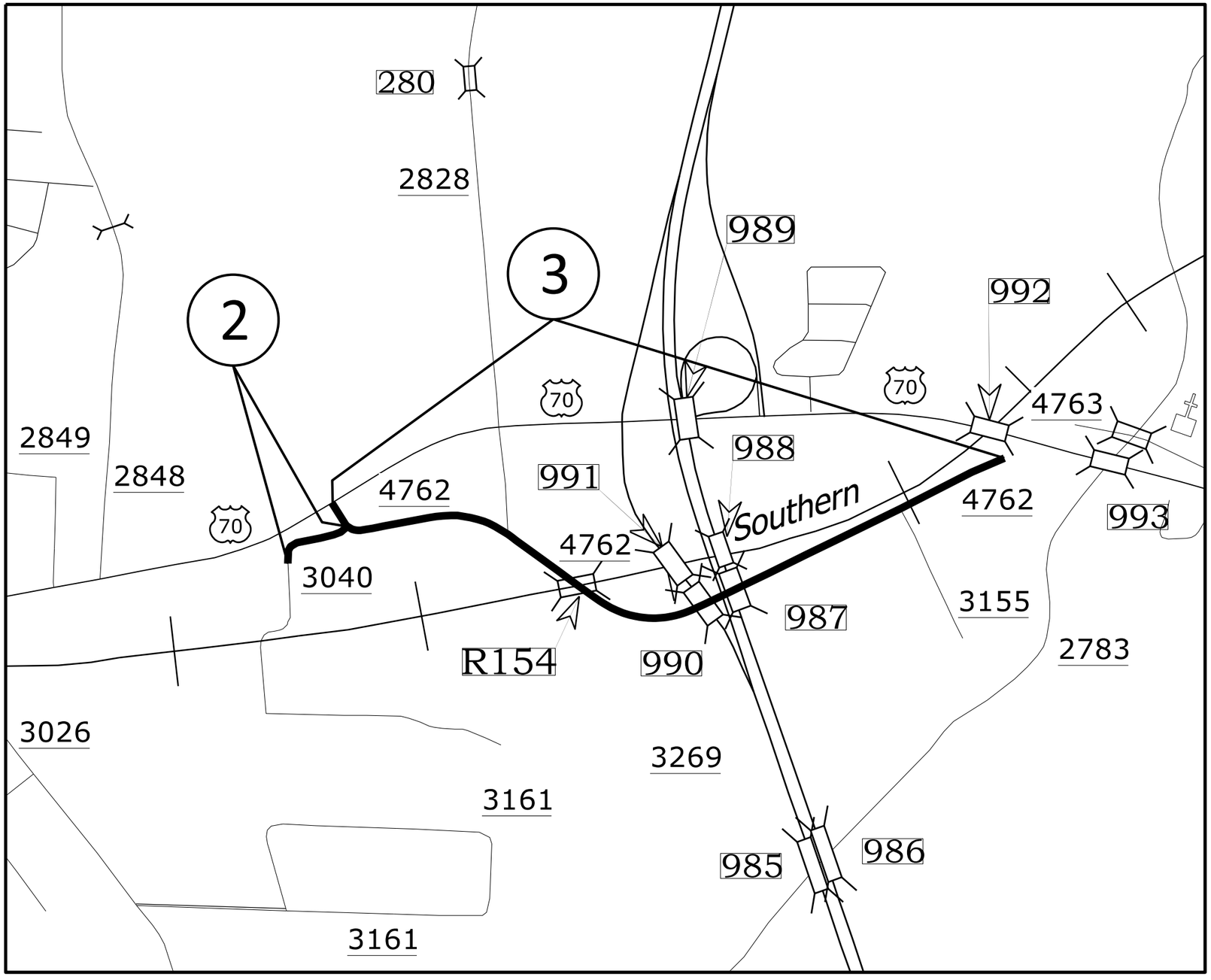


Map 1 SR 1133 - Brick Church Rd
Map 19 SR 3241 - Hollyoaks Ct
Map 20 SR 3237 - Viola Dr
Map 21 SR 3236 - Harry Ct
Map 22 SR 3111 - Holts Store Rd
*Resurface Bridge #219

Map 23 SR 3116 - NC Highway 61 S
Map 24 SR 3297 - Quarters Edge Dr

GUILFORD COUNTY
NORTH CAROLINA

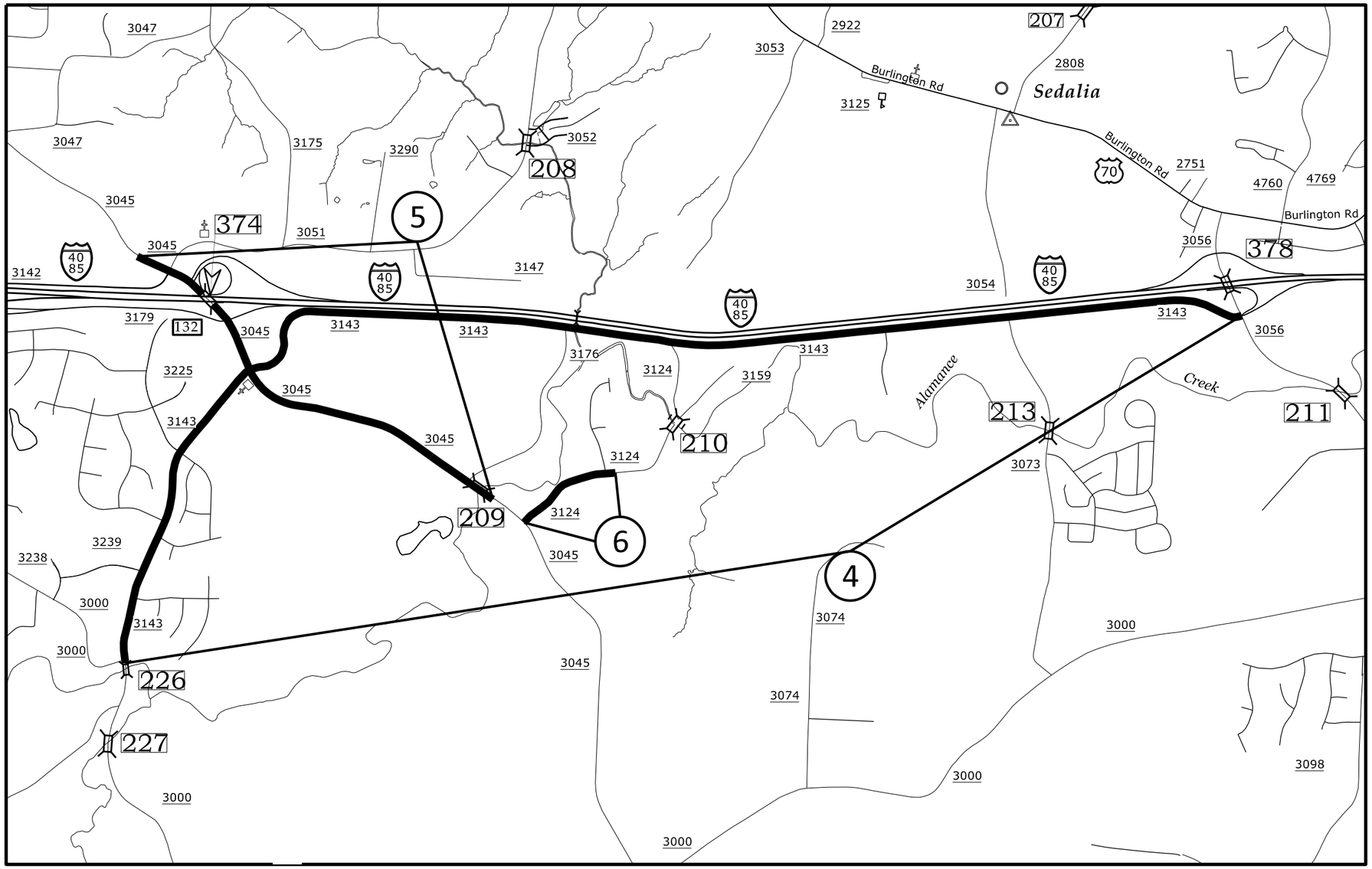
PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	3



Map 2 SR 3040 - Wagoner Bend Rd
Map 3 SR 4762 - Old Burlington Rd
*Mill & Fill Under Railroad Bridge, Overlay rest of Map

GUILFORD COUNTY
NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	4

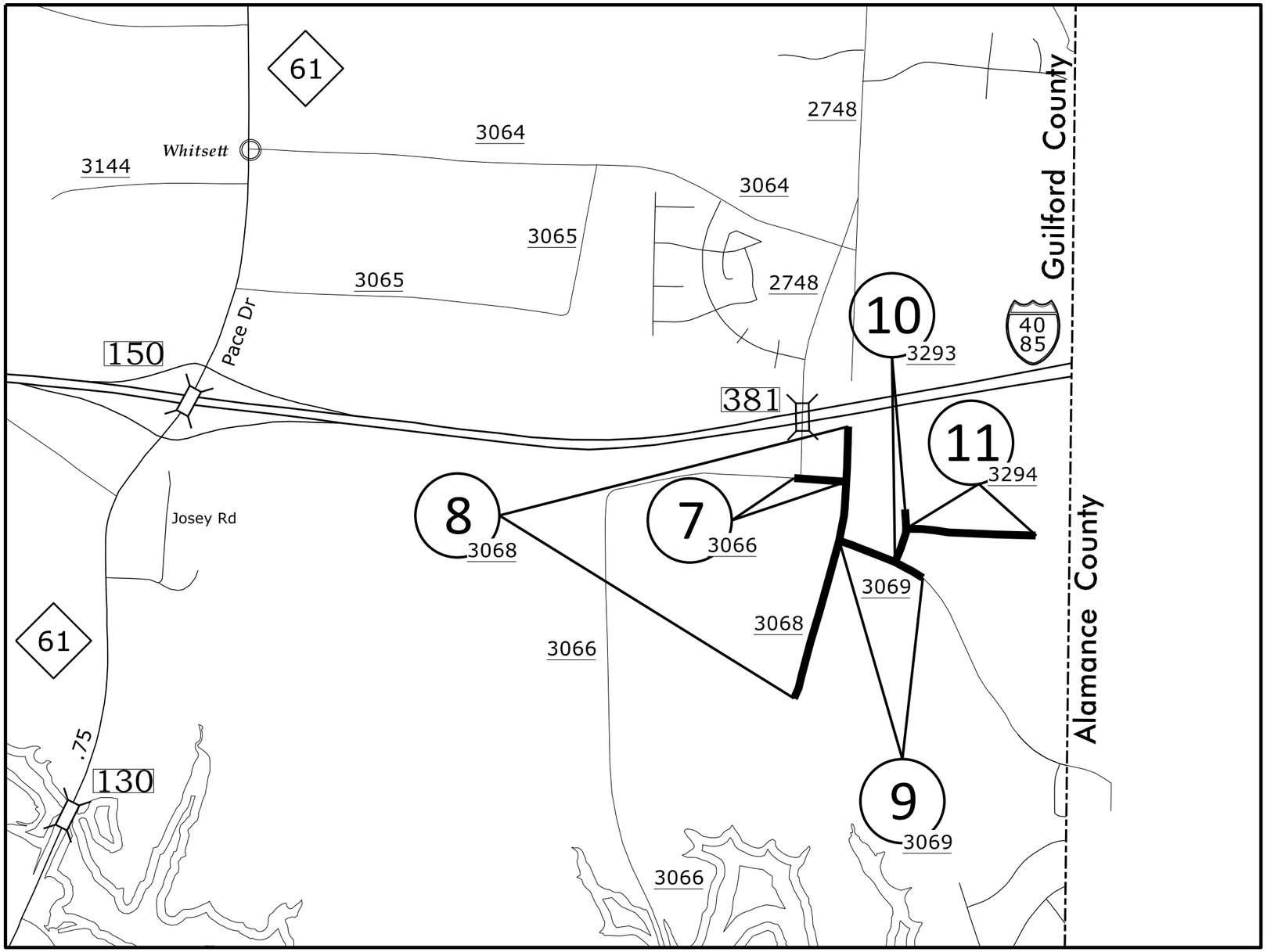


Map 4 SR 3143 - Millstream Rd
Map 5 SR 3045 - Mt Hope Church Rd
*Mill & Fill Multilane Section
*Overlay 2 Lane Section
*Resurface Bridge #209
*Do Not Resurface Bridge #374

Map 6 SR 3124 - Stewart Mill Rd
*Overlay Section with No Curb & Gutter
*Mill & Fill Section with Curb & Gutter

GUILFORD COUNTY
NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	5

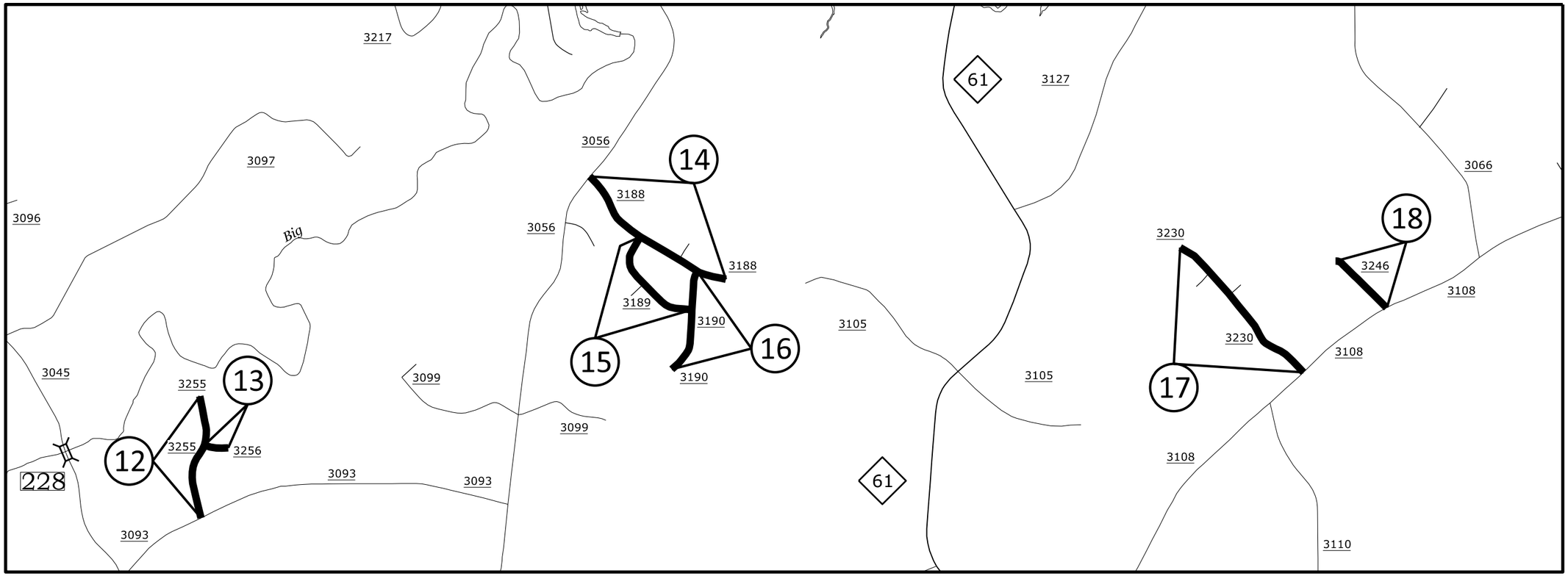


N

Map 7 SR 3066 - Wheeler Bridge Rd
Map 8 SR 3068 - Elmdale Rd
Map 9 SR 3069 - Ingle Dairy Rd
Map 10 SR 3293 - Carriage Way
Map 11 SR 3294 - Inglewood Rd

GUILFORD COUNTY
NORTH CAROLINA

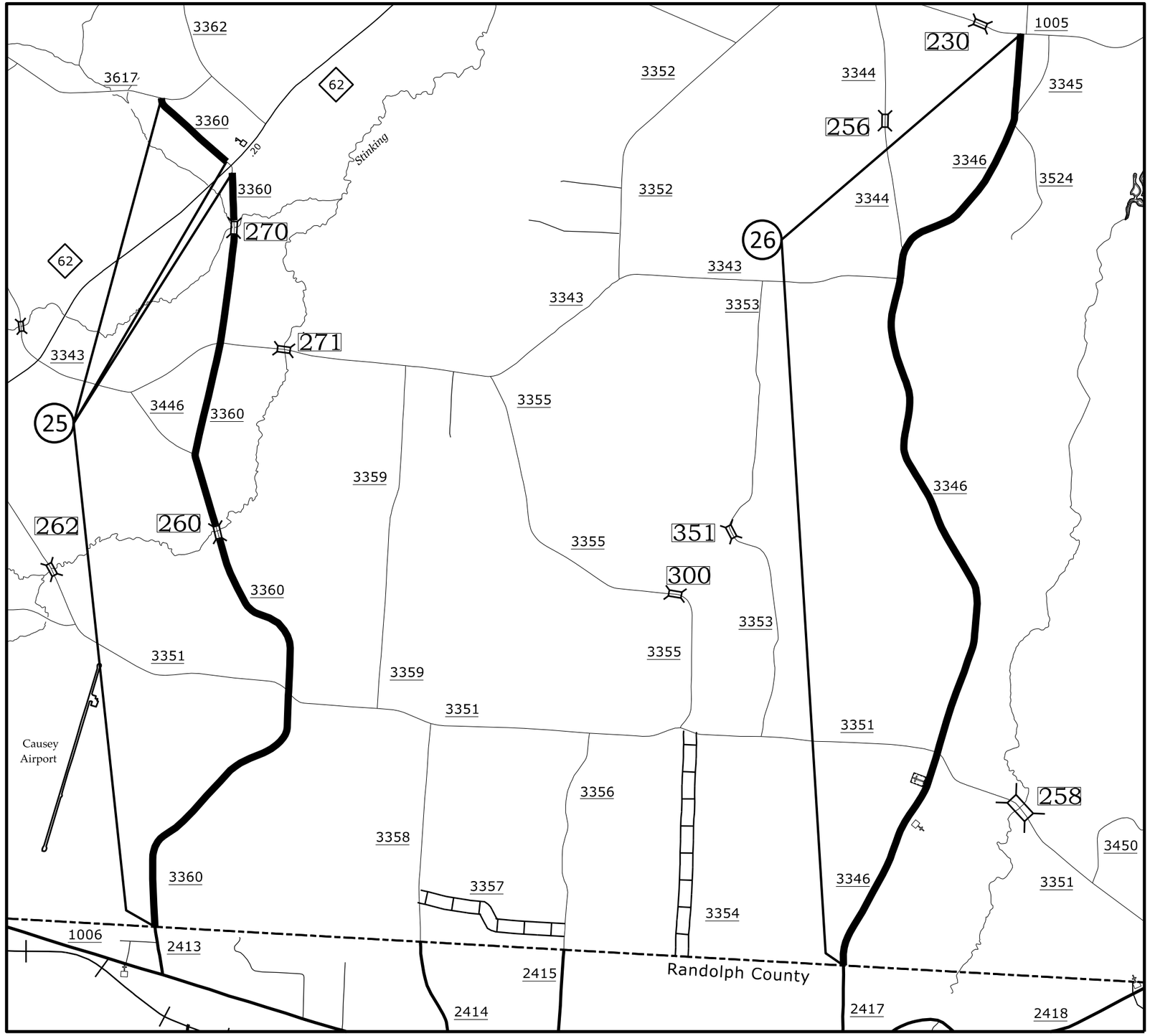
PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	6



Map 12 SR 3255 - Jeannie Rd
Map 13 SR 3256 - Corbett Rd
Map 14 SR 3188 - Long Meadow Dr
Map 15 SR 3189 - Rockcliffe Dr
Map 16 SR 3190 - Briarbrook Rd
Map 17 SR 3230 - Windfield Ridge Dr
Map 18 SR 3246 - Thomas Arlendo Dr

GUILFORD COUNTY
NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	7

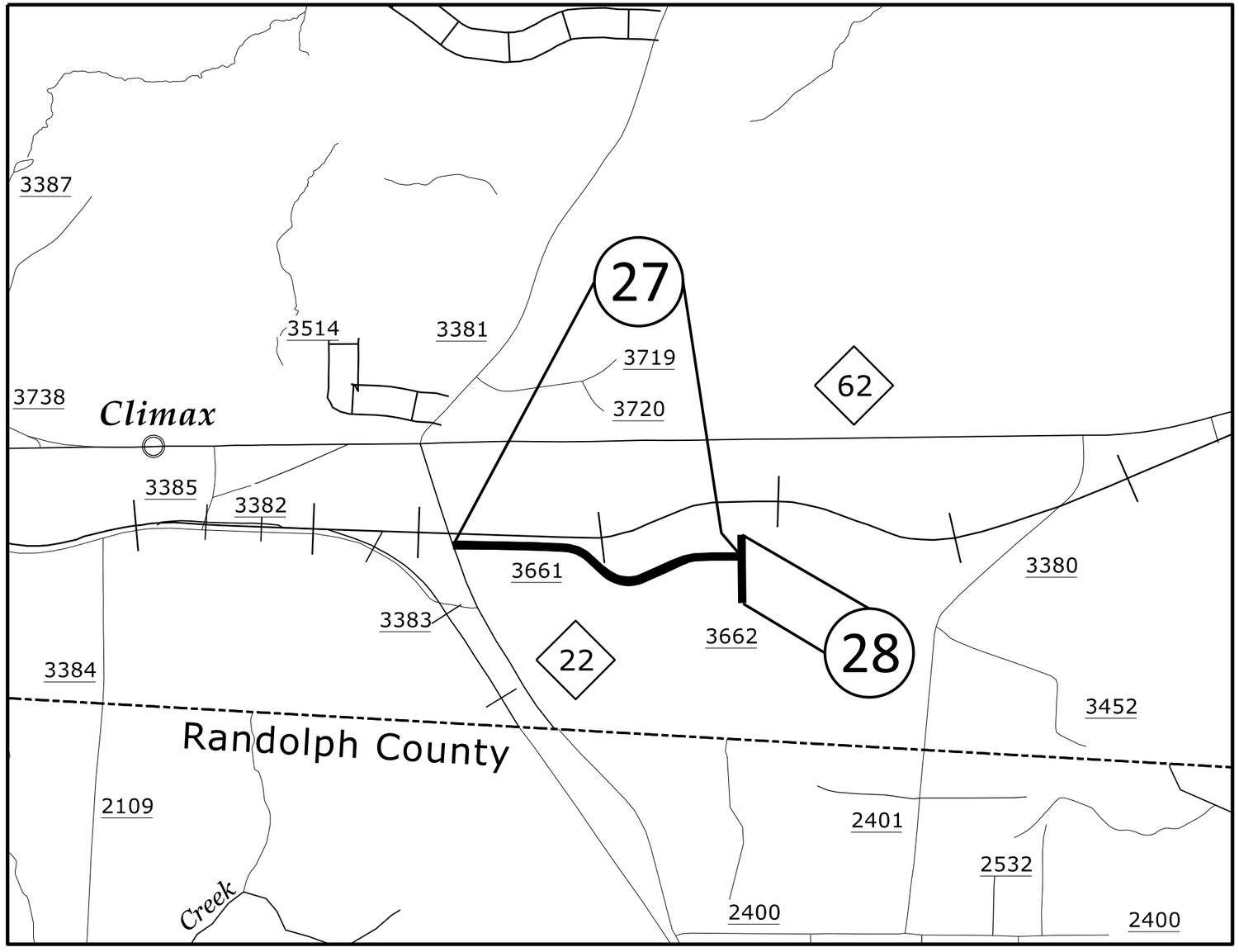


Map 25 SR 3360 - Bowman Dairy Rd
*Do Not Resurface Bridge #260 & #270
*Skip NC-62

Map 26 SR 3346 - Kimesville Rd

GUILFORD COUNTY
NORTH CAROLINA

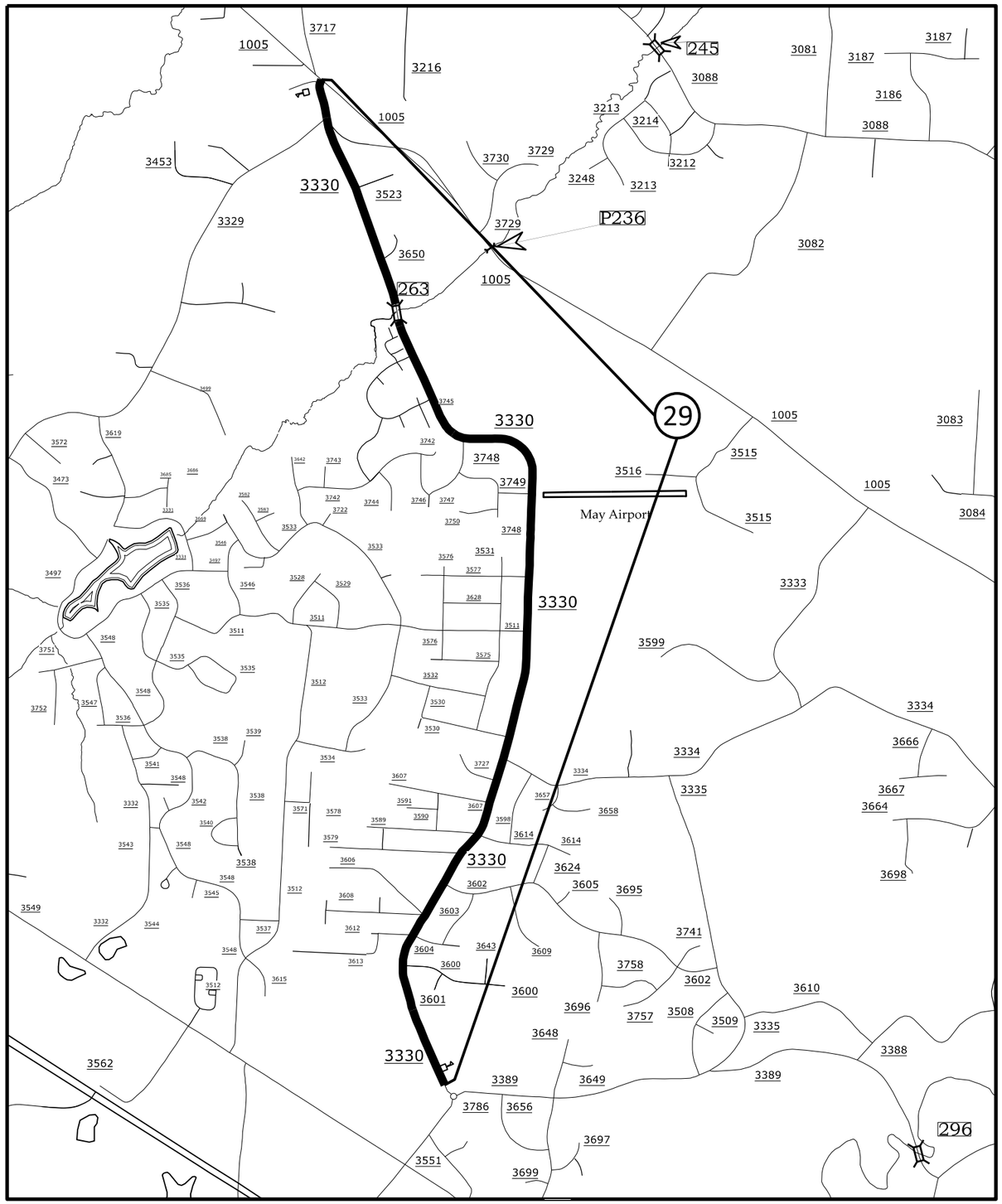
PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	8



Map 27 SR 3661 - Rader Dr
Map 28 SR 3662 - Rader Ct

GUILFORD COUNTY
NORTH CAROLINA

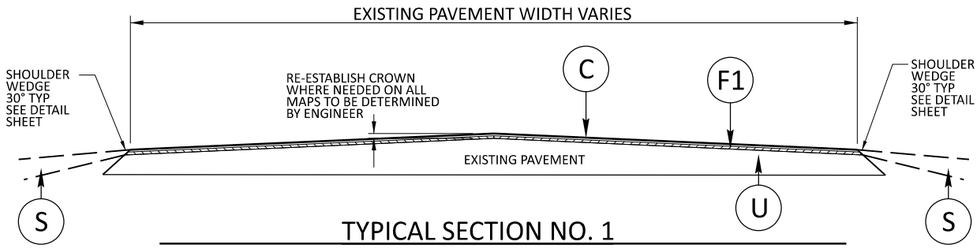
PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	9



Map 29 SR 3330 - Southeast School Rd
*Do Not Resurface Bridge #263

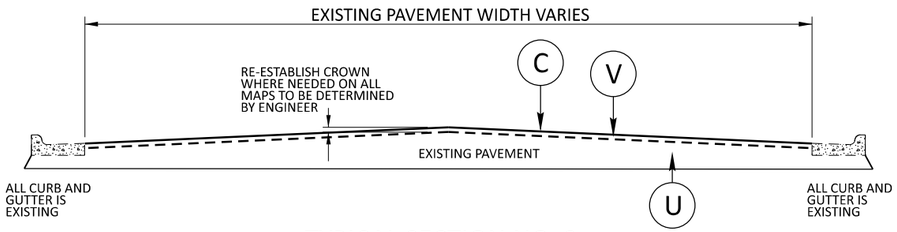
GUILFORD COUNTY
NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	10



TYPICAL SECTION NO. 1

Map 1	SR 1133 - Brick Church Rd	Map 16	SR 3190 - Briarbrook Rd
Map 2	SR 3040 - Wagoner Bend Rd	Map 17	SR 3230 - Windfield Ridge Dr
Map 3	SR 4762 - Old Burlington Rd	Map 18	SR 3246 - Thomas Arlendo Dr
	STA 0+00 to STA 16+00	Map 19	SR 3241 - Hollyoaks Ct
	STA 18+00 to STA 45+95	Map 20	SR 3237 - Viola Dr
		Map 21	SR 3236 - Harry Ct
Map 6	SR 3124 - Stewart Mill Rd	Map 22	SR 3111 - Holts Store Rd
	STA 0+00 to STA 7+35		*Resurface Bridge #219
	*No Curb & Gutter Section		
		Map 23	SR 3116 - NC Highway 61 S
Map 7	SR 3066 - Wheeler Bridge Rd	Map 24	SR 3297 - Quarters Edge Dr
Map 8	SR 3068 - Elmdale Rd	Map 25	SR 3360 - Bowman Dairy Rd
Map 9	SR 3069 - Ingle Dairy Rd		*Do Not Resurface Bridge #260 & #270
Map 10	SR 3293 - Carriage Way		*Skip NC 62
Map 11	SR 3294 - Inglewood Rd		
Map 12	SR 3255 - Jeannie Rd	Map 26	SR 3346 - Kimesville Rd
Map 13	SR 3256 - Corbett Rd	Map 27	SR 3661 - Rader Dr
Map 14	SR 3188 - Long Meadow Dr	Map 28	SR 3662 - Rader Ct
Map 15	SR 3189 - Rockcliffe Dr		



TYPICAL SECTION NO. 2

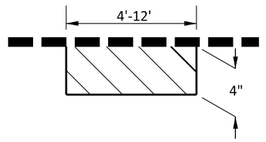
Map 3 SR 4762 - Old Burlington Rd
STA 16+00 to STA 18+00
*Under Railroad Bridge

Map 4 SR 3143 - Millstream Rd

Map 5 SR 3045 - Mt Hope Churh Rd
STA 0+00 to STA 53+25
*Multilane Section
*Do Not Resurface Bridge #374

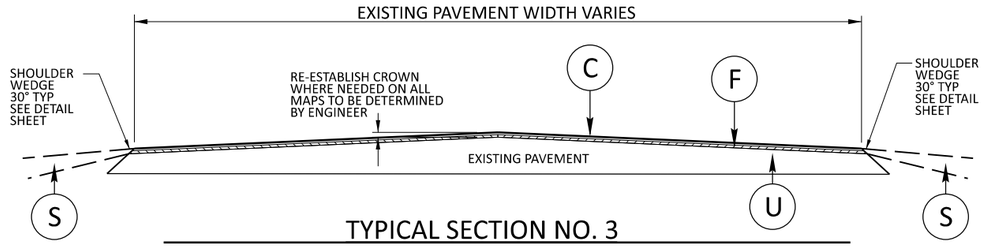
Map 6 SR 3124 - Stewart Mill Rd
STA 7+35 to STA 15+80
*Curb & Gutter Section

Map 29 SR 3330 - Southeast School Rd
*Do Not Resurface Bridge #263



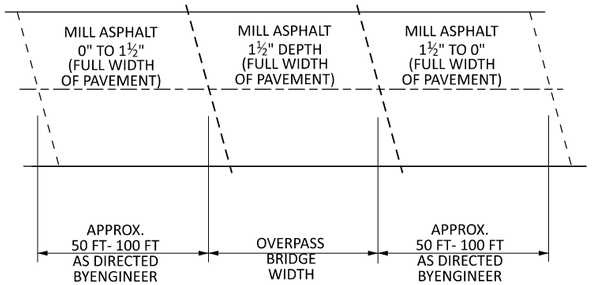
MILL FILL AT LOCATIONS AS DIRECTED BY THE ENGINEER.

PATCHING EXISTING PAVEMENT DETAIL



TYPICAL SECTION NO. 3

Map 5 SR 3045 - Mt Hope Church Rd
STA 53+25 to STA 64+75
*2 Lane Section
*Resurface Bridge #209



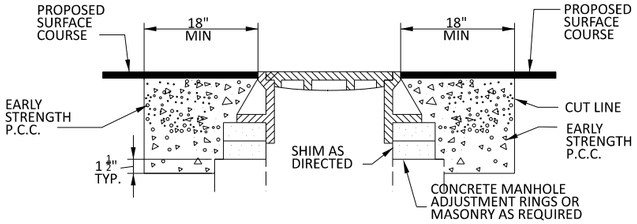
PLAN VIEW- MILLING ASPHALT PAVEMENT UNDER OVERPASS

Map 1 SR 4762 - Old Burlington Rd
STA 16+00 to STA 18+00
*Under Railroad Bridge

PAVEMENT SCHEDULE

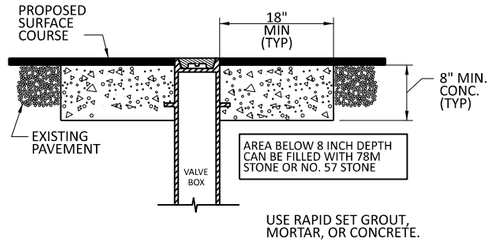
C	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 165 LBS PER SQ YD.
F	AST MAT COAT, #67
F1	AST MAT COAT, #78M
S	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V	MILL ASPHALT PAVEMENT, 1½" DEPTH

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	11

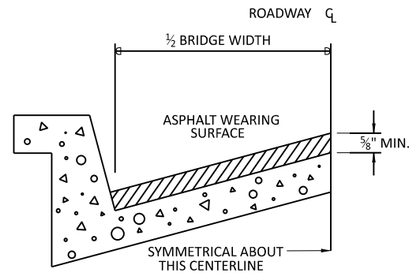


NOTES:
1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
4. RAPID SET GROUT, MORTAR, OR CONCRETE SHALL BE USED CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

STANDARD CONCRETE ENCASEMENT FOR MANHOLE CASTINGS IN PAVEMENT

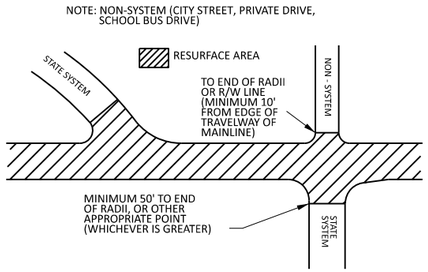


STANDARD CONCRETE ENCASEMENT FOR VALVE CASTINGS IN PAVEMENT

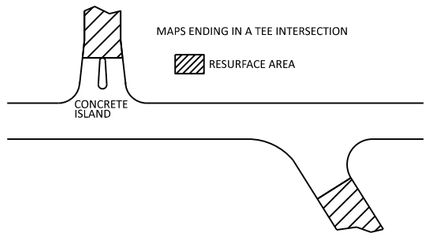


BRIDGE HALF TYPICAL SECTION

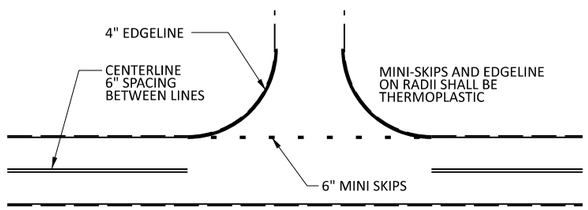
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN. THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS 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.



PAVING DETAIL 1
MAIN LINE IS BEING RESURFACED

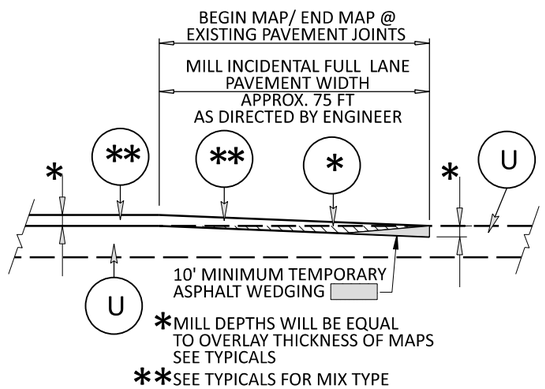


PAVING DETAIL 2
MAIN LINE NOT BEING RESURFACED



NOTE: MINI SKIPS SHALL BE PLACED ON A 8' CYCLE, CONTAINING A 6' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS
(NOT TO SCALE)



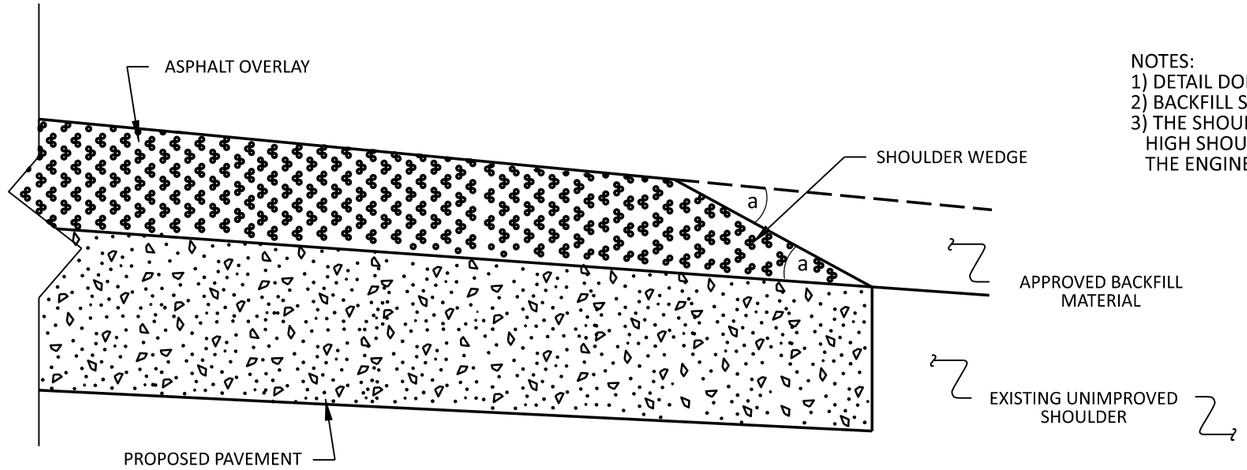
*MILL DEPTHS WILL BE EQUAL TO OVERLAY THICKNESS OF MAPS SEE TYPICALS

**SEE TYPICALS FOR MIX TYPE

INCIDENTAL MILLING AT TIE-IN DETAIL

PAVEMENT SCHEDULE	
C	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 165 LBS PER SQ YD.
F	AST MAT COAT, #67
F1	AST MAT COAT, #78M
S	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V	MILL ASPHALT PAVEMENT, 1½" DEPTH

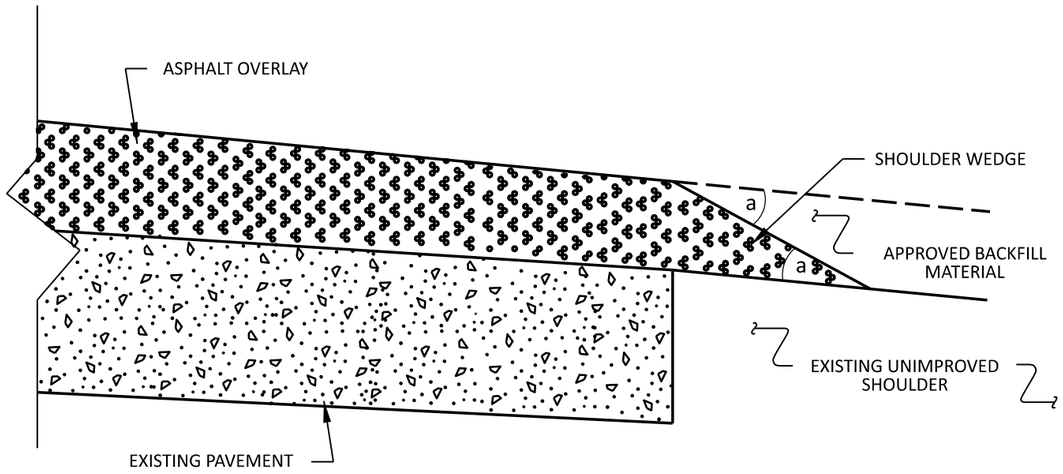
PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	12



NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC 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, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS DIRECTED BY THE ENGINEER.

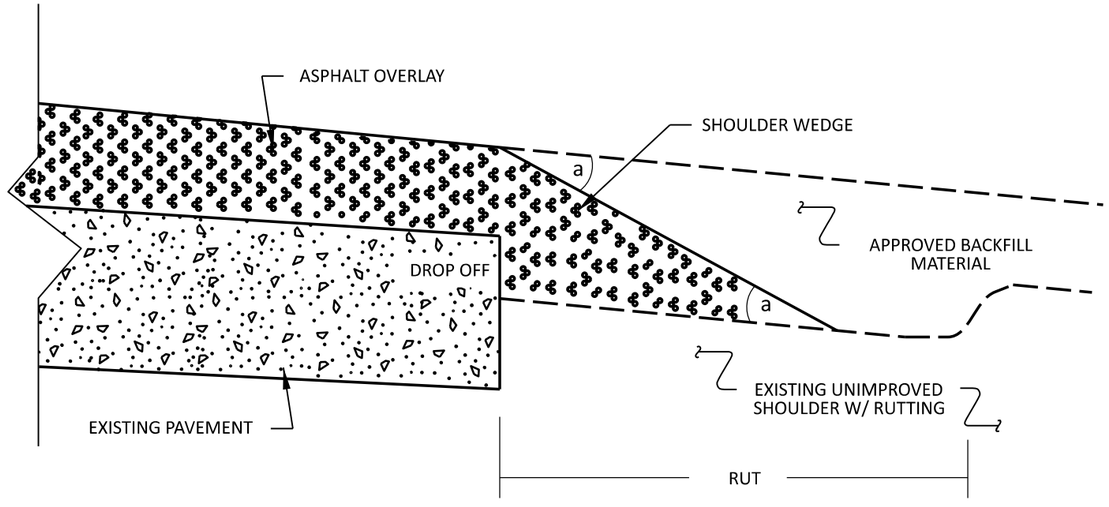
SHOULDER WEDGE DETAIL

(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		

PROJECT NO.	SHEET NO.	TOTAL NO.
2024CPT.07.13.20011, 2024CPT.07.13.20411	13.00	

SUMMARY OF QUANTITIES

												0106000000-E	1220000000-E	1245000000-E	1260000000-E	1297000000-E	1330000000-E	1519000000-E	1575000000-E	1704000000-E	1775000000-E	1775500000-E	1838000000-E	2815000000-N	2830000000-N	2845000000-N	5255000000-N	6110000000-E	7990000000-E
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LENGTH	WIDTH	BEGIN MP	END MP		BORROW EXCAVATION	INCIDENTAL STONE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH	INCIDENTAL MILLING	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ASPHALT SURFACE TREATMENT, MAT COAT, #78M STONE	ASPHALT SURFACE TREATMENT, MAT COAT, #67 STONE	EMULSION FOR ASPHALT SURFACE TREATMENT	ADJUSTMENT OF DROP INLET	ADJUSTMENT OF MANHOLES	ADJUSTMENT OF METER BOXES OR VALVE BOXES	PORTABLE LIGHTING	RESIDENTIAL SEEDING	INDUCTIVE LOOP SAW CUT (DEEP CUT)
							MI	FT				CY	TONS	SMI	TON	SY	SY	TONS	TON	TON	SY	SY	GAL	EA	EA	EA	LS	AC	LF
2024CPT.07.13.20011	Alamance	1	SR-1133 / BRICK CHURCH RD	FROM GUILFORD COUNTY LINE TO NC 62	1	2	0.57	22	0.07	0.64		6	66	1.14	43		204	707	46		7,751		2,558					0.08	
TOTAL FOR MAP NO. 1							**0.57**					**6**	**66**	**1.14**	**43**		**204**	**707**	**46**		**7,751**		**2,558**					**0.08**	
TOTAL FOR PROJ NO. 2024CPT.07.13.20011							**0.57**					**6**	**66**	**1.14**	**43**		**204**	**707**	**46**		**7,751**		**2,558**					**0.08**	
2024CPT.07.13.20411	Guilford	2	SR-3040 / WAGONER BEND RD	FROM SR 4762 - OLD BURLINGTON RD TO PVMT JOINT	1	2	0.09	19	0	0.09		1	6	0.18	7		196	127	8		1,391		459					0.01	
TOTAL FOR MAP NO. 2							**0.09**					**1**	**6**	**0.18**	**7**		**196**	**127**	**8**		**1,391**		**459**					**0.01**	
2024CPT.07.13.20411	Guilford	3	SR-4762 / OLD BURLINGTON RD	FROM US 70 - BURLINGTON RD TO DEAD END	1, 2	2	0.89	26	0	0.89		9	60	1.78	67	144	758	1,383	90	2	13,665		4,509					0.13	
TOTAL FOR MAP NO. 3							**0.89**					**9**	**60**	**1.78**	**67**	**144**	**758**	**1,383**	**90**	**2**	**13,665**		**4,509**					**0.13**	
2024CPT.07.13.20411	Guilford	4	SR-3143 / MILLSTREAM RD	FROM SR 3000 - MCCONNELL RD TO SR 3056 - ROCK CREEK DAIRY RD	2	2	3.91	24	0	3.91			30			68,455	5,116	6,703	441	110					5	8			1,100
TOTAL FOR MAP NO. 4							**3.91**						**30**			**68,455**	**5,116**	**6,703**	**441**	**110**					**5**	**8**			**1,100**
2024CPT.07.13.20411	Guilford	5	SR-3045 / MT HOPE CHURCH RD	FROM PVMT JOINT TO 2 LANE SECTION	2	4	1.07	24	2.22	3.29			39			32,474	5,632	3,467	242	350					3	1	1.00		3,050
2024CPT.07.13.20411	Guilford	5	SR-3045 / MT HOPE CHURCH RD	FROM 2 LANE SECTION TO 200' SOUTH OF BRIDGE #209	3	2	0.22	23	3.29	3.51		2	9	0.44	17		392	332	23	33		3,646	1,385		2			0.03	
TOTAL FOR MAP NO. 5							**1.29**					**2**	**48**	**0.44**	**17**	**32,474**	**6,024**	**3,799**	**265**	**383**		**3,646**	**1,385**		**5**	**1**	**1.00**	**0.03**	**3,050**
2024CPT.07.13.20411	Guilford	6	SR-3124 / STEWART MILL RD	FROM SR 3045 - MT HOPE CHURCH RD TO BEGINNING OF CURB & GUTTER	1	2	0.15	22	0	0.15		1	3	0.30	11		388	168	11		1,838		606			2		0.02	
2024CPT.07.13.20411	Guilford	6	SR-3124 / STEWART MILL RD	BEGINNING OF CURB & GUTTER TO JOINT NEAR END OF CURB & GUTTER	2	2	0.17	24	0.15	0.32						2,427		233	15										
TOTAL FOR MAP NO. 6							**0.32**					**1**	**3**	**0.30**	**11**	**2,427**	**388**	**401**	**26**		**1,838**		**606**			**2**		**0.02**	
2024CPT.07.13.20411	Guilford	7	SR-3066 / WHEELER BRIDGE RD	FROM SR 3068 - ELMDALE RD TO PVMT JOINT	1	2	0.09	20	0	0.09		1		0.18	7		358	156	10	6	1,266		418					0.01	
TOTAL FOR MAP NO. 7							**0.09**					**1**		**0.18**	**7**		**358**	**156**	**10**	**6**	**1,266**		**418**					**0.01**	
2024CPT.07.13.20411	Guilford	8	SR-3068 / ELMDALE RD	FROM END MAINT TO END MAINT	1	2	0.49	18	0	0.49		5	18	0.98	37			637	41		6,594		2,176					0.07	
TOTAL FOR MAP NO. 8							**0.49**					**5**	**18**	**0.98**	**37**			**637**	**41**		**6,594**		**2,176**					**0.07**	
2024CPT.07.13.20411	Guilford	9	SR-3069 / INGLE DAIRY RD	FROM SR 3068 - ELMDALE RD TO PVMT JOINT AT EOM	1	2	0.14	25	0	0.14		1	3	0.28	11		242	207	13		2,119		699					0.02	
TOTAL FOR MAP NO. 9							**0.14**					**1**	**3**	**0.28**	**11**		**242**	**207**	**13**		**2,119**		**699**					**0.02**	
2024CPT.07.13.20411	Guilford	10	SR-3293 / CARRIAGE WAY	FROM SR 3069 - INGLE DAIRY RD TO CUL DE SAC	1	2	0.10	20	0	0.1		1	6	0.20	8			148	10	1	1,464		483					0.01	
TOTAL FOR MAP NO. 10							**0.10**					**1**	**6**	**0.20**	**8**			**148**	**10**	**1**	**1,464**		**483**					**0.01**	
2024CPT.07.13.20411	Guilford	11	SR-3294 / INGLEWOOD RD	FROM SR 3293 - CARRIAGE WAY TO DEAD END	1	2	0.22	20	0	0.22		2	30	0.44	17			247	16		2,708		894					0.03	
TOTAL FOR MAP NO. 11							**0.22**					**2**	**30**	**0.44**	**17**			**247**	**16**		**2,708**		**894**					**0.03**	
2024CPT.07.13.20411	Guilford	12	SR-3255 / JEANNIE RD	FROM SR 3093 - OLD JULIAN RD TO CUL DE SAC	1	2	0.38	19	0	0.38		4	18	0.76	29		192	436	28	1	4,772		1,575					0.06	
TOTAL FOR MAP NO. 12							**0.38**					**4**	**18**	**0.76**	**29**		**192**	**436**	**28**	**1**	**4,772**		**1,575**					**0.06**	
2024CPT.07.13.20411	Guilford	13	SR-3256 / CORBETT RD	FROM SR 3255 - JEANNIE RD TO END MAINT	1	2	0.07	20	0	0.07		1		0.14	5			72	5		789		260					0.01	
TOTAL FOR MAP NO. 13							**0.07**					**1**		**0.14**	**5**			**72**	**5**		**789**		**260**					**0.01**	
2024CPT.07.13.20411	Guilford	14	SR-3188 / LONG MEADOW DR	FROM SR 3056 - ROCK CREEK DAIRY RD TO DEAD END	1	2	0.56	17	0	0.56		6	75	1.12	42		167	608	40	9	6,232		2,056					0.08	
TOTAL FOR MAP NO. 14							**0.56**					**6**	**75**	**1.12**	**42**		**167**	**608**	**40**	**9**	**6,232**		**2,056**					**0.08**	
2024CPT.07.13.20411	Guilford	15	SR-3189 / ROCKCLIFFE DR	FROM SR 3188 - LONG MEADOW DR TO SR 3190 - BRIARBROOK RD	1	2	0.34	20	0	0.34		3	54	0.68	26			362	24		3,849		1,270					0.05	
TOTAL FOR MAP NO. 15							**0.34**					**3**	**54**	**0.68**	**26**			**362**	**24**		**3,849**		**1,270**					**0.05**	
2024CPT.07.13.20411	Guilford	16	SR-3190 / BRIARBROOK RD	FROM SR 3188 - LONG MEADOW DR TO END PVMT	1	2	0.32	16	0	0.32		3	45	0.64	24			259	17	2	2,662		878					0.05	
TOTAL FOR MAP NO. 16							**0.32**					**3**	**45**	**0.64**	**24**			**259**	**17**	**2**	**2,662**		**878**					**0.05**	
2024CPT.07.13.20411	Guilford	17	SR-3230 / WINDFIELD RIDGE DR	FROM SR 3108 - SHOE RD TO CUL DE SAC	1	2	0.54	19	0	0.54		5	45	1.08	41		188	614	40		6,491		2,142					0.08	
TOTAL FOR MAP NO. 17							**0.54**					**5**	**45**	**1.08**	**41**		**188**	**614**	**40**		**6,491**		**2,142**					**0.08**	
2024CPT.07.13.20411	Guilford	18	SR-3246 / THOMAS ARLENDO DR	FROM SR 3108 - SHOE RD TO CUL DE SAC	1	2	0.21	20	0	0.21		2		0.42	16		188	258	17	3	2,824		932					0.03	
TOTAL FOR MAP NO. 18							**0.21**					**2**		**0.42**	**16**		**188**	**258**	**17**	**3**	**2,824**		**932**					**0.03**	
2024CPT.07.13.20411	Guilford	19	SR-3241 / HOLLYOAKS CT	FROM SR 3112 - CALM LAKE RD TO CUL DE SAC	1	2	0.14	20	0	0.14		1	33	0.28	11		167	183	12		2,003		661					0.02	
TOTAL FOR MAP NO. 19							**0.14**					**1**	**33**	**0.28**	**11**		**167**	**183**	**12**		**2,003**		**661**					**0.02**	
2024CPT.07.13.20411	Guilford	20	SR-3237 / VIOLA DR	FROM SR 3111 - HOLTS STORE RD TO END MAINT	1	2	0.13	20	0	0.13		1	6	0.26	10		183	140	9		1,422		469					0.02	
TOTAL FOR MAP NO. 20							**0.13**					**1**	**6**	**0.26**	**10**		**183**	**140**	**9**		**1,422**		**469**					**0.02**	
2024CPT.07.13.20411	Guilford	21	SR-3236 / HARRY CT	FROM SR 3237 - VIOLA DR TO CUL DE SAC	1	2	0.10	20	0	0.1		1	24	0.20	8			152	10	1	1,667		550					0.01	
TOTAL FOR MAP NO. 21							**0.10**					**1**	**24**	**0.20**	**8**			**152**	**10**	**1**	**1,667**		**550**					**0.01**	
2024CPT.07.13.20411	Guilford	22	SR-3111 / HOLTS STORE RD	FROM NC 61 TO ALAMANCE COUNTY LINE	1	2	1.46	21	3.21	4.67		15	75	2.92	110		192	1,717	112	11	18,694		6,169					0.21	
TOTAL FOR MAP NO. 22							**1.46**					**15**	**75**	**2.92**	**110**		**192**	**1,717**	**112**	**11**	**18,694**		**6,169**					**0.21**	
2024CPT.07.13.20411	Guilford	23	SR-3116 / NC HIGHWAY 61 S	FROM NC 61 TO NC 62	1	2	0.19	23	0	0.19		2	15	0.38	14		396	205	13		2,251		743					0.03	
TOTAL FOR MAP NO. 23							**0.19**					**2**	**15**	**0.38**	**14**		**396**	**205**	**13**		**2,251**		**743**					**0.03**	
2024CPT.07.13.20411	Guilford	24	SR-3297 / QUARTERS EDGE DR	FROM SR 3122 - GARRETT STORE RD TO DEAD END	1	2	0.17	20	0	0.17		2	24	0.34	13		175	187	12		2,053		678					0.02	
TOTAL FOR MAP NO. 24							**0.17**					**2**	**24**	**0.34**	**13**		**175**	**187**	**12**		**2,053**		**678**					**0.02**	
2024CPT.07.13.20411	Guilford	25	SR-3360 / BOWMAN DAIRY RD	FROM RANDOLPH COUNTY LINE TO SR 3617 - MABLE LN (SKIP NC-62)	1	2	3.57	21	0	3.57		36	210	7.14	270		729	4,180	272	14	43,706		14,423					0.52	
TOTAL FOR MAP NO. 25							**3.57**					**36**	**210**	**7.14**	**270**		**729**	**4,180**	**272**	**14**	**43,706**		**14,423**					**0.52**	
2024CPT.07.13.20411	Guilford	26	SR-3346 / KIMESVILLE RD	FROM SR 1005 - ALAMANCE CHURCH RD TO RANDOLPH COUNTY LINE	1	2	3.87	22	0	3.87		39	210	7.74	293		408	4,734	309	33	50,214		16,571					0.56	
TOTAL FOR MAP NO. 26							**3.87**					**39**	**210**	**7.74**	**293**		**408**	**4,734**	**309**	**33**	**50,214**		**16,571**					**0.56**	
2024CPT.07.13.20411	Guilford	27	SR-3661 / RADER DR	FROM NC 22 TO SR 3662 - RADER CT	1	2	0.49	21	0	0.49		5	18	0.98	37		196	539	36	29	5,900		1,947					0.07	
TOTAL FOR MAP NO. 27							**0.49**					**5**	**18**	**0.98**	**37**		**196**	**539**	**36**	**29**	**5,900**		**1,947**					**0.07**	
2024CPT.07.13.20411	Guilford	28	SR-3662 / RADER CT	FROM DEAD END TO CUL DE SAC	1	2	0.13	20	0	0.13		1	24	0.26	10			174	12	7	1,905		629					0.02	
TOTAL FOR MAP NO. 28							**0.13**					**1**	**24**	**0.26**	**10**			**174**	**12**	**7**	**1,905**		**629**					**0.02**	
2024CPT.07.13.20411	Guilford	29	SR-3330 / SOUTHEAST SCHOOL RD	FROM PVMT JOINT 200' NW OF ROUNDABOUT TO SR 1005 - ALAMANCE CHURCH RD	2	2	3.77	22	0	3.77			192			54,036	4,633	5,349	362	293				1	3	9			300
TOTAL FOR MAP NO. 29							**3.77**						**192**			**54,036**	**4,633**	**5,349**	**362**	**293**				**1**	**3**	**9**			**300**
TOTAL FOR PROJ NO. 2024CPT.07.13.20411							**23.98**					**150**	**1,272**	**30.12**	**1,141**	**157,536**	**20,896**	**33,977**	**2,250**	**905**	**188,479**	**3,646**	**63,582**	**1**	**13**	**20**	**1.00**	**2.17**	**4,450**
GRAND TOTAL							**24.55**					**156**	**1,338**	**31.26**	**1,184**	**157,536**	**21,100**	**34,684**	**2,296**	**905**	**196,230**	**3,646**	**66,140**	**1**	**13**	**20**	**1.00**	**2.25**	**4,450**

PROJECT NO.	SHEET NO.	TOTAL NO.
2024CPT.07.13.20011, 2024CPT.07.13.20411	14	

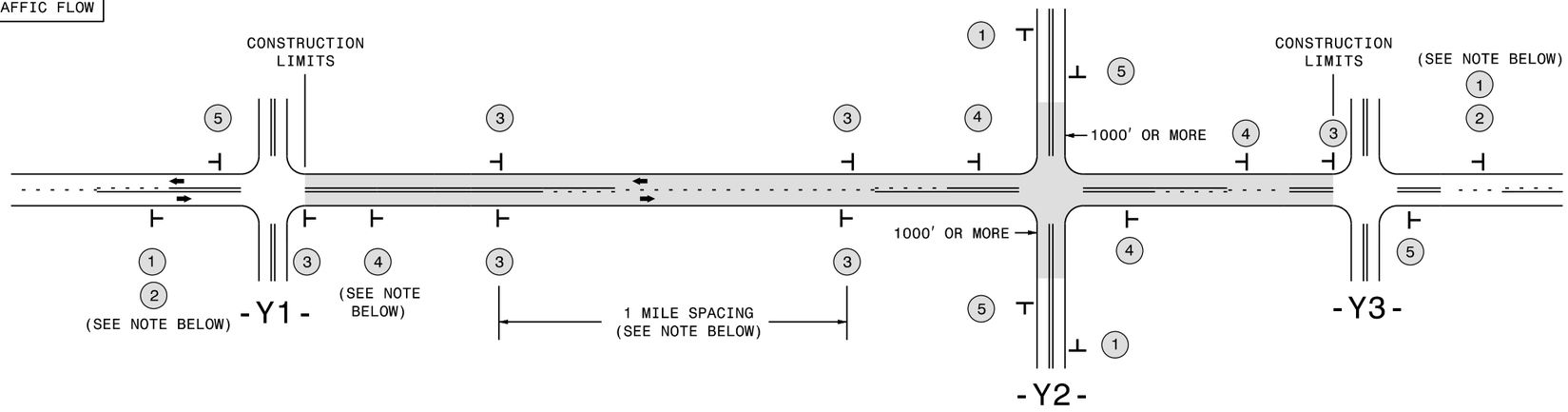
THERMOPLASTIC AND PAINT QUANTITIES

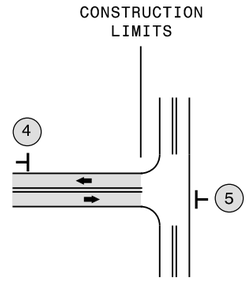
														4413000000-E	4457000000-N	4510000000-N	4685000000-E		4688000000-E		4695000000-E		4700000000-E	4709000000-E	4720000000-E					4725000000-E				4905100000-N	
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	WORK ZONE ADVANCE/ GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	6" X 90 M WHITE THERMO	6" X 90 M YELLOW THERMO	8" X 90 M WHITE THERMO	8" X 90 M YELLOW THERMO	12" X 90 M YELLOW THERMO	24" X 90 M WHITE THERMO	THERMO MSG ONLY 90 M	THERMO MSG STOP 90 M	THERMO MSG AHEAD 90 M	THERMO MSG SCHOOL 90 M	THERMO MSG YIELD 90 M	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS CRYSTAL/RED	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS YELLOW/YELLOW
								MI	FT			SF	LS	HR	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
2024CPT.07.13.20011	Alamance	1	SR-1133 / BRICK CHURCH RD	FROM GUILFORD COUNTY LINE TO NC 62	1	2		0.57	22	0.07	0.64				6,100	5,000																		
TOTAL FOR MAP NO. 1								**0.57**							**6,100**	**5,000**																		
TOTAL FOR PROJ NO. 2024CPT.07.13.20011								**0.57**							**6,100**	**5,000**																		
															11,100																			
2024CPT.07.13.20411	Guilford	2	SR-3040 / WAGONER BEND RD	FROM SR 4762 - OLD BURLINGTON RD TO PVMT JOINT	1	2		0.09	19	0	0.09				920	920																		
TOTAL FOR MAP NO. 2								**0.09**							**920**	**920**																		
2024CPT.07.13.20411	Guilford	3	SR-4762 / OLD BURLINGTON RD	FROM US 70 - BURLINGTON RD TO DEAD END	1, 2	2		0.89	26	0	0.89				9,500	9,500	100				200							2						
TOTAL FOR MAP NO. 3								**0.89**							**9,500**	**9,500**	**100**				**200**							**2**						
2024CPT.07.13.20411	Guilford	4	SR-3143 / MILLSTREAM RD	FROM SR 3000 - MCCONNELL RD TO SR 3056 - ROCK CREEK DAIRY RD	2	2		3.91	24	0	3.91	433			28,775	42,000	410				650	125	8					11	7	7	2			
TOTAL FOR MAP NO. 4								**3.91**				**433**			**28,775**	**42,000**	**410**				**650**	**125**	**8**					**11**	**7**	**7**	**2**			
2024CPT.07.13.20411	Guilford	5	SR-3045 / MT HOPE CHURCH RD	FROM PVMT JOINT TO 2 LANE SECTION	2	4		1.07	24	2.22	3.29			160	15,500	8,800	1,000	100			750	600	4					19	28	3	14	208	78
2024CPT.07.13.20411	Guilford	5	SR-3045 / MT HOPE CHURCH RD	FROM 2 LANE SECTION TO 200' SOUTH OF BRIDGE #209	3	2		0.22	23	3.29	3.51				2,500	2,500	30															76	18
TOTAL FOR MAP NO. 5								**1.29**						**160**	**18,000**	**11,300**	**1,030**	**100**			**750**	**600**	**4**					**19**	**28**	**3**	**14**	**284**	**96**
2024CPT.07.13.20411	Guilford	6	SR-3124 / STEWART MILL RD	FROM SR 3045 - MT HOPE CHURCH RD TO BEGINNING OF CURB & GUTTER	1	2		0.15	22	0	0.15																						
2024CPT.07.13.20411	Guilford	6	SR-3124 / STEWART MILL RD	BEGINNING OF CURB & GUTTER TO JOINT NEAR END OF CURB & GUTTER	2	2		0.17	24	0.15	0.32																						
TOTAL FOR MAP NO. 6								**0.32**																										
2024CPT.07.13.20411	Guilford	7	SR-3066 / WHEELER BRIDGE RD	FROM SR 3068 - ELMDALE RD TO PVMT JOINT	1	2		0.09	20	0	0.09				2,000	1,800																		
TOTAL FOR MAP NO. 7								**0.09**							**2,000**	**1,800**																		
2024CPT.07.13.20411	Guilford	8	SR-3068 / ELMDALE RD	FROM END MAINT TO END MAINT	1	2		0.49	18	0	0.49																						
TOTAL FOR MAP NO. 8								**0.49**																										
2024CPT.07.13.20411	Guilford	9	SR-3069 / INGLE DAIRY RD	FROM SR 3068 - ELMDALE RD TO PVMT JOINT AT EOM	1	2		0.14	25	0	0.14																						
TOTAL FOR MAP NO. 9								**0.14**																										
2024CPT.07.13.20411	Guilford	10	SR-3293 / CARRIAGE WAY	FROM SR 3069 - INGLE DAIRY RD TO CUL DE SAC	1	2		0.10	20	0	0.1																						
TOTAL FOR MAP NO. 10								**0.10**																										
2024CPT.07.13.20411	Guilford	11	SR-3294 / INGLEWOOD RD	FROM SR 3293 - CARRIAGE WAY TO DEAD END	1	2		0.22	20	0	0.22																						
TOTAL FOR MAP NO. 11								**0.22**																										
2024CPT.07.13.20411	Guilford	12	SR-3255 / JEANNIE RD	FROM SR 3093 - OLD JULIAN RD TO CUL DE SAC	1	2		0.38	19	0	0.38																						
TOTAL FOR MAP NO. 12								**0.38**																										
2024CPT.07.13.20411	Guilford	13	SR-3256 / CORBETT RD	FROM SR 3255 - JEANNIE RD TO END MAINT	1	2		0.07	20	0	0.07																						
TOTAL FOR MAP NO. 13								**0.07**																										
2024CPT.07.13.20411	Guilford	14	SR-3188 / LONG MEADOW DR	FROM SR 3056 - ROCK CREEK DAIRY RD TO DEAD END	1	2		0.56	17	0	0.56																						
TOTAL FOR MAP NO. 14								**0.56**					1.00																				
2024CPT.07.13.20411	Guilford	15	SR-3189 / ROCKCLIFFE DR	FROM SR 3188 - LONG MEADOW DR TO SR 3190 - BRIARBROOK RD	1	2		0.34	20	0	0.34																						
TOTAL FOR MAP NO. 15								**0.34**																										
2024CPT.07.13.20411	Guilford	16	SR-3190 / BRIARBROOK RD	FROM SR 3188 - LONG MEADOW DR TO END PVMT	1	2		0.32	16	0	0.32																						
TOTAL FOR MAP NO. 16								**0.32**																										
2024CPT.07.13.20411	Guilford	17	SR-3230 / WINDFIELD RIDGE DR	FROM SR 3108 - SHOE RD TO CUL DE SAC	1	2		0.54	19	0	0.54																						
TOTAL FOR MAP NO. 17								**0.54**																										
2024CPT.07.13.20411	Guilford	18	SR-3246 / THOMAS ARLENDO DR	FROM SR 3108 - SHOE RD TO CUL DE SAC	1	2		0.21	20	0	0.21																						
TOTAL FOR MAP NO. 18								**0.21**																										
2024CPT.07.13.20411	Guilford	19	SR-3241 / HOLLYOAKS CT	FROM SR 3112 - CALM LAKE RD TO CUL DE SAC	1	2		0.14	20	0	0.14																						
TOTAL FOR MAP NO. 19								**0.14**																										
2024CPT.07.13.20411	Guilford	20	SR-3237 / VIOLA DR	FROM SR 3111 - HOLTS STORE RD TO END MAINT	1	2		0.13	20	0	0.13																						
TOTAL FOR MAP NO. 20								**0.13**																										
2024CPT.07.13.20411	Guilford	21	SR-3236 / HARRY CT	FROM SR 3237 - VIOLA DR TO CUL DE SAC	1	2		0.10	20	0	0.1																						
TOTAL FOR MAP NO. 21								**0.10**																										
2024CPT.07.13.20411	Guilford	22	SR-3111 / HOLTS STORE RD	FROM NC 61 TO ALAMANCE COUNTY LINE	1	2		1.46	21	3.21	4.67				16,000	14,500								4	5									
TOTAL FOR MAP NO. 22								**1.46**							**16,000**	**14,500**								**4**	**5**									
2024CPT.07.13.20411	Guilford	23	SR-3116 / NC HIGHWAY 61 S	FROM NC 61 TO NC 62	1	2		0.19	23	0	0.19				1,800	1,800																		
TOTAL FOR MAP NO. 23								**0.19**							**1,800**	**1,800**																		
2024CPT.07.13.20411	Guilford	24	SR-3297 / QUARTERS EDGE DR	FROM SR 3122 - GARRETT STORE RD TO DEAD END	1	2		0.17	20	0	0.17																						
TOTAL FOR MAP NO. 24								**0.17**																										
2024CPT.07.13.20411	Guilford	25	SR-3360 / BOWMAN DAIRY RD	FROM RANDOLPH COUNTY LINE TO SR 3617 - MABLE LN (SKIP NC-62)	1	2		3.57	21	0	3.57	400			37,700	32,700	100																	
TOTAL FOR MAP NO. 25								**3.57**				**400**			**37,700**	**32,700**	**100**																	
2024CPT.07.13.20411	Guilford	26	SR-3346 / KIMESVILLE RD	FROM SR 1005 - ALAMANCE CHURCH RD TO RANDOLPH COUNTY LINE	1	2		3.87	22	0	3.87	434			41,000	38,000	150																	
TOTAL FOR MAP NO. 26								**3.87**				**434**			**41,000**	**38,000**	**150**																	
2024CPT.07.13.20411	Guilford	27	SR-3661 / RADER DR	FROM NC 22 TO SR 3662 - RADER CT	1	2		0.49	21	0	0.49																						
TOTAL FOR MAP NO. 27								**0.49**																										
2024CPT.07.13.20411	Guilford	28	SR-3662 / RADER CT	FROM DEAD END TO CUL DE SAC	1	2		0.13	20	0	0.13																						
TOTAL FOR MAP NO. 28								**0.13**																										
2024CPT.07.13.20411	Guilford	29	SR-3330 / SOUTHEAST SCHOOL RD	FROM PVMT JOINT 200' NW OF ROUNDABOUT TO SR 1005 - ALAMANCE CHURCH RD	2	2		3.77	22	0	3.77	423			35,250	43,200	430				550	1,610	1,610	104			5	12	5	12		2				
TOTAL FOR MAP NO. 29								**3.77**				**423**			**35,250**	**43,200**	**430**				**550**	**1,610**	**1,610**	**104**			**5**	**12**	**5**	**12**		**2**				
TOTAL FOR PROJ NO. 2024CPT.07.13.20411								**23.98**				**1,690**		**160**	**190,945**	**195,720**	**2,220**	**100**			**550**	**1,610**	**3,210**	**829**	**12**	**4**	**10**	**12**	**5**	**44**	**35**	**12**	**16**	**284**	**96**
															386,665		**2,320**				**2,160**						**43**				**107**				**380**	
GRAND TOTAL								**24.55**				**1,690**	**1.00**	**160**	**197,045**	**200,720**	**2,220**	**100**			**550**	**1,610**	**3,210**	**829**	**12**	**4**	**10**	**12**	**5**	**44**	**35**	**12**	**16**	**284**	**96**
															397,765		**2,320**				**2,160**						**43**				**107**				**380**	

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	TMP-1

SIGNING FOR RESURFACING PROJECTS

LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW





TEE INTERSECTION

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1	ROAD WORK AHEAD W20-1 48″ X 48″	PLACE 1000′ PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000′ ALONG -Y- LINE.
2	NEXT XX MILES W7-3aP 24″ X 18″	#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER.(NO FRACTIONAL OR DECIMAL NUMBERS)
3	LOW/SOFT SHOULDER SP 13107 48″ X 48″	- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY ½ MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.
4	ROAD UNDER CONST SP 13106 48″ X 48″	- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. - DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. - INSTALL 500′ +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. - FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500′ OF EACH APPROACH. - A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500′ +/- OF THE INTERSECTION ALONG -L- LINE.
5	END ROAD WORK G20-2 A 48″ X 24″	PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

MAPS LESS THAN 2 MILES

FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.

-Y- LINE SIGNING

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

1) LESS THAN 1000′ OF RESURFACING ALONG -Y- LINE
2) SUBDIVISION ROADS
3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

ROAD WORK AHEAD W20-1 48″ X 48″
PLACED 500′ IN ADVANCE OF FLAGGER.

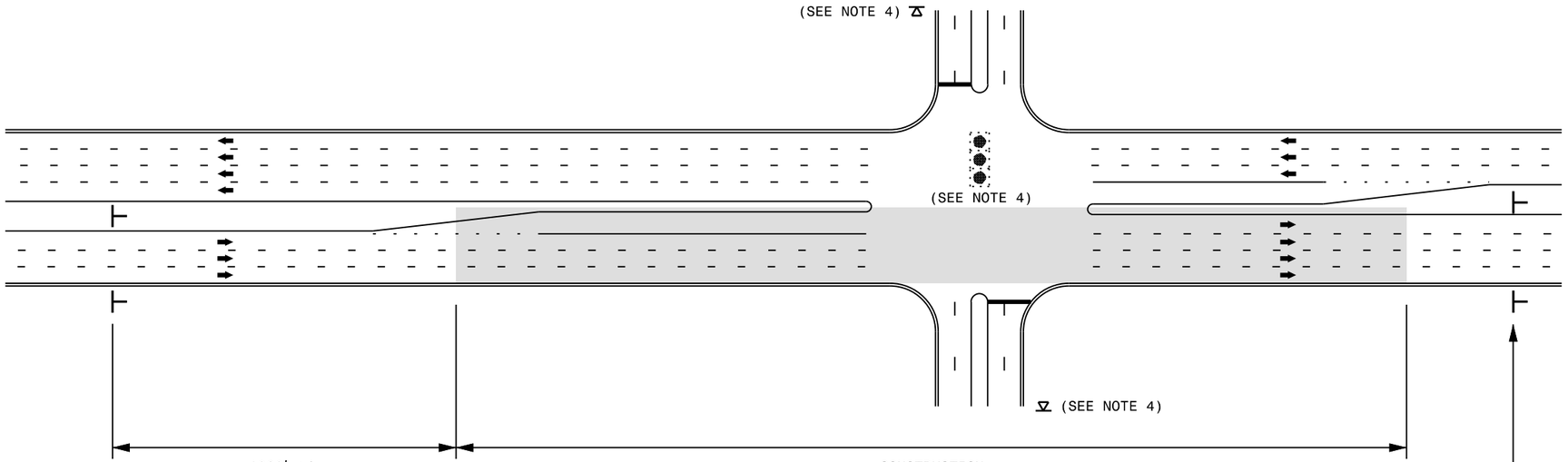
W20-7 A 48″ X 48″
PLACED 250′ IN ADVANCE OF FLAGGER.

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

ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011,2024CPT.07.13.20411	TMP-2

URBAN / SUBURBAN WORKZONES



NOTES:

1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS.THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND

⊢ STATIONARY SIGN

➡ DIRECTION OF TRAFFIC FLOW

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

RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

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

ENGLISH STANDARD DRAWING FOR

DEEP-CUT INDUCTIVE DETECTION LOOPS

(FOR INSTALLATION PRIOR TO MILLING)

SHEET 1 OF 1

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 IN SERIES.

-LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS.

-USE A SERIES OF ONE INCH PIECES OF BACKER ROD SPACED ONE FOOT APART ALONG THE ENTIRE LENGTH OF THE FEEDER SLOT AND LOOP SAW SLOT.

-CONSULT LOOP SEALANT MANUFACTURER TO DETERMINE CURING TIME REQUIRED PRIOR TO MILLING.

-REFER TO STANDARD DRAWING 1725.01 SHEETS 2 AND 3 FOR ADDITIONAL REQUIREMENTS.

SAW SLOT DEPTH CHART

ASSUMING 2″ MILLING DEPTH

DEPTH (IN)	MAX NO. OF WIRE LAYERS				
	2	3	4	5	6
SAW SLOT DEPTH	4.0	4.5	5.0	5.0	5.0
MINIMUM TOTAL ASPHALT DEPTH REQUIRED	5.0	5.5	6.0	6.0	6.0

LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE

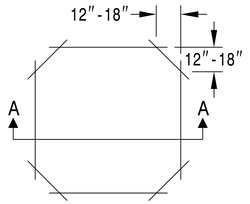
CORRECT WAY TO TWIST WIRE

CONVENTIONAL 4-SIDED LOOP

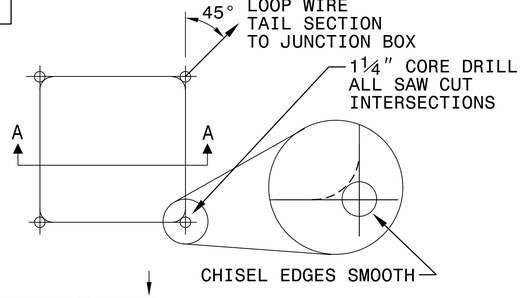
SAW CUT OPTIONS

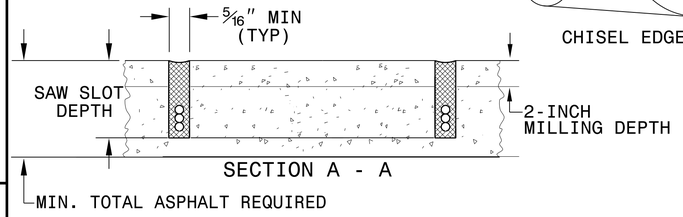
OPTION 1

INSTALL 1″ SECTIONS OF BACKER ROD ON 1 FOOT CENTERS

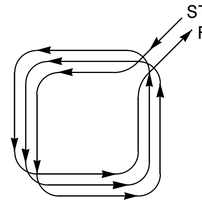


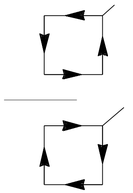
OPTION 2 (POOR PAVEMENT)





LOOP WINDING METHOD





WHEN INSTALLING 2 OR MORE LOOPS IN ADJACENT LANES, WIND LOOPS IN ALTERNATE DIRECTIONS

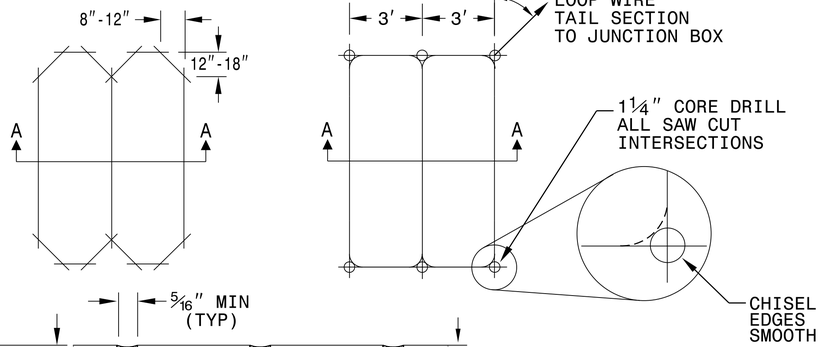
QUADRUPOLE LOOP

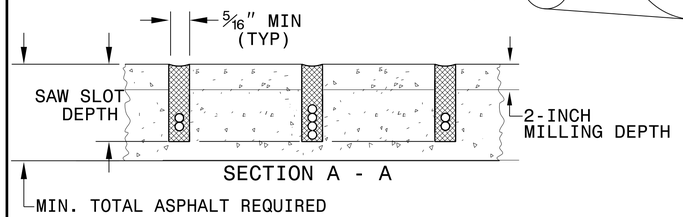
SAW CUT OPTIONS

OPTION 1

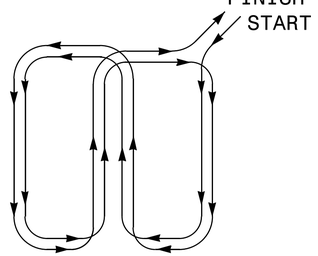
OPTION 2 (POOR PAVEMENT)

INSTALL 1″ SECTIONS OF BACKER ROD ON 1 FOOT CENTERS





LOOP WINDING METHOD



REVISIONS
1. REMOVED TWISTING NOTES FROM TAIL SECT. TO JUNCTION BOX. 2/26/08 MWH
2. REVISED SECTION A - A DETAILS. 6/29/15 JTP

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signals Management Section
750 N.Greenfield Pkwy.Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 016286 ENGINEER MILTON I. DEAN
DocuSigned by: Milton I. Dean
SIGNATURE
7/1/2015
DATE

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

ENGLISH STANDARD DRAWING FOR

DEEP-CUT INDUCTIVE DETECTION LOOPS

(FOR INSTALLATION PRIOR TO MILLING)

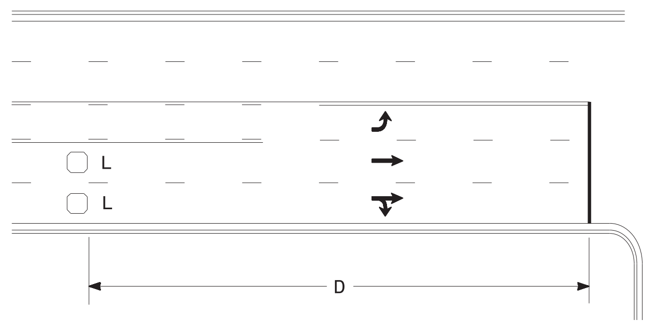
SHEET OF
SIG-1

PROJECT REFERENCE NO.
2024CPT.07.13.20011,
2024CPT.07.13.20411

SHEET NO.

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.07.13.20011, 2024CPT.07.13.20411	SIG-2

High Speed Detection
(≥40 mph)



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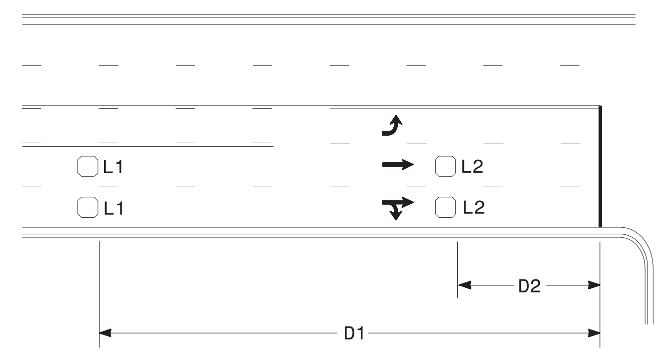


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

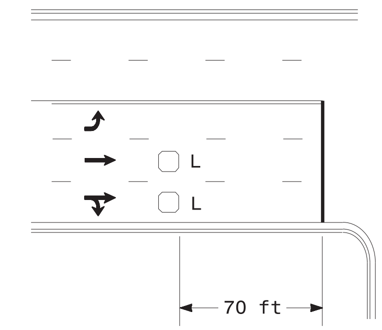
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

Low Speed Detection
(≤35 mph)



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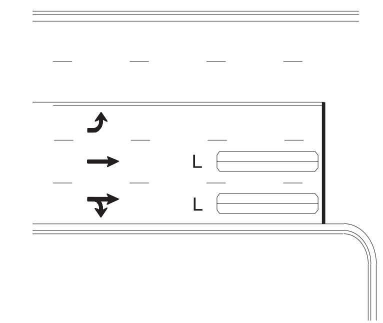
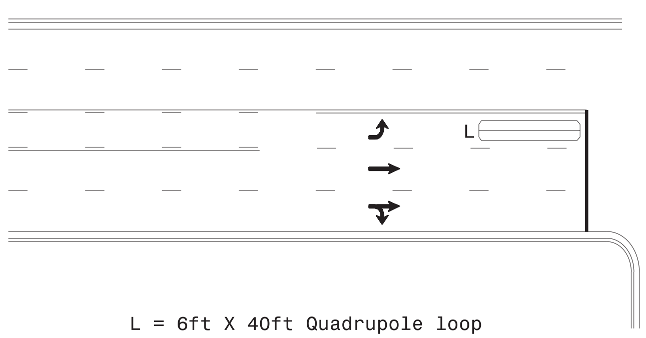


L = 6ft X 6ft
Wired in series

L = 6ft X 40ft
Quadrupole loop, wired separately

Left Turn Lane Detection



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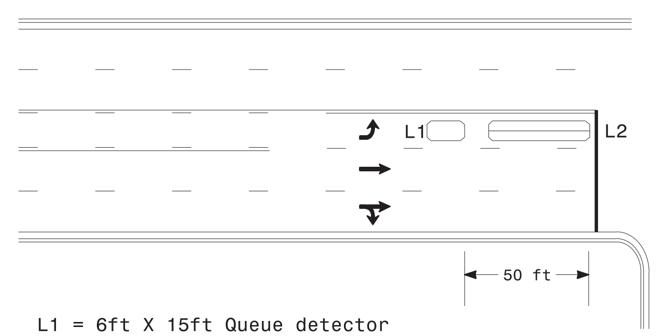


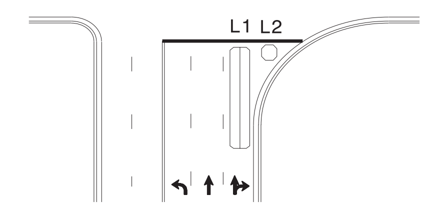
L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

L1 = 6ft X 15ft Queue detector
L2 = 6ft X 40ft Quadrupole loop

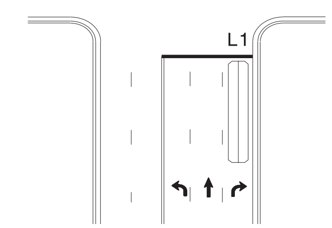
Queue Loop Detection

Right Turn Lane Detection

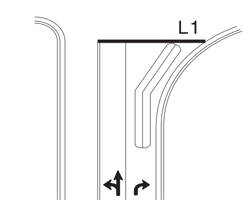


Shared Lane/
Wide Radius Turn

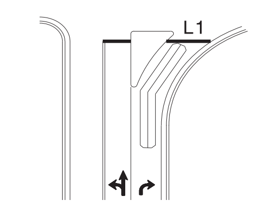
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

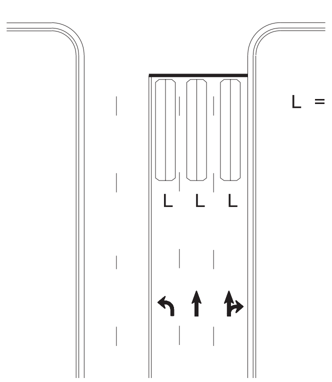


Wide Radius Turn



Channelized Turn

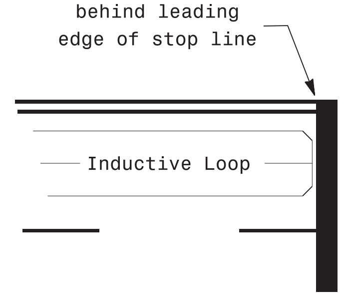
Side Street Detection



L = 6ft X 40ft
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 under any of the following conditions:
1) stop line is greater than 15′ from edge of intersecting roadway
2) loop detects a permissive or protected/permissive left turn
3) for an exclusive right turn lane

Recommended Number of Turns

Single 6′ X 6′ loop
(when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns

6′ X 15′ Loops:
Lead-in < 150′, use 2 turns
Lead-in > 150′, use 3 turns

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:

SCALE
N/A

REVISIONS | INIT. | DATE

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
029904
ENGINEER
JASON P. GALLOWAY

9/8/2020
DATE

SIG. INVENTORY NO.

08-SEP-2020 11:54
S:\ITS&SU\ITS Signals\Signal Design Section\Eastern Region\Loop Typical\looptypical2015.dgn
jgalloway