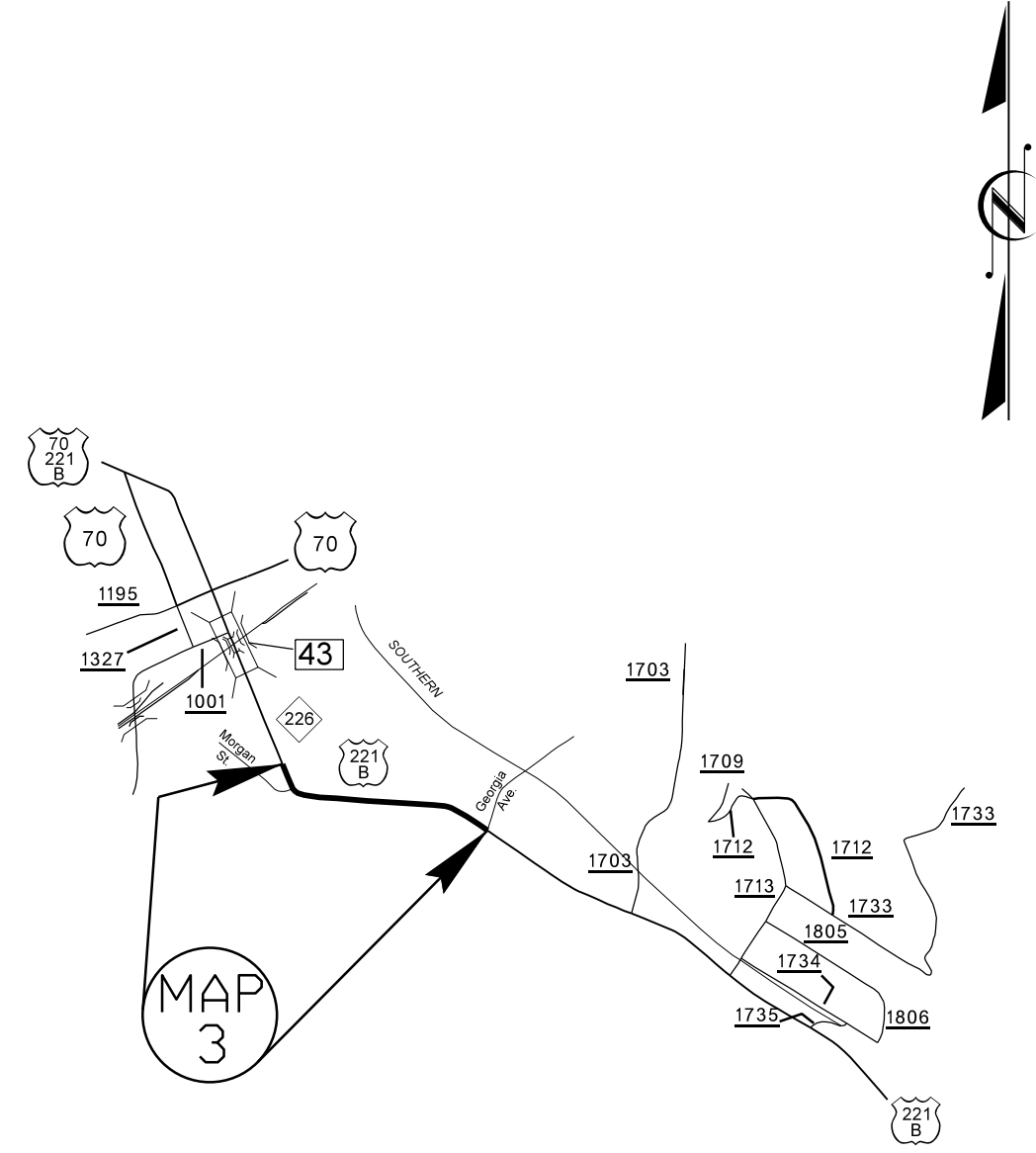
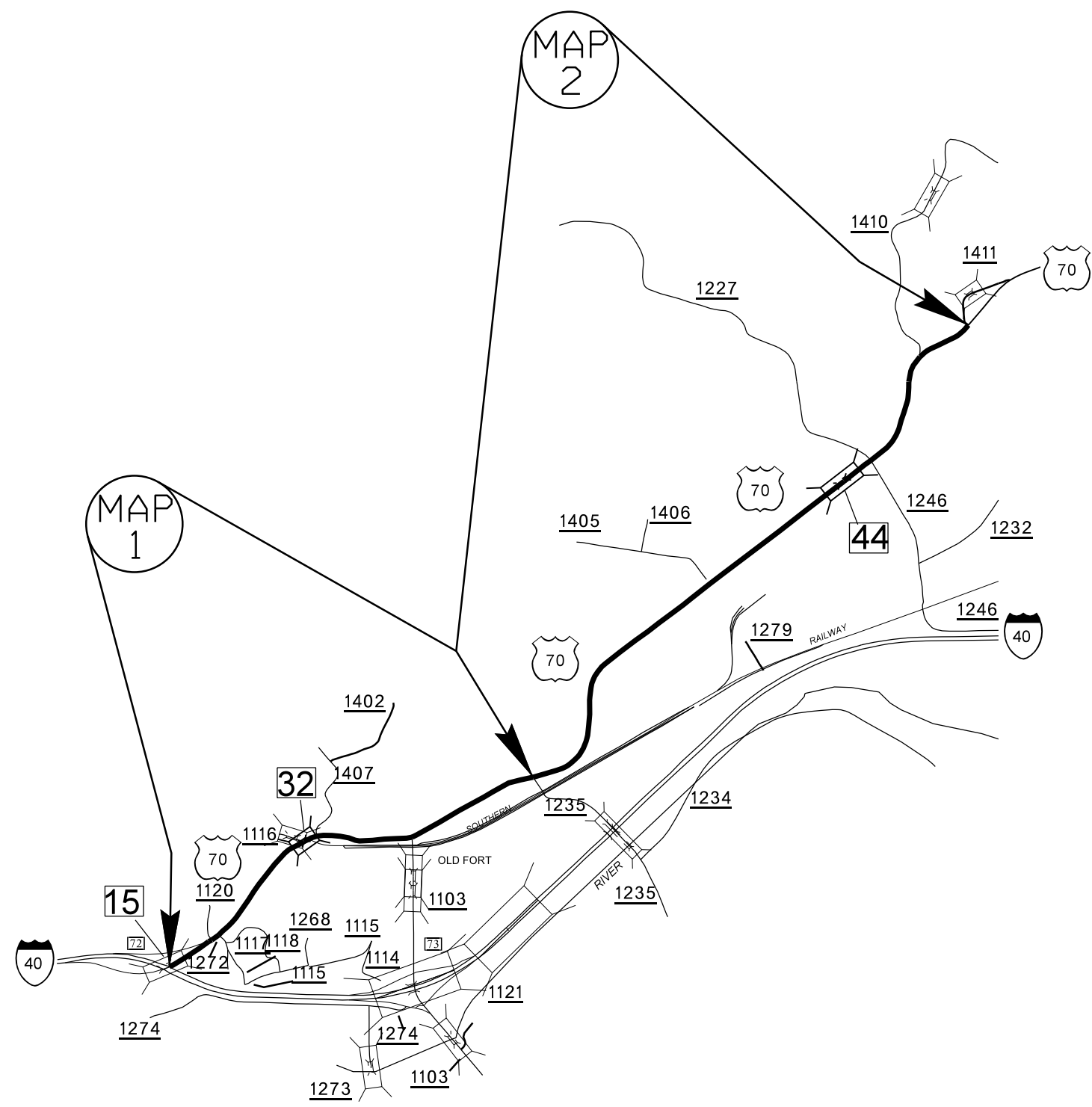
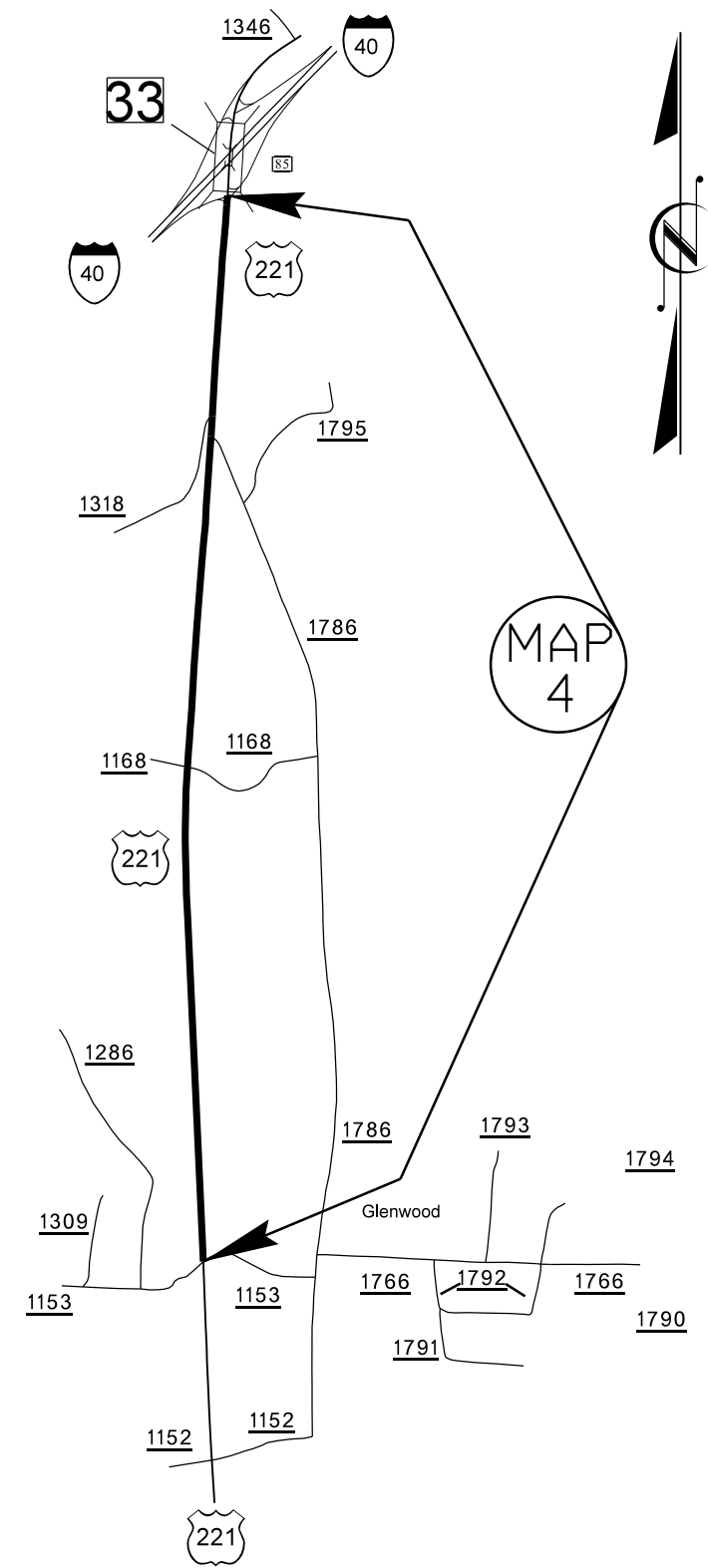
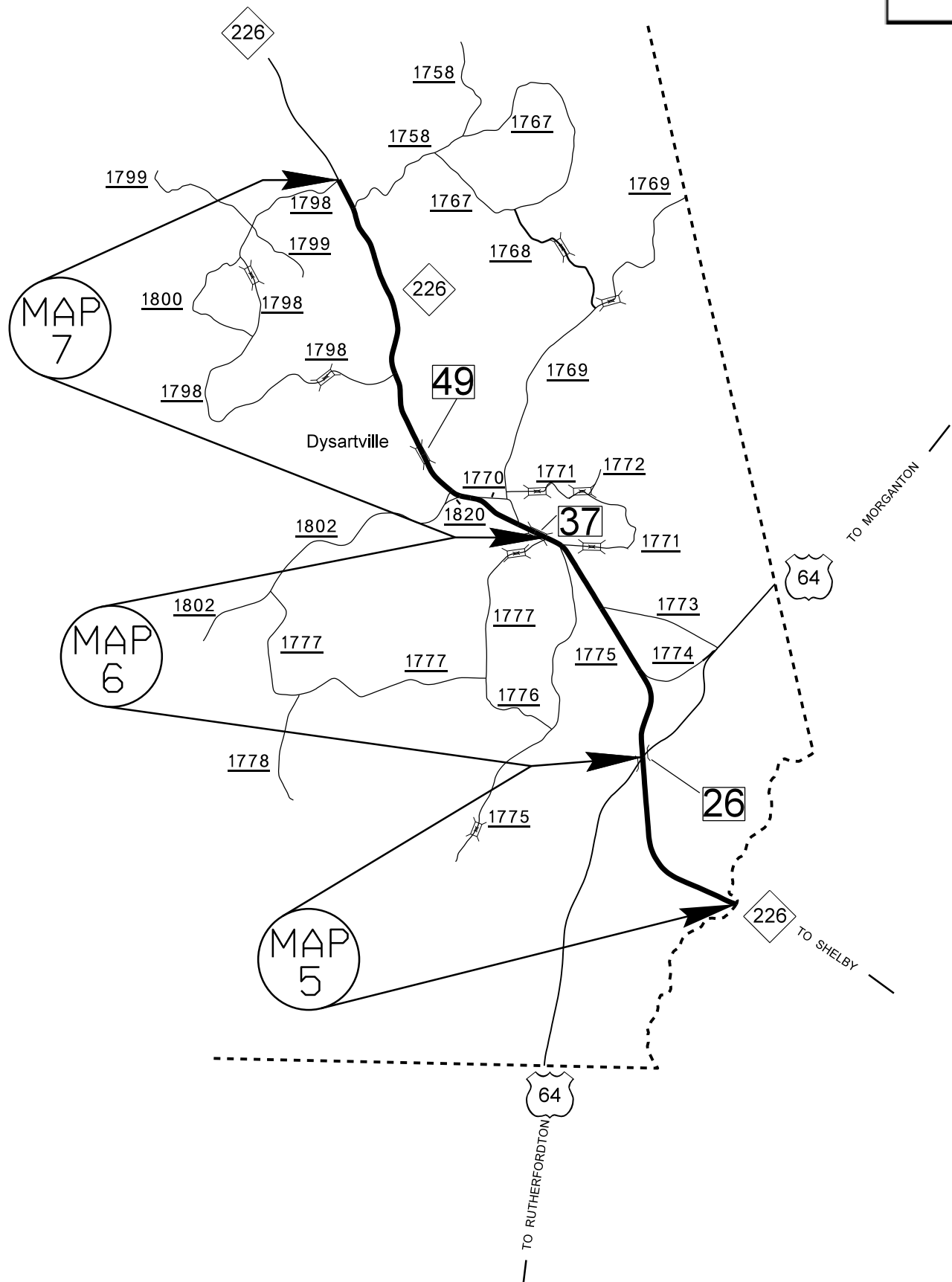


PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	1	18



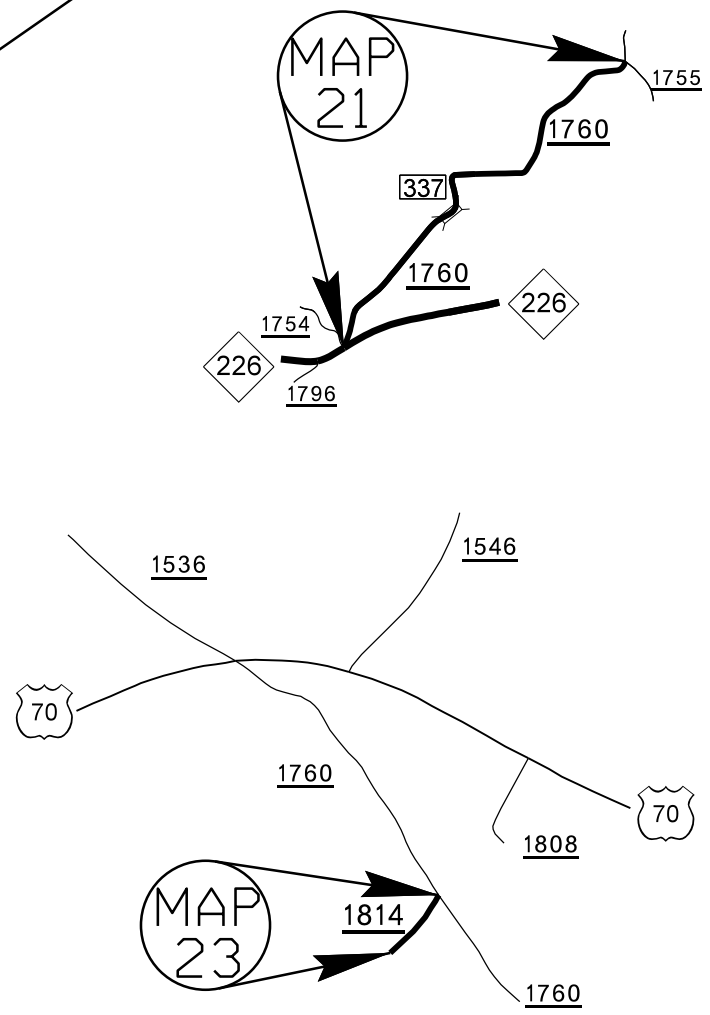
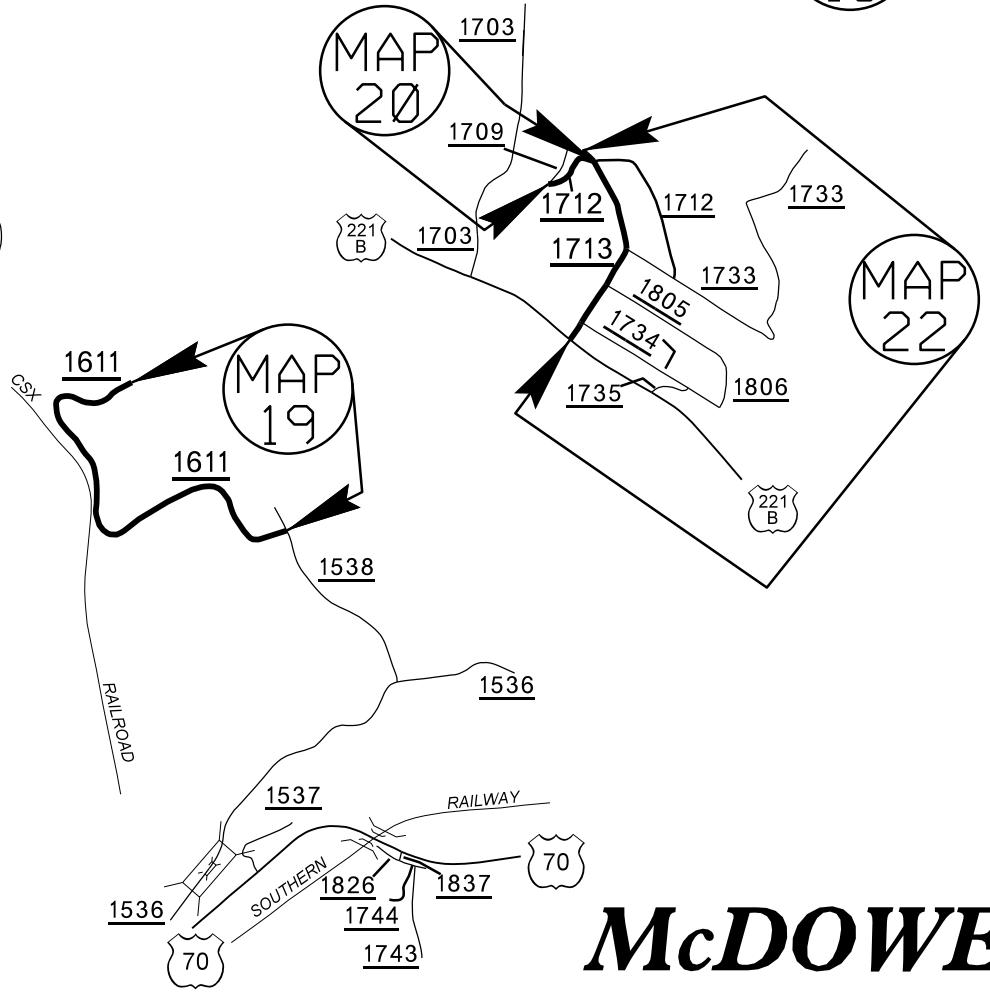
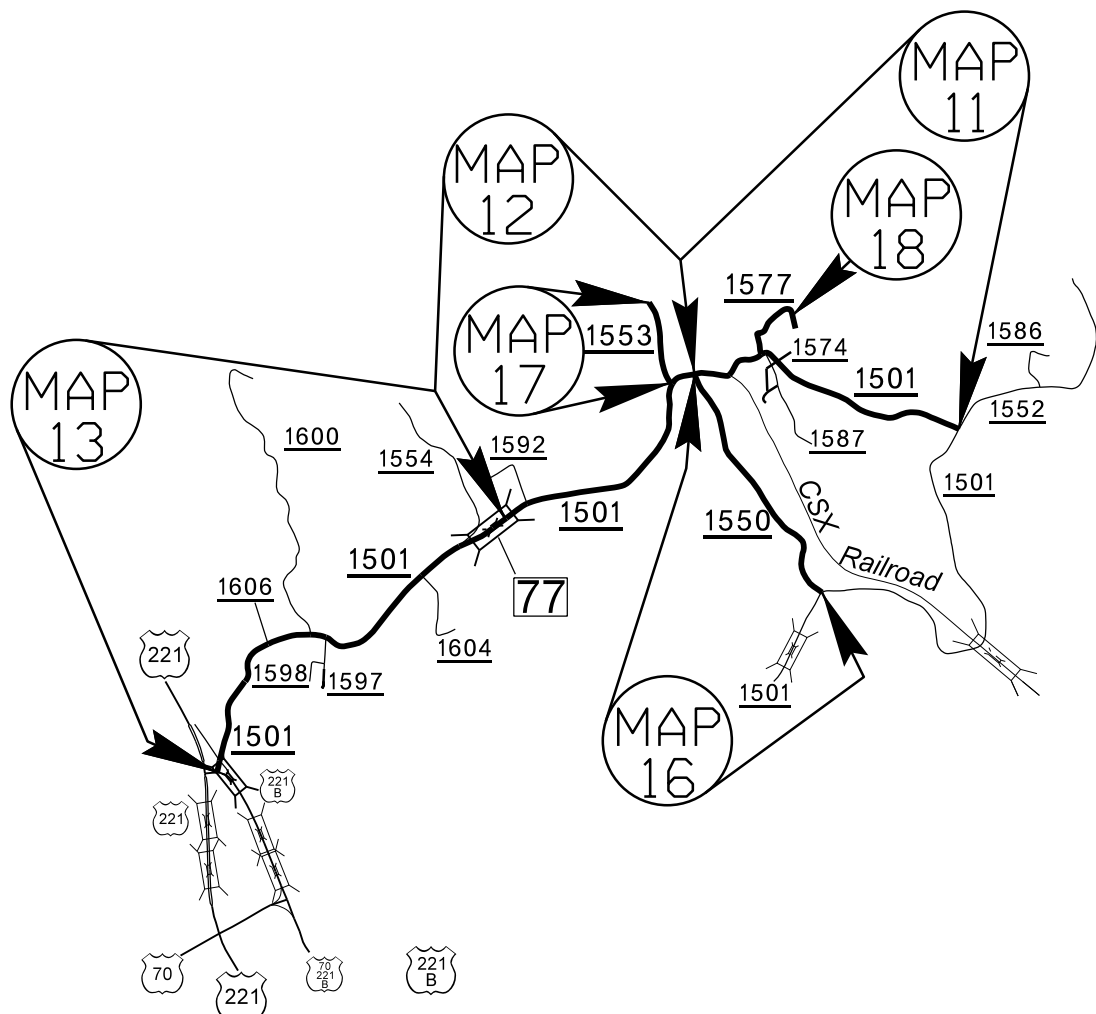
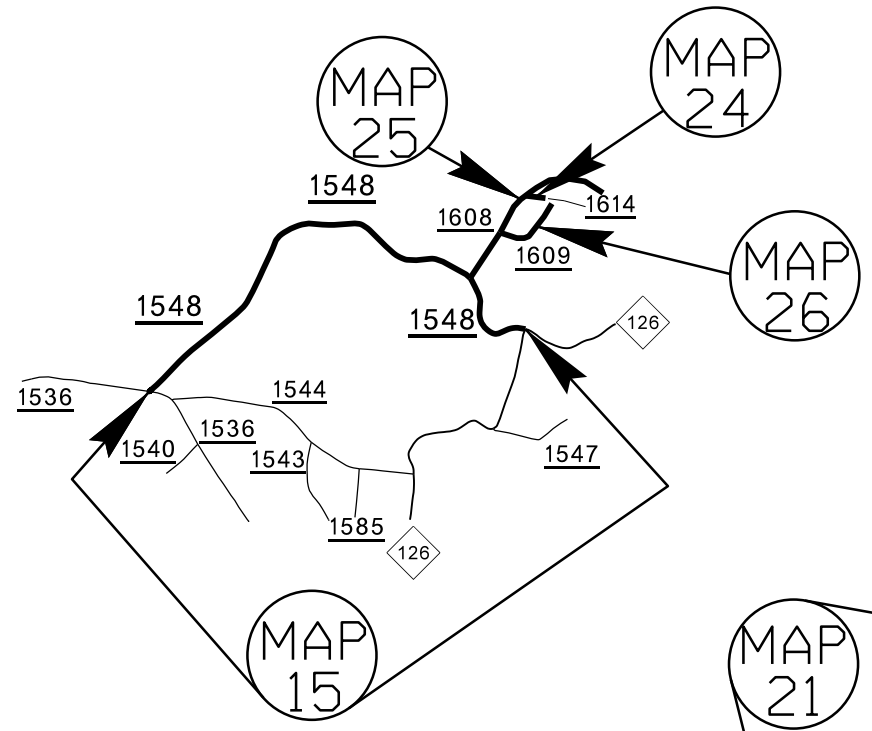
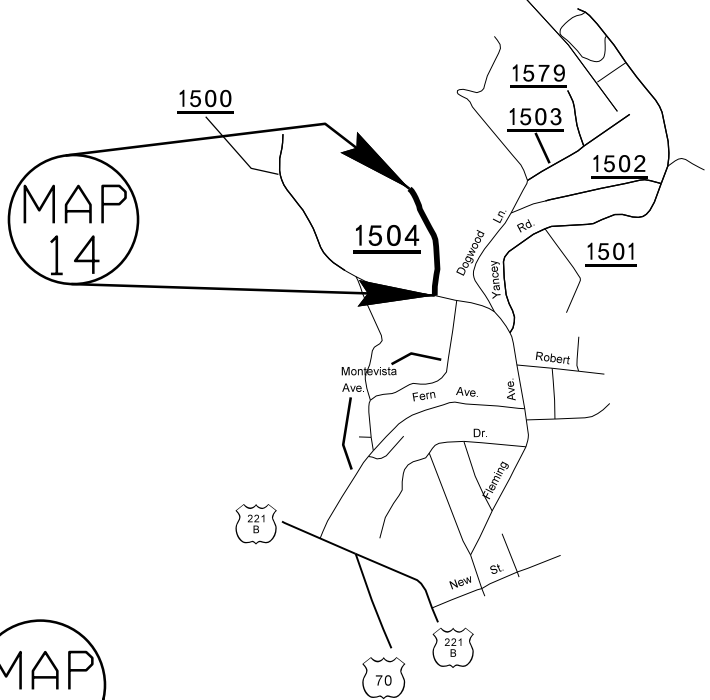
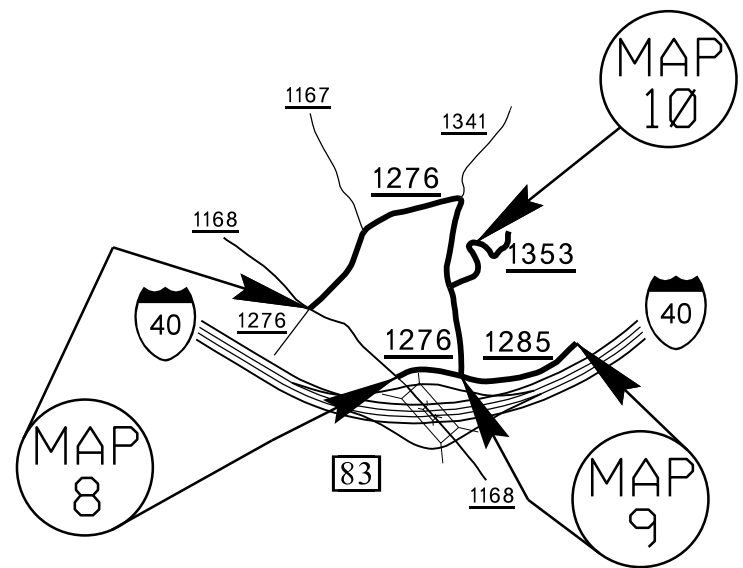
McDOWELL COUNTY

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	2	18



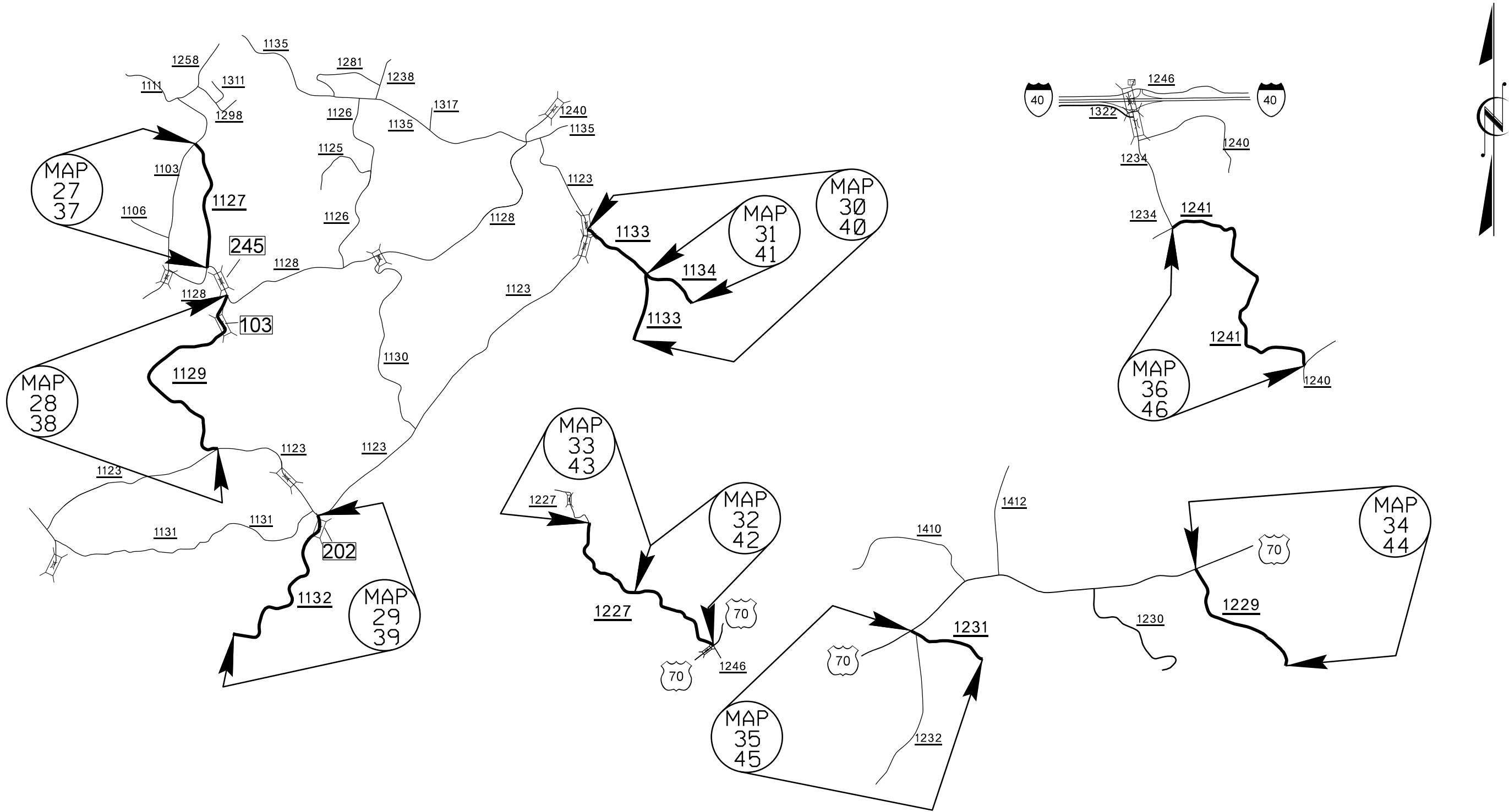
McDOWELL COUNTY

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	3	18

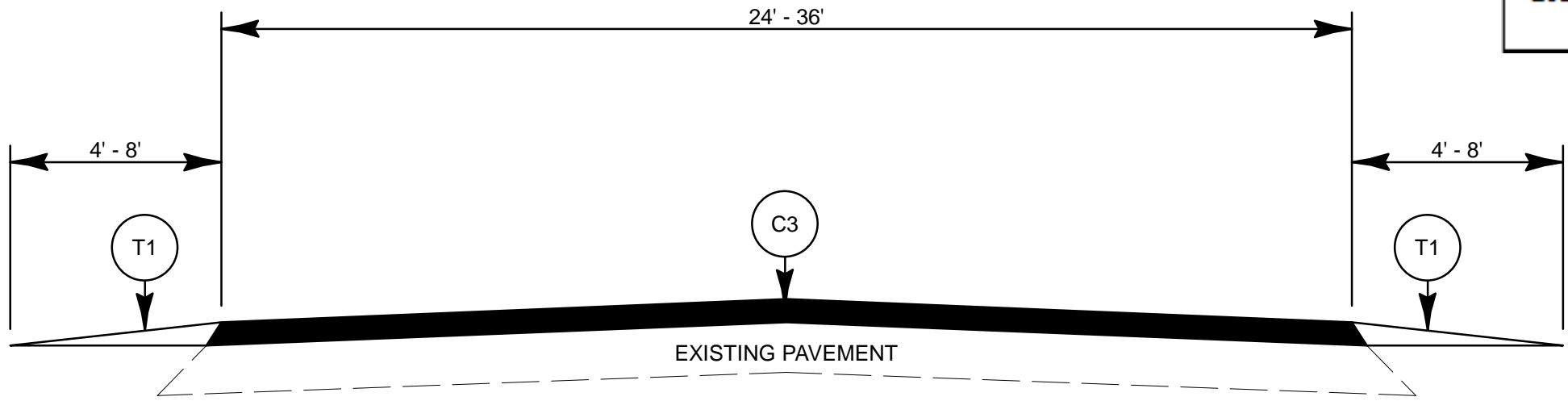


McDOWELL COUNTY

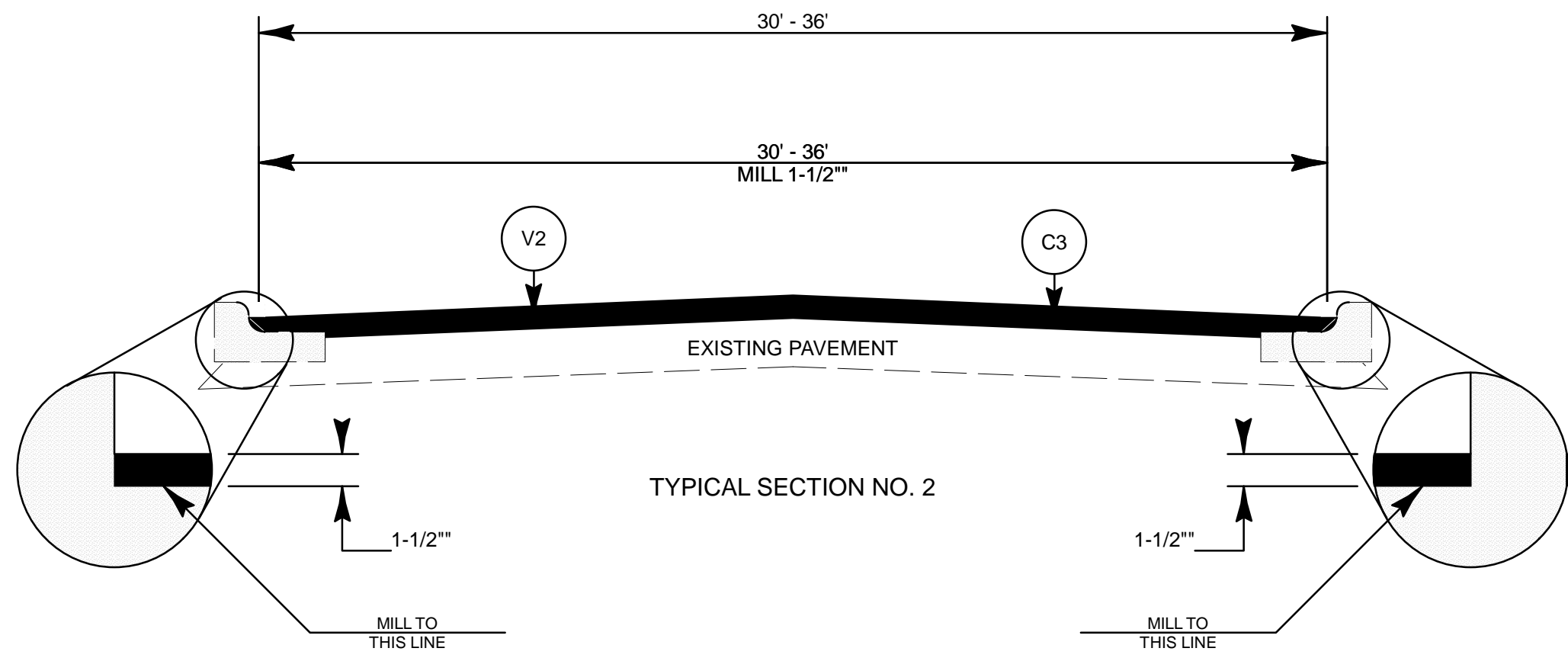
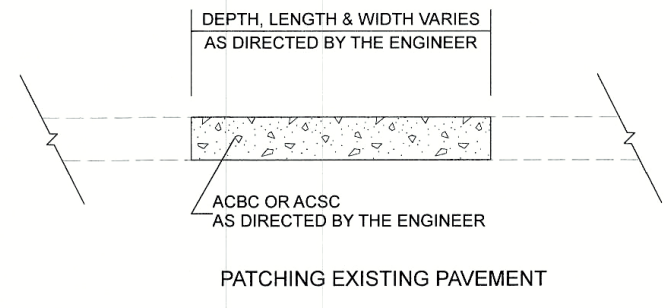
PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	4	18



McDOWELL COUNTY



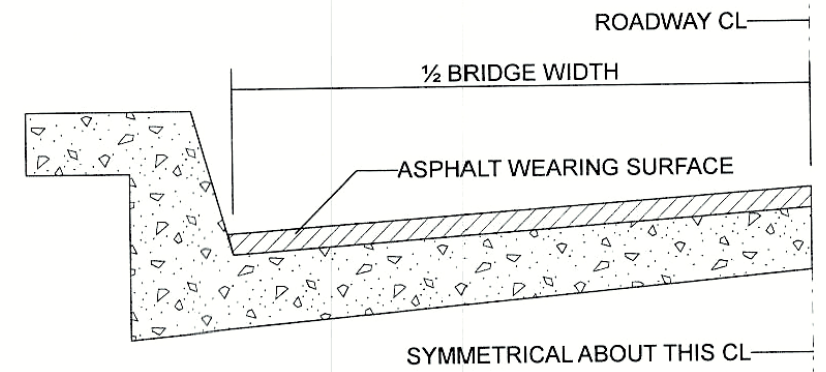
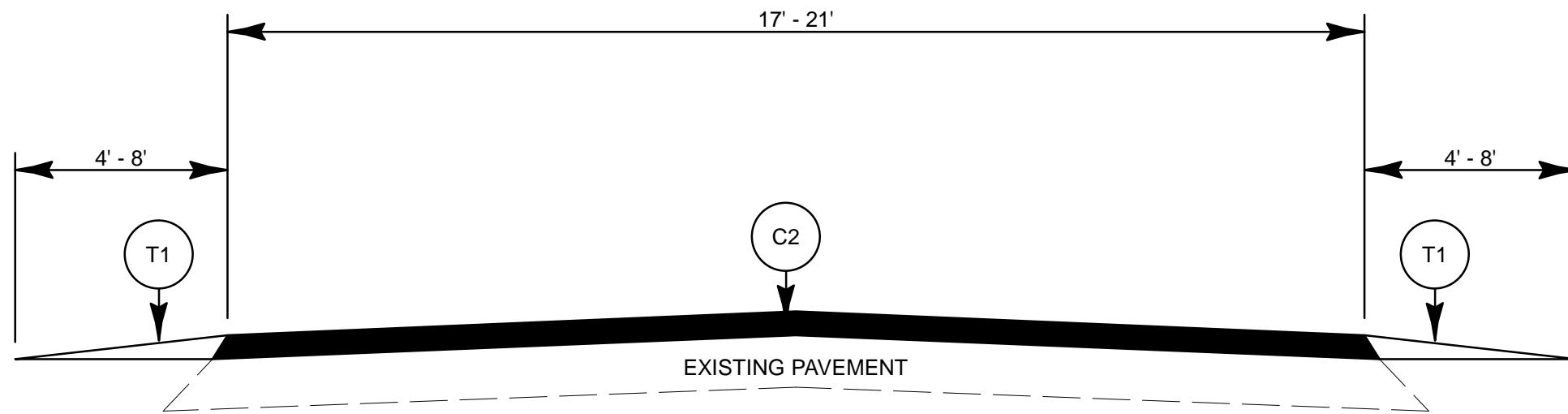
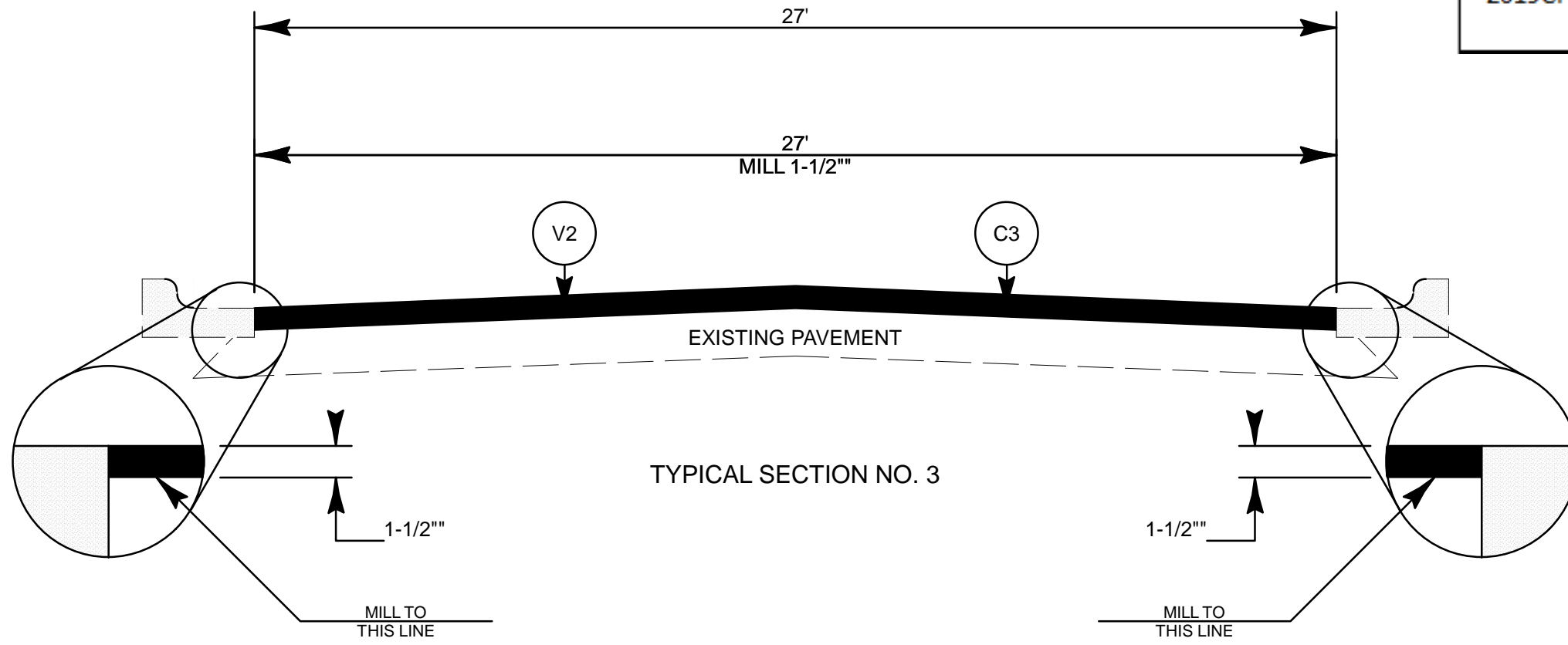
TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A, AT AN AVERAGE RATE OF 100 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
C3	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 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	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V3	INCIDENTAL MILLING

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	6	18



BRIDGE HALF TYPICAL SECTION

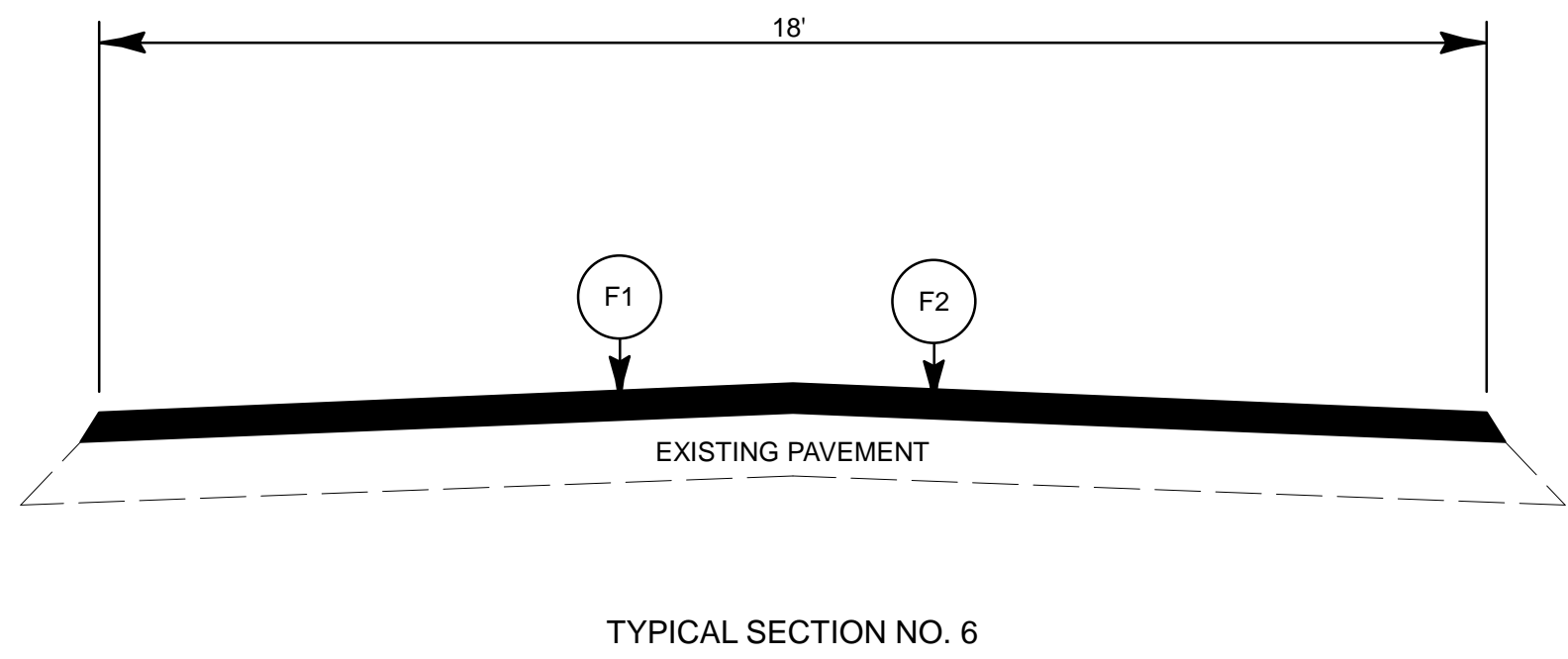
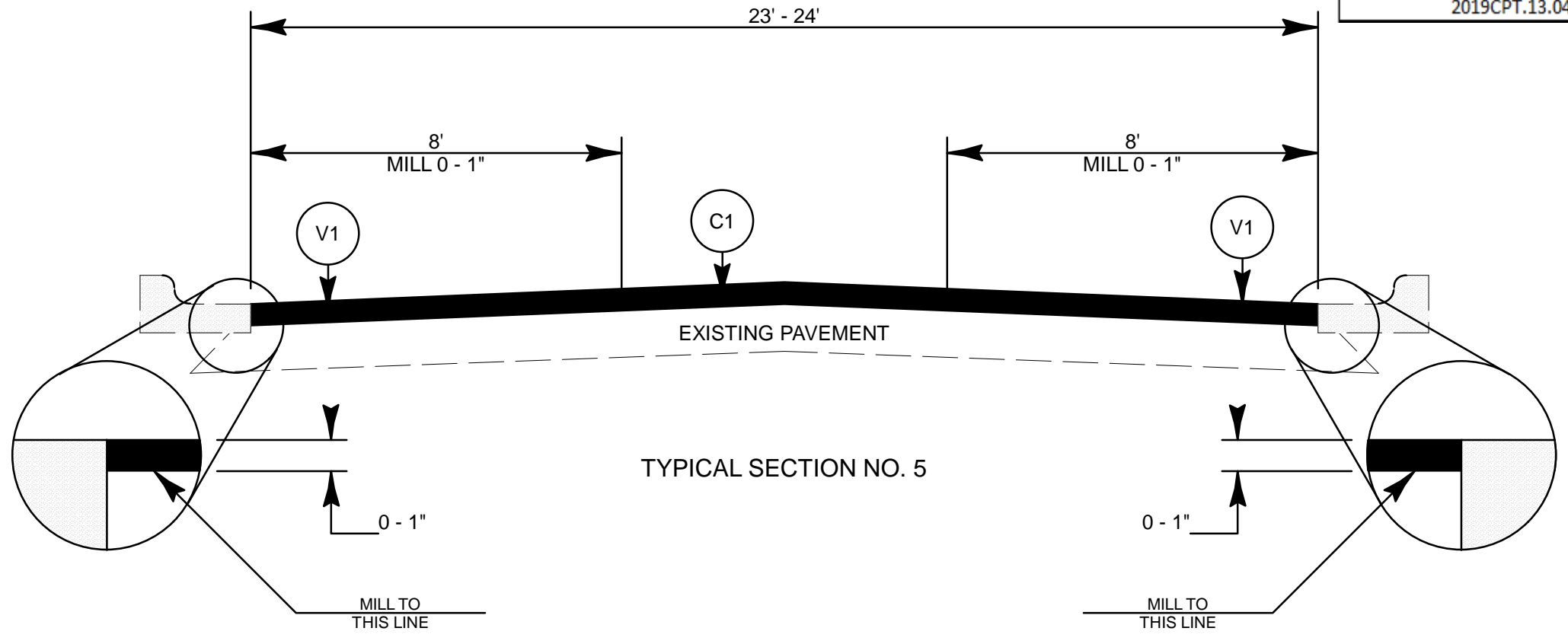
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN

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 1/4", SF9.5A 1.0", S9.5X 1.5", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A 3/4", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C 1/2". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1.0", SF9.5A 1.5", S9.5X 2.0", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A 3/4", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C 1/2".

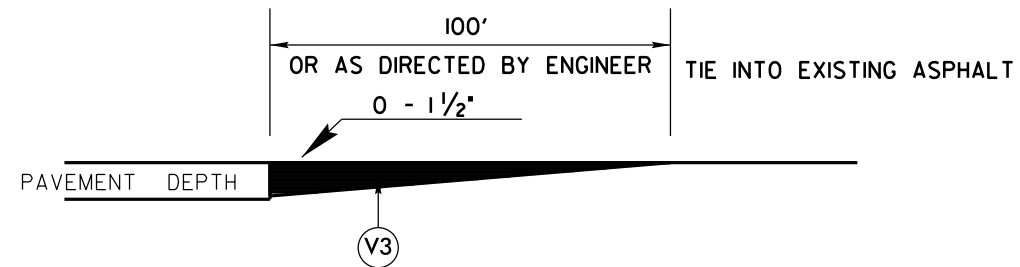
NOTES

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.

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	7	18

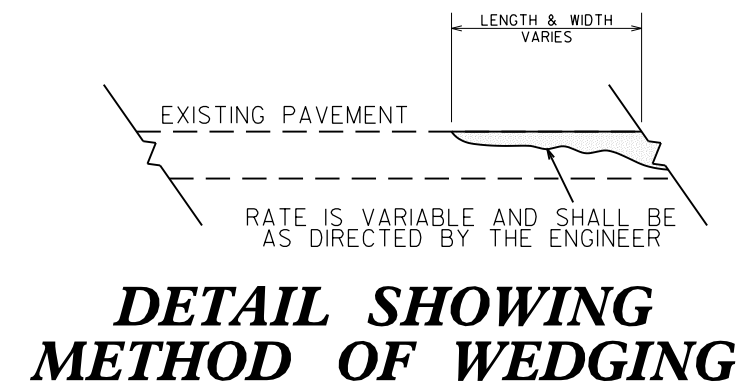
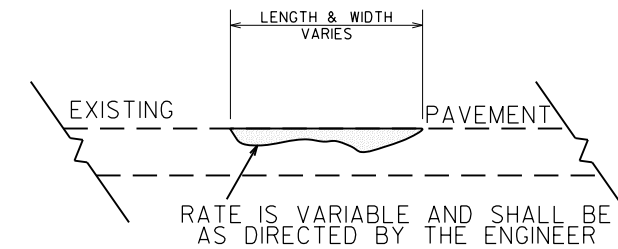


PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	8	18

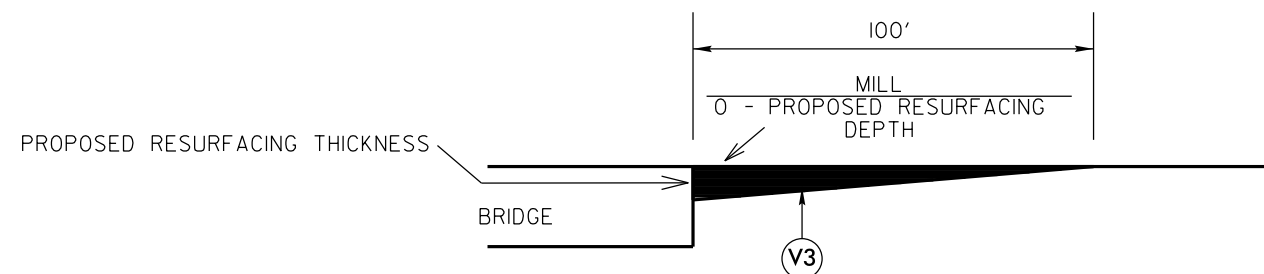


DETAIL TO TIE INTO EXIST PAVEMENT

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.



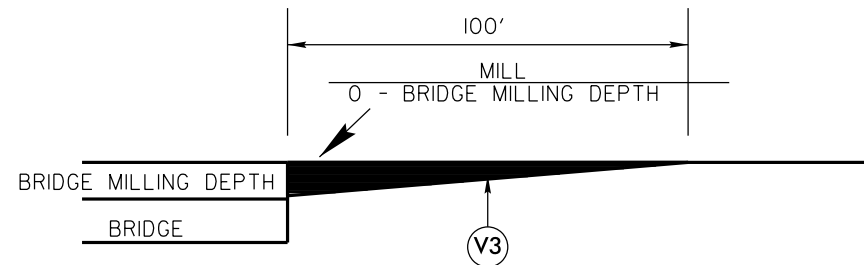
DETAIL SHOWING METHOD OF WEDGING



MILLING DETAIL AT BRIDGE APPROACHES

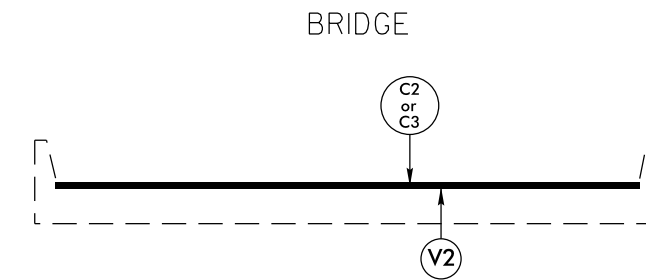
WHERE BRIDGES WILL NOT BE RESURFACED. THIS WILL BE PAID FOR AS INCIDENTAL MILLING. USE AT BRIDGE NUMBERS: 29 MAP 4 AND 49 MAP 7.

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	9	18



MILLING DETAIL AT BRIDGE APPROACHES

**WHERE BRIDGES WILL BE MILLED THEN RESURFACED.
THIS WILL BE PAID FOR AS INCIDENTAL MILLING.
USE AT BRIDGE NUMBERS: 32 MAP 1, 44 MAP 2,
26 MAP 5, 77 MAP 12, AND 337 MAP 21.**



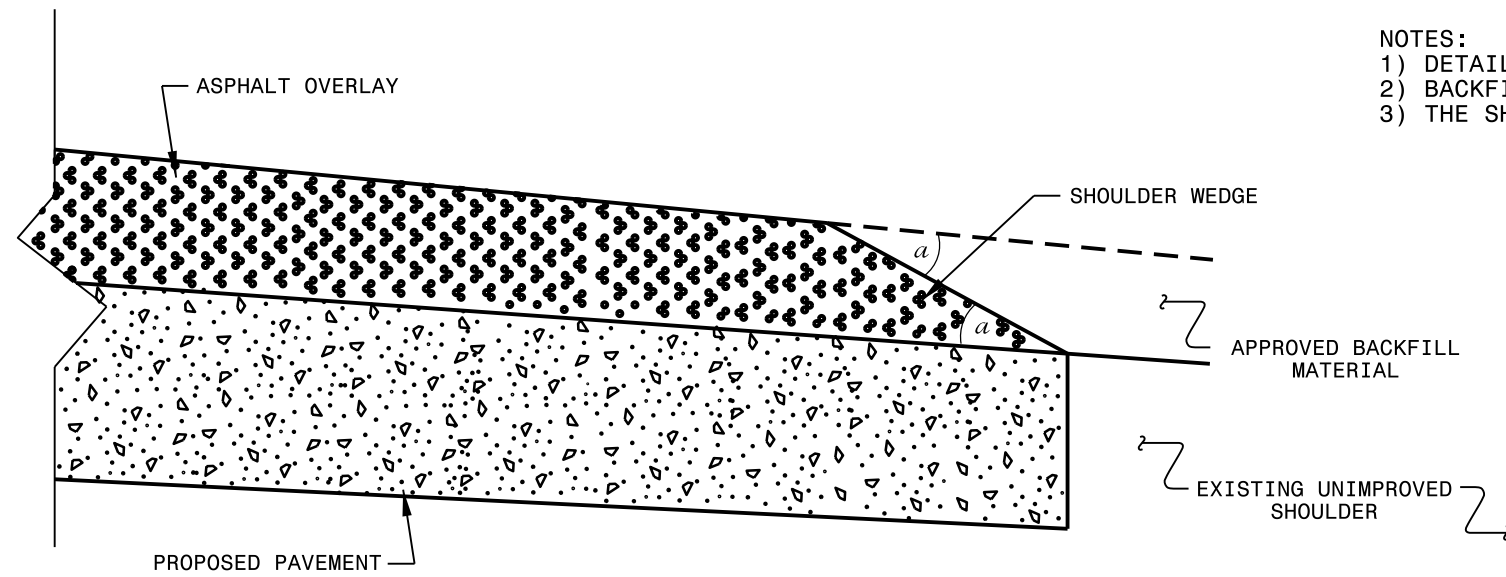
BRIDGE DETAIL

**BRIDGE NUMBER 32 MAP 1, 44 MAP 2,
26 MAP 5, 77 MAP 12, AND 337 MAP 21.
MILL 1-1/2" OFF EXISTING PAVEMENT
SEE MAPS FOR BRIDGE LOCATION**

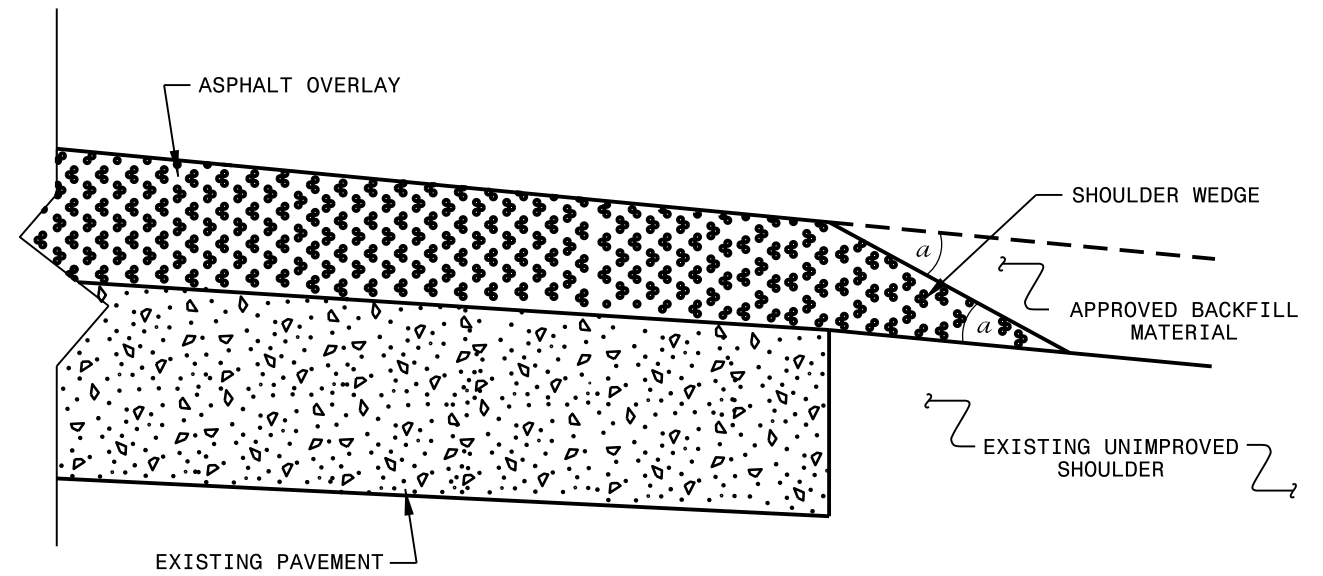
PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	10	18

NOTES:

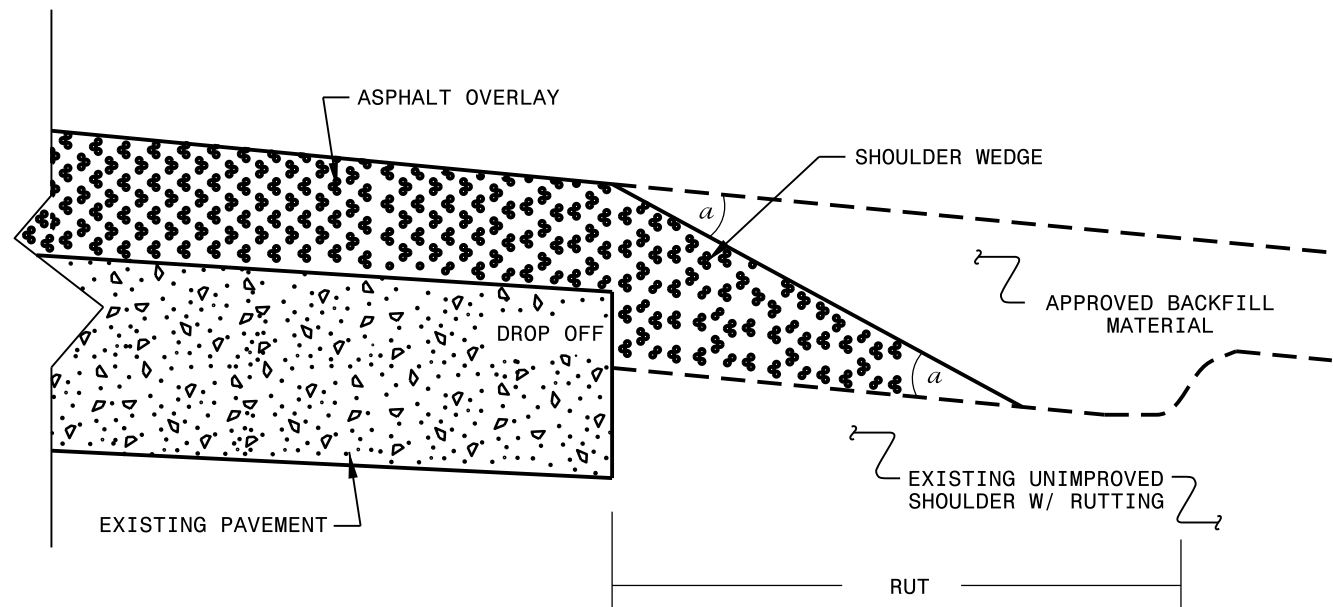
- 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.
- 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
- 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



SHOULDER WEDGE DETAIL
(Resurfacing Projects w/ NO Widening)



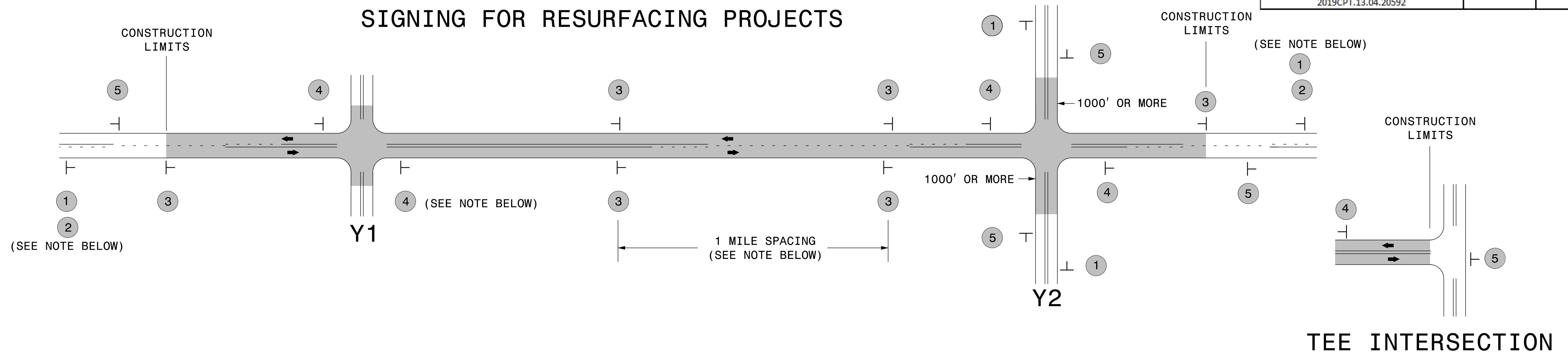
SHOULDER WEDGE DETAIL
(Resurfacing Adjacent to
Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
SHOULDER WEDGE DETAILS	
ORIGINAL BY: T.SPELL	DATE: 7-19-11
MODIFIED BY:	DATE: 10/16/12
CHECKED BY:	DATE:
FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn	

SYSTEMS DESIGN
USER NAME

SIGNING FOR RESURFACING PROJECTS



LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

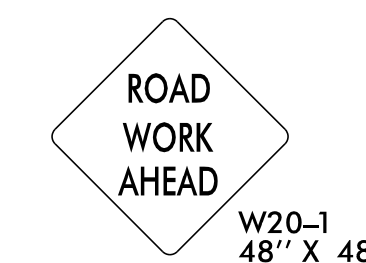
-Y- LINE SIGNING

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	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 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.

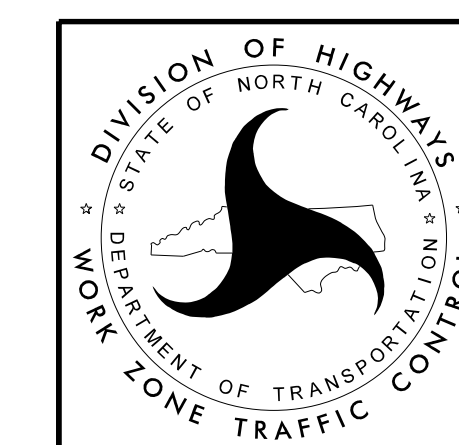
NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

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

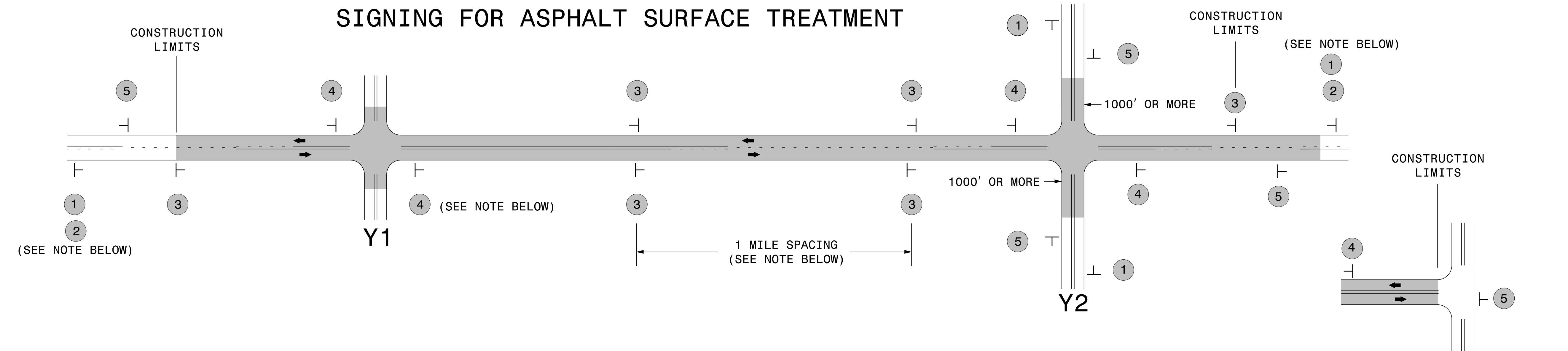
WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.



PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.



RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS



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.
	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)
	3	 	- 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		- 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.

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.

W20-1
 48" X 48"

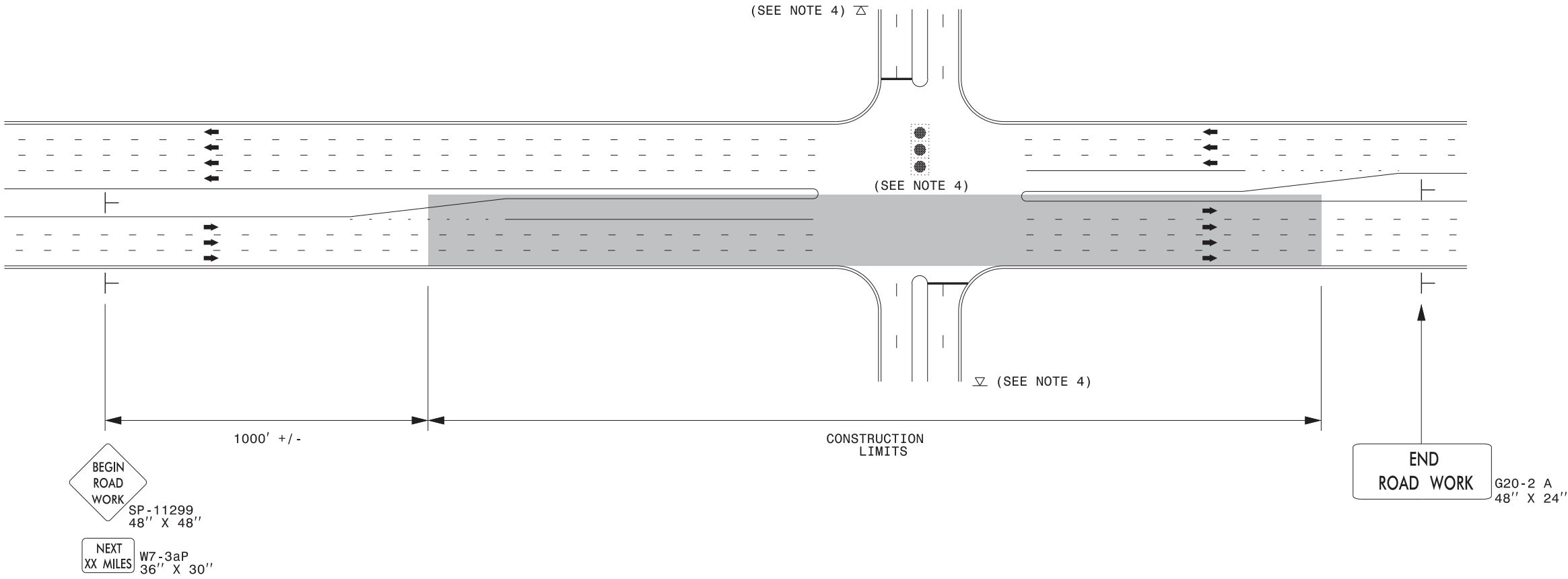
W20-7 A
 48" X 48"

PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.

ADVANCE WARNING SIGNS FOR ASPHALT SURFACE TREATMENTS 2 LANE ROADWAYS

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	15	18

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



**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

BACKG COLOR: Fluorescent Orange
 COPY COLOR: Black

DESIGN BY: WJ
 PROJECT ID: ALL

CHECKED BY:
 DIV: ALL

DATE: Jun 22, 2011

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"

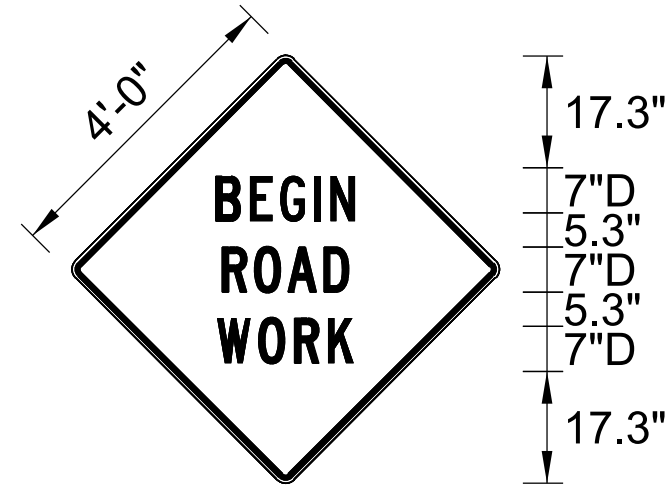
NO. Z BARS: N/A
 LENGTH: N/A

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

SP 11299

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	16	18



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

Spacing Factor is 1 unless specified otherwise

USE NOTES: 1,2

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

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

SIGN NUMBER: SP13106
 TYPE: STATIONARY
 QUANTITY: SEE PLANS

BACKG COLOR: Fluorescent Orange
 COPY COLOR: Black

DESIGN BY: B. RASHID
 PROJECT ID:

CHECKED BY: AIA
 DIV:

DATE: Apr 26, 2013

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 4'-0"
 HEIGHT: 4'-0"
 TOTAL AREA: 16.00 Sq.Ft.

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

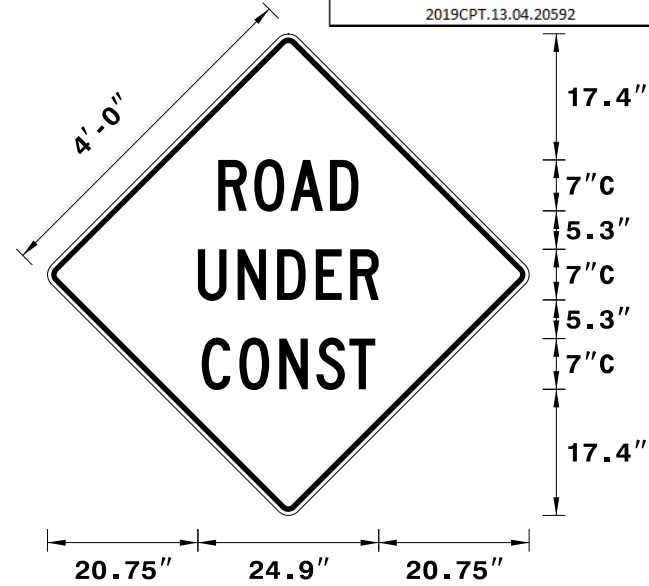
NO. Z BARS:
 LENGTH:

MAT'L: 0.080" (2.0 mm) ALUMINUM

USE NOTES: 1,2

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

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	17	18



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

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

SIGN NUMBER: SP13107
 TYPE: STATIONARY
 QUANTITY: SEE PLANS

BACKG COLOR: Fluorescent Orange
 COPY COLOR: Black

DESIGN BY: B. RASHID
 PROJECT ID:

CHECKED BY: AIA
 DIV:

DATE: Apr 26, 2013

SYMBOL	X	Y	WID	HT

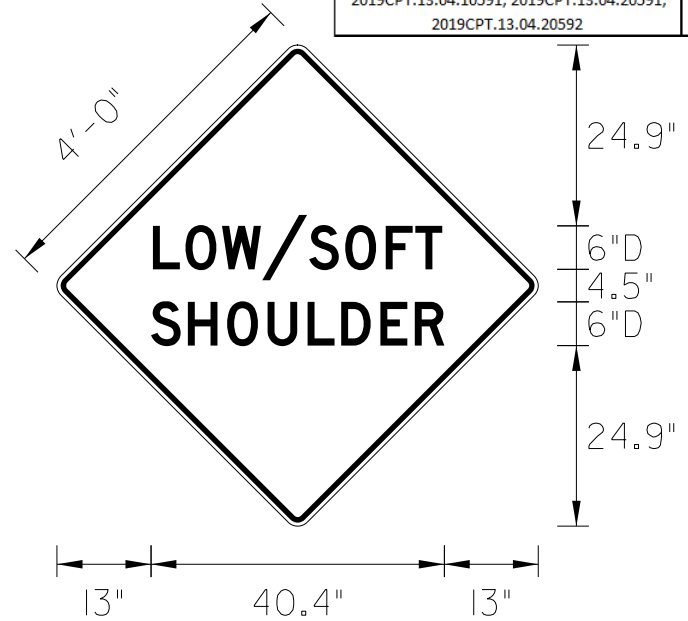
SIGN WIDTH: 4'-0"
 HEIGHT: 4'-0"
 TOTAL AREA: 16.00 Sq.Ft.

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

NO. Z BARS:
 LENGTH:

MAT'L: 0.080" (2.0 mm) ALUMINUM

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.13.04.10591, 2019CPT.13.04.20591, 2019CPT.13.04.20592	18	18



USE NOTES: 1,2

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

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