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09/08/99

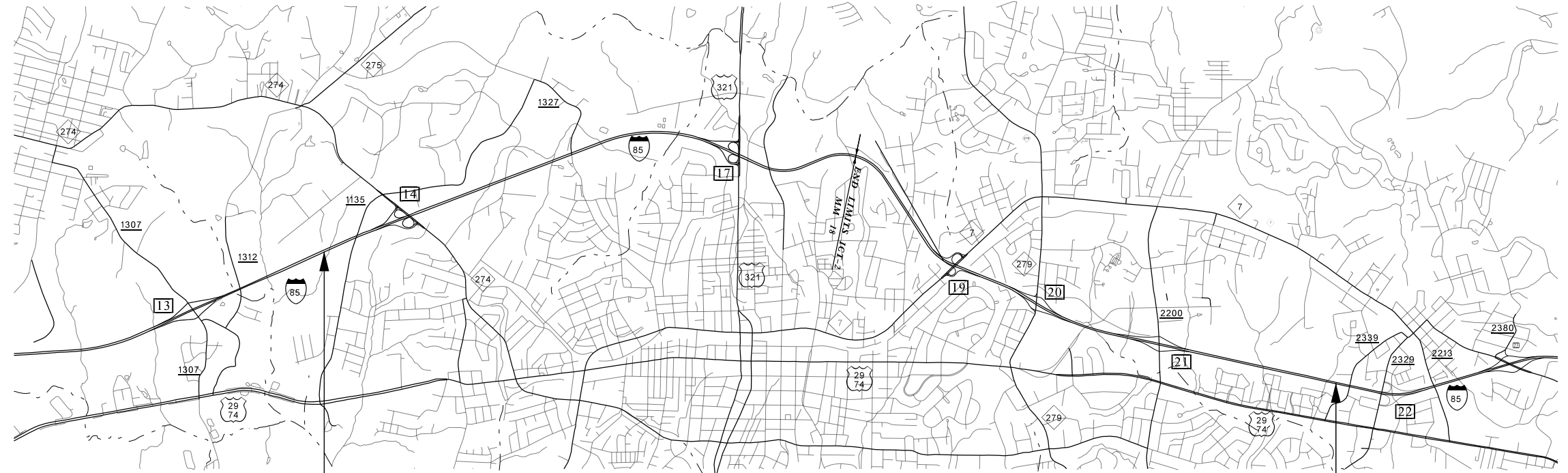
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5893	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46426.1.1	NHPIM-0085(025)	PE	
46426.3.1	NHPIM-0085(025)	CONST.	

GASTON COUNTY

**LOCATION: INTERSTATE 85 NORTHBOUND, SOUTHBOUND, AND RAMPS
BETWEEN MILE MARKER 13.9 AND MILE MARKER 22**

TYPE OF WORK: PAVEMENT REHABILITATION



**BEGIN PROJECT I-5893
MILE MARKER 13.9**

**END PROJECT I-5893
MILE MARKER 22**

TIP PROJECT: I-5893

CONTRACT: C203874

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5893 = 8.100 MI

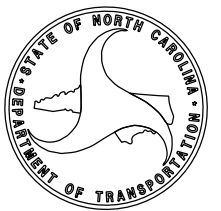
Prepared in the Office of:
DIVISION OF HIGHWAYS
1710 EAST MARION ST., SHELBY NC 28151

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JULY 19, 2016

C.G. GURLEY, PE
DIVISION MAINTENANCE ENGINEER

B.K. SOWELL
PROJECT DESIGN ENGINEER



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R:\Roadway\Proj\I-5893_Rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$

EFF. 01-17-2012
REV. 10-30-2012

SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1 THRU 2B-5	ROADWAY DETAILS
2C-1	STRUCTURE ANCHOR UNIT TYPE B-77
3B-1	GUARDRAIL SUMMARY
3B-2	SUMMARY OF QUANTITIES
TMP-1 THRU TMP-10	TRAFFIC MANAGEMENT PLANS
SIG-1	SIGNAL LOOP DETAILS

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

GUARDRAIL:
THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

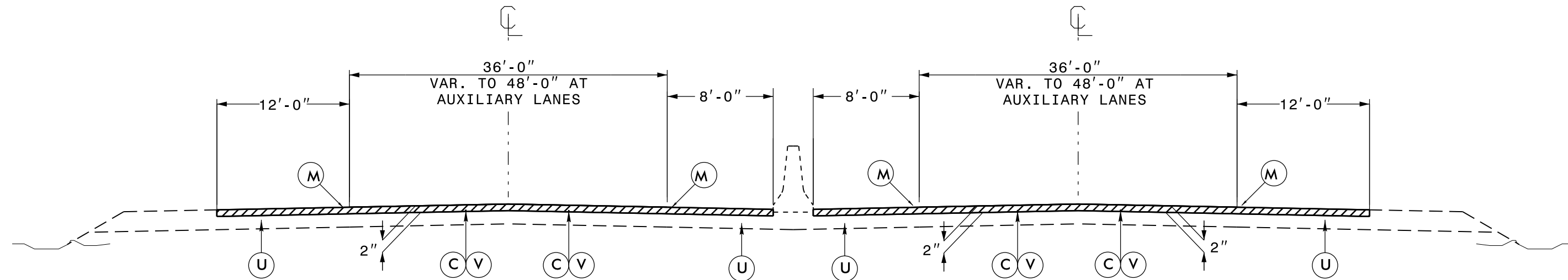
CURB RAMPS
CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

2012 ROADWAY ENGLISH STANDARD DRAWINGS
The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
665.01	Asphalt Shoulders - Milled Rumble Strips
DIVISION 8 - INCIDENTALS	
848.05	Curb Ramp - Proposed Curb & Gutter
848.06	Curb Ramp - Existing Curb & Gutter
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units

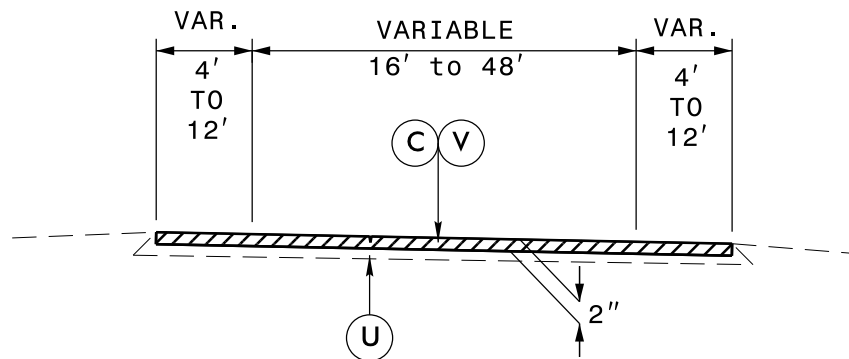
8/17/99

5/14/99



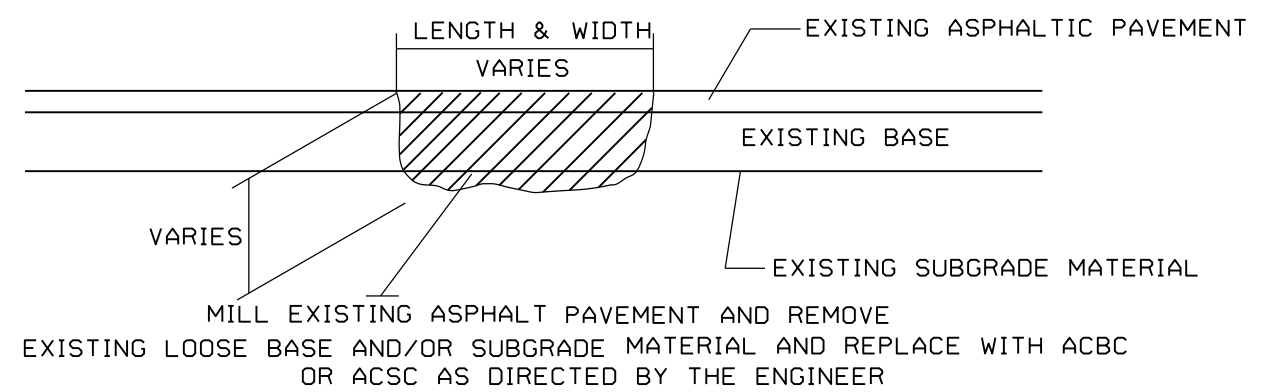
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
FROM MILE MARKER 13.9 TO MILE MARKER 22

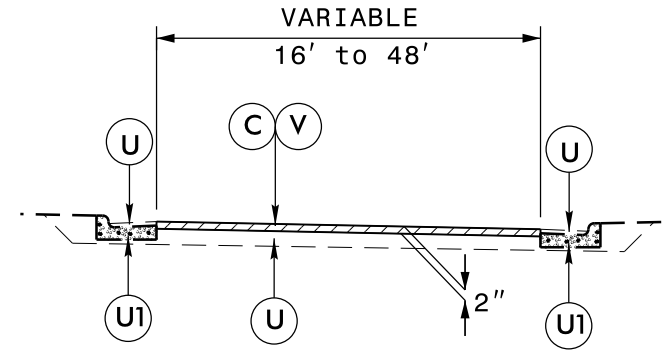


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 FOR:
RAMPS AND LOOPS WITH SHOULDERS



PATCHING EXISTING PAVEMENT



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 FOR:
RAMPS AND LOOPS AT CURB & GUTTER SECTIONS

FINAL PAVEMENT SCHEDULE	
C	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
M	MILLED RUMBLE STRIPS
U	EXISTING PAVEMENT.
U1	EXISTING CURB AND GUTTER.
V	MILLING BITUMINOUS PAVEMENT. 2" DEPTH.

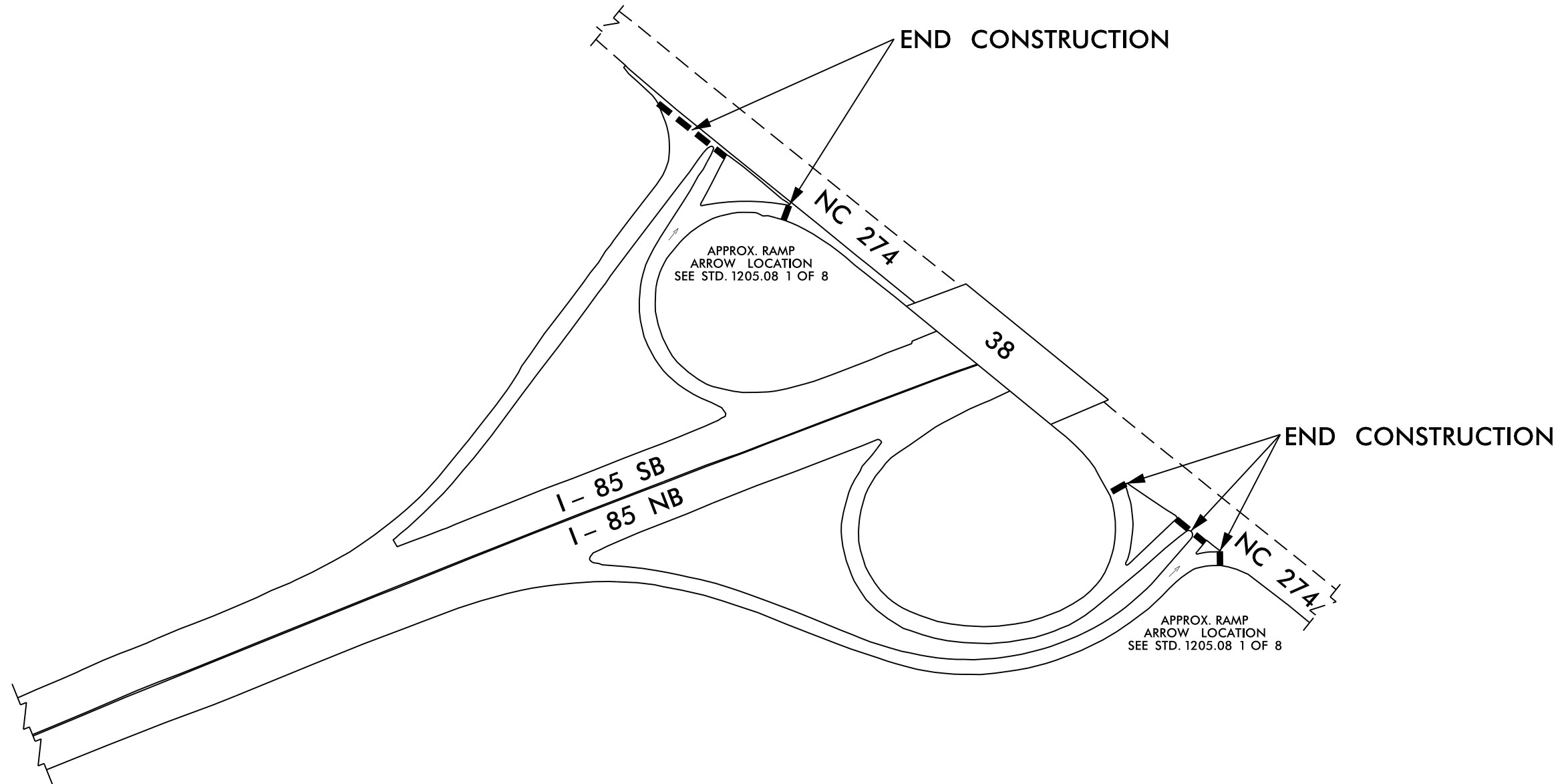
5/14/99

PROJECT REFERENCE NO. 1-5893	SHEET NO. 2B-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXIT 14 (NC 274)

RAMP & LOOP

RESURFACING LIMITS



----- END OF CONSTRUCTION AT TOP OF RAMPS / LOOPS

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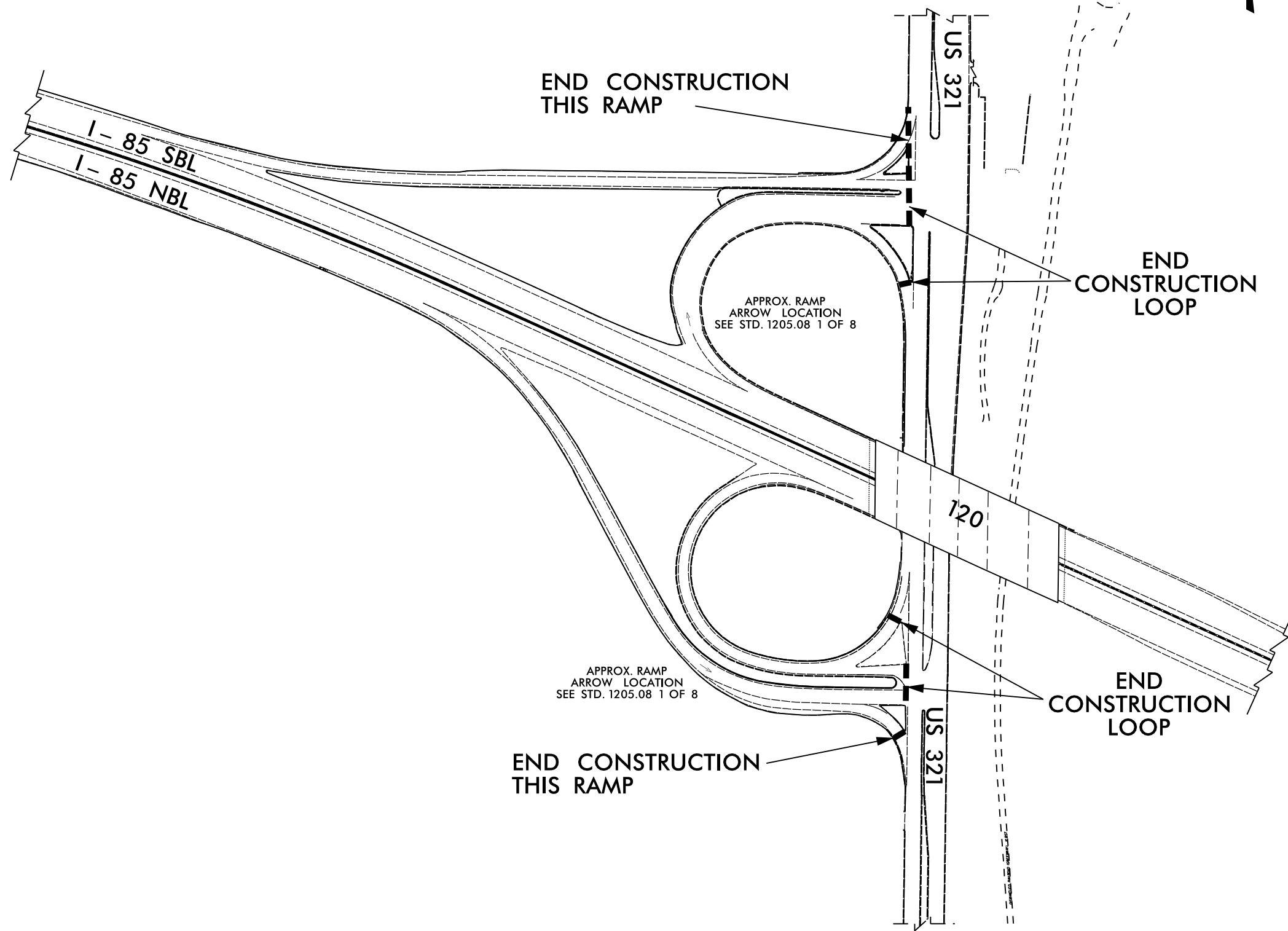
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PROJECT REFERENCE NO. 1-5893	SHEET NO. 2B-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXIT 17 (US 321)

RAMP & LOOP

RESURFACING LIMITS



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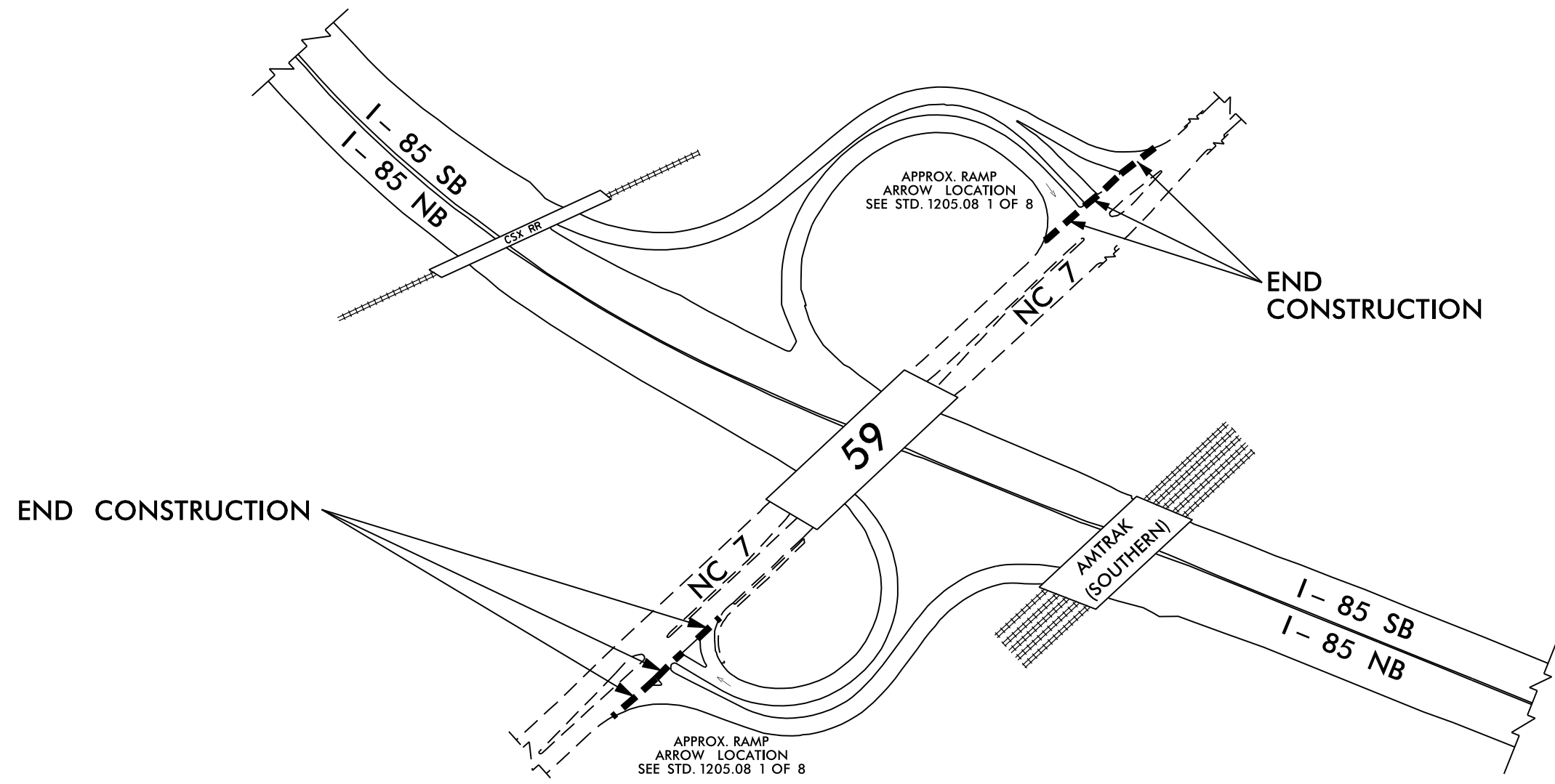
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 \$\$\$\$SERIAL\$\$\$\$

5/14/99

PROJECT REFERENCE NO. 1-5893	SHEET NO. 2B-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXIT 19 (NC 7)

RAMP & LOOP RESURFACING LIMITS



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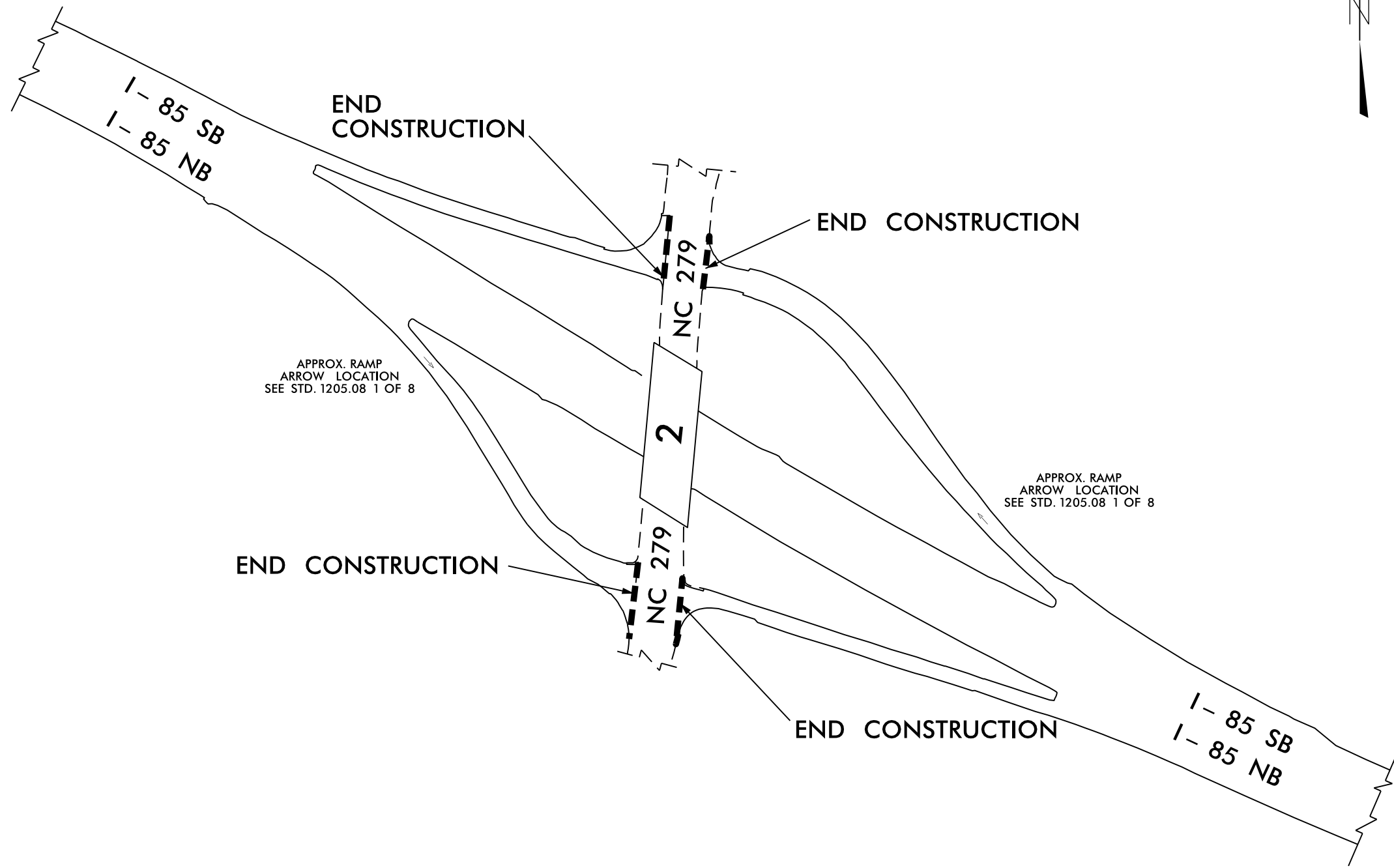
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5/14/99

PROJECT REFERENCE NO. 1-5893	SHEET NO. 2B-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXIT 20 (NC 279)

RAMP RESURFACING LIMITS



--- END OF CONSTRUCTION AT TOP OF RAMPS / LOOPS

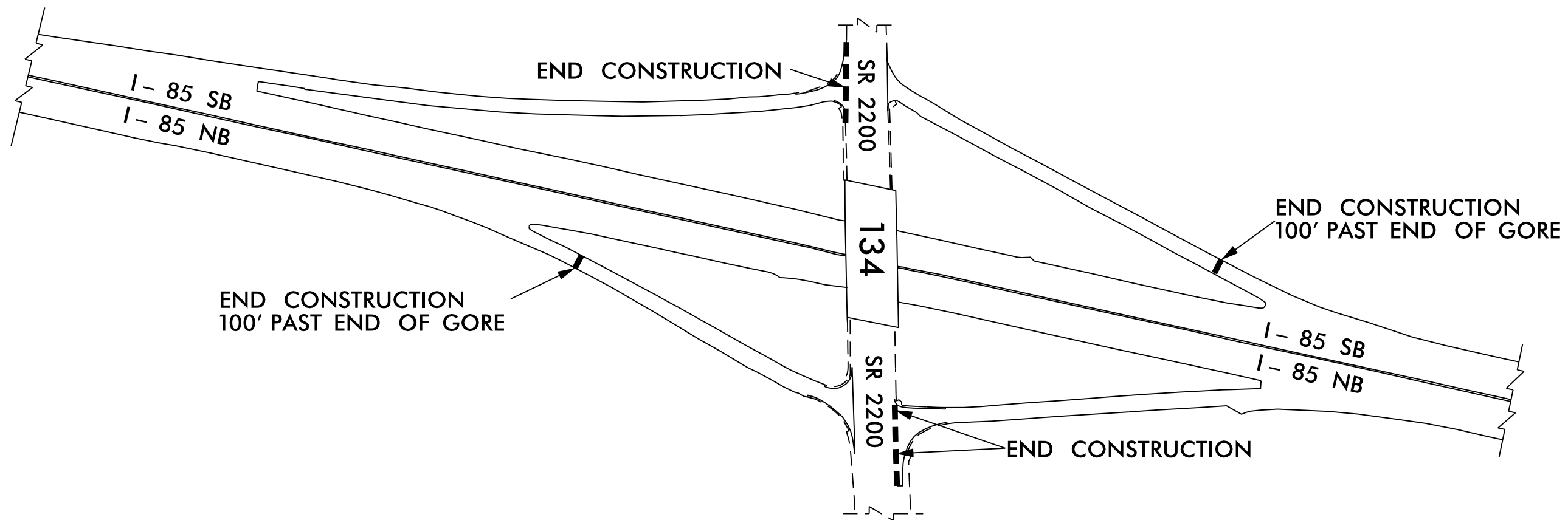
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5/14/99

PROJECT REFERENCE NO. 1-5893	SHEET NO. 2B-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXIT 21 (SR 2200 Cox Rd.)

RAMP RESURFACING LIMITS



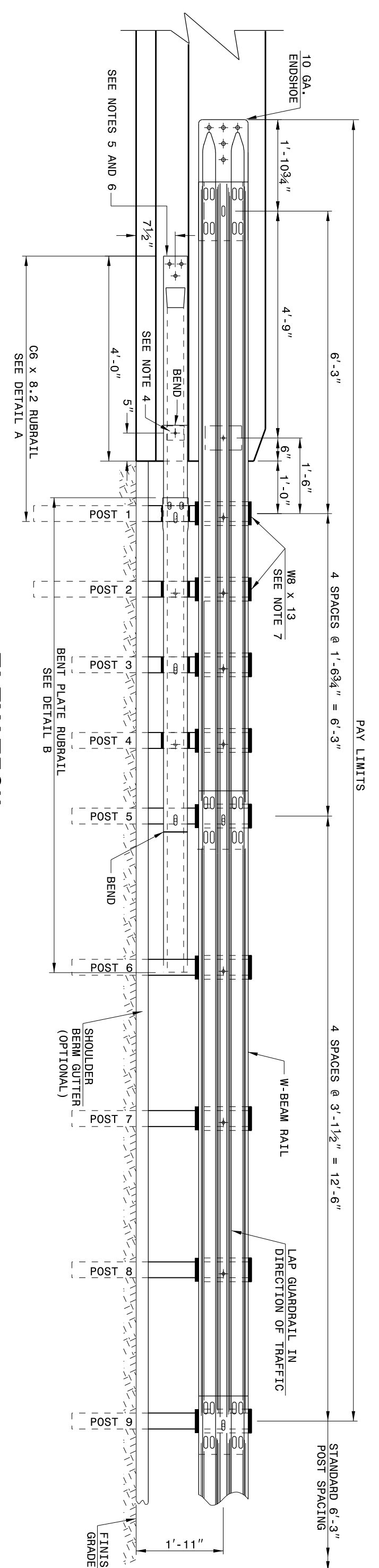
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

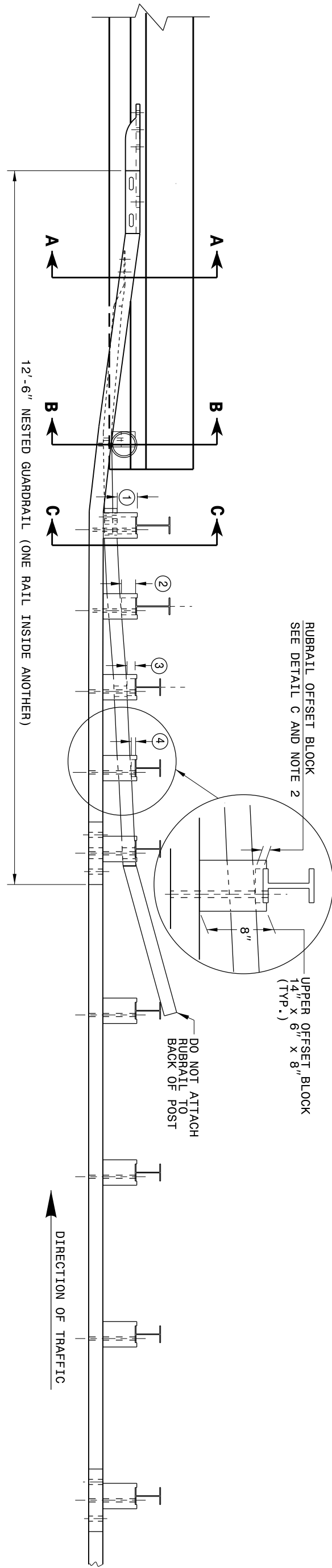
ENGLISH DETAIL DRAWING FOR GUARDRAIL ANCHOR UNIT TYPE B-77 FOR F-SHAPE BARRIER

SHEET 4 OF 7
 862D03



ELEVATION

- GENERAL NOTES:
- POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKS AND/OR RUBRAIL.
 - RUBRAIL BLOCKS LOCATED ON POSTS 1 THROUGH 4, SECURE RUBRAIL AND BLOCKS TO POSTS 1 AND 3. RUBRAIL IS SECURED TO POST 5 WITH A 5/8" x 4 1/2" BUTT-ON BOLT. RUBRAIL IS FLARED TO BACK OF POST 6 AND NOT SECURED.
 - STEEL SPACER TUBE IS A SCHEDULE 40 GALVANIZED PIPE 6" INSIDE DIAMETER x 9' LONG. ATTACH TUBE TO GUARDRAIL ONLY WITH 3/8" DIA. BOLTS AND WASHERS. DO NOT ATTACH RUBRAIL TO TUBE. ATTACH TUBE TO RAIL ELEMENT ONLY. USE 3/8" x 3" LAG BOLT WITH FLAT WASHER. SEE DETAIL A FOR SLOPED RUBRAIL BLOCK DETAIL.
 - SEE DETAIL A FOR SLOPED RUBRAIL BLOCK DETAIL.
 - SHOP FABRICATE THE C6 X 8.2 RUBRAIL END TO BE CONSISTENT WITH THE SLOPE OF THE F SHAPE AND ATTACH FLUSH WITH THE SLOPED TOP OF THE BARRIER OR BRIDGE RAIL.
 - ANCHORAGE:
 - AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS, ANCHOR RUBRAIL USING THREE 5/8" x 6" CHEMICALLY ANCHORED ANCHORS. SEE DETAIL C AND NOTE 2.
 - AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS, ANCHOR THE W-BEAM END SHOE USING A 4 BOLT HOLD DOWN PLATE (SEE STD. DWG. 862.04).
 - INSTALL THE W-BEAM END SHOE BEHIND THE NESTED W-BEAM ELEMENTS.
 - POSTS 1 AND 2 ARE W8 X 13, 7'-6" LONG. ALL OTHER POSTS IN THE ANCHOR UNIT ARE W8 X 8.5.



PLAN

SHEET 4 OF 7
 862D03

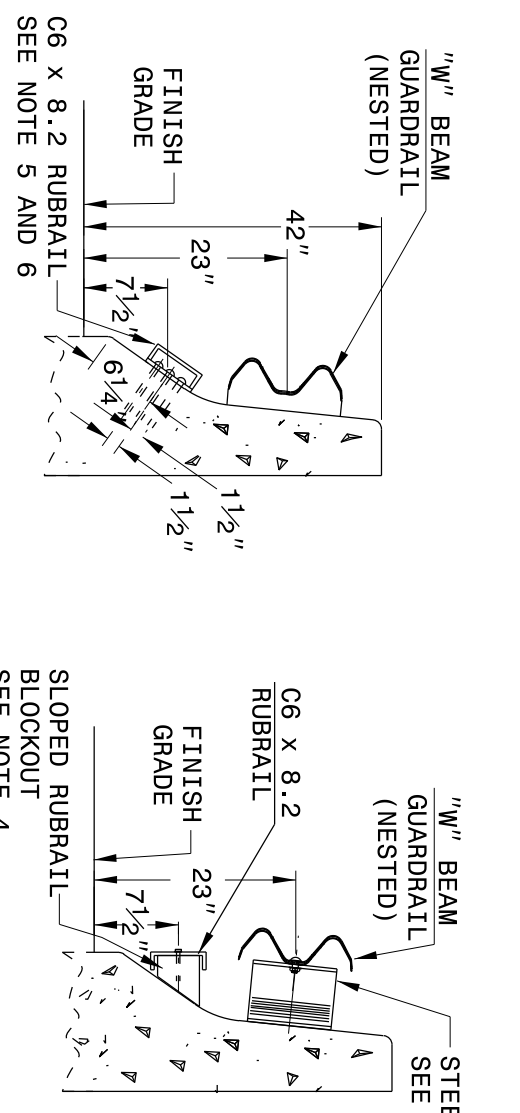
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNIT GUARDRAIL ANCHOR UNIT TYPE B-77 FOR F-SHAPE BARRIER

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

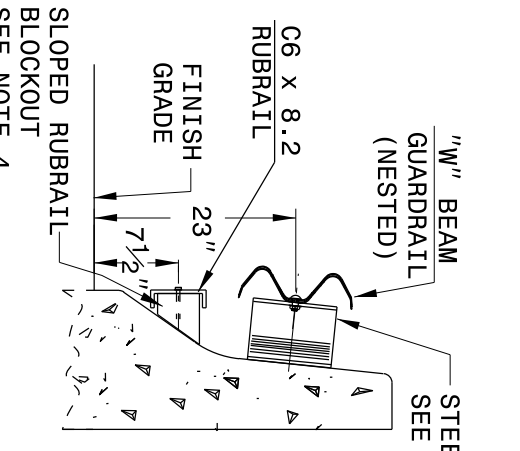
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNIT FOR F-SHAPE BARRIER

SHEET 5 OF 7
 862D03



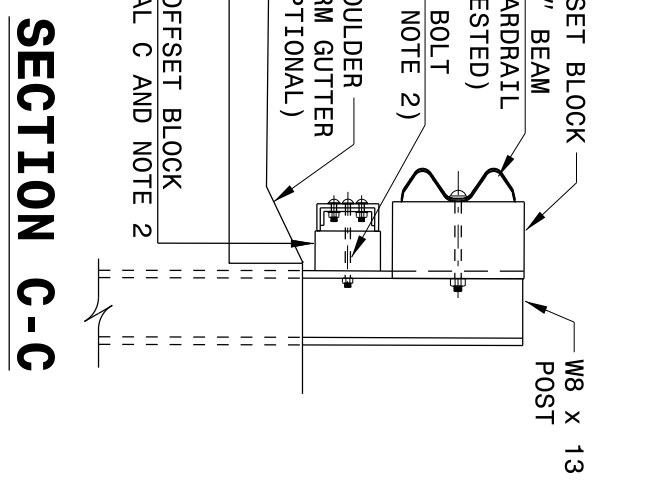
SECTION A-A



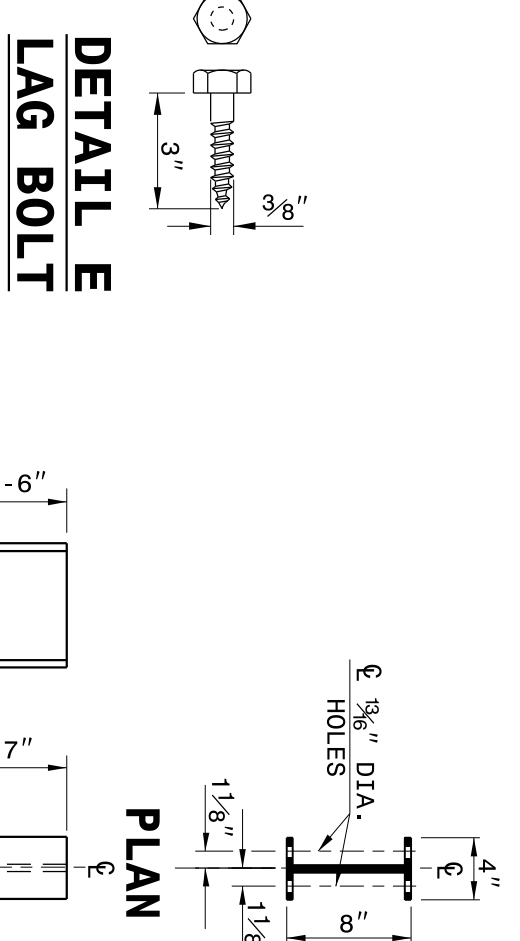
SECTION B-B

RUBRAIL BLOCKS 7" HIGH X 4" WIDE	POST	THICKNESS	BOLT LENGTH
1	4 1/4"	9"	5"
2	3 1/4"	5"	6"
3	2"	6"	6"
4	1"	3"	6"

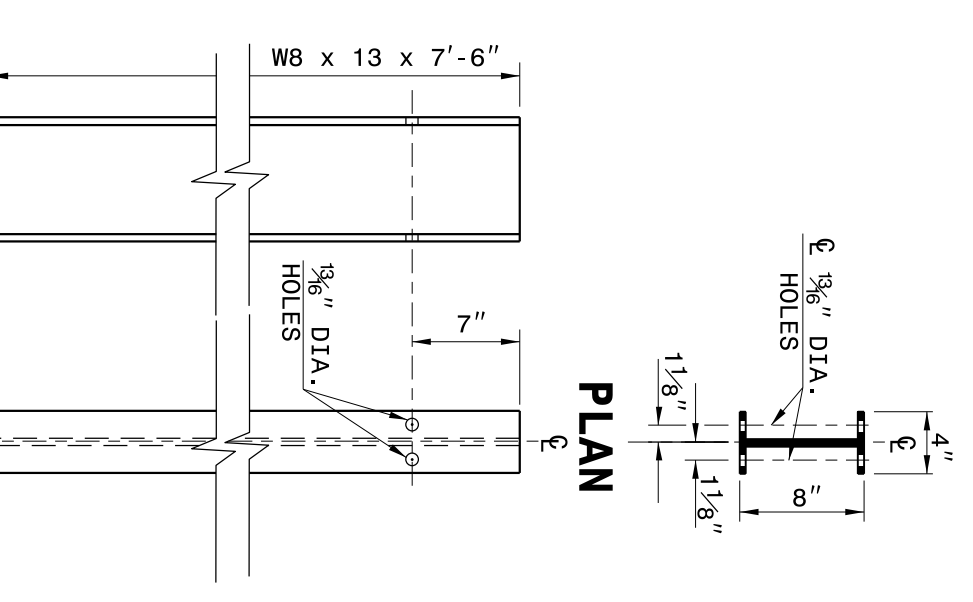
* BOLTS FOR POSTS 2 AND 4 ARE USED TO ATTACH BLOCK TO POST. RUBRAIL NOT ATTACHED TO BLOCK.



SECTION C-C

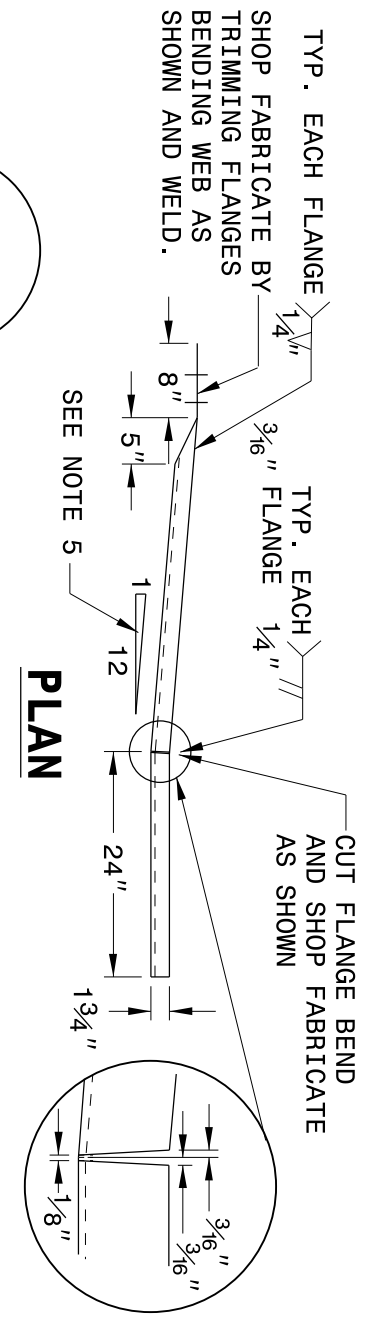


DETAIL E LAG BOLT

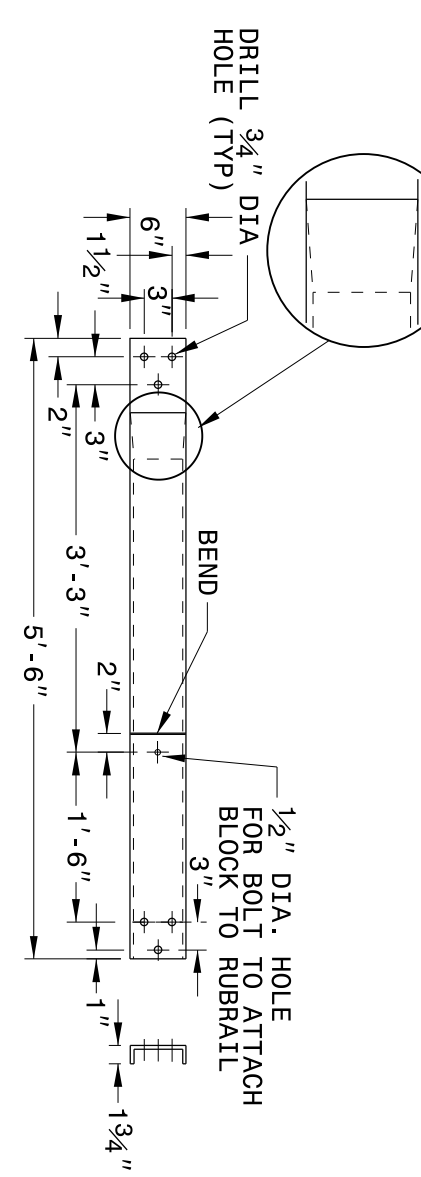
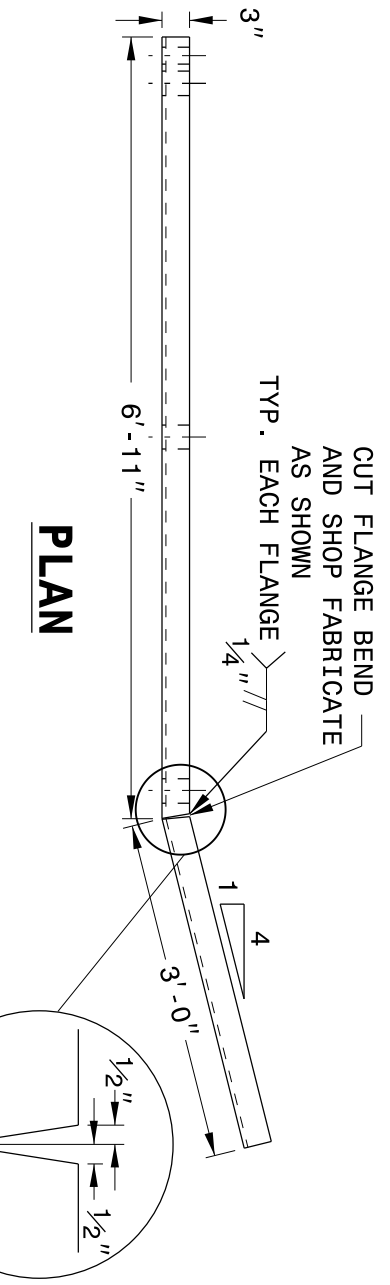


DETAIL F STEEL POST W8 X 13 X 7'-6"

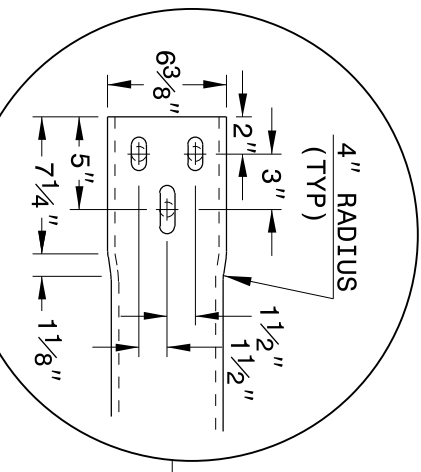
DETAIL C RUBRAIL BLOCKOUT



DETAIL D SLOPED RUBRAIL BLOCKOUT



DETAIL A ELEVATION C6 X 8.2 RUBRAIL



DETAIL B ELEVATION BENT PLATE RUBRAIL

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNIT GUARDRAIL ANCHOR UNIT TYPE B-77 FOR F-SHAPE BARRIER

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

SHEET 5 OF 7
 862D03

\$\$\$USERNAME\$\$\$

CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON DATE: 06-22-12
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.:

PROJECT NO.	SHEET NO.	TOTAL NO.
I-5893 46426.3.1	3B-2	

SUMMARY OF QUANTITIES

PROJECT NO	COUNT Y	MAP	ROUTE	DESCRIPTION	TYP	LANE S	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	2" MILLING SY	INCIDENTAL MILLING SY	SURFACE COURSE, S9.5D TONS	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) LF	RETRO-FIT EXISTING CURB RAMP EA	CONCRETE CURB RAMP EA	STEEL BM GUARDRAIL LF	ADDITIONAL GUARDRAIL POSTS EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1 EA	GUARDRAIL ANCHOR UNITS, TYPE 350 EA	GUARDRAIL ANCHOR UNITS, TYPE B-77 EA	GUARDRAIL ANCHOR UNITS, TYPE B-83 EA	REMOVE EXISTING GUARDRAIL LF	INDUCTIVE LOOP SAW-CUT LF	PORTABLE LIGHTING LS
I-5893 46426.3.1	Gaston	1	I-85	MM 13.9 TO MM 22	1,2,3	6	MD	NO	NO	8.1	36	608,941	1,000	68,210	3,888	6,000	171,072	6	6	26,337.5	50	38	55	30	3	30,013	2,055	*
RAND TOTAL										8.1		608,941	1,000	68,210	3,888	6,000	171,072	6	6	26,337.5	50	38	55	30	3	30,013	2,055	1

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNT Y	MAP	ROUTE	DESCRIPTION	TYP	LANE S	LANE TYPE	LENGTH	WIDTH	441300000	4510000	471000000	47210000	472500000-E				484710000-E		484712000	4905000000-N
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	LAW ENFORCEMENT CEMENT HR	24" X 120 M WHITE THERMO LF	THERMO MSG ONLY 120 M EA	THERMO STR ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO RAMP ARROW 90 M EA	6" WHITE POLYUREA (HRE) LF	6" YELLOW POLYUREA (HRE) LF	12" WHITE POLYUREA (HRE) LF	SNOW PLOWABLE MARKERS EA
I-5893 46426.3.1	Gaston	1	I-85	MM 13.9 TO MM 22	1,2,3	6	MD	8.1	36	344	40	275	16	20	17	17	8	148,545	97,845	10,125	2,724
GRAND TOTAL										344	40	275	16	20	17	17	8	148,545	97,845	10,125	2,724
										62				246,390							