

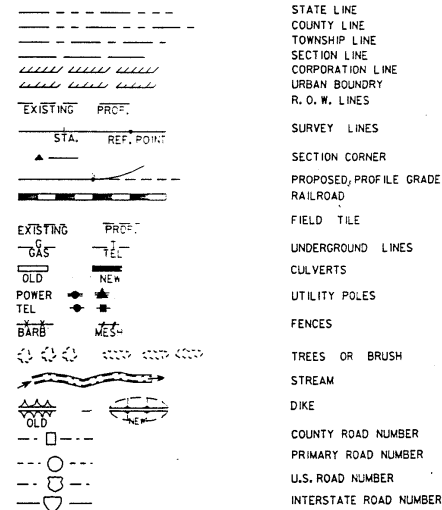
12/20/8

DICKINSON COUNTY

BRIDGE DECK REPAIR

FN-9-3(14)--21-30

CONVENTIONAL SIGNS



IOWA

DEPARTMENT OF TRANSPORTATION
Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

PRIMARY ROAD SYSTEM
DICKINSON COUNTY

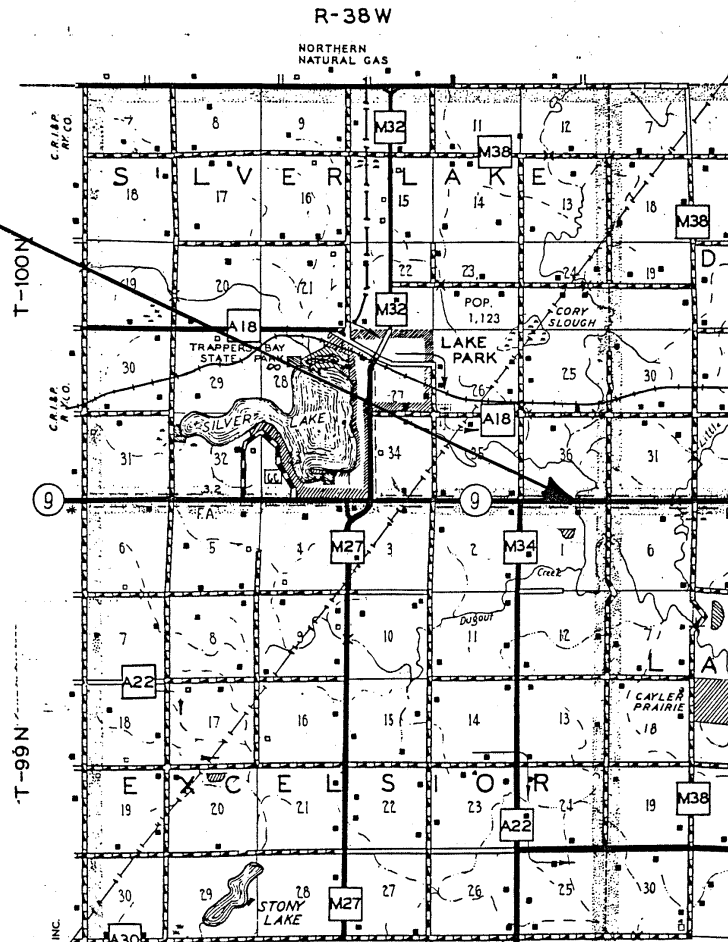
BRIDGE DECK REPAIR

ON IOWA 9 - OVER WEST FORK LITTLE SIOUX RIVER -
APPROXIMATELY 0.5 MILE EAST OF COUNTY ROAD M-34

SCALE: As Noted

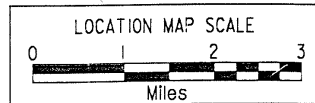
The standard specifications, series of 1984 of the Iowa Department of Transportation, shall apply to construction work on this project.
(PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS)

DESIGN NO. 189



881436
003 298

042
134



CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: W. R. BENNETT
Resident Construction Engineer
Date: 1/23/80 Iowa Reg. No. 4017
REVIEWED AND FORWARDED TO AMES
Tony G. LAZAROWICZ Date: 9/11/95
District Construction Engineer
One 50% Reduced and Two Full Size Prints To Be Made and Returned To
Tony G. LAZAROWICZ
District Engineer
AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO. 3 NWITC

THIS AS BUILT PLAN INCLUDES

YEAR WORK CONTRACTOR PROJ. INSPECTOR
89 FLOOR REPAIR CHRISTENSEN B. JOINES

STANDARD ROAD
PLANS

IDENT	DATE	IDENT	DATE
RE-2A	2-17-87		
RE-12A	10-11-88		
RE-47	11-10-87		
RE-48A	8-20-85		
RE-52	5-10-88		
RE-57	9-23-86		
RK-17	7-21-87		
RL-11	10-11-88		
RS-2	10-11-88		
RS-3	11-15-88		
RS-7	3-31-87		

STANDARD BRIDGE
PLANS

STANDARD	ISSUED	REVISED

REVISIONS



AUTHORIZED FOR LETTING
D. W. Anderson 10-19-88
DEPUTY CHIEF ENGINEER DATE

I 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.

Name William D. Anderson
Iowa Registration No. 4449 Date 1/19/88

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

FOR THE DIVISION ADMINISTRATOR DATE

LETTING DATE DEC. 20, 1988 STATE CONTROL SECTION NUMBER 30-0100 FILE NO. 27730

DICKINSON COUNTY PROJECT NO. FN-9-3(14)--21-30

SHEET NO. 1

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT
PERSONAL SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE STATE OF IOWA
10-18-88 *James R. Sassaman* G.G.P. REG. NO. 2663
DATE JAMES R. SASSAMAN

DESIGN NO. 189	OVER WEST FORK LITTLE SIOUX RIVER	STATION: 296+73.40	
DICKINSON COUNTY	MAINT. NO. 3065.4S009		
SECTIONS 1/36	T-100/99N R-38W	SILVER LAKE TOWNSHIP	
DESIGN FOR REPAIRS TO A 0° SKEW			
67'-0" X 28' I-BEAM			
BRIDGE			
FINAL QUANTITIES			
NO.	ITEM	UNIT	TOTAL
1	CLASS A BRIDGE FLOOR REPAIR	SQ. YD.	22.61
2	BRIDGE FLOOR OVERLAY	SQ. YD.	395.73
3	STRUCTURAL STEEL	LBS.	4384
4	REMOVALS AS PER PLAN	L.S.	3000.00
5	CONCRETE SEALER AS PER PLAN	SQ. FT.	274
6	CONCRETE BARRIER RAIL - CAST IN PLACE	L.F.	146
7	REMOVAL OF EXISTING DELINEATORS	NO.	16
8	REMOVAL OF FORMED STEEL BEAM GUARDRAIL	LIN. FT.	200
9	REMOVE & REINSTALL STEEL BEAM GUARDRAIL	LIN. FT.	100
10	REMOVAL OF POSTS	NO.	57
11	REMOVAL OF GUARDRAIL END ANCHORAGE	NO.	4
12	TRAFFIC CONTROL	LUMP SUM	4000.00
13	SINGLE WHITE DELINEATOR	NO.	14
14	TRIPLE YELLOW OBJECT MARKER, AS PER PLAN	NO.	8
15	TYPE 3 OBJECT MARKER	NO.	4
16	PAVEMENT MARKINGS	STA.	6.38
17	FORMED STEEL BEAM GUARDRAIL	LIN. FT.	200
18	BEAM GUARDRAIL POSTS	NO.	60
19	RE-52 BEAM GUARDRAIL END ANCHORAGE	NO.	4
20	GRANULAR SHOULDERS TYPE "B"	TONS	
21	FULL DEPTH PATCH, BY COUNT	NO.	4
22	FULL DEPTH PATCH, BY AREA	SQ. YDS.	32
23	"EF" JOINT ASSEMBLY	NO.	2
24	FLAGGERS	DAYS	155
25	MOBILIZATION	L.S.	4000.00
8001	PRICE ADJUSTMENT	C.R.	1808.00

REFERENCE INFORMATION	
Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders	
ITEM NO.	DESCRIPTION
6	INCLUDES 593 L.F. OF NO. 5 BAR AND 541 L.F. OF NO. 6 BAR OF EPOXY COATED REINFORCING STEEL, AND 7.3 CU. YD. OF CLASS D STRUCTURAL CONCRETE.
7	SHALL INCLUDE REMOVAL OF 4 RECTANGULAR OBJECT MARKERS AND 12 TRIPLE YELLOW OBJECT MARKERS. DISPOSE PER 213-1.
8 - 11	SHALL CONFORM TO STANDARD NOTES JRA-1, 204-3, 213-1. SEE TAB. 110-7. CONCRETE FOOTINGS TO BE REMOVED TO AT LEAST 6" BELOW FINAL GRADE.
13 - 15	SHALL BE INSTALLED IN ACCORDANCE WITH RE-48A. SEE TAB. 108-17.
16	SEE TAB. 108-22.
17 - 19	SEE TABS. 107-23 AND 108-8.
20	FOR SWEETENING OF SHOULDERS ADJACENT TO P.C.C. APPROACH OVERLAY.
1 - 2	REFER TO STANDARD ROAD PLAN RK-17 FOR DETAILS. APPROACH LENGTH WILL BE 30' AT EACH END. THE SLOPE WILL BE SLIGHTLY STEEPER THEN THE 1 INCH IN 25 FEET AS INDICATED IN THE "TYPICAL SECTION THRY CENTERLINE" IN STANDARD PLAN RK-17.
21 - 23	SEE TAB. 102-6C. REFER TO DETAIL SHEET 532-9 FOR DETAILS.

QUANTITY SHEET

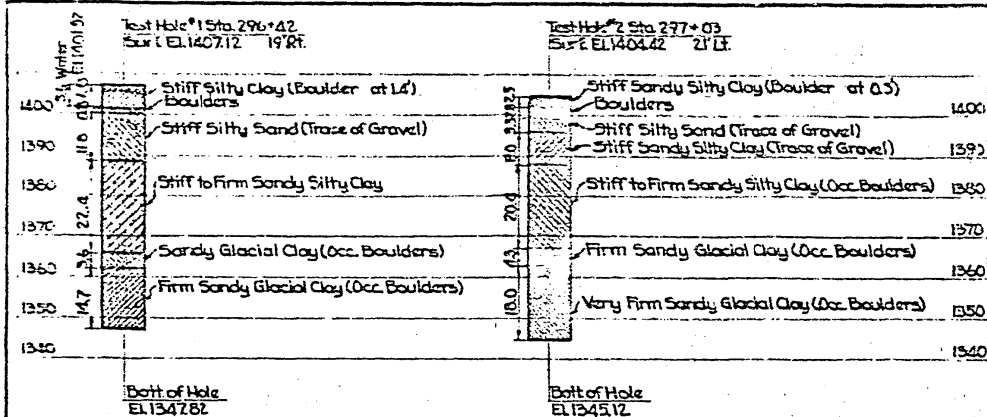
FILE NO. 27730

10/1/88

DICKINSON COUNTY

PROJECT NO. FN-9-3(14)--21-30

STATE	FHWA REGION	F.Y.	SHEET	TOTAL
IOWA	7		2	10



GENERAL NOTES:

This design contemplates widening the existing two span I-Beam bridge (2x32'x20') to 28' roadway, extending abutment wings and piers, completing pavement widening adjacent to the bridge, and cleaning and painting the old steel. See I.H.C. Design No. 2429 for details of present structure.

The Bridge Contractor is to perform the following work:

- (1) Removals: (Note: Dimensions shown relative to the existing structure are assumed, and are to be verified in the field.)
 - (a) Break off present curb and railing.
 - (b) Break off portions of present abutment wings.
 - (c) Break off ends of present pier cap.
- (2) Complete widening of the bridge as detailed in these plans, using the existing floor slab as a starting point.
- (3) Remove curbs on the adjacent approach slab and complete widening approach slab as detailed.
- (4) Backfill around completed wings and provide ditches around toe of fill. Sufficient Class 24 Excavation (about 80 cu yd.) is to be obtained within the Right of Way and near the site to provide side slopes shaped to the satisfaction of the Engineer.

Special attention is directed to Special Provisions for Bridge Widening Projects (Spec. 501 dated Oct. 9, 1962). All exposed corners of 90° or sharper are to be filleted with a 3" dressed and beveled strip. All reinforcing is to be securely wired in place before concrete is poured. Minimum clear distance from face of concrete to near reinforcing bar is to be 1 1/2" unless otherwise noted or shown.

The Formed Steel Beam Rail and Crossed Posts at the ends of the bridge are to be furnished and placed by others and are not a part of this estimate.

Brown lines on tracing and faint lines on prints indicate present structure.

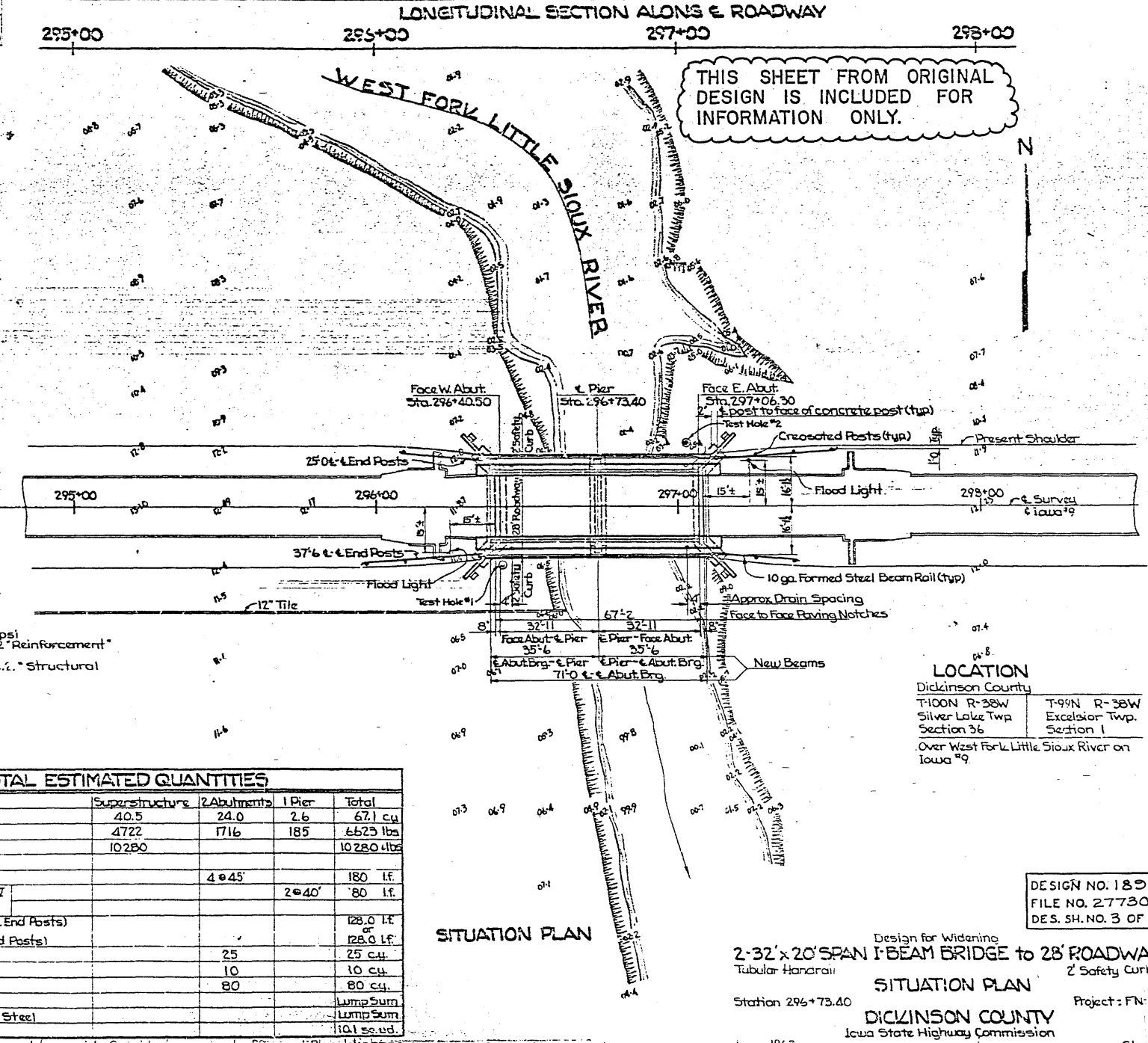
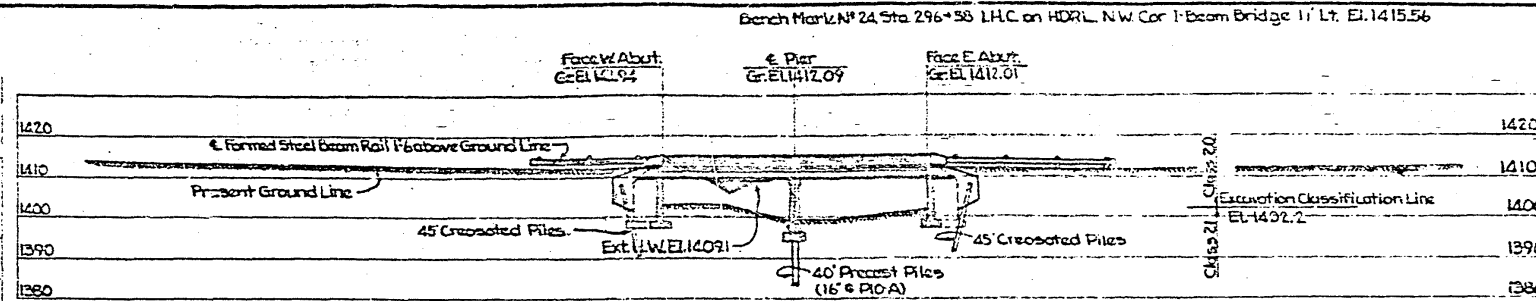
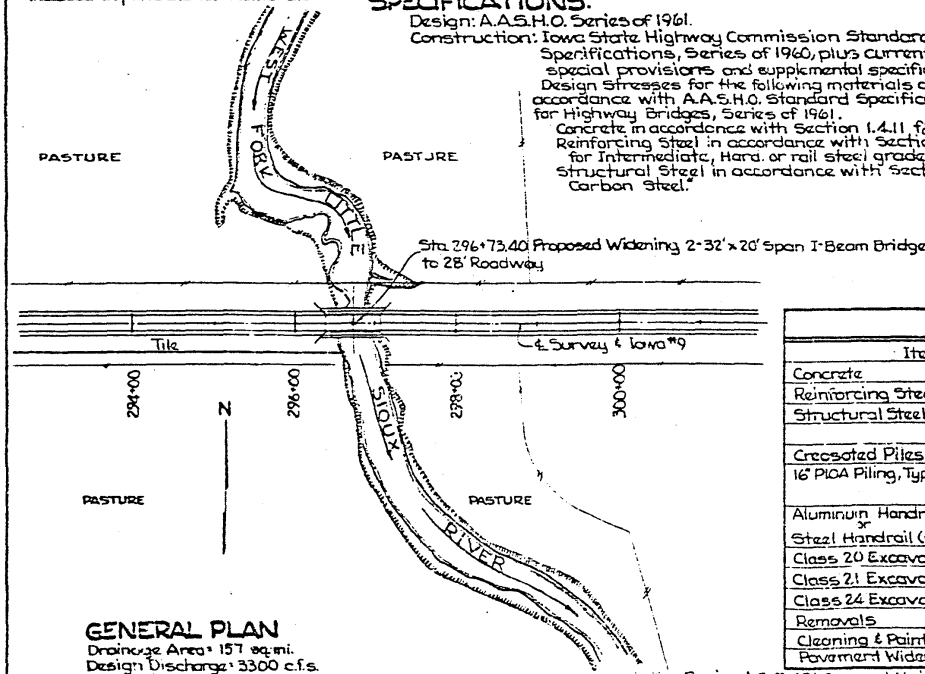
"Cleaning & Painting Old Steel" shall be in accordance with Section 2508 of I.S.H.C. Spec's for new steel except for modifications noted in Spec. 501 dated Oct. 9, 1962, and except that blast cleaning will not be required.

Two-way traffic shall be maintained until removal of the superstructure elements is started. One-way traffic shall then be maintained until the structure is completed. The Contractor shall provide traffic control signals according to I.S.H.C. Spec's 503.

Flood Lights are to be installed as shown on the "Situation Plan" before any construction on the bridge is started and shall be removed after the completion of the bridge. The cost of the flood lighting shall be included in price bid for "Removals."

SPECIFICATIONS:

Design: A.A.S.H.O. Series of 1961.
Construction: Iowa State Highway Commission Standard Specifications, Series of 1960, plus current special provisions and supplemental specifications. Design stresses for the following materials are in accordance with A.A.S.H.O. Standard Specifications for Highway Bridges, Series of 1961.
Concrete in accordance with Section 1.4.11, f_c = 3500 psi.
Reinforcing Steel in accordance with Section 1.4.12 "Reinforcement" for Intermediate, Heavy or Rail Steel Grade.
Structural Steel in accordance with Section 1.4.2, "Structural Carbon Steel."



TOTAL ESTIMATED QUANTITIES				
Item	Superstructure	Abutments	Pier	Total
Concrete	40.5	24.0	2.6	67.1 cu yd.
Reinforcing Steel	4722	1716	185	6623 lbs.
Structural Steel	10280			10280 lbs.
Crossed Piles		4 @ 45'		180 l.f.
16" P.O.A. Piling, Type III or IV			2 @ 40'	80 l.f.
Aluminum Handrail (E- & End Posts)				128.0 l.f.
Steel Handrail (E- & End Posts)				128.0 l.f.
Class 20 Excavation		25		25 cu yd.
Class 21 Excavation		10		10 cu yd.
Class 24 Excavation		80		80 cu yd.
Removals				Lump Sum
Cleaning & Painting Old Steel				Lump Sum
Pavement Widening				10.1 sq. yd.

Revised 8-7-63. General Notes changed to provide for widening under traffic and flood lighting.

LOCATION

Dickinson County
T100N R-38W
Silver Lake Twp.
Section 36
Over West Fork Little Sioux River on Iowa #9

DESIGN NO. 189
FILE NO. 27730
DES. SH. NO. 3 OF 14

Design for Widening
2-32' x 20' SPAN I-BEAM BRIDGE TO 28' ROADWAY
Tubular Handrail 2' Safety Curbs

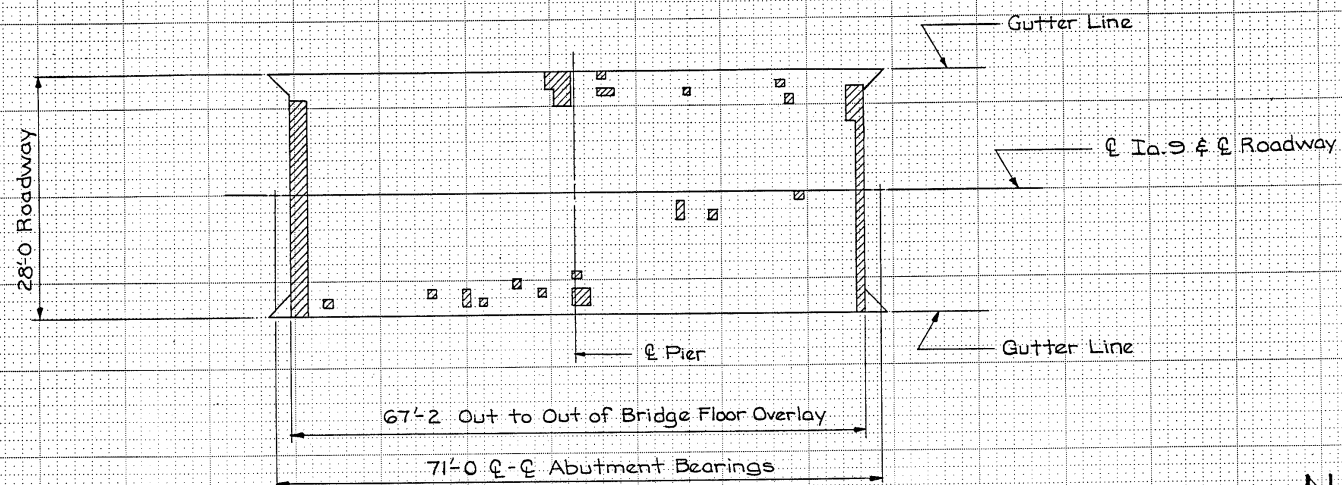
Station 296+73.40
SITUATION PLAN
Project: FN-36A

DICKINSON COUNTY
Iowa State Highway Commission

June 1963
Design 159
Dickinson County
Sheet 1 of 5
File No. 20819

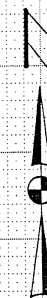
Traced by: CEC

Checked by: JW



SURVEY PLOT
Dated: 8-1-88

Note: Hatched portions represent areas which have spalls and delaminations. Plan quantity for Class 'A' repair is based on this area.



Design for Repairs to A 0° Skew
67'-0 x 28' I-BEAM BRIDGE
SURVEY PLOT
Sta. 296+73.40 October, 1988
DICKINSON COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
Design Sheet No.: 6 Of 14 File No.: 27730 Design No.: 189

DESIGNED BY: C.F. Rieken
DETAILED BY: C.F. Rieken

TRACED BY: Cheng Hing Ji
CHECKED BY: Cheng Hing Ji

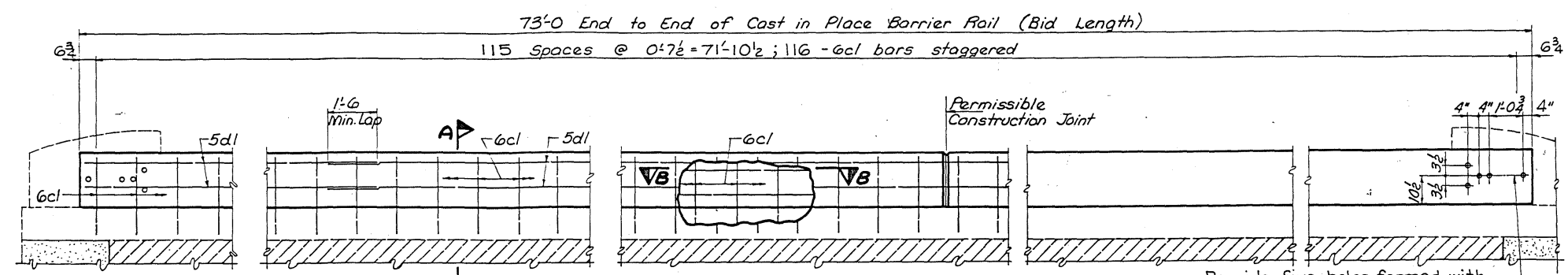
DICKINSON COUNTY

PROJECT NUMBER

STATE	FWHA Region	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		5	10

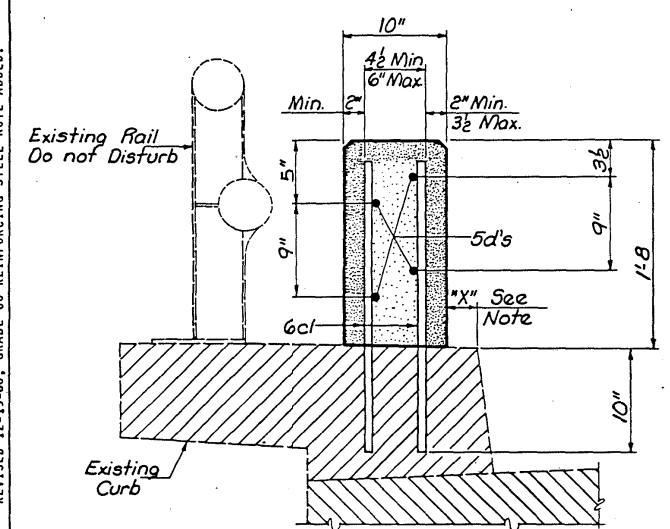
BRUNING 65300

Revised 1-15-88; 1" holes added. Guardrail end details and details and pertinent notes deleted.
REVISED 12-19-86; GRADE 60 REINFORCING STEEL NOTE ADDED.
Revised 6-3-85; Dowel Setting Note changed.
Revised 8-23-83; Notes concerning steel inserts and anchor bolts changed.
Revised 7-7-81; GROUT requirement changed.
Revised 4-16-1980; This sheet re-drawn.



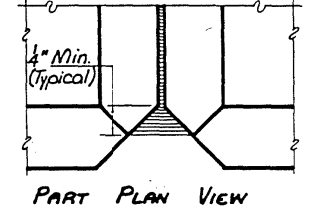
ELEVATION OF CAST IN PLACE BARRIER RAIL

Note: If a 6cl bar is located over a floor drain the individual bar can be shifted as necessary to miss the drain opening.

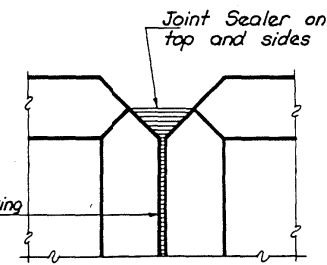


Note: On each side of bridge, Dimension "X" can be a minimum of 1" and a maximum of 3", but must be constant for full length of bridge. However approximately 10 linear feet at either end of rail length shall be transitioned to match existing beam guard rail attachment.

PART SECTION A-A

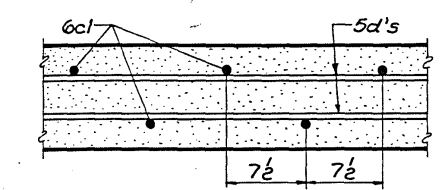


PART PLAN VIEW



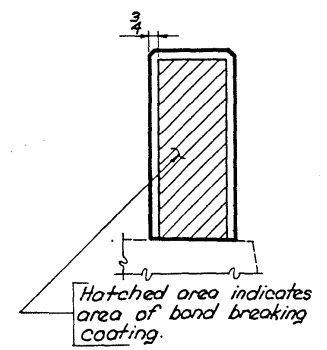
PART ELEVATION VIEW

CAST IN PLACE BARRIER RAIL JOINT DETAILS



SECTION B-B (SHOWING 6cl PLACEMENT)

Note: The existing vertical reinforcing steel in the Concrete Approach Guardrail Anchor shall be cut off flush with the concrete surface and remaining exposed ends painted with two coats of Zinc rich paint. The cost of this work shall be incidental to the price bid for "Removals as per Plan".



Hatched area indicates area of bond breaking coating.

EPOXY REINFORCING STEEL ~ TWO RAILS					
BAR	LOCATION	SHAPE	Nº	LENGTH	WEIGHT
6cl	Rail, Vertical	—	232	2'-4"	813
5dl	Rail, Longitudinal	—	16	37'-1"	619
TOTAL (lbs.)					1,432

CONCRETE PLACEMENT SUMMARY	
CONCRETE	TOTAL
146.0' @ 0.05 cu yds per lin. ft.	7.3

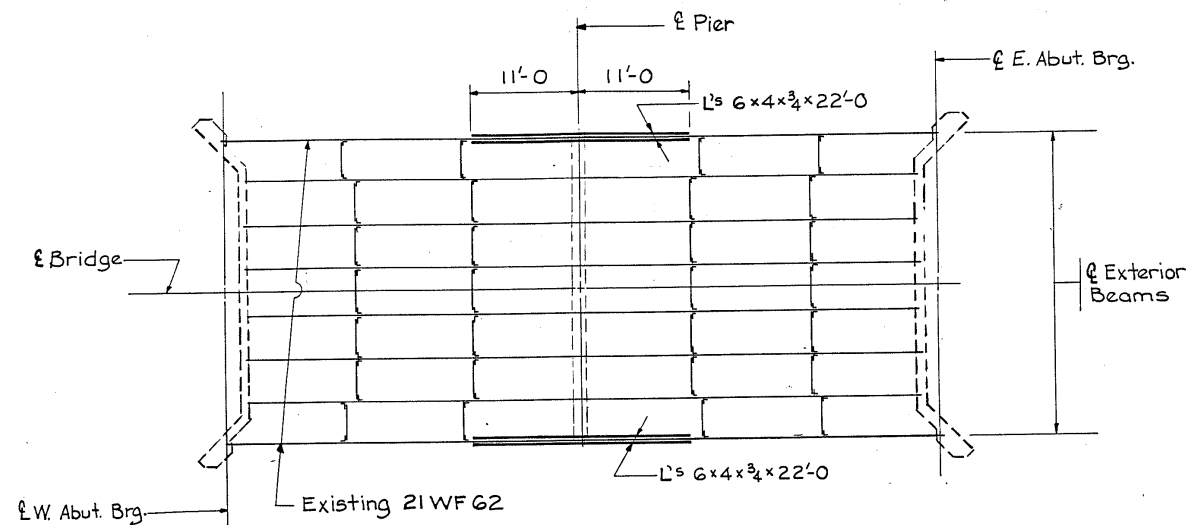
QUANTITIES		
ITEM	UNITS	QUANTITY
Rail, Concrete Barrier (Cast In Place)	lin. ft.	146.0

CAST IN PLACE BARRIER RAIL NOTES:
Minimum clear distance from face of concrete to near reinforcing bar is 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 & grade.
The permissible construction joints are to be placed between vertical bars at a minimum spacing of 20 feet. Construction joint contact surfaces are to be coated with an approved bond breaker.
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.
All reinforcing steel is to be Grade 60.

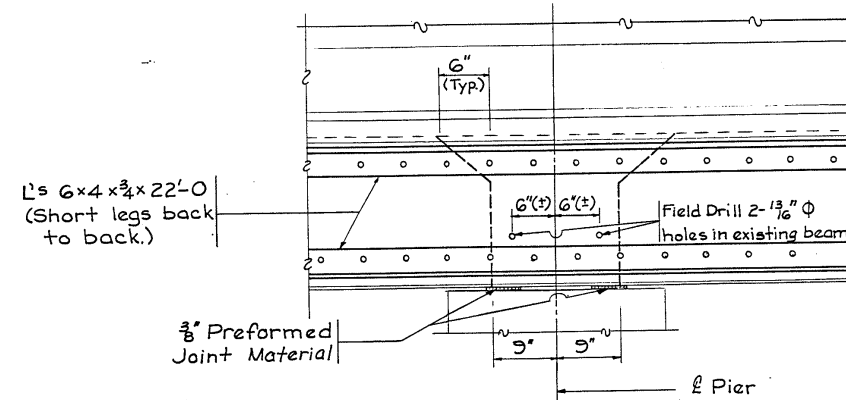
DOWEL SETTING NOTE
The 6cl bars shall be set as dowels in drilled holes. Holes are to be 10" deep. The dowels shall be installed in accordance with the manufacturer's recommendations. One of the two following systems shall be used as a bonding agent for the dowels:
A. EPOXY GROUT SYSTEM IN ACCORDANCE WITH STANDARD SPECIFICATIONS ARTICLE 2301.15.
B. HYDRAULIC CEMENT GROUT SYSTEMS. DRILLED HOLES ARE TO BE 2 1/2 TIMES THE DOWEL DIAMETER AND ARE TO BE BLOWN CLEAN WITH COMPRESSED AIR IMMEDIATELY PRIOR TO PLACING GROUT. THE HYDRAULIC CEMENT GROUT SHALL BE ONE OF THOSE APPROVED IN MATERIALS I.M. 491.13 AND SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

Design For Repairs to A 0° Skew
67'-0" x 28' I-BEAM BRIDGE

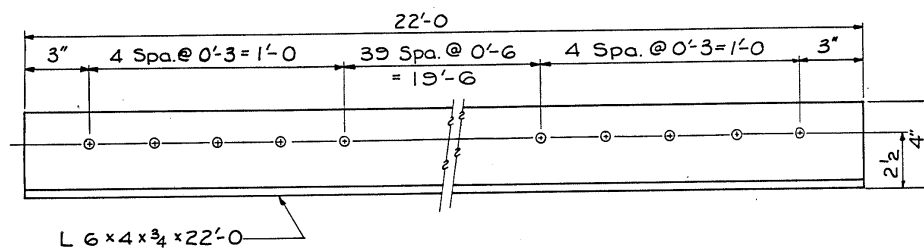
CAST IN PLACE BARRIER RAIL DETAILS
Station: 296+73.40 October, 1988
DICKINSON COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
Design Sheet No.: 8 Of 14 File No.: 27730 Design No.: 189



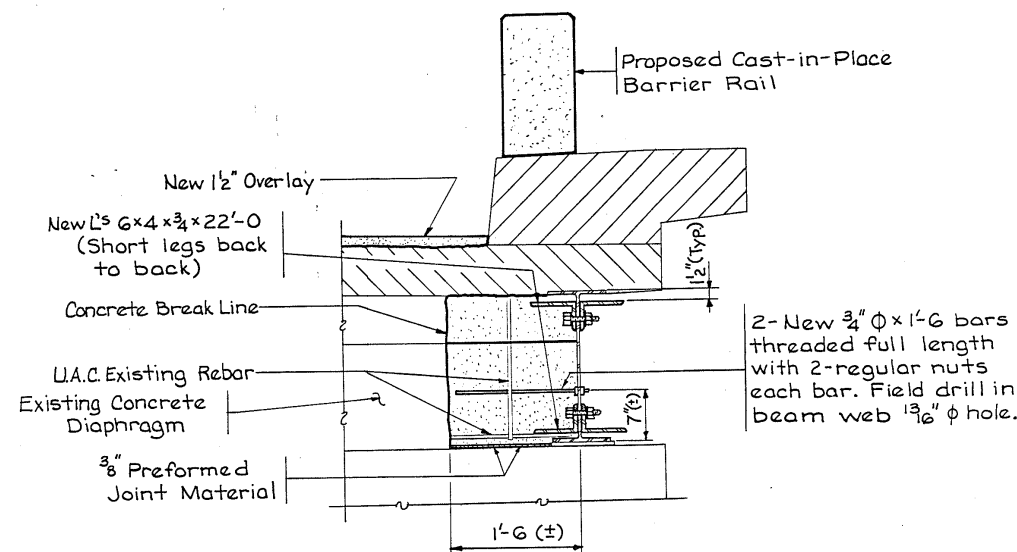
STRUCTURAL STEEL LAYOUT



PART ELEVATION VIEW EXTERIOR GIRDER



TYPICAL ANGLE BOLT SPACING DETAIL



PART SECTION NEAR PIER

Structural Steel Quantity Based On:
 Total of 192-7/8" ϕ x 0-3/4" with nuts and washers
 Total of 4-3/4" ϕ x 1'-6 threaded bars w/nuts & washers
 Total of 8-6x4x3/4x22'-0 Angles

DIAPHRAGM CONCRETE PLACEMENT
 THE CONTRACTOR MAY PLACE THE CONCRETE FOR RECONSTRUCTION OF THE PIER DIAPHRAGM THROUGH A FULL DEPTH OPENING IN THE SLAB DIRECTLY ABOVE THE PIER. IF THE CONTRACTOR EXERCISES THIS CONCRETE PLACEMENT OPTION, IT SHALL BE COMPLETED BEFORE PROCEEDING WITH THE BRIDGE FLOOR OVERLAY. SIZE OF THE OPENING SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING REINFORCEMENT WHEN REMOVING CONCRETE. ALL MATERIALS AND LABOR ASSOCIATED WITH CONCRETE PLACEMENT OF THE DIAPHRAGM SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "STRUCTURAL STEEL".

NOTE:
 THE STRENGTHENING ANGLES SHALL MEET THE STANDARD SPECIFICATIONS FOR MAIN MEMBERS EXCEPT THAT CHARPY V-NOTCH REQUIREMENTS WILL NOT BE REQUIRED. FAYING SURFACES OF THE WEBS AND STRENGTHENING ANGLES SHALL BE CLEANED PRIOR TO INSTALLATION.

Design For Repairs to A 0° Skew
 67'-0 x 28' I-BEAM BRIDGE
 BEAM STRENGTHENING DETAILS
 Sta. 296+73.40 October, 1988
 DICKINSON COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
 Design Sheet No.: 2 Of 14 File No.: 27730 Design No.: 189

DESIGNED BY: *J. Denny*
 TRACED BY: *Chang Hong Ji*
 DETAILED BY: *A. E. Rueland*
 CHECKED BY:

DICKINSON COUNTY

PROJECT NUMBER

STATE	FHWA Region	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		7	10

204-1
1-20-84

The installation of each continuous piece of guardrail shall be completely functional within five consecutive working days. The following shall apply unless modified by the engineer:

Grading work, if necessary, shall be completed prior to the removal of any existing guardrail or the installation of new guardrail.

Removal of any existing guardrail and installation of new posts and beam rail, except for the approach end section, shall be completed on the same working day. Beam rail shall be fully connected to all posts and protected with a Type E terminal section plus Type II barricade with Type A warning light.

Not later than the next working day, concrete for the end anchorage (RE-52 or RE-53) shall be poured.

204-2
1-20-84

All holes resulting from operations of the contractor, including removal of guardrail posts, fence posts, utility poles, or foundation studies, shall be filled and consolidated to finished grade as directed by the engineer to prevent future settlement. The voids shall be filled as soon as practical--preferably the day created and not later than the following day. Any portion of the right-of-way or project limits (including borrow areas and operation sites) disturbed by any such operations shall be restored to an acceptable condition. This operation shall be considered incidental to other bid items in project.

204-3
8-20-85

All formed steel beam railing and posts that are to be removed and reinstalled on this project shall meet the approval of the engineer before reinstalling. Painted steel beam railing and painted posts shall not be used on this project.

213-1
5-10-88

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material which is not desirable to be incorporated into the work involved on this project (excavated material or broken concrete). No payment for overhaul will be allowed for material hauled to these sites.

213-7
08-30-88

The Contractor shall dispose of removed Asphalt Cement Concrete in a method approved by the Iowa Department of Natural Resources.

The following are approved methods :

1. In an embankment above the water table.

2. In a stockpile for future recycling.

3. Crushed with or without Portland Cement Concrete and used for shoulder or base material.

4. In an approved landfill.

221-4
1-20-84

In order to avoid any unnecessary surface breaks or premature spalling the contractor is cautioned to exercise extreme care when performing any of the necessary saw cutting operations for the proposed pavement removal.

251-2
6-22-84

The contractor is hereby notified that removal of any existing traffic markers, warning devices or guardrail barriers shall be scheduled subject to the approval of the engineer. The contractor may be required to place temporary warning devices at certain locations where replacement features are not installed the same day during which any such removals take place.

JRA-1

If there is any usable guardrail (as determined by the engineer) remaining after the reinstallation is completed, it shall be hauled to and stockpiled at the local maintenance garage in an approved manner. The remaining rail and posts are to become the property of the contractor and disposed of as per 213-1. This work shall not be paid for seperately, but included in the price bid for this project.

100-4
1-23-85

REFERENCE INFORMATION

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	DESCRIPTION
1.	Shall include removal of 4 rectangular object markers and 12 triple yellow object markers. Dispose per 213-1.
2-5.	Shall conform to standard notes JRA-1, 204-3, 213-1, See tab. 110-7. Concrete footings to be removed to at least 6" below final grade.
7-9.	Shall be installed in accordance with RE-48A. See Tab. 108-17.
10.	See Tab. 108-22.
11-13.	See tabs. 107-23 and 108-8.
14.	For sweetening of shoulders adjacent to P.C.C. approach overlay.
15,16.	Refer to standard road plan RK-17 for details. Approach length will be 30' at each end. The slope will be slightly steeper than the 1 inch in 25 feet as indicated in the "Typical Section thru Centerline" in Standard Plan RK-17.
17-19.	See Tab. 102-6C. Refer to detail sheet 532-9 for details.

105-4
6-17-77

STANDARD ROAD PLANS

The following Standard Road Plans shall be considered applicable to construction work on this project.

IDENT	DATE	IDENT	DATE	IDENT	DATE
RE-2A	2-17-87	RE-52	5-10-88	RS-2	10-11-88
RE-12A	10-11-88	RE-57	9-23-86	RS-3	11-15-88
RE-47	11-10-87	RK-17	7-21-87	RS-7	3-31-87
RE-48A	8-20-85	RL-11	10-11-88		

DESIGN NO. 180
FILE NO. 27730
DES. SH. NO. 10 OF 14

108-23
11-10-83

TRAFFIC CONTROL PLAN

1. Through traffic will be maintained on the project at all times.

2. Traffic control on this project shall be in accordance with the RS series of Standard Road Plans found in Tab. 105-4 and appropriate Detail Sheets. For additional complementary information, refer to current supplemental specifications for traffic control.

3. Where possible, all post mounted signs shall be placed a minimum of 2 feet clear of the shoulder.

4. As directed by the engineer, the contractor shall cover existing signing that conflicts with construction zone signing.

5. All traffic control devices shall be furnished, erected, maintained and removed by the contractor.

6. The engineer may require modification of or additions to pavement marking details shown. Conflicting permanent edgelines or lanelines shall be removed and replaced with appropriate temporary lines. As applicable, permanent edgelines and lanelines shall be restored before the roadway is returned to normal traffic. Current 1984 Standard Specifications shall apply.

7. The location for storage of equipment by the contractor during non-working hours will be as approved by the engineer in charge of construction.

8. Proposed sign spacing may be modified, as approved by the engineer, to meet existing field restrictions or to prevent obstruction of the motorist's view of permanent signing.

9. Proposed changes in the traffic control plan (includes layout sheets) shall be reviewed with the Office of Construction before changes are made.

10. The bid item 'Traffic Control' shall include the cost for all traffic control measures required of the contractor except for those which are separate bid items or are incidental to other bid items.

100-00
1-20-84

ROADWAY QUANTITIES

No.	ITEM	UNIT	TOTAL
7	Removal of Existing Delineators	No.	16
8	Removal of Formed Steel Beam Guardrail	Lin.Ft.	200
9	Remove & Reinstall Steel Beam Guardrail	Lin.Ft.	100
10	Removal of Posts	No.	57
11	Removal of Guardrail End Anchorage	No.	4
12	Traffic Control	Lump Sum	4000.00
13	Single White Delineator	No.	14
14	Triple Yellow Object Marker, As Per Plan	No.	8
15	Type 3 Object Marker	No.	4
16	Pavement Markings	Sta.	6.38
17	Formed Steel Beam Guardrail	Lin.Ft.	200
18	Beam Guardrail Posts	No.	60
19	RE-52 Beam Guardrail End Anchorage	No.	4
20	Granular Shoulders Type "B"	Tons	44
21	Bridge Floor Overlay	Sq.Yds.	395.73
22	Class "A" Bridge Floor Repair	Sq.Yds.	22.61
23	Full Depth Patch, By Count	No.	4
24	Full Depth Patch, By Area	Sq.Yds.	32
25	"EF" Joint Assembly	No.	2

ROADWAY DESIGN

JOHN R. ABRAMS
7229
IOWA

I 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.

IOWA REGISTRATION NUMBER 7229 DATE 7/6/88

Steven Anderson

ROAD DESIGN • CADD • PRODUCED

STATE OF IOWA

FHWA REGION 7

FISCAL YEAR

DICKINSON COUNTY

PROJECT NUMBER

FN-9-3(14)--21-30

SHEET NUMBER

8

TOTAL SHEETS

15