

Part I-83-1

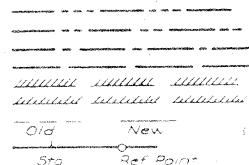
GUARD RAIL AND SIGNING
I-80-5(83)153--01-50

JASPER-POWESHIK COUNTY

LETTING DATE 10-11-77

CONVENTIONAL SIGNS

State Line
Co. Line
Twp. Line
Sec. Line
Corp. Line
Urban Bdy.
R.O.W. Lines
Survey Line



Sec. Corner
Profile Grade
Railroad
Field Tile
Underground Lines



Culverts
Utility Poles



Fence
Trees Or Fr. sh.
Stream
Dike



County Road No.
Primary Road No.
U.S. Road No.
Interstate Road No.



THIS AS BUILT PLAN INCLUDES
WORK CONTRACTOR
Guardrail & Signing Dieseth Specialty

PROJ. INSPECTOR
Roy E. Johnson

IOWA
DEPARTMENT OF TRANSPORTATION
Highway Division
PLANS OF PROPOSED IMPROVEMENT ON THE
INTERSTATE ROAD SYSTEM
JASPER - POWESHIK COUNTY
GUARD RAIL AND SIGNING
CURB REMOVAL AND ISLAND MODIFICATION
ON I-80 FROM POLK CO. LINE TO IOWA CO. LINE

SCALES AS NOTED

THE STANDARD SPECIFICATIONS, SERIES OF 1977,
OF THE IOWA STATE HIGHWAY COMMISSION,
SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: E. J. [Signature]
Resident Construction Engineer
Date: 8/20/77 Iowa Reg. No. 7554

REVIEWED AND FORWARDED TO AMES

Roy Kuhn Date: 5/4/78
District Construction Engineer
Bob Humphrey
District Engineer

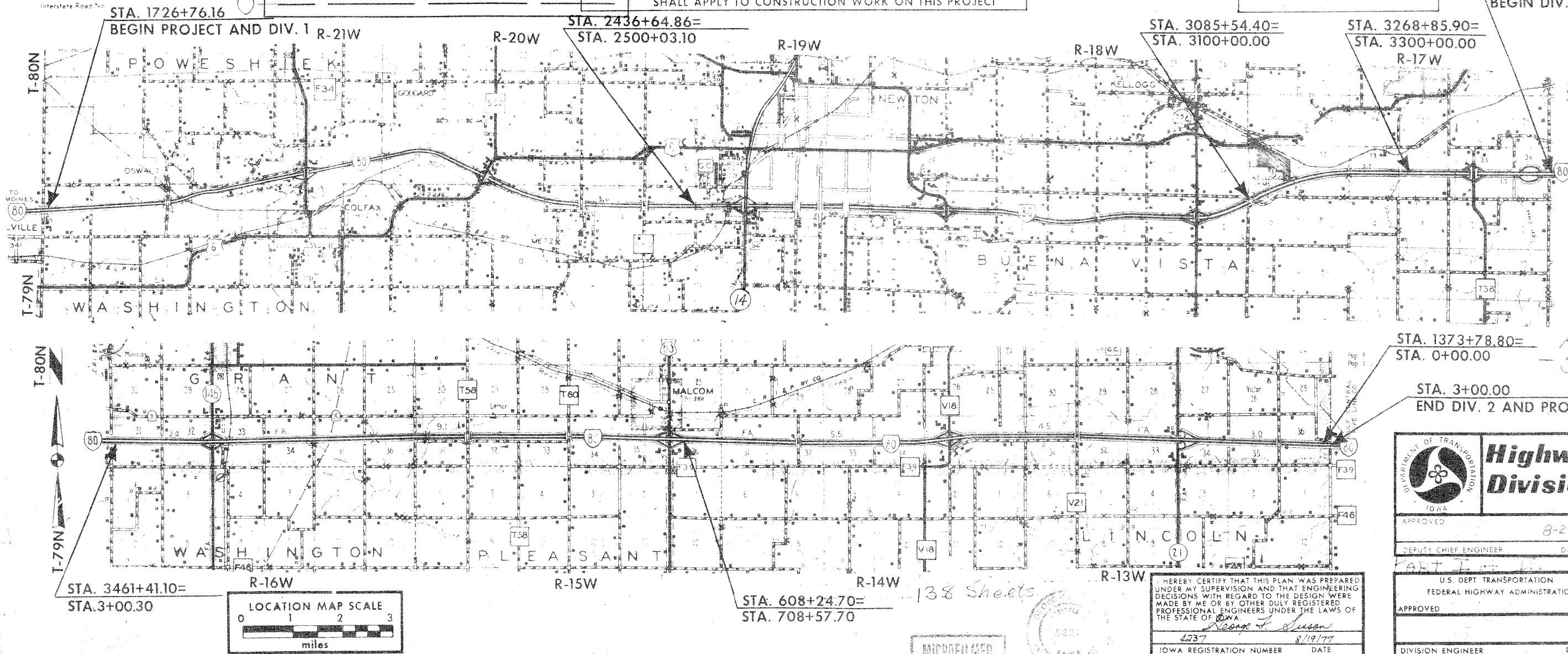
AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO. 1

FOR DESIGN DATA, INDEX OF SHEETS, MILEAGE
SUMMARY AND TABULATION OF ROAD STAND-
ARDS SEE SHEET NO. 2A.

REVISED:

SEE FOLLOWING SHEET 1A

STA. 3458+41.00
END DIV. 1
BEGIN DIV. 2



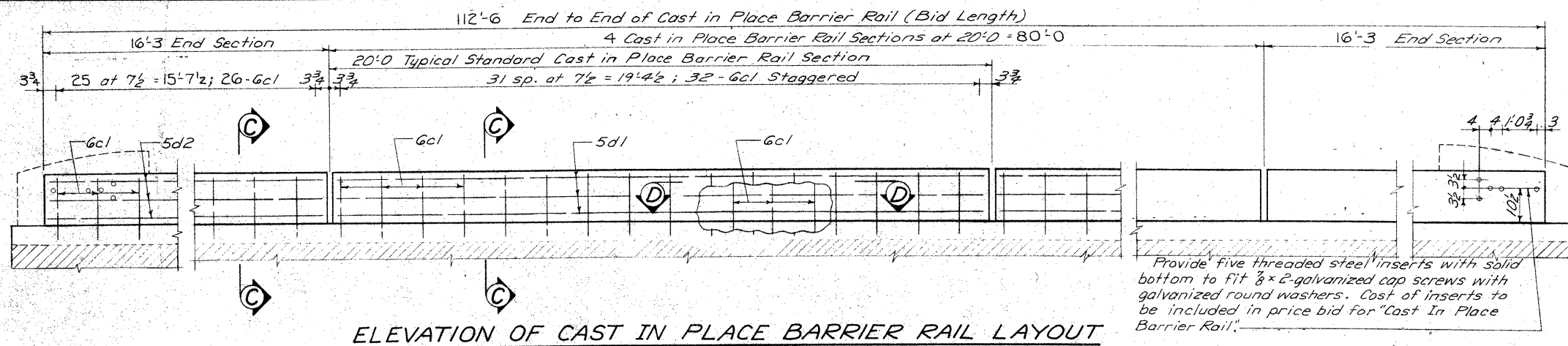
STA. 1373+78.80=
STA. 0+00.00

STA. 3+00.00
END DIV. 2 AND PROJECT

Highway Division
APPROVED 8-29-77
DEPUTY CHIEF ENGINEER DATE
U.S. DEPT. TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ENGINEER DATE

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED
UNDER MY SUPERVISION AND THAT ENGINEERING
DECISIONS WITH REGARD TO THE DESIGN WERE
MADE BY ME OR BY OTHER DULY REGISTERED
PROFESSIONAL ENGINEERS UNDER THE LAWS OF
THE STATE OF IOWA
4237 8/19/77
IOWA REGISTRATION NUMBER DATE

MICROFILMED



REINFORCING STEEL - ONE SECTION						
Section	Bar	Location	Shape	Nº	Length	Weight
Standard	6c1	Vertical	—	32	2'-2"	104
	5d1	Longitudinal	—	6	19'-8"	123
Total (Lbs.)						227
End	6c1	Vertical	—	26	2'-2"	85
	5d2	Longitudinal	—	6	15'-11"	100
Total (Lbs.)						185

BENT BAR DETAILS

* REINFORCING SUMMARY

Section	Number of Sections	Reinforcing Per Section	Total
Standard	16	227	3632
End	8	185	1480
Total (Lbs.)			5112

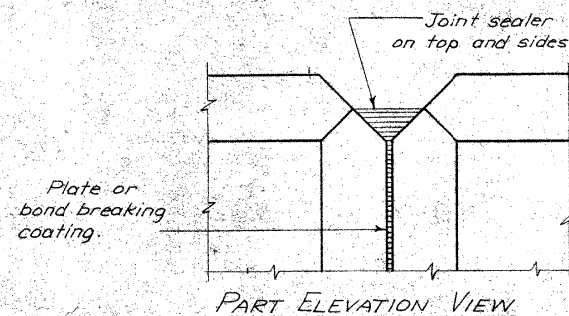
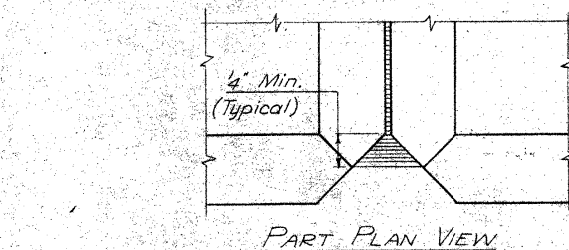
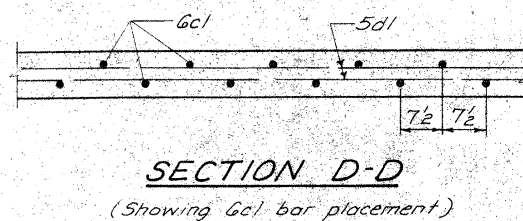
CONCRETE PLACEMENT SUMMARY

Section	Number of Sections	Concrete Per Section	Total
Standard	16	.76	12.2
End	8	.62	5.0
Total (Cu Yds.)			17.2

CAST IN PLACE BARRIER RAIL QUANTITIES

Item	Unit	Quantity
Cast in place barrier rail	Lin. Ft.	450.0

* All reinforcing bars to be epoxy coated - see note on this sheet.



CAST IN PLACE BARRIER RAIL JOINT DETAILS

CAST IN PLACE BARRIER RAIL NOTES:

Minimum clear distance from face of concrete to near reinforcing bars to be 2" unless otherwise noted or shown.

All exposed corners 90° or sharper are to be filleted with a 3/4" dressed and beveled strip.

Top of the cast in place barrier rail is to be parallel to the theoretical G grade.

The cast in place barrier rail may be placed in sections or continuously. When it is poured continuously a 1/8" sheet of either aluminum, galvanized steel, high density styrene, or plexiglass shall be placed at the joints to separate the sections. When the cast in place barrier rail is placed in sections the end of the section to be poured against is to be coated with paraffin or other bond breaker approved by the Engineer and the plate separators may be omitted. Cost of joint sealer and bond breaker shall be considered incidental to other construction.

The cast in place barrier rail is to be bid on a lineal foot basis measured from end to end of rail. The number of lineal feet of cast in place barrier rail installed will be paid for at the contract price per lineal foot based on plan quantities. Price bid for cast in place barrier rail shall be full compensation for furnishing all material, including reinforcing steel, and all of the equipment and labor required to erect the rail in accordance with these plans and current specifications.

All cast in place barrier rail concrete is to be Class D.

The joint sealer shall conform to Fed. Spec. TT-S00230 or TT-S00227 for type II, Class A or B.

All reinforcing is to be epoxy coated. The epoxy coating shall be in accordance with current special provisions and supplemental specifications of the Iowa D.O.T.-Highway Division.

DOWEL SETTING NOTE

The 6c1 bars shall be set as dowels in drilled holes. Holes are to be 10" deep. The dowels shall be installed in accordance with the manufacturer's recommendations. One of the two following systems shall be used as a bonding agent for the dowels:

- 1) Epoxy system. Drilled holes are to be 7/8"Ø. The epoxy grout shall be one of those approved in the I. D. O. T. Materials I. M. 491.11.
- 2) Grout system. Drilled holes are to be 2"Ø. The grout shall be Five Star Grout or an approved equal.

Cap screws shall conform to requirements of ASTM A-307 and shall be galvanized in compliance with ASTM A-153. Cap screws shall be installed in threaded steel inserts held in proper position by use of an assembly set in the concrete and allowing a minimum embedment of 2" for the cap screws. The components and procedure shall be subject to the approval of the Engineer.

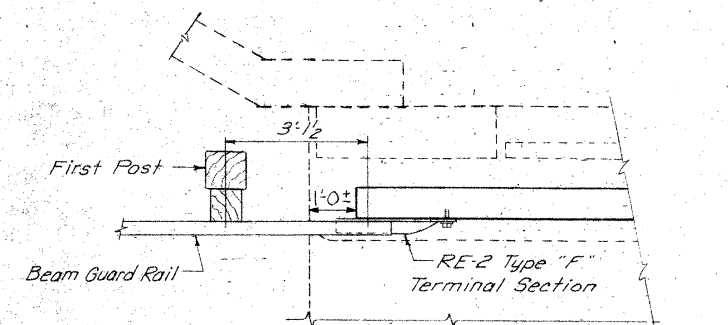
The cost of the RE-2 Type F terminal section, and cap screws shall be included in the price bid for "Cast in Place Barrier Rail".

DESIGN STRESSES:

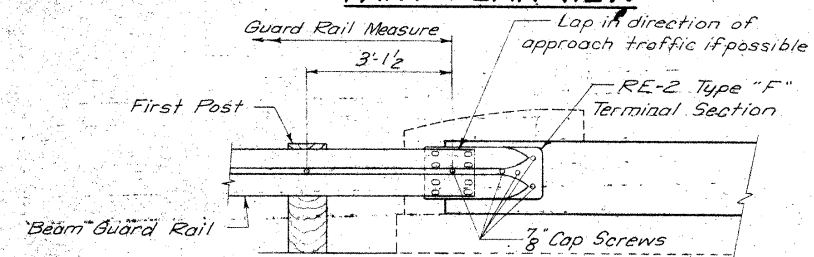
Design stresses for the following materials are in accordance with AASHTO Standard Specifications for Highway Bridges, Series 1973.

Concrete in accordance with Section 1.5.1 (C), f'c=3,500 psi.

Reinforcing Steel in accordance with Section 1.5.1 (D), f s=20,000 psi.



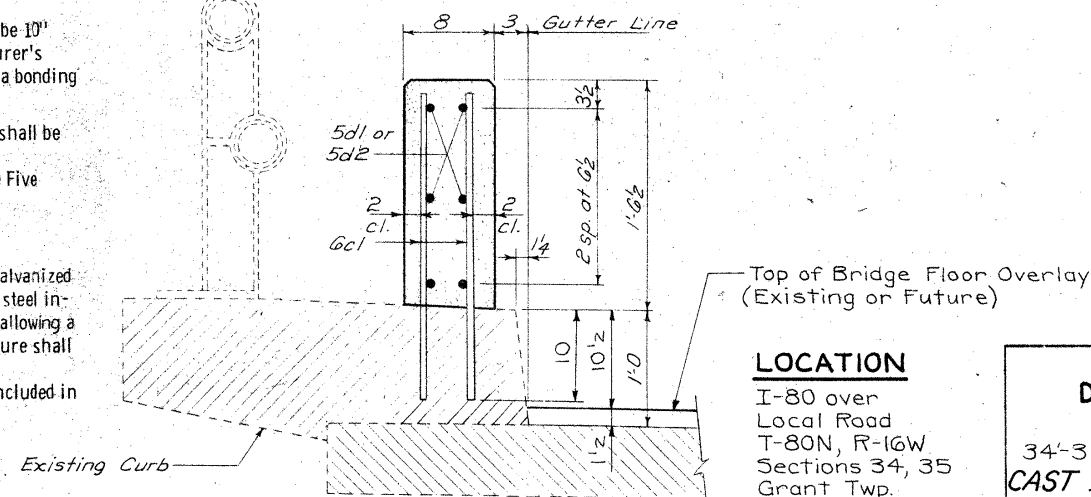
PART PLAN VIEW



PART ELEVATION VIEW

(Showing beam guard rail attachment to RE-2 Type "F" Terminal Section)

Do not disturb existing rail



PART SECTION C-C

LOCATION

I-80 over Local Road
T-80N, R-16W
Sections 34, 35
Grant Twp.
Poweshiek County

Design For Bridge Repair To
DUAL 112'-6" x 40' CONTINUOUS CONCRETE SLAB BRIDGE
34'-3" End Spans 44'-0" Center Span
CAST IN PLACE BARRIER RAIL DETAILS
Station: 213+41.3 July, 1977
POWESHIEK COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
Design Sheet No.: 1 Of 1 File No.: 25937 Design No.: 477

DESIGNED BY: *Chris Weber*
CHECKED BY:

TRACED BY:
CHECKED BY:

JASPER-POWESHIEK COUNTY

PROJECT NUMBER
I-80-5(83)153--01-50

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		24	72