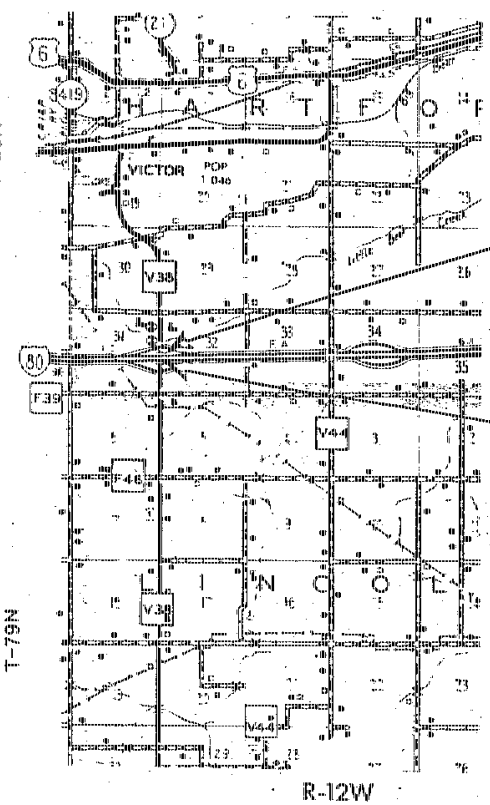
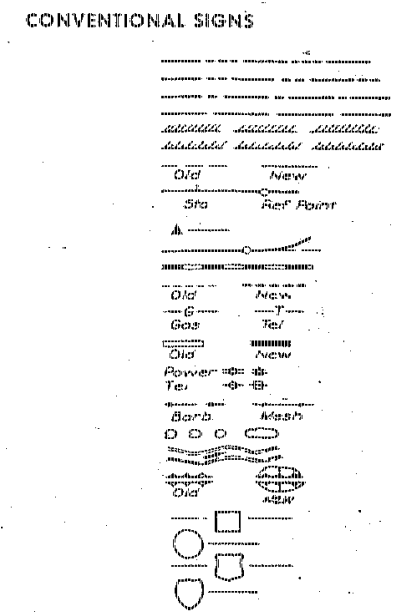


NOV 28 1984
BRIDGE REPAIR
IR-80-6(88)205-12-48
IOWA COUNTY



- State Line
- Co. Line
- Twp. Line
- Sec. Line
- Corp. Line
- Urban Bdry.
- R.O.W. Lines
- Survey Line
- Sec. Corner
- Profile Grade
- Railroad
- Field Tile
- Underground Lines
- Culverts
- Utility Poles
- Fences
- Trees Or Brush
- Stream
- Dike
- County Road No.
- Primary Road No.
- U. S. Road No.
- Interstate Road No.



DESIGN NO. 382
(WESTBOUND)

~~DESIGN NO. 282~~
(EASTBOUND)

IOWA
DEPARTMENT OF TRANSPORTATION
Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE
INTERSTATE ROAD SYSTEM
IOWA COUNTY
BRIDGE REPAIR

INTERSTATE 80 OVER CO. RD. V38 (VICTOR INTERCHANGE)

SCALE: AS NOTED

THE STANDARD SPECIFICATIONS, SERIES OF 1977
OF THE IOWA DEPARTMENT OF TRANSPORTATION,
SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT
(PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS)

YEAR	THIS AS BUILT PLAN INCLUDES	CONTRACTOR	PROJ. INSPECTOR
1983	Bridge Repair	Waterloo Const. Co., Inc.	Douglas Foster

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: Richard E. Kautz
Resident Construction Engineer

Date: January 11, 1984 Iowa Reg. No. 7334

REVIEWED AND FORWARDED TO AMES

District Construction Engineer Date

(One 50% Reduced and Two Full-Size Prints To Be Made and Returned To)

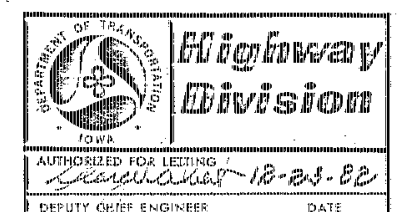
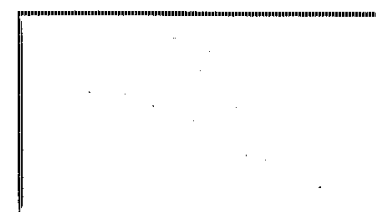
District Engineer

AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO.

120

STATE	FED. ROAD DIST. NO.	LOCAL	SHEET NO.	SHEET TOTAL
IOWA			1	6
PROJECT NUMBER				
IR-80-6(88)205-12-48				
R.O.W. PROJECT NUMBER				
PRELIMINARY ENGINEER NUMBER				

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE SHEET
2	QUANTITIES SHEET EXTRA WORK ORDERS
3-9	DESIGN NO. 282
10-16	DESIGN NO. 382



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

2792 12-15-87

IOWA REGISTRATION NUMBER DATE

U.S. DEPT. TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ENGINEER DATE

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.

Dec. 15, 1982 *William A. Lundquist* REG. NO. 4449

DATE WM. A. LUNDQUIST

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.

Dec. 15, 1982 *William A. Lundquist* REG. NO. 4449

DATE WM. A. LUNDQUIST

IN LETTING OF FEBRUARY 15, 1983

DESIGN NO. 282	I-80 EASTBOUND	STA. 58+58.9	
IOWA COUNTY	MAINT. NO. 4805.8R080	L. SURVEY 1-80	
SECTION 32	T-80N	R-12W	
		HARTFORD TWP.	
DETAILS FOR BRIDGE REPAIR TO A 2° 40' SKEW 125'-10" x 40' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE			
QUANTITIES			
NO.	ITEM	UNIT	TOTAL
1	Class A Bridge Floor Repair	Sq. Yds.	75.87
2	Bridge Floor Overlay	Sq. Yds.	571.85
3	Temporary Barrier Rail - Concrete	Lin. Ft.	286.8
4	Floodlighting	L.S.	Lump Sum
5	Epoxy Sealer for Concrete	Sq. Ft.	514.68
6	Traffic Control	L.S.	Lump Sum
7	Pavement Markings	Sta.	98.02

IN LETTING OF FEBRUARY 15, 1983

DESIGN NO. 382	I-80 WESTBOUND	STA. 58+58.9	
IOWA COUNTY	MAINT. NO. 4805.8L080	L SURVEY 1-80	
SECTION 32	T-80N	R-12W	
		HARTFORD TWP.	
DETAILS FOR BRIDGE REPAIR TO A 2° 40' SKEW			
125'-10 x 40' PRETENSIONED PRESTRESSED			
CONCRETE BEAM BRIDGE			
QUANTITIES			
NO.	ITEM	UNIT	TOTAL
1	Class A Bridge Floor Repair	Sq. Yds.	219.52
2	Bridge Floor Overlay	Sq. Yds.	571.85
3	Temporary Barrier Rail - Concrete	Lin. Ft.	286.8
4	Floodlighting	L.S.	Lump Sum
5	Epoxy Sealer for Concrete	Sq. Ft.	514.68
6	Traffic Control	L.S.	Lump Sum
7	Pavement Markings.	Sta.	87.13

ESTIMATE REFERENCE INFORMATION		100.4
Data listed below is for informational purposes only and shall not constitute a basis for concrete work orders.		
ITEM NO.	DESCRIPTION	
7	Includes 36.0 Sta. removal of Pavement Markings, 17.6 Sta. of yellow temporary and permanent Pavement Markings and 20.0 Sta. of white temporary and permanent Pavement Markings.	

ESTIMATE REFERENCE INFORMATION		100.4
Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.		
ITEM NO.	DESCRIPTION	
7	Includes 36.0 Sta. removal of Pavement Markings, 17.6 Sta. of yellow temporary and permanent Pavement Markings and 20.0 Sta. of white temporary and permanent Pavement Markings.	

EXTRA WORK ORDERS			
NO.	DESCRIPTION	UNIT	TOTAL
8001	Shoulder Strengthening (Design No. 282)	Yards	132.24
8002	Shoulder Strengthening (Design No. 382)	Yards	127.35

QUANTITIES & EXTRA
WORK ORDERS

FILE NO. 26694

IOWA COUNTY

PROJECT NUMBER
IR-80-6(88)205-12-48

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		2	16

GENERAL NOTES

This design is for repair to the existing 125'-10" x 40' Pretensioned Prestressed Concrete Beam Bridge, Westbound I-80, original Design No. 162, Iowa County. Plans of the existing structure may be obtained at the Ames Office of the Highway Division. Repairs shall consist of bridge floor repair & bridge floor overlay.

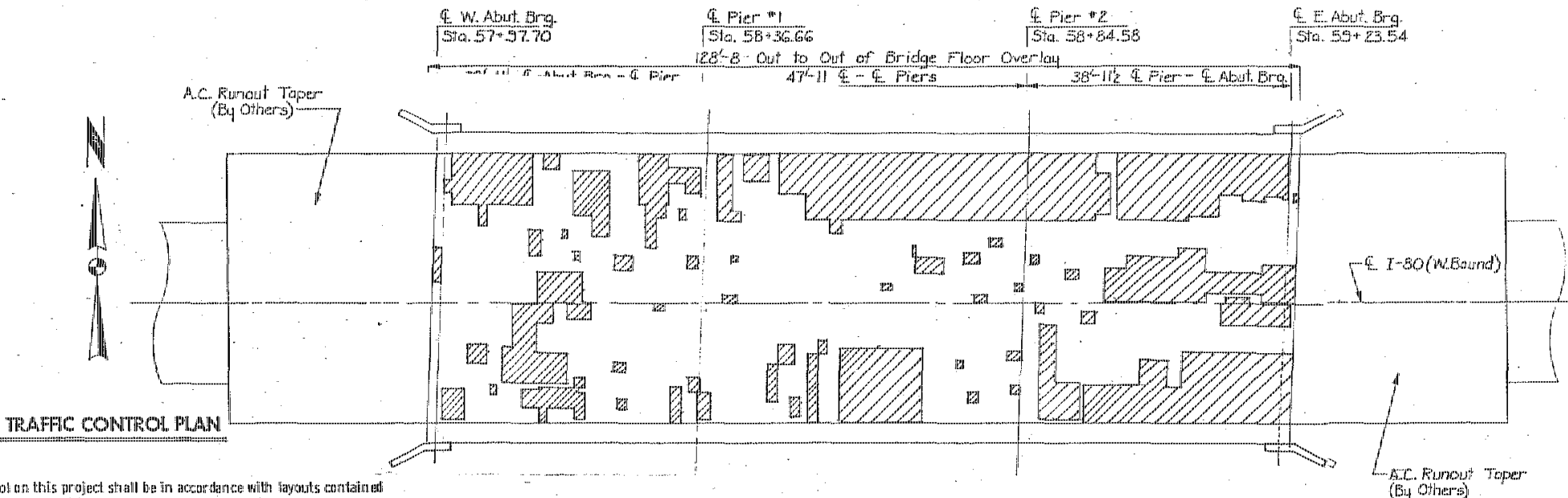
Construction shall be done in stages with at least one lane of traffic maintained at all times in accordance with "Traffic Control Plan" note.

Plan quantity of floor repair is based on the "Survey Plot" as shown on Design Sheet 1. Hatched portions represent Class A Bridge Floor Repair, cross hatched portions represent Class B Bridge Floor Repair. Actual spalled and hollow areas, as determined by the engineer at the time of construction, shall be repaired.

The entire concrete surface of the floor, including areas over Class A repair shall have Bridge Floor Overlay. Surface raise, as shown on the plans, shall be considered a minimum. In order to limit the additional dead load, surface raise shall be restricted to a maximum of 1/2 inch more than shown on the plans. Profile shall be adjusted to the extent possible within these limits.

Present floor thickness is about 6 inches. The contractor will be required to exercise care in removing concrete in order to prevent unnecessary unbonding of reinforcing steel.

The A.C. runoff taper at each end of the bridge will be placed by local Highway Division Maintenance forces before traffic is shifted to new construction. The contractor shall give adequate prior notice so that A.C. may be placed during normal working hours and working days of Maintenance.



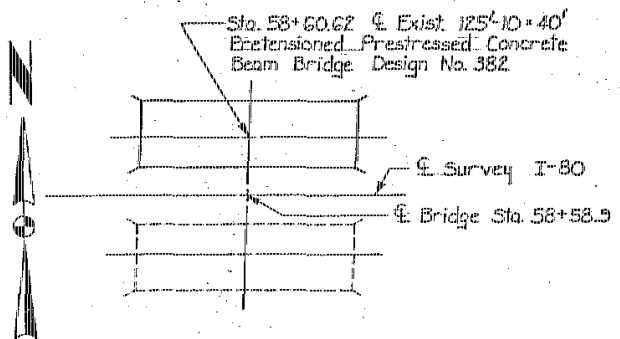
TRAFFIC CONTROL PLAN

1. Traffic control on this project shall be in accordance with layouts contained in these plans. For additional complementary information, refer to Supplemental Specification 854.
2. When special traffic control sheets are not in effect, Detail Sheet 521-4 shall be used for unfinished work and Detail Sheet 521-2A for work in progress that encroaches on the traveled way.
3. All traffic control devices shall be furnished, erected, maintained, and removed by the contractor.
4. The location for storage of equipment by the contractor during non-working hours will be as approved by the engineer in charge of construction.
5. 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.
6. Proposed sign spacing may be modified, as approved by the engineer, to meet existing field restrictions, or to prevent obstruction of the motorists' view of permanent signing.
7. Proposed changes in the Traffic Control Plan (includes detail sheets) shall be reviewed with the Office of Construction before changes are made.
8. The bid item "Traffic Control" shall include the cost of all traffic control measures required of the contractor except for pavement markings, floodlighting and temporary barrier rail.

Faint lines on tracing and prints indicate existing portions of the structure.

EPOXY SEALER FOR CONCRETE

In addition to requirements of Art. 2413.09, an epoxy sealer shall be applied to the curbs. The epoxy sealer material and application shall comply with Materials I.M. 491.12. Before application of epoxy, new concrete surfaces must be cured and all surfaces must be sound, clean and dry. As directed by the engineer, old surfaces may require removal of unsound material by sandblast and/or hand methods. Epoxy sealer shall be applied prior to any other surface treatment application. For portland cement concrete floor repair, Par. 2413.02A., the epoxy sealer shall be applied along each gutter line, extending one foot onto the roadway and up the batter face of the curb. For latex-modified concrete floor repair, 2413.02B., the epoxy sealer shall be applied to the batter face of each curb, end to end, but it shall not be applied on the roadway. Other areas requiring epoxy sealer may be designated elsewhere on these plans. Quantity of "Epoxy Sealer for Concrete" in square feet, to be paid for will be computed from measurements of areas actually covered and Art. 1109.03 shall not apply. Plan quantity is based on PC Concrete floor repair.



GENERAL PLAN

ACTUAL CLASS A REPAIR AREAS

SEE SHEET 2 FOR ACTUAL QUANTITIES

ESTIMATED BRIDGE QUANTITIES			
Item No.	Item	Unit	Quantity
1	Class A Bridge Floor Repair	Sq. Yds.	204
2	Bridge Floor Overlay	Sq. Yds.	572
3	Temporary Barrier Rail - Concrete	Lin. Ft.	286.8
4	Floodlighting	L.S.	lump sum
5	Epoxy Sealer for Concrete	Sq. Ft.	483
6	Traffic Control	L.S.	lump sum
7	Pavement Markings	Sta.	73.6

Item No. Estimate Reference Information

7 Includes 36.0 Sta. removal of Pavement Markings, 17.6 Sta. of yellow temporary and permanent Pavement Markings and 20.0 Sta. of white temporary and permanent Pavement Markings.

SPECIFICATIONS:

Construction-Iowa D.O.T. Specifications of 1977, plus current supplemental specifications and special provisions including:
Spec. 854 "Supplemental Specifications for Traffic Control"
Spec. 875 "Supplemental Specifications for Pavement Marking."

LOCATION:

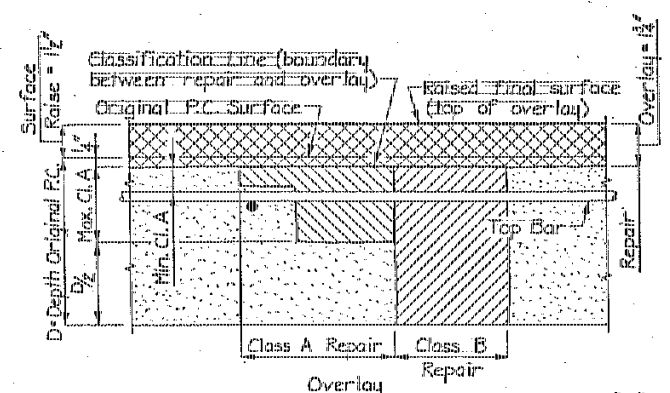
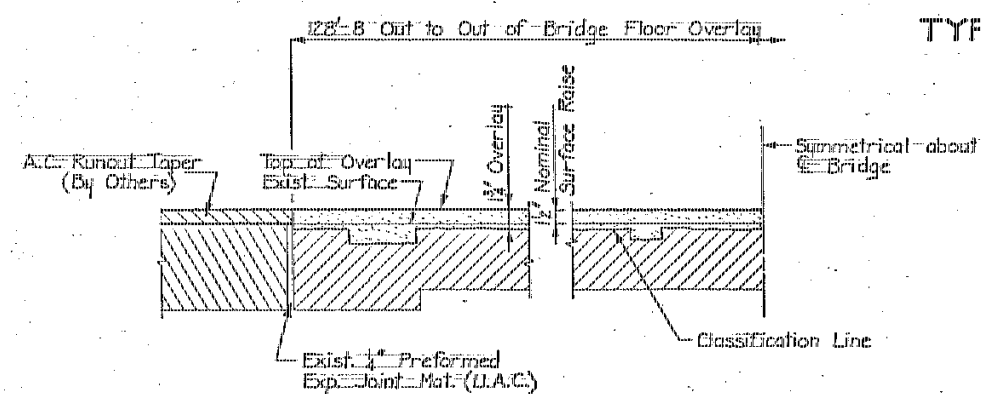
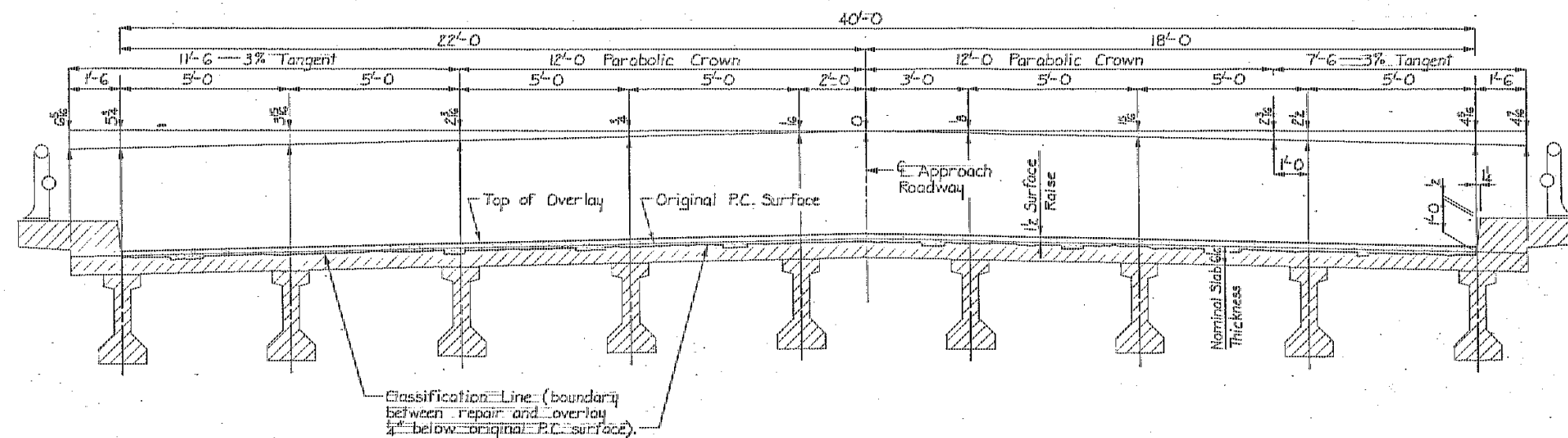
I-80 West Bound at
Victor Interchange
I-80N - R-12W
Section 32
Hartford Twp.
Iowa County
Maint. No. 4805.8L080

Details for Bridge Repair to a 2°40' Skew
**125'-10" x 40' PRETENSIONED PRESTR
CONCRETE BEAM BRIDGE**
38'-11 1/2" End Spans 47'-11" Interior Span
GENERAL LAYOUT
Sta. 58+58.9 (Survey I-80)
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
Design Sheet No. 1 Of 7 File No. 26624 Design No. 382

DESIGNED BY: Thayne Sorenson
CHECKED BY: Ray Gustafson
Section Leader: William A. Lundquist

IOWA COUNTY

PROJECT NUMBER: IR-80-C(88)205--12-48
STATE: IOWA
SHEET: 10 OF 10



Details for Bridge Repair to a 2'-40" Skew
125'-10" x 40' PRETENSIONED PRESTR.
CONCRETE BEAM BRIDGE
 38'-11 1/2' End Spans 47'-11" Interior Span
REPAIR DETAILS
 Sta. 58+58.9 (E. Survey I-80)
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
 Design Sheet No. 2 Of 7 File No. 26C94 Design No. 332

DESIGNED BY: _____ PLACED BY: _____
 DETAILED BY: Thorne Sorenson CHECKED BY: Roy Gustafson

TRACED BY: _____
CHECKED BY: Ray Gustafson

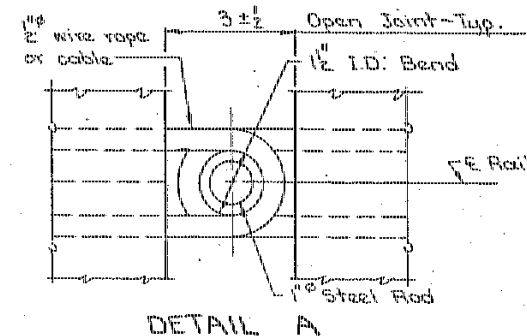
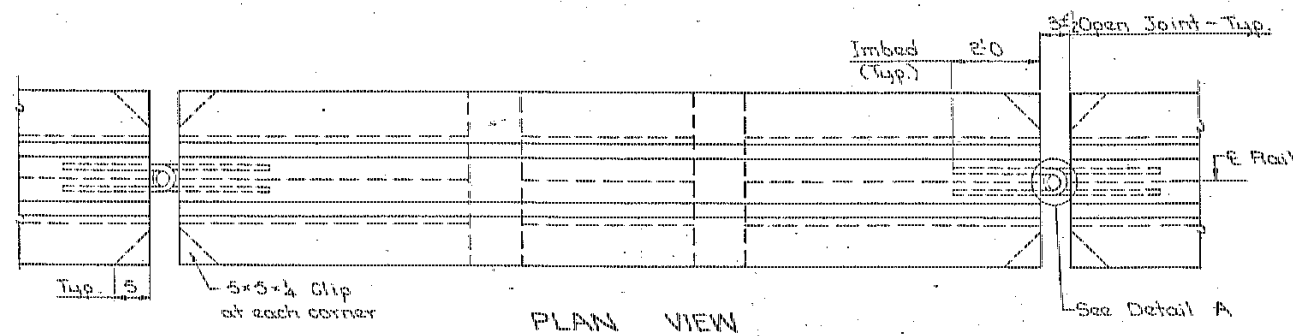
lowa COUNTY

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| PROJECT NUMBER
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STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	6		1	16



NOTE:
The temporary barrier rail is to be bid on a lineal foot basis measured from end to end of rail as shown on these plans. The contractor may provide extra rail sections at the "off" end of the bridge in order to provide additional storage area. The extra rail sections are to be paid for by the contractor.
Barrier is to become the property of the contractor at the completion of work and be removed from the site by him.

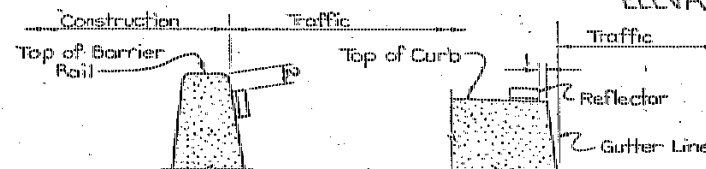
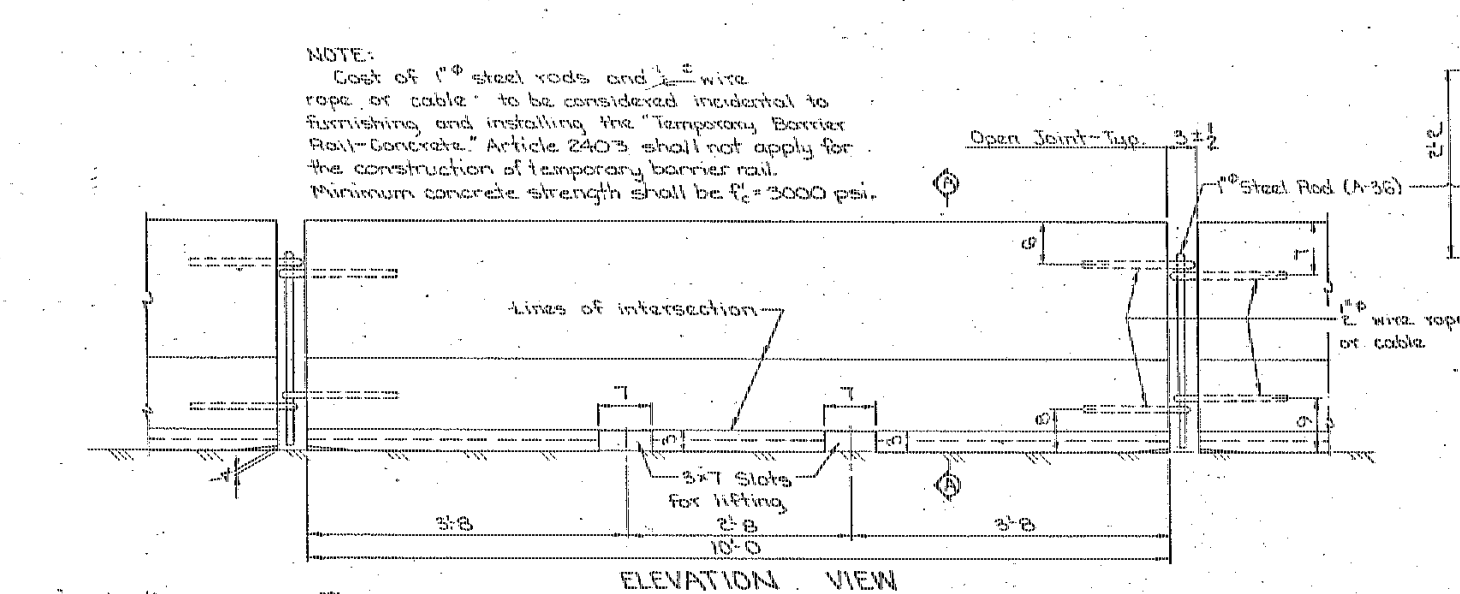
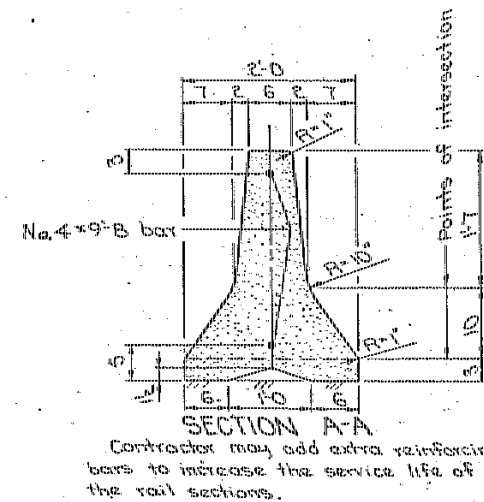
A 12'-6" lane shall be available for traffic. Screed extension or overlap beyond the longitudinal construction joint may be less than the 6 inches required by Sub-article 2413.08C.1. The engineer may require additional vibration or special finishing procedures adjacent to the longitudinal construction joint.

Traffic reflectors shall be a retro-reflective type, approved by the engineer, and they shall be located as shown on this sheet. The contractor shall maintain the reflectors and shall promptly replace any missing or damaged units. All costs for furnishing, installing and maintaining reflectors shall be included in the price bid for "Temporary Barrier Rail".

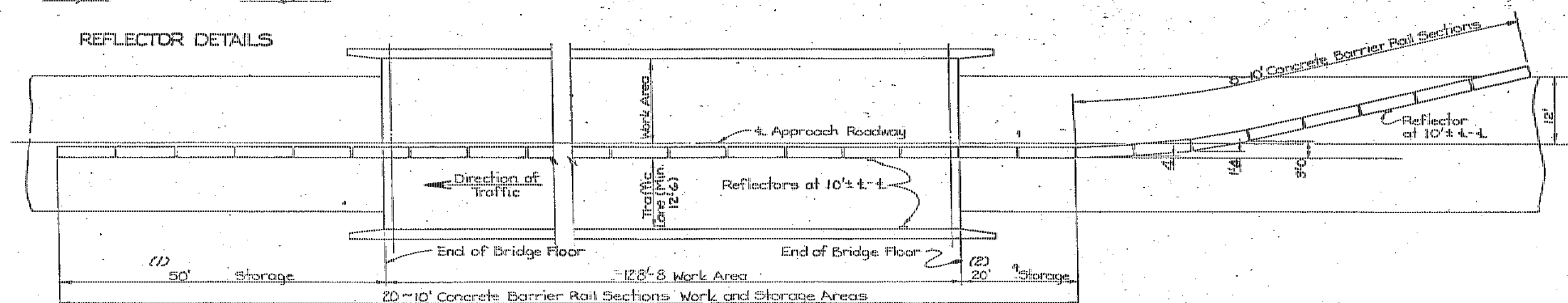
Refer to other details, notes and quantity items, elsewhere on these plans, for traffic control to be established in conjunction with the temporary barrier rail.

NOTE:
Cost of 1" steel rods and 1/2" wire rope or cable to be considered incidental to furnishing and installing the "Temporary Barrier Rail-Concrete." Article 2403 shall not apply for the construction of temporary barrier rail. Minimum concrete strength shall be $f'_c = 3000$ psi.

Wire rope or cable to be 1/2" with a minimum breaking strength of 20000 pounds.



REFLECTOR DETAILS



TEMPORARY CONCRETE BARRIER RAIL LAYOUT FOR ONE WAY TRAFFIC

(1) Nominal. May be increased to fit specified number of T.B.R. Sections. May be increased at the contractor's expense as noted on this sheet.

(2) Nominal. May be increased to a maximum of 25' storage so that the specified number of T.B.R. Sections can be accommodated.

ESTIMATED QUANTITIES	
Item	Amount
Temporary Barrier Rail - Concrete	286.8 L.F.

Details for Bridge Repair to a 2°40' Skew
125'-10" x 40' PRETENSIONED PRESTR. CONCRETE BEAM BRIDGE
 38'-11 1/2" End Spans 47'-11" Interior Span
TEMPORARY BARRIER RAIL - CONC.
 Sta. 58+58.5 (E. Survey I-80)
IOWA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
 Design Sheet No. 3 Of 7 File No. 26694 Design No. 382

DESIGNED BY: <u>Thane Sorenson</u>	CHECKED BY: <u>Rev. Gustafson</u>	TEMPORARY BARRIER RAIL - CONCRETE	STANDARD 1032	IOWA COUNTY	PROJECT NUMBER:	STATE: <u>IOWA</u>	FISCAL YEAR: <u>8</u>	SHEET NO.: <u>12</u>	TOTAL SHEETS: <u>14</u>
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Revised 10-13-80 - Reflector spacing and notes changed.
 Revised 7-17-81 Reflector requirement changed.
 Reworked 09-05-79
 J.S.R. 2/12/80-77