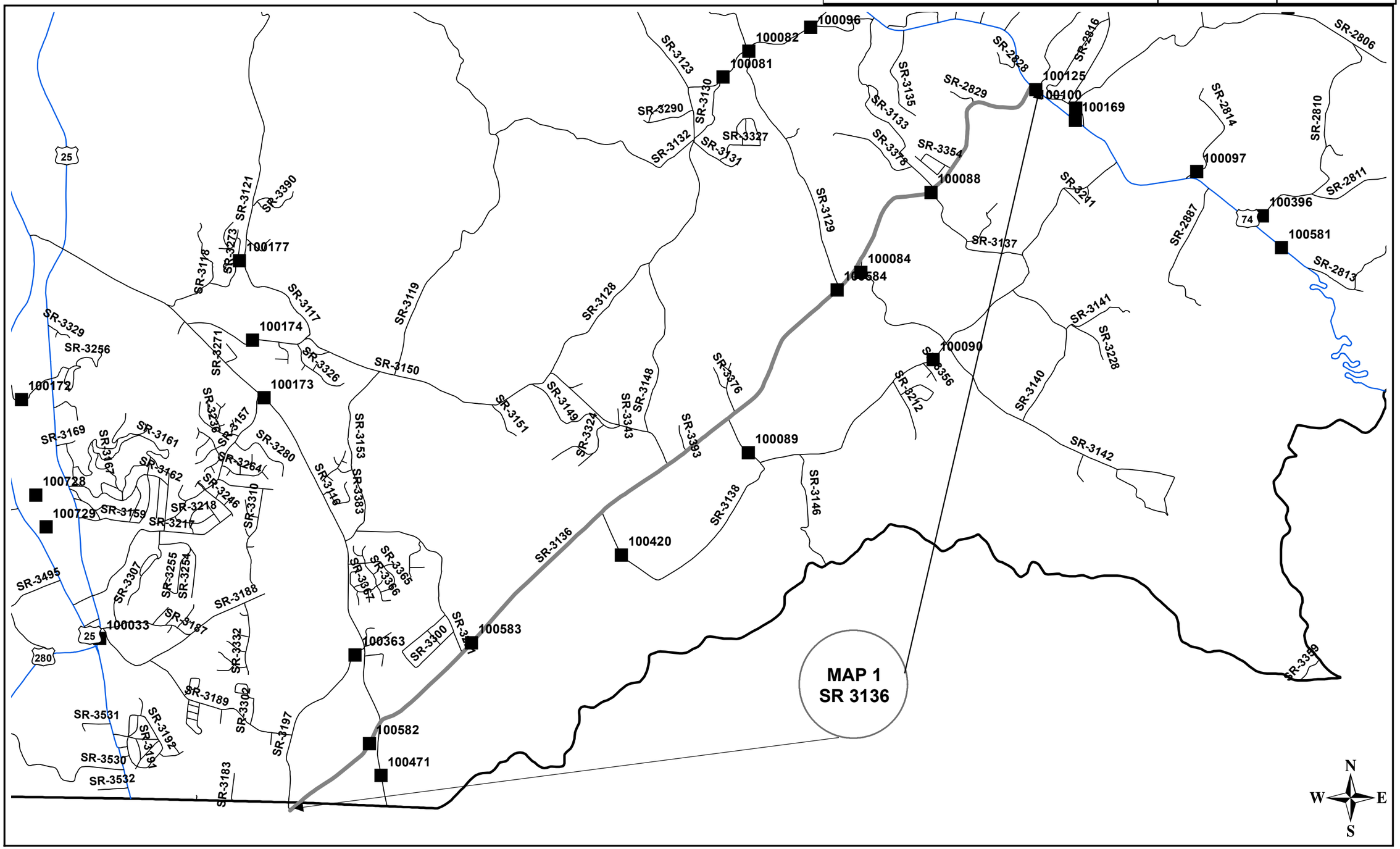
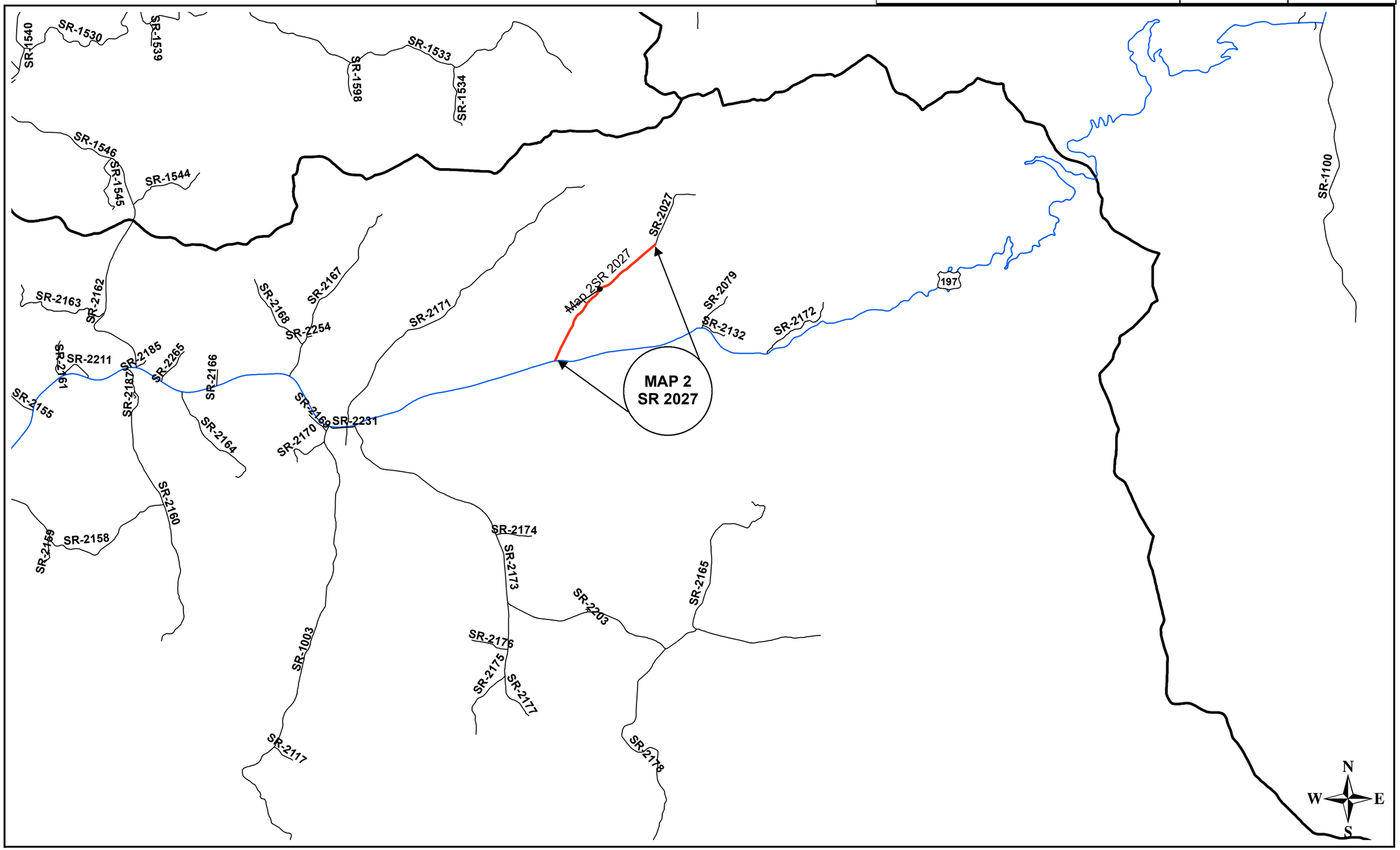
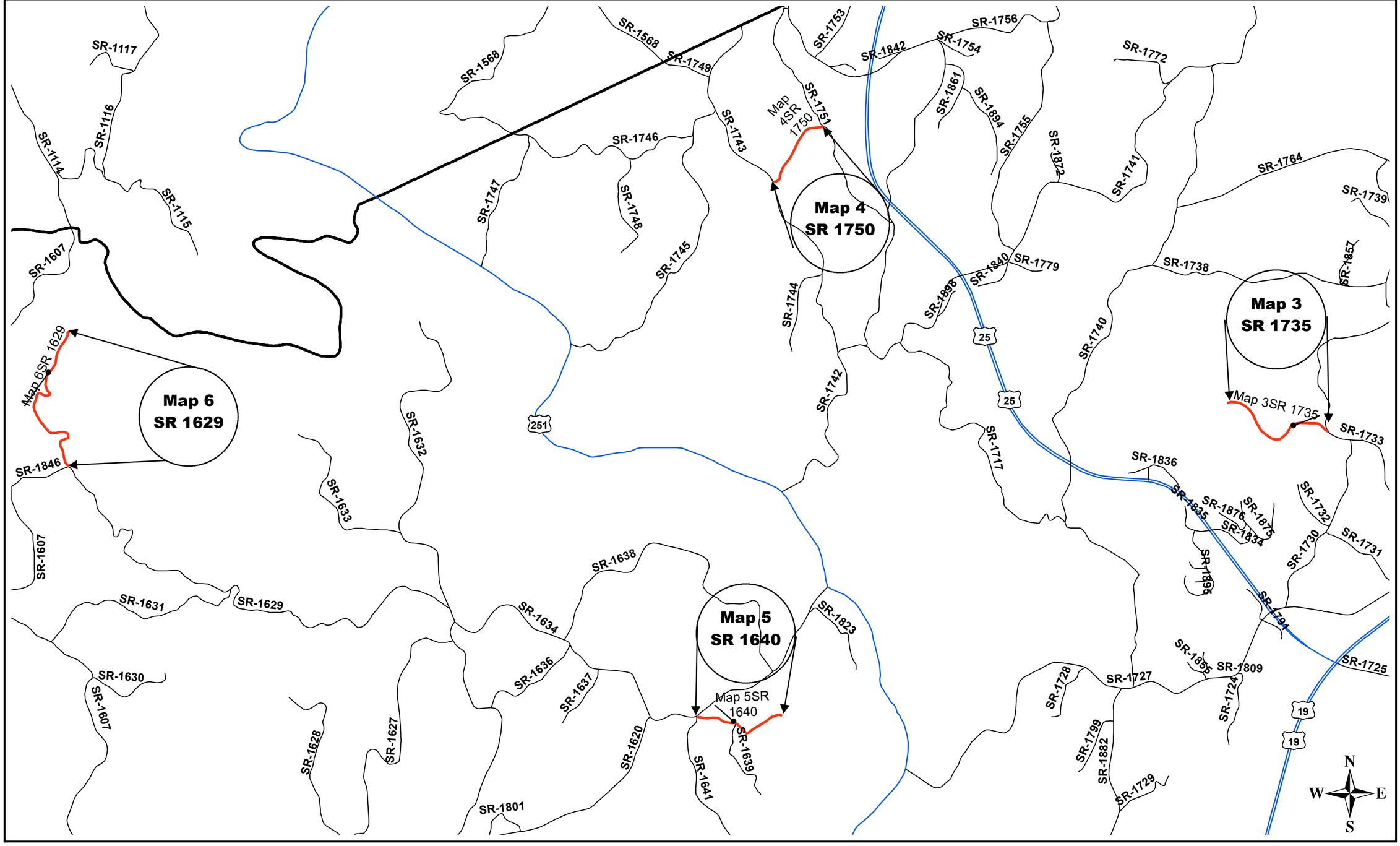
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	1	22



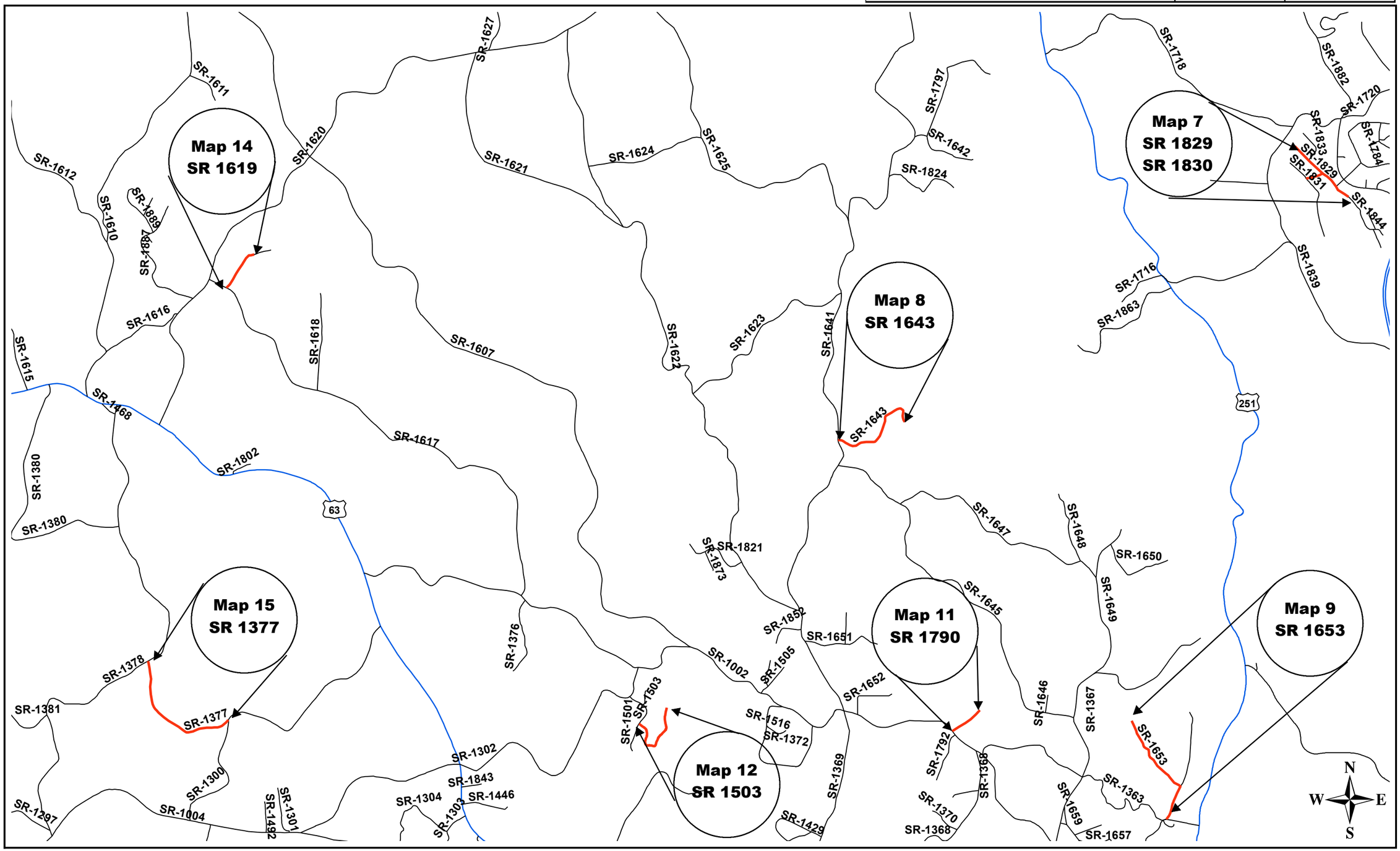
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	2	22



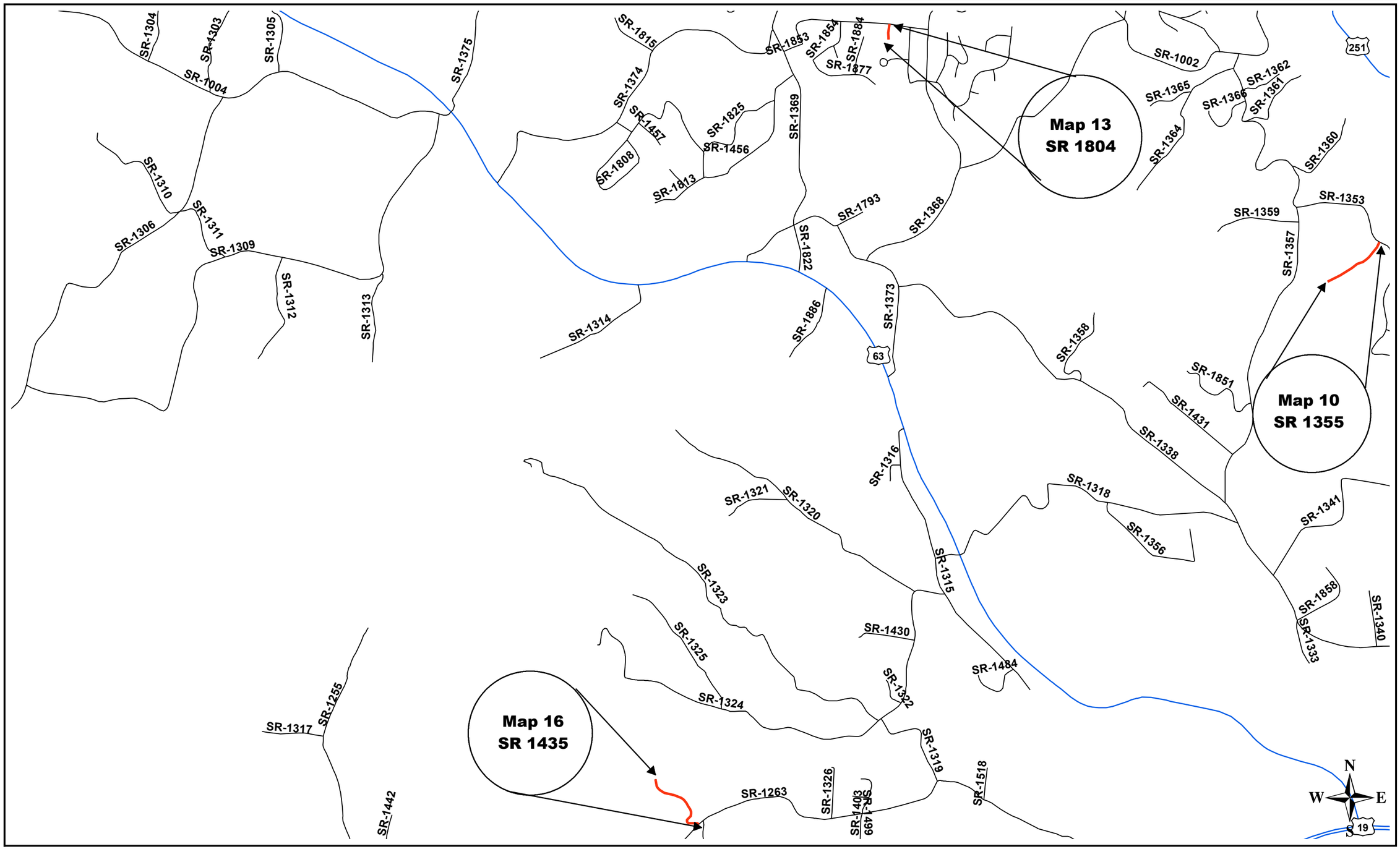
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	3	22



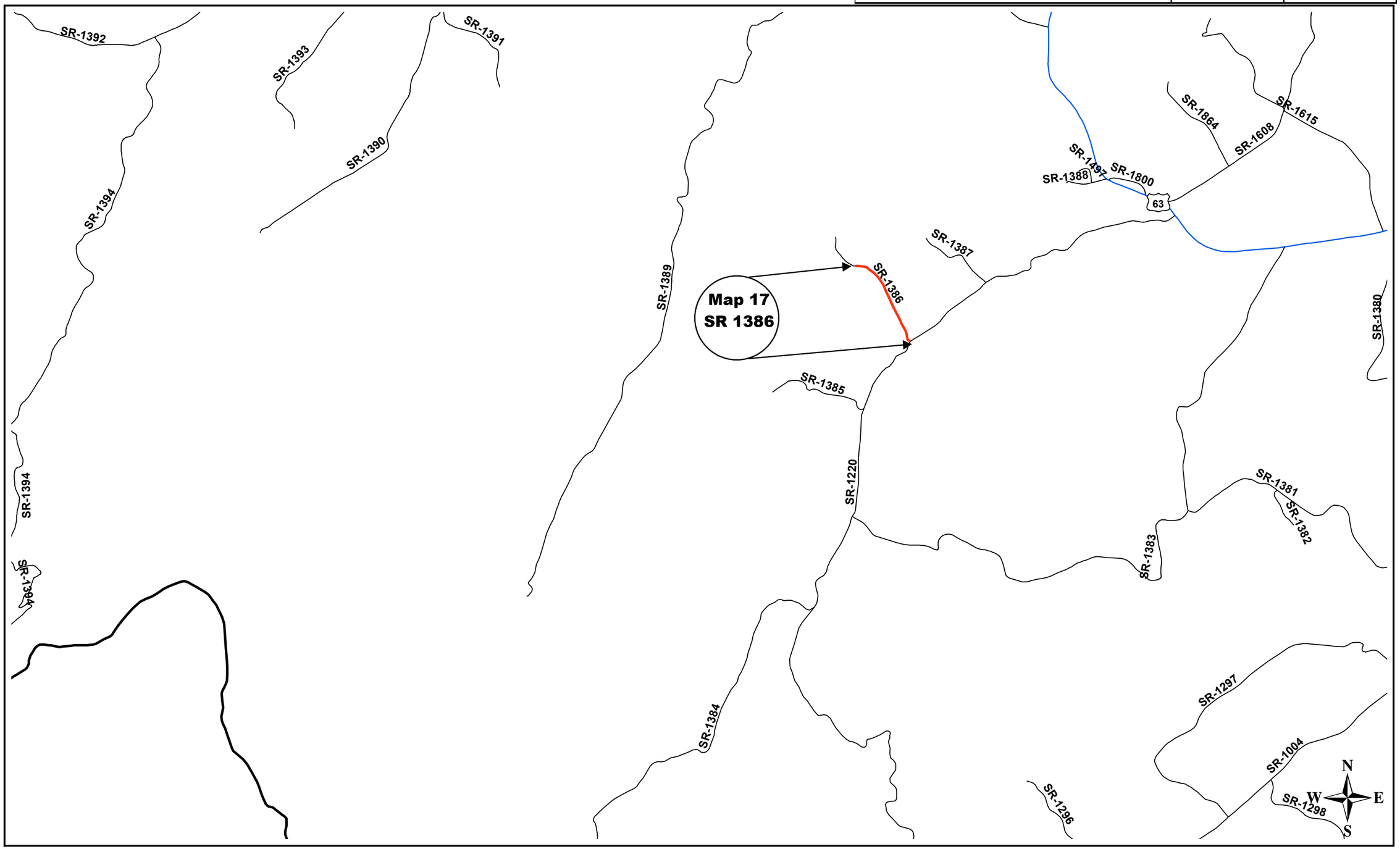
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	4	22



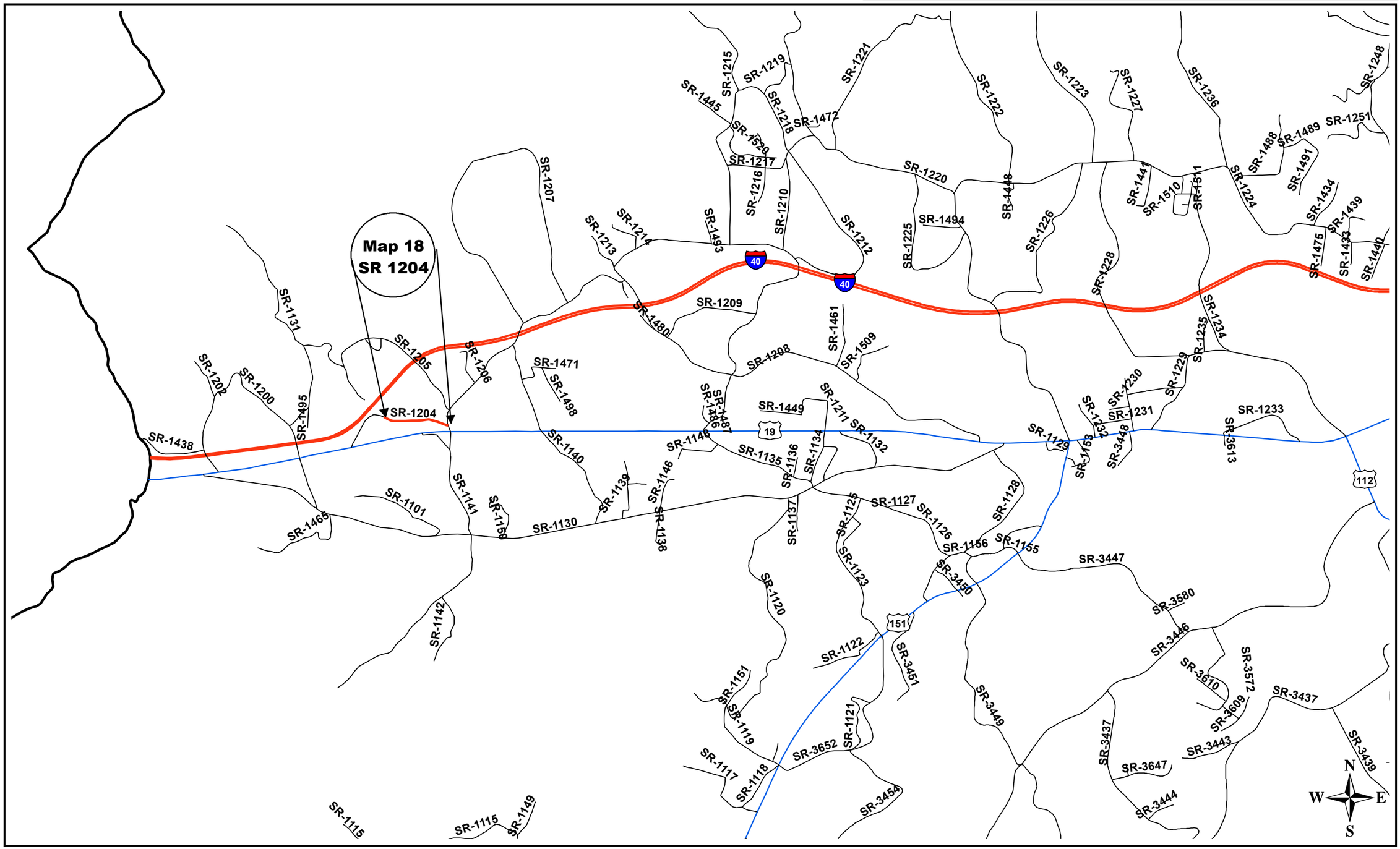
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	5	22



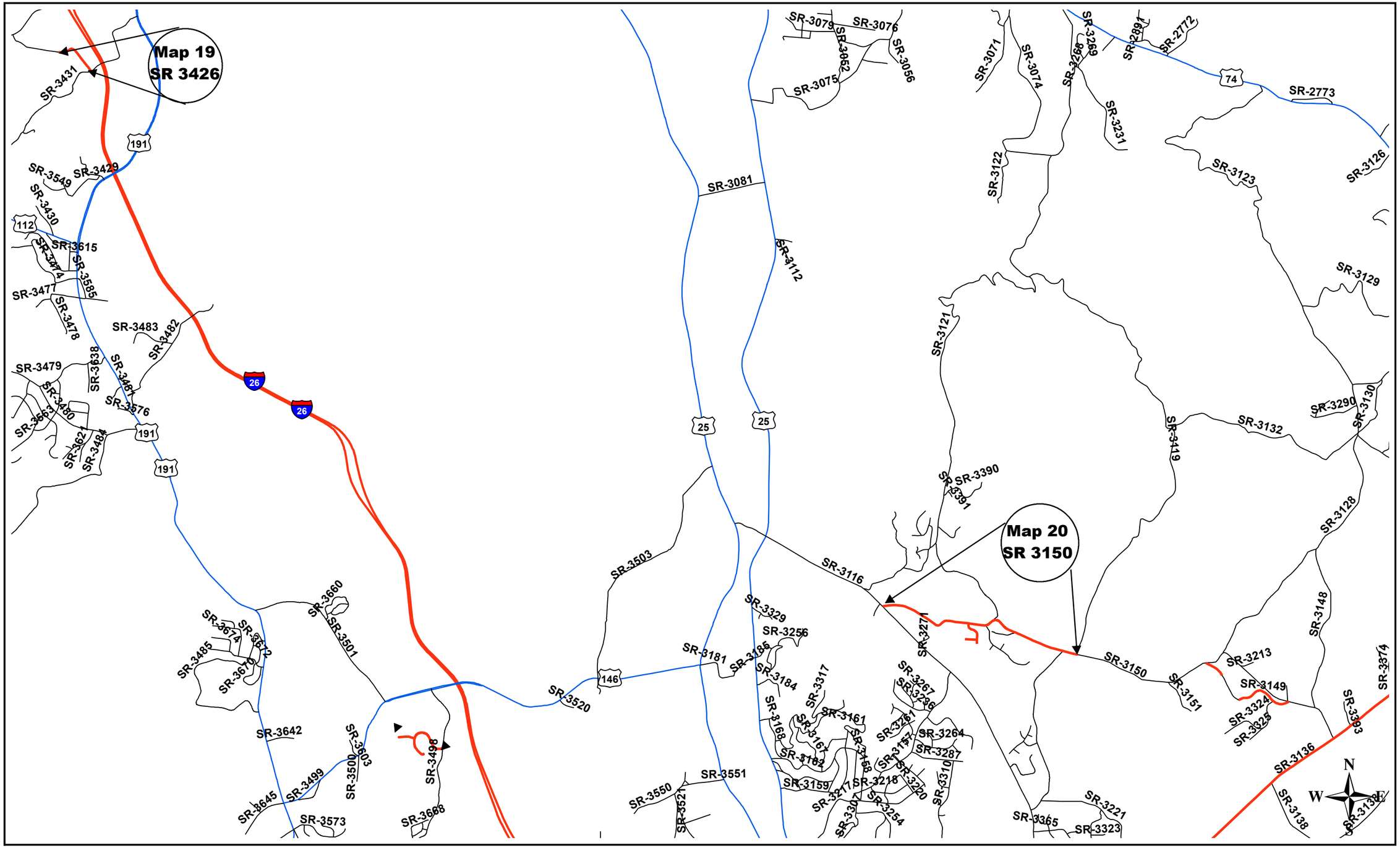
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	6	22



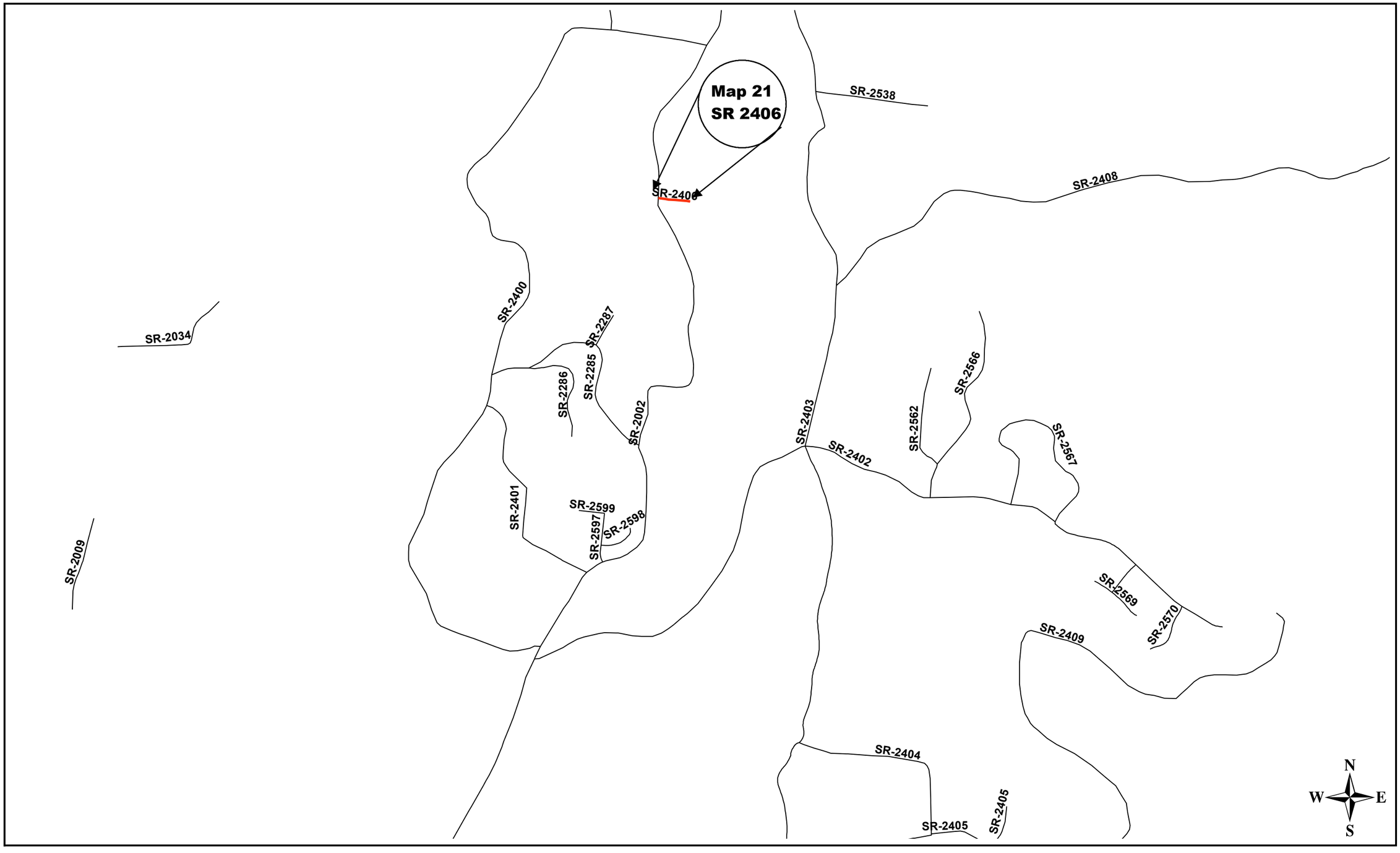
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	7	22

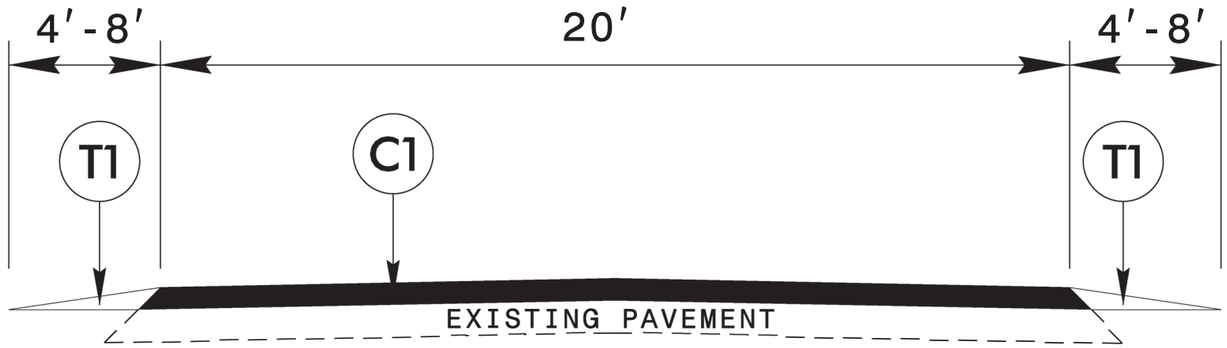


PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	8	22

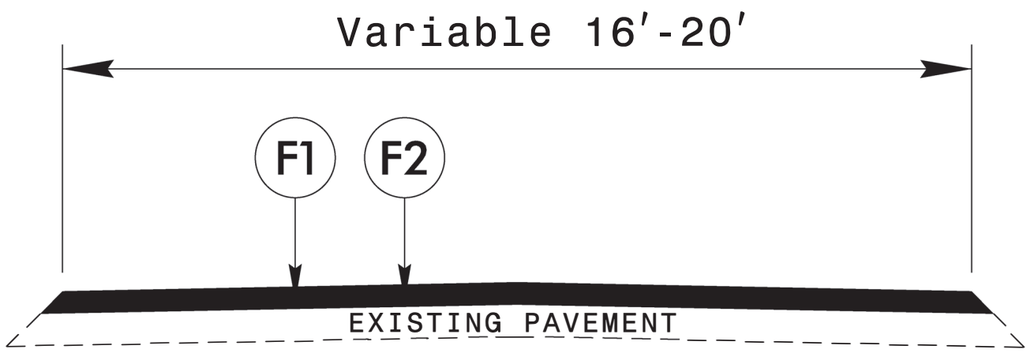


PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	9	22



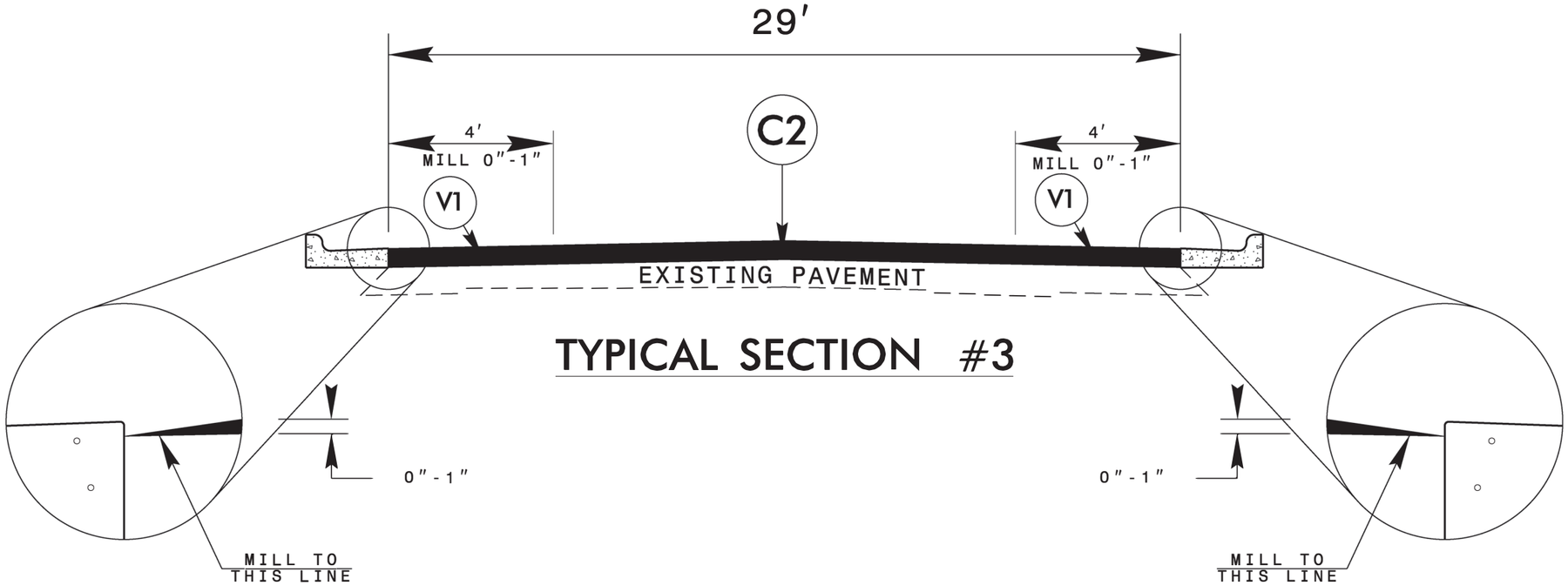


TYPICAL SECTION #1

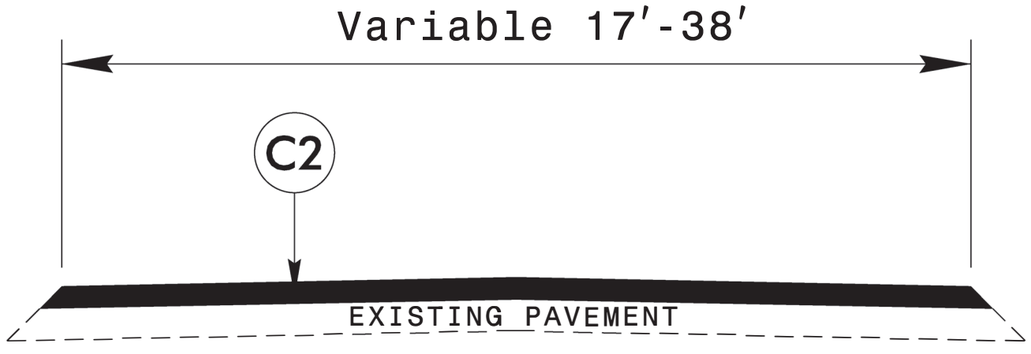


TYPICAL SECTION #2

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
C2	PROP. APPROX. 0.75" ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A, AT AN AVERAGE RATE OF 75 LBS. PER SQ. YARD
F1	ASPHALT SURFACE TREATMENT, DOUBLE SEAL
F2	ASPHALT SURFACE TREATMENT, FOG SEAL
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 0 TO 1" DEPTH
V2	INCIDENTAL MILLING

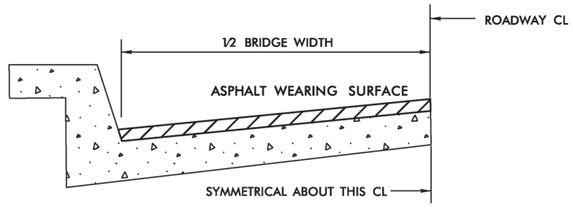


TYPICAL SECTION #3



TYPICAL SECTION #4

PAVEMENT SCHEDULE	
C2	PROP. APPROX. 0.75" ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A, AT AN AVERAGE RATE OF 75 LBS. PER SQ. YARD
V1	MILLING ASPHALT PAVEMENT, 0 TO 1" DEPTH



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. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", S9.5B 1", S9.5C,D 1.5" – 2". ULTRA–THIN HOT MIX ASPHALT – TYPE A 3/4". ULTRA–THIN HOT MIX ASPHALT – TYPE B 5/8". ULTRA–THIN HOT MIX ASPHALT – TYPE C 1/2". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1", S9.5B 1.5", S9.5C,D 2". ULTRA–THIN HOT MIX ASPHALT – TYPE A 3/4", ULTRA–THIN HOT MIX ASPHALT – TYPE B 5/8", ULTRA–THIN HOT MIX ASPHALT HOT MIX ASPHALT – TYPE C 1/2".

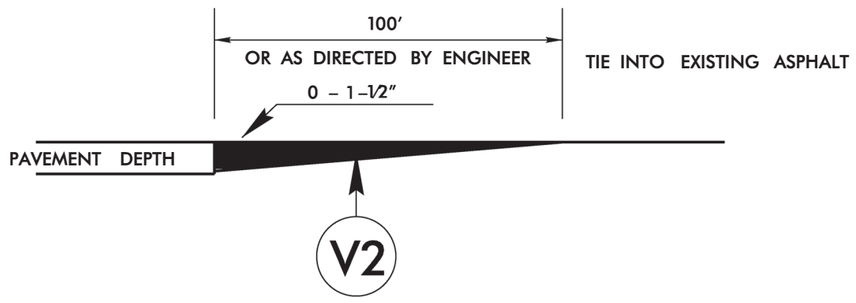
NOTES

ALL UNPAVED ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT. ALL PAVED S. R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.

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

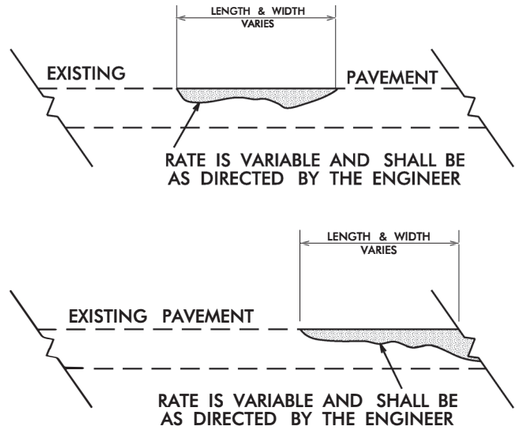
SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.

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

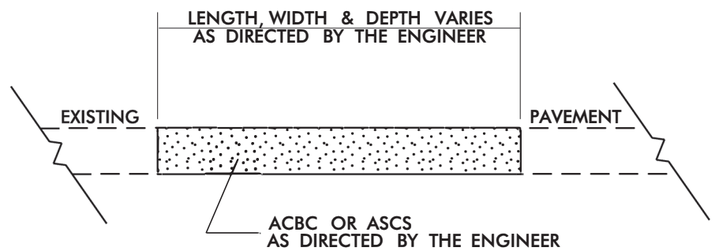


DETAIL TO TIE INTO EXIST PAVEMENT

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT HE WILL BE REQUIRED TO MILL THE EXISTING ASPHALT PAVEMENT TO ENSURE A PROPER TIE–IN WITH THE EXISTING SURFACE AT THE BEGINNING, END AND Y LINES OF EACH MAP TO BE RESURFACED WITH ASPHALT CONC SURFACE COURSE, TYPE S9.5C. THIS WILL BE PAID FOR AS INCIDENTAL MILLING.



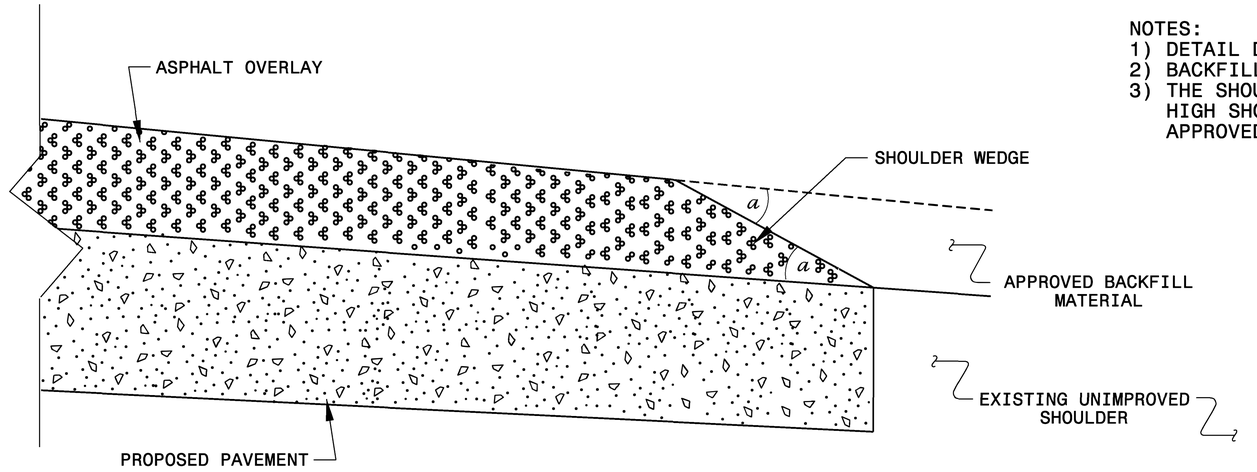
DETAIL SHOWING METHOD OF WEDGING



PATCHING EXISTING PAVEMENT

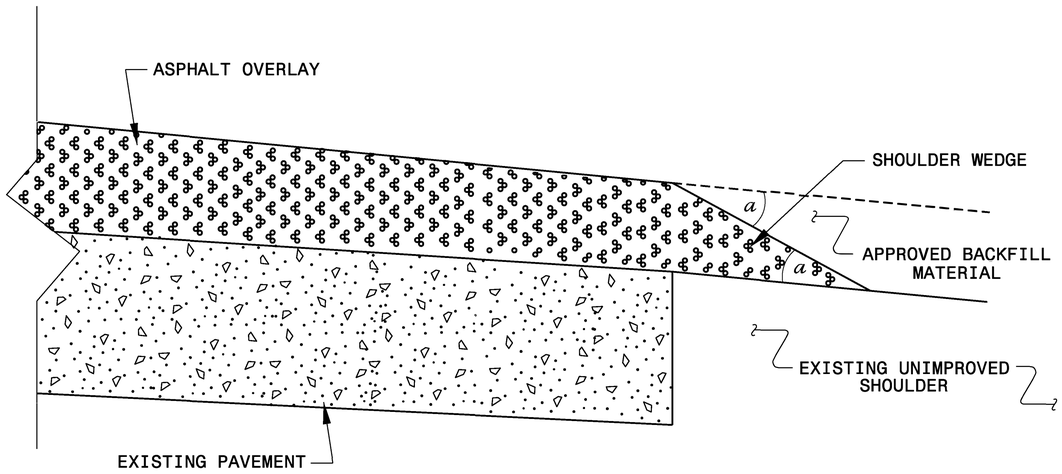
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	13	22

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, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



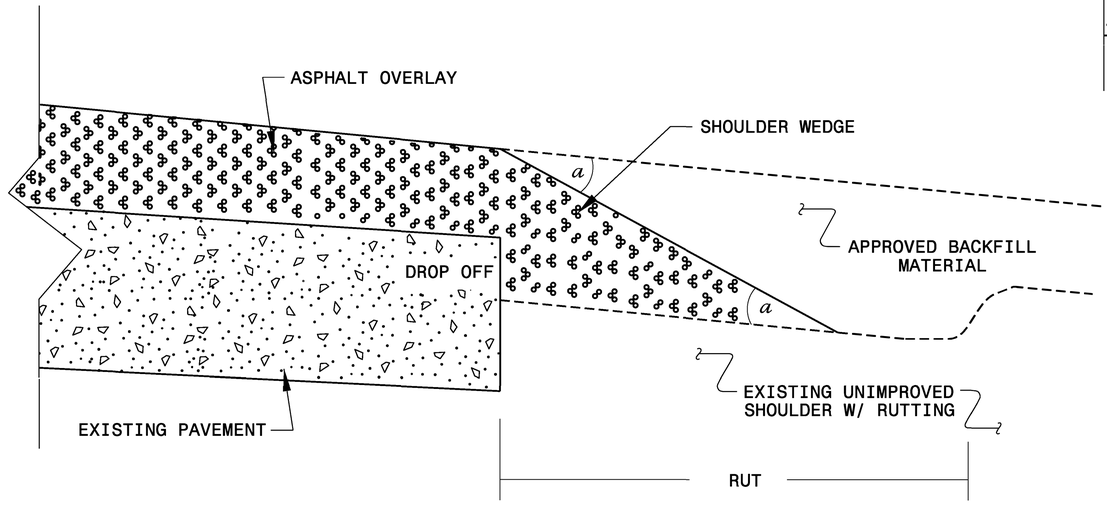
SHOULDER WEDGE DETAIL

(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°

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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: 2/2/18
CHECKED BY: DATE:
FILE SPEC.: s:usr/details/stand/shoulderwedgedetail.dgn

12-SEP-2018 10:0
S:\Contracts\Resurfacing Projects\Shoulder Wedge Details\Revised Shoulder Wedge Detail.dgn
jhowerton
AT CSD-2926915

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	14	22

SUMMARY OF QUANTITIES

													1220000000-E	1245000000-E	1260000000-E	1308000000-E	1330000000-E	1523000000-E	1526000000-E	1575000000-E	1704000000-E	1803500000-E	1820000000-E	1838000000-E	1838500000-N	2830000000-N	7444000000-E
PROJECT NO	COUNTY	MAP NO	ROUTE	ROUTE NAME	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	MILLING ASPHALT PAVEMENT, 0"TO 1"	INCIDENTAL MILLING	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	ASPHALT CONC SURFACE COURSE, TYPE S4.75A	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ASPHALT SURFACE TREATMENT, DOUBLE SEAL	ASPHALT SURFACE TREATMENT, FOG SEAL	EMULSION FOR ASPHALT SURFACE TREATMENT	VACUUM TRUCK	ADJUSTMENT OF MANHOLES	INDUCTIVE LOOP SAWCUT
											MI	FT	TON	SMI	TON	SY	SY	TON	TON	TON	TON	SY	SY	GAL	WK	EA	LF
2022CPT.13.01.20111	Buncombe	1	SR 3136	CANE CREEK RD	FROM HENDERSON CO LINE TO US 74 A (MP 0.00 - MP 7.33)	1	2	2WU	NO	NO	7.33	20	367	14.66	1,906		1,600	7,270		436	5,610						912
TOTAL FOR PROJ NO. 2022CPT.13.01.20111											**7.33**		**367**	**14.66**	**1,906**		**1,600**	**7,270**		**436**	**5,610**						**912**
2022CPT.13.01.20112	Buncombe	2	SR 2027	MARTINS CREEK RD	FROM NC 197 TO EOP (MP 0.0 - MP 1.30)	2	2	2WU	NO	NO	1.3	20							648	45	300						
2022CPT.13.01.20112	Buncombe	3	SR 1735	GREENRIDGE RD	FROM SR 1733 TO EOM (MP 0.00 - MP 0.69)	2	2	2WU	NO	NO	0.67	18									35	6,883	6,883	3,790			
2022CPT.13.01.20112	Buncombe	4	SR 1750	ED DUBRUHL RD	FROM SR 1743 TO SR 1751 (MP 0.00 - MP 0.44)	2	2	2WU	NO	NO	0.43	20									100	4,817	4,817	2,650	*		
2022CPT.13.01.20112	Buncombe	5	SR 1640	CURTIS MILES RD	FROM SR 1641 TO EOM (MP 0.00 - MP 0.52)	2	2	2WU	NO	NO	0.92	19									80	9,935	9,935	5,465			
2022CPT.13.01.20112	Buncombe	6	SR 1629	OLD NC HWY 20	FROM SR 1846 TO EOM (MP 4.56 TO MP 5.59)	2	2	2WU	NO	NO	0.98	19									40	10,978	10,978	6,040			
2022CPT.13.01.20112	Buncombe	7	SR 1829/1830	WOODY LN/ACORN RD	FROM SR 1844 TO CUL-DE-SAC (MP 0.00 - MP 0.38) FROM SR 1829 TO SR 1831 (MP 0.00 - MP 0.09)	3	2	2WU	NO	NO	0.47	29				2,205			340	24						1	
2022CPT.13.01.20112	Buncombe	8	SR 1643	OLD MACEDONIA RD	FROM SR 1641 TO DEAD END (MP 0.00 - MP 0.51)	2	2	2WU	NO	NO	0.51	19									40	5,772	5,772	3,175			
2022CPT.13.01.20112	Buncombe	9	SR 1653	INGLE RD	FROM SR 1002 TO EOM (MP 0.00 - MP 0.61)	2	2	2WU	NO	NO	0.52	20									75	5,897	5,897	3,245			
2022CPT.13.01.20112	Buncombe	10	SR 1355	WILSON RD	FROM SR 1353 TO DEAD END (MP 0.00 - MP 0.23)	2	2	2WU	NO	NO	0.28	20									35	3,278	3,278	1,805	*		
2022CPT.13.01.20112	Buncombe	11	SR 1790	POWELL ST	FROM SR 1002 TO EOP (MP 0.00 - MP 0.18)	2	2	2WU	NO	YES	0.2	18									40	2,090	2,090	1,150			
2022CPT.13.01.20112	Buncombe	12	SR 1503	FERGUSON DR	FROM SR 1501 TO CUL-DE-SAC (MP 0.00 - MP 0.39)	4	2	2WU	NO	NO	0.38	20							190	13	45						
2022CPT.13.01.20112	Buncombe	13	SR 1804	KILDARE PL	FROM SR 1803 TO CUL-DE-SAC (MP 0.00 - MP 0.05)	4	2	2WU	NO	NO	0.05	38							47	3	5					2	
2022CPT.13.01.20112	Buncombe	14	SR 1619	JIM STEVENS RD	FROM SR 1617 TO EOP (MP 0.00 - MP 0.23)	2	2	2WU	NO	NO	0.22	16										2,065	2,065	1,140	*		
2022CPT.13.01.20112	Buncombe	15	SR 1377	GOUGHES BRANCH RD	FROM SR 1378 TO SR 1300 (MP 0.00 - MP 0.67)	2	2	2WU	NO	NO	0.63	20									45	7,392	7,392	4,070			
2022CPT.13.01.20112	Buncombe	16	SR 1435	BAILEY RD	FROM SR 1263 TO EOM (MP 0.00 - MP 0.26)	4	2	2WU	NO	NO	0.25	18							112	8	60						
2022CPT.13.01.20112	Buncombe	17	SR 1386	SANDY RIVER RD	FROM SR 1220 TO END SECTION (MP 0.00 - MP 0.50)	2	2	2WU	NO	NO	0.73	19										7,934	7,934	4,365	*		
2022CPT.13.01.20112	Buncombe	18	SR 1204	HILLCREST DR	FROM SR 1141 TO EOP (MP 0.00 - MP 0.34)	2	2	2WU	NO	NO	0.37	17									43	3,690	3,690	2,030			
2022CPT.13.01.20112	Buncombe	19	SR 3426	MCINTOSH RD	FROM SR 3431 TO PVMT CHNG (MP 0.00 - MP 0.32)	2	2	2WU	NO	NO	0.51	20							254	18	175						
2022CPT.13.01.20112	Buncombe	20	SR 3150	CONCORD RD	FROM SR 3116 TO SR 3119 (MP 0.00 - MP 1.53)	4	2	2WU	NO	NO	1.53	20							763	53	350						
2022CPT.13.01.20112	Buncombe	21	SR 2406	MCFALLS RD	FROM SR 2002 TO EOM (MP 0.00 - MP 0.06)	2	2	2WU	NO	NO	0.06	16									20	563	563	310		1	
TOTAL FOR PROJ NO. 2022CPT.13.01.20112											**11.01**					**2,205**			**2,354**	**164**	**1,488**	**71,294**	**71,294**	**39,235**	**4**	**4**	
GRAND TOTAL											**18.34**		**367**	**14.66**	**1,906**	**2,205**	**1,600**	**7,270**	**2,354**	**600**	**7,098**	**71,294**	**71,294**	**39,235**	**4**	**4**	**912**

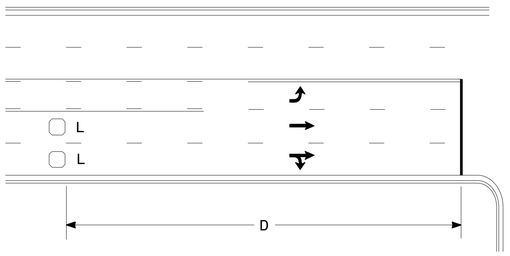
PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	15	22

THERMOPLASTIC AND PAINT QUANTITIES

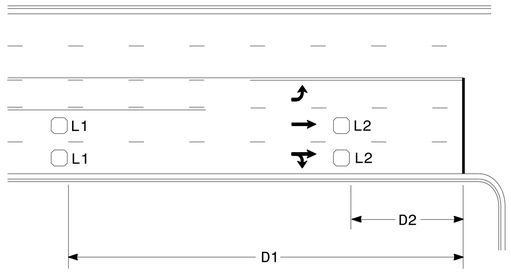
											4413000000-E	4457000000-N	4725000000-E	4810000000-E		4847010000-E		4890000000-E	4895000000-N
PROJECT NO	COUNTY	MAP NO	ROUTE	ROUTE NAME	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) LT ARROW	PAINT PAVEMENT MARKING LINES (4") WHITE	PAINT PAVEMENT MARKING LINES (4") YELLOW	POLYUREA PAVEMENT MARKING LINES WHITE (4", 20 MILS) (HIGHLY REFLECTIVE MEDIA)	POLYUREA PAVEMENT MARKING LINES YELLOW (4", 20 MILS) (HIGHLY REFLECTIVE MEDIA)	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE	SNOWPLOWABLE PAVEMENT MARKERS
									MI	FT	SF	LS	EA	LF	LF	LF	LF	LF	EA
2022CPT.13.01.20111	Buncombe	1	SR 3136	CANE CREEK RD	FROM HENDERSON CO LINE TO US 74 A (MP 0.00 - MP 7.33)	1	2	2WU	7.33	20	822	*	2			74,748	66,793	122	519
TOTAL FOR PROJ NO. 2022CPT.13.01.20111									**7.33**		**822**	*	**2**			**74,748**	**66,793**	**122**	**519**
																141,541			
2022CPT.13.01.20112	Buncombe	2	SR 2027	MARTINS CREEK RD	FROM NC 197 TO END OF PAVEMENT (MP 0.0 - MP 1.30)	2	2	2WU	1.3	20				13,728	13,728				
2022CPT.13.01.20112	Buncombe	3	SR 1735	GREENRIDGE RD	FROM SR 1733 TO EOM (MP 0.00 - MP 0.69)	2	2	2WU	0.67	18					14,160				
2022CPT.13.01.20112	Buncombe	4	SR 1750	ED DUBRUHL RD	FROM SR 1743 TO SR 1751 (MP 0.00 - MP 0.44)	2	2	2WU	0.43	20				9,293	9,293				
2022CPT.13.01.20112	Buncombe	5	SR 1640	CURTIS MILES RD	FROM SR 1641 TO EOM (MP 0.00 - MP 0.52)	2	2	2WU	0.92	19				19,332	19,332				
2022CPT.13.01.20112	Buncombe	6	SR 1629	OLD NC HWY 20	FROM SR 1846 TO EOM (MP 4.56 TO MP 5.59)	2	2	2WU	0.98	19				21,754	21,754				
2022CPT.13.01.20112	Buncombe	7	SR 1829/1830	WOODY LN/ACORN RD	FROM SR 1844 TO CUL-DE-SAC (MP 0.00 - MP 0.38) FROM SR 1829 TO SR 1831 (MP 0.00 - MP 0.09)	3	2	2WU	0.47	29									
2022CPT.13.01.20112	Buncombe	8	SR 1643	OLD MACEDONIA RD	FROM SR 1641 TO DEAD END (MP 0.00 - MP 0.51)	2	2	2WU	0.51	19									
2022CPT.13.01.20112	Buncombe	9	SR 1653	INGLE RD	FROM SR 1002 TO EOM (MP 0.00 - MP 0.61)	2	2	2WU	0.52	20				10,983	10,983				
2022CPT.13.01.20112	Buncombe	10	SR 1355	WILSON RD	FROM SR 1353 TO DEAD END (MP 0.00 - MP 0.23)	2	2	2WU	0.28	20									
2022CPT.13.01.20112	Buncombe	11	SR 1790	POWELL ST	FROM SR 1002 TO EOP (MP 0.00 - MP 0.18)	2	2	2WU	0.2	18	1,234	*							
2022CPT.13.01.20112	Buncombe	12	SR 1503	FERGUSON DR	FROM SR 1501 TO CUL-DE-SAC (MP 0.00 - MP 0.39)	4	2	2WU	0.38	20									
2022CPT.13.01.20112	Buncombe	13	SR 1804	KILDARE PL	FROM SR 1803 TO CUL-DE-SAC (MP 0.00 - MP 0.05)	4	2	2WU	0.05	38									
2022CPT.13.01.20112	Buncombe	14	SR 1619	JIM STEVENS RD	FROM SR 1617 TO EOP (MP 0.00 - MP 0.23)	2	2	2WU	0.22	16									
2022CPT.13.01.20112	Buncombe	15	SR 1377	GOUGHES BRANCH RD	FROM SR 1378 TO SR 1300 (MP 0.00 - MP 0.67)	2	2	2WU	0.63	20				13,351	13,351				
2022CPT.13.01.20112	Buncombe	16	SR 1435	BAILEY RD	FROM SR 1263 TO EOM (MP 0.00 - MP 0.26)	4	2	2WU	0.25	18									
2022CPT.13.01.20112	Buncombe	17	SR 1386	SANDY RIVER RD	FROM SR 1220 TO END SECTION (MP 0.00 - MP 0.50)	2	2	2WU	0.73	19									
2022CPT.13.01.20112	Buncombe	18	SR 1204	HILLCREST DR	FROM SR 1141 TO EOP (MP 0.00 - MP 0.34)	2	2	2WU	0.37	17									
2022CPT.13.01.20112	Buncombe	19	SR 3426	MCINTOSH RD	FROM SR 3431 TO PVMT CHNG (MP 0.00 - MP 0.32)	2	2	2WU	0.51	20				10,772	10,772				
2022CPT.13.01.20112	Buncombe	20	SR 3150	CONCORD RD	FROM SR 3116 TO SR 3119 (MP 0.00 - MP 1.53)	4	2	2WU	1.53	20				31,680	31,680				220
2022CPT.13.01.20112	Buncombe	21	SR 2406	MCFALLS RD	FROM SR 2002 TO EOM (MP 0.00 - MP 0.06)	2	2	2WU	0.06	16									
TOTAL FOR PROJ NO. 2022CPT.13.01.20112									**11.01**		**1,234**	1		**130,893**	**145,053**				**220**
														275,946					
GRAND TOTAL									**18.34**		**2,056**	**1**	**2**	**130,893**	**145,053**	**74,748**	**66,793**	**122**	**739**
														275,946		**141,541**			

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	16	22

High Speed Detection
(≥40 mph)



OR



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

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

Volume Density Operation

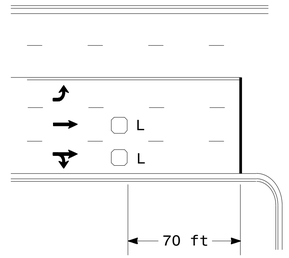
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

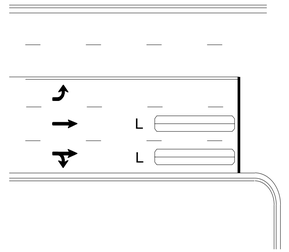
"Stretch" Operation

Low Speed Detection
(≤35 mph)



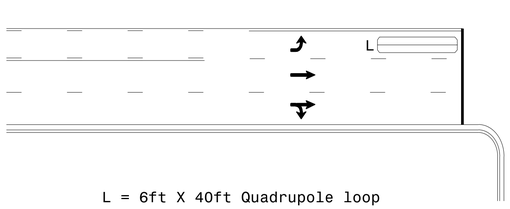
L = 6ft X 6ft
Wired in series

OR



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

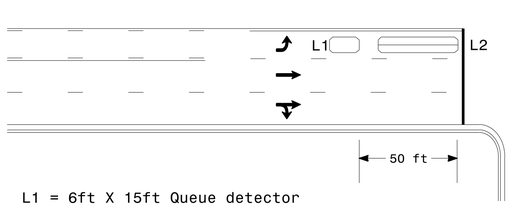
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

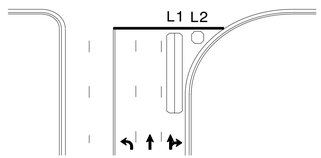
OR



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

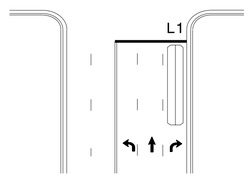
Queue Loop Detection

Right Turn Lane Detection

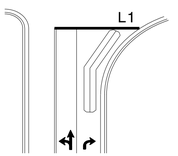


Shared Lane/
Wide Radius Turn

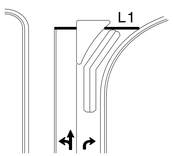
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

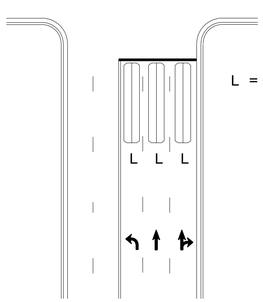


Wide Radius Turn



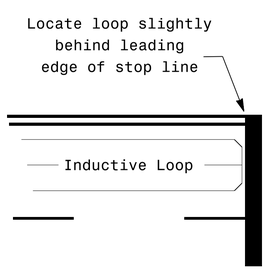
Channelized Turn

Side Street Detection



L = 6ft X 40ft
Quadrupole loop
Wired to separate detectors/channels

Presence Loop Placement at Stop Lines



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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:

SCALE
N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 23489 ENGINEER PAMELA L. ALEXANDER

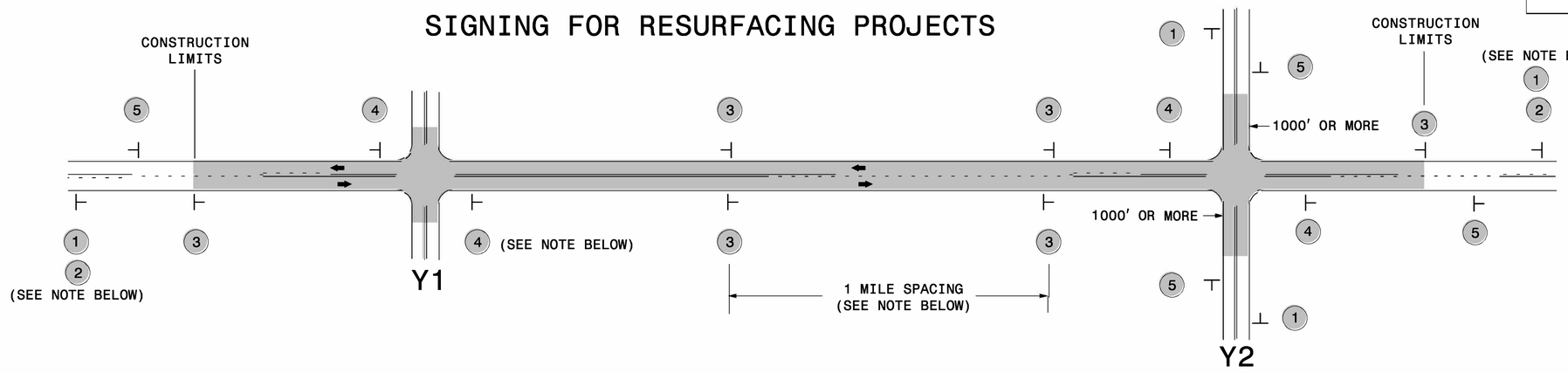
DocuSigned by: P L Alexander B4756E00CE4E46D...
1/30/2015
DATE

SIG. INVENTORY NO.

30-JAN-2015 12:39
S:\#TSGUM\TS Signal\Signal Design Section\Eastern Region\loop typical 2015.dgn
palexander

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	17	22

SIGNING FOR RESURFACING PROJECTS



TEE INTERSECTION

LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

SIGNING NOTES AND PLACEMENT PER DIRECTION

MAINLINE (-L-) SIGNING

1 — PLACE 1000′ PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000′ ALONG -Y- LINE.

2 — #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)

ROAD WORK AHEAD — W20-1 48″ X 48″
NEXT XX MILES — W7-3aP 24″ X 18″

3
- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER.
- AT TEE INTERSECTIONS INSTALL INITIALLY 0.5 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.

LOWSOFT SHOULDER — SP 13107 48″ X 48″

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.

ROAD UNDER CONST — SP 13106 48″ X 48″

5 — PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.

END ROAD WORK — G20-2 A 48″ X 24″

-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, ADVANCE WARNING PORTABLE 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.

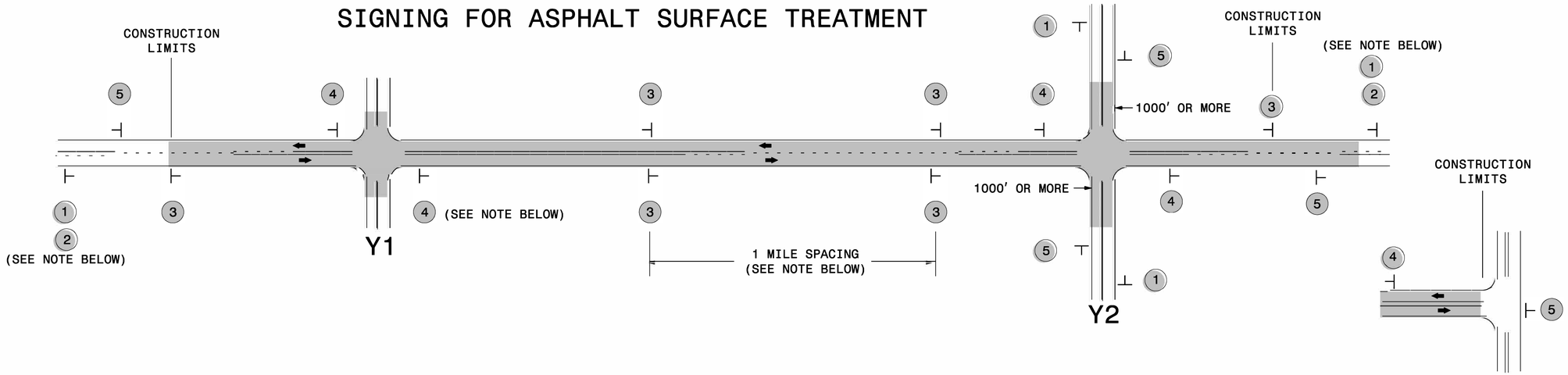
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2 LANE ROADWAYS

4/20/2016
C:\Users\rmgarrett\Desktop\Resurfacing_Advwarn_2Ln.dgn
User:rmgarrett

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	18	22

SIGNING FOR ASPHALT SURFACE TREATMENT



TEE INTERSECTION

LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

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 RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH.
ROUND UP TO NEXT WHOLE NUMBER.(NO FRACTIONAL OR DECIMAL NUMBERS)

3 — LOOSE GRAVEL W8-7 48" X 48" / UNMARKED PAVEMENT SP 48" X 48"

- ALTERNATE THE FOLLOWING TWO SIGNS:
- STARTING WITH "LOOSE GRAVEL" (W8-7) FOLLOWED BY "UNMARKED PAVEMENT".
- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER.
- AT TEE INTERSECTIONS INSTALL INITIALLY 0.5 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.

-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, ADVANCE WARNING PORTABLE 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.

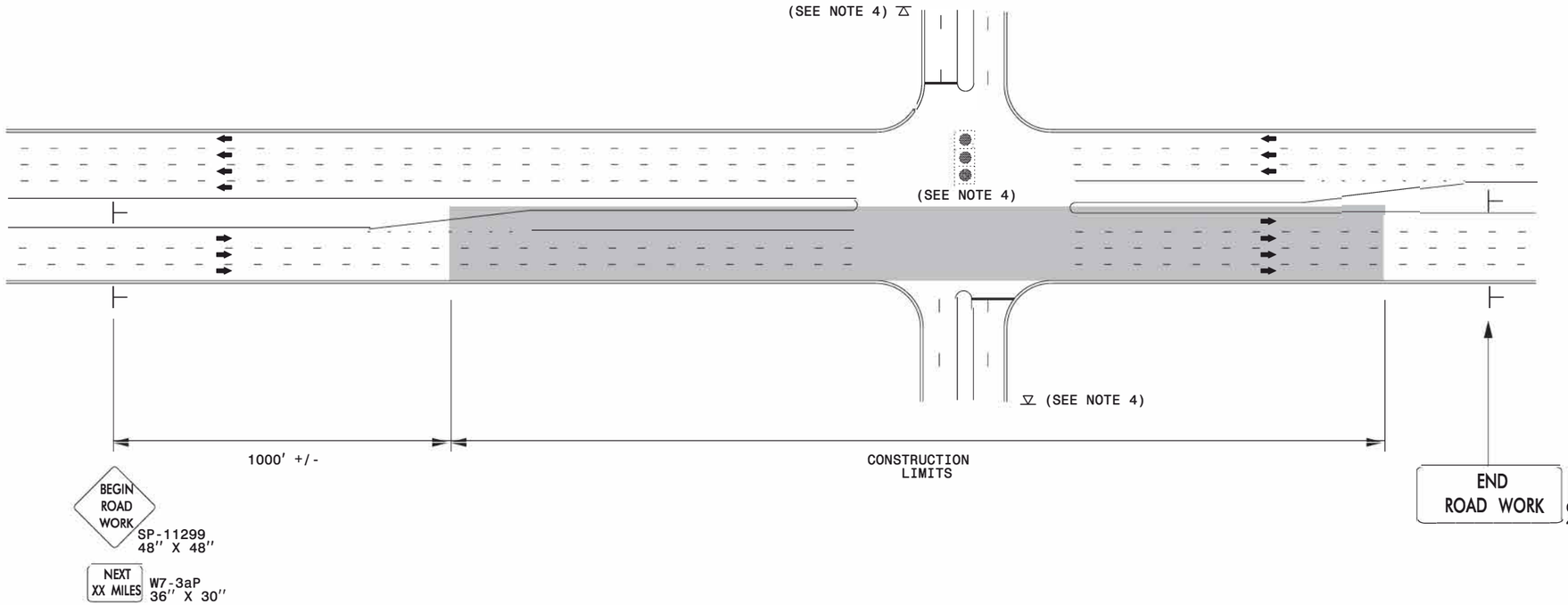
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

ADVANCE WARNING SIGNS
FOR
ASPHALT SURFACE TREATMENTS
2 LANE ROADWAYS

4/20/2016
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_2-n - ASTidgn
User:rmgarrett

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	19	22

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

4/8/2015
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_UrSu (2).dgn
User:rmgarrett

SIGN NUMBER: 11299
TYPE: B
QUANTITY: SEE PLANS

SIGN WIDTH: 5′-6″
HEIGHT: 5′-6″
TOTAL AREA: 30.5 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.59″
WIDTH: 0.75″
RADII: 1.38″

NO. Z BARS: N/A
LENGTH: N/A

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT′L: 0.125″ (3.2 mm) ALUMINUM

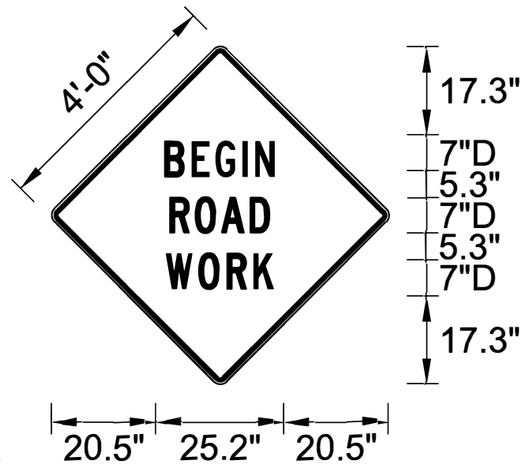
USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be Type VII, VIII, or IX (prismatic) fluorescent orange retroreflective sheeting.

DESIGN BY: WJ
PROJECT ID: ALL
CHECKED BY:
DIV: ALL
DATE: Jun 22, 2011

SP 11299

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	20	22



BORDER
R=1.38"
TH=0.75"
IN=0.59"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																									Series/Size Text Length
		B	E	G	I	N																				D 2000
	20.5	6	5.4	6.3	2.8	4.8	20.5																			25.2
		R	O	A	D																					D 2000
	21.4	5.8	5.9	7	4.8	21.4																				23.5
		W	O	R	K																					D 2000
	20.9	7.1	6.5	5.9	4.9	20.9																				24.5

FILENAME: SP11299.PDF

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP13106
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 4′-0″
HEIGHT: 4′-0″
TOTAL AREA: 16.00 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.75″
WIDTH: 1.25″
RADII: 3″

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT′L: 0.080″ (2.0 mm) ALUMINUM

USE NOTES: 1,2

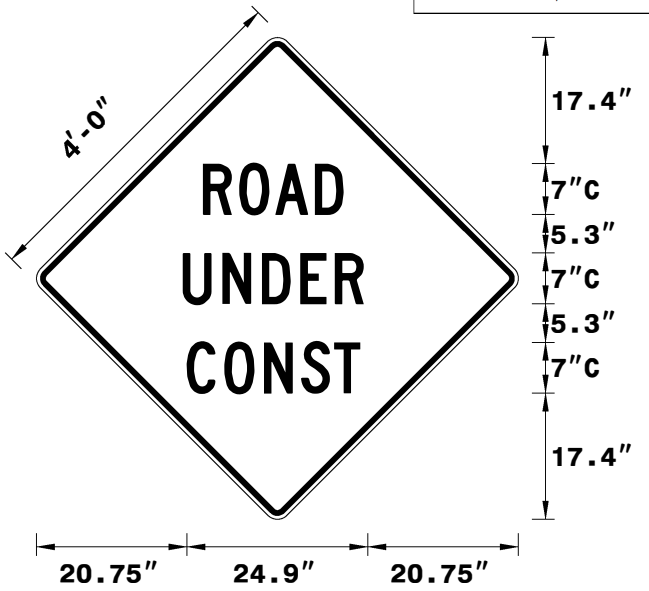
1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.

DESIGN BY: B. RASHID
PROJECT ID:

CHECKED BY: AIA
DIV:

DATE: Apr 26, 2013

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	21	22



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
		R	O	A	D																						C 2000
	23.5	5	5	5.5	3.9	23.5																					19.3
		U	N	D	E	R																					C 2000
	20.7	5.5	5.5	5.3	4.8	3.9	20.7																				24.9
		C	O	N	S	T																					C 2000
	21.2	5.2	5.5	5.1	4.6	3.6	21.2																				23.9

FILENAME: SP13OXX_Sgn_SGN_special

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP13107
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 4′-0″
HEIGHT: 4′-0″
TOTAL AREA: 16.00 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.75″
WIDTH: 1.25″
RADII: 3″

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT′L: 0.080″ (2.0 mm) ALUMINUM

USE NOTES: 1,2

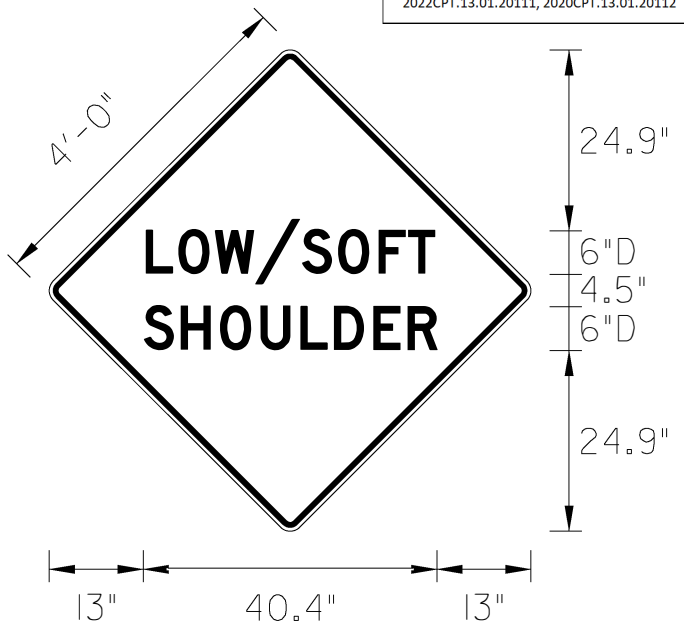
1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.

DESIGN BY: B. RASHID
PROJECT ID:

CHECKED BY: AIA
DIV:

DATE: Apr 26, 2013

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.13.01.20111, 2020CPT.13.01.20112	22	22



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
		L	O	W	/	S	O	F	T																		D 2000
	13.2	4.5	5	5.5	6.5	5	5.6	4.1	3.7	13.2																	39.9
		S	H	O	U	L	D	E	R																		D 2000
	13	5.1	5.4	5.6	5.5	4.6	5.4	4.7	4.1	13																	40.4

FILENAME: SP13OXX_Sgn_SGN_special

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