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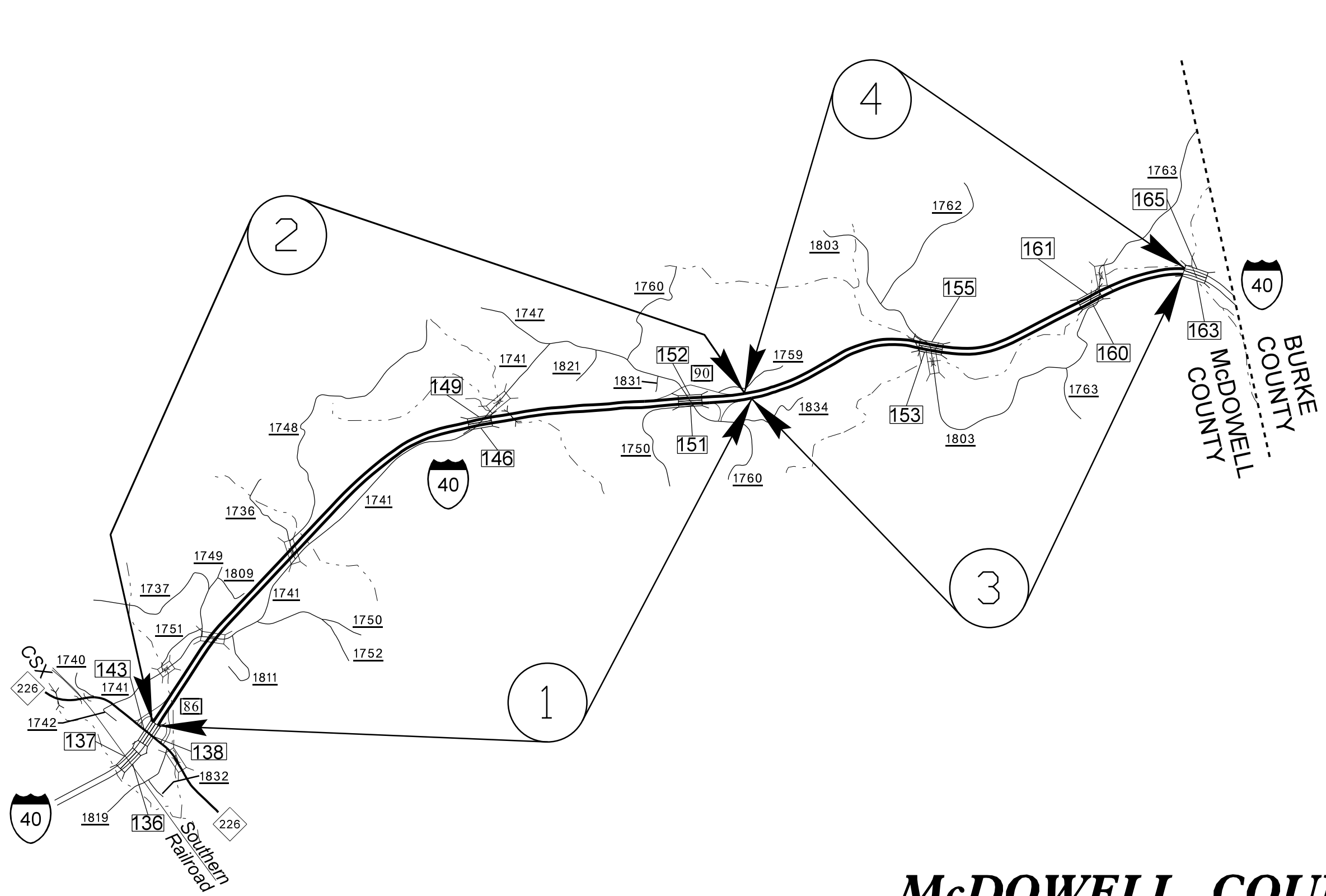
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5809	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50452.1.1	NHPP-0040(027)	PE	
50452.3.1	NHPP-0040(027)	CONST.	

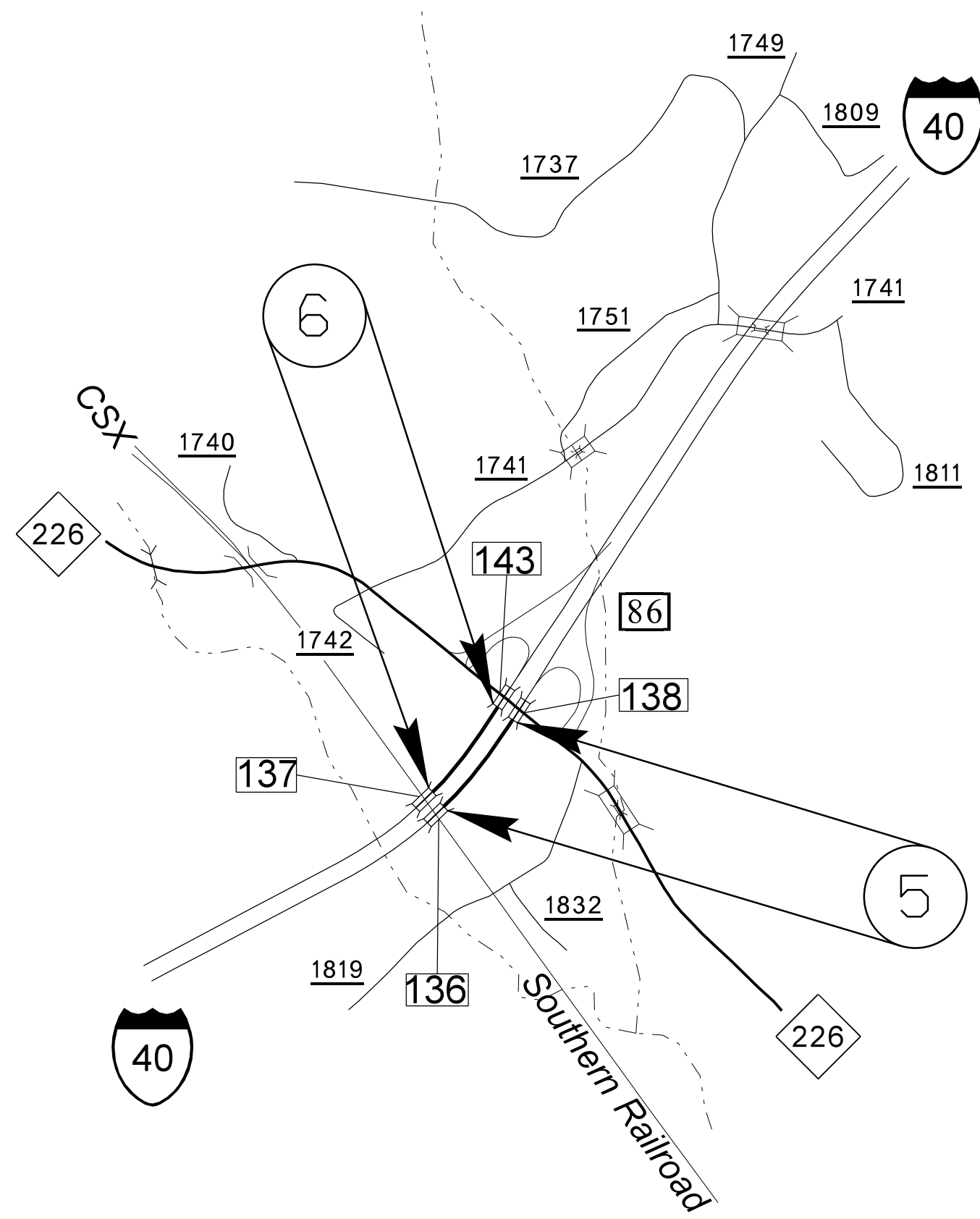
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CONTRACT: C203870 **TIP PROJECT: I-5809**



McDOWELL COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5809	2	

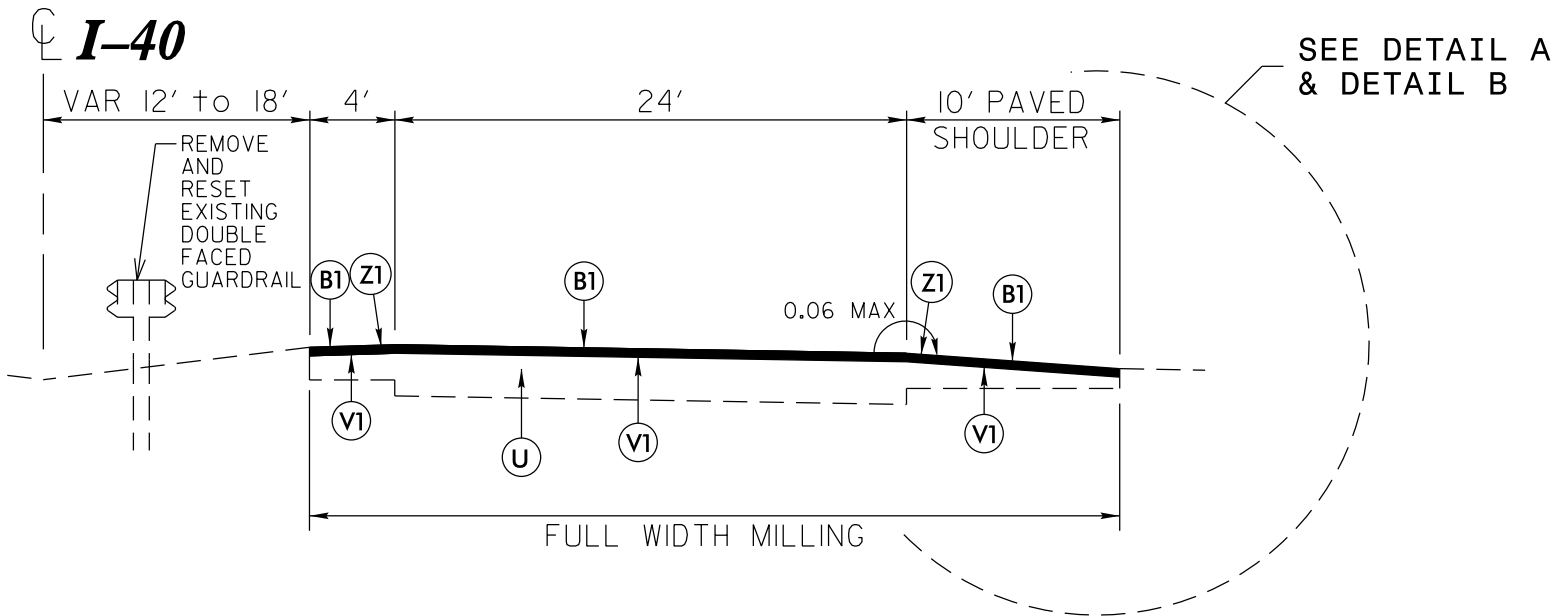


McDOWELL COUNTY

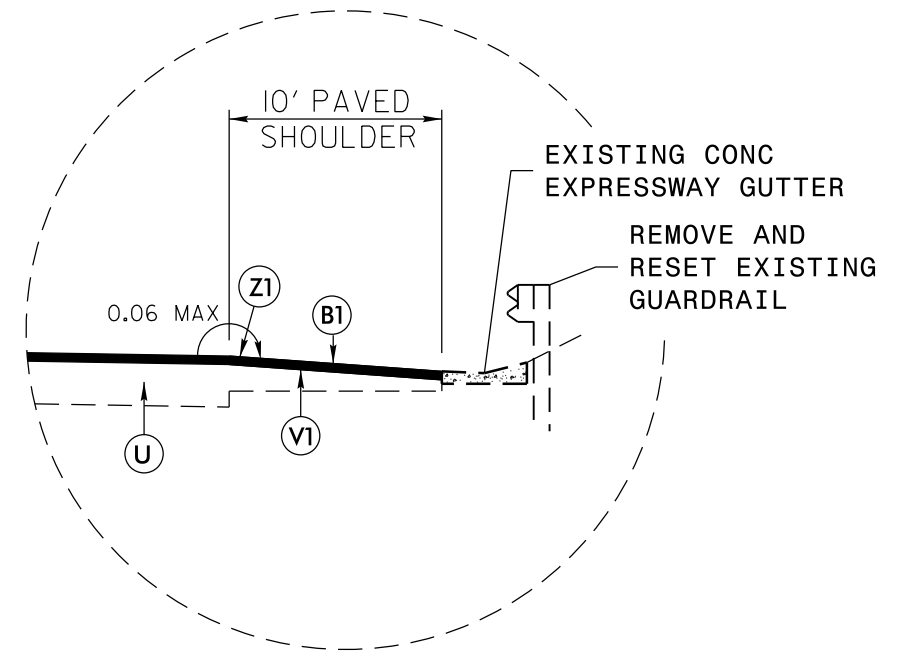
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09/08/99

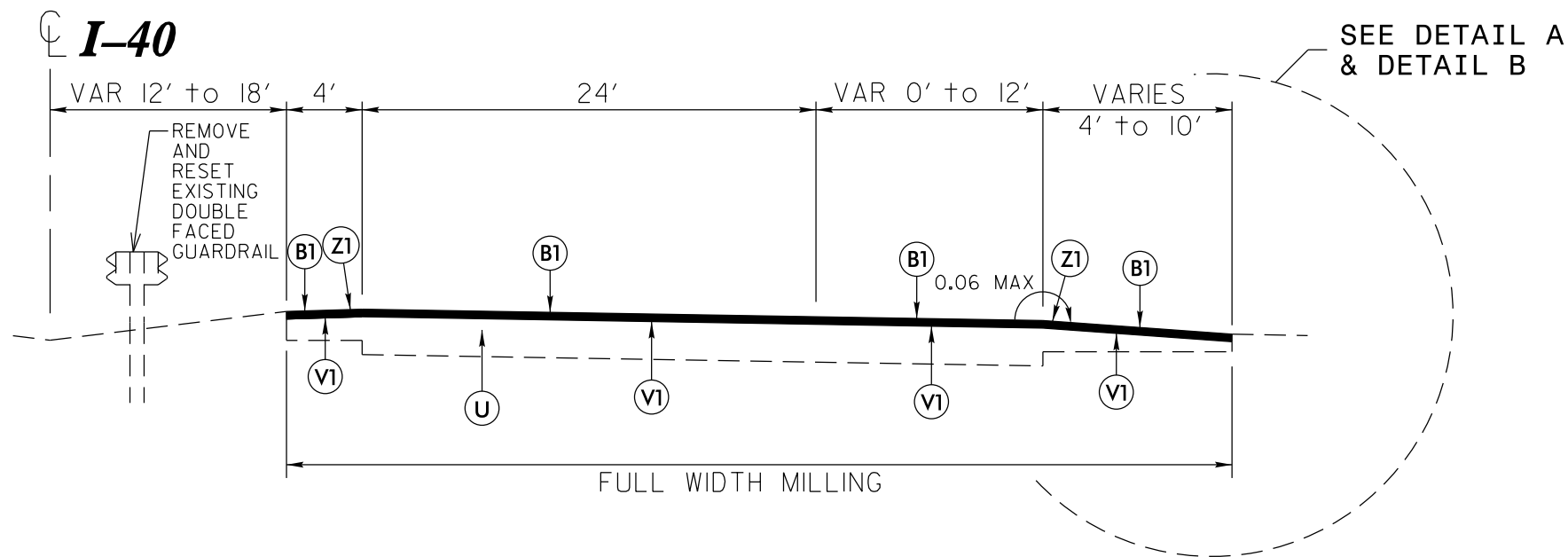
PROJECT NO.	SHEET NO.	TOTAL SHEETS
<i>I-5809</i>	3	



TYPICAL SECTION NO. 1



DETAIL A
VARIOUS LOCATIONS

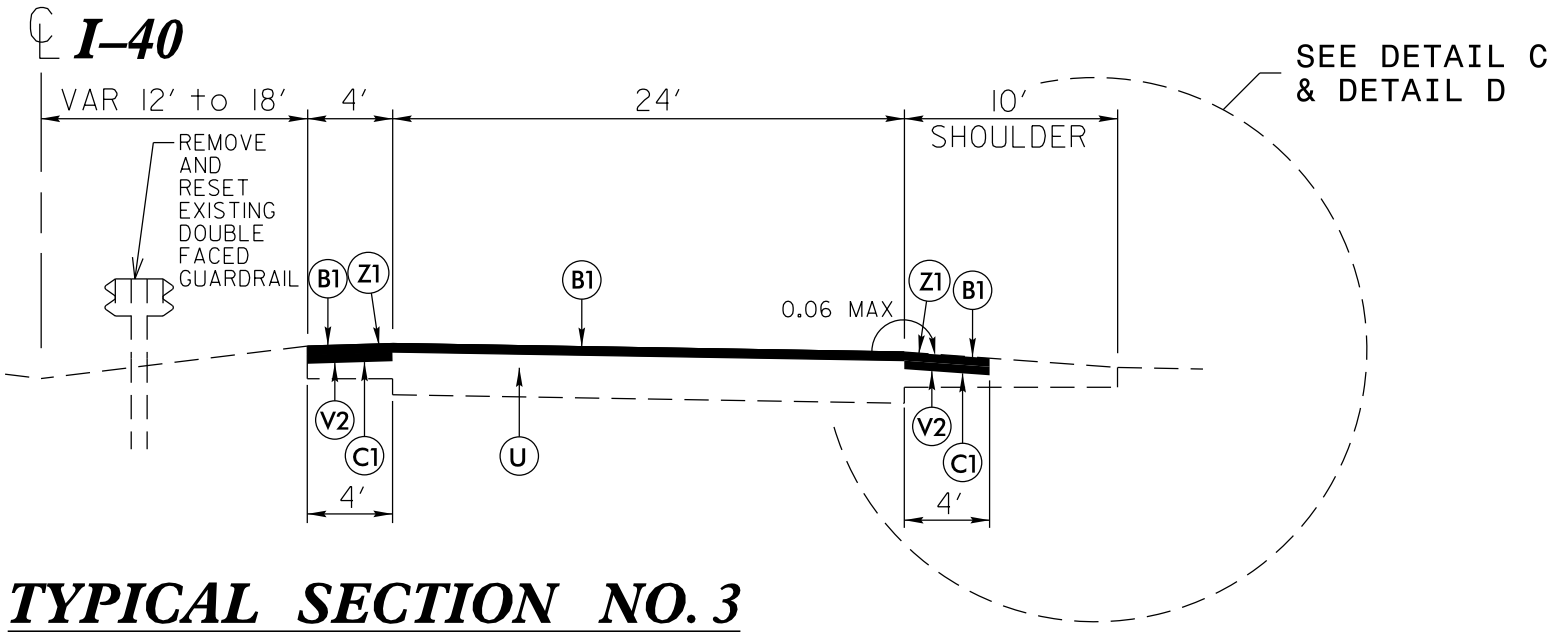


TYPICAL SECTION NO. 2

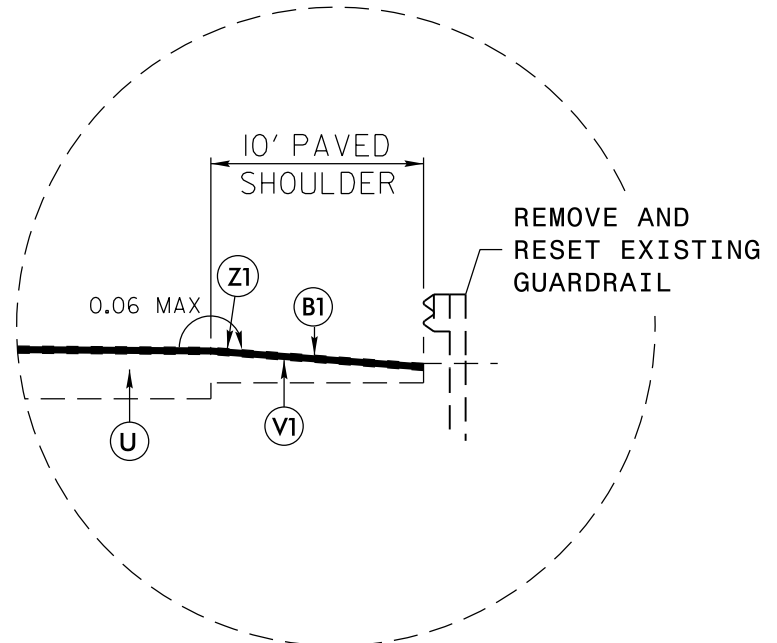
PAVEMENT SCHEDULE	
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
V1	FINE MILLING (5/8" DEPTH)
V2	MILLING ASPHALT PAVEMENT, 2" DEPTH
V3	INCIDENTAL MILLING
Z1	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)

McDOWELL COUNTY

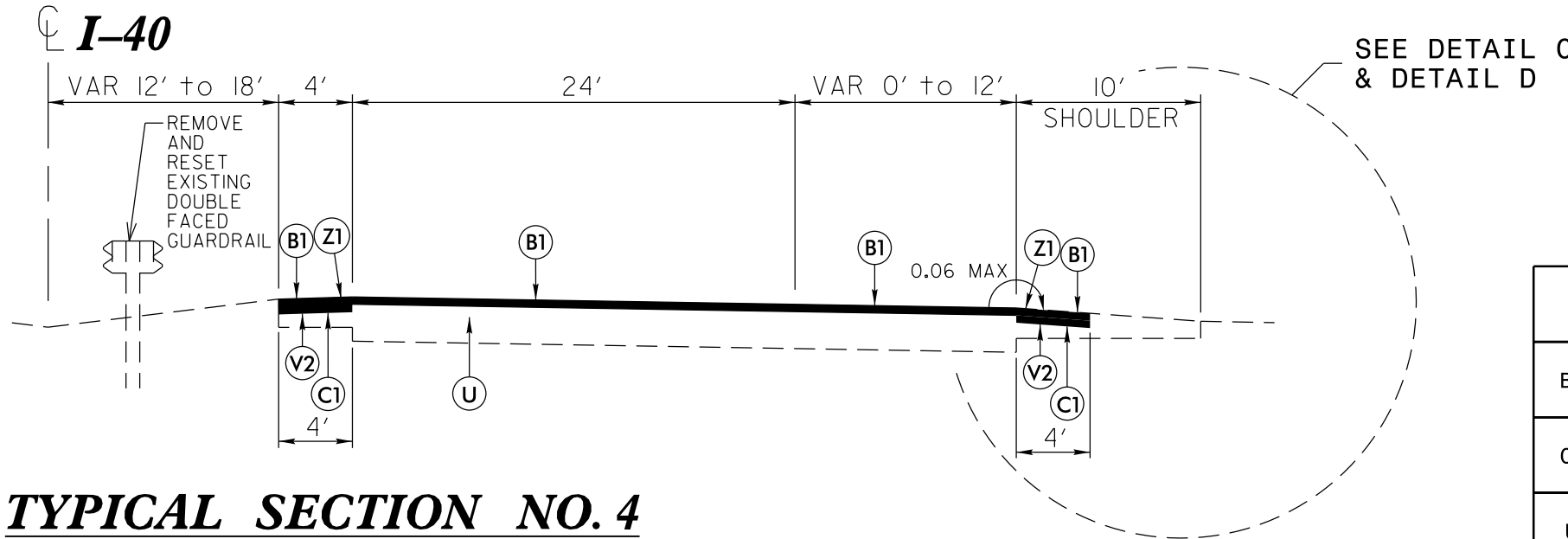
PROJECT NO.	SHEET NO.	TOTAL SHEETS
I-5809	4	



TYPICAL SECTION NO. 3



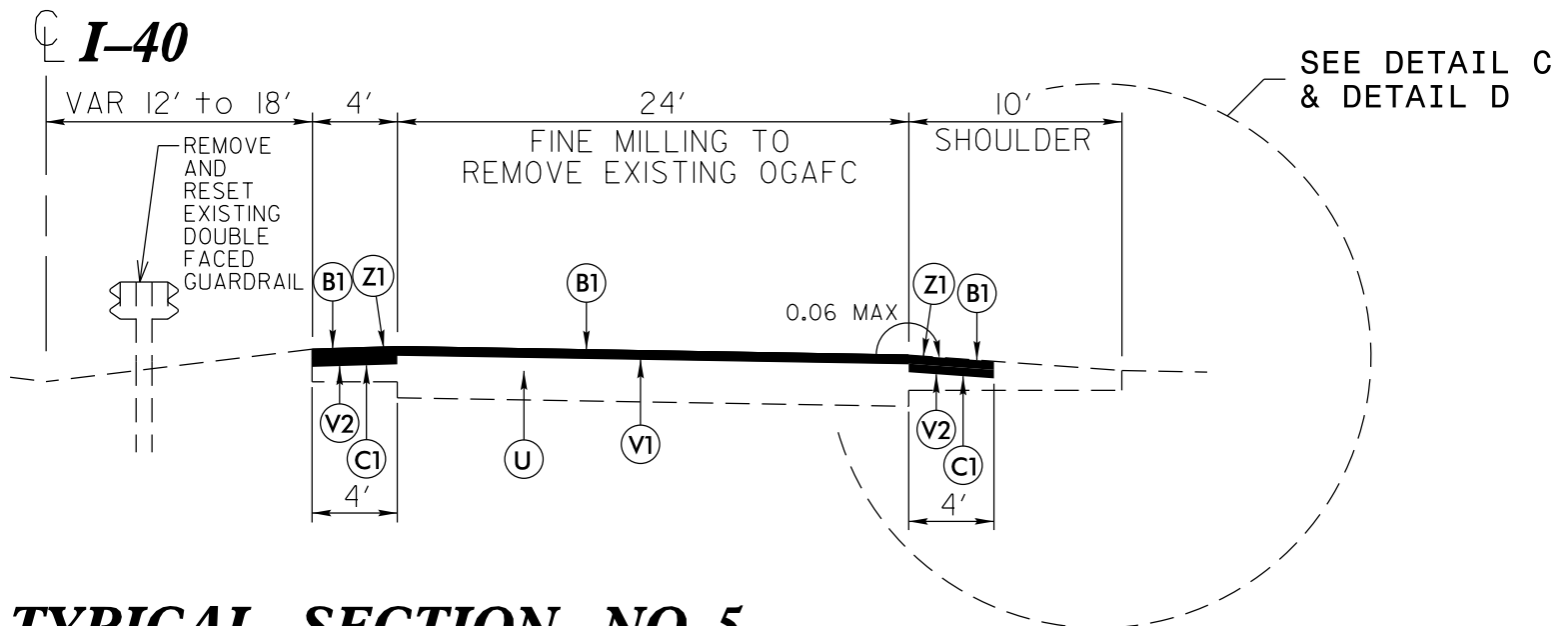
**DETAIL B
VARIOUS LOCATIONS**



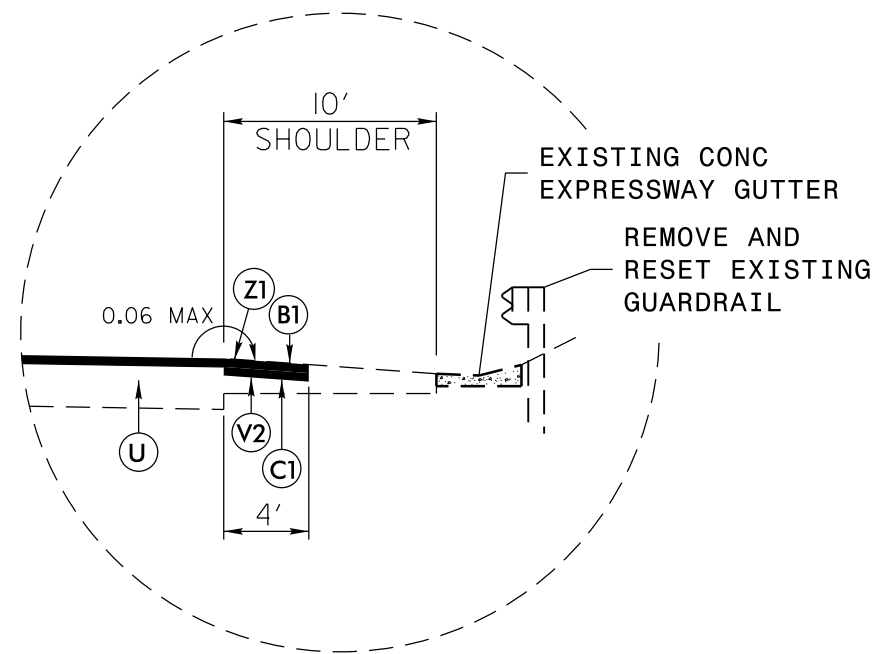
TYPICAL SECTION NO. 4

PAVEMENT SCHEDULE	
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
V1	FINE MILLING (5/8" DEPTH)
V2	MILLING ASPHALT PAVEMENT, 2" DEPTH
Z1	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)

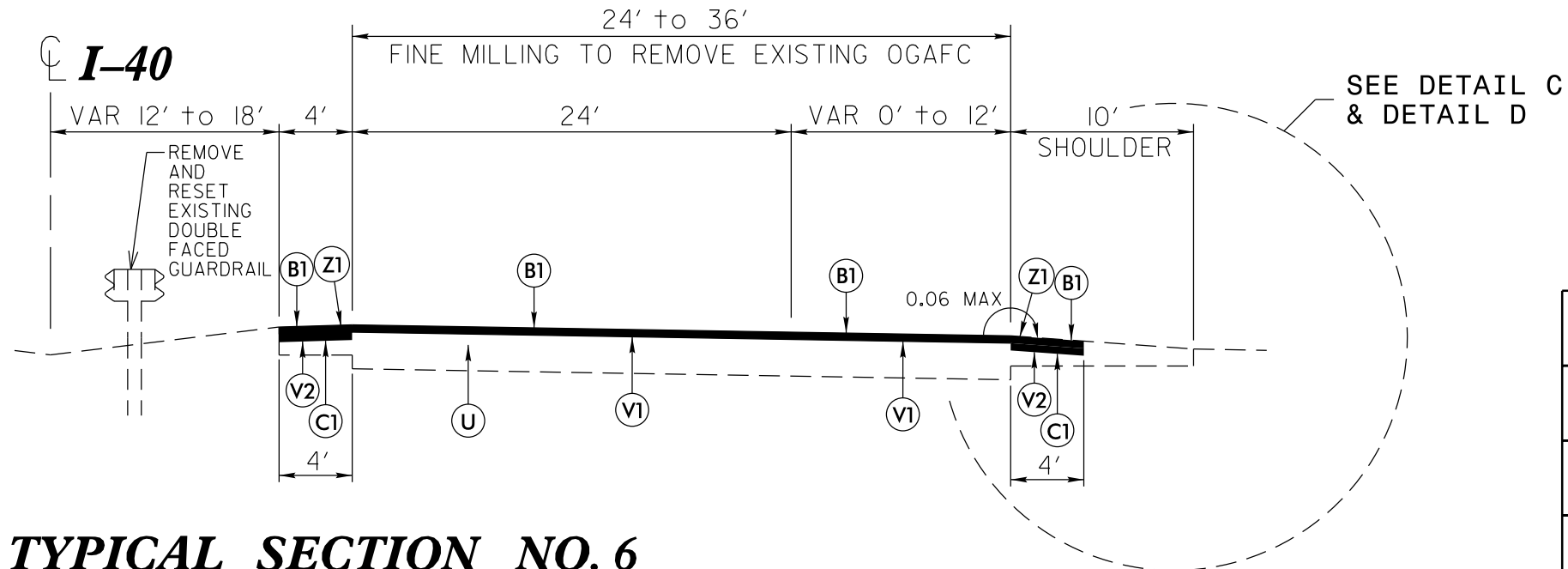
PROJECT NO.	SHEET NO.	TOTAL SHEETS
I-5809	5	



TYPICAL SECTION NO. 5



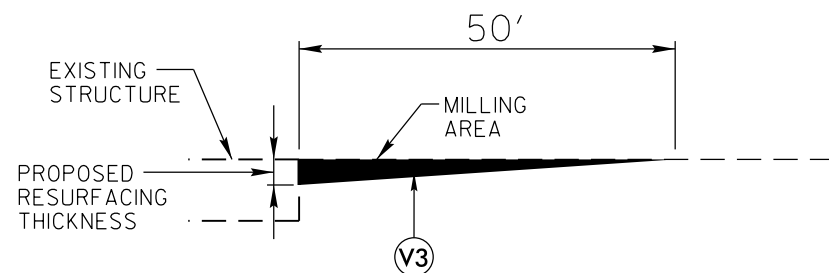
**DETAIL C
VARIOUS LOCATIONS**



TYPICAL SECTION NO. 6

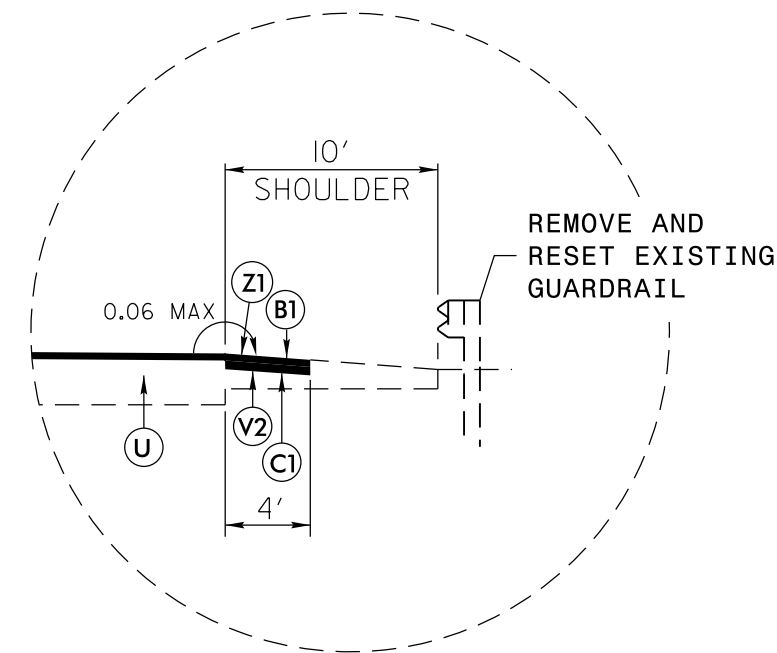
PAVEMENT SCHEDULE	
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
V1	FINE MILLING (5/8" DEPTH)
V2	MILLING ASPHALT PAVEMENT, 2" DEPTH
Z1	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)

PROJECT NO.	SHEET NO.	TOTAL SHEETS
I-5809	6	

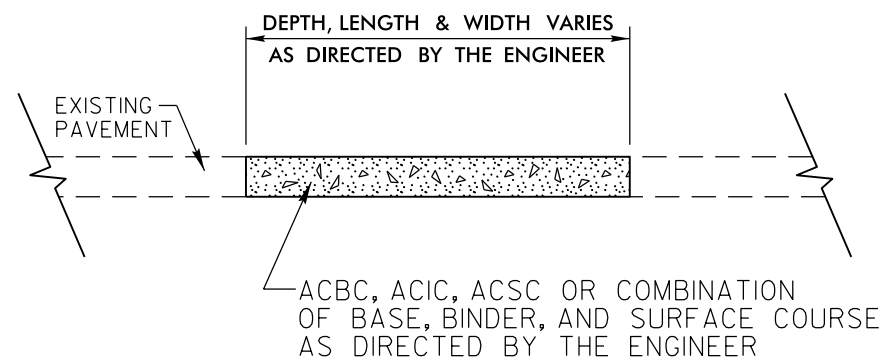


MILLING DETAIL AT BRIDGE APPROACHES

**WHERE BRIDGES WILL NOT BE RESURFACED.
THIS WILL BE PAID FOR AS INCIDENTAL MILLING.
USE AT BRIDGE NUMBERS 138, 143, 146, 149, 151 and 152.**

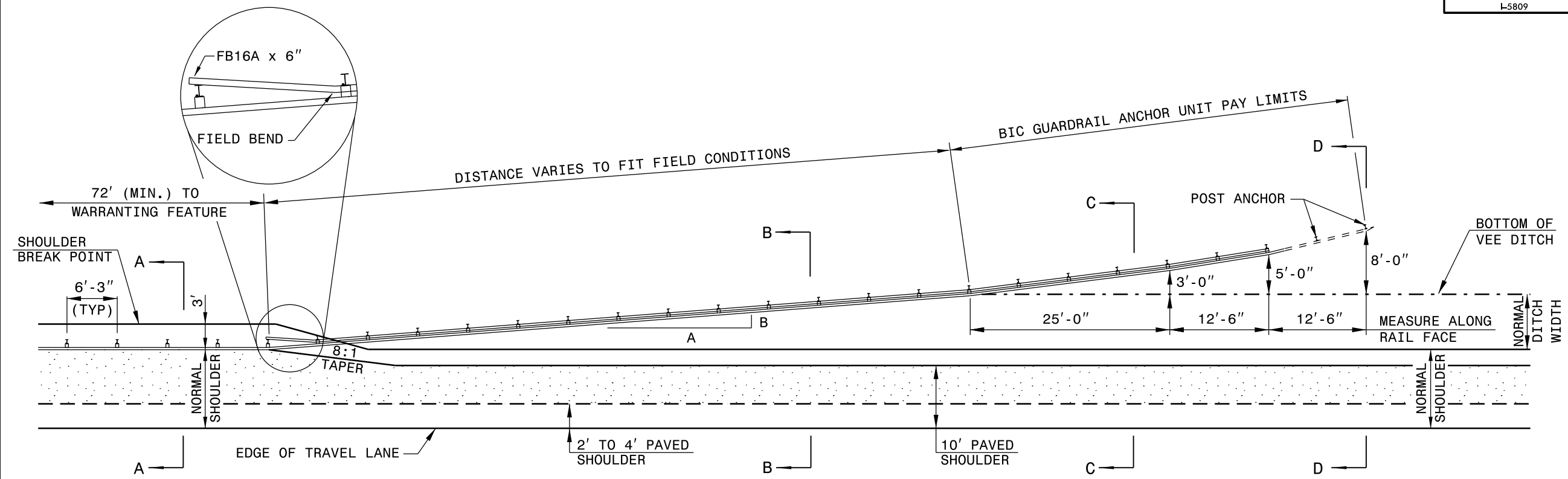


DETAIL D
VARIOUS LOCATIONS

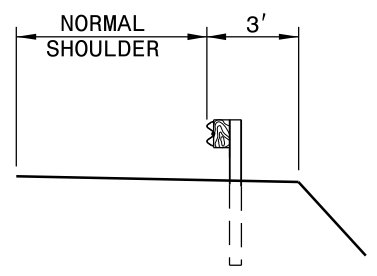
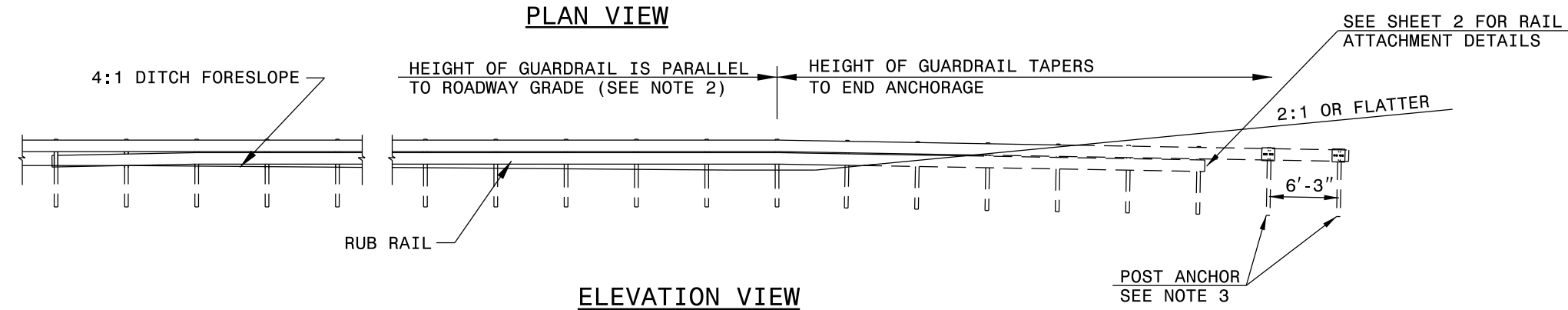


DETAIL FOR
PATCHING EXISTING PAVEMENT

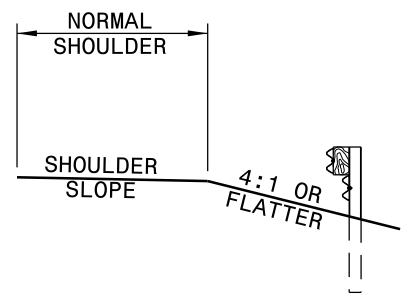
PAVEMENT SCHEDULE	
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
V2	MILLING ASPHALT PAVEMENT, 2" DEPTH
V3	INCIDENTAL MILLING
Z1	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)



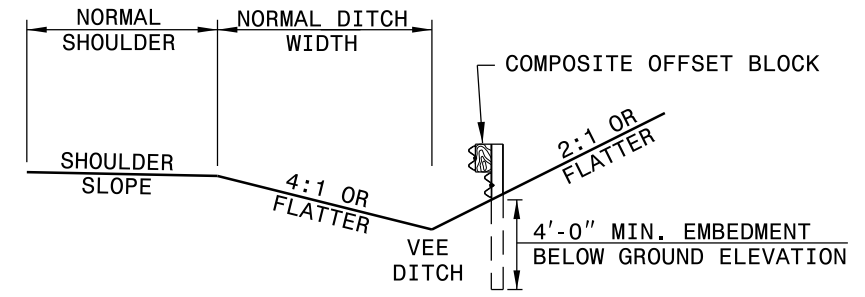
DESIGN SPEED mph	A:B
≥ 60	13:1
55	12:1
50	11:1
45	10:1
40	9:1
30 or less	7:1



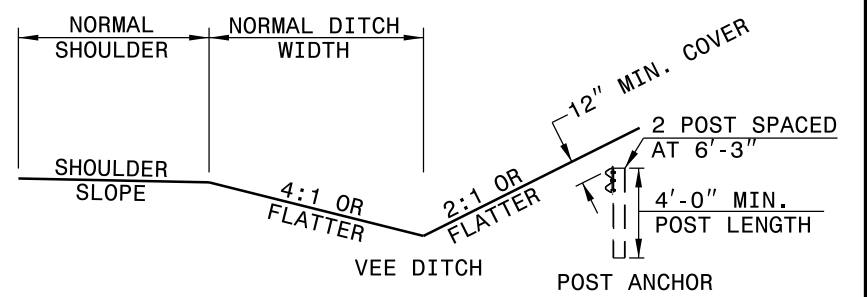
SECTION A-A



SECTION B-B
(WITH RUBRAIL)



SECTION C-C
(WITH RUBRAIL)

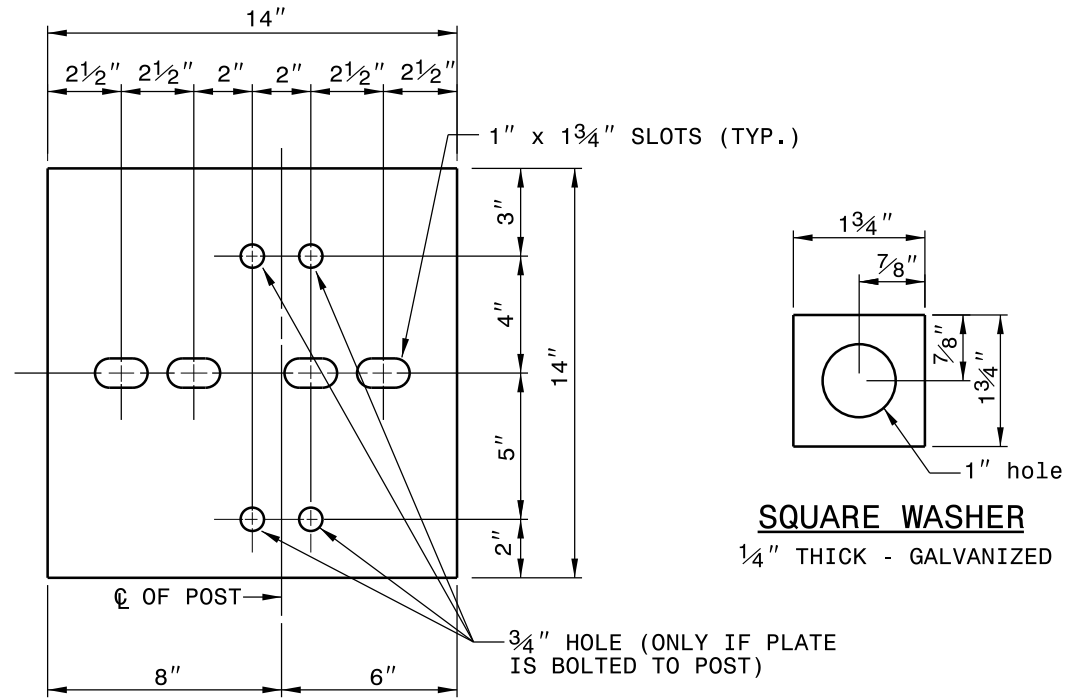


SECTION D-D

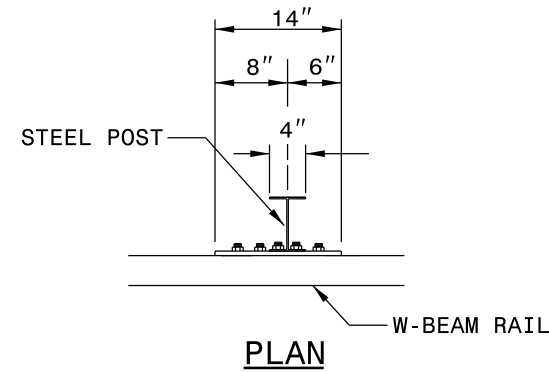
- NOTES:
- VARIABLE DITCH OFFSETS MAY BE USED TO FIT FIELD CONDITIONS.
 - HEIGHT OF GUARDRAIL MAY BE TAPERED DOWN IN ELEVATION TO MAINTAIN 3'-9" MAXIMUM HEIGHT.
 - ALL POSTS ARE 8'-0" IN LENGTH FROM WHERE THE GUARDRAIL FLARES AWAY FROM THE SHOULDER BACK TO THE DITCH FLOW LINE. GUARDRAIL POSTS BEYOND THE DITCH FLOW LINE MAY BE SHORTENED AS LONG AS A MINIMUM OF 4 FT. EMBEDMENT REMAINS BELOW THE EXISTING GROUND LINE. POST FOR POST ANCHOR MAY BE REDUCED TO 4 FT., ALL OF WHICH WILL BE BELOW GROUND.
 - REFER TO NCDOT STANDARD DRAWINGS 862.02 FOR GUARDRAIL INSTALLATION NOT COVERED IN THIS DETAIL AND INSTALL IN ACCORDANCE WITH SECTION 862 OF THE STANDARDS SPECIFICATIONS.
 - PAYMENT FOR ANY RUBRAIL INSTALLATION BEYOND BIC GUARDRAIL ANCHOR UNIT PAY LIMITS WILL BE INCIDENTAL TO PAYMENT FOR BIC ANCHOR UNIT.

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
DETAIL OF GUARDRAIL BURIED IN CUT (BIC)	
ORIGINAL BY: FHWA-G4	SYSTEM DATE: 8-13-98
MODIFIED BY: E.F. WARD	DATE: 12-7-01
CHECKED BY:	DATE:
FILE SPEC.: epicward/misc_guardrail/BIC.dwg	

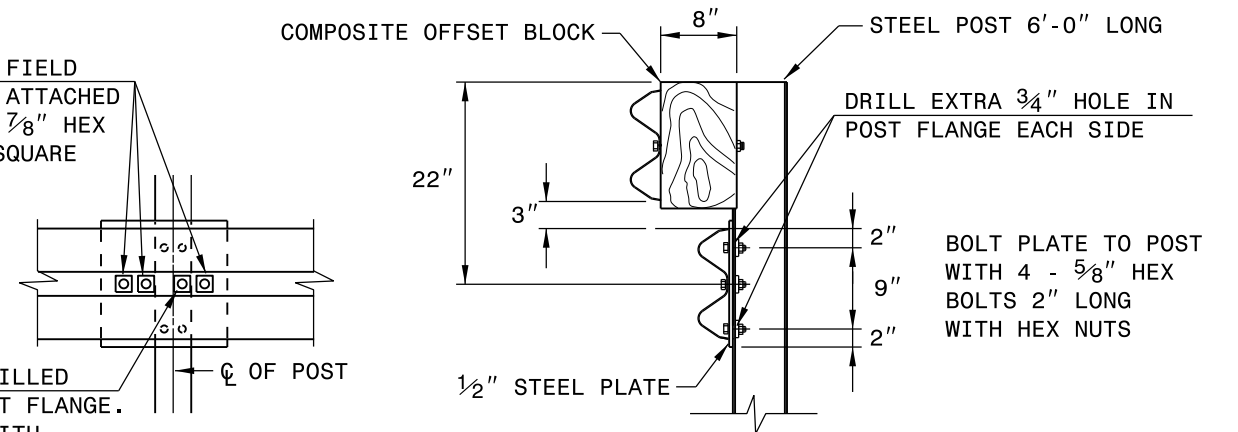
5/14/99



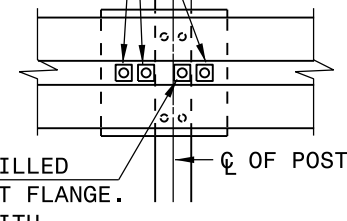
STEEL PLATE - 1/2"
GALVANIZED
WELDED OR BOLTED TO POST



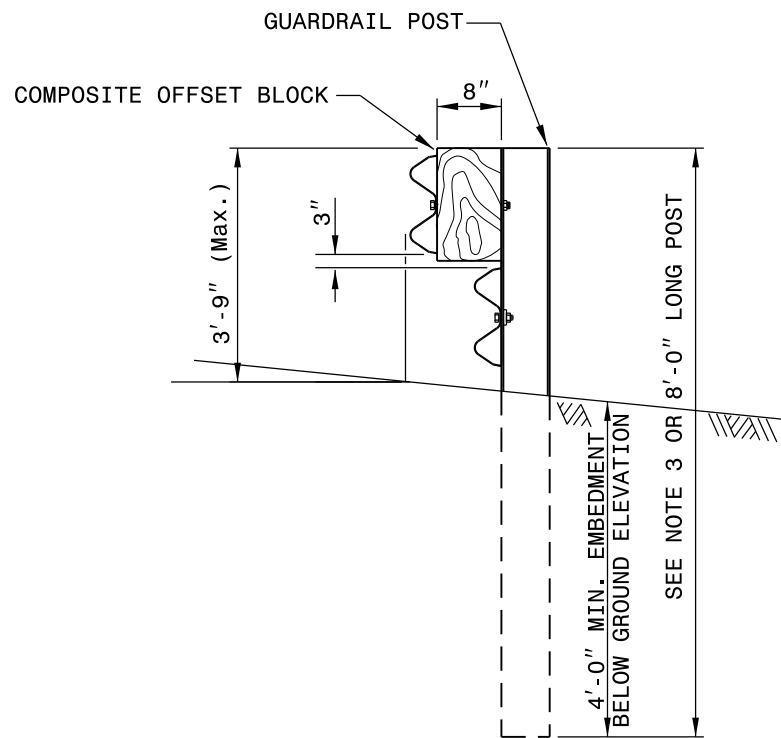
3 - 7/8" HOLES TO BE FIELD DRILLED IN RAIL AND ATTACHED TO STEEL PLATE WITH 7/8" HEX BOLTS 2" LONG WITH SQUARE WASHER



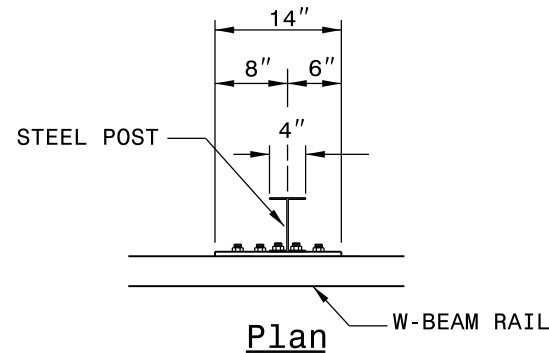
1" HOLES TO BE FIELD DRILLED IN RAIL AND THROUGH POST FLANGE. ATTACH TO STEEL PLATE WITH 7/8" HEX BOLTS 2" LONG WITH SQUARE WASHER



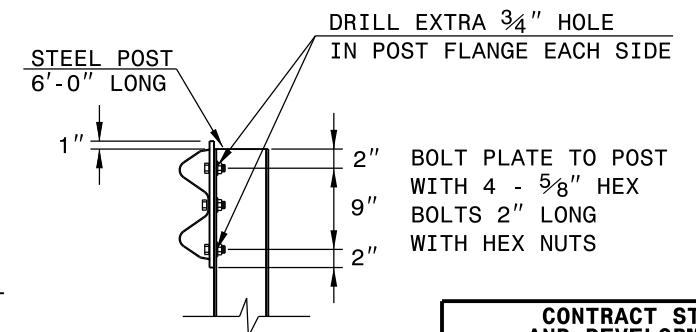
RUBRAIL ANCHOR DETAILS



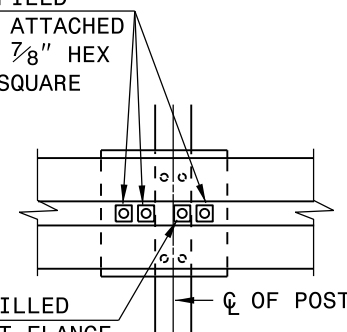
RAIL ATTACHMENT DETAIL



3 - 1" HOLES TO BE FIELD DRILLED IN RAIL AND ATTACHED TO STEEL PLATE WITH 7/8" HEX BOLTS 2" LONG WITH SQUARE WASHER



1" HOLES TO BE FIELD DRILLED IN RAIL AND THROUGH POST FLANGE. ATTACH TO STEEL PLATE WITH 7/8" HEX BOLTS 2" LONG WITH SQUARE WASHER.



POST ANCHOR DETAILS

SHEET 2 OF 2

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
DETAIL OF GUARDRAIL BURIED IN CUT (BIC)	
ORIGINAL BY: FHWA-G4 SYSTEM	DATE: 8-13-98
MODIFIED BY: E.E. WARD	DATE: 12-7-01
CHECKED BY: ericward/misc.	DATE:
FILE SPEC.: ericward/misc.	guardrail/BIC.dwg

5/14/99

TIP NO.	SHEET NO.	TOTAL NO.
I-5809	9	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	MILLING ASPHALT PAVEMENT, 2" DEPTH SY	INCIDENTAL MILLING SY	ASPHALT CONC SURFACE COURSE, TYPE S9.5C TON	ASPHALT BINDER FOR PLANT MIX TON	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX TON	OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED TON	PATCHING EXISTING PAVEMENT TON	MILLED RUMBLE STRIPS (ASPHALT CONCRETE) LF	FINE MILLING (5/8") SY	REMOVE AND REPLACE CONCRETE APRON EA	GUARDRAIL ANCHOR UNIT, TYPE BURIED IN CUT EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1 EA	GUARDRAIL ANCHOR UNITS, TYPE 350 EA	IMPACT ATTENUATOR UNIT, TYPE 350 EA	GUARDRAIL ANCHOR UNITS, TYPE B-77 EA	GUARDRAIL ANCHOR UNITS, TYPE B-83 EA	REMOVE AND RESET EXISTING GUARDRAIL LF
I-5809	McDowell	1	I-40 EBL	FROM BRIDGE NO. 138 AT EXIT 86 TO EAST OF EXIT 90	3,4	2	MD	NO	NO	4.03	32 - 44	18,914	1,090	2,170	128	191	3,124	346	42,557			8	8			4	9	35,176
		2	I-40 WBL	FROM EAST OF EXIT 90 TO BRIDGE NO. 143	3,4	2	MD	NO	NO	4.03	32 - 44	18,914	960	2,170	128	191	3,124	304	42,557		3	10	10	2		4	9	9,240
		3	I-40 EBL	FROM EAST OF EXIT 90 TO BRIDGE NO. 163	5,6	2	MD	NO	NO	2.4	32 - 44	11,264		1,290	76	113	1,859	210	25,344	35,200		3	5	3	2		8	21,000
		4	I-40 WBL	FROM BRIDGE NO. 165 TO EAST OF EXIT 90	5,6	2	MD	NO	NO	2.4	32 - 44	11,264		1,290	76	113	1,859	184	25,344	35,200		2	1	7	4		7	9,055
		5	I-40 EBL	FROM BRIDGE NO. 136 TO BRIDGE NO. 138	1,2	2	MD	NO	NO	0.14	38 - 50					7	120	12	1,480	3,720			1				2	395
		6	I-40 WBL	FROM BRIDGE NO. 143 TO BRIDGE NO. 137	1,2	2	MD	NO	NO	0.14	38 - 50					7	120	10	1,480	3,800			1				2	1,170
TOTAL FOR TIP NO. I-5809										13.14		60,356	2,050	6,920	408	622	10,206	1,066	138,762	77,920	5	24	30	9	2	8	37	76,036
GRAND TOTAL										13.14		60,356	2,050	6,920	408	622	10,206	1,066	138,762	77,920	5	24	30	9	2	8	37	76,036

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4400000000-E	4405000000-E	4410000000-E	4415000000-N	4420000000-N	4430000000-N	4445000000-E	4480000000-N	4510000000-N	4600000000-N	4725000000-E	4810000000-E	4845000000-N	4855000000-E	4847100000-E			4847120000-E	4905000000-N
										WORK ZONE SIGNS (STATIONARY) SF	WORK ZONE SIGNS (PORTABLE) SF	WORK ZONE SIGN (BARRICADE MOUNTED) SF	FLASHING ARROW BOARD EA	PORTABLE CHANGEABLE MESSAGE SIGN EA	DRUMS EA	BARRICADES (TYPE III) LF	TMA EA	LAW ENFORCEMENT HR	WORK ZONE DIGITAL SPEED LIMIT SIGNS EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) MERGE ARROW EA	PAINT PAVEMENT MARKING LINES (4") LF	PAINT PAVEMENT MARKING SYMBOL EA	REMOVAL OF PAVEMENT MARKING LINES (6") EA	POLYUREA PAVEMENT MARKING LINES (6") YELLOW (HIGHLY REFLECTIVE ELEMENTS) LF	POLYUREA PAVEMENT MARKING LINES (6") WHITE (HIGHLY REFLECTIVE ELEMENTS) LF	POLYUREA PAVEMENT MARKING LINES (12") WHITE (HIGHLY REFLECTIVE ELEMENTS) LF	SNOWPLOWABLE PAVEMENT MARKERS EA	
I-5809	McDowell	1	I-40 EBL	FROM BRIDGE NO. 138 AT EXIT 86 TO EAST OF EXIT 90	3,4	2	MD	4.03	32 - 44	350	224	16	2	3	260	64	2	275	4	3	48,190	3	1,680	21,278	26,912	1,250	328	
		2	I-40 WBL	FROM EAST OF EXIT 90 TO BRIDGE NO. 143	3,4	2	MD	4.03	32 - 44											3	48,064	3	1,625	21,278	26,786	1,540	343	
		3	I-40 EBL	FROM EAST OF EXIT 90 TO BRIDGE NO. 163	5,6	2	MD	2.4	32 - 44											3	28,799	3	1,047	12,672	16,127	510	185	
		4	I-40 WBL	FROM BRIDGE NO. 165 TO EAST OF EXIT 90	5,6	2	MD	2.4	32 - 44											28,622	1,137	12,672	15,950	690	194			
		5	I-40 EBL	FROM BRIDGE NO. 136 TO BRIDGE NO. 138	1,2	2	MD	0.14	38 - 50											1,795	740	1,055	17					
		6	I-40 WBL	FROM BRIDGE NO. 143 TO BRIDGE NO. 137	1,2	2	MD	0.14	38 - 50											3	1,828	3	740	1,088	19			
TOTAL FOR TIP NO. I-5809										13.14		16	2	3	260	64	2	275	4	12	157,298	12	5,489	69,380	87,918	3,990	1,086	
GRAND TOTAL										13.14		16	2	3	260	64	2	275	4	12	157,298	12	5,489	69,380	87,918	3,990	1,086	