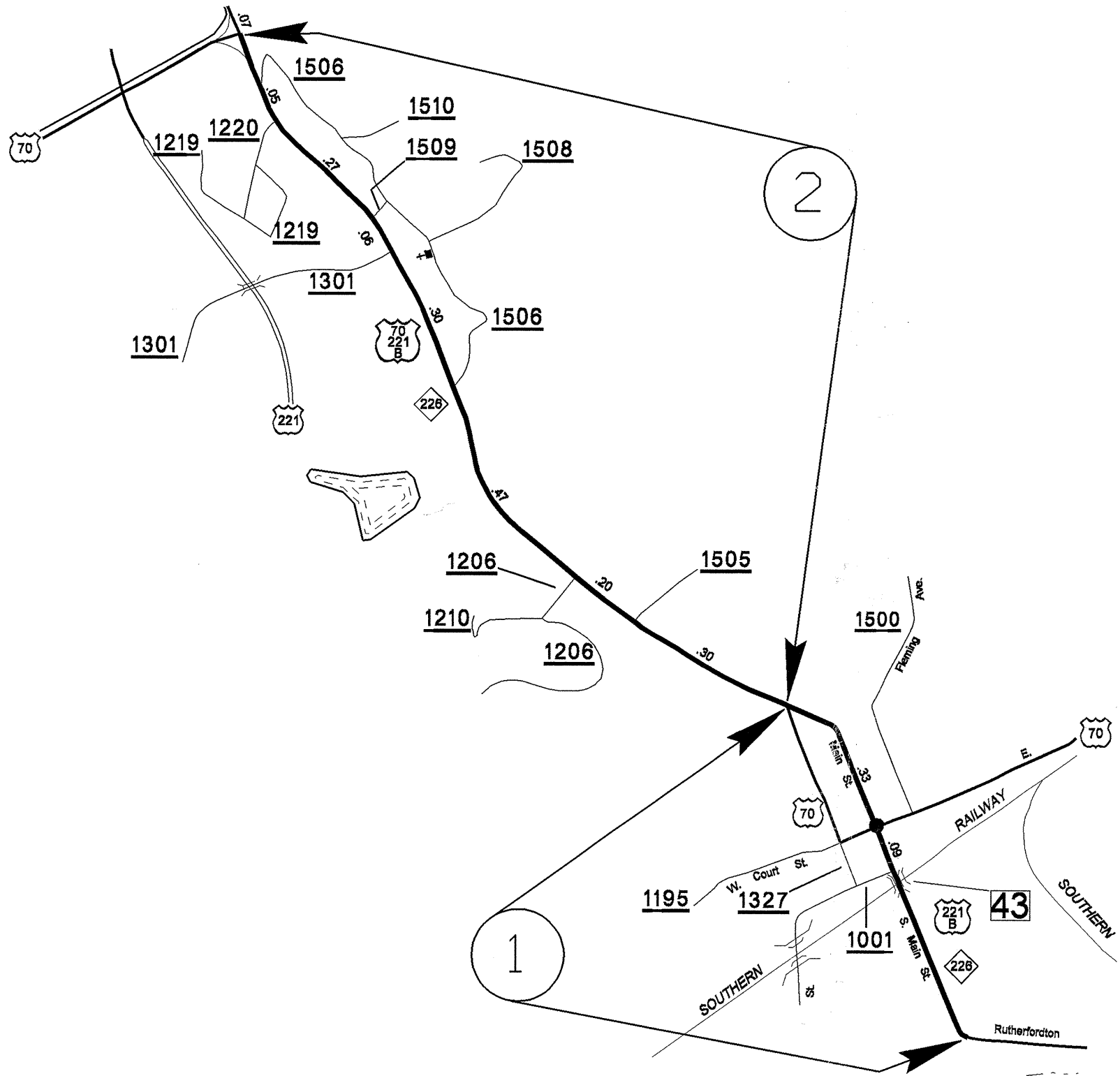
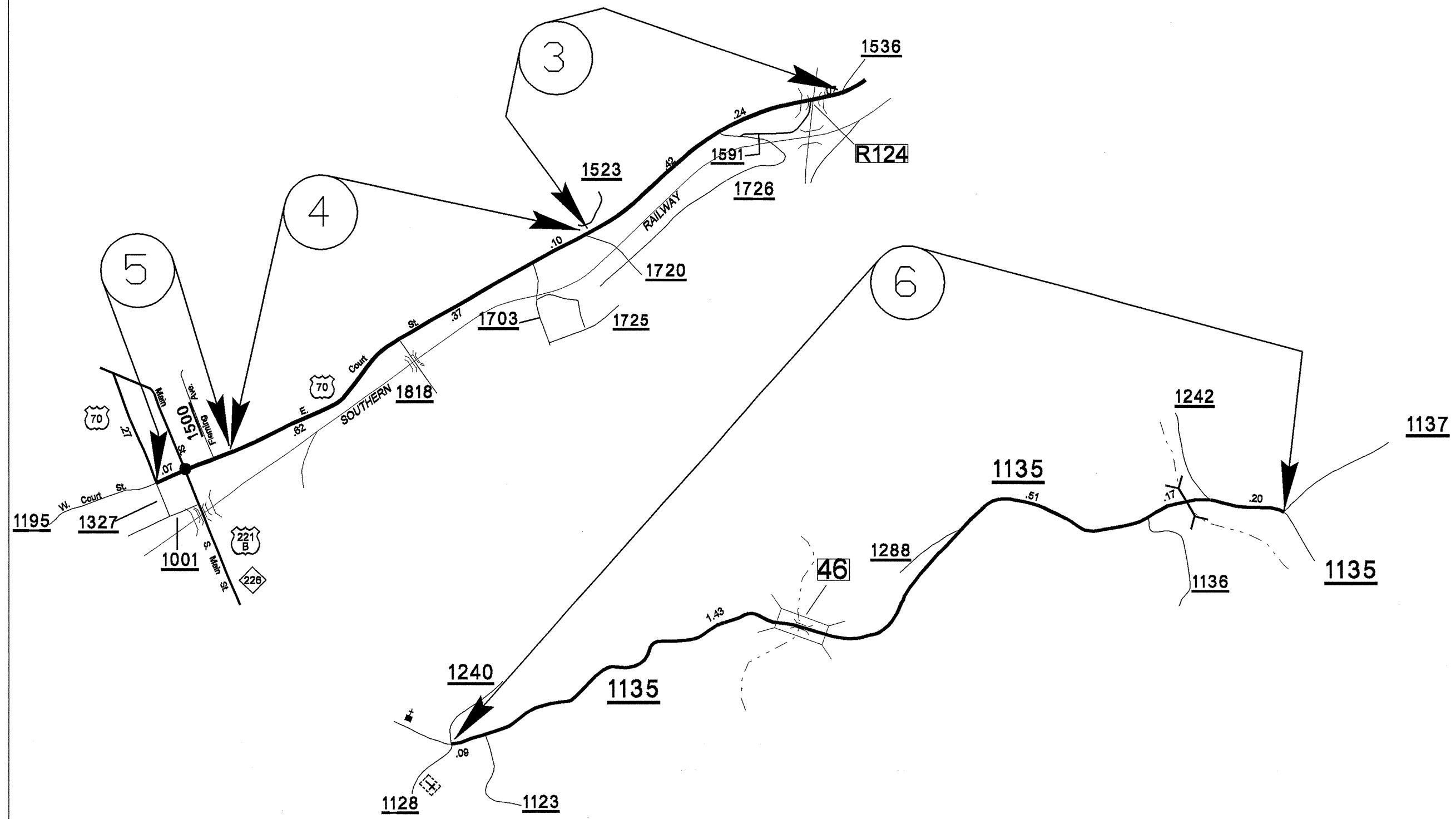


PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9 13CR.20591.8 13C.059062. ECT	1	



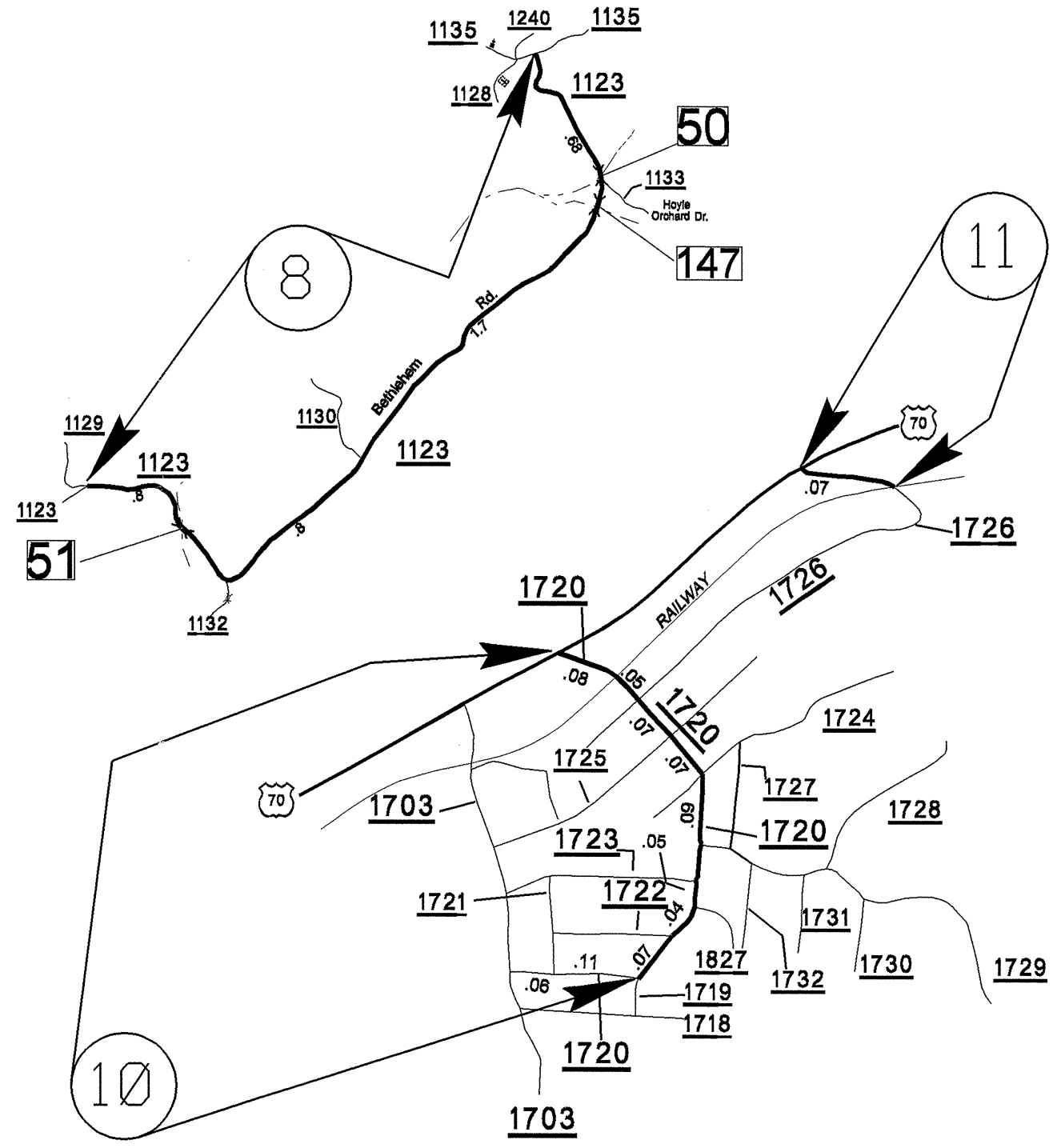
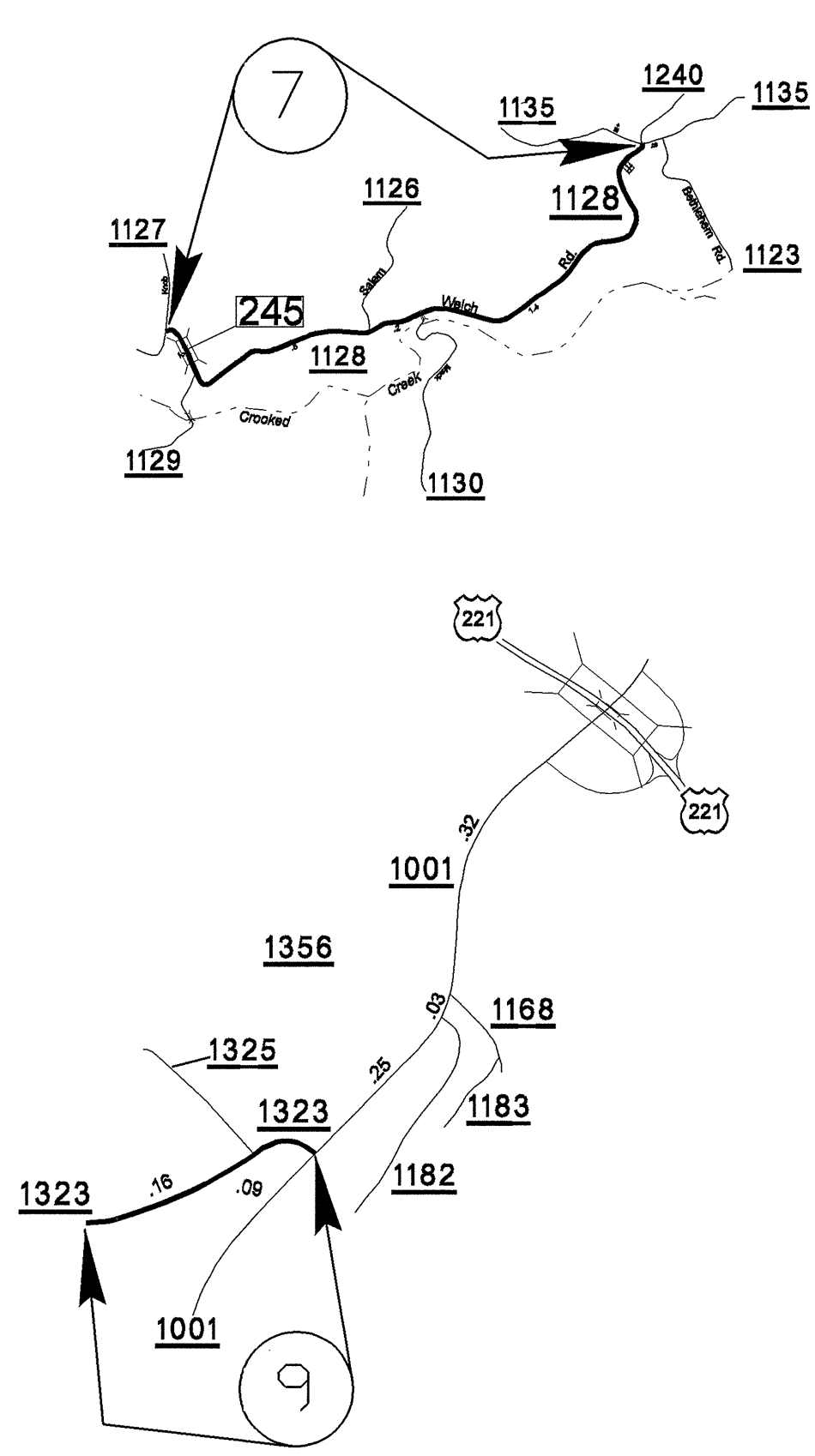
McDOWELL COUNTY

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9 13CR.20591.8 13C.059062. ECT	2	



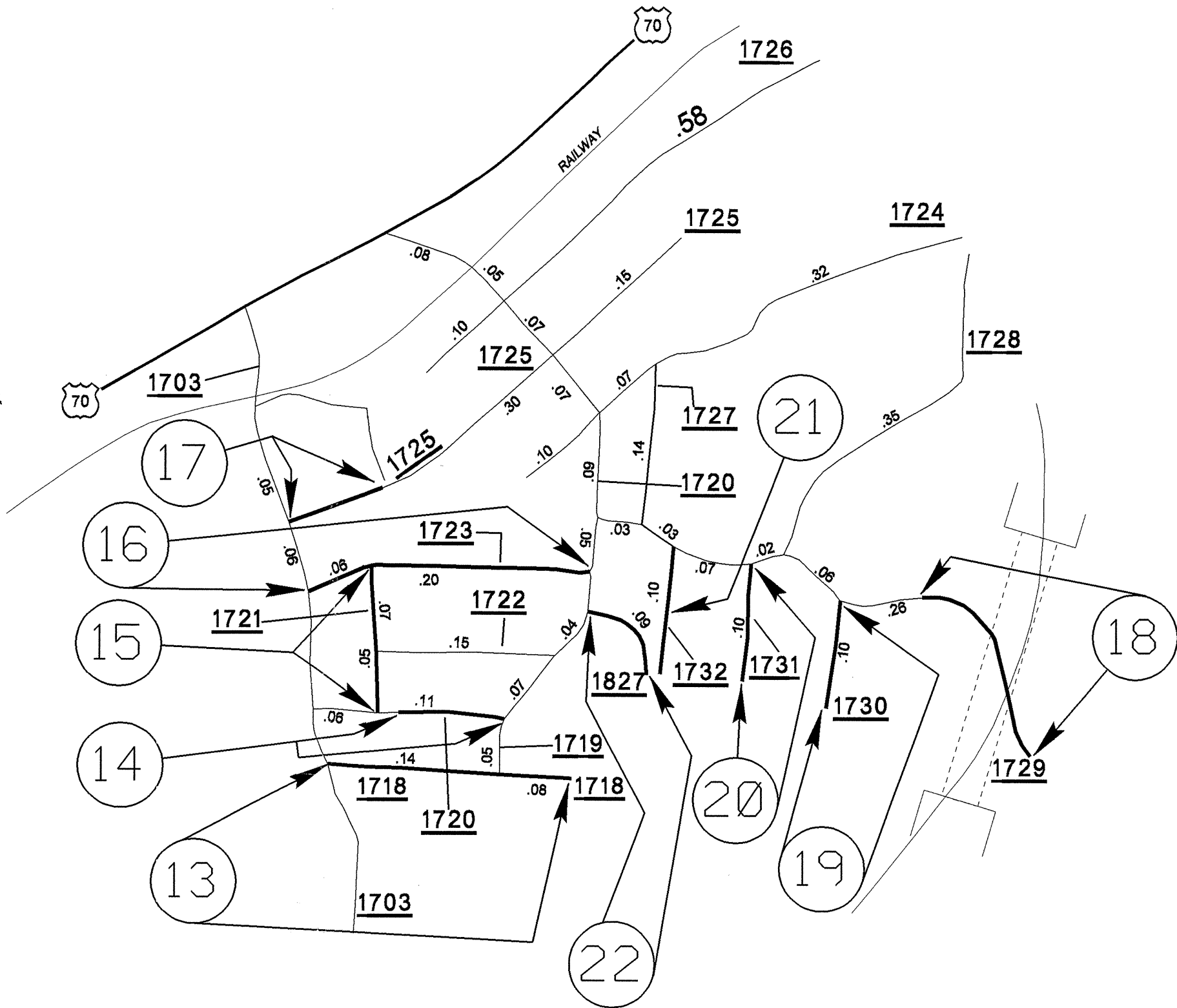
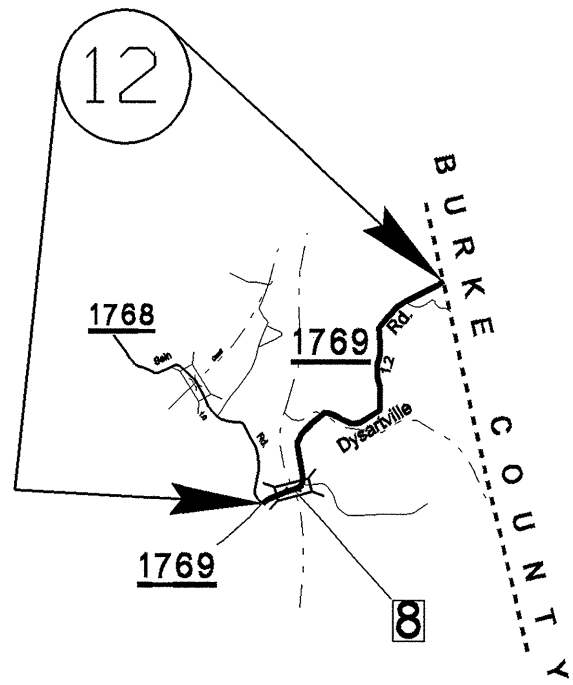
McDOWELL COUNTY

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9 13CR.20591.8 13C.059062. ECT	3	



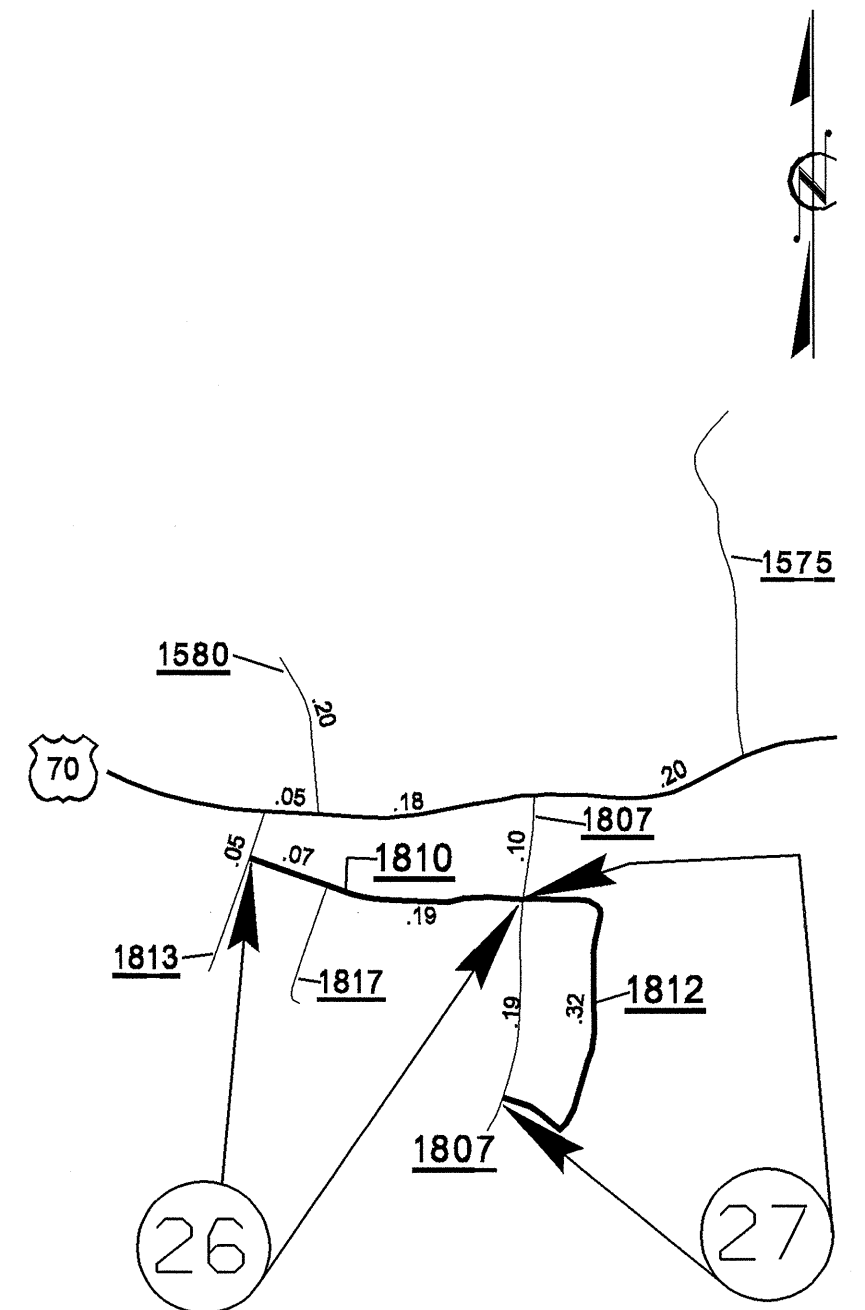
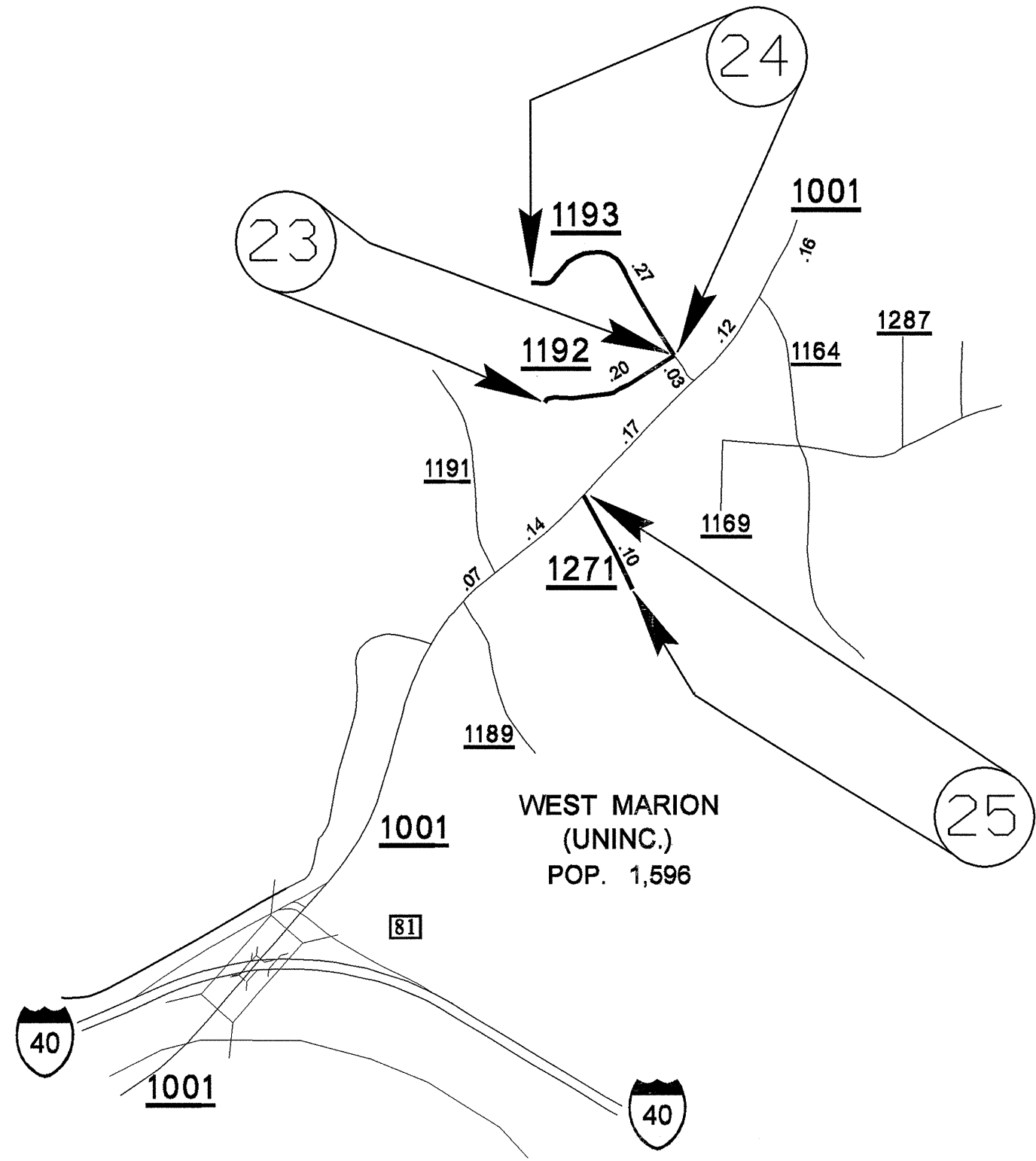
McDOWELL COUNTY

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9 13CR.20591.8 13C.059062. ECT	4	

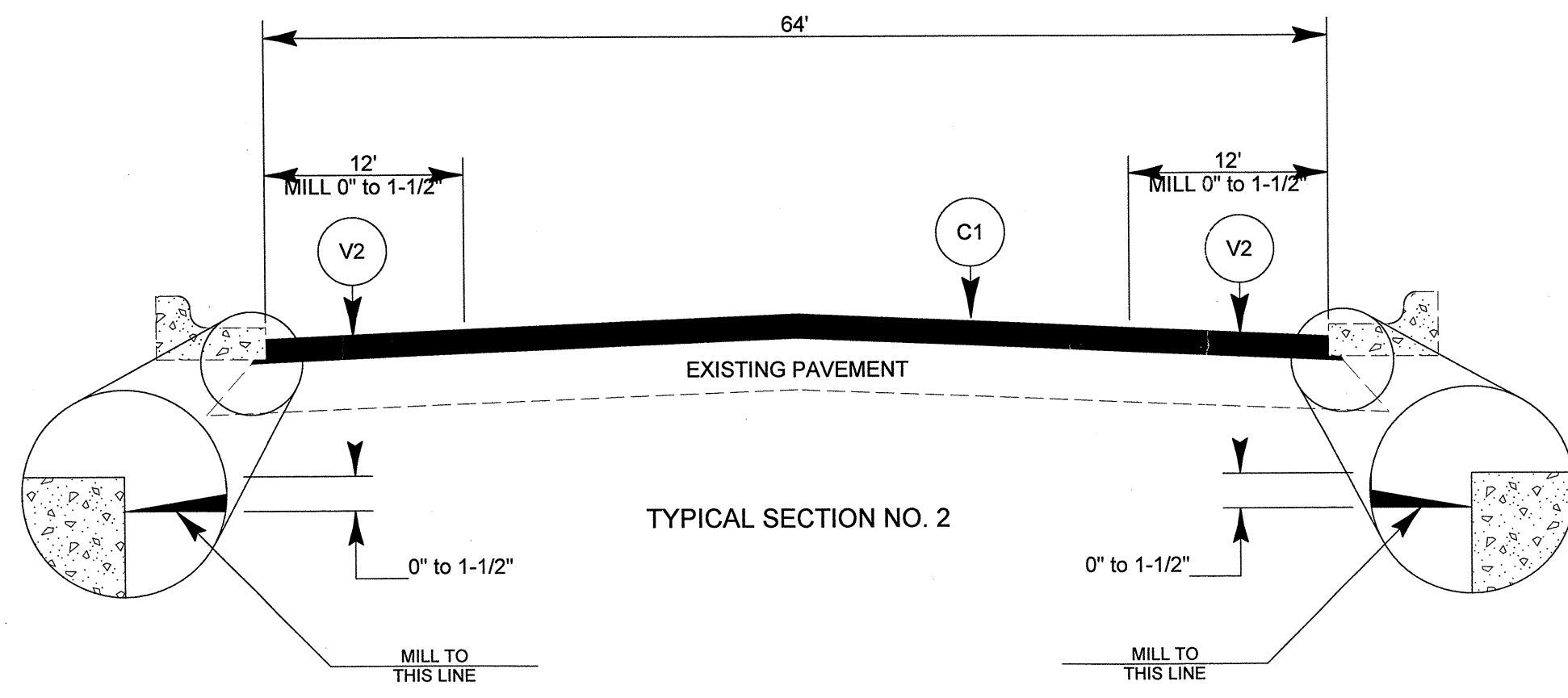
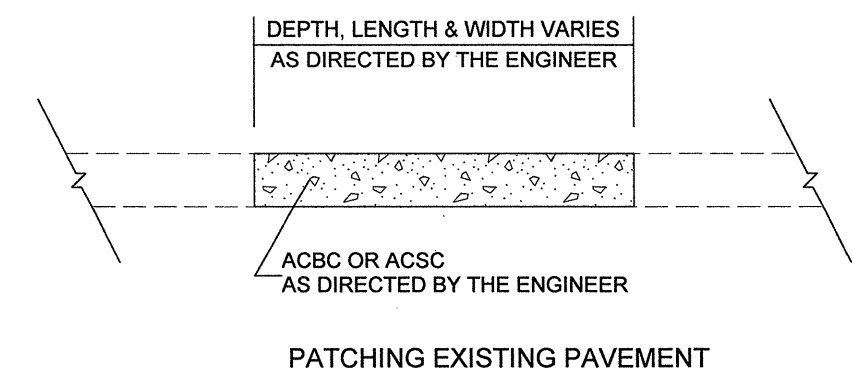
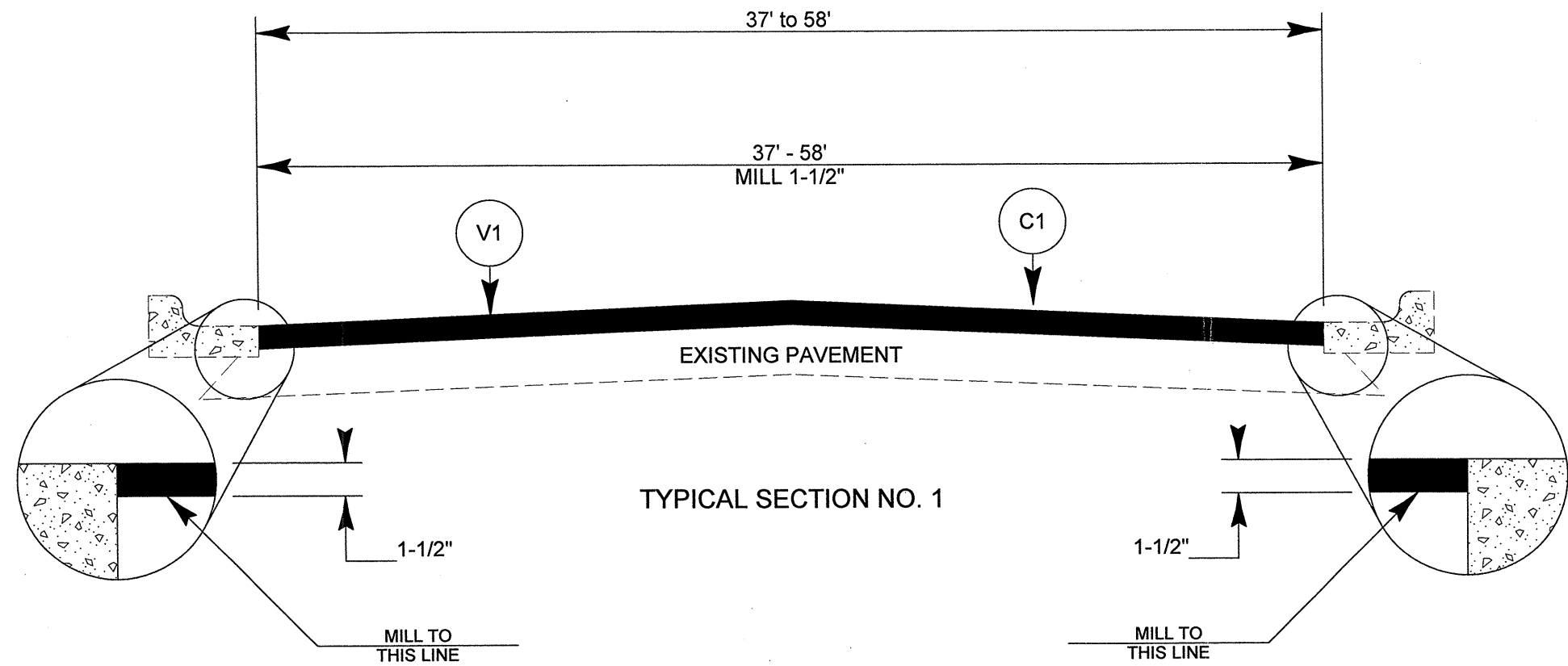


McDOWELL COUNTY

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9 13CR.20591.8 13C.059062. ECT	5	

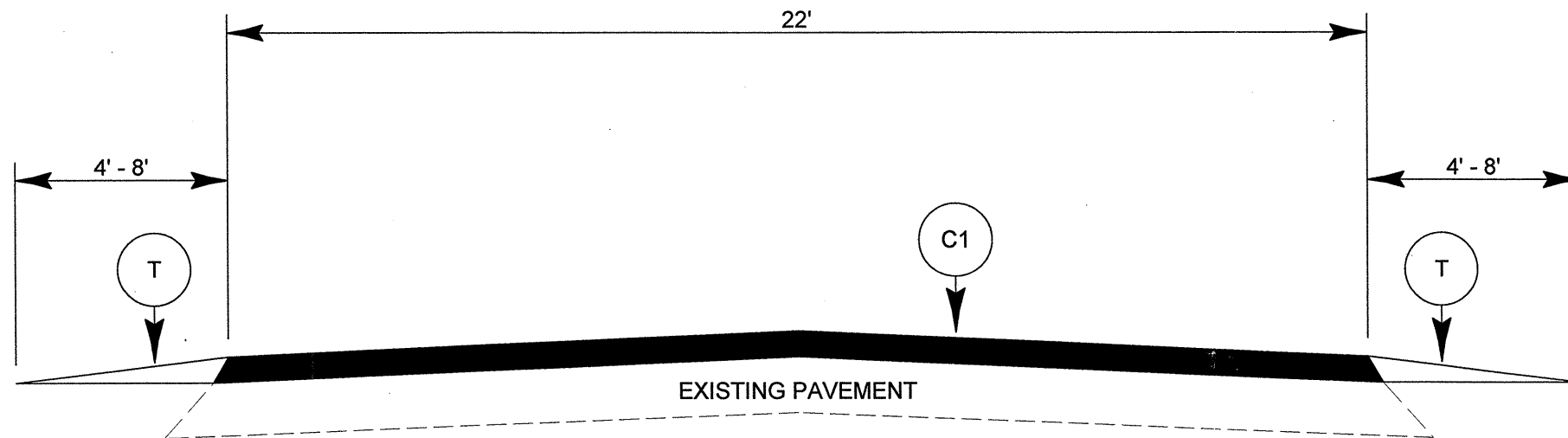
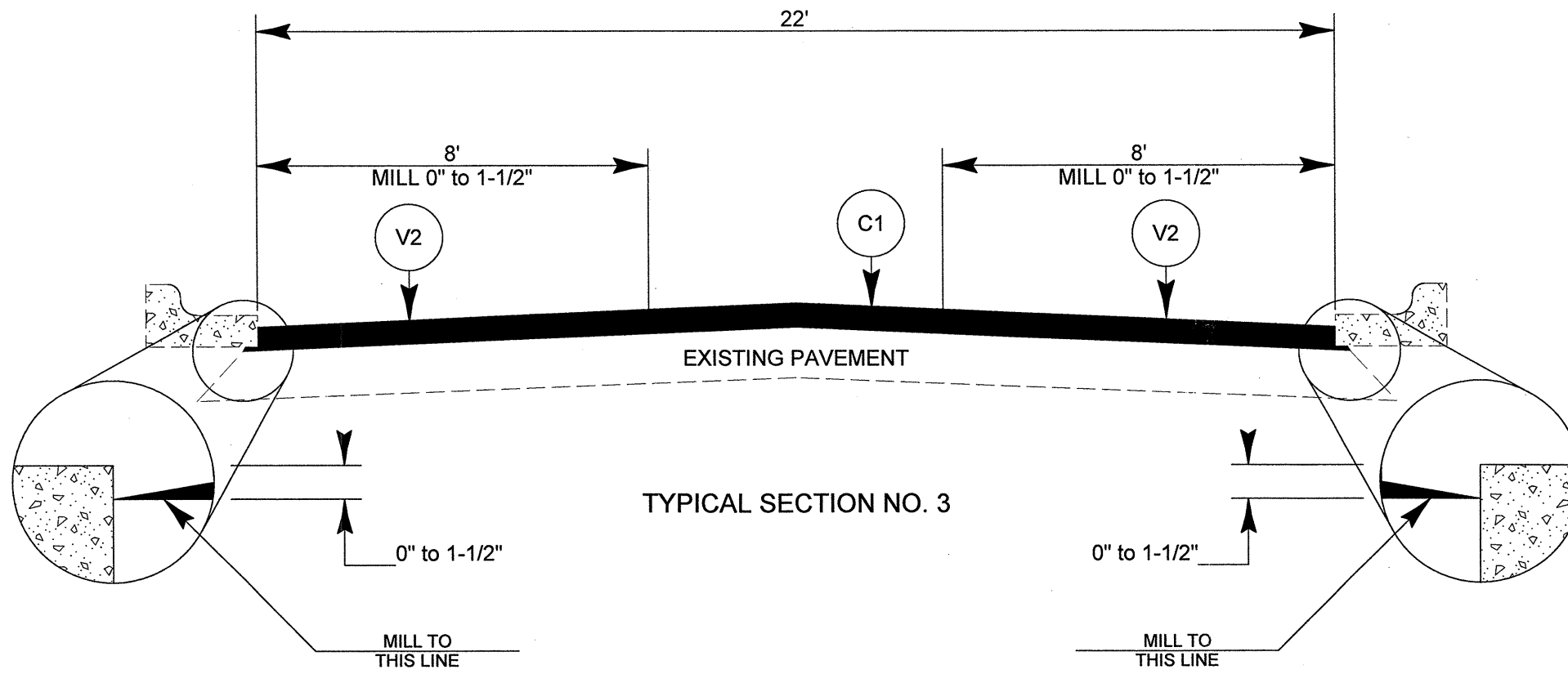


McDOWELL COUNTY



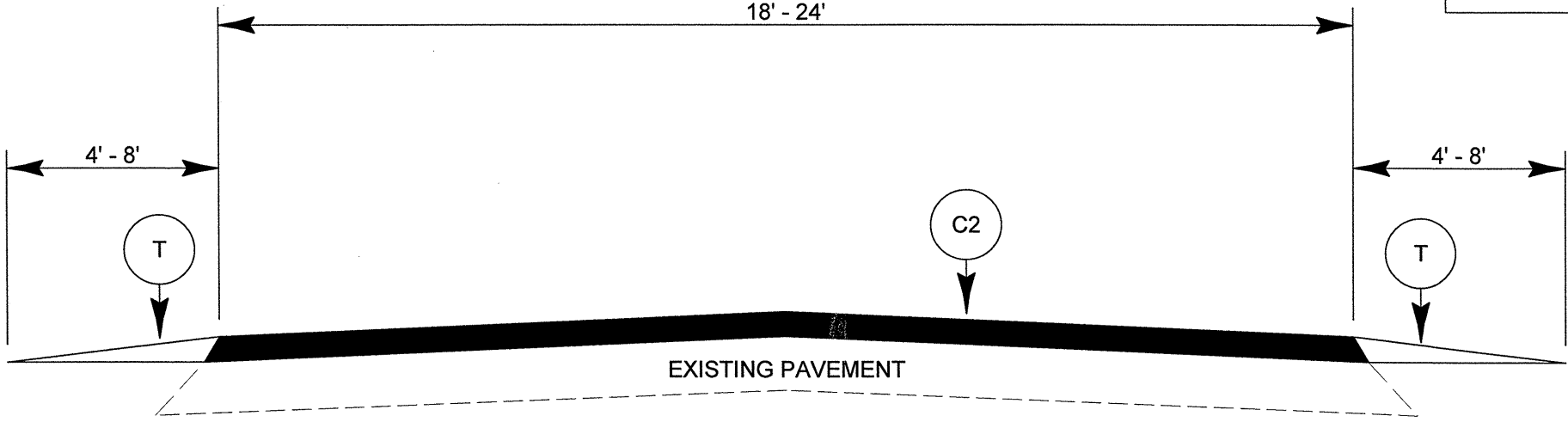
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E1	PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
T	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT, 0" TO 1-1/2" DEPTH

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9, 13CR.20591.8, 13C.059062, ETC.	7	

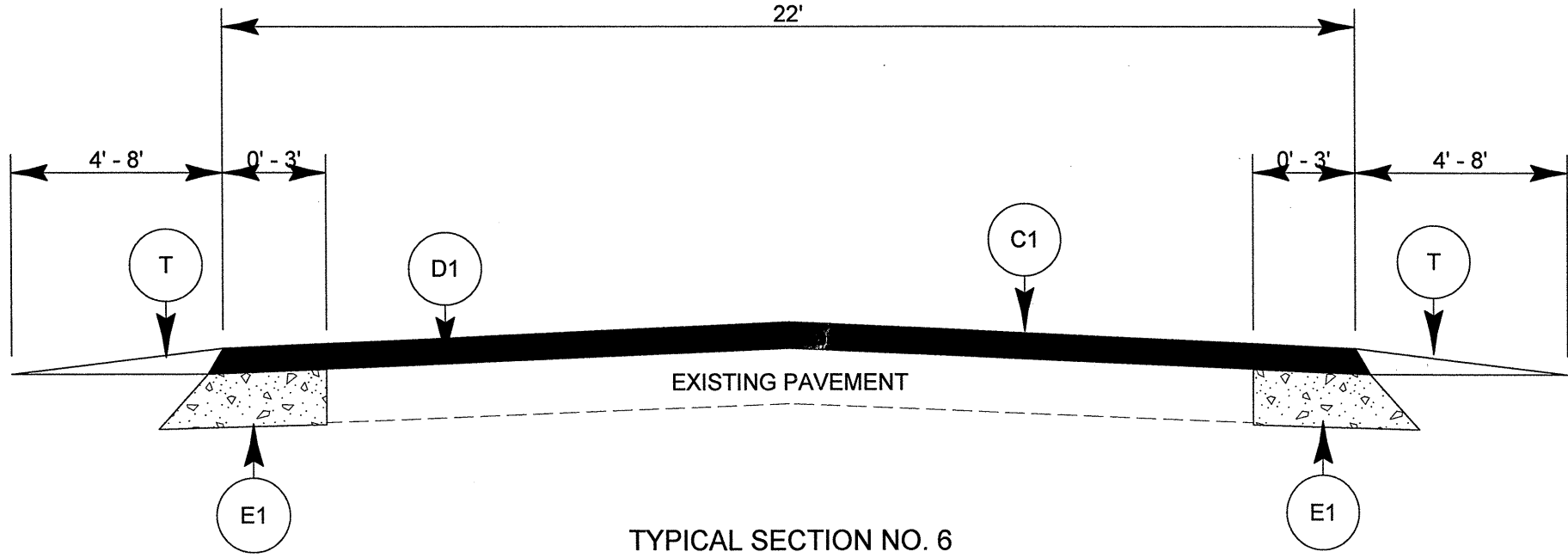


TYPICAL SECTION NO. 4

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9, 13CR.20591.8, 13C.059062, ETC.	8	

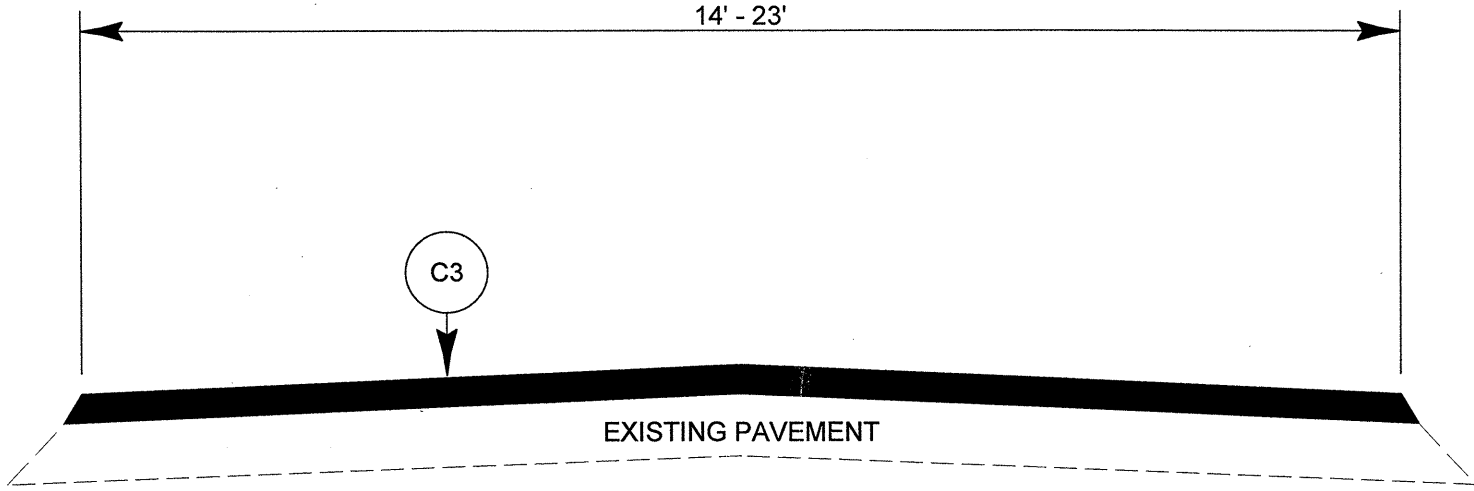


TYPICAL SECTION NO. 5



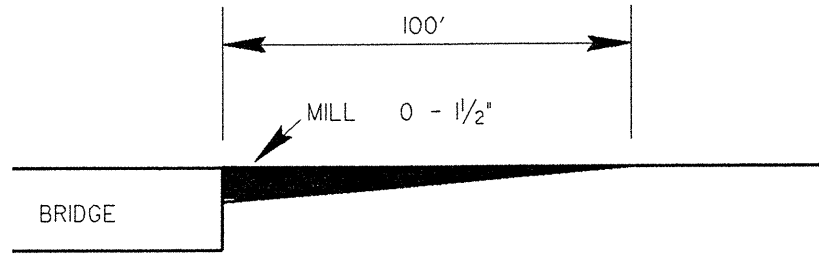
TYPICAL SECTION NO. 6

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9, 13CR.20591.8, 13C.059062, ETC.	9	

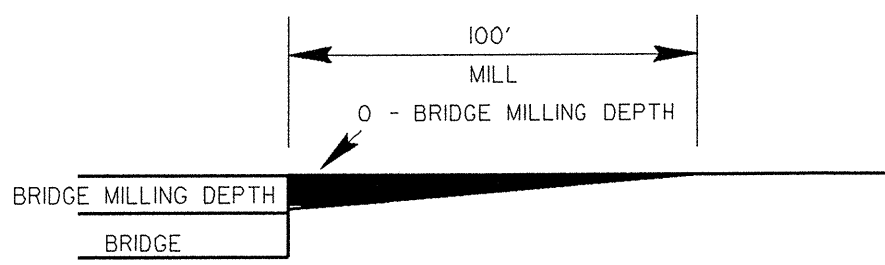


TYPICAL SECTION NO. 7

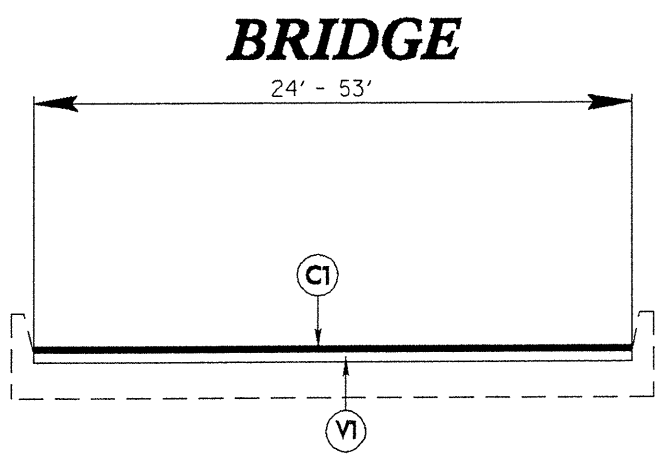
PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9, 13CR.20591.8 & 13C.059062, ETC.	10	



MILLING DETAIL AT BRIDGE APPROACHES
WHERE BRIDGE WILL NOT BE RESURFACED
COST OF MILLING IS INCIDENTAL TO OTHER ITEMS

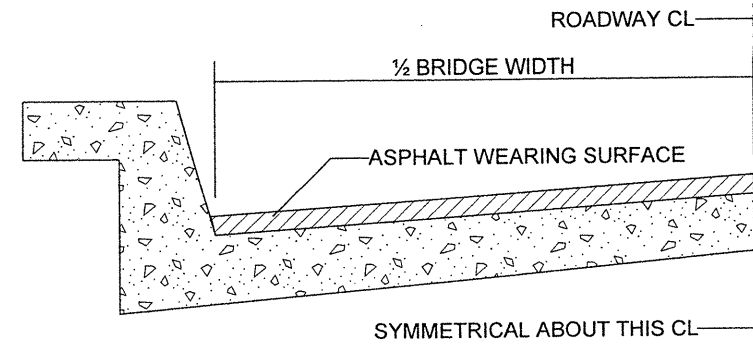


MILLING DETAIL AT BRIDGE APPROACHES
WHERE BRIDGES WILL BE MILLED THEN RESURFACED
COST OF MILLING IS INCIDENTAL TO OTHER ITEMS



BRIDGE DETAIL

BRIDGE NUMBER 8 & BRIDGE NUMBER 43
MILL 1-1/2" OFF EXISTING PAVEMENT ON BRIDGE
THEN RESURFACE BRIDGE DECK WITH 1-1/2" OF S9.5B
SEE MAPS FOR BRIDGE LOCATION



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

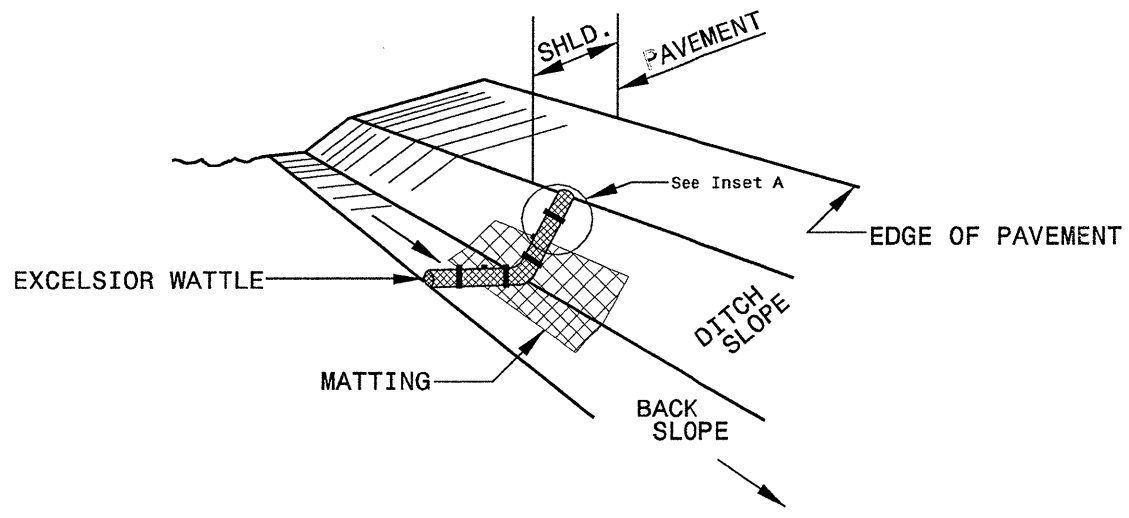
THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", SF9.5A 1.0", S9.5X 1.5", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A 3/4", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN 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.

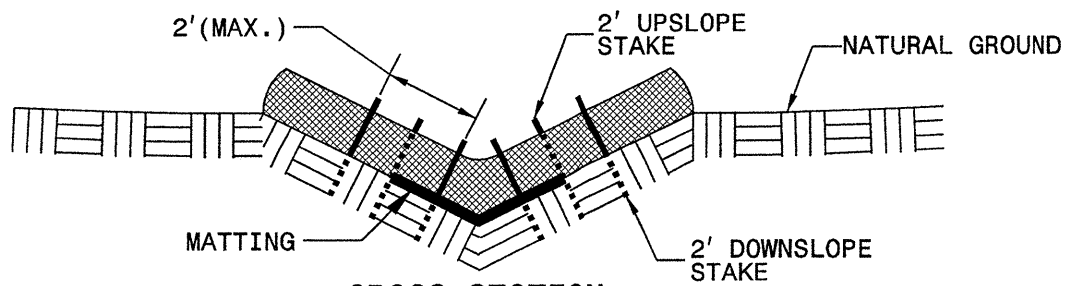
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/2" ACSC, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH

PROJECT REFERENCE NO.	SHEET NO.
77	17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

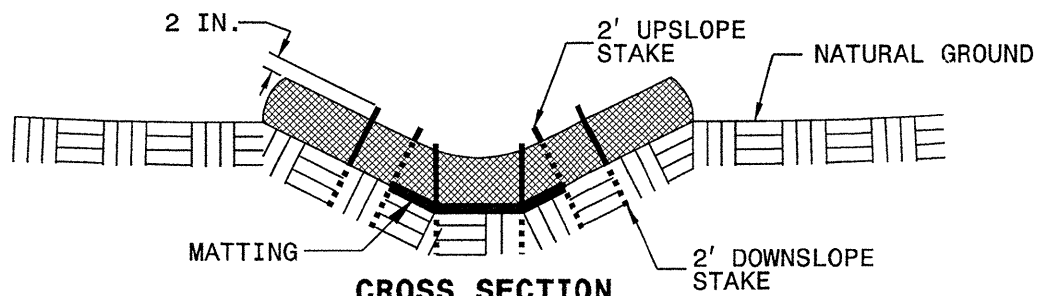
WATTLE DETAIL



ISOMETRIC VIEW

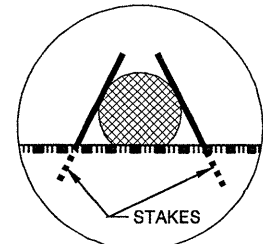


CROSS SECTION VEE DITCH

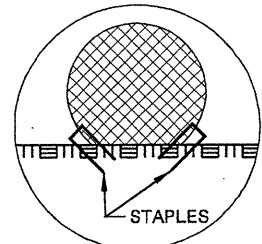


CROSS SECTION TRAPEZOIDAL DITCH

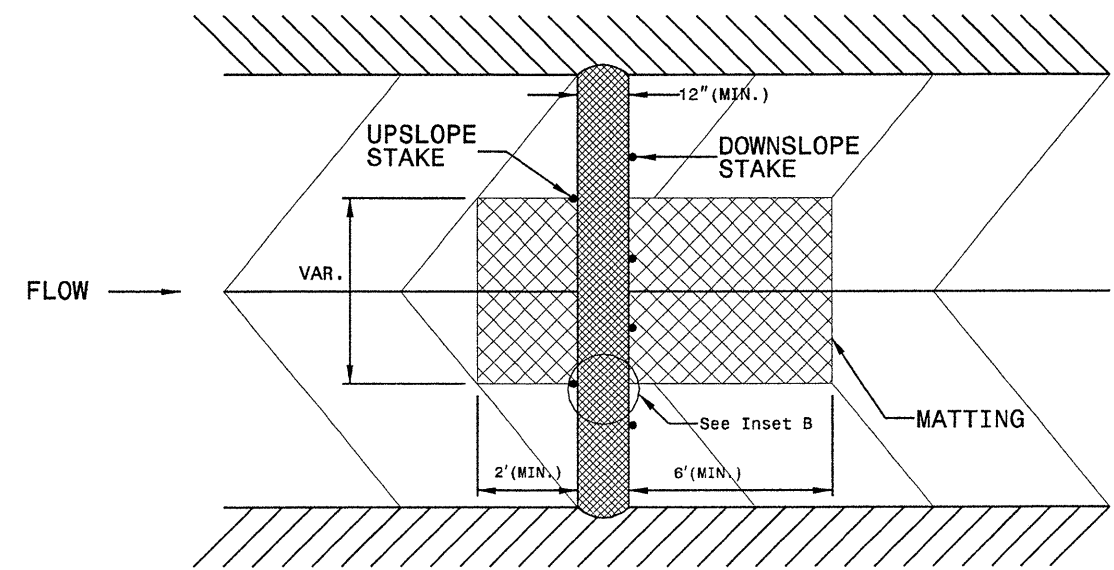
- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY** INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
 - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
 - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
 - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



INSET B



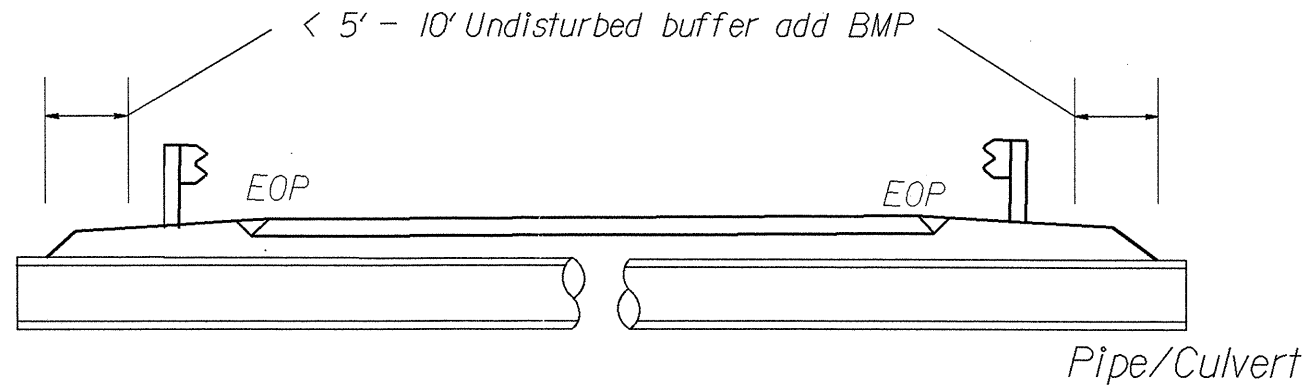
TOP VIEW

PROJECT REFERENCE NO. 13CRJ05919, ETC.	SHEET NO. 12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

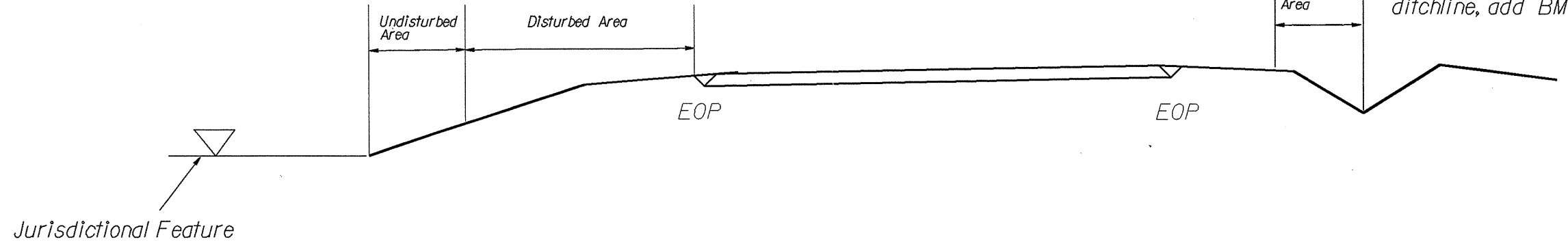
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

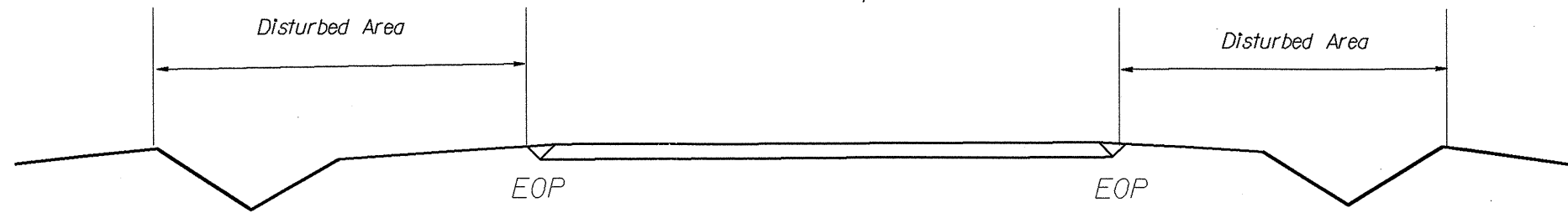
EROSION CONTROL DETAIL



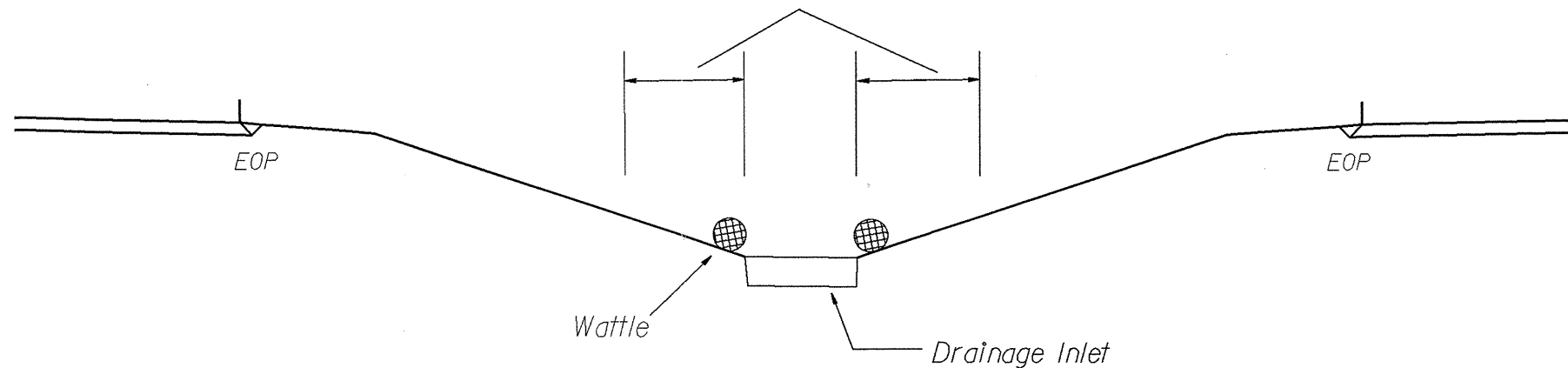
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



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

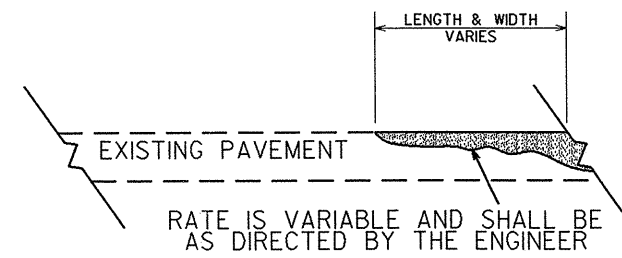
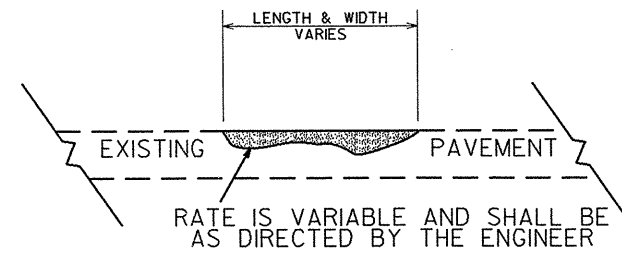


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

PROJECT NO.	SHEET NO.	TOTAL SHEETS
13CR.10591.9, 13CR.20591.8, 13C.059062, ETC.	13	



DETAIL SHOWING METHOD OF WEDGING

PROJECT NO.	SHEET NO.	TOTAL NO.
13CR.10591.9, 13CR.20591.8 13C.059062, ETC.	14	15

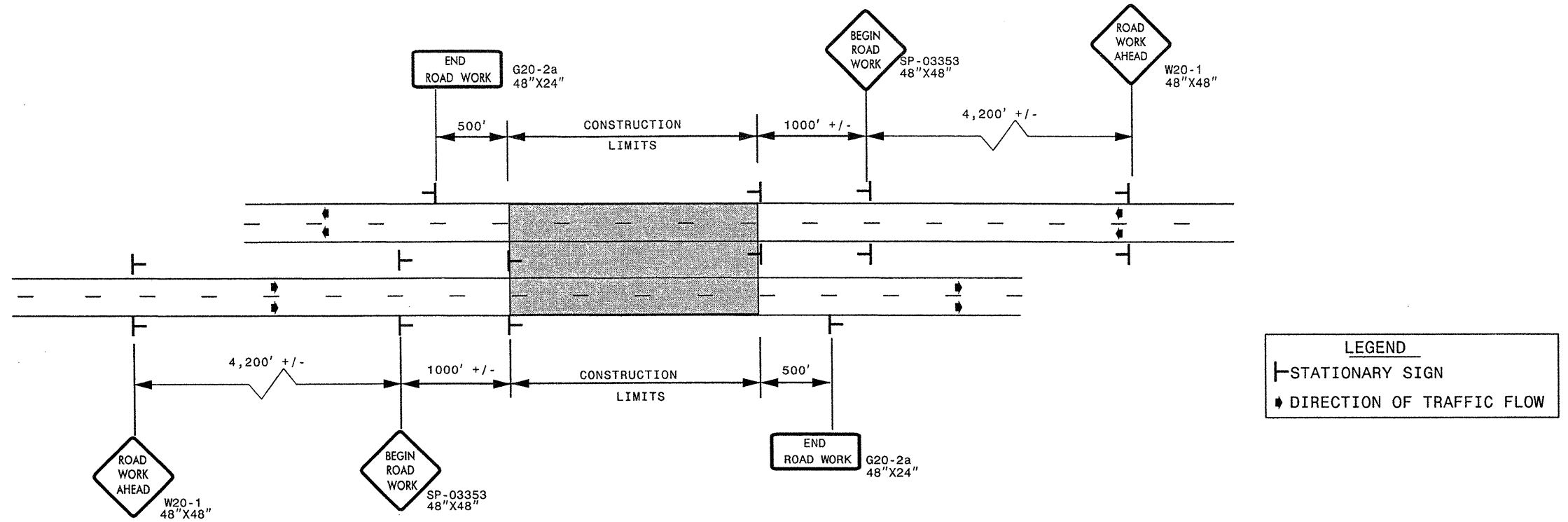
SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH SY	MILLING ASPHALT PAVEMENT, 0" TO 1.5" DEPTH SY	ASPHALT CONC BASE COURSE, TYPE B25.0B TONS	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B TONS	ASPHALT CONC SURFACE COURSE, TYPE S9.5B TONS	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG64-22 TONS	PATCHING EXISTING PAVEMENT TONS	RETROFIT EXIST. WHEEL CHAIR RAMPS EA	PORTABLE LIGHTING LS	ADJUSTMENT OF DROP INLETS EA	ADJUSTMENT OF MANHOLES EA	ADJUSTMENT OF METER BOXES OR VALVE BOXES EA	TEMPORARY SILT FENCE LF	WATTLE LF		
13CR.10591.9	McDowell	1	NC 226/US 221 BUS	FROM MORGAN STREET TO LOGAN STREET	1	NO	0.76	37 - 50			22,293				2,065		124	35	29	*		10	15				
		2	NC 226/US 221 BUS/US 70	FROM LOGAN STREET TO US 221 BUS	2	NO	1.79	64	89.5			25,203			6,222		373	75		*		11	2				
		3	US 70	FROM ECL TO SR 1720	3,4	NO	0.67	22	33.5	1.34		350			804		48	50		*							
		4	US 70	FROM SR 1720 TO N. GARDEN STREET	1	NO	1.07	48	53.5		30,131				2,791		167	100	14	*	1	16	13				
		5	US 70	FROM N. GARDEN STREET TO WEST COURT STREET	1	NO	0.17	58	8.5		5,785				536		32	20	5	*		1	1				
TOTAL FOR PROJ NO. 13CR.10591.9							4.46		185	1.34	58,209	25,553			12,418		744	280	48	1	1	38	31				
13CR.20591.8	McDowell	6	SR 1135	FROM SR 1240 TO SR 1137	5	NO	2.36	20	118	4.72					2,529		164	500									
		7	SR 1128	FROM SR 1135 TO SR 1127	5	NO	2.7	18	135	5.4					2,605		169	250									
		8	SR 1123	FROM SR 1129 TO SR 1135	5	NO	4	18	200	8					3,860		251	350									
		9	SR 1323	FROM SR 1001 TO END MAINT.	5	NO	0.32	24	16	0.64					411		27	20									
		10	SR 1720	FROM US 70 TO SR 1719	5	NO	0.57	20	28.5	1.14					611		40	150				4	3				
		11	SR 1726	FROM US 70 TO R/R CROSSING	5	NO	0.15	18	7.5	0.3					145		9	200									
TOTAL FOR PROJ NO. 13CR.20591.8							10.1		505	20.2					10,161		660	1,470				4	3				
13C.059062	McDowell	12	SR 1769	FROM SR 1768 TO BURKE COUNTY LINE	6	NO	1.21	22	60.5	2.42	250		800	3,000	1,451		262	250							500	40	
TOTAL FOR PROJ NO. 13C.059062							1.21		60.5	2.42	250		800	3,000	1,451		262	250							500	40	
13SP.20594.41	McDowell	13	SR 1718	FROM SR 1703 TO SCHOOL	7	NO	0.21	20							150		10								6		
TOTAL FOR PROJ NO. 13SP.20594.41							0.21								150		10									6	
13SP.20594.42	McDowell	14	SR 1720	PAVEMENT CHANGE TO SR 1719	7	NO	0.08	14							40		3										
TOTAL FOR PROJ NO. 13SP.20594.42							0.08								40		3										
13SP.20594.43	McDowell	15	SR 1721	FROM SR 1720 TO SR 1723	7	NO	0.13	14							65		4										
TOTAL FOR PROJ NO. 13SP.20594.43							0.13								65		4										
13SP.20594.44	McDowell	16	SR 1723	FROM SR 1703 TO SR 1720	7	NO	0.26	16							148		10								3		
TOTAL FOR PROJ NO. 13SP.20594.44							0.26								148		10								3		
13SP.20594.45	McDowell	17	SR 1725	FROM SR 1703 TO PAVEMENT CHANGE	7	NO	0.02	18							13		1										
TOTAL FOR PROJ NO. 13SP.20594.45							0.02								13		1										
13SP.20594.46	McDowell	18	SR 1729	FROM DEAD END TO PAVEMENT CHANGE	7	NO	0.22	16							126		8										
TOTAL FOR PROJ NO. 13SP.20594.46							0.22								126		8										
13SP.20594.47	McDowell	19	SR 1730	FROM SR 1729 TO DEAD END	7	NO	0.07	18							45		3										
TOTAL FOR PROJ NO. 13SP.20594.47							0.07								45		3										
13SP.20594.48	McDowell	20	SR 1731	FROM SR 1729 TO SCHOOL	7	NO	0.11	18							71		5										
TOTAL FOR PROJ NO. 13SP.20594.48							0.11								71		5										
13SP.20594.49	McDowell	21	SR 1732	FROM SR 1729 TO DEAD END	7	NO	0.1	18							64		4								1	1	
TOTAL FOR PROJ NO. 13SP.20594.49							0.1								64		4							1	1		
13SP.20594.50	McDowell	22	SR 1827	FROM SR 1720 TO SCHOOL	7	NO	0.09	23							74		5										
TOTAL FOR PROJ NO. 13SP.20594.50							0.09								74		5										
13SP.20594.51	McDowell	23	SR 1192	FROM SR 1193 TO E.O.M.	7	NO	0.17	16							97		6										
TOTAL FOR PROJ NO. 13SP.20594.51							0.17								97		6										
13SP.20594.52	McDowell	24	SR 1193	FROM SR 1192 TO E.O.M.	7	NO	0.28	18							180		12										
TOTAL FOR PROJ NO. 13SP.20594.52							0.28								180		12										
13SP.20594.53	McDowell	25	SR 1271	FROM SR 1001 TO E.O.M.	7	NO	0.13	18							83		5										
TOTAL FOR PROJ NO. 13SP.20594.53							0.13								83		5										
13SP.20594.54	McDowell	26	SR 1810	FROM SR 1813 TO SR 1807	7	NO	0.25	18							160		10										
TOTAL FOR PROJ NO. 13SP.20594.54							0.25								160		10										
13SP.20594.55	McDowell	27	SR 1812	FROM SR 1807 TO SR 1807	7	NO	0.32	18							205		13										
TOTAL FOR PROJ NO. 13SP.20594.55							0.32								205		13										
GRAND TOTAL							18.21		750.5	23.96	58,459	25,553	800	3,000	13,869	11,682	1,765	2,000	48	1	1	52	35	500.00	40.00		

ADVANCED WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

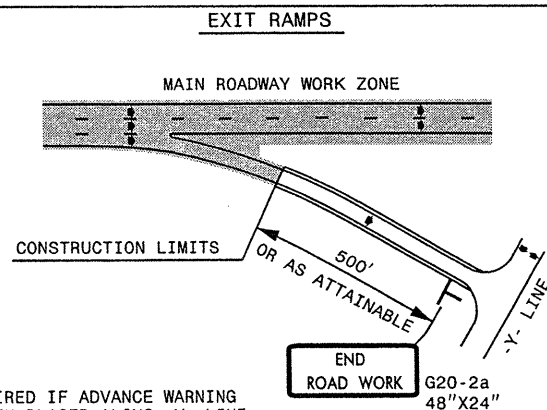
PROJ. REFERENCE NO. 13CR.10591.9, 13CR.20591.8, 13C.059062, 13SP.20594.41, Etc.	SHEET NO. TCP-2
---	--------------------

DETAIL A



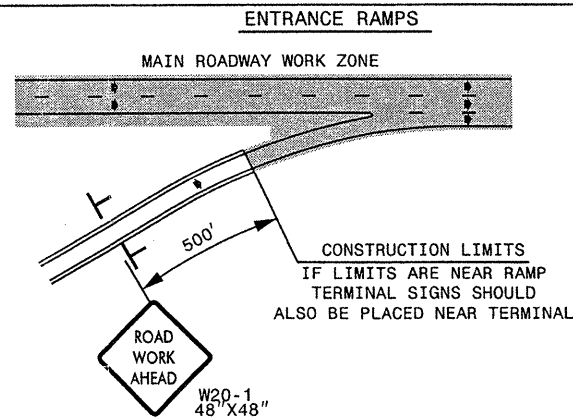
* USE THE "\$250 SPEEDING PENALTY" SIGN, SPEED LIMIT SIGN, AND ORANGE PANEL; ONLY WHEN A "\$250 SPEEDING PENALTY" ORDINANCE HAS BEEN ISSUED BY THE REGIONAL TRAFFIC ENGINEER.

DETAIL B

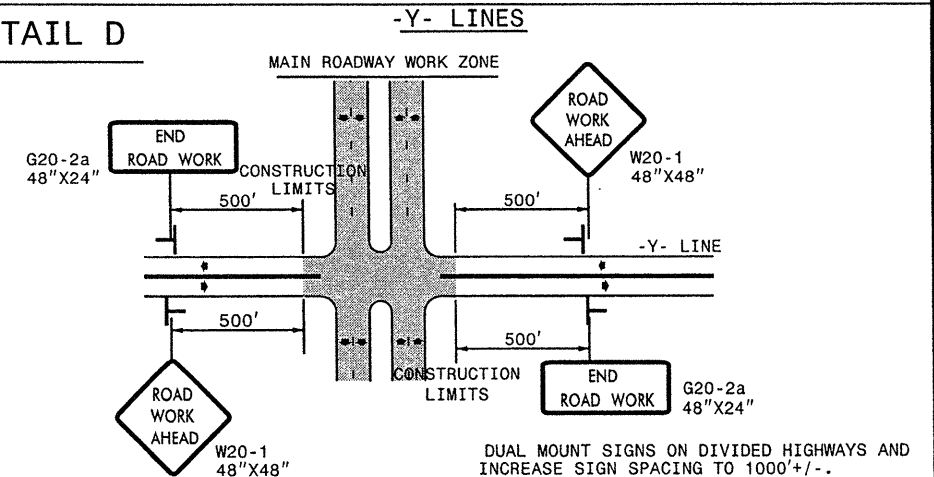


NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C



DETAIL D



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B); MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.






APPROVED: _____ DATE: _____	ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER)												
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SCALE: NONE		REVISIONS											
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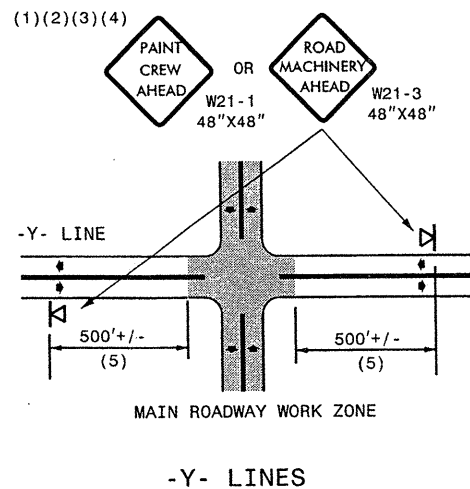
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 \\DOT\DFSROOT\GROUPS\WZTCC\M&S Division\Shore\Resurfacing\2011Resurfacing\2011Western\2011Div13\C202686A-R-13C-059062\48-Freeways-4lanes-or-greater-stationary.dgn
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GENERAL NOTES

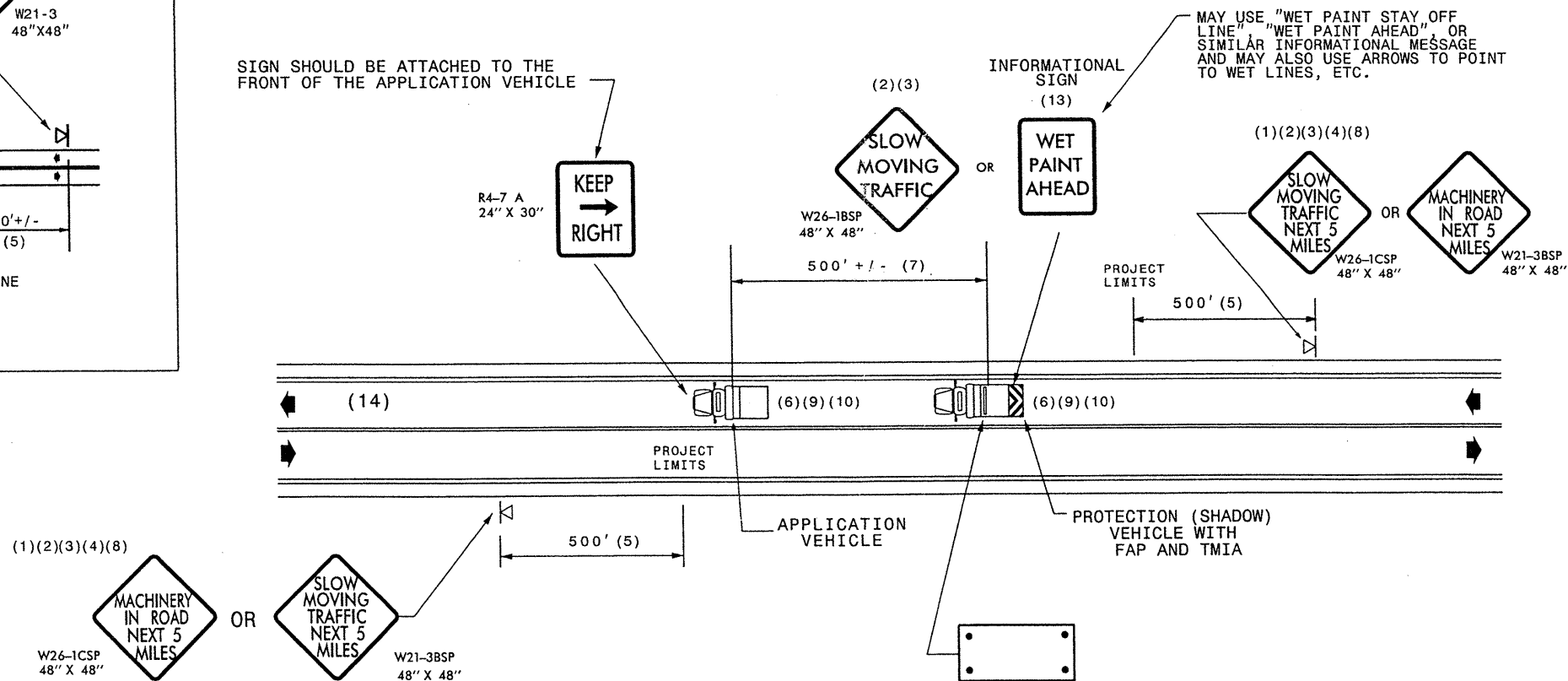
- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED SIGNS
 - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.
- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.
- (13) INFORMATIONAL SIGNS SHOULD BE ACTIVITY SPECIFIC, i.e. "PAINT CREW IN ROAD". SIGNS MAY BE RECTANGULAR OR DIAMOND SHAPE. SIGN SIZE SHOULD BE BASED ON THE MOTORIST ABILITY TO RECOGNIZE SIGN WHEN TRAVELING FIVE (5) MILES ABOVE POSTED SPEED LIMIT.
- (14) IF A LEAD VEHICLE IS ADDED TO OPERATION, IT SHOULD HAVE THE SAME ADVANCE WARNING SIGNS AS THE APPLICATION VEHICLE SHOWN BELOW.

LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  FLASHING ARROW PANEL, TYPE "B" (60"X30" MIN.), "CAUTION MODE"



SIGN SHOULD BE ATTACHED TO THE FRONT OF THE APPLICATION VEHICLE



MOVING OPERATION CARAVAN








(OPERATIONS TRAVELING 3 MPH OR FASTER)
PLACING PAVEMENT MARKING OR MARKERS
ON TWO-LANE TWO-WAY ROADWAYS

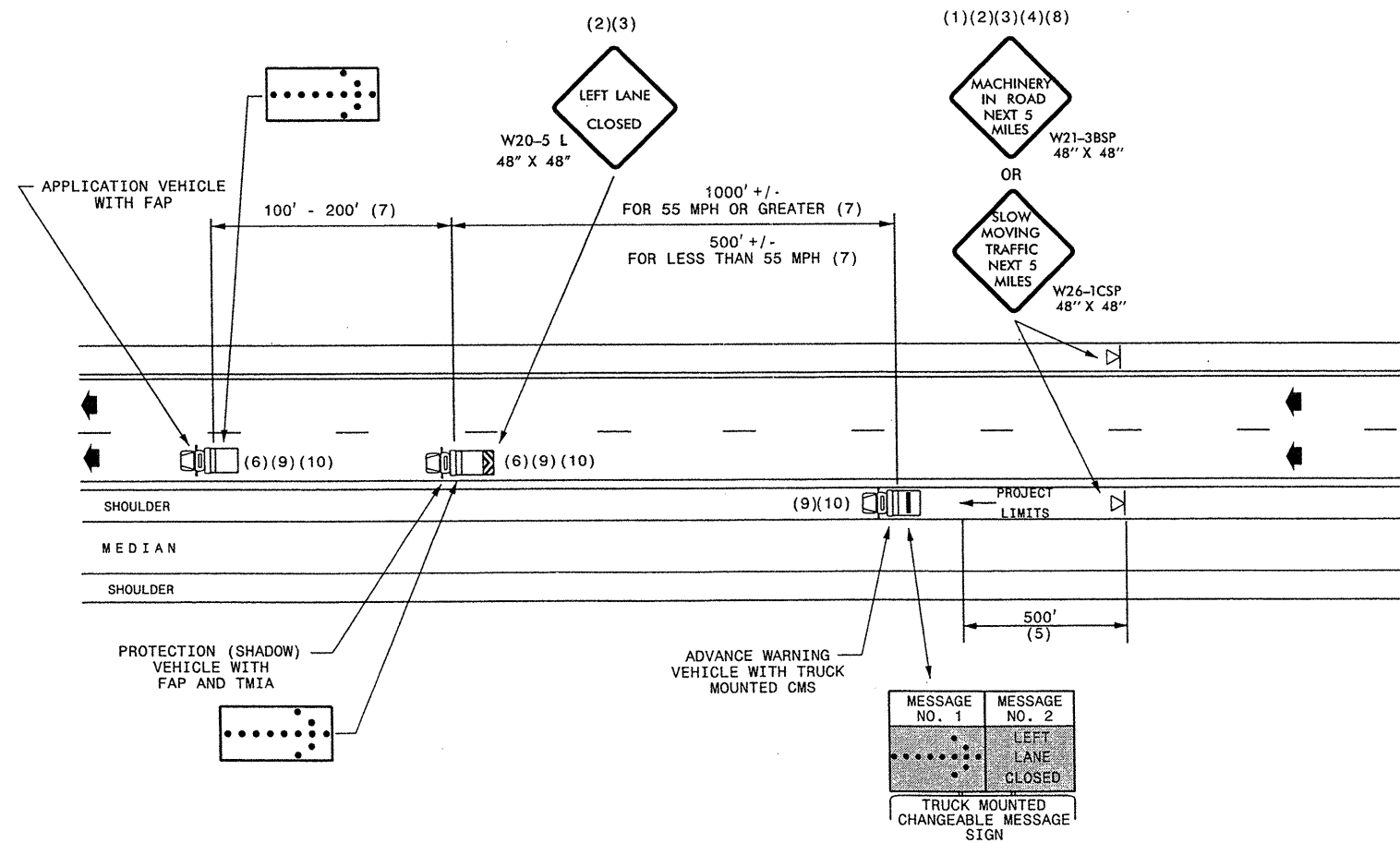
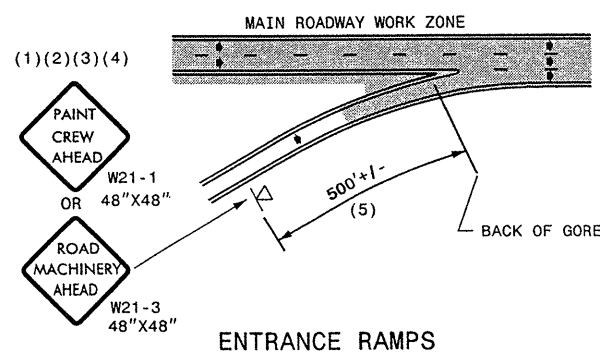
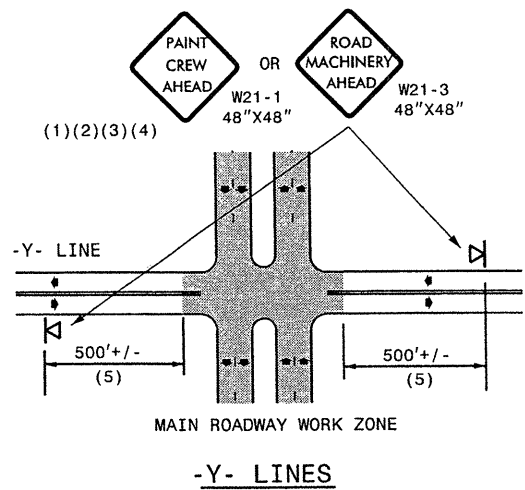
DRAWING NUMBER 6
IMPLEMENTATION DATE: 07/01/97
REVISED: 11/03/04

GENERAL NOTES

- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED SIGNS
 - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.
- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.

LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  ADVANCE WARNING VEHICLE WITH TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS) AND LIGHT BAR. MESSAGE SIGN LETTER HEIGHT SHOULD BE A MINIMUM OF 10 INCHES.
-  FLASHING ARROW PANEL, TYPE "B" (60"X30" MIN.), APPROPRIATE DIRECTION INDICATED
-  CHANGEABLE MESSAGE SIGN



MOVING OPERATION CARAVAN

(OPERATIONS TRAVELING 3 MPH OR FASTER)
PLACING PAVEMENT MARKING OR MARKERS
ON NON-INTERSTATE MULTILANE DIVIDED ROADWAYS

DRAWING NUMBER 7
IMPLEMENTATION DATE: 07/01/97
REVISED: 11/03/04