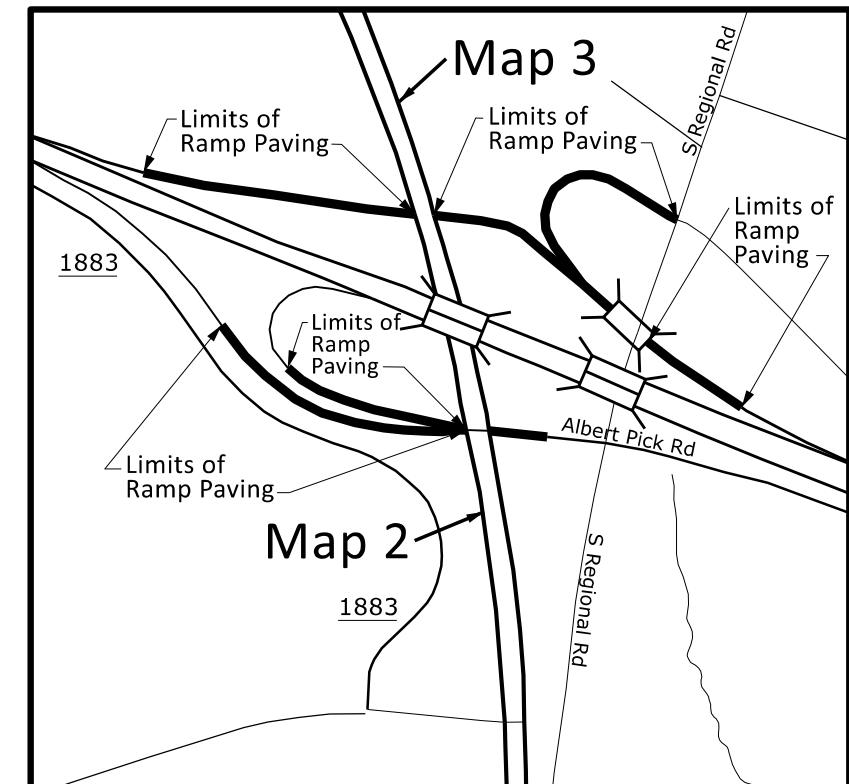
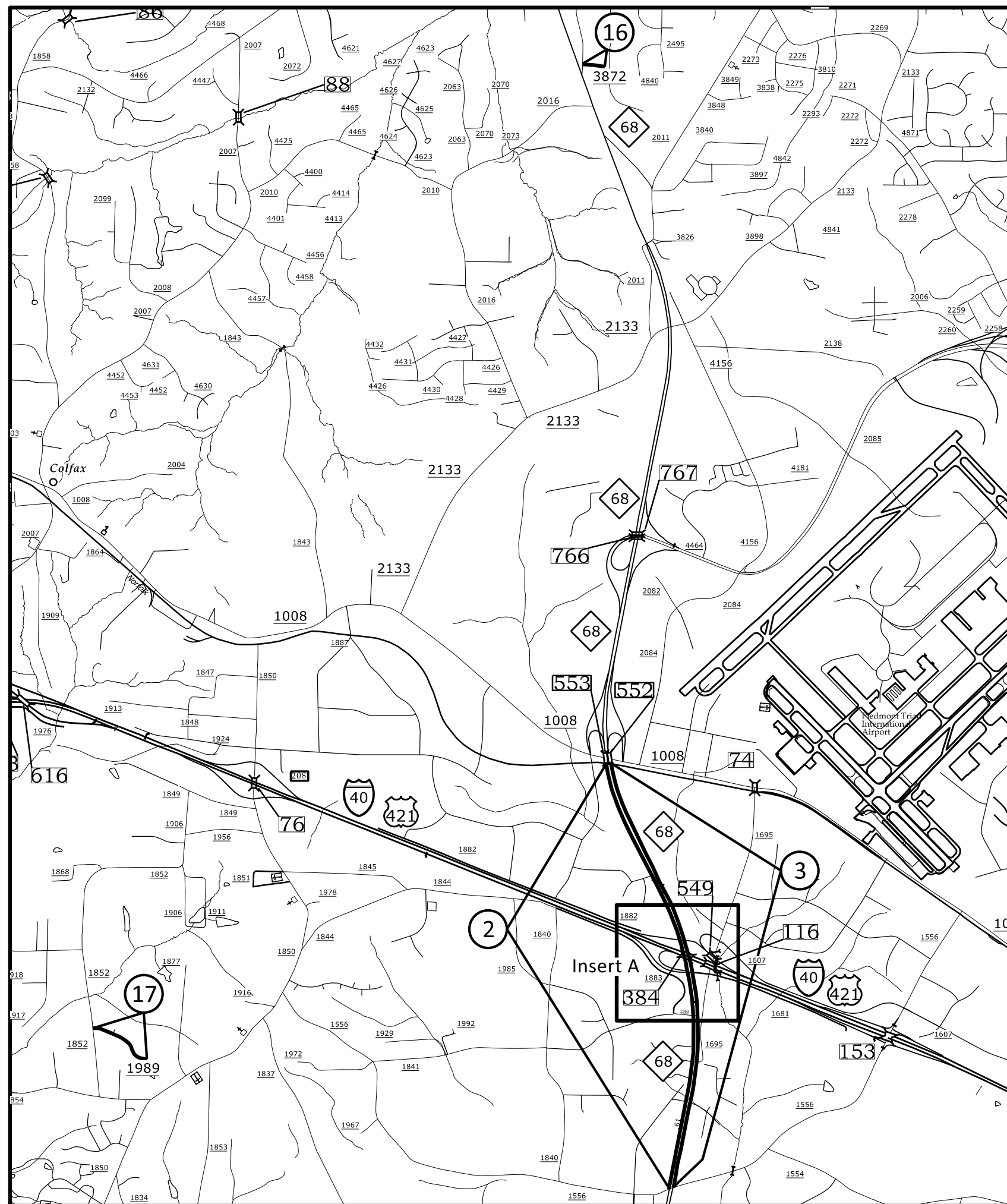


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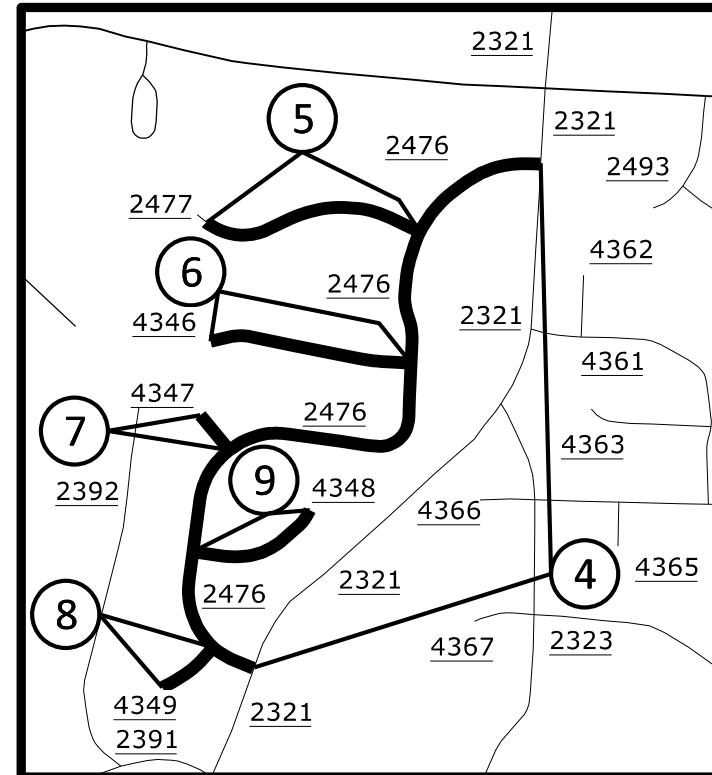
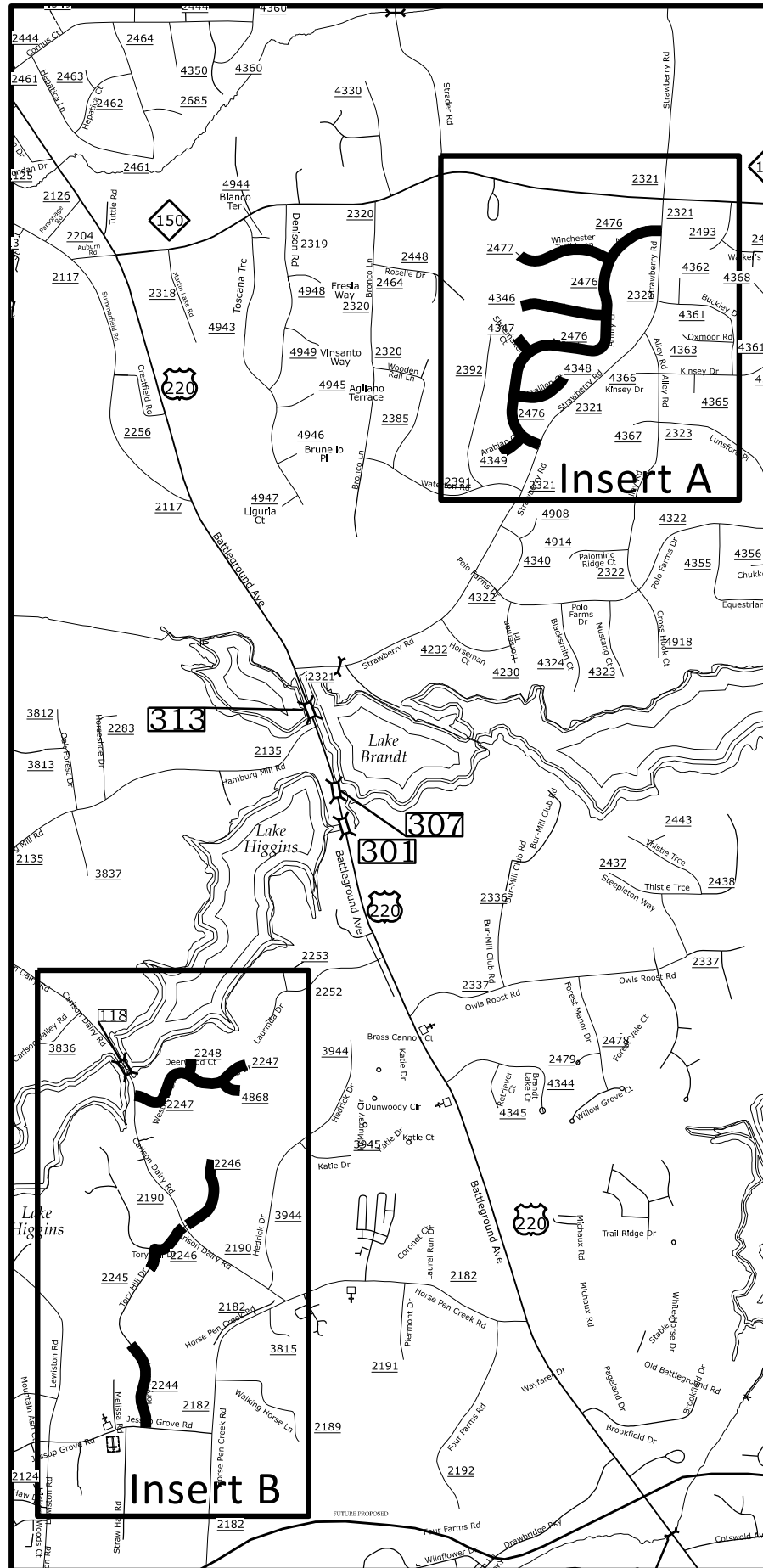
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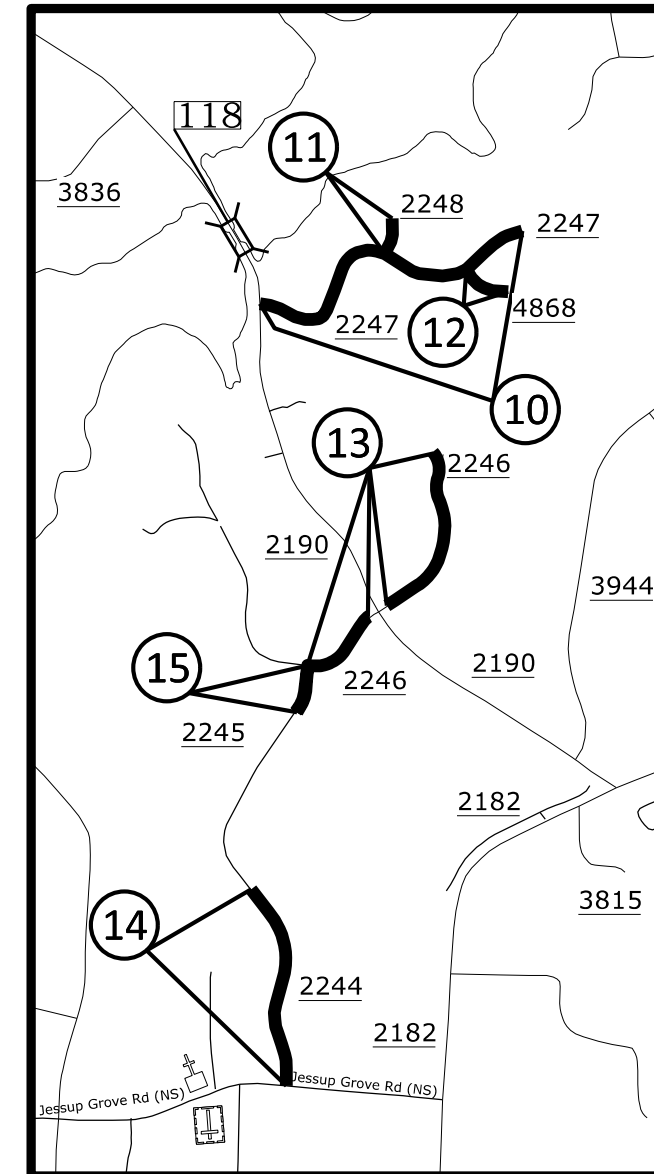
Insert A

- Map 2 NC 68 WB (includes Ramps at I-40)
SEE INSERT A
From Joint At Bridge # 553 Over SR 1008 W. Market St To approx. 650 feet South of SR 1556 - Gallimore Dairy Rd (Across from end of left turn taper in Eastbound/Northbound lane)
1 1/2" S9.5B, #78
Replace Existing Rumble Strips
- Map 3 NC 68 EB (includes Ramps at I-40)
SEE INSERT A
From approx. 630 feet South of stop bar at SR 1556 Gallimore Dairy Rd (at end of left turn taper) to Joint at Bridge # 552 over SR 1008 W. Market St.
1 1/2" S9.5B, #78
Replace Existing Rumble Strips
- Map 16 SR 3872 - Riding Trail Ct
1 1/2" S9.5B, #78
- Map 17 SR 1989 - Maple Creek Dr
1 1/2" S9.5B, #78
NO STONE ON SHOULDERS



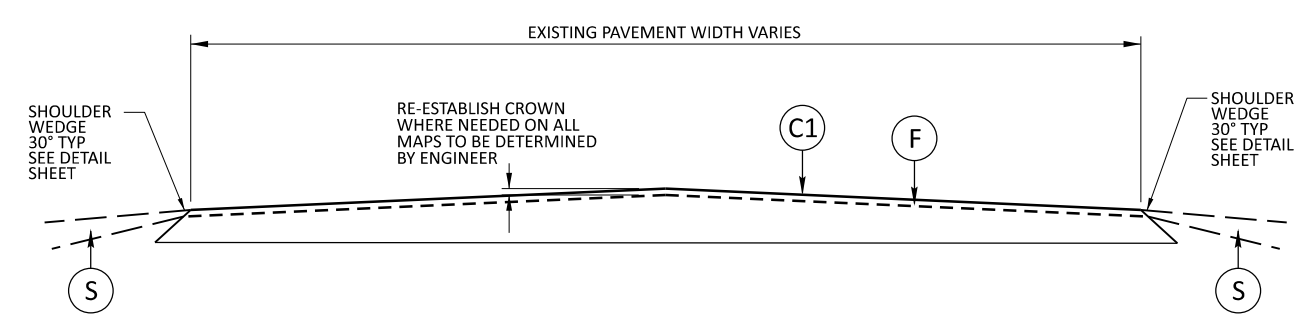
Insert A

- Map 4 SR 2476 - Anrry Drive
1 1/2" S9.5B, #78
NO STONE ON SHOULDERS
- Map 5 SR 2477 - Winchester Trail Loop
1 1/2" S9.5B, #78
NO STONE ON SHOULDERS
- Map 6 SR 4346 - Appaloosa Court
1 1/2" S9.5B, #78
NO STONE ON SHOULDERS
- Map 7 SR 4347 - Shoemaker Court
1 1/2" S9.5B, #78
NO STONE ON SHOULDERS
- Map 8 SR 4349 - Arabian Court
1 1/2" S9.5B, #78
NO STONE ON SHOULDERS
- Map 9 SR 4348 - Stallion Court
1 1/2" S9.5B, #78
NO STONE ON SHOULDERS

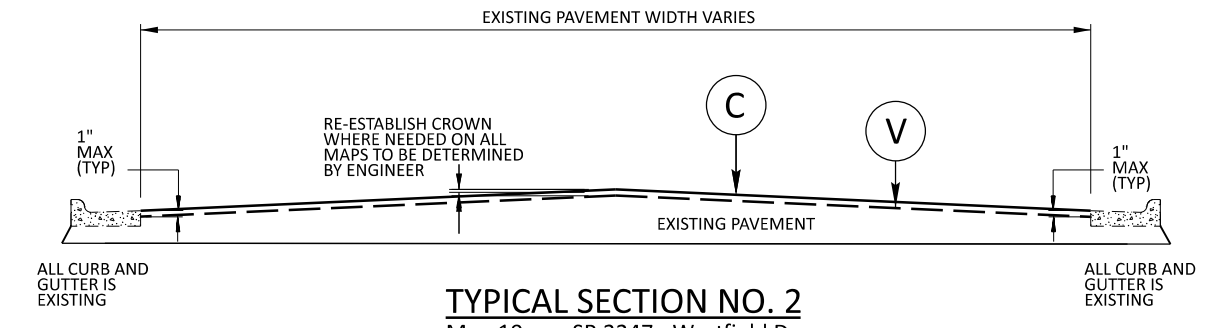


Insert B

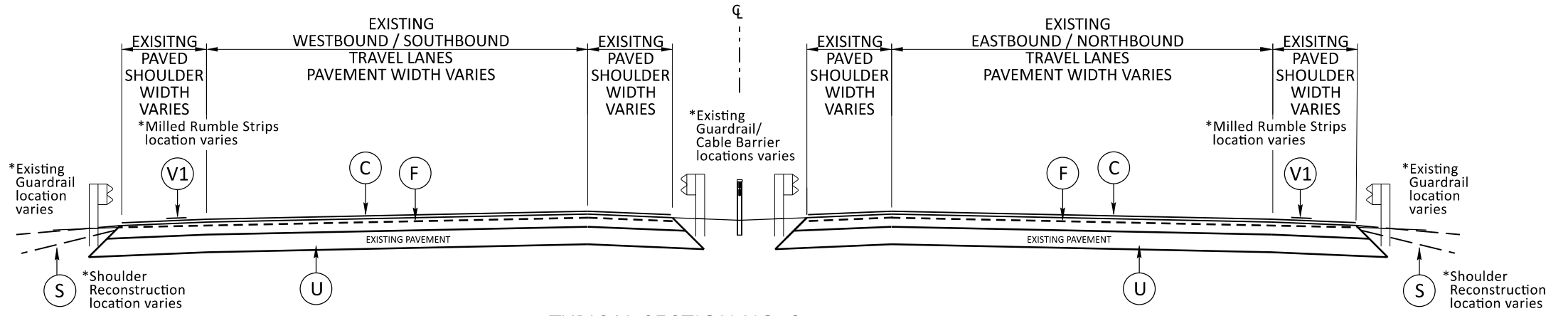
- Map 10 SR 2247 - Westfield Drive
Mill 1 1/2" Pave Back 1 1/2" S9.5B
- Map 11 SR 2248 - Deerwood Court
Mill 1 1/2" Pave Back 1 1/2" S9.5B
- Map 12 SR 4868 - Chesterfield Court
Mill 1 1/2" Pave Back 1 1/2" S9.5B
- Map 13 SR 2246 - Francisco Drive
Mill 1 1/2" Pave Back 1 1/2" S9.5B
SKIP SR 2190 Carlson Dairy Rd DO NOT Pave through
- Map 14 SR 2244 - Troy Hill Drive
Mill 1 1/2" Pave Back 1 1/2" S9.5B
- Map 15 SR 2245 - Troy Hill Drive
Mill 1 1/2" Pave Back 1 1/2" S9.5B



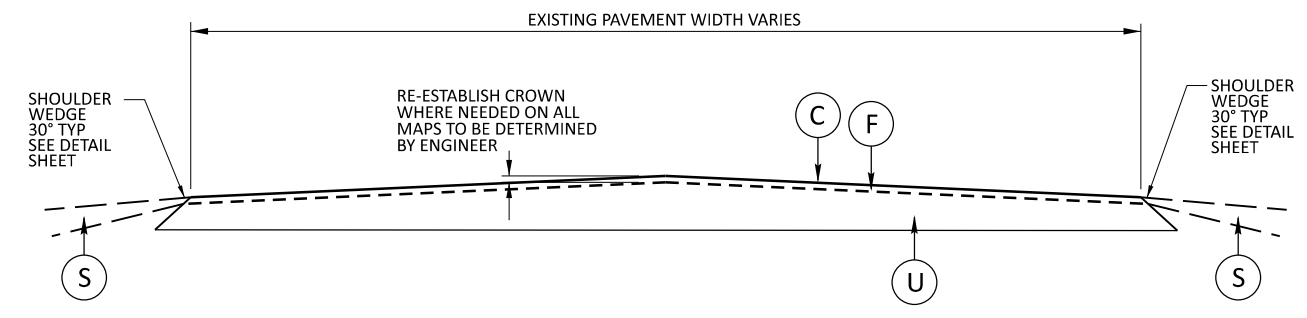
TYPICAL SECTION NO. 1
Map 1 US 158



TYPICAL SECTION NO. 2
Map 10 SR 2247 - Westfield Dr
Map 11 SR 2248 - Deerwood Ct
Map 12 SR 4868 - Chesterfield Ct
Map 13 SR 2246 - Francisco Dr
Map 14 SR 2244 - Tory Hill Dr
Map 15 SR 2245 - Tory Hill Dr

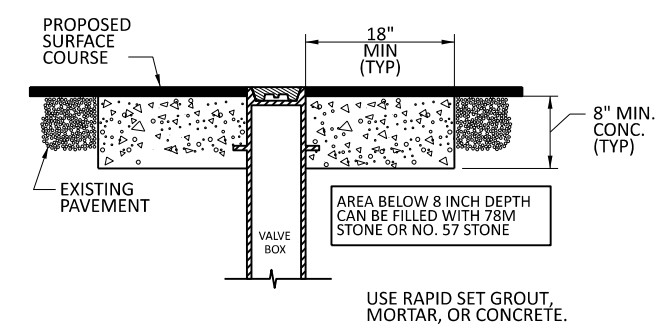


TYPICAL SECTION NO. 3
Map 2 NC 68 WB (includes Ramps at I-40)
Map 3 NC 68 EB (includes Ramps at I-40)
Maintain Bridge Vertical Clearance at Bridge #384
DO NOT Pave Bridge #552, #553

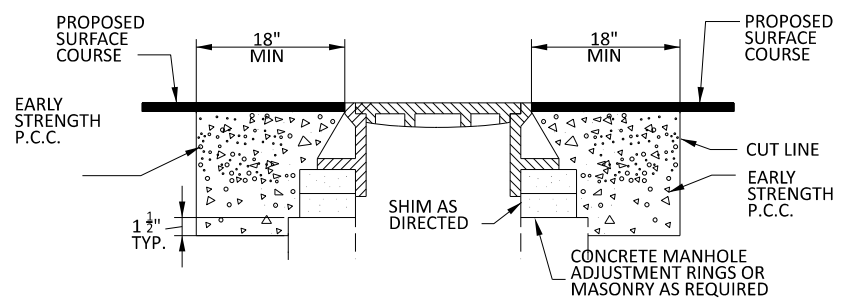


TYPICAL SECTION NO. 4
Map 4 SR 2476 - Annry Dr (NO Stone on Shoulders)
Map 5 SR 2477 - Winchester Trail Loop (NO Stone on Shoulders)
Map 6 SR 4346 - Appaloosa Ct (NO Stone on Shoulders)
Map 7 SR 4347 - Shoemaker Ct (NO Stone on Shoulders)
Map 8 SR 4349 - Arabian Ct (NO Stone on Shoulders)
Map 9 SR 4348 - Stallion Ct (NO Stone on Shoulders)
Map 16 SR 3872 - Riding Trail Ct
Map 17 SR 1989 - Maple Creek Drive (NO Stone on Shoulders)

PAVEMENT SCHEDULE	
C	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 165 LBS PER SQ YD.
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD.
F	AST MAT COAT, #78M
S	SHOULDER RECONSTRUCTION (SEE DETAIL)
U	EXISTING PAVEMENT
V	MILL ASPHALT PAVEMENT, 1 1/2" DEPTH
V1	MILLED RUMBLE STRIPS
V2	INCIDENTAL MILL, 0-1 1/2" DEPTH

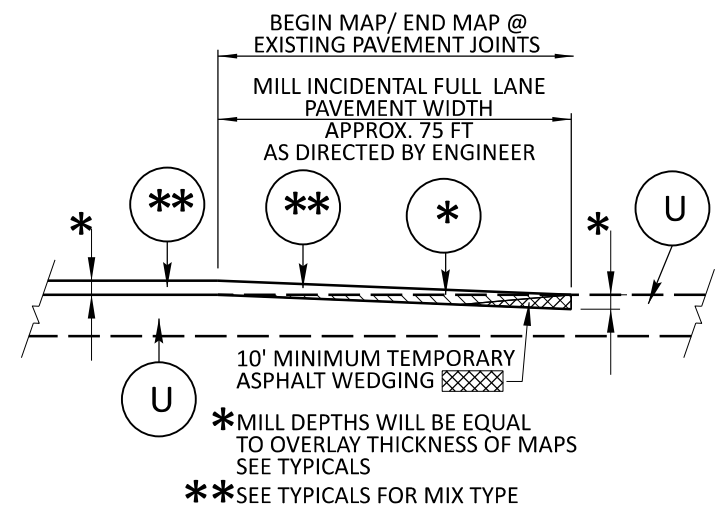


STANDARD CONCRETE ENCASEMENT FOR VALVE CASTINGS IN PAVEMENT

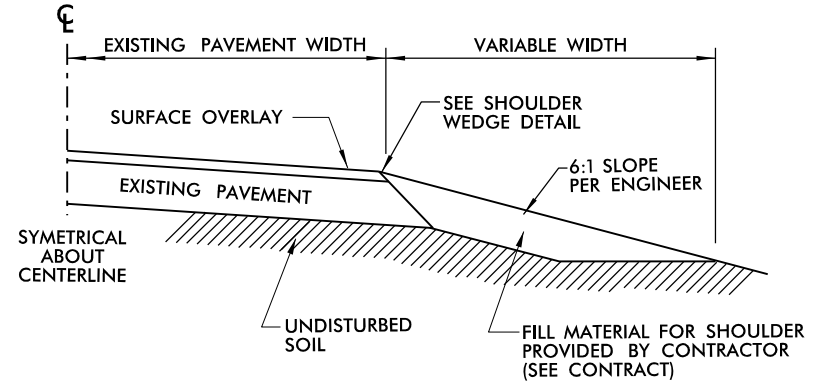


- NOTES:
1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
 2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
 3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
 4. RAPID SET GROUT, MORTAR, OR CONCRETE SHALL BE USED. CLASS B CONCRETE MAY BE USED WHEN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

STANDARD CONCRETE ENCASEMENT FOR MANHOLE CASTINGS IN PAVEMENT

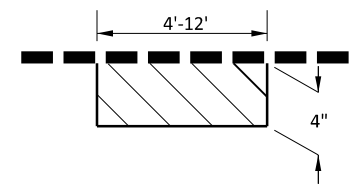


INCIDENTAL MILLING AT TIE-IN DETAIL



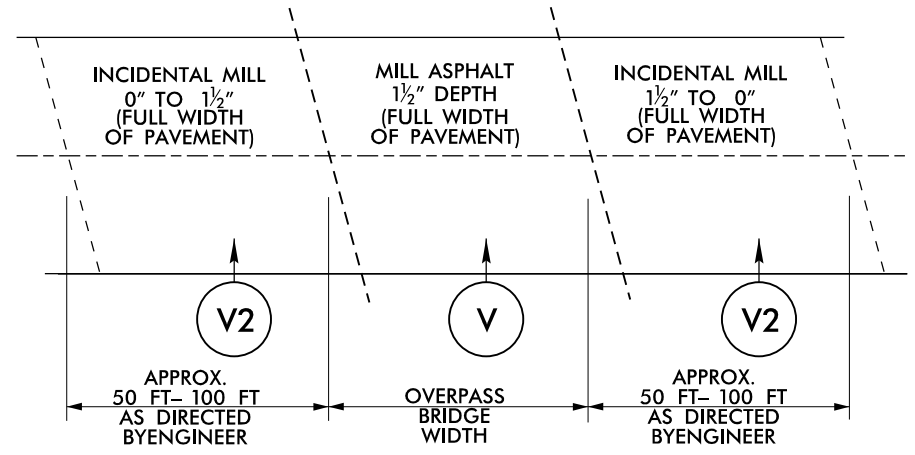
SHOULDER RECONSTRUCTION

* PLACE ASB OR BORROW AS DIRECTED BY THE ENGINEER



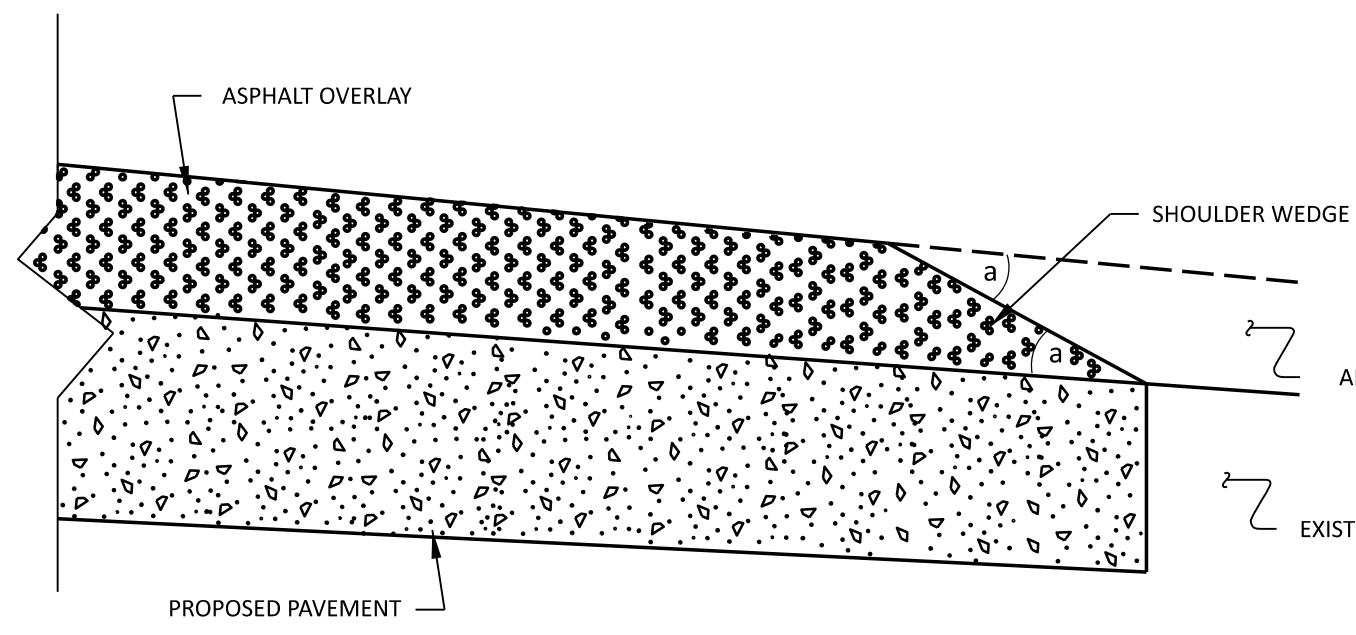
PATCH WITH ACSC, ACIC OR ACBC AS DIRECTED BY THE ENGINEER

PATCHING EXISTING PAVEMENT DETAIL



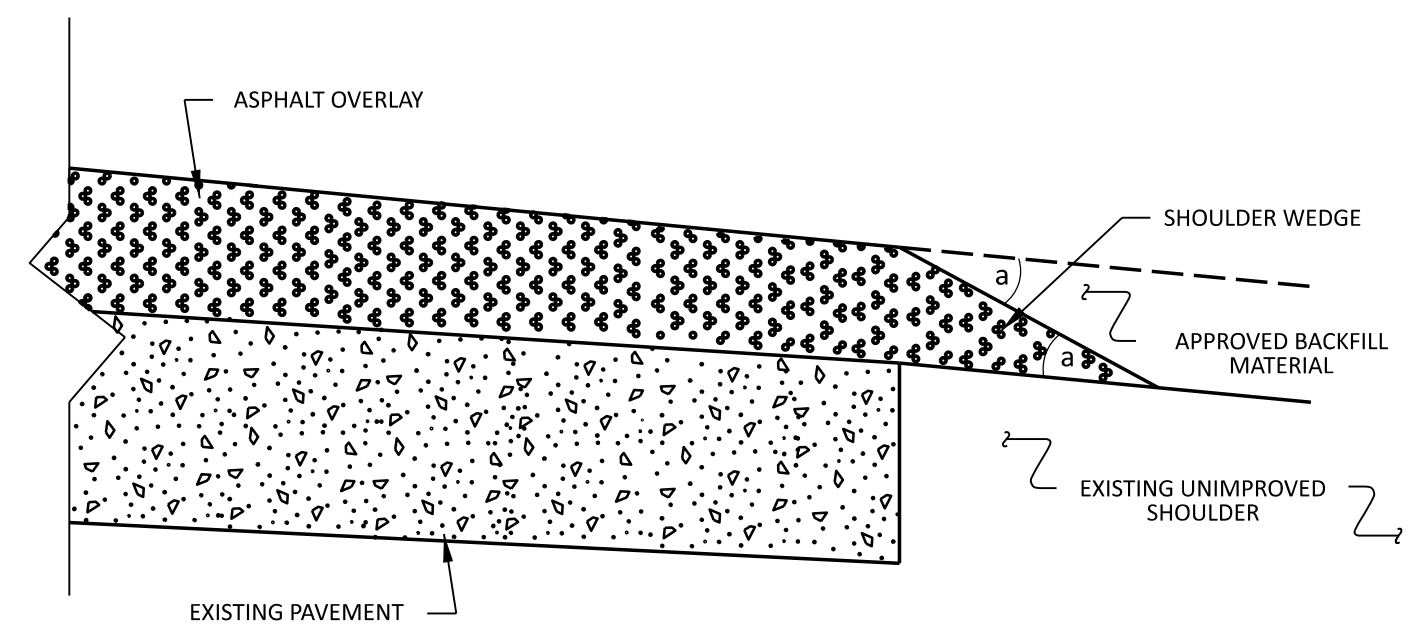
PLAN VIEW- MILLING ASPHALT PAVEMENT UNDER OVERPASS

PAVEMENT SCHEDULE	
C	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 165 LBS PER SQ YD.
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD.
F	AST MAT COAT, #78M
S	SHOULDER RECONSTRUCTION (SEE DETAIL)
U	EXISTING PAVEMENT
V	MILL ASPHALT PAVEMENT, 1 1/2" DEPTH
V1	MILLED RUMBLE STRIPS
V2	INCIDENTAL MILL, 0-1 1/2" DEPTH

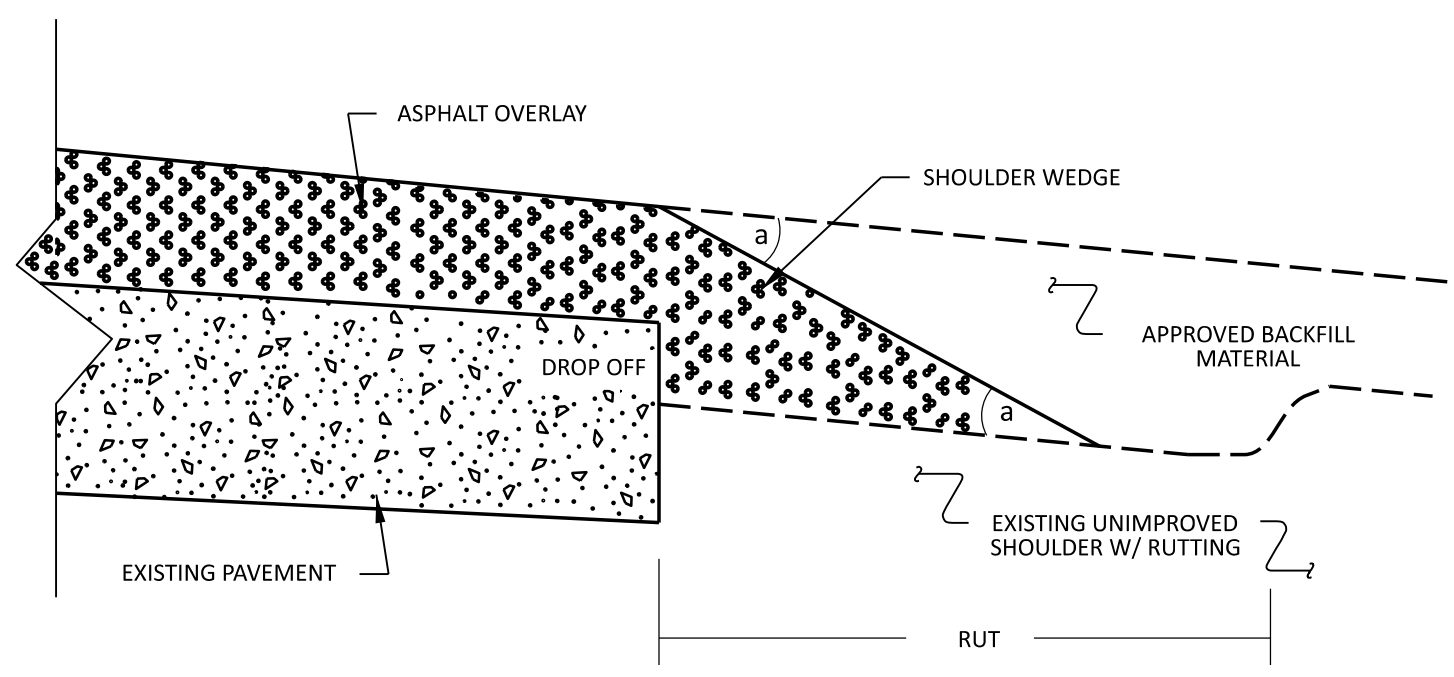


NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS DIRECTED BY THE ENGINEER.

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)

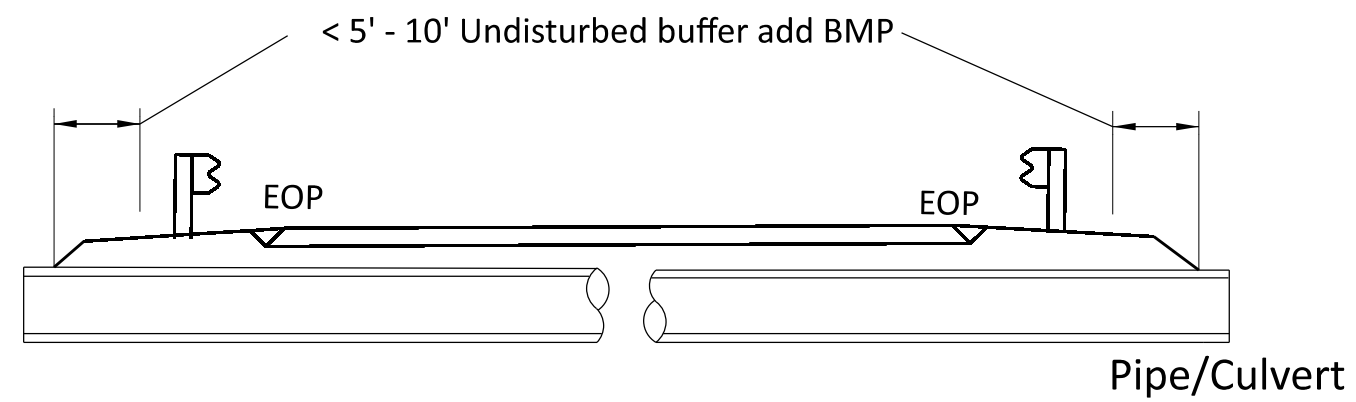
a - SHOULDER WEDGE ANGLE = 30°

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.:	susr/details/stand/shoulderwedgedetail.dgn

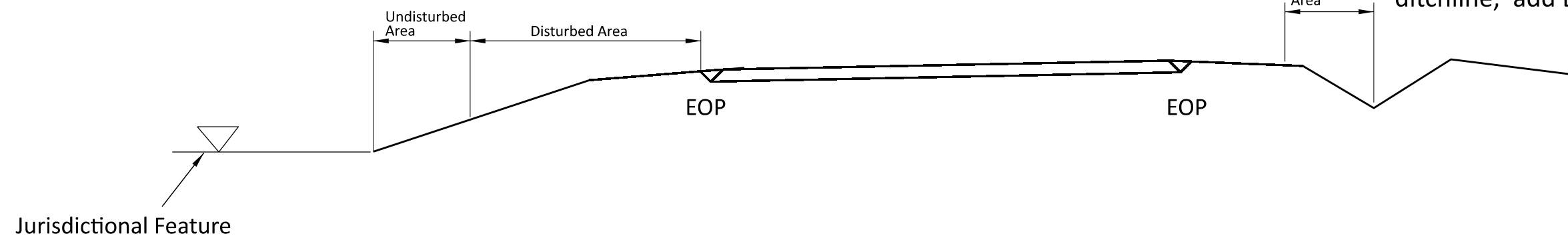
EROSION CONTROL DETAIL

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

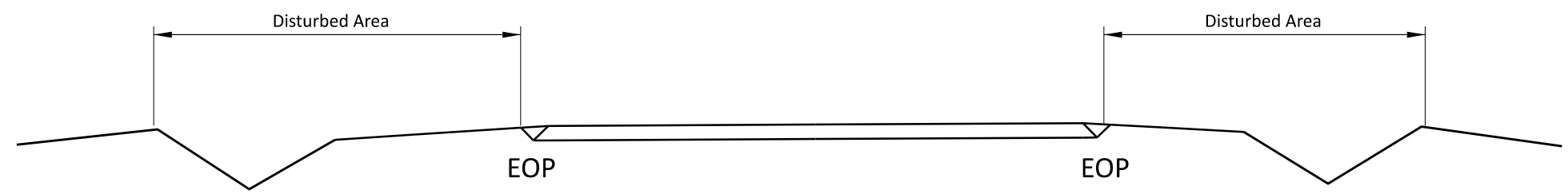
BMP Options: Wattle or Silt Fence



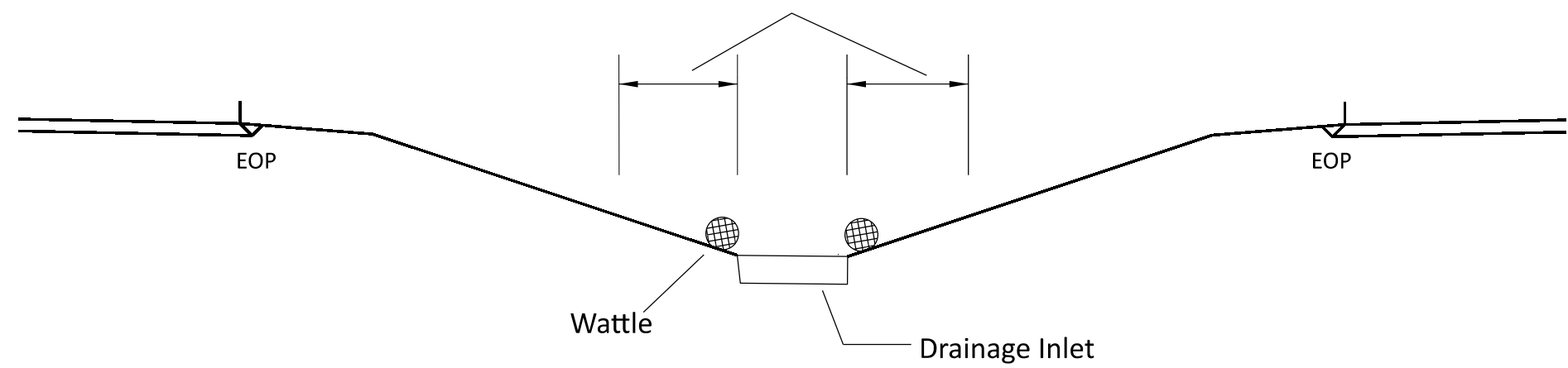
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed



< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

PROJECT NO.	SHEET NO.	TOTAL NO.
2025CPT.07.03.10411, 2025CPT.07.03.20411	9	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	0106000000-E	1220000000-E	1245000000-E	1260000000-E	1297000000-E	1330000000-E	1519000000-E	1523000000-E	1575000000-E	1704000000-E	1775000000-E	1838000000-E	1840000000-E	2830000000-N	2845000000-N	6000000000-E	6071010000-E	6084000000-E	7990000000-E	
								BORROW EXCAVATION CY	INCIDENTAL STONE TONS	SHOULDER RECONSTRUCT ION SMI	AGGREGATE SHOULDER BORROW TON	MILLING ASPHALT PAVEMENT, ***"DEPTH (1 1/2") SY	INCIDENTAL MILLING SY	ASPHALT CONC SURFACE COURSE, TYPE SS.5B TONS	ASPHALT CONC SURFACE COURSE, TYPE SS.5C TONS	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT TONS	ASPHALT SURFACE TREATMENT, MAT COAT, #78M STONE SY	EMULSION FOR ASPHALT SURFACE TREATMENT GAL	MILLED RUMBLE STRIPS LF	ADJ. OF MANHOLES EA	ADJUSTMENT OF METER BOXES OR VALVE BOXES EA	TEMPORARY SILT FENCE LF	WATTLE LF	SEEDING & MULCHING AC	INDUCTIVE LOOP SAW CUT (DEEP CUT) LF	
2025CPT.07.03.10411	Guilford	1	US-158 E	FROM NC 68 (PAVE THROUGH INTERSECTION) BEGIN APPROX AT BEG. OF STORAGE LANE TO JOINT 585 FT WEST OF CENTERLINE OF SR 5071 WALTER COMBS RD	1	3.18	25-53	63	81	6.31	179		613		5,867	353	140	58,587	19,334		1		1,272	1,399	0.23	1,250	
TOTAL FOR MAP NO. 1						3.18		63	81	6.31	179		613		5,867	353	140	58,587	19,334		1		1,272	1,399	0.23	1,250	
2025CPT.07.03.10411	Guilford	2	NC-68 W	FROM JOINT AT BRIDGE NO. 553 OVER SR 1008 W. MARKET ST TO APPROX. 650 FEET SOUTH OF SR 1556 - GALLIMORE DAIRY RD	3	2.22	32-73	45		4.51	128	1,167	1,521	6,874		452	98	63,171	20,846	2,650	1	4	888	89	0.16	5,750	
TOTAL FOR MAP NO. 2						2.22		45		4.51	128	1,167	1,521	6,874		452	98	63,171	20,846	2,650	1	4	888	89	0.16	5,750	
2025CPT.07.03.10411	Guilford	3	NC-68 E	FROM 630 FEET SOUTH OF STOP BAR AT SR 1556 - GALLIMORE DAIRY RD TO JOINT AT BRIDGE NO. 552 OVER SR 1008 W. MARKET ST	3	2.23	32-77	49		4.91	139	2,800	1,717	6,971		456	60	70,126	23,141	1,800		1	892	89	0.18	5,750	
TOTAL FOR MAP NO. 3						2.23		49		4.91	139	2,800	1,717	6,971		456	60	70,126	23,141	1,800		1	892	89	0.18	5,750	
TOTAL FOR PROJ NO. 2025CPT.07.03.10411						7.63		157	81	15.73	446	3,967	3,851	13,845		5,867	1,261	298	191,884	63,321	4,450	2	5	3,052	1,577	0.57	12,750
2025CPT.07.03.20411	Guilford	4	SR-2476 / ANNRY DR	FROM SR 2321 - STRAWBERRY RD TO SR 2321 - STRAWBERRY RD	4	1.05	20-27	52	9	2.10			392	1,208		95	347	12,556	4,144				420	42	0.19		
TOTAL FOR MAP NO. 4						1.05		52	9	2.10			392	1,208		95	347	12,556	4,144				420	42	0.19		
2025CPT.07.03.20411	Guilford	5	SR-2477 / WINCHESTER TRAIL LOOP	FROM SR 2476 - ANNRY DR TO DEAD END	4	0.32	19-20	16	9	0.63			163	395		41	325	3,600	1,188				128	13	0.06		
TOTAL FOR MAP NO. 5						0.32		16	9	0.63			163	395		41	325	3,600	1,188				128	13	0.06		
2025CPT.07.03.20411	Guilford	6	SR-4346 / APPALOOSA CT	FROM SR 2476 - ANNRY DR TO CUL-DE-SAC	4	0.27	20	13		0.53			171	387		30	103	3,513	1,159				108	11	0.05		
TOTAL FOR MAP NO. 6						0.27		13		0.53			171	387		30	103	3,513	1,159				108	11	0.05		
2025CPT.07.03.20411	Guilford	7	SR-4347 / SHOEMAKER CT	FROM SR 2476 - ANNRY DR TO END MAINT	4	0.052	20	3		0.10			171	154		10	10	943	311				21	2	0.01		
TOTAL FOR MAP NO. 7						0.052		3		0.10			171	154		10	10	943	311				21	2	0.01		
2025CPT.07.03.20411	Guilford	8	SR-4349 / ARABIAN CT	FROM SR 2476 - ANNRY DR TO CUL-DE-SAC	4	0.08	20	2		0.16	4		171	183		14	48	1,264	417				32	3	0.01		
TOTAL FOR MAP NO. 8						0.08		2		0.16	4		171	183		14	48	1,264	417				32	3	0.01		
2025CPT.07.03.20411	Guilford	9	SR-4348 / STALLION CT	FROM SR 2476 - ANNRY DR TO CUL-DE-SAC	4	0.173	20	9		0.35			167	277		22	89	2,296	758				69	7	0.03		
TOTAL FOR MAP NO. 9						0.173		9		0.35			167	277		22	89	2,296	758				69	7	0.03		
2025CPT.07.03.20411	Guilford	10	SR-2247 / WESTFIELD DR	FROM SR 2190 - CARLSON DAIRY RD TO CUL DE SAC	2	0.43	22					5,742	140	534		35											
TOTAL FOR MAP NO. 10						0.43						5,742	140	534		35											
2025CPT.07.03.20411	Guilford	11	SR-2248 / DEERWOOD CT	FROM SR 2247 - WESTFIELD DR TO CUL DE SAC	2	0.05	22					860		81		5											
TOTAL FOR MAP NO. 11						0.05						860		81		5											
2025CPT.07.03.20411	Guilford	12	SR-4868 / CHESTERFIELD CT	FROM SR 2247 - WESTFIELD DR TO CUL DE SAC	2	0.064	22					1,057		96		6											
TOTAL FOR MAP NO. 12						0.064						1,057		96		6											
2025CPT.07.03.20411	Guilford	13	SR-2246 / FRANCISCO DR	FROM SR 2245 - TORY HILL DR TO CUL DE SAC (SKIP SR 2190 CARLSON DAIRY RD DO NOT PAVE THROUGH)	2	0.38	28					6,654		604		39											
TOTAL FOR MAP NO. 13						0.38						6,654		604		39											
2025CPT.07.03.20411	Guilford	14	SR-2244 / TORY HILL DR	FROM JESSUP GROVE ROAD TO END MAINT	2	0.27	22					3,454		314		20											
TOTAL FOR MAP NO. 14						0.27						3,454		314		20											
2025CPT.07.03.20411	Guilford	15	SR-2245 / TORY HILL DR	FROM SR 2246 - FRANCISCO DR TO END MAINT	2	0.073	22					959		87		6											
TOTAL FOR MAP NO. 15						0.073						959		87		6											
2025CPT.07.03.20411	Guilford	16	SR-3872 / RIDING TRAIL CT	FROM SR 2130 - PEEPLES RD TO END MAINT	4	0.096	20	2	18	0.19	5		167	121		17	200	1,334	440				38	4	0.01		
TOTAL FOR MAP NO. 16						0.096		2	18	0.19	5		167	121		17	200	1,334	440				38	4	0.01		
2025CPT.07.03.20411	Guilford	17	SR-1989 / MAPLE CREEK DRIVE	FROM SR 1852 - ADKINS RD TO END MAINT	4	0.303	20	15		0.59			167	345		28	117	3,698	1,159				121	12	0.05		
TOTAL FOR MAP NO. 17						0.303		15		0.59			167	345		28	117	3,698	1,159				121	12	0.05		
TOTAL FOR PROJ NO. 2025CPT.07.03.20411						3.611		112	36	4.65	9	18,726	1,709	4,786		368	1,239	29,204	9,576				937	94	0.41		
GRAND TOTAL						11.241		269	117	20.38	455	22,693	5,560	18,631		5,867	1,629	1,537	221,088	72,897	4,450	2	5	3,989	1,671	0.98	12,750

NOTE: All Quantities listed include turn lanes and are estimates; Payment will be based on actual field measurements and quantities received.

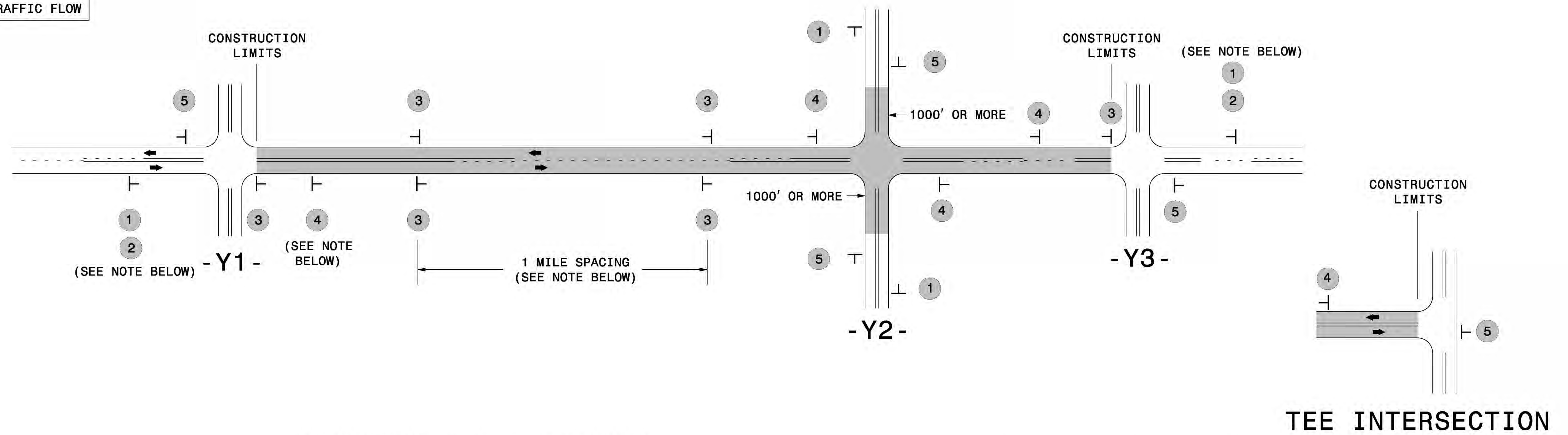
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	4413000000-E		4457000000-N		4510000000-N		4688000000-E		4695000000-E		4700000000-E		4709000000-E		4720000000-E		4725000000-E				4850000000-E		4895000000-N	
								ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	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	12" X 90 M WHITE THERMO	24" X 90 M WHITE THERMO	THERMO MSG ONLY 90 M	THERMO MSG SCHOOL 90 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO STR ARROW 90 M	THERMO MERGE LEFT ARROW 90 M	THERMO WRONG WAY RAMP ARROW 90 M	YIELD LINE PAVEMENT MARKING, 12" 90 MILS	Generic Pavement Marking Item - Polycarbonate H- shaped Markers CRYSTAL/RED	Generic Pavement Marking Item - Polycarbonate H- shaped Markers YELLOW/YELLOW			
2025CPT.07.03.10411	Guilford	1	US-158 E	STORAGE LANE TO JOINT 585 FT WEST OF CENTERLINE OF SR 5071 WALTER COMBS RD	1	3.18	25-53	353	1.00	40	37,500	36,000	185	493	675		300	8	12	31	15	5	1						110	380	
TOTAL FOR MAP NO. 1						3.18		353	1	40	37,500	36,000	185	493	675		300	8	12	31	15	5	1					110	380		
2025CPT.07.03.10411	Guilford	2	NC-68 W	FROM JOINT AT BRIDGE NO. 553 OVER SR 1008 W. MARKET ST TO APPROX. 650 FEET SOUTH OF SR 1556 - GALLIMORE DAIRY RD	3	2.22	32-73	308		280	24,700	15,000			800			8		19	32		40	6	1	240	450				
TOTAL FOR MAP NO. 2						2.22		308		280	24,700	15,000			800			8		19	32		40	6	1	240	450				
2025CPT.07.03.10411	Guilford	3	NC-68 E	FROM 630 FEET SOUTH OF STOP BAR AT SR 1556 - GALLIMORE DAIRY RD TO JOINT AT BRIDGE NO. 552 OVER SR 1008 W. MARKET ST	3	2.23	32-77	331		280	24,250	13,000		100		184	600			44	11	1	42	8	3	84	500				
TOTAL FOR MAP NO. 3						2.23		331		280	24,250	13,000		100		184	600			44	11	1	42	8	3	84	500				
TOTAL FOR PROJ NO. 2025CPT.07.03.10411						7.63		992	1,000	600	86,450	64,000	185	593	1,475	184	900	16	12	94	58	6	83	14	4	324	1,060	380			
											150,450		778		1,659			28				259						1,440			
2025CPT.07.03.20411	Guilford	4	SR-2476 / ANNRY DR	FROM SR 2321 - STRAWBERRY RD TO SR 2321 - STRAWBERRY RD	4	1.05	20-27																								
TOTAL FOR MAP NO. 4						1.05																									
2025CPT.07.03.20411	Guilford	5	SR-2477 / WINCHESTER TRAIL LOOP	FROM SR 2476 - ANNRY DR TO DEAD END	4	0.32	19-20																								
TOTAL FOR MAP NO. 5						0.32																									
2025CPT.07.03.20411	Guilford	6	SR-4346 / APPALOOSA CT	FROM SR 2476 - ANNRY DR TO CUL-DE-SAC	4	0.27	20																								
TOTAL FOR MAP NO. 6						0.27																									
2025CPT.07.03.20411	Guilford	7	SR-4347 / SHOEMAKER CT	FROM SR 2476 - ANNRY DR TO END MAINT	4	0.052	20																								
TOTAL FOR MAP NO. 7						0.052																									
2025CPT.07.03.20411	Guilford	8	SR-4349 / ARABIAN CT	FROM SR 2476 - ANNRY DR TO CUL-DE-SAC	4	0.08	20																								
TOTAL FOR MAP NO. 8						0.08																									
2025CPT.07.03.20411	Guilford	9	SR-4348 / STALLION CT	FROM SR 2476 - ANNRY DR TO CUL-DE-SAC	4	0.173	20																								
TOTAL FOR MAP NO. 9						0.173																									
2025CPT.07.03.20411	Guilford	10	SR-2247 / WESTFIELD DR	FROM SR 2190 - CARLSON DAIRY RD TO CUL DE SAC	2	0.43	22																								
TOTAL FOR MAP NO. 10						0.43																									
2025CPT.07.03.20411	Guilford	11	SR-2248 / DEERWOOD CT	FROM SR 2247 - WESTFIELD DR TO CUL DE SAC	2	0.05	22																								
TOTAL FOR MAP NO. 11						0.05																									
2025CPT.07.03.20411	Guilford	12	SR-4868 / CHESTERFIELD CT	FROM SR 2247 - WESTFIELD DR TO CUL DE SAC	2	0.064	22																								
TOTAL FOR MAP NO. 12						0.064																									
2025CPT.07.03.20411	Guilford	13	SR-2246 / FRANCISCO DR	FROM SR 2245 - TORY HILL DR TO CUL DE SAC (SKIP SR 2190 CARLSON DAIRY RD DO NOT PAVE THROUGH)	2	0.38	28																								
TOTAL FOR MAP NO. 13						0.38																									
2025CPT.07.03.20411	Guilford	14	SR-2244 / TORY HILL DR	FROM JESSUP GROVE ROAD TO END MAINT	2	0.27	22																								
TOTAL FOR MAP NO. 14						0.27																									
2025CPT.07.03.20411	Guilford	15	SR-2245 / TORY HILL DR	FROM SR 2246 - FRANCISCO DR TO END MAINT	2	0.073	22																								
TOTAL FOR MAP NO. 15						0.073																									
2025CPT.07.03.20411	Guilford	16	SR-3872 / RIDING TRAIL CT	FROM SR 2130 - PEEPLES RD TO END MAINT	4	0.096	20																								
TOTAL FOR MAP NO. 16						0.096																									
2025CPT.07.03.20411	Guilford	17	SR-1989 / MAPLE CREEK DRIVE	FROM SR 1852 - ADKINS RD TO END MAINT	4	0.303	20																								
TOTAL FOR MAP NO. 17						0.303																									
TOTAL FOR PROJ NO. 2025CPT.07.03.20411						3.611																									
GRAND TOTAL						11.241		992	1,000	600	86,450	64,000	185	593	1,475	184	900	16	12	94	58	6	83	14	4	324	1,060	380			
											150,450		778		1,659			28				259						1,440			

NOTE: All Quantities listed include turn lanes and are estimates; Payment will be based on actual field measurements and quantities received.

SIGNING FOR RESURFACING PROJECTS

LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

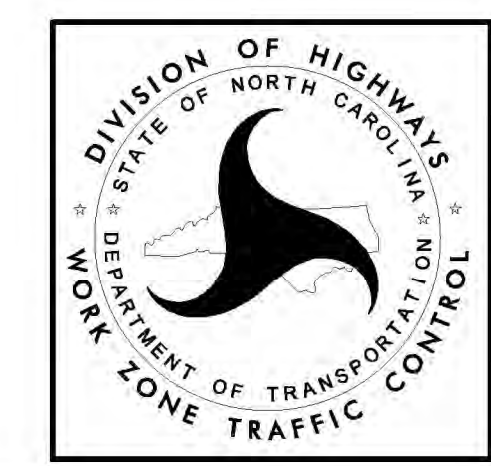
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> LESS THAN 1000' OF RESURFACING ALONG -Y- LINE SUBDIVISION ROADS DEAD END ROADS <p>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.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
	2		#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		- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.	
	4		- 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		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.

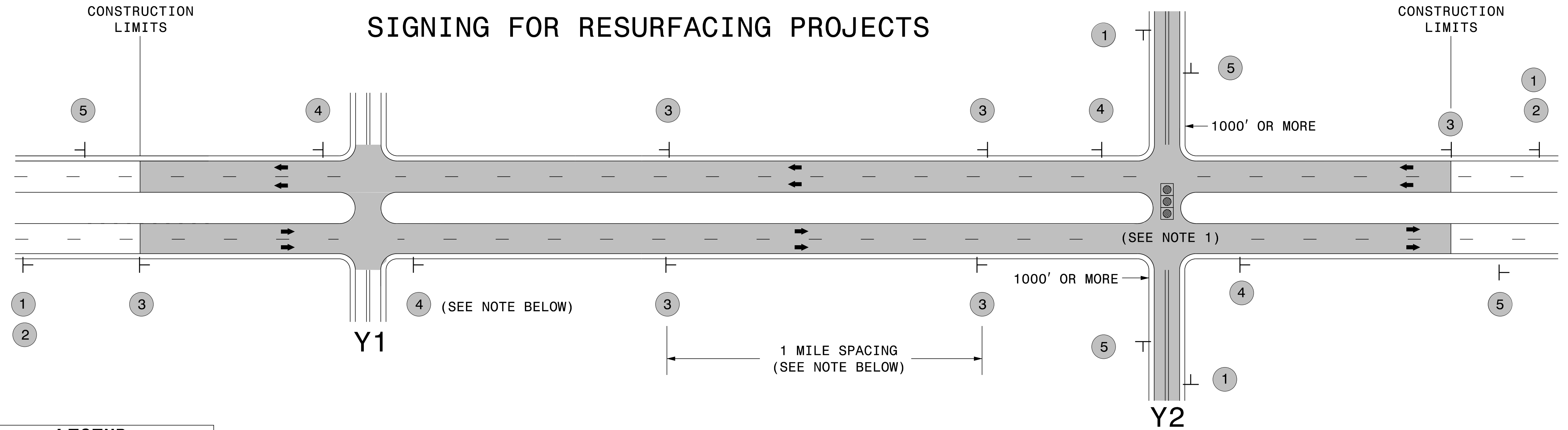
MAPS LESS THAN 2 MILES

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.



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

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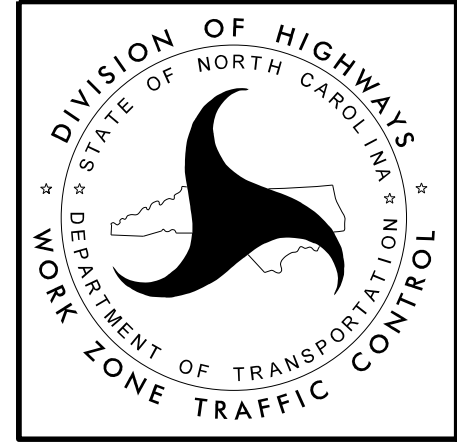
LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

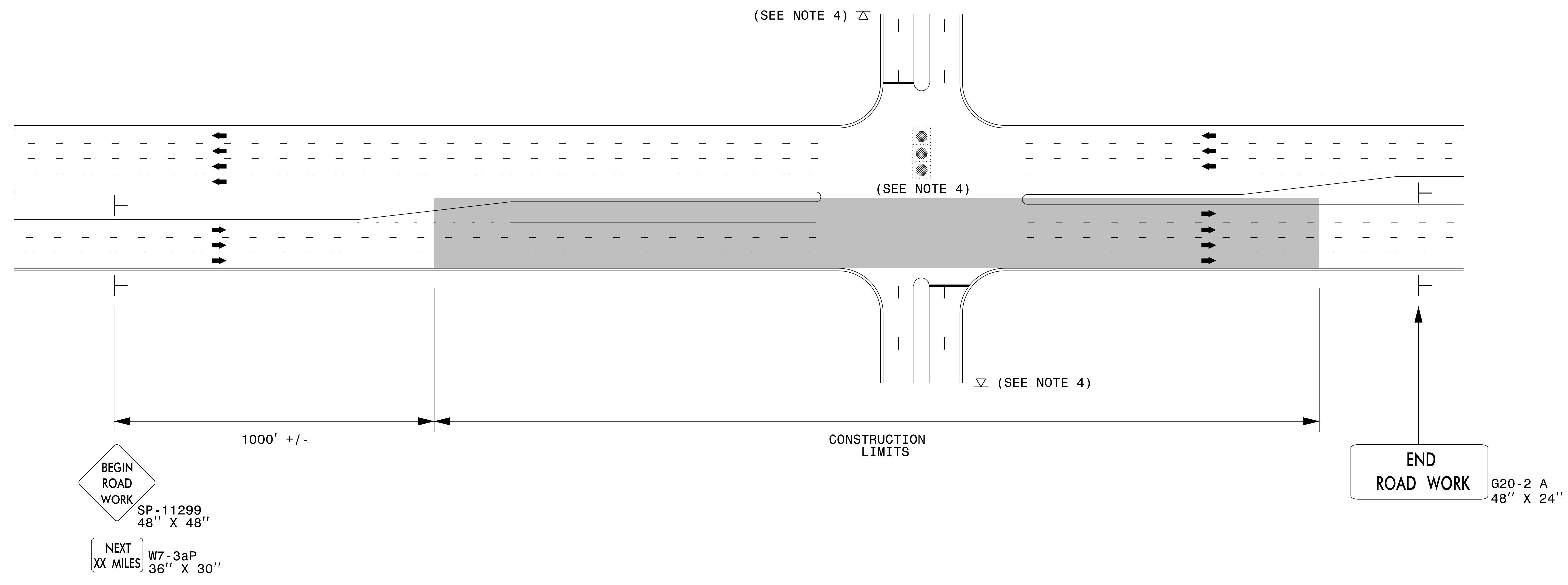
SIGNING NOTES AND PLACEMENT PER DIRECTION	 	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)</p>	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1) 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.
		<p>PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.</p>	
		<p>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.</p>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	

3/23/2015
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**RESURFACING
ADVANCE WARNING SIGNS
FOR RURAL AND SUBURBAN
MULTI-LANE ROADWAYS
W/ SHOULDER SECTIONS**

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

	<p>RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES</p>
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4/8/2015
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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

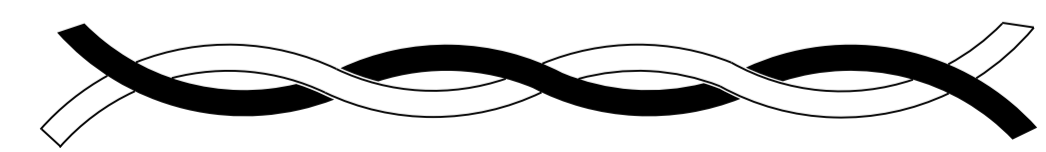
DEPTH (IN)	MAX NO. OF WIRE LAYERS				
	2	3	4	5	6
SAW SLOT DEPTH	4.0	4.5	5.0	5.0	5.0
MINIMUM TOTAL ASPHALT DEPTH REQUIRED	5.0	5.5	6.0	6.0	6.0

LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE

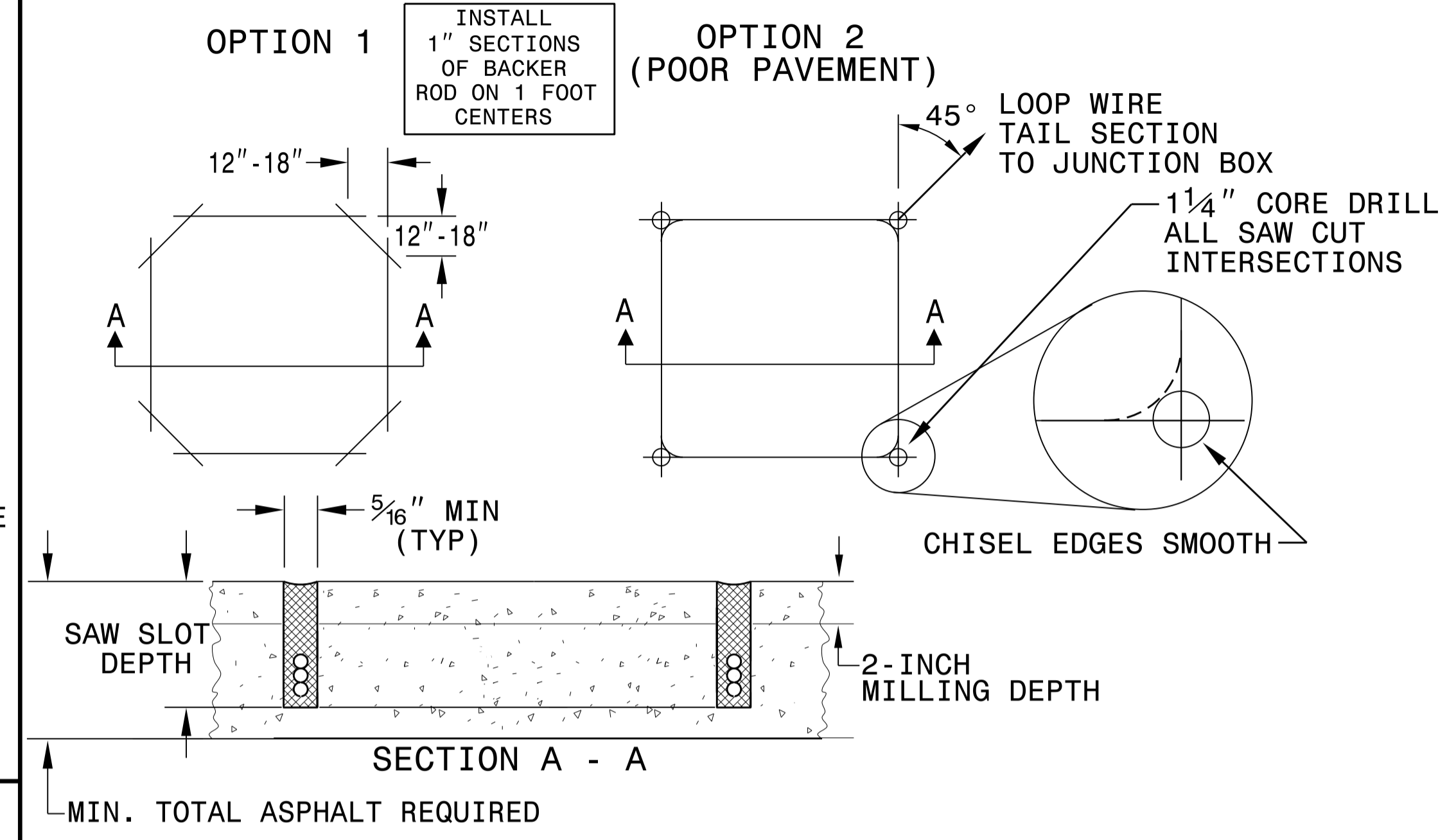


CORRECT WAY TO TWIST WIRE

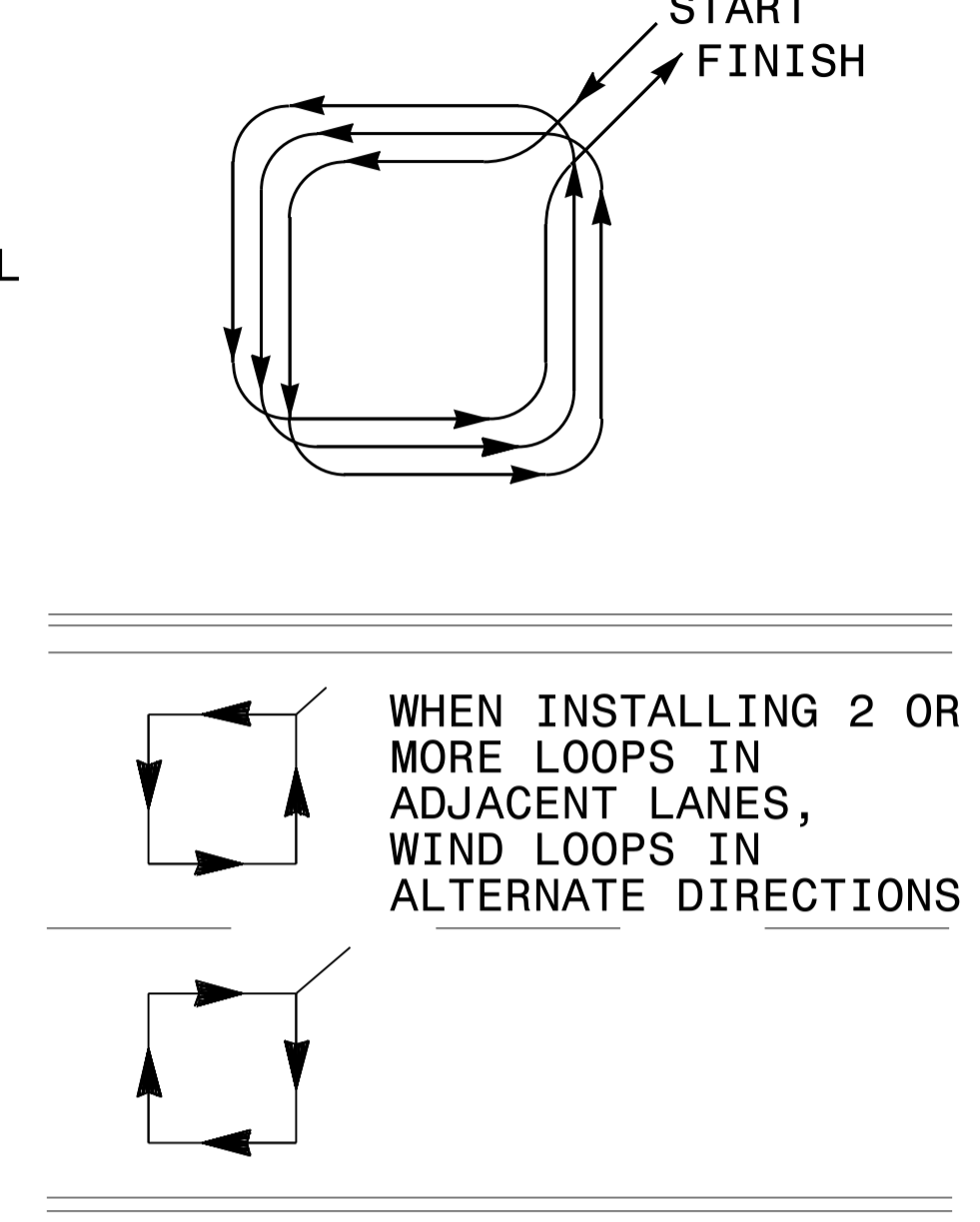


CONVENTIONAL 4-SIDED LOOP

SAW CUT OPTIONS

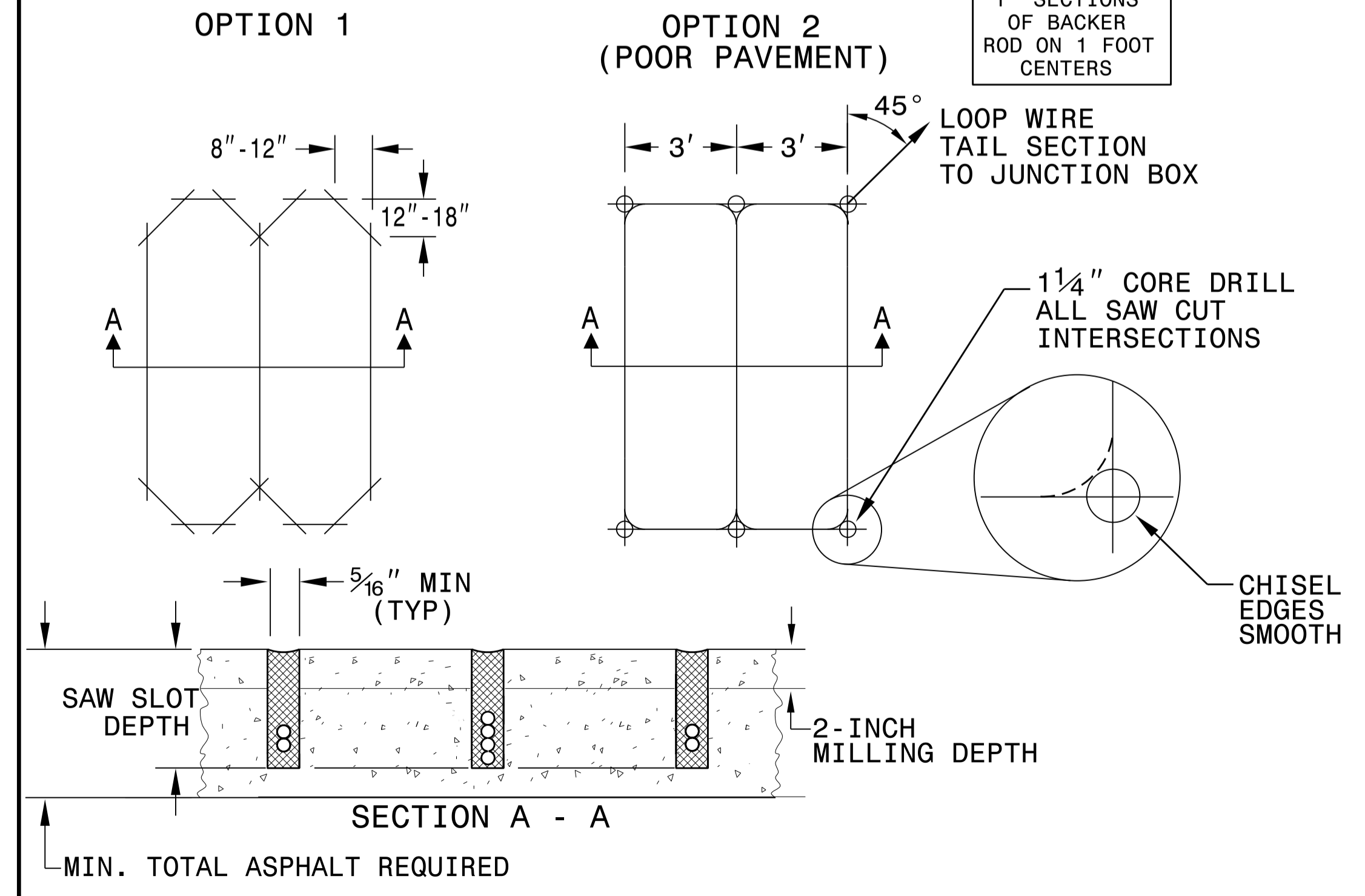


LOOP WINDING METHOD

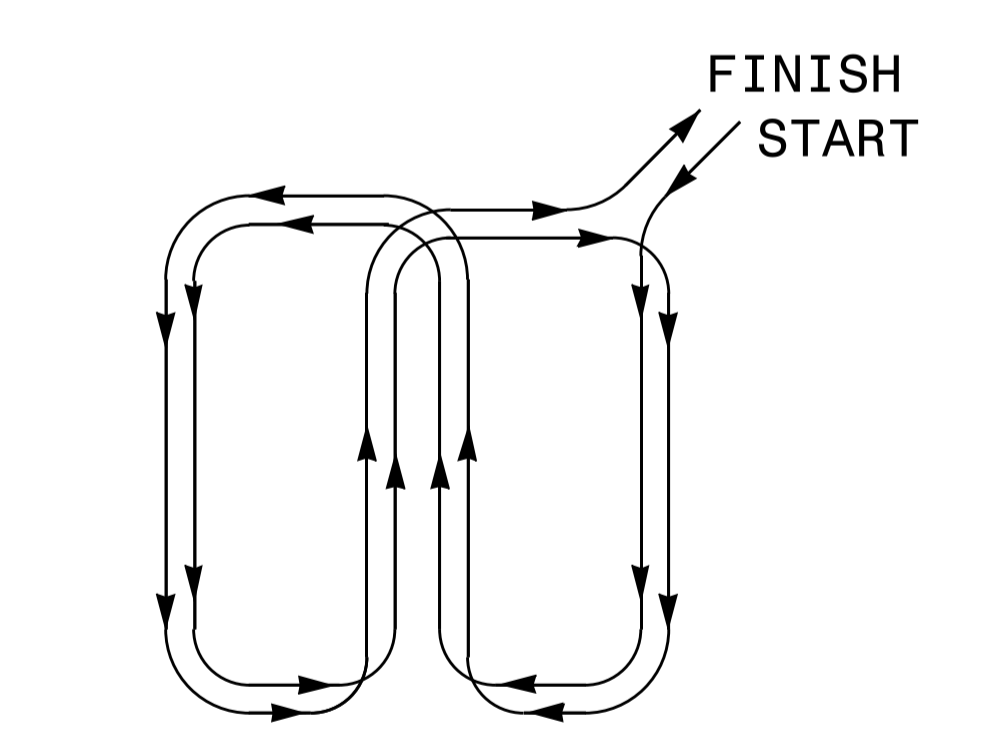


QUADRUPOLE LOOP

SAW CUT OPTIONS

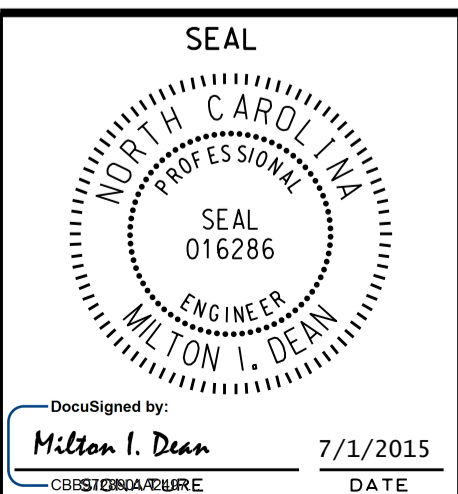
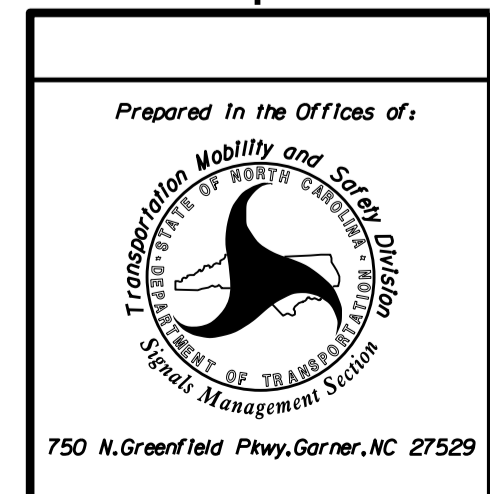


LOOP WINDING METHOD



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



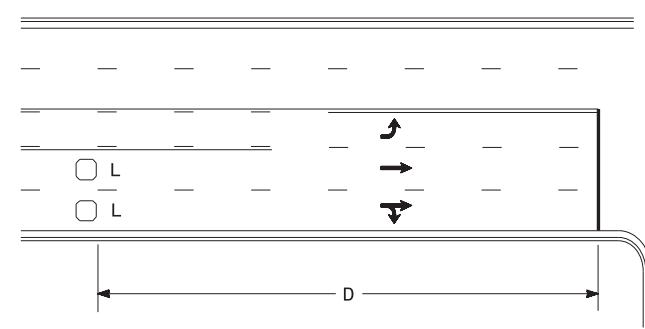
SHEET OF

ENGLISH STANDARD DRAWING FOR
DEEP-CUT INDUCTIVE DETECTION LOOPS
(FOR INSTALLATION PRIOR TO MILLING)

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

PROJECT REFERENCE NO.
2025CPT.07.03.10411,
2025CPT.07.03.20411
SHEET NO.
14

High Speed Detection (≥40 mph)

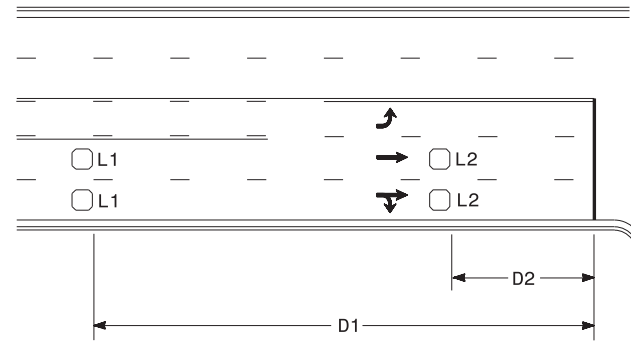


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



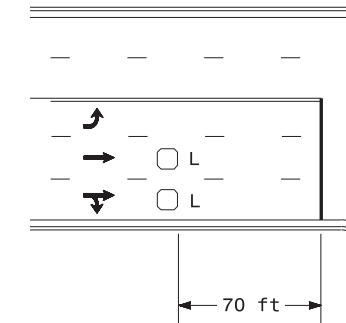
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

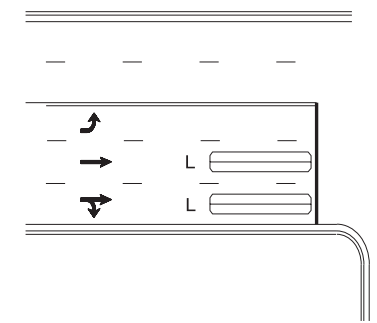
"Stretch" Operation

Low Speed Detection (≤35 mph)



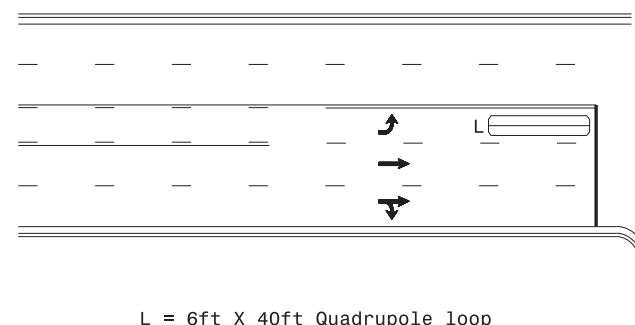
L = 6ft X 6ft
Wired in series

OR



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

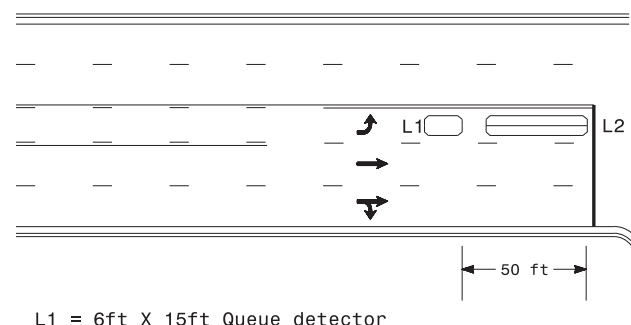
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

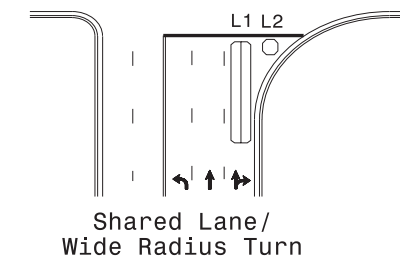
OR



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

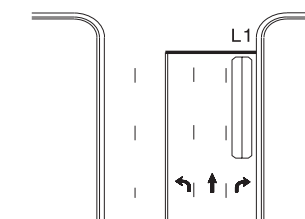
Queue Loop Detection

Right Turn Lane Detection

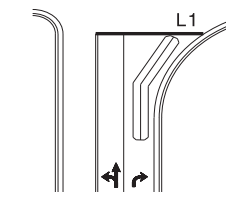


Shared Lane/
Wide Radius Turn

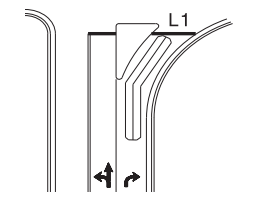
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

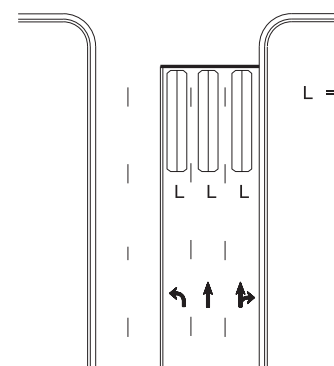


Wide Radius Turn



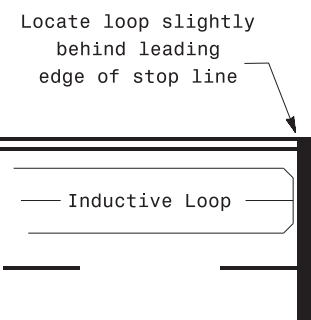
Channelized Turn

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

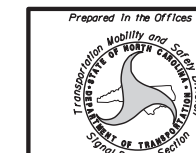
Recommended Number of Turns

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



Typical Signal Loop Locations

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

REVISIONS	INIT.	DATE



DATE: 9/8/2020
SIG. INVENTORY NO.