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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

PLAN 1" = 50'
PROFILE HORIZ. 1" = 50'
PROFILE VERT. 1" = 5'
CROSS SECTIONS 1" = 10' HORIZ.
1" = 2' VERT.

F.A.U. ROUTE 1453 (CERMAK ROAD)
WIDENING & RESURFACING AND BRIDGE REHABILITATION
PROJ. STPM-6003(971) : ILL-43 TO WOLF ROAD
SECTION 551WRS & 551 (B, XB, VB & VB-1) BR-89
JOB NO.: C-91-435-89
COOK COUNTY

VILLAGE OF NORTH RIVERSIDE
VILLAGE OF WESTCHESTER
VILLAGE OF BROADVIEW
VILLAGE OF HILLSIDE
VILLAGE OF FOREST PARK

FA. RTE.	MUNICIPAL SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1453	*	COOK	233	1
FA. RTE.	SECTION	PROJECT		
1453	551 WRS & 551 (B, XB, VB & VB-1) BR-89	C-91-435-89		



LOCATION OF SECTION INDICATED THUS: —

FAU ROUTE 1453 OVER 25TH AVE.
STA. 271+83.0 S.B.I. RTE. 55-SECT. 551-VB BUILT IN 1961 STRUCTURE NO. 016-0632
SUBSTRUCTURE: PILE BENT ABUTMENTS AND MULTIPLE COLUMN PIERS
SUPER STRUCTURE: 13-SPAN STEEL BEAMS
2 05'0"-9" 1 05'0"-1" 1 03'0"-3"
2 05'0"-5" 1 0'6"-0"
REPAIR AND OVERLAY CONCRETE DECK, REPAIR PIERS & SLOPEWALLS.
TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

FAU ROUTE 1453 OVER I.H.B.R.R. & GARDNER RD.
STA. 282+73.2 S.B.I. RTE. 55-SECT. 551-VB BUILT IN 1961 STRUCTURE NO. 016-0631
SUBSTRUCTURE: PILE BENT ABUTMENTS AND MULTIPLE COLUMN PIERS
SUPER STRUCTURE: 10-SPAN STEEL BEAMS
2 07'0"-9" 1 05'0"-1" 1 03'0"-3"
2 04'7"-3" 2 05'4"-1" 2 06'9"-3"
REPAIR AND OVERLAY CONCRETE DECK, REPAIR PIERS & SLOPEWALLS.
TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

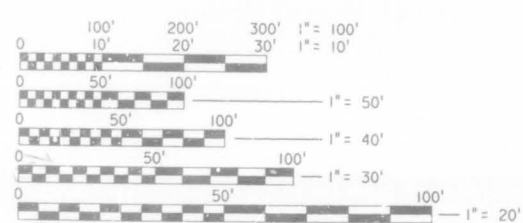
FAU ROUTE 1453 OVER ADDISON CREEK
STA. 370+39.4 S.B.I. RTE. 55-SECT. 551-Y BUILT IN 1958 STRUCTURE NO. 016-0633
SUBSTRUCTURE: PILE BENT ABUTMENTS AND PIERS
SUPER STRUCTURE: 13-SPAN R.C. DECK SLAB BRIDGE
2 03'0"-9" 1 03'8"-6"
SUPERSTRUCTURE TO BE PARTIALLY REMOVED AND WIDENED, REPAIR AND OVERLAY CONCRETE DECK.
TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

FAU ROUTE 1453 OVER DESPLAINES RIVER
STA. 377+61.4 S.B.I. RTE. 55-SECT. 551-XB BUILT IN 1958 STRUCTURE NO. 016-0634
SUBSTRUCTURE: R.C. CLOSED ABUTMENTS AND SOLID R.C. PIERS
SUPER STRUCTURE: 4-SPAN R.C. GIRDER
4 06'1"-2"
SUPERSTRUCTURE TO BE TOTALLY REMOVED AND REPLACED WITH 42" P.P.C. I-BEAMS.
TOP PORTION OF ABUTMENTS AND PIERS TO BE REMOVED AND REPLACED.
TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

PROJECT ILL-43 TO WOLF ROAD
ENDS STA. 441+00.00

OMISSION
STA. 430+17.6 - STA. 430+33.6

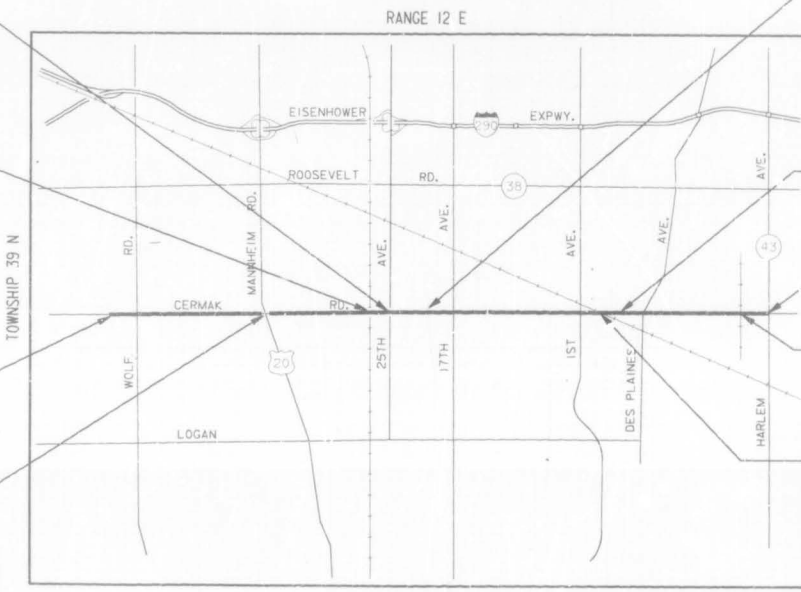
OMISSION
STA. 371+40 - STA. 372+25



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZE PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

DESIGN DESIGNATION
31,966 ADT (100) MINOR ARTERIAL (COMP-20)
CONTRACT NO. 80579

FOR UNDERGROUND UTILITY
LOCATIONS, CALL:
J.U.L.I.E.
TOLL FREE
TEL. 1-800-892-0123



LOCATION MAP
NO SCALE

GROSS LENGTH OF PROJECT = 27,606.3 FT. = 5.229 MILES
NET LENGTH OF PROJECT = 27,215.3 FT. = 5.154 MILES

NOTE: WHEREVER IN THESE PLANS
REFERENCE IS MADE TO BRIDGE
APPROACH PAVEMENT STD. 2302,
IT SHALL MEAN BRIDGE APPROACH
PAVEMENT MODIFIED.
(SEE SHEETS 96 & 97.)

DAVID P. HESLIN
ILLINOIS REGISTERED PROFESSIONAL ENGINEER NO. 062-36274
MY LICENSE EXPIRES ON 11-30-92
DATE 7/17/92

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED July 18 1992
EXAMINED [Signature]
PASSED Sept. 4 1992
APPROVED Sept. 4 1992

PRINTED UNDER THE AUTHORITY
OF THE STATE OF ILLINOIS

DESIGN CONSULTANT:
DONOHUE & ASSOCIATES, INC.
1501 WOODFIELD ROAD, SUITE 200E
SCHAUMBURG, ILLINOIS 60173
PHONE: (708) 605-8800

CONSULTANT PROJECT ENGINEER RICK YOUNG 708-705-4232

COOK COUNTY SECTION 551 WRS & 551 (B, XB, VB & VB-1) BR-89 F.A.U. ROUTE 1453

Sheets 1 Thru 100

TAMERAN

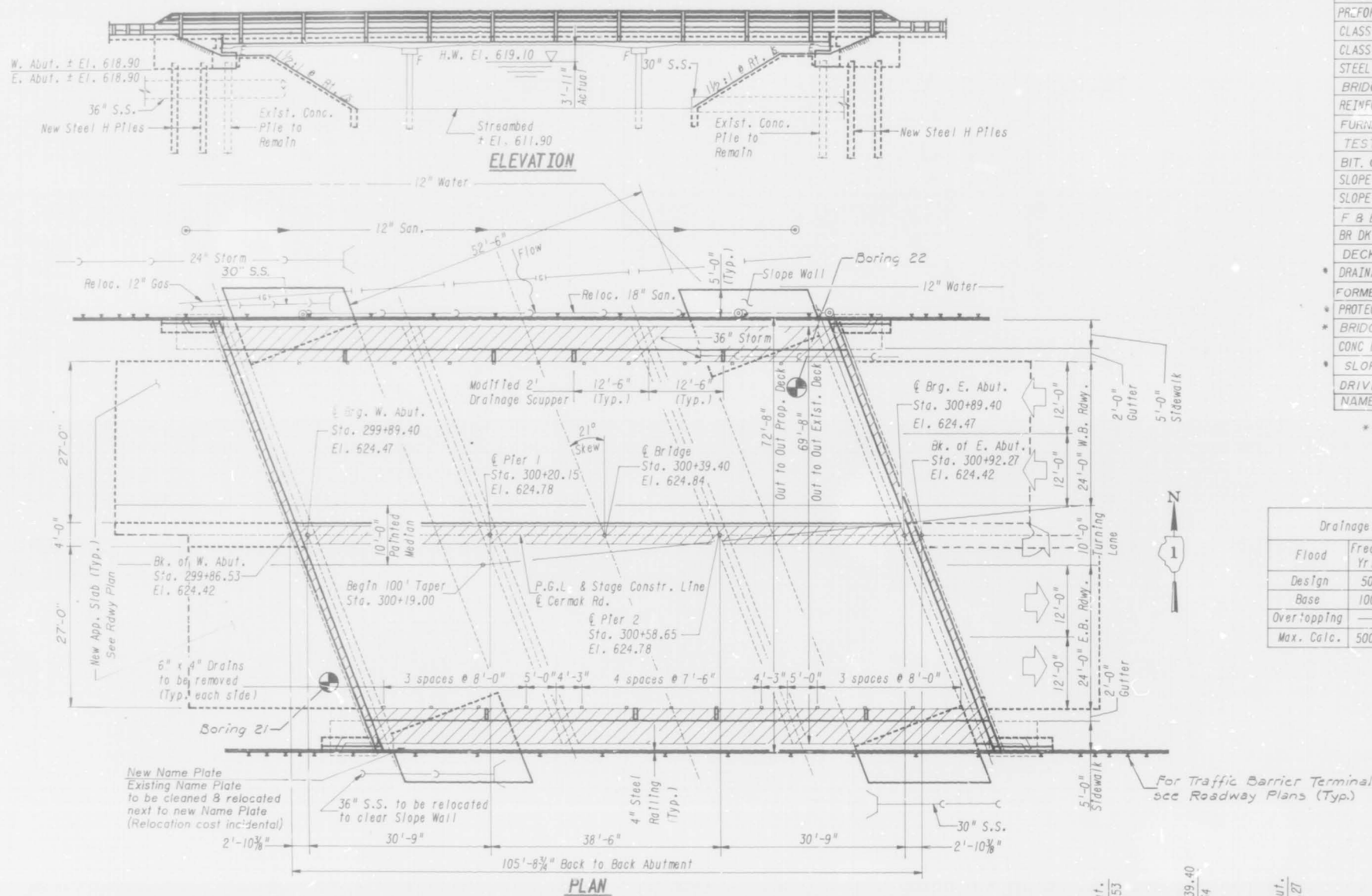
BENCHMARK

TBM #15 Railroad Spike in North face of light pole at the Southwest corner of Cermak Rd. & 17th Ave.
Sta. 308+80.00 69' Rt. of Cermak Rd. El. 624.21

DESCRIPTION

Sta. 300+2.00, S.B.I. Rte. 55 - Sect. 551 - Y Built in 1959 Structure No. 016-0633 (New Sta. 300+39.40)
Sub-structure : Pile bent abutments & piers
Superstructure : 3 - span R.C. slab bridge

Superstructure to be partially removed and widened. Repair and overlay concrete deck
Traffic to be maintained utilizing stage construction



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
POROUS GRANULAR EMBANKMENT	CU YD	-	13.4	13.4
PROTECTIVE COAT	SQ YD	206	-	206
CONC REMOVAL	CU YD	52.4	26.0	78.4
STRUCTURE EXCAVATION	CU YD	-	96	96
PREFORMED JOINT SEAL 1 3/4"	LIN FT	102	-	102
PREFORMED JOINT SEAL 2 1/2"	LIN FT	156	-	156
CLASS X CONCRETE SUPERSTRUCTURE	CU YD	56.1	-	56.1
CLASS X CONCRETE	CU YD	-	18.8	18.8
STEEL RAILING, TYPE TP-1	LIN FT	246	-	246
BRIDGE HANDRAIL REMOVAL	LIN FT	204	-	204
REINFORCEMENT BARS, EPOXY COATED	POUND	10,100	3060	13160
FURNISHING STEEL PILES HP 10x42	LIN FT	-	210	210
TEST PILE STEEL HP 10x42	EACH	-	1	1
BIT. CONC. REM. (DECK)	SQ YD	624.9	-	624.9
SLOPE WALL REMOVAL	SQ YD	-	152.2	152.2
SLOPE WALL 6 INCH	SQ YD	-	133.0	133.0
F B E STRUCTURAL STEEL	POUND	8680	-	8680
BR DK CONC OVLAY OPT (1=3 1/2")	SQ YD	704.1	-	704.1
DECK SLAB REPAIR (FD-TI)	SQ YD	48.1	-	48.1
* DRAINAGE SCUPPERS (SPECIAL)	EACH	8	-	8
* FORMED CONC. REPAIR DEPTH ≤ 5"	SQ YD	97	1	98
* PROTECTIVE SHIELD	SQ YD	120	-	120
* BRIDGE SEAT SEALER	SQ FT	-	388	388
CONC BRIDGE DECK SURF REM (METH 3)	SQ YD	715.8	-	715.8
* SLOPE WALL SLURRY PUMPING	CU YD	-	25	25
DRIVING STEEL PILES	LIN FT	-	210	210
NAME PLATE	EACH	1	-	1

* See Special Provisions

WATERWAY INFORMATION

Drainage Area = 20.40 Sq. Mi.				Low Grade Elev. 625.0 @ Sta. (Unknown)			
Flood Yr.	Freq. C.F.S.	Q	Opening Sq. Ft.	W.E. H.W.E.	Head - Ft. Exst.	Headwater El. Exst.	Headwater El. Prop.
Design	50	1300	555	619.1	-	-	-
Base	100	1520	555	619.7	-	-	-
Overtopping							
Max. Calc.	500	1920	555	621.1	-	-	-

DESIGN SPECIFICATIONS

1989 AASHTO, 1990, 1991 Interim

DESIGN STRESSES

$f'_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi (Reinf.)}$

DESIGN LOADING

Live Load HS 20-44

No additional allowance for future wearing surface

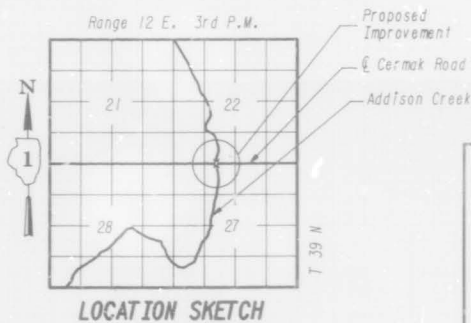
STATION 300+39.40
REBUILT 199 BY
STATE OF ILLINOIS
F.A.U. RTE 1453/SEC. 551WRS 8
551 XB - BR - 89
LOADING HS 20
STR. NO. 016 - 0633

Name Plate
See Std. 213-2

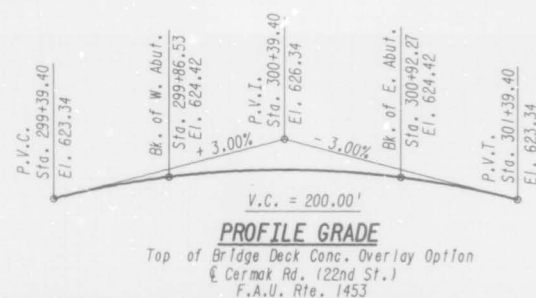
APPROVED
FOR STRUCTURAL ADEQUACY CHECK

Ralph E. Anderson
Executive of Bridges and Structures

ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMACK ROAD OVER ADDISON CREEK
GENERAL PLAN & ELEVATION
F.A.U. RTE 1453
SECTION 551WRS & 551 (B, XB, VB & VB-1) BK-89
STA. 300+39.40
COOK COUNTY
Structure #: 016-0633 Date: Jan. 1992



LOCATION SKETCH



PROFILE GRADE

Top of Bridge Deck Conc. Overlay Option
Cermack Rd. (22nd St.)
F.A.U. Rte. 1453

Donohue
Engineers & Architects
COMPUTER AIDED DESIGN/DRAWING

DESIGN BY:	DESIGN CK'D BY:	DRAWN BY:	CHECKED BY:
P.D.F.	H.S.	E.Z.	H.S.
PROJECT NUMBER 18046.200			

TAPE NO.

PRF=spad.000
FILE=spad.dgn

DATE:

SCALE:

Rev. 01. 10/11/2000 1 000.000

D

C

B

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TAMERAN

** 55/WRS & 55/ (B, XB, VB & VB-1) BR-89

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

See sh.13 of 13 for Boring Data.

Layout of the Slope Protection System may be varied to suit ground condition in the field, as directed by the Engineer.

Backfill shall be placed & compacted at all new slope walls. Where the existing slope wall is undermined & is accessible, it shall be backfilled to the bottom of the existing slab. The cost of backfilling shall be incidental to the item SLOPE WALL 6 INCH.

In areas where the slope wall is undermined & is inaccessible for backfilling, slope wall grouting shall be used as directed by the Engineer. The grout shall fill the cavities to the bottom of existing concrete.

Bridge seat sealer shall be applied to the seat area of the abutments.

The Contractor shall drive one steel HPI0x42 test pile in a permanent location at the W. Abutment as directed by the Engineer before ordering the remainder of piles.



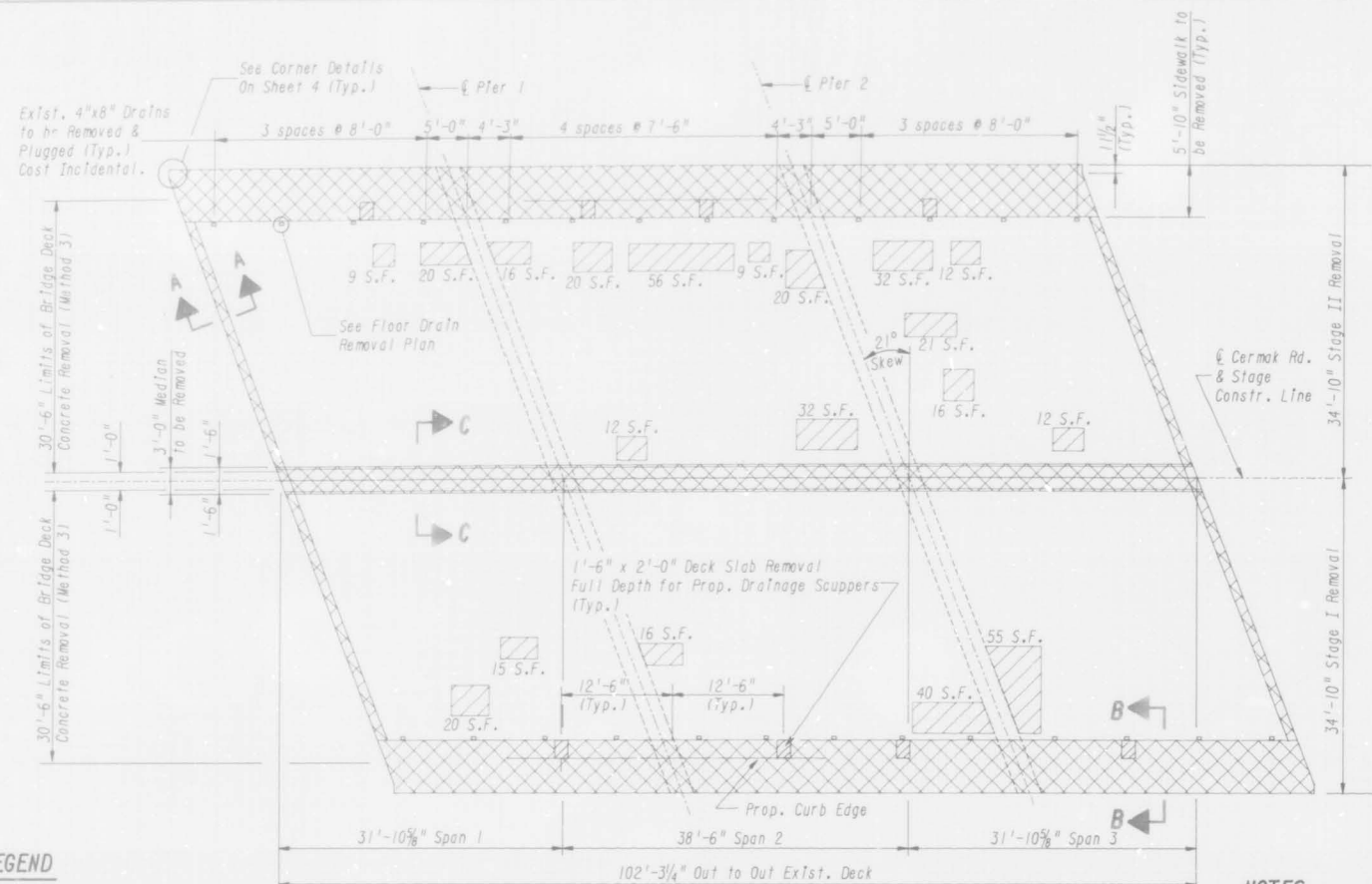
*Incidental to Class X Concrete.

STAGING & GENERAL NOTES

F.A.U. RTE 1453
SECTION 551WRS & 551 (B, XB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY

Structure #: 016-0633 Date: Jan. 1992

Sheet 2 of 13

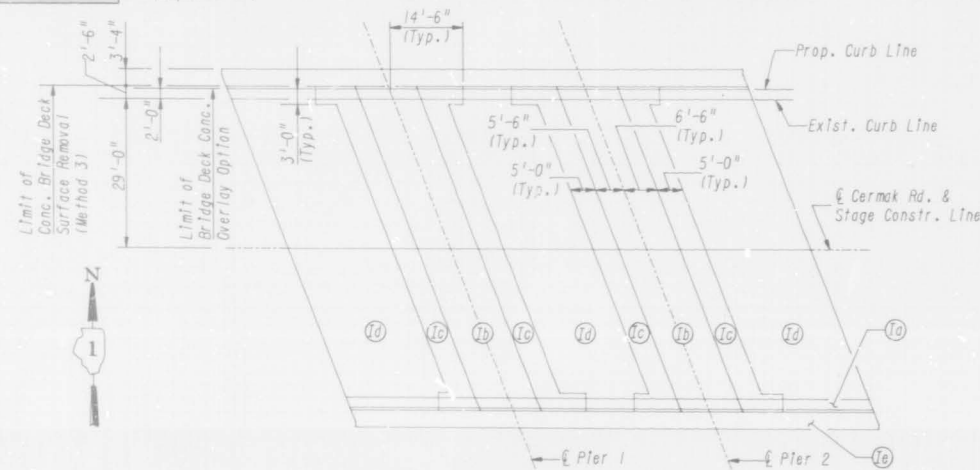


LEGEND

- Concrete Removal
- Deck Slab Removal (Full Depth)
- Formed Conc. Repair (Depth 4\"/>

DECK PLAN

Showing Removal & Repair at Top of Slab



SUGGESTED CONSTRUCTION SEQUENCE

Stage I shown, Stage II Similar

NOTES

Repair areas indicated on this sheet are based on Bridge Condition Report. Actual locations & quantities of repair may vary & shall be determined by the Engineer after b1t. surf. have been removed.

Suggested construction sequence shown is based on the assumption that existing top reinforcement bars to remain have sufficient embedment during stages Ib, Ic, IIb & IIc. It is the Contractor's responsibility to verify the soundness of concrete deck within 15' on either side of piers. Contractor shall then notify the Engineer of the results & the Engineer shall then determine the appropriateness of the suggested sequence.

In lieu of the suggested construction sequence shown, the Contractor has the option of shoring the entire structure. It shall be the responsibility of the Contractor to design such shoring, signed & stamped by a licensed Structural Engineer in the State of Illinois. The Contractor shall submit such drawings & calculations for Engineer's approval.

Shoring shall be mandatory if latex concrete overlay is selected.

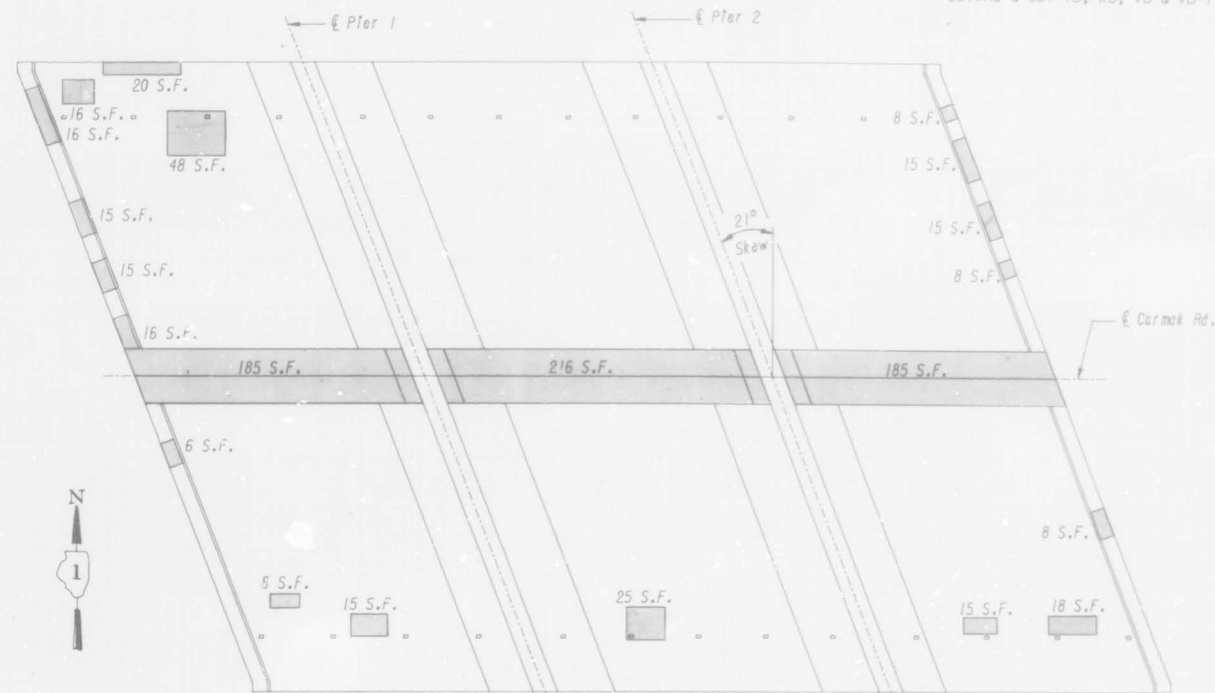
For Sections A-A, B-B, & C-C, see Sheet 5.

For Superstructure Bill of Material, see Sheet 5.

For Superstructure-New Construction, see Sheet 4.

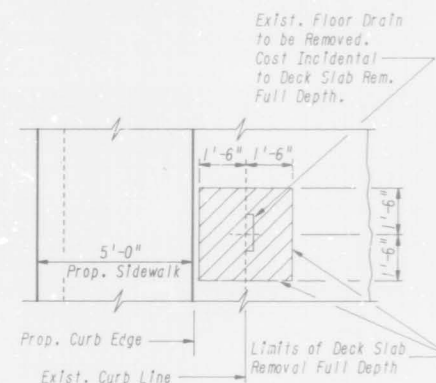
SUBSTAGE CONSTRUCTION PROCEDURE

- (1a) Remove 2'-6\"/>



DECK PLAN

Showing Repair at Bottom of Slab



PLAN FLOOR DRAIN REMOVAL

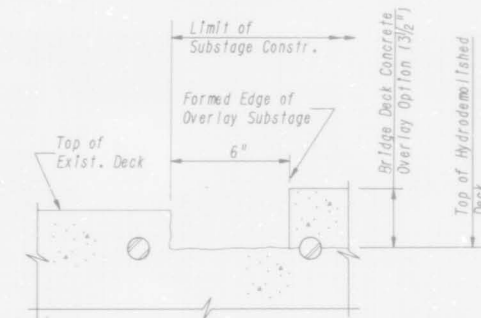
Sidewalk removal & concrete bridge deck surface removal by Method 3 shall be performed prior to floor drain removal.

Remove the exist. floor drain & concrete to limits shown without damage to existing reinforcement bars.

Replace removed concrete with the overlay material at the time of placement of overlay. The concrete shall be placed to the level of hydrodemolished deck & shall be thoroughly consolidated with hand held vibrators.

Place Bridge Deck Concrete Overlay Option.

Drain Removal shall be cost incidental to Deck Slab Removal Full Depth.



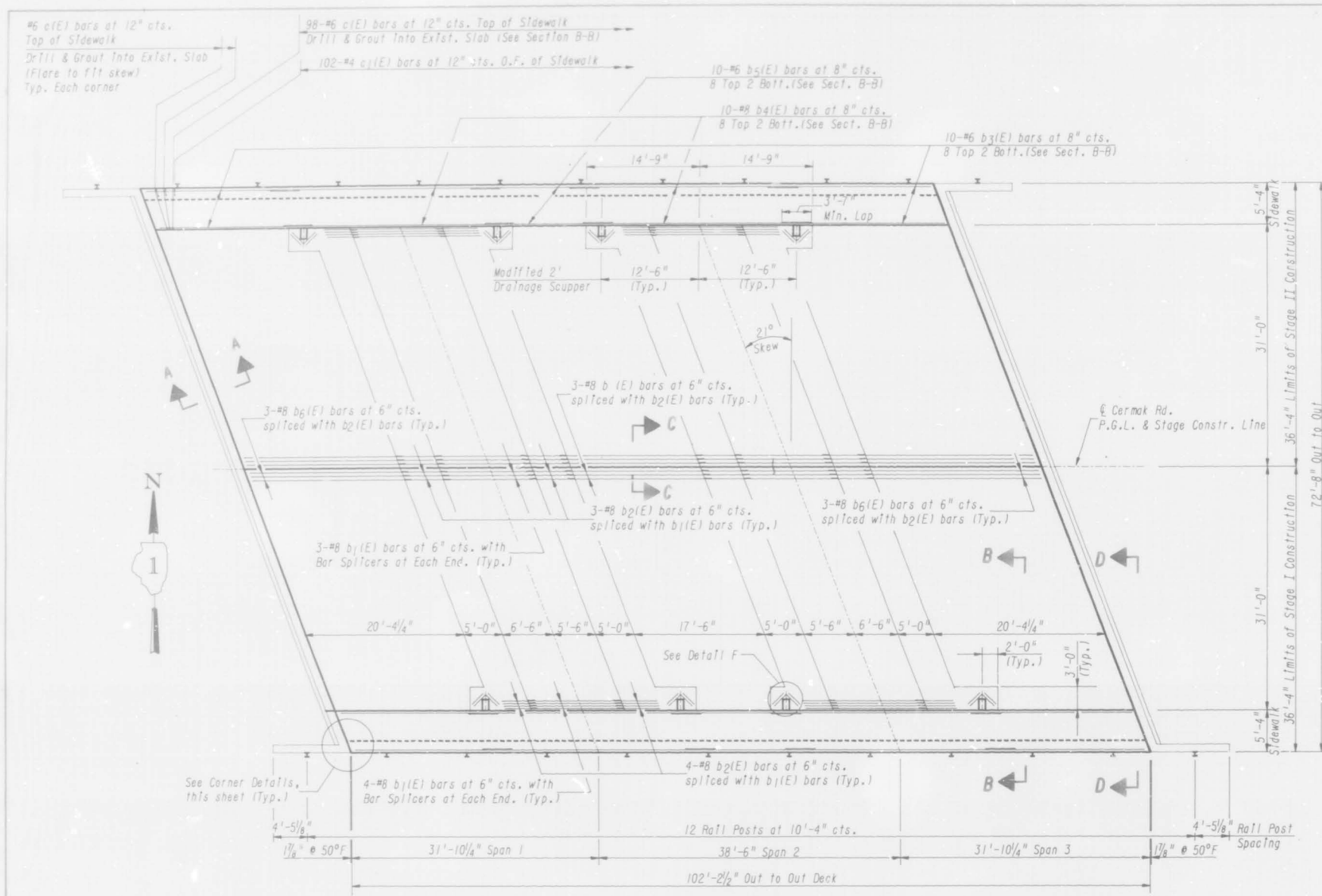
OVERLAY SUBSTAGE EDGE DETAIL

For use on Substages Ib, Ic, IIb & IIc

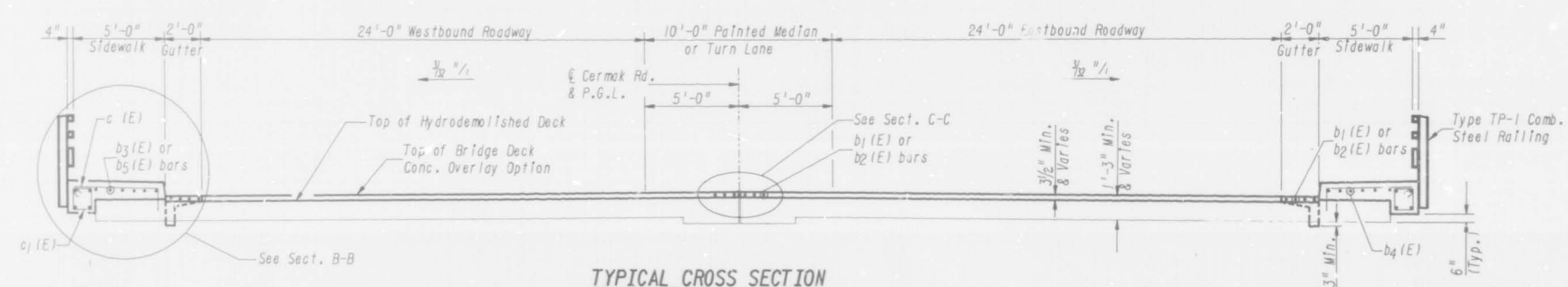
ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMAK ROAD OVER ADDISON CREEK
**SUPERSTRUCTURE
REMOVAL & REPAIR**
F.A.U. RTE 1453
SECTION 551WRS & 551 (B, XB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY
Structure #: 016-0633 Date: Jan. 1992

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1453	**	COOK	233
PED. ROAD DIST. NO.	ILLINOIS	PED. ROAD PROJECT	

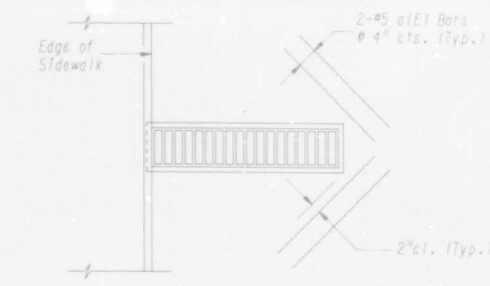
** 551WRS & 551 (B, XB, VB & VB-1) BR-89



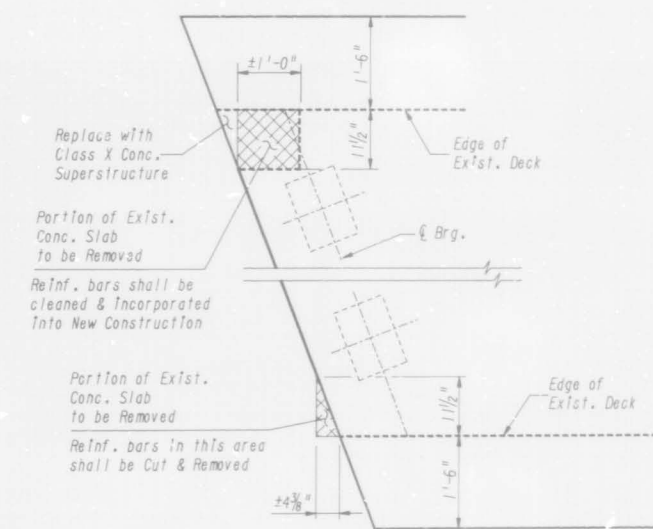
PLAN



TYPICAL CROSS SECTION
Looking Upstation
Showing New Construction



DETAIL F



CORNER DETAILS

NOTES

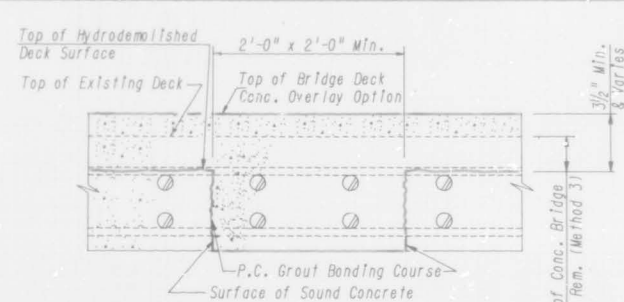
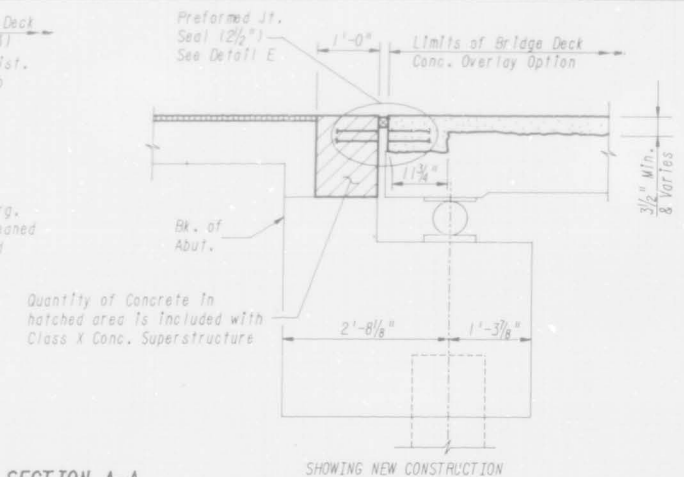
For Sections A-A, B-B & C-C, see Sheet 5.
For Superstructure Bill of Material, See Sheet 5.
Reinforcement bars designated (E) shall be epoxy coated.

ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMAK ROAD OVER ADDISON CREEK
**SUPERSTRUCTURE
NEW CONSTRUCTION**
F.A.U. RTE 1453
SECTION 551WRS & 551 (B, XB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY
Structure #: 016-0633 Date: Jan. 1992

PRF=super2.000
FILE=super2.dgn
W.U.=
SCALE=

Doranne Engineers & Architects			
DESIGN BY: S.C.L.	DESIGN CK'D BY: P.D.F.	DRAWN BY: E.Z.	CHECKED BY: H.S.
PROJECT NUMBER 18046.200			





BRIDGE DECK CONC. OVERLAY - METHOD 3

Remove existing variable thickness bituminous concrete overlay. Contractor shall exercise care not to remove deck conc. during Bit. Conc. Removal (Deck) operation.

Remove the entire surface area of the concrete deck, as shown on the plans, to a depth that will generally expose the upper half of the topmost bars in the main upper reinforcing mat. Removal shall be accomplished using hydrodemolition equipment.

After the hydrodemolition is complete & the deck surface has been cleaned, the Engineer may direct additional removal. This removal shall be accomplished using power-driven hand tools or hydrodemolition equipment if approved by the Engineer.

Where concrete removal by hydrodemolition has exposed the lower mat of reinforcement, the involved area shall be removed full-depth as directed by the Engineer.

Provide Protective Shield beneath Deck Slab Removal (Full Depth).

Clean exist. reinforcement bars by sandblasting, as directed by the Engineer.

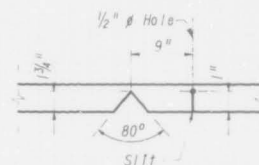
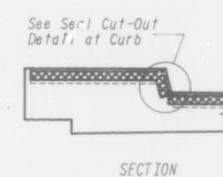
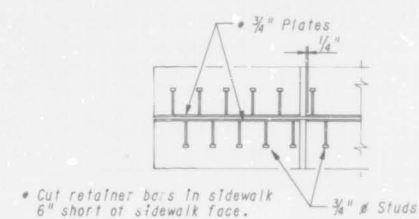
Any existing reinforcement bars which have a loss of more than 25% of their cross-section through corrosion shall be replaced as directed by the Engineer. No welding of bars will be permitted. New bars should be lapped a minimum of 30 bar diameters to existing bars.

Forms shall be provided to enable placement of new concrete. Immediately ahead of placing the overlay mixture, a thin coating of grout shall be placed.

All patches shall be poured using the overlay material at the time of placement of the overlay. The concrete shall be placed to the level of hydrodemolished deck & shall be thoroughly consolidated with hand-held vibrators.

Place Bridge Deck Concrete Overlay Option.

See Special Provisions for Bridge Deck Concrete Overlay.

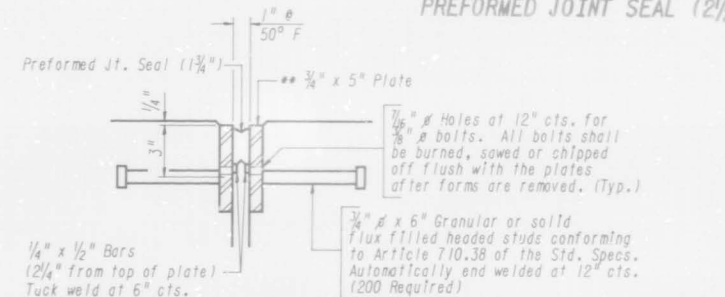
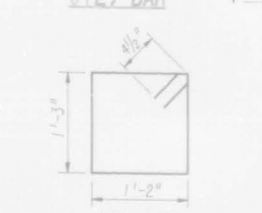
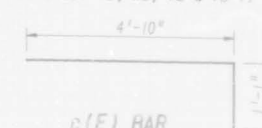


TYPICAL SEAL TREATMENTS AT SIDEWALK

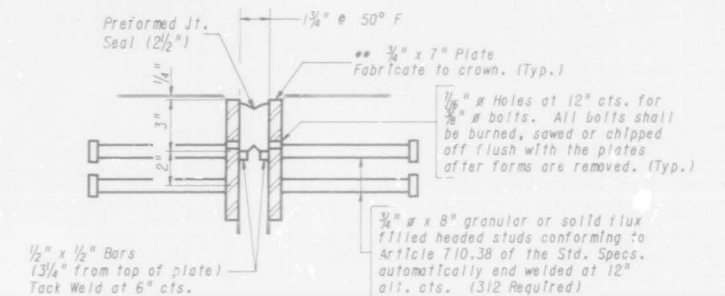
SUPERSTRUCTURE
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	32	#5	2'-0"	—
b(F)	6	#8	17'-6"	—
b1(E)	28	#8	11'-9"	—
b2(E)	56	#8	5'-0"	—
b3(E)	40	#6	20'-10"	—
b4(E)	40	#8	28'-4"	—
b5(E)	20	#6	18'-0"	—
b6(E)	12	#8	20'-4"	—
c(E)	204	#6	6'-2"	—
c1(E)	204	#4	5'-7"	□
Reinforcement Bars, Epoxy Coated Concrete Removal			Pound	10,100
Preformed Joint Seal 1 1/2"			Sq. Yd.	52.4
Preformed Joint Seal 2 1/2"			Ltn. Ft.	102
Class X Concrete Superstructure			Ltn. Ft.	156
Handrail Removal			Cu. Yd.	52.
			Ltn. Ft.	204
Blt. Conc. Removal (Deck)			Sq. Yd.	624.9
Protective Coat			Sq. Yd.	206
Bridge Deck Concrete Overlay Option (1-3 1/2")			Sq. Yd.	704.1
Deck Slab Repair (Full Depth, Type I)			Sq. Yd.	48.1
Formed Conc. Repair (Depth ≤ 5")			Sq. Yd.	97
Protective Shield			Sq. Yd.	120
Conc. Bridge Deck Surf. Rem. (Method 3)			Sq. Yd.	715.4

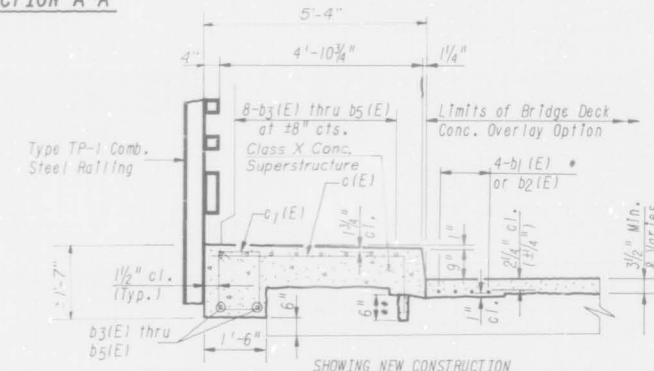
Reinforcement bars designated (E) shall be epoxy coated.



** Furnish in segments of 20 ft. max. length. Maximum space between installed segments shall be $\frac{3}{16}$ ". Seal space with Silicone Sealant suitable for Structural Steel.



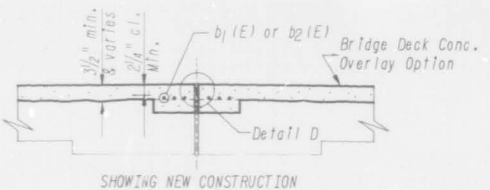
SECTION A-A



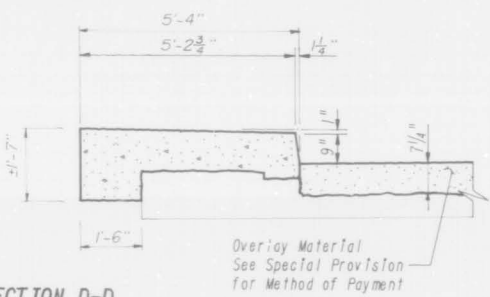
* Additional deck surface removal may be required as directed by the Engineer, to insure minimum clear cover over bars.

** Epoxy grout c(E) bars in 1" ϕ x 6" min. holes. See Special Provisions.

SECTION B-B



SECTION C-C

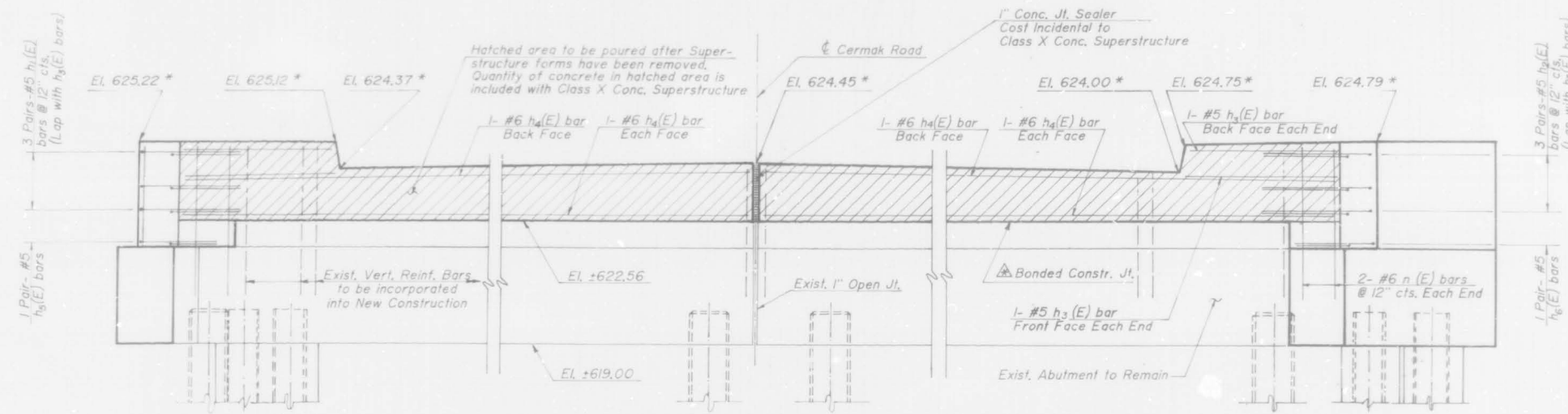


SECTION D-D

			
DESIGN BY:	DESIGN CK'D. BY:	DRAWN BY:	CHECKED BY:
S.C.L.	P.D.F.	E.Z.	S.C.L.
PROJECT NUMBER		18046.200	

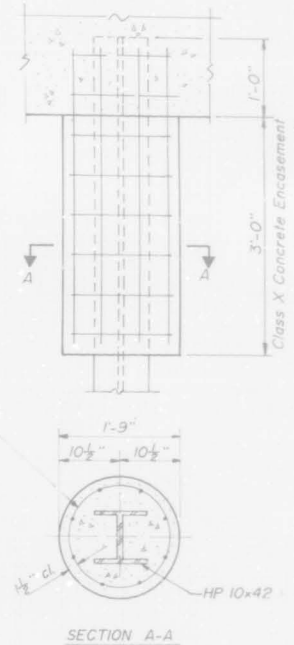
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1453	COOK	233	171
STA	TO STA		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	

** 551WRS B 551(B, XB, VB & VB-1) BR-89



ELEVATION OF ABUTMENTS
(Elevations for East & West Abutments Identical)

Welded wire fabric 6x6-W4.0xW4.0 weighing 58 /100 sq. ft. The cost of Excavation, Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. Forms for encasement may be omitted when soil conditions will permit.

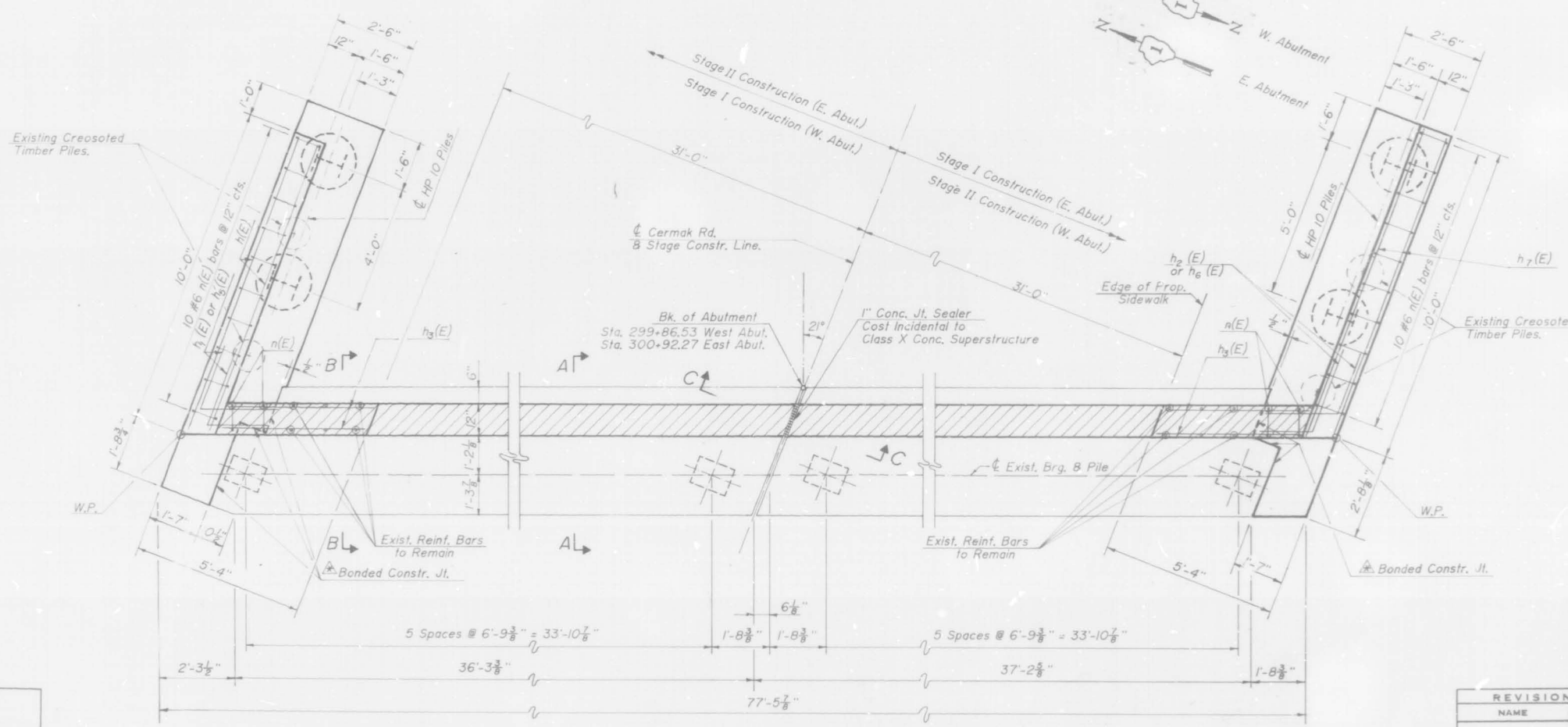


HP PILE ENCASEMENT
(Typical at both Abutments)

PILE DATA

Type- Steel HP 10 x 42
Capacity- 25 Tons (Drive to 38 Ton)
Estimated length- 34 Ft. (W. Abut.), 27 Ft. (E. Abut.)
No. Required- 8 (4 per abutment)

NOTES:
See Sheet B for Bill of Materials, Details & Sections.
* Elevations are at front face at Abutment Backwall.
See Art. 504.13 (a)(2) of the Standard Specs.
Reinforcement bars designated (E) shall be epoxy coated.



PLAN

Donohue			
Engineers & Architects			
DESIGN BY: JHR	DESIGN CK'D BY: SL	DRAWN BY: JLM	CHECKED BY: HS
PROJECT NUMBER 18046.200			

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMAK ROAD OVER ADDISON CREEK
* PROPOSED
ABUTMENTS & WINGWALLS
F.A.U. RTE 1453
SECTION 551WRS & 551 (B, XB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY
Structure #: 016-0633 Date: Jan. 1992

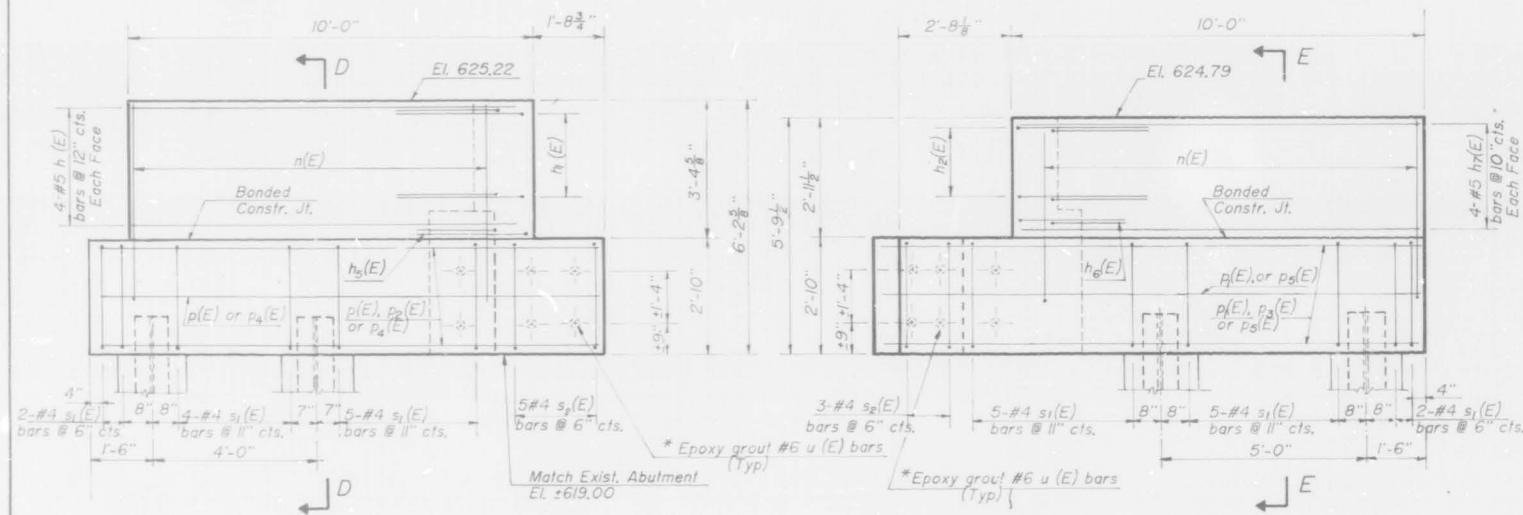
** 55/WRS & 55/(B, XB, VB & VB-1) BR-89

BAR	NO.	SIZE	LENGTH	SHAPE
$h(E)$	16	#5	9'-4"	—
$h_1(E)$	12	#5	5'-4"	L
$h_2(E)$	12	#5	5'-4"	J
$h_3(E)$	8	#5	5'-0"	—
$h_4(E)$	12	#6	37'-6"	—
$h_5(E)$	4	#5	3'-9"	L
$h_6(E)$	4	#5	3'-9"	J
$h_7(E)$	16	#5	9'-8"	—
$n(E)$	48	#6	9'-9"	U
$p(E)$	6	#7	12'-4"	—
$p_1(E)$	6	#7	12'-4"	—
$p_2(E)$	4	#7	6'-8"	—
$p_3(E)$	4	#7	6'-3"	—
$p_4(E)$	6	#7	9'-8"	—
$p_5(E)$	6	#7	10'-7"	—
$s_1(E)$	46	#4	10'-1"	□
$s_2(E)$	16	#4	8'-3"	□
$u(E)$	24	#6	2'-8"	→
Reinforcement Bar (Epoxy Coated)			Lbs.	3060
Class X Concrete			Cu. Yd.	18.8
Steel Piles HP 10x42			Lin. Ft.	210
Test Pile Steel HP 10x42			Each	1
Structure Excavation			Cu. Yd.	96

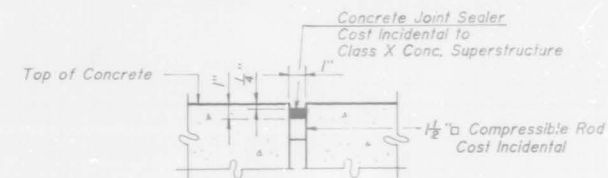
NOTES
Work this sheet with sheet No. 7
Reinforcement bars designated (E) shall
be epoxy coated.

REVISIONS	
NAME	DATE

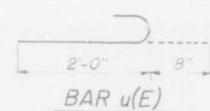
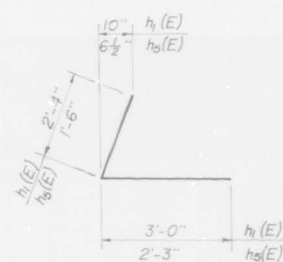
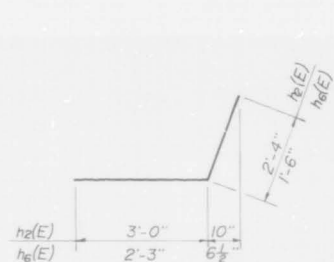
ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMAK ROAD OVER ADDSTON CREEK
ABUTMENT & WINGWALL
DETAILS
F.A.U. RTE 1453
SECTION 551WRS & 551 (B, YB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY
Structure #: 016-0633 Date: Jan, 1992



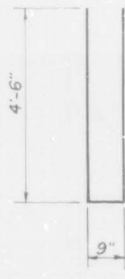
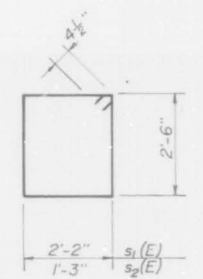
N.W. & S.E. WING WALL ELEVATION



SECTION C-C

 $BAR \ u(E)$ BARS $h_1(E)$ & $h_5(E)$ 

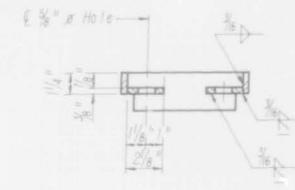
BARS $h_2(E)$ & $h_6(E)$


$$\underline{BAR\ n\ (E)}$$


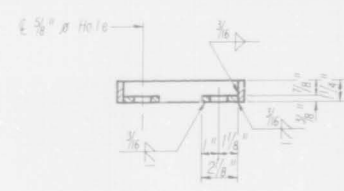
BARS $s_1(E)$ & $s_2(E)$

Donohue <u>Engineers & Architects</u> COMPUTER AIDED DESIGN/CONSTRUCTION			
DE. IGN BY: JHR	DESIGN CK'D. BY: SCL	DRAWN BY: JLM	CHECKED BY: HS
PROJECT NUMBER 18046.200			

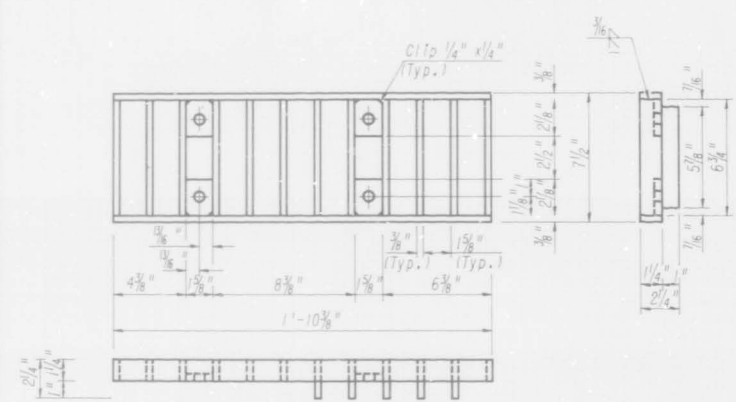
F.A.U. RTE.	SHEET NO.	COUNTY	TOTAL SHEETS	SHEET NO.
1453	**	COOK	233	173
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
** 551WRS & 551 (B, XB, VB & VB-1) BR-89				



SECTION A-A

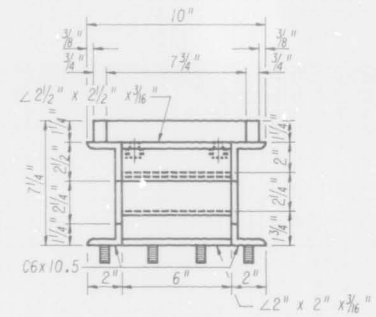


SECTION B-B

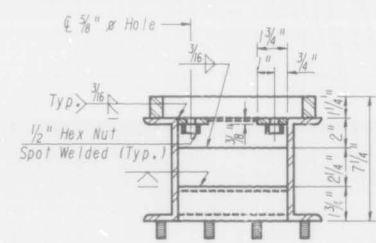


GRATE

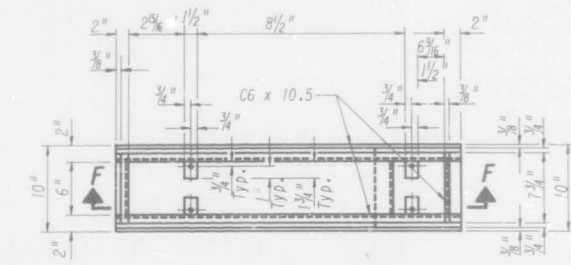
Notes:
 Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B, or A-501 Structural Steel Tubing.
 All other shapes, plates and bars shall conform to the requirements of AASHTO M 183.
 Bolts, studs, washers and nuts shall conform to the requirements of ASTM A-307.
 The Grate, Frame and Downspout shall be galvanized after shop fabrication in accordance with AASHTO M-111 & ASTM A-385.
 All bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232.
 Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper will be paid for at the unit bid price for "DRAINAGE SCUPPERS (SPECIAL)".
 For Scupper locations, See Sheet 1.



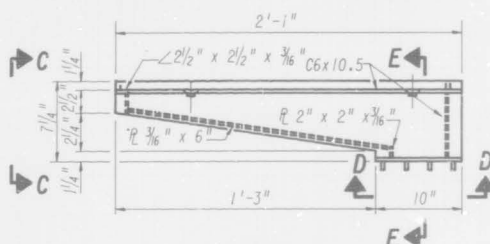
VIEW C-C



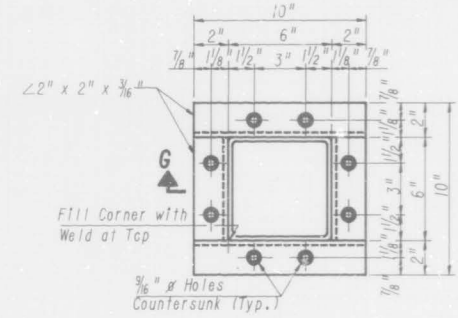
SECTION E-E



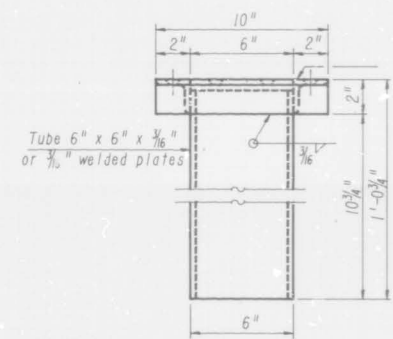
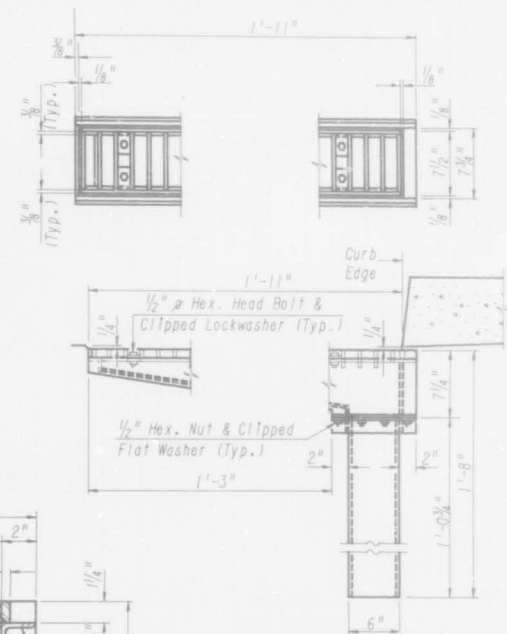
FRAME



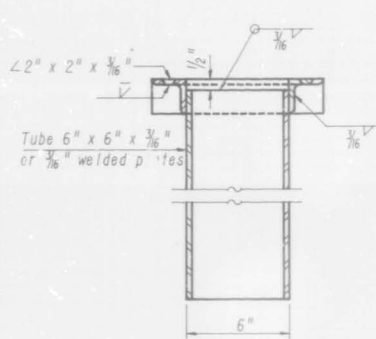
SECTION F-F



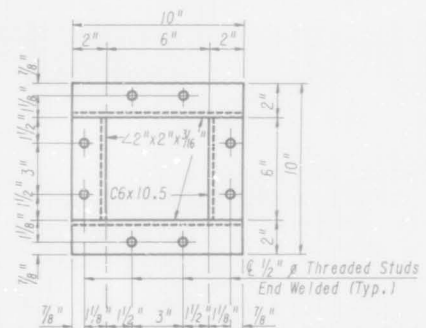
DRAINAGE SCUPPER



DOWNSPOUT



SECTION G-G



VIEW D-D

BILL OF MATERIAL

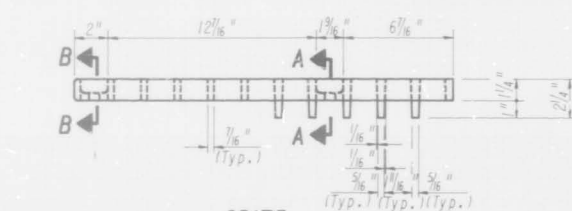
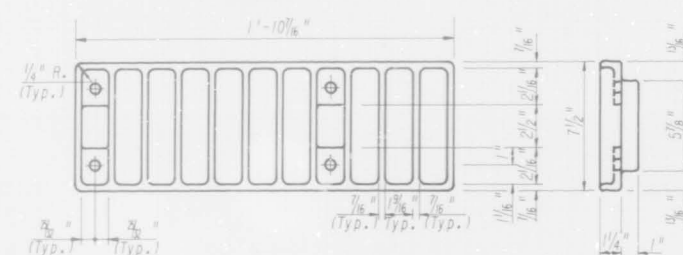
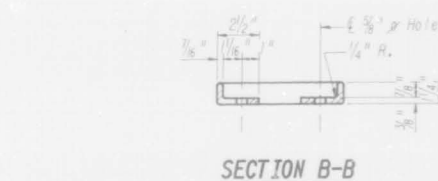
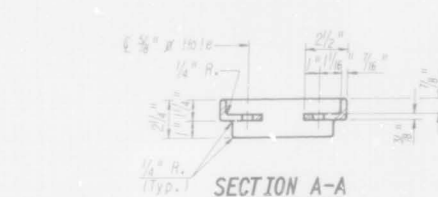
ITEM	UNIT	QUANTITY
Drainage Scuppers (Special)	Each	8

ILLINOIS DEPARTMENT OF TRANSPORTATION
 CERMAY ROAD OVER ADDISON CREEK
**MODIFIED 2' DRAINAGE SCUPPER
 STEEL ALTERNATE**
 F.A.U. RTE 1453
 SECTION 551WRS & 551 (B, XB, VB & VB-1) BR-89.
 STA. 300+39.40
 COOK COUNTY
 Structure #: 016-0633 Date: Jan, 1992

TAPE NO.
 FILE=scuplad.dgn
 W.U.
 SCALE=

Donohue			
Engineers & Architects			
DESIGN BY:	DESIGN CK'D.	DRAWN BY:	CHECKED BY:
S.C.L.	P.D.F.	E.Z.	H.S.
PROJECT NUMBER 18046.200			

F.A.O. RTE.	SECT 208	COUNTY	TOTAL SHEETS	SHEET NO.
1453	**	COOK	233	17
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



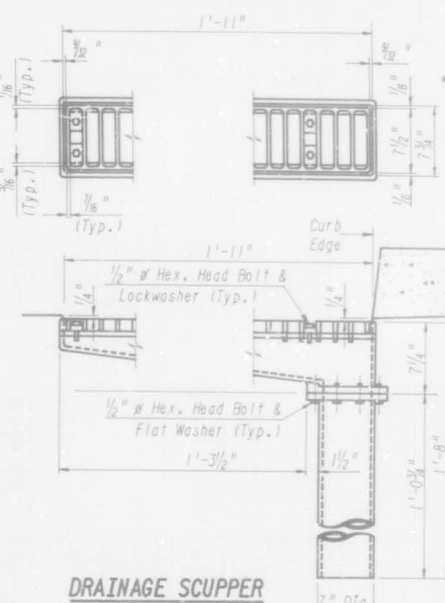
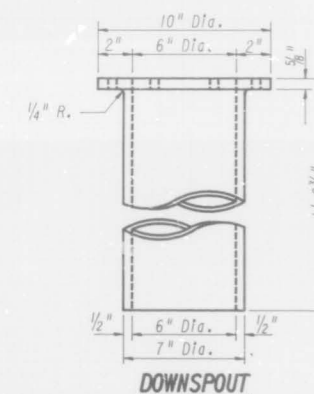
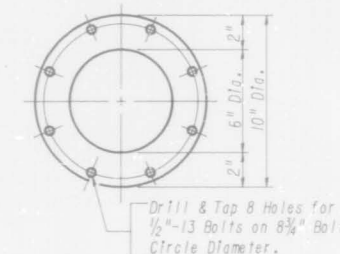
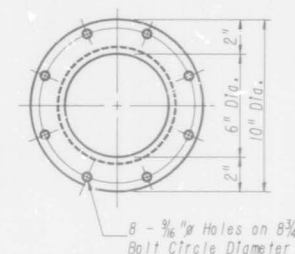
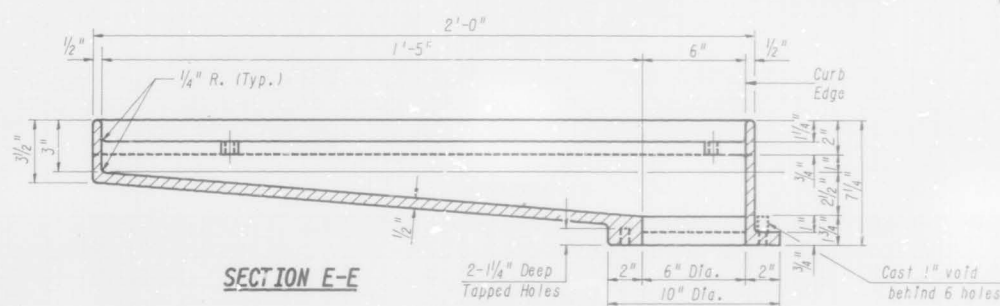
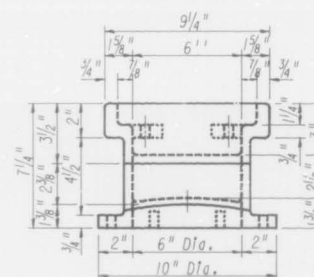
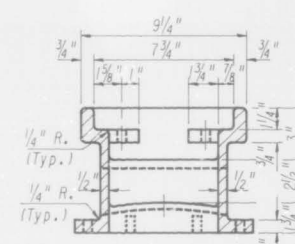
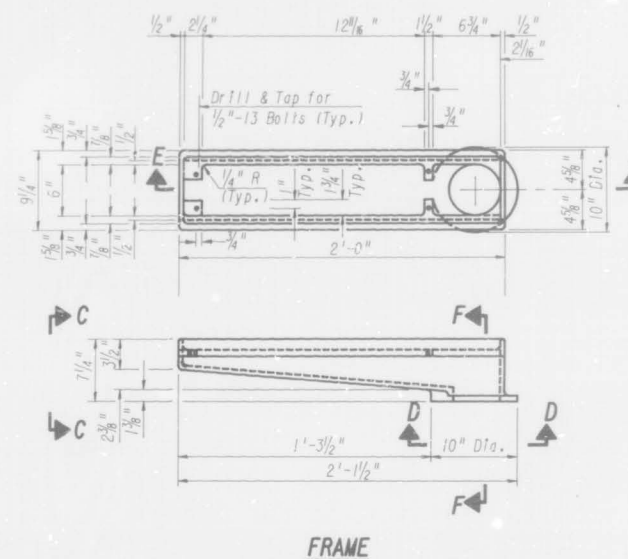
Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M-105, Class 30.

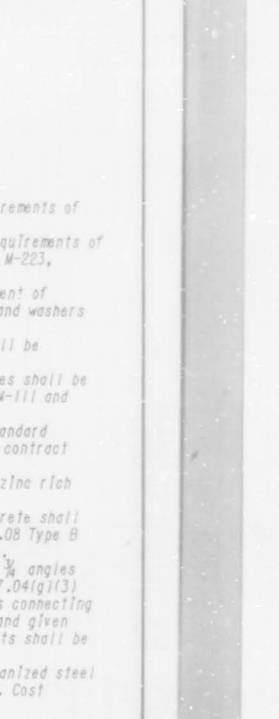
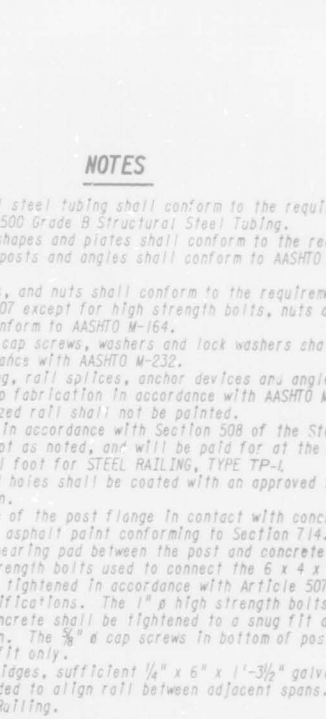
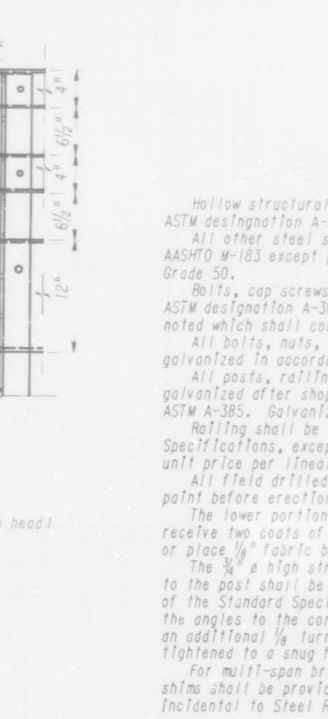
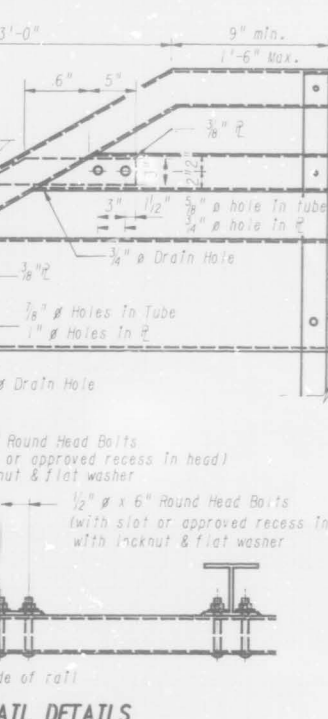
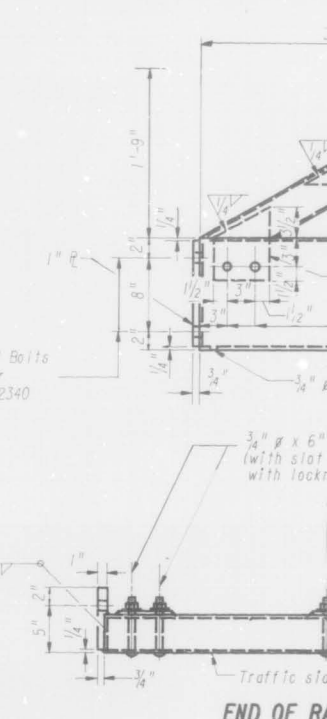
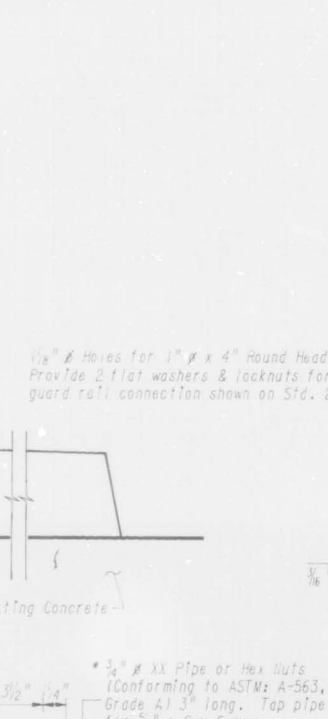
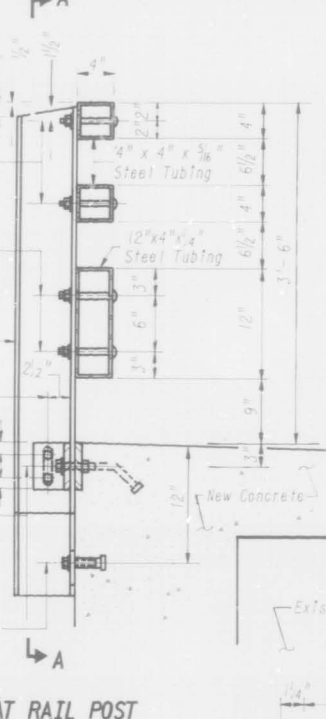
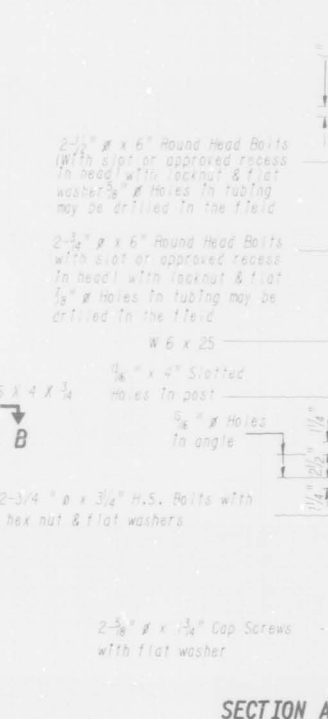
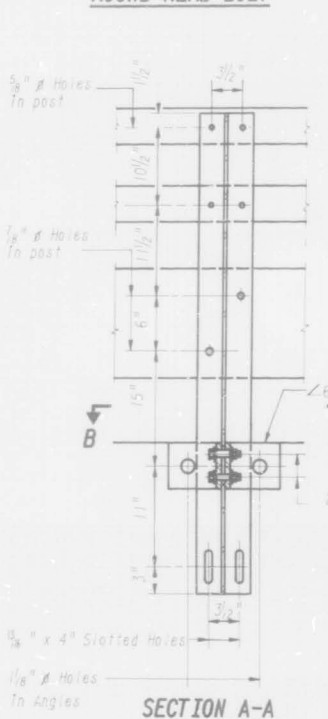
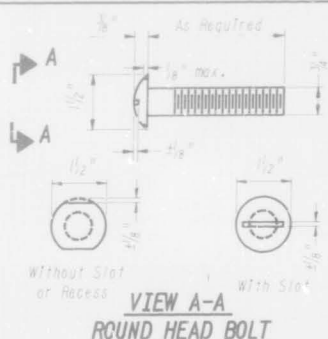
Bolts and washers shall conform to the requirements of ASTM A-307.

All bolts and washers shall be galvanized in accordance with AASHTO M-232.

As an alternate bolts and washers may be stainless steel conforming to the requirements of ASTM A-193, Type 304.



ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMAK ROAD OVER ADDISON CREEK
MODIFIED 2' DRAINAGE SCUPPER
CAST IRON ALTERNATE
F.A.U. RTE 1453
SECTION 55/WRS & 551 (B, XB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY



NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing.

All other steel shapes and plates shall conform to the requirements of AASHTO M-183 except posts and angles shall conform to AASHTO M-223, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE TP-1.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place 1/2 inch fabric bearing pad between the post and concrete.

The 3/4 inch high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 507.04(g)(3) of the Standard Specifications. The 1 inch high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/4 turn. The 3/8 inch cap screws in bottom of posts shall be tightened to a snug fit only.

For multi-span bridges, sufficient 1/4 inch x 6 inch x 1-3/4 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cast incidental to Steel Railing.

For rail post spacing, see Sheet 4.

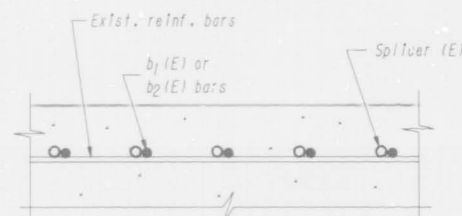
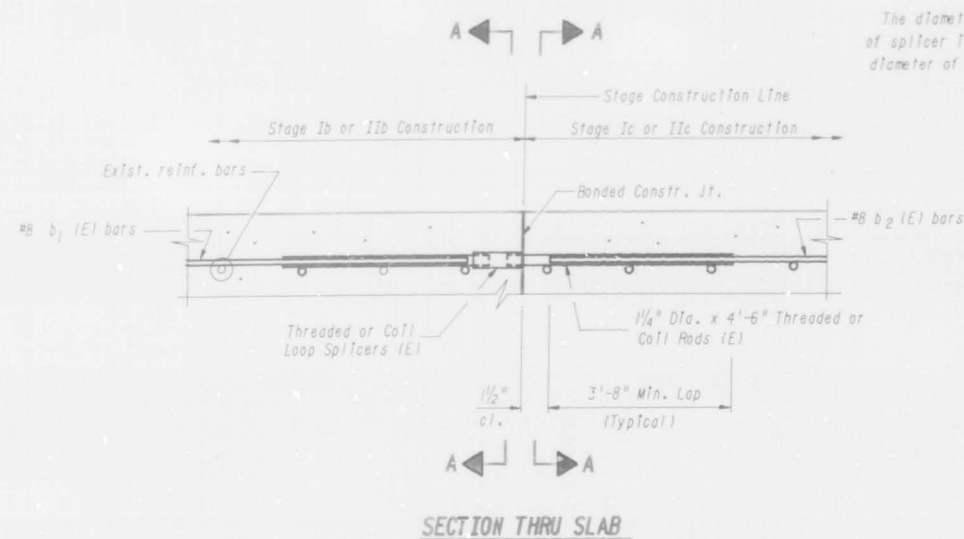
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type TP-1	LIn. Ft.	246.0

ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMAK ROAD OVER ADDISON CREEK
TYPE TP-1
COMBINATION STEEL RAILING
F.A.U. RTE 1453
SECTION 55/WR5 & 55/1 (B, XB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY
Structure #: 016-0633 Date: Jan, 1992

F.A.U. R/F.	SECTION	COUNTY	REIN. SHEETS	SHEET NO.
1453	**	COOK	233	17A
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

** 551WRS & 551 (B, XB, VB & VB-1) BR-89



SECTION A-A

SPLICER DETAILS

(No. Req'd. 80)
Cost Incidental to Reinforcement Bars (Epoxy Coated)

The diameter of this part of splicer is the same as the diameter of the bar spliced.



The diameter of this part is equal to or larger than the diameter of the bar spliced.



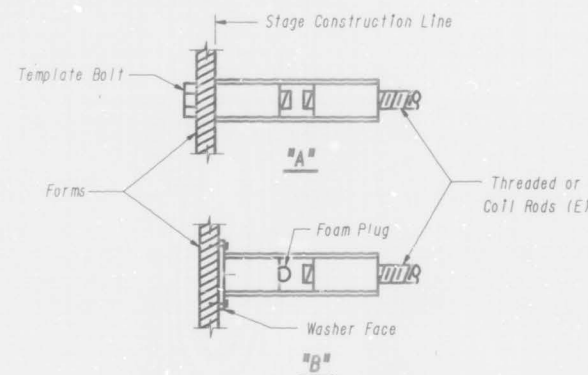
** ONE PIECE



WELDED SECTIONS

SPLICER ALTERNATIVES

** Heavy Hex Nuts Conforming to A.S.T.M. A563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal to or greater than that of the lapped reinforcement bars.
Splicer rods shall extend minimum 1 1/2 inches into the couplers.
All reinforcement bars shall be lapped and tied to the splicer rods.
Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
- ② Minimum Pull-out Strength (Tension in kips) = $1.25 \times f_{sallow} \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in k.s.i.

f_{sallow} = Allowable tensile stress in lapped reinforcement bars in k.s.i. (Service Load)

A_t = Tensile stress area of lapped reinforcement bars.

* = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

In Slabs	#5 bar lap with 3/4" # Splicer (Coupler) x 2'-0" Splicer Rods	Minimum Capacity = 23.0 kips-tension
		Minimum Pull-out Strength = 9.2 kips-tension
In Sub-Structure	#6 bar lap with 7/8" # Splicer (Coupler) x 2'-7" Splicer Rods	Minimum Capacity = 33.1 kips-tension
		Minimum Pull-out Strength = 13.3 kips-tension
	#7 bar lap with 1" # Splicer (Coupler) x 3'-5" Splicer Rods	Minimum Capacity = 45.1 kips-tension
		Minimum Pull-out Strength = 18.0 kips-tension
	#8 bar lap with 1 1/4" # Splicer (Coupler) x 4'-6" Splicer Rods	Minimum Capacity = 58.9 kips-tension
		Minimum Pull-out Strength = 23.6 kips-tension

TAPE NO.
PRF=SPLICE.D00
FILE=SPLICE.DGN
W.U.=
SCALE=

DATE:

Donohue Engineers & Architects CAPITOL HILL BUILDING			
DESIGN BY:	DESIGN CK'D BY:	DRAWN BY:	CHECKED BY:
S.C.L.	P.D.F.	E.Z.	H.S.
PROJECT NUMBER 18046.200			

204-24-10011200510 / SPLICE.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMAK ROAD OVER ADDISON CREEK
BAR SPLICER (COUPLER) DETAILS
AT STAGE CONSTRUCTION
F.A.U. RTE 1453
SECTION 551WRS & 551 (B, XB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY
Structure #: 016-0633 Date: Jan. 1992

Sheet 12 of 13

TAMERAN

** 551WRS & 551 (B, XB, VB & VB-1) BR-89



BRIDGE FOUNDATION BORING LOG

PROJECT: ROUTE: STA: DATE: March 4, 1991

SEC: COUNTY: COOK

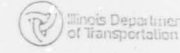
Boring No. 21 Station 300+39.40

Ground Surface 643.4'

Station	Depth (ft)	Soil Description	Penetration (blows/ft)	Remarks
0	0	Crushed limestone, damp		
12	12	Dark brown-brown clay & silt, trace sand & gravel, damp, stiff - Fill	22	
6	6	Black-dark brown clay & silt, some limestone, trace sand, very damp - Fill	1.72 16	
4	4	Brown-dark green-brown clay & silt, trace sand & gravel, damp, tough - Fill	1.05 27	
13	13	Dark green-brown to green-brown clay, some silt, trace organic matter, very damp, stiff	1.9 26	
7	7	Gray fine-medium sand, trace coarse sand & gravel, very damp, dense	1.2 33	
3	3	Gray silt, trace fine sand, very damp, very dense	0.7 30	
8	8	Gray silt, some clay & sand, trace gravel, very damp	22	
16	16	Gray silt, some clay, trace sand & gravel, damp, medium dense	6.5 15	
24	24	Gray silt, some clay, trace sand & gravel, damp, hard	2.8 12	

Boring #21 Sta. 299+90 Continued

Station	Depth (ft)	Soil Description	Penetration (blows/ft)	Remarks
0	0	Weathered limestone bedrock, very dense		
50	50	End of Boring		



BRIDGE FOUNDATION BORING LOG

PROJECT: ROUTE: STA: DATE: March 4, 1991

SEC: COUNTY: COOK

Boring No. 22 Station 300+70

Ground Surface 624.3'

Station	Depth (ft)	Soil Description	Penetration (blows/ft)	Remarks
0	0	Bituminous concrete		
11	11	Limestone, damp	3	
12	12	Brown-dark brown clay & silt, trace sand & gravel, damp, very tough	3.0P 11	
8	8	Gray fine-medium sand, some silt, trace coarse sand, very damp, very dense	2.0 21	
7	7	Gray clay, some silt, trace sand & gravel, damp, hard	2.5 21	
6	6	Gray silt, some clay, trace sand, very damp, loose	2.1 25	
4	4	Gray silt, some clay, trace sand, very damp, loose	26	
12	12	Gray clay, some silt, trace sand & gravel, damp, hard	3.5 18	
28	28	Gray clay & silt, trace sand & gravel, damp, hard	10.0-13	
33	33	Gray clay & silt, trace sand & gravel, damp, hard	10.0-14	

Boring #22 Sta. 300+70 Continued

Station	Depth (ft)	Soil Description	Penetration (blows/ft)	Remarks
0	0	Weathered bedrock		
50	50	End of Boring		

SOIL PROPERTY SYMBOLS:

N - Standard penetration test, blows per foot, to drive 2" O.D. split spoon sampler 12" with 140 # hammer falling 30"

Qu - Unconfined compressive strength, TSF

W - Water content, %

TYPES OF FAILURE:

B - Bulge Failure

S - Shear Failure

E - Estimated Value

P - Penetrometer

Donohue
Engineers & Architects

DESIGN BY: S.C.L.	DESIGN CK'D BY: P.D.F.	DRAWN BY: E.Z.	CHECKED BY: H.S.
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PROJECT NUMBER 18046.200

ILLINOIS DEPARTMENT OF TRANSPORTATION
CERMAK ROAD OVER ADDISON CREEK

BORING LOG

F.A.U. RTE 1453
SECTION 551WRS & 551 (B, XB, VB & VB-1) BR-89
STA. 300+39.40
COOK COUNTY

Structure #: 016-0633 Date: Jan. 1992