04-25-2025 LETTING ITEM 100

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1, (Z-1)BR-2	*	21	1
*CHAMPAIGN/ VERMILION	ILLINOIS	CONTRACT NO. 70H43		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

FAS ROUTE 502 (LEVERETT RD.), & 331 (EAST LYNN RD)
SECTION (86BR)BR-1, (Z-1)BR-2
PROJECT N/A
BRIDGE DECK OVERLAY, BRIDGE DECK OVERLAY
CHAMPAIGN/ VERMILION COUNTY
C-95-027-25

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

D-95-011-25

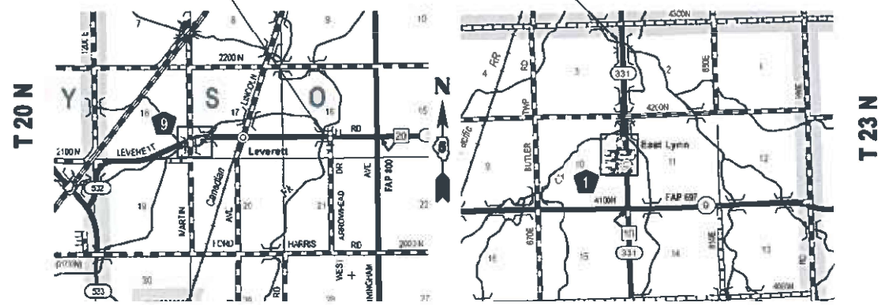
LOCATION OF SECTION INDICATED THUS: - ▬ -

TRAFFIC DATA

	FAS 502	FAS 331
2024 ADT	2,450	275
2034 ADT	2,550	300
2044 AM DHV	170	25
2044 PM DHV	245	30
PV + PC%	93	74.6
SU%	4.1	10.9
MU%	2.9	14.5

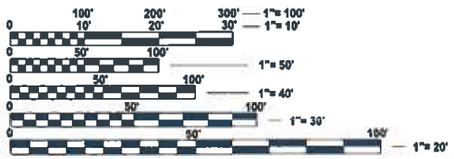
S.N. 010-0237
STA. 71+38.50
BRIDGE DECK OVERLAY

S.N. 092-0197
STA. 201+18.80
BRIDGE DECK OVERLAY



R 9 E
CHAMPAIGN CO.

R 13 W
VERMILION CO.



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

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED January 16 20 25
REGIONAL ENGINEER

March 21 20 25
ENGINEER OF DESIGN AND ENVIRONMENT

March 21 20 25
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PROJECT ENGINEER: TIM BRANDENBURG
PROJECT MANAGER: JEFF M. SHERER

CONTRACT NO. 70H43

GROSS LENGTH = 327.683 FT. = 0.062 MILE
NET LENGTH = 327.683 FT. = 0.062 MILE

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2	INDEX OF SHEETS/ HIGHWAY STANDARDS/ GENERAL NOTES
3	SUMMARY OF QUANTITIES
4	TYPCAL DECK CROSS-SECTIONS S.N. 010-0237
5	GENERAL PLAN AND ELEVATION S.N. 010-0237
6	WEARING SURFACE PLAN S.N. 010-0237
7	TYPCAL DECK CROSS-SECTIONS S.N. 092-0197
8	GENERAL PLAN AND ELEVATION S.N. 092-0197
9	WEARING SURFACE PLAN 092-0197
10-11	DEATIL OF BEAM REPLACEMENT
12	DETAIL OF ROAD CLOSURE

LIST OF STANDARDS

STANDARD NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
701001-02	OFF RD OPERATIONS, 2L, 2W, 15' FROM PAVEMENT EDGE
701006-05	OFF RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATION
701901-10	TRAFFIC CONTROL DEVICES

GENERAL NOTES

G.N.-100

ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-406
THE QUANTITIES INCLUDED IN THE PLANS FOR HOT-MIX ASPHALT RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.

G.N. -406H

GN 406H Mixture Requirements Contract: 70H73

Location	FAS 502 & FAS 331
Mixture Use	Mainline
AC/PG	PG 64-22
Design Air Voids	4.0% @ Ndes=50
Mix Comp(Gradation)	IL 9.5
Friction Aggregate	Mix C
Mixture Weight	112
Quality Management Program	QC/QA
Sublot Size	3000
Material Transfer Device (Required ?)	NO

COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

G.N. 780

FINAL PAVEMENT MARKING ON THIS PROJECT WILL BE COMPLETED BY DISTRICT OPERATIONS PERSONNEL. THE CONTRACTOR SHALL BE REQUIRED TO PLACE AND REMOVE SHORT TERM STRIPING AND REMOVE WORK ZONE PAVEMENT MARKING. TO COORDINATE STRIPING, THE CONTRACTOR SHALL NOTIFY THE DISTRICT TRAFFIC OPERATIONS ENGINEER, GARY SIMS, AT 217-251-4859 AS SOON AS ALL WORK HAS BEEN CMPLETED AND THE ROADWAY HAS BEEN REOPENED.

(FOR 2 LANE PROJECTS WITH LESS THAN 1000' BETWEEN STOP BARS THIS IS THE SAME AS THE SPECIAL PROVISION...USE D5 SPECIAL PROVISION.)

G.N.-1004.01

COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

THERE ARE NO COMMITMENTS ASSOCIATED WITH THIS PROJECT

MODEL: INDEX GEN NOTE [Sheet]
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USER NAME = Jeff.Sherer	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 11/15/2024	DATE -	REVISED -	

INDEX OF SHEETS
GENERAL NOTES

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.ASS. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1, (Z-1)BR-2	*	21	2
	*CHAMPAIGN/ VERMILION		CONTRACT NO. 70H43	
	ILLINOIS FED. AID PROJECT			

REV. 3/19/25

				CHAMPAIGN COUNTY FAS 502 (LEVERETT RD) RURAL BRIDGE DECK OVERLAY S.N. 010-0237 100% STATE	VERMILION COUNTY FAS 331 (EAST LYNN RD) RURAL BRIDGE DECK OVERLAY S.N. 092-0197 100% STATE
CODE			TOTAL	0059	0059
NO.	ITEM	UNIT	QUANTITY		
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	620.0	150.0	470.0
40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	134.0	39.0	95.0
44000155	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SQ YD	571.0	0.0	571.0
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	238	0.0	238
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	806.0	331.0	475.0
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	80	0.0	80
67100100	MOBILIZATION	L SUM	1.0	0.5	0.5
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	56.0	28.0	28.0
X5010010	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ FT	238	0.0	238
X5091742	REMOVE AND RE-ERECT EXISTING BRIDGE RAIL	FOOT	80.0	0.0	80.0
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	806.0	331.0	475.0
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.0	0.5	0.5

*** SPECIALTY ITEM**

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 11/13/2024	DATE -	REVISED -	

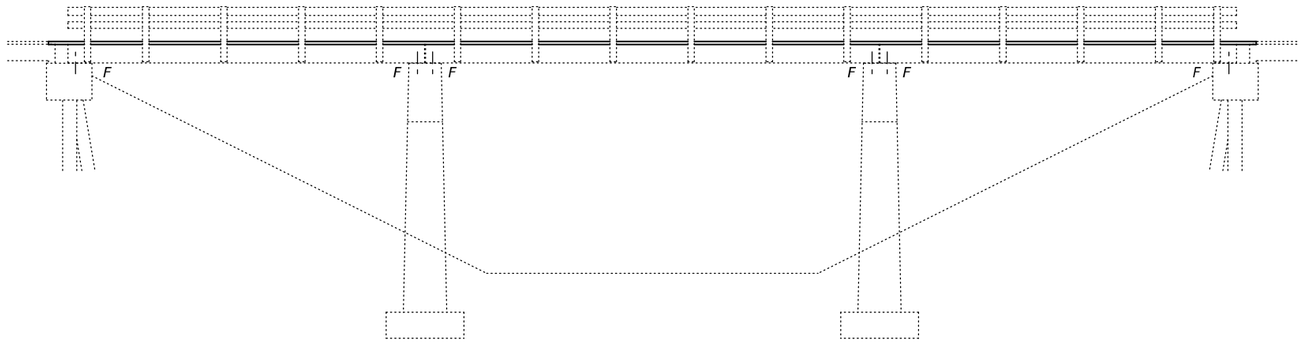
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

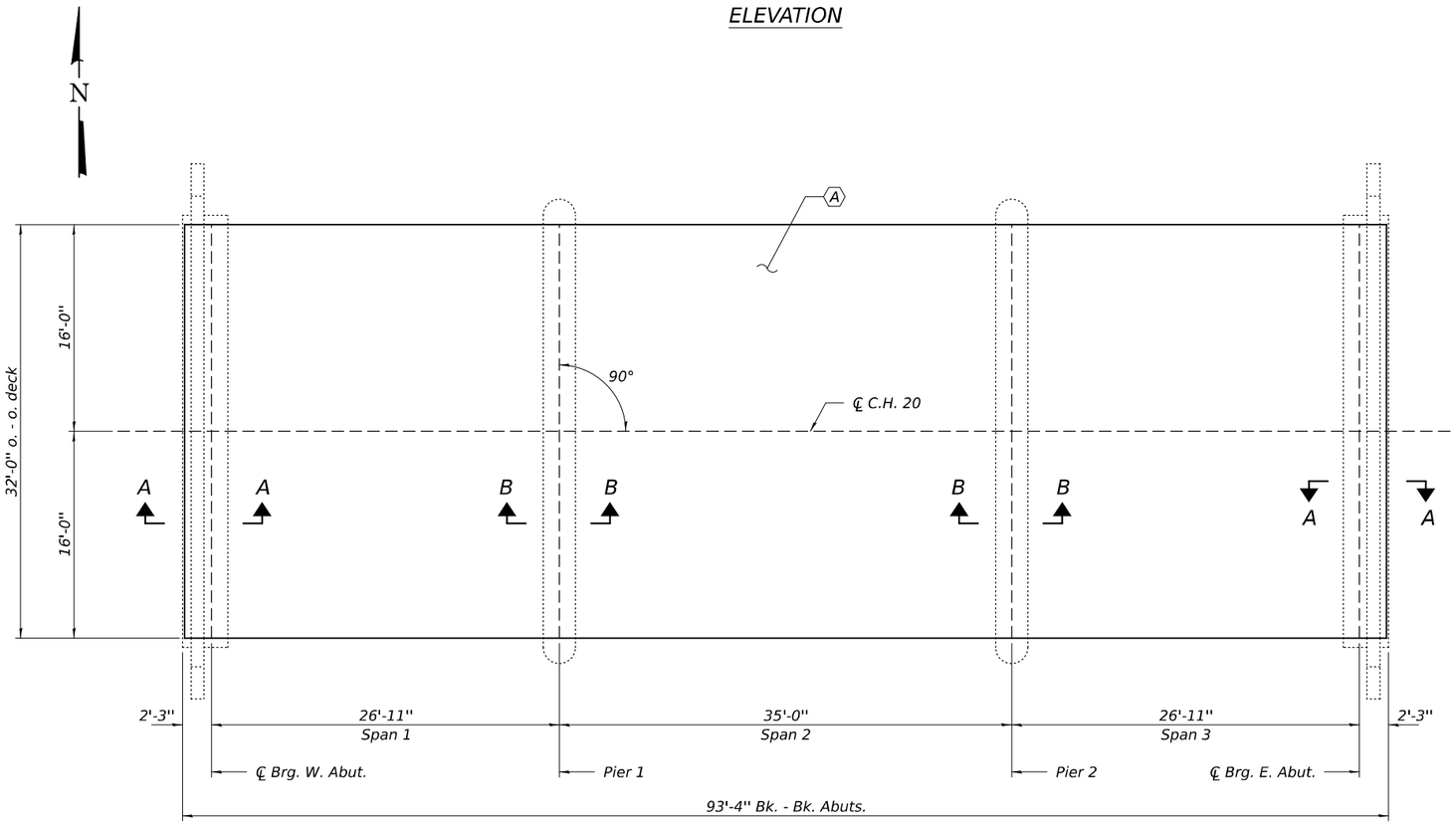
SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	3
*CHAMPAIGN/ VERMILIOMN		CONTRACT NO. 70H43		
ILLINOIS	FED. AID PROJECT			

REV. 3/24/25



ELEVATION



PLAN

Ⓐ - Remove and replace HMA Overlay

Note:
See sheet 2 of 2 for Sec A-A and Sec B-B.

GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The minimum thickness of the asphalt overlay shall be $1\frac{5}{8}$" and varies as required to adjust for the existing profile grade and beam camber.

TOTAL BILL OF MATERIAL

	ITEM	UNIT	QUANTITY
	Hot-Mix Asphalt Removal (Deck)	Sq. Yd.	331
	Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	39.0
*	Waterproofing Membrane System	Sq. Yd.	331

* Cost of waterproofing membrane system removal included with Hot-Mix Asphalt Removal.

LICENSED STRUCTURAL ENGINEER
JAYME F. SCHIFF
081-005540
STATE OF ILLINOIS

Expires: November 30, 2026

DESIGNED -	Andrew M. Diorio	EXAMINED	DATE - MARCH 21, 2025
CHECKED -	Stephen M. Ryan	PASSED	REVISED -
DRAWN -	dacurdell	ENGINEER OF STRUCTURAL SERVICES	REVISED -
CHECKED -	AMD SMR	ENGINEER OF BRIDGES AND STRUCTURES	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
F.A.S. 502 (C.H. 20) OVER SALINE BRANCH DITCH
SN 010-0237
SHEET 1 OF 2 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	CHAMPAIGN	21	4
		CONTRACT NO. 70H43		
		ILLINOIS	FED. AID PROJECT	

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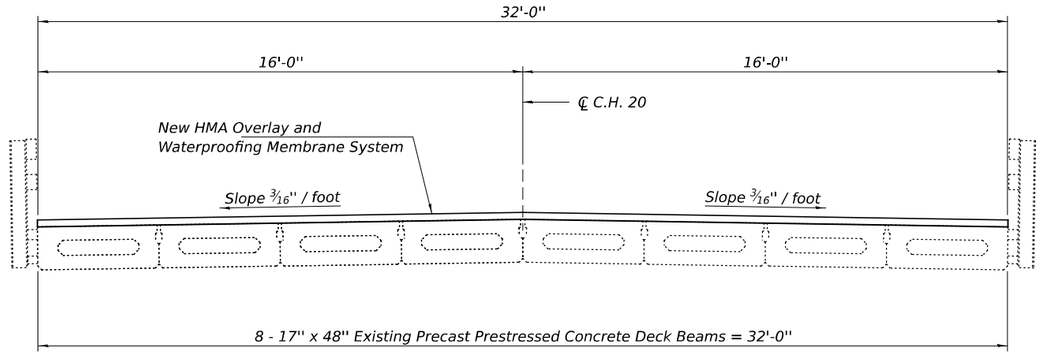
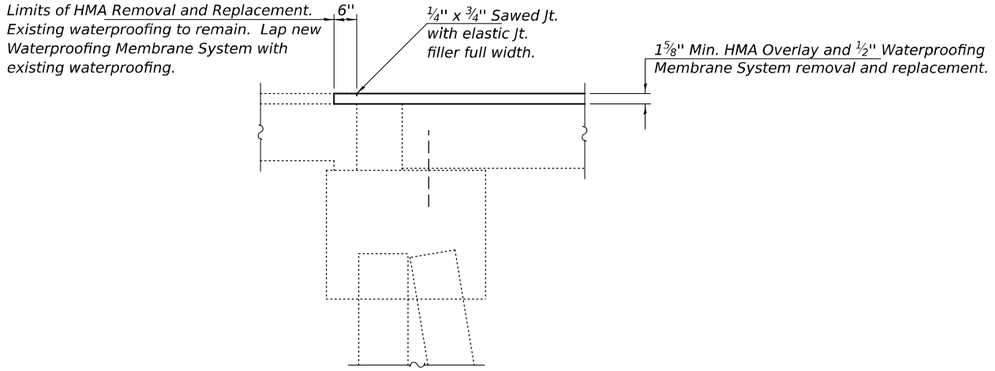
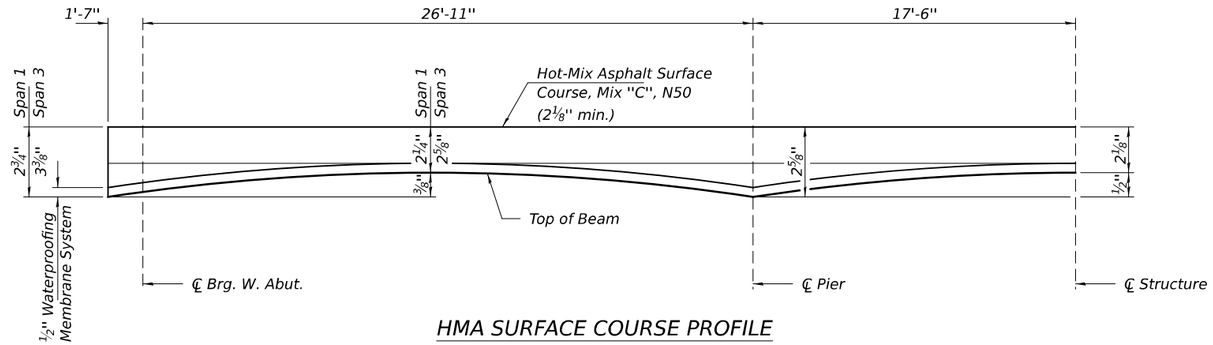


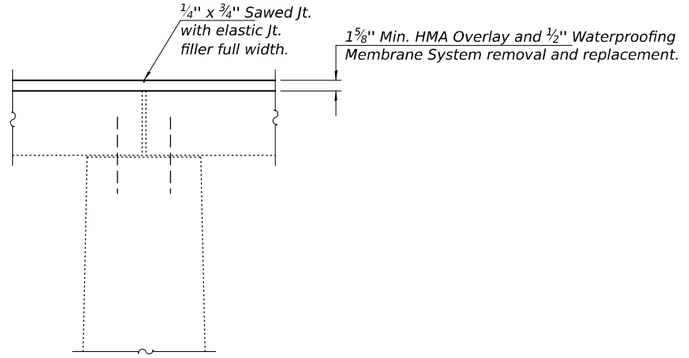
CROSS SECTION
(Looking East)



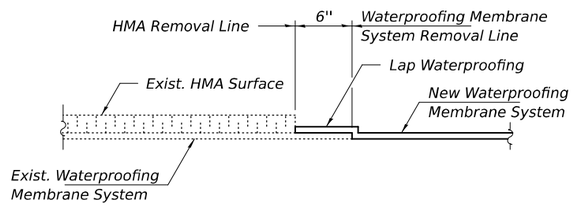
SEC A-A



HMA SURFACE COURSE PROFILE



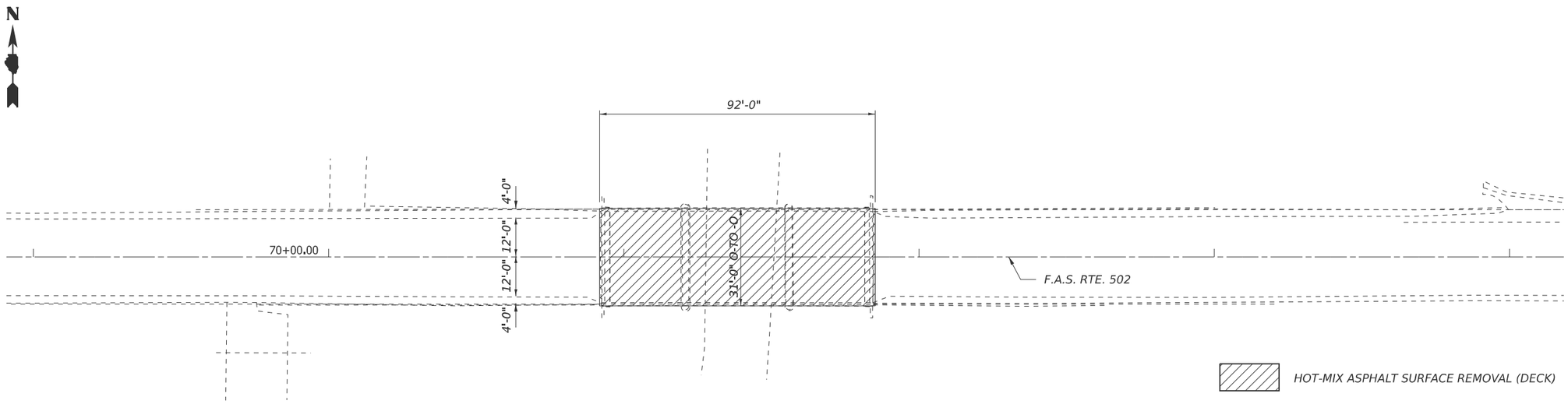
SEC B-B



WATERPROOFING TREATEMENT

DESIGNED - AMD	EXAMINED	DATE - MARCH 21, 2025	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**REPAIR DETAILS SN 010-0237**	F.A.S. RTE. 502 / SECTION (86BR)BR-1,(Z-1)BR-2 / COUNTY CHAMPAIGN / TOTAL SHEETS 21 / SHEET NO. 5
CHECKED - SMR	PASSED	REVISED -		SHEET 2 OF 2 SHEETS	CONTRACT NO. 70H43
DRAWN - dacurdell	ENGINEER OF STRUCTURAL SERVICES	REVISED -			ILLINOIS FED. AID PROJECT
CHECKED - AMD SMR	ENGINEER OF BRIDGES AND STRUCTURES				

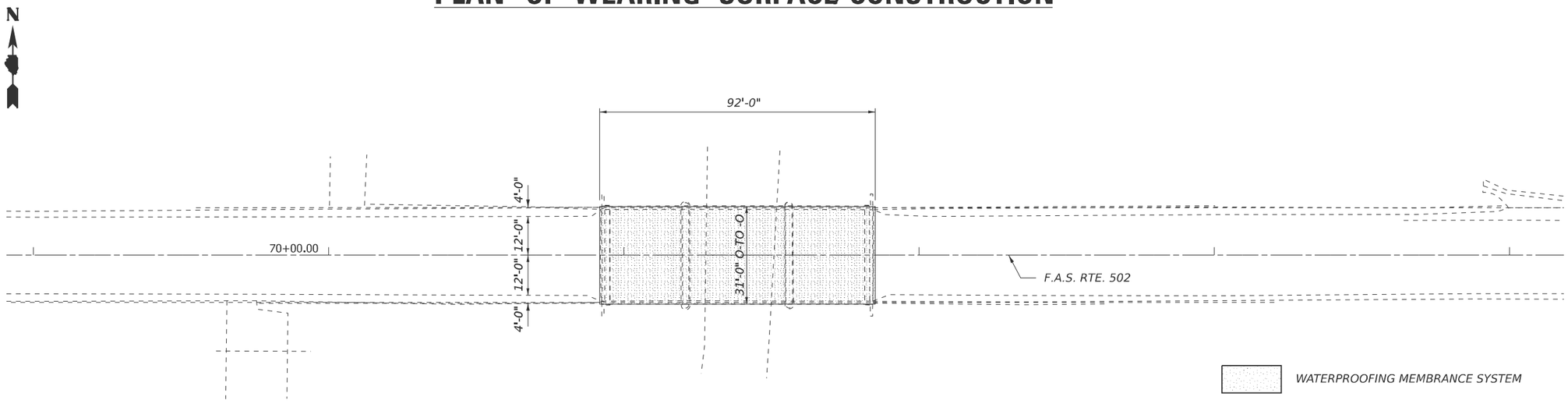
PLAN OF SCARIFICATION/REMOVAL



BILL OF MATERIALS

ITEM	UNIT	TOTAL
HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ. YD.	328.0

PLAN OF WEARING SURFACE/CONSTRUCTION



BILL OF MATERIALS

ITEM	UNIT	TOTAL
BITUMINOUS MATERIALS (TACK COAT)	POUND	150.0
HOT-MIX ASPHALT SURFACE COURSE, IL 9.5, MIX "C", N50	SQ. YD.	39.0
WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	328.0

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USER NAME = Jeff.Sherer	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 11/13/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL OF WEARING SIRFACE
S.N. 010-0237

SCALE: NONE | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1, (Z-1)BR-2	*	21	6
	*CHAMPAIGN/ VERMILION	CONTRACT NO. 70H43		
	ILLINOIS FED. AID PROJECT			

Benchmark: B.M. 4360-9 Brass disk on SW Wingwall SN 010-0237, 18' Rt. Sta. 70+92, Elev. 752.52

Existing Structure: Structure Number 010-0237 was built in 1980 as FAS 502, Section 86 BR. The three span structure consists of PPC deck beams on open abutments. The bk. to bk. abutment is 93'-4" and the o. to o. width is 33'-0". The existing superstructure shall be replaced with PPC deck beams. Existing abutments and piers shall be repaired. Traffic will be detoured during construction.

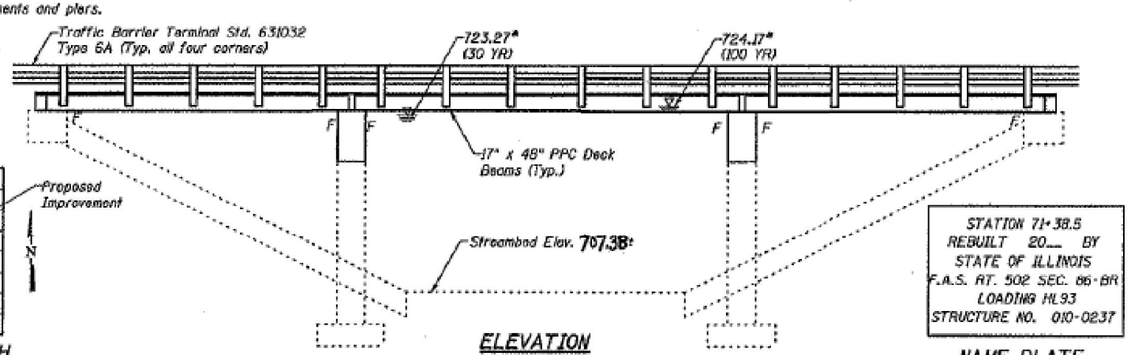
Salvage: Existing abutments and piers.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 502	(86BR)BR	CHAMPAIGN	30	1
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
8 SHEETS

Contract # 70426



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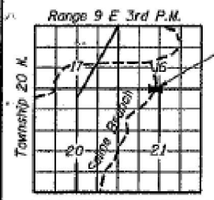
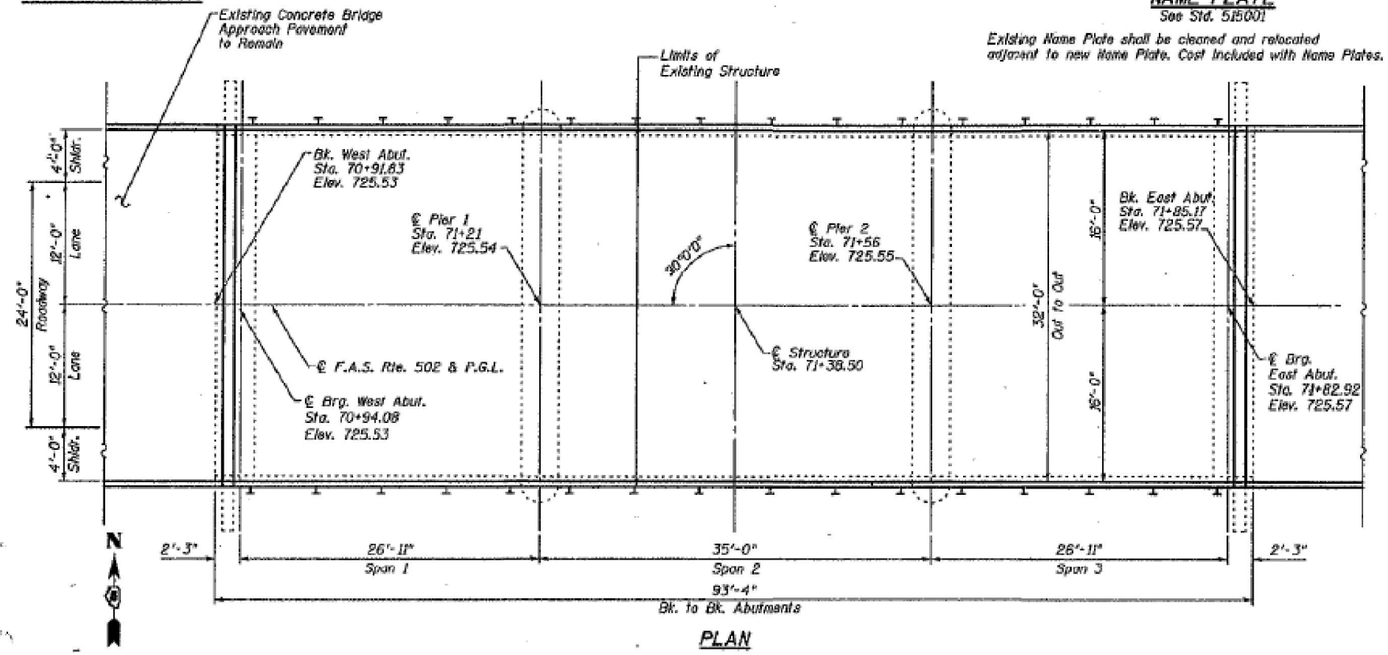


LOCATION SKETCH

STATION 71+38.5
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.S. RT. 502 SEC. 86-BR
LOADING HL93
STRUCTURE NO. 010-0237

NAME PLATE
See Std. 515001

Existing Name Plate shall be cleaned and relocated adjacent to new Name Plate. Cost included with Name Plates.



PLAN

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
40600100	Bituminous Materials (Prime Coat)	Gal	25	0	25
40600625	Leveling Binder (Machine Method), N50	Ton	8	0	8
40603330	Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	39	0	39
50101500	Removal Of Existing Superstructures	Each	1	0	1
50102400	Concrete Removal	Cu Yd	0	36	36
50300225	Concrete Structures	Cu Yd	0	36	36
50400305	Precast Prestressed Concrete Deck Beams (17" Depth)	Sq Ft	2875	0	2875
50600205	Reinforcement Bars, Epoxy Coated	Pound	0	3710	3710
50901050	Steel Railing, Type SM	Foot	180	0	180
51500100	Name Plates	Each	1	0	1
56300100	Portland Cement Mortar Fairing Course	Foot	693	0	693
59000200	Epoxy Crack Injection	Foot	0	36	36
X0322121	Sheet Waterproofing Membrane System	Sq Yd	328	0	328
X0325305	Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	0	427	427

NOTES:

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (II, Modified). See Special Provisions

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

If the Contractor's procedure for existing beam removal and placement of new beams involves placement of cranes or other heavy equipment on existing or new beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the existing or new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats on new beams, the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

LOADING HL-93 (New Construction)

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2")
fpbt = 201,960 psi (1/2")

EXISTING SUBSTRUCTURE FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 4.6%
Site Coefficient (S) = 1.0

INDEX OF SHEETS

1 General Plan
2 Superstructure
3-4 Superstructure Details
5 Railing Details
6 Abutment Repair Details
7-8 Pier Repair Details

APPROVED
For Structural Adequacy Only

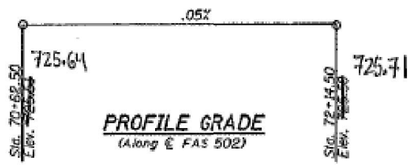
Ralph E. Anderson
Engineer of Bridges & Structures

ANTHONY J. STANDISH
081-005819
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

EXISTING WATERWAY INFORMATION *

Drainage Area	45.68 sq. mi.
Discharge (Design Flood 30 yr.)	3040 c.f.s.
Design H.W. Q(50) Elev.	723.27
Existing Opening (Below 30 yr. HWE)	668 sq. ft.
Required Opening (Below 30 yr. HWE)	730 sq. ft.
Prop. Opening (Below 30 yr. HWE)	730 sq. ft.
Created Head for Design Flood	0.6 ft.
100 yr. Discharge	3675 c.f.s.
Q(100) H.W. Elev.	724.17
Created Head for 100 yr. Flood	0.8 ft.

* Note: Information per 1980 as-built construction plans. Elevations adjusted from NGVD29 (assumed) to NAVD88.



PROFILE GRADE
(Along ℄ FAS 502)

ILLINOIS STRUCTURAL NO. 081-005819 (Expires 11/30/08)

GENERAL PLAN AND ELEVATION
LEVERETT ROAD OVER THE SALINE BRANCH
CHAMPAIGN COUNTY
F.A.S. ROUTE 502 - SEC. (86BR) BR
STATION 71+38.50
S.N. 010-0237

STRAND ASSOCIATES, INC.

DESIGNED	FGE
CHECKED	JAR
DRAWN	KAS
CHECKED	AJS

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USER NAME = Jeff.Sherer	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 11/13/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS
S.N. 010-0237

SCALE: | SHEET 1 OF 5 SHEETS | STA. | TO STA.

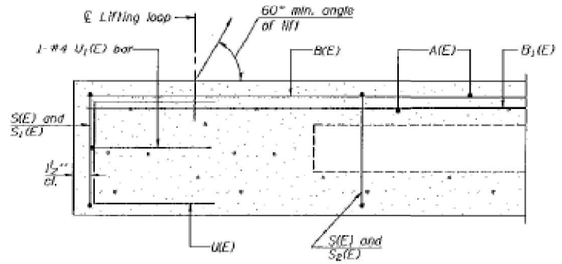
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	7
* CHAMPAIGN/ VERMILION		CONTRACT NO. 70H43		
		ILLINOIS | FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

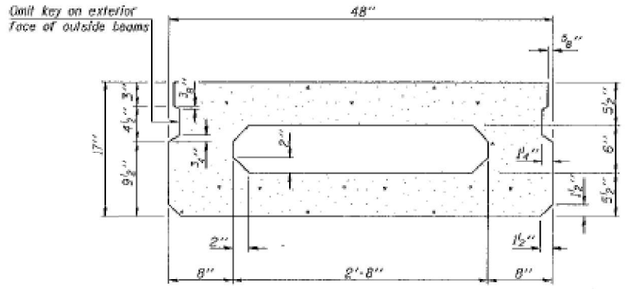
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 502	(86BR)BR	CHAMPAIGN	30	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

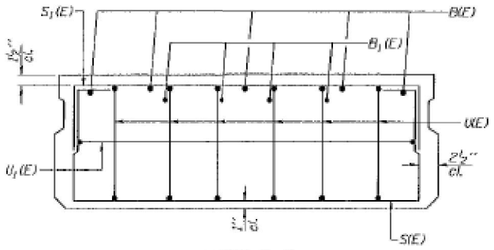
SHEET NO. 3
8 SHEETS

Contract # 70426

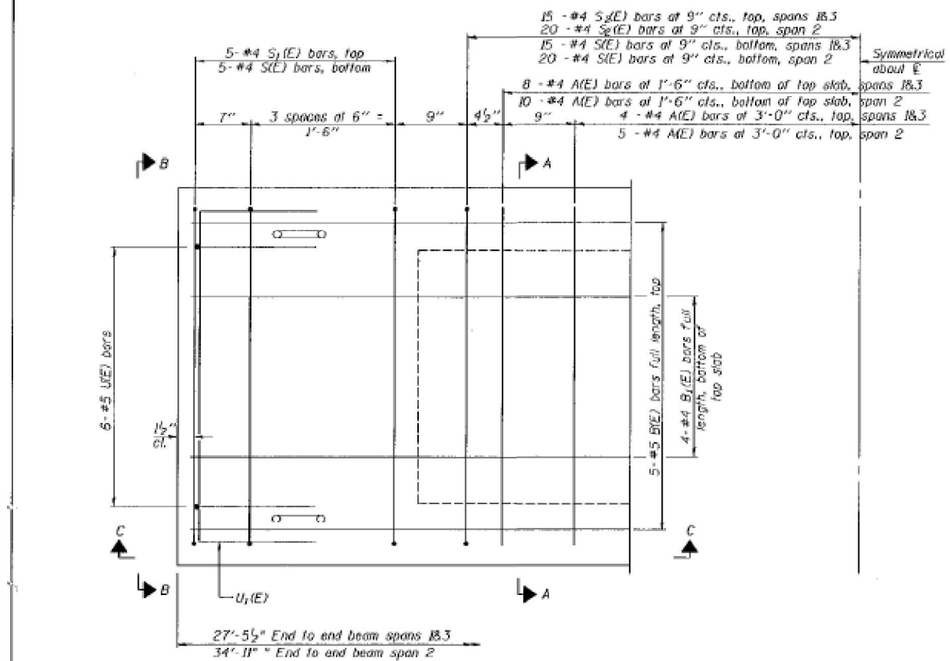


SECTION C-C





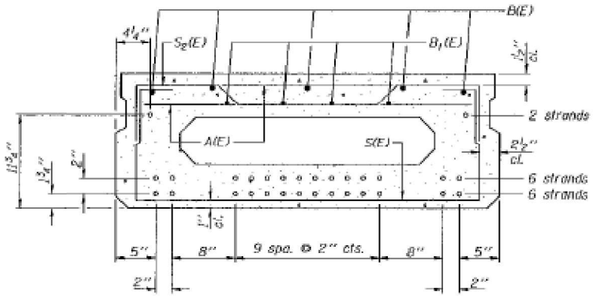
VIEW B-B



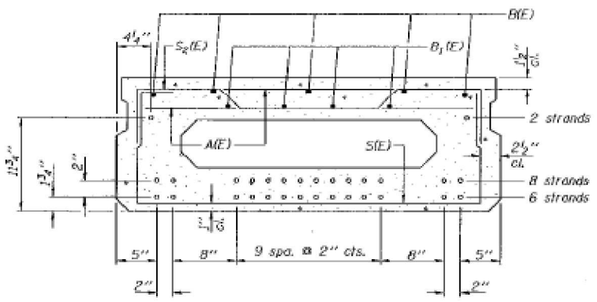
PLAN VIEW

Note: Spacing of S(E) and $S_2(E)$ bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

SECTION A-A
(Showing dimensions)



SECTION A-A
Spans 1&3



SECTION A-A
Span 2
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissable strand locations shown.

BAR LIST
ONE BEAM ONLY
Spans 1&3
(For information only)

Bar	No.	Size	Length	Shape
A(E)	24	#4	3'-7"	—
B(E)	5	#5	27'-2"	—
$B_1(E)$	4	#4	27'-2"	—
S(E)	40	#4	6'-9"	⌊_⌋
$S_1(E)$	10	#4	5'-11"	⌐¬
$S_2(E)$	30	#4	6'-2"	⌐¬
U(E)	12	#5	3'-8"	⊏
$U_1(E)$	2	#4	6'-0"	⌐¬

Note: See sheet 4 of 8 for additional details and Bill of Material.

BAR LIST
ONE BEAM ONLY
Span 2
(For information only)

Bar	No.	Size	Length	Shape
A(E)	30	#4	3'-7"	—
B(E)	5	#5	34'-8"	—
$B_1(E)$	4	#4	34'-8"	—
S(E)	50	#4	6'-9"	⌊_⌋
$S_1(E)$	10	#4	5'-11"	⌐¬
$S_2(E)$	40	#4	6'-2"	⌐¬
U(E)	12	#5	3'-8"	⊏
$U_1(E)$	2	#4	6'-0"	⌐¬

Note: See sheet 4 of 8 for additional details and Bill of Material.

SUPERSTRUCTURE DETAILS I
LEVERETT ROAD OVER THE SALINE BRANCH
CHAMPAIGN COUNTY
F.A.S. ROUTE 502 - SEC. (86BR) BR
STATION 71+38.50
S.N. 010-0237

STRAND ASSOCIATES, INC.

DESIGNED	FGE
CHECKED	JAR
DRAWN	KAS
CHECKED	AJS

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USER NAME = Jeff.Sherer	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 11/13/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS
S.N. 010-0237

SCALE: | SHEET 2 OF 5 SHEETS | STA. | TO STA.

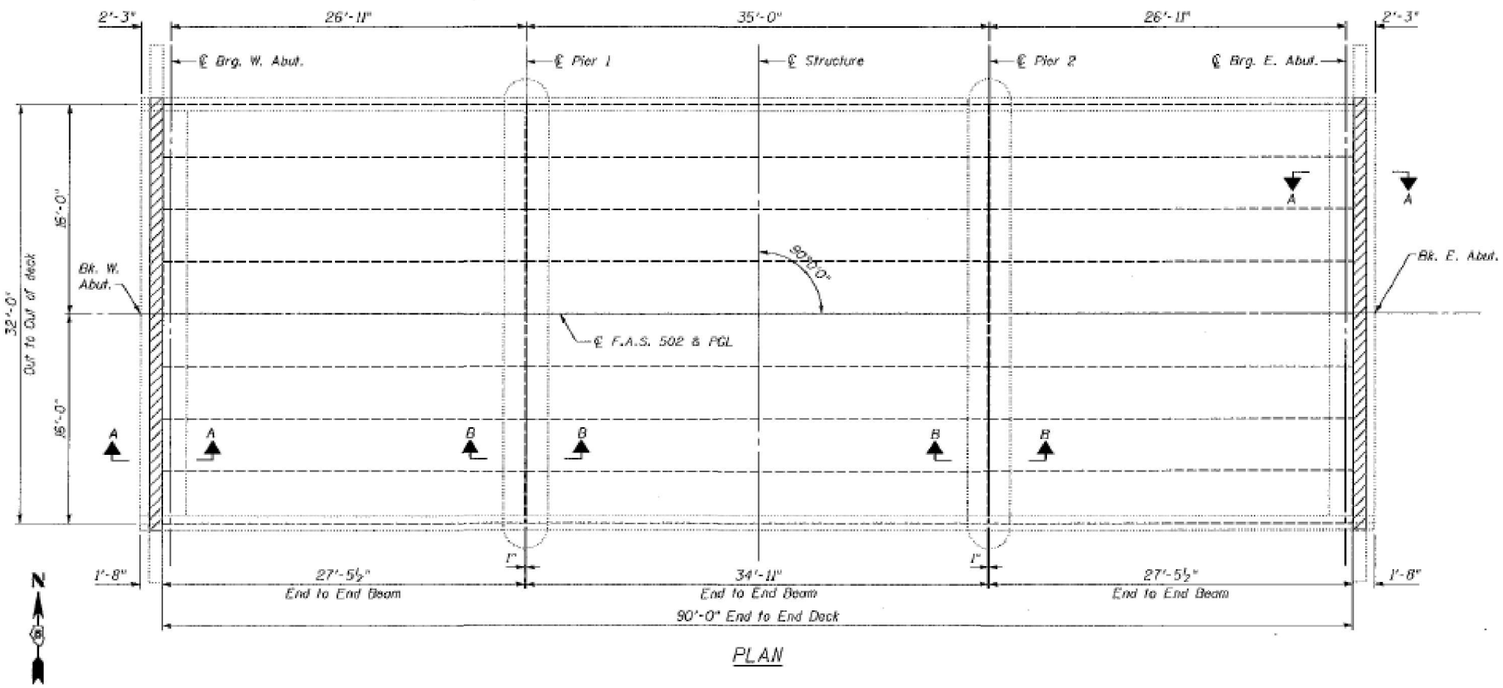
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	8
* CHAMPAIGN/ VERMILION		CONTRACT NO. 70H43		
ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

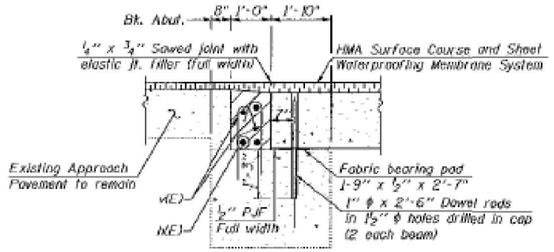
PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 502	(86BR)BR	CHAMPAIGN	30	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
8 SHEETS

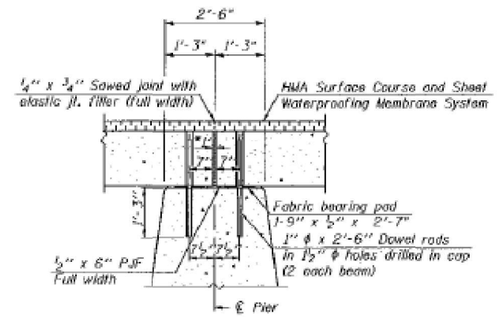
Contract # 70426



PLAN



SECTION A-A THRU ABUTMENT



SECTION B-B THRU FIXED PIER

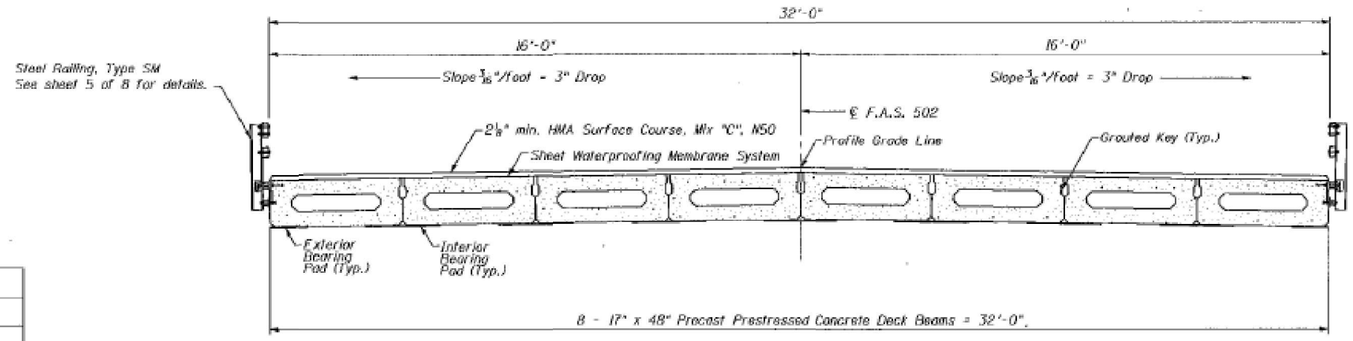
*1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

NOTES:

After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.

All horizontal dimensions are at right angles to beam ends. Hatched area to be poured after beams are in place.

See sheet 4 of 8 for bearing pad details.



CROSS SECTION

DESIGNED	FGE
CHECKED	JAR
DRAWN	KAS
CHECKED	AJS

SUPERSTRUCTURE
LEVERETT ROAD OVER THE SALINE BRANCH
CHAMPAIGN COUNTY
F.A.S. ROUTE 502 - SEC. (86BR) BR
STATION 71+38.50
S.N. 010-0237

STRAND ASSOCIATES, INC.

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PLOT DATE = 11/13/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS
S.N. 010-0237

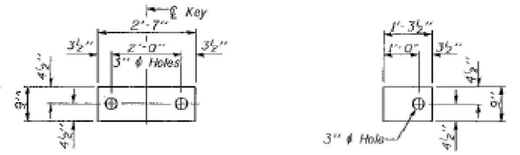
SCALE: | SHEET 3 OF 5 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	9
* CHAMPAIGN/ VERMILION		CONTRACT NO. 70H43		
ILLINOIS	FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.S. 502	(86BR)BR-1,(Z-1)BR-2	CHAMPAIGN	30	14	SHEET NO. 4
					8 SHEETS

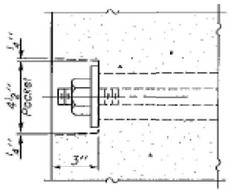
Contract # 70426



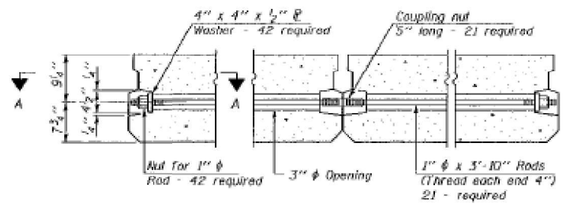
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

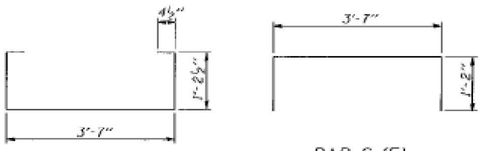
FIXED



SECTION A-A

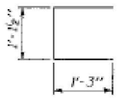


TYPICAL TRANSVERSE TIE ASSEMBLY

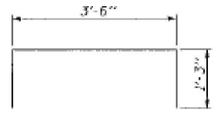


BAR S(E)

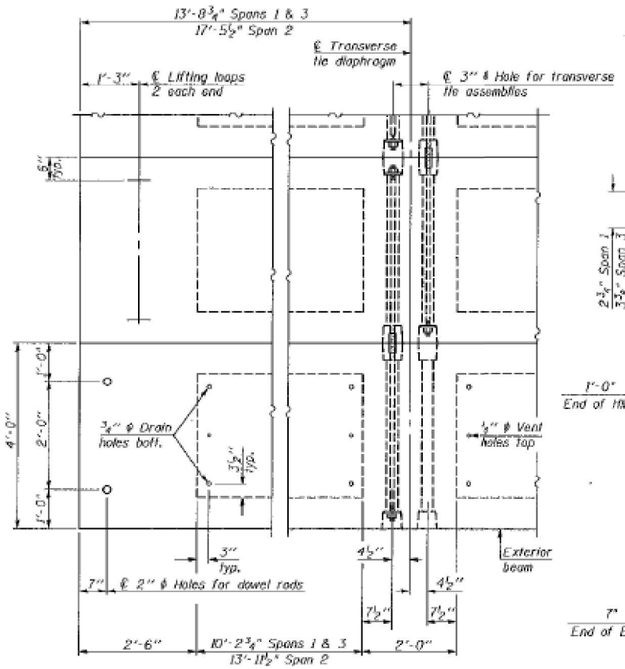
BAR S_1(E)



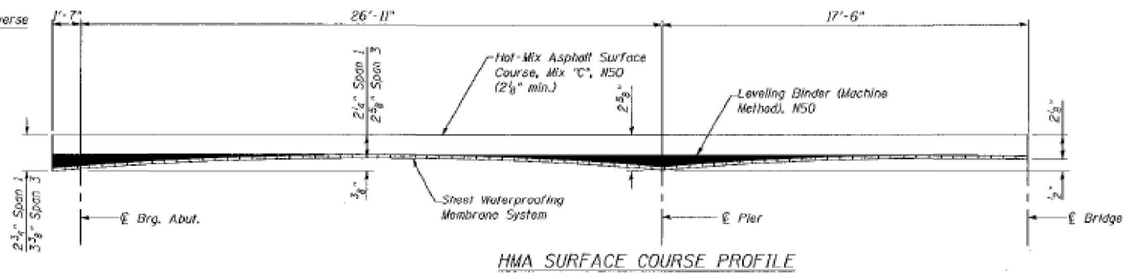
BAR U(E)



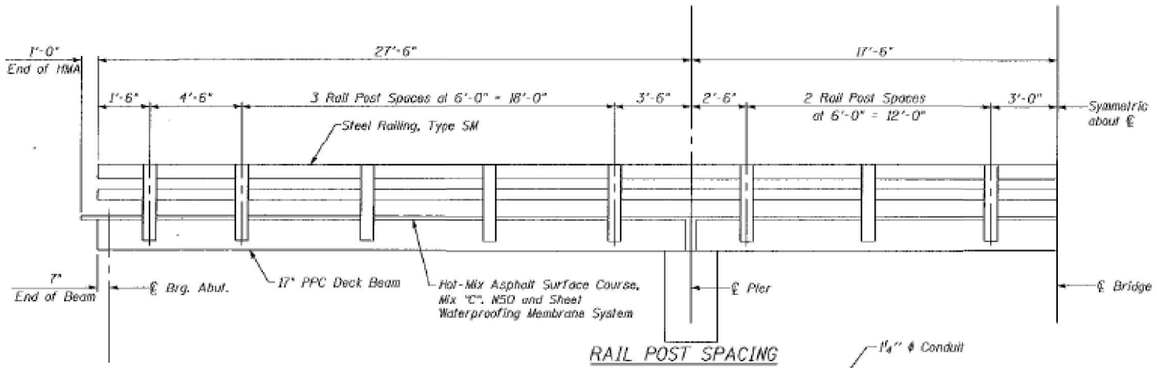
BAR U_1(E)



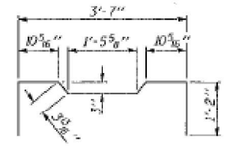
PLAN VIEW



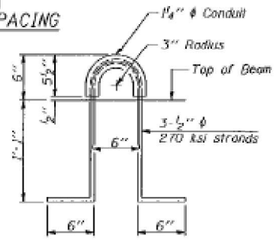
HMA SURFACE COURSE PROFILE



RAIL POST SPACING



BAR S_2(E)



LIFTING LOOP DETAIL

Note: Connect beams in pairs with the transverse tie configuration shown.

NOTES:

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to ASTM A 706 (JL MOD), Grade 60. (See Special Provisions)

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

DESIGNED	FGE
CHECKED	JAR
DRAWN	KAS
CHECKED	AJS

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" Depth)	Sq. Ft.	2875

SUPERSTRUCTURE DETAILS 2
LEVERETT ROAD OVER THE SALINE BRANCH
CHAMPAIGN COUNTY
F.A.S. ROUTE 502 - SEC. (86BR) BR
STATION 71+38.50
S.N. 010-0237

STRAND ASSOCIATES, INC.

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	DRAWN -	REVISED -	
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PLOT DATE = 11/13/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS
S.N. 010-0237

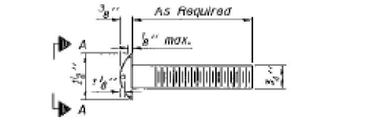
SCALE: | SHEET 4 OF 5 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	10
	* CHAMPAIGN/ VERMILION	CONTRACT NO. 70H43		
	ILLINOIS FED. AID PROJECT			

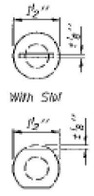
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 502	(86BR)BR	CHAMPAIGN	30	15

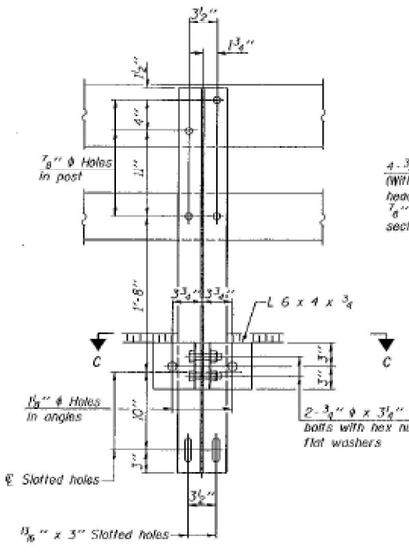
SHEET NO. 5
8 SHEETS
Contract # 70426



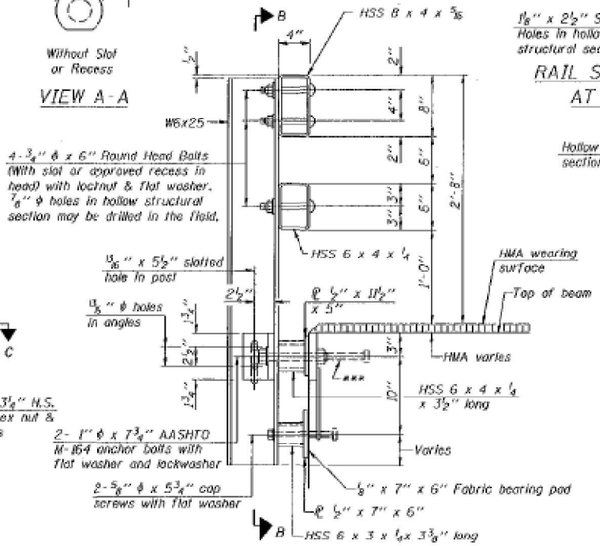
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



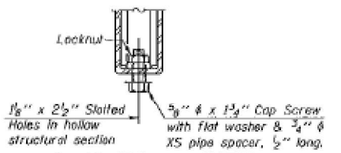
VIEW A-A



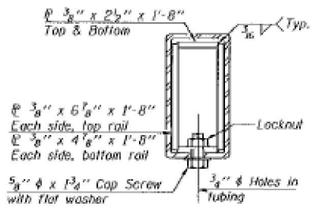
SECTION B-B



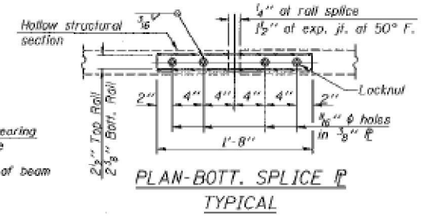
SECTION AT RAIL POST



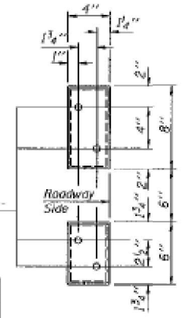
RAIL SPLICE CONNECTION AT EXPANSION JT.



SECTION AT RAIL SPLICE

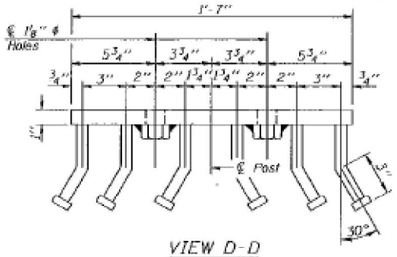


PLAN-BOTT. SPLICE ℄ TYPICAL

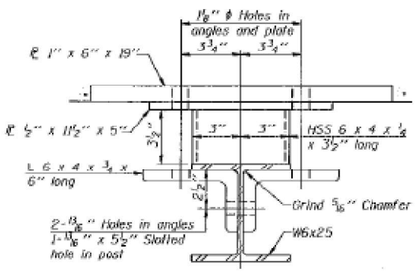


VIEW E-E

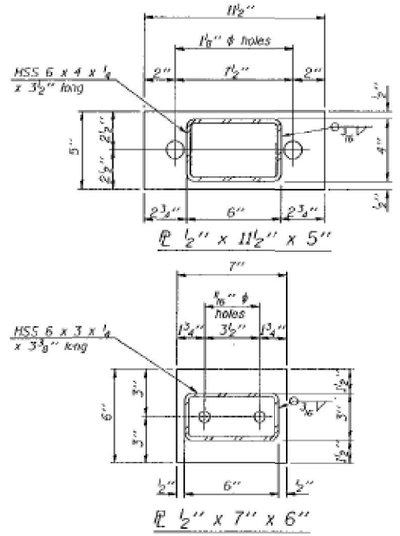
5/8" reduced base welded studs. Provide 4 - 3/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032

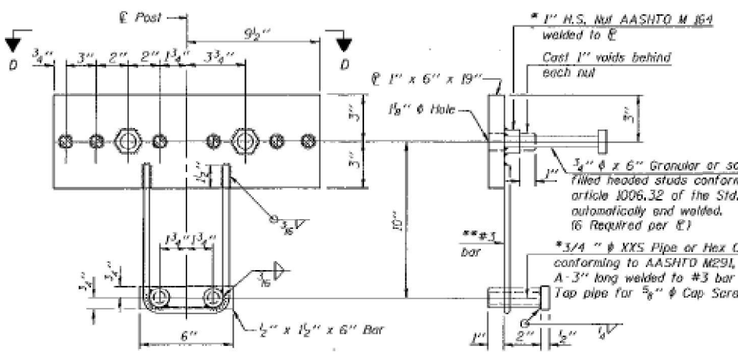


VIEW D-D



SECTION C-C

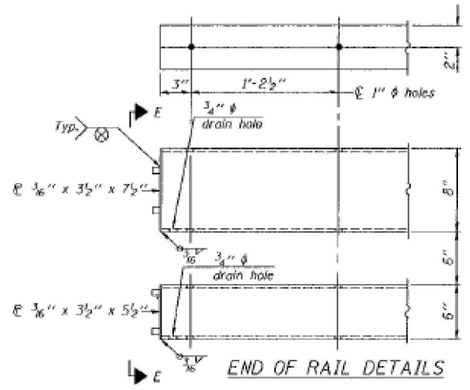




ANCHOR DEVICE

*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

**Whenever the lower insert assemblies interfers with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



END OF RAIL DETAILS

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.
***The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	180

STEEL RAILING, TYPE SM
WITH HOT-MIX ASPHALT
WEARING SURFACE

(15'-3" Maximum Post Spacing) (11/4" minimum to 3 1/8" maximum HMA thickness)

DESIGNED	FGE
CHECKED	JAR
DRAWN	KAS
CHECKED	AJS

RAILING DETAILS
LEVERETT ROAD OVER THE SALINE BRANCH
CHAMPAIGN COUNTY
F.A.S. ROUTE 502 - SEC. (86BR) BR
STATION 71+38.50
S.N. 010-0237

STRAND ASSOCIATES, INC.

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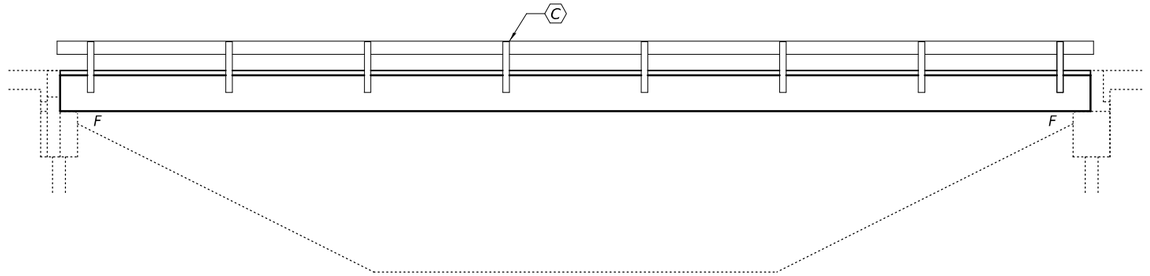
	CHECKED -	REVISED -
PLOT DATE = 11/13/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

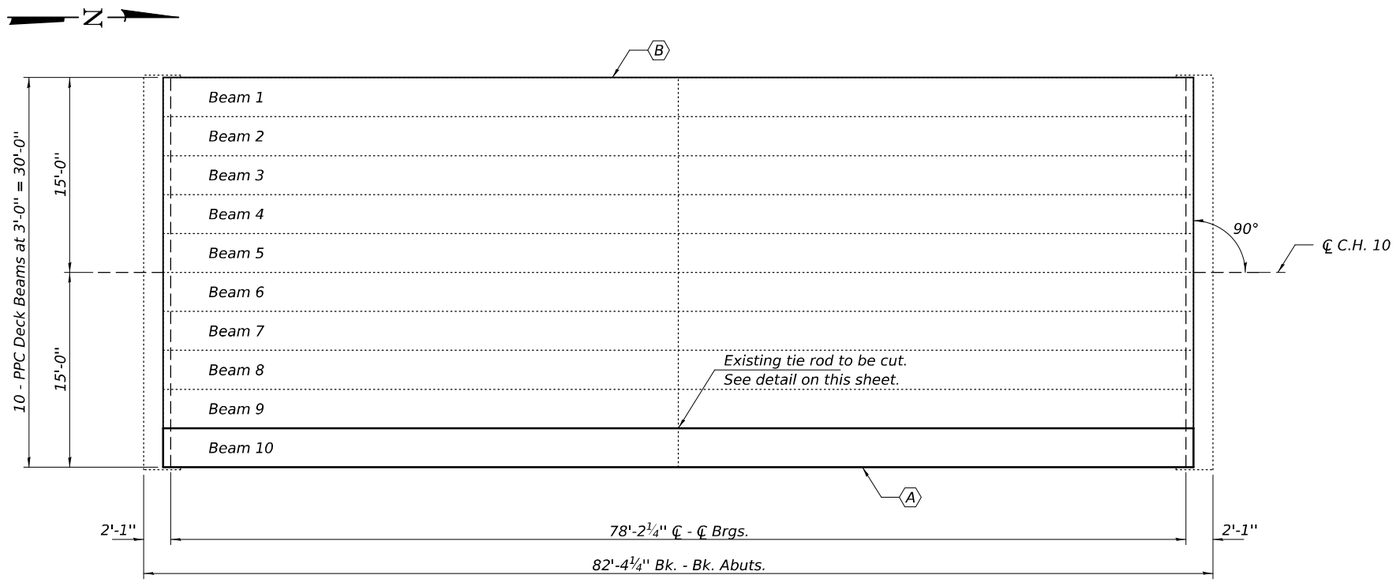
AS-BUILT PLANS
S.N. 010-0237

SCALE: | SHEET 5 OF 5 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2		21	11
* CHAMPAIGN/ VERMILION		CONTRACT NO. 70H43		
ILLINOIS	FED. AID PROJECT			



ELEVATION



PLAN

Ⓐ - PPC Deck Beam Replacement

Ⓑ - New HMA overlay

Ⓒ - Remove and re-install bridge rail.

GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The minimum thickness of the asphalt overlay shall be 1¼" and varies as required to adjust for the existing profile grade and beam camber.

Reinforcement bars designated (E) shall be epoxy coated.

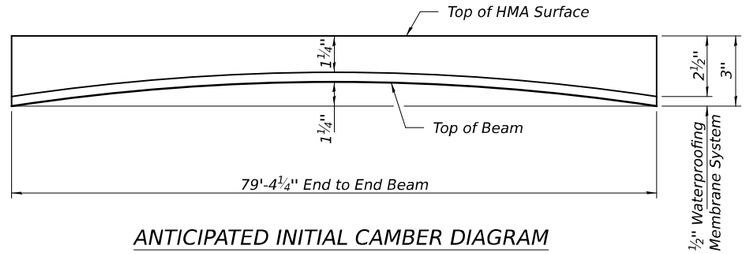
The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractors responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

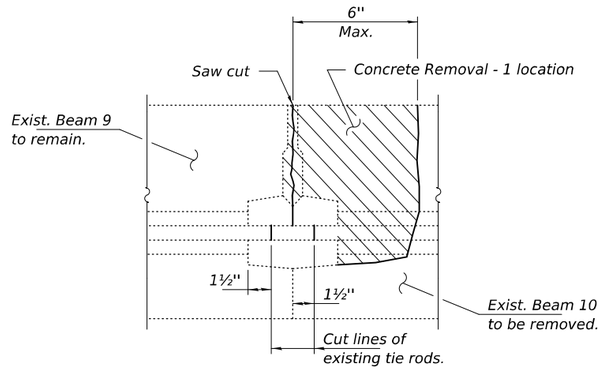
The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

Work to be completed under bridge closure.



ANTICIPATED INITIAL CAMBER DIAGRAM



BEAM REMOVAL DETAIL AT TRANSVERSE TIES

DESIGN STRESSES

PRECAST PRESTRESSED UNITS

f 'c = 6,000 psi
f 'ci = 5,000 psi
f's = 270,000 psi (½"Ø Low Lax Strands)
f'si = 201,960 psi (½"Ø Low Lax Strands)
fy = 60,000 psi (Reinforcement)

TOTAL BILL OF MATERIAL

	ITEM	UNIT	QUANTITY
	Removal of Existing PPC Deck Beams	Sq. Ft.	238
	Precast Prestressed Concrete Deck Beams (33'' Depth)	Sq. Ft.	238
*	Hot-Mix Asphalt Removal (Deck)	Sq. Yd.	475
	Hot-Mix Asphalt Surface Course, Mix ''C'', N50	Ton	29.6
	Waterproofing Membrane System	Sq. Yd.	265
	PC Mortar Fairing Course	Foot	80
	Removing & Re-erecting Existing Railing	Foot	80

* Cost of waterproofing membrane system removal included with Hot-Mix Asphalt Removal.

LICENSED STRUCTURAL ENGINEER
JAYME F. SCHIFF
081-005540
STATE OF ILLINOIS

Expires: November 30, 2026

DESIGNED -	Andrew M. Diorio	EXAMINED		DATE -	MARCH 21, 2025
CHECKED -	Stephen M. Ryan	PASSED	ENGINEER OF STRUCTURAL SERVICES	REVISED -	
DRAWN -	dacurdell		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	
CHECKED -	AMD SMR				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
F.A.S. 331 (C.H. 10) OVER FOUNTAIN CREEK
SN 092-0197
SHEET 1 OF 5 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	VERMILION	21	12
		CONTRACT NO. 70H43		
	ILLINOIS	FED. AID PROJECT		

MODEL: 70H43-012
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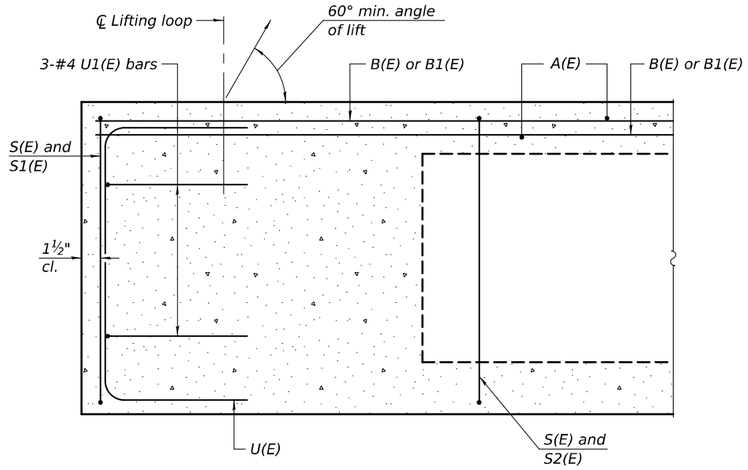
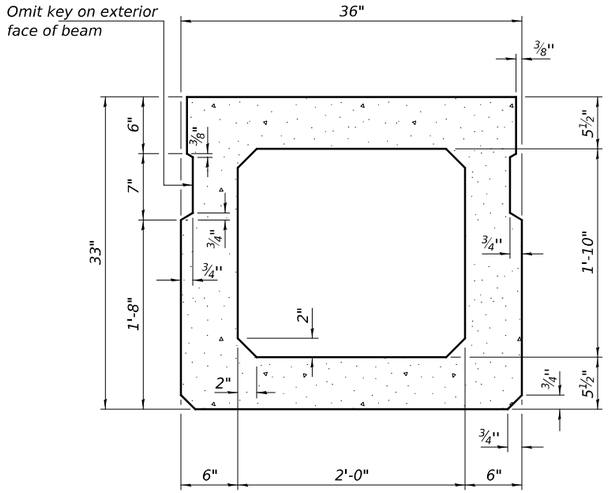
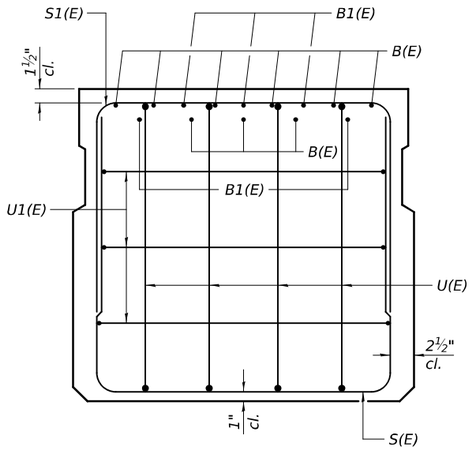


SECTION A-A

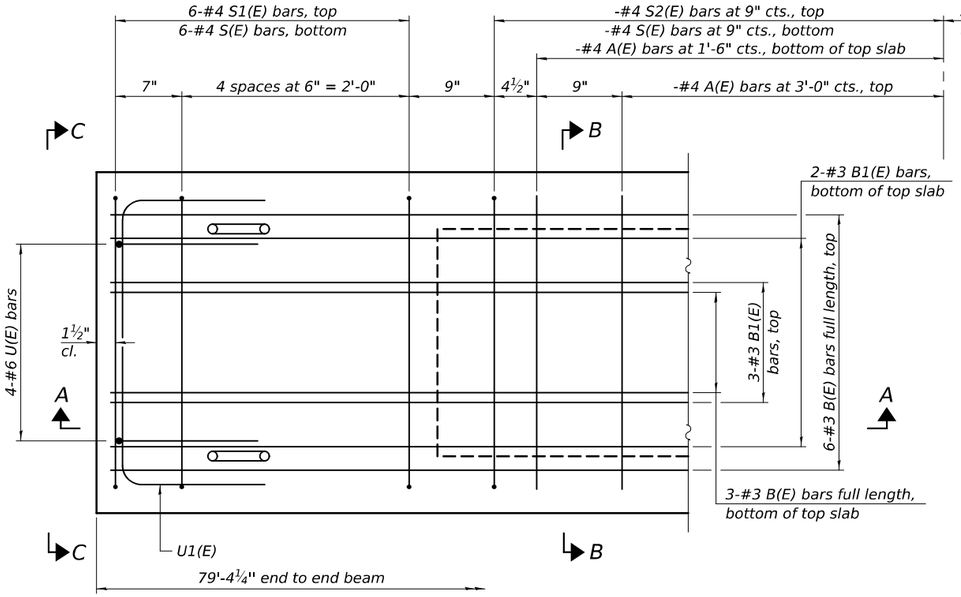


SECTION B-B

(Showing dimensions)

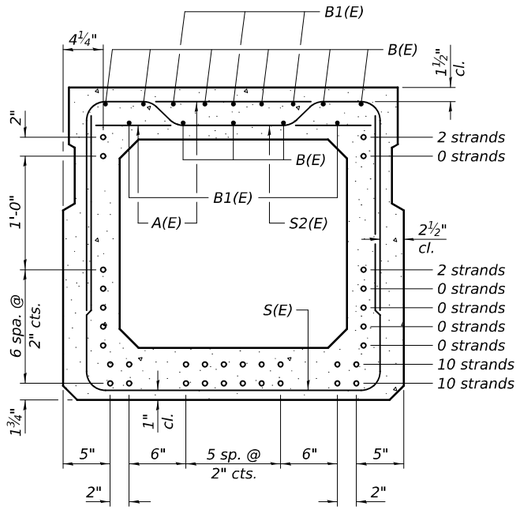


VIEW C-C



PLAN VIEW

Note:
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION B-B

(Showing reinforcement and permissible strand locations)

Note:
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	76	#4	2'-7"	——
B(E)	9	#3	79'-1''	——
B1(E)	10	#3	10'-0"	——
S(E)	110	#4	7'-8"	⌴
S1(E)	12	#4	6'-5"	⊓
S2(E)	98	#4	6'-8"	⊓
U(E)	8	#6	5'-0"	⊏
U1(E)	6	#4	5'-0"	⊓

Note:
See sheet 3 of 4 for additional details and Bill of Material.

MINIMUM BAR LAP

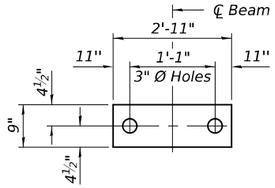
#3 bar = 1'-6"

MODEL: 70H43-013
FILE NAME: p:\dot-epw.bentley.com:PWIDOT\Documents\IDOT Offices\Bureau of Bridges and Structures\OBM Projects\0920197\CADData\Bridge\0920197.dgn
3/20/2025 6:22:25 PM

DESIGNED - AMD	EXAMINED	DATE - MARCH 21, 2025	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - SMR	PASSED	REVISED -	
DRAWN - dacurdell	ENGINEER OF STRUCTURAL SERVICES	REVISED -	
CHECKED - AMD SMR	ENGINEER OF BRIDGES AND STRUCTURES		

33" x 36" PPC DECK BEAM
SN 092-0197
SHEET 2 OF 5 SHEETS

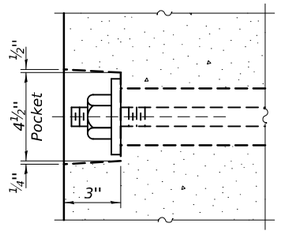
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	VERMILION	21	13
		CONTRACT NO. 70H43		
		ILLINOIS FED. AID PROJECT		



FABRIC BEARING PAD
(2 Req'd.)

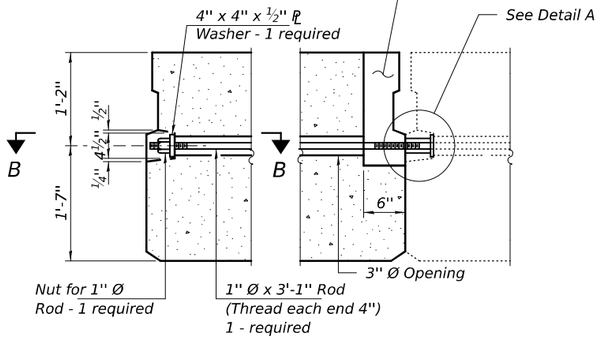
FIXED

Notes:
All bearing pads shall be ½" thick.
Expansion bearing pads shall be bonded to the substructure.

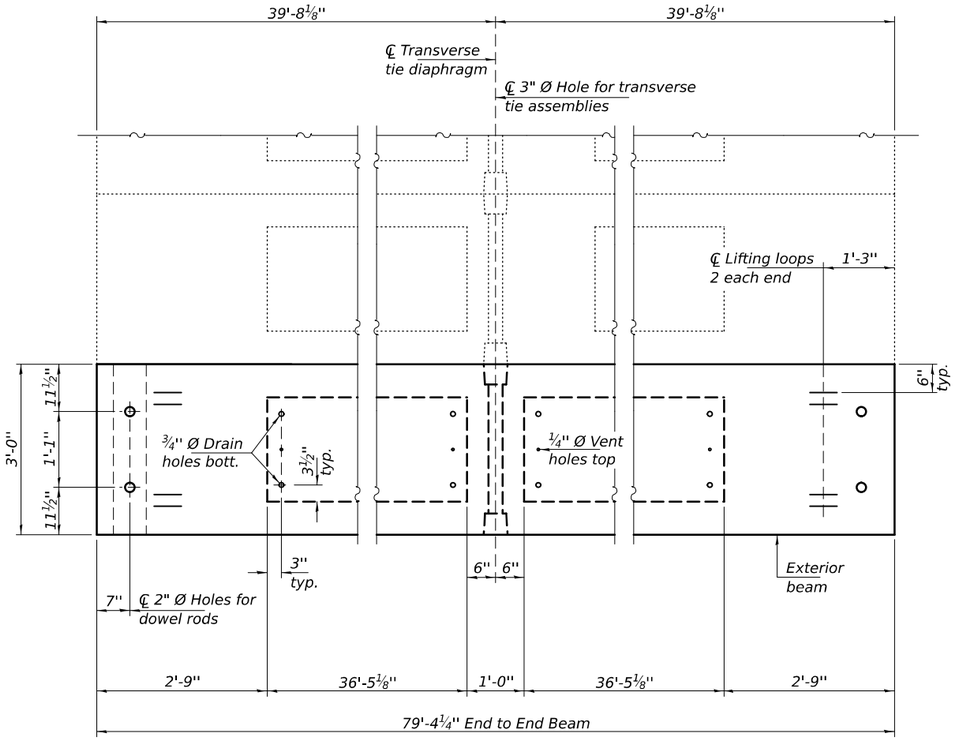


SECTION B-B

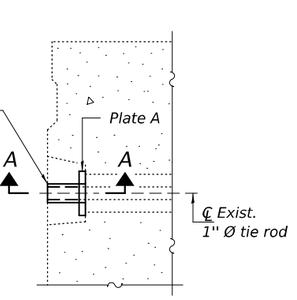
6" x 6" x 1'-5" Blockout to be filled with Class BS Concrete after beams have been installed. Cost shall be included in the cost of Precast Prestressed Concrete Deck Beams (33" Depth).



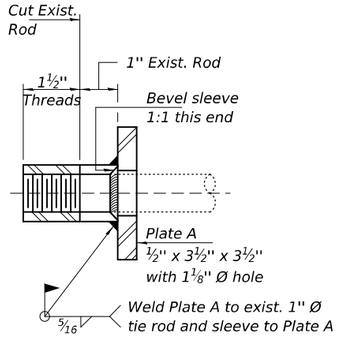
TRANSVERSE TIE ASSEMBLY



PLAN VIEW



DETAIL A



SECTION A-A
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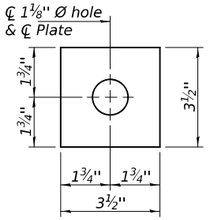
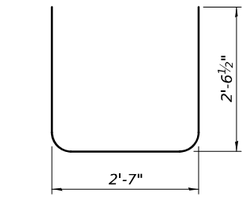
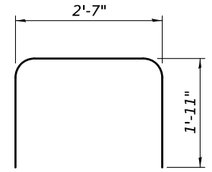


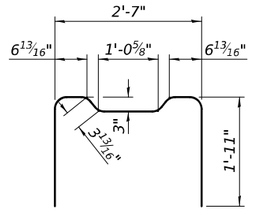
PLATE A
(1 Required)



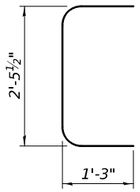
BAR S(E)



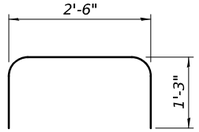
BAR S1(E)



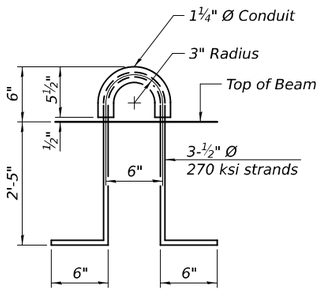
BAR S2(E)



BAR U(E)



BAR U1(E)



LIFTING LOOP DETAIL

Notes:
Connect beams in pairs with the transverse tie configuration shown.
Epoxy grout dowels in 9" min. holes according to Art. 584 of the Standard Specifications.
For shear key clamping device details, see sheet 4 of 4.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" Ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f 'c, shall be 6,000 psi.

Compressive strength of prestressed concrete at release, f 'ci, shall be 5,000 psi.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	238

DESIGNED - AMD	EXAMINED	ENGINEER OF STRUCTURAL SERVICES	DATE - MARCH 21, 2025	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	33" x 36" PPC DECK BEAM DETAILS SN 092-0197	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - SMR	PASSED	Joyce F. Schiff	REVISED -			502	(86BR)BR-1,(Z-1)BR-2	VERMILION	21	14
DRAWN - dacurdell		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET 3 OF 5 SHEETS			CONTRACT NO. 70H43		
CHECKED - AMD SMR								ILLINOIS FED. AID PROJECT		

MODEL: 70H43-014
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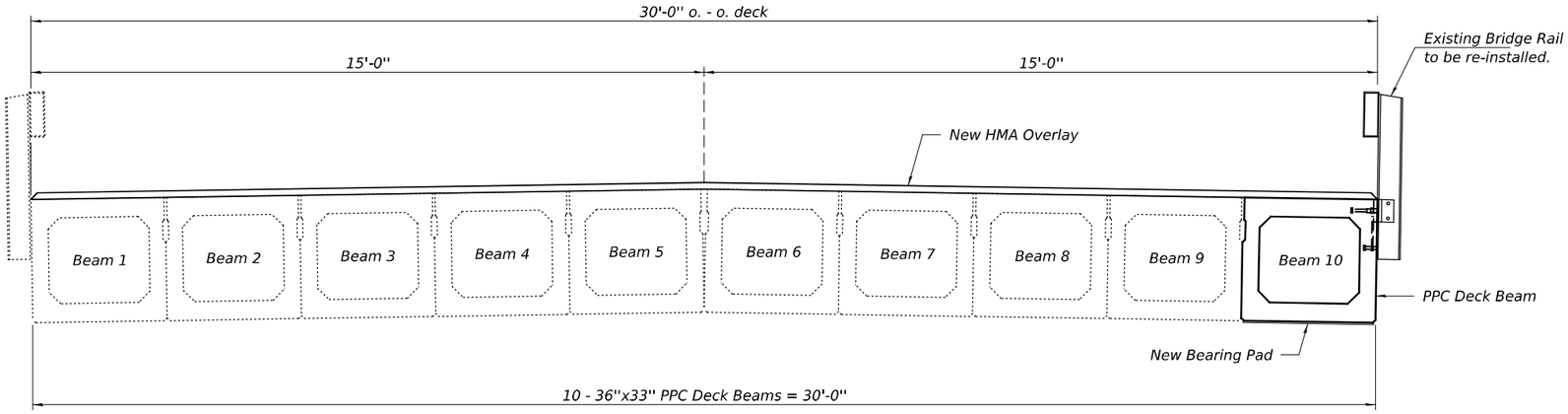
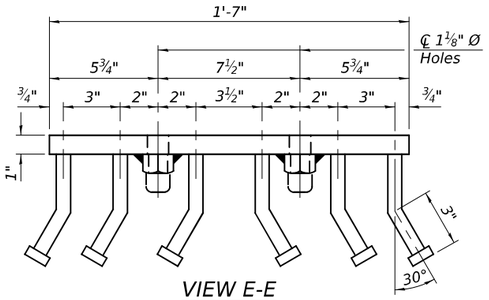
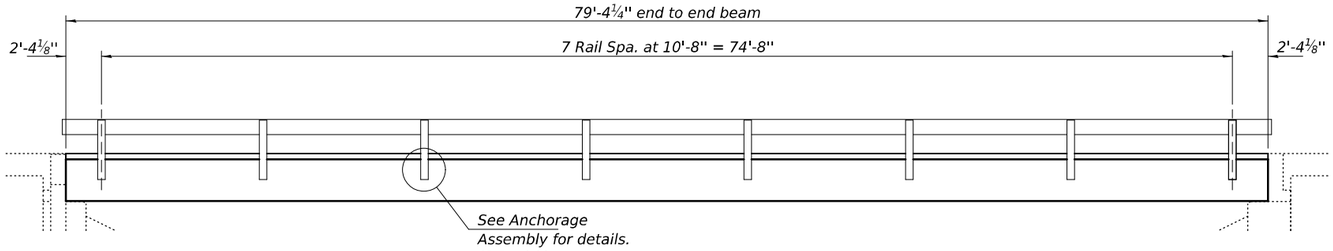


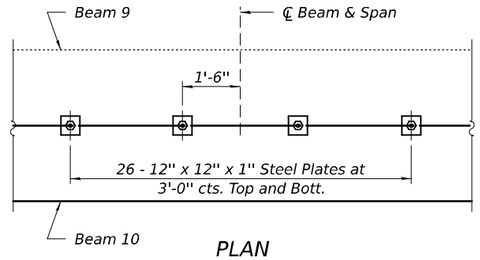
PLAN
(Looking North)



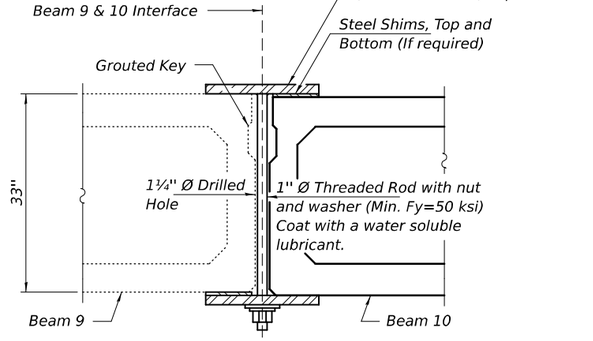
VIEW E-E



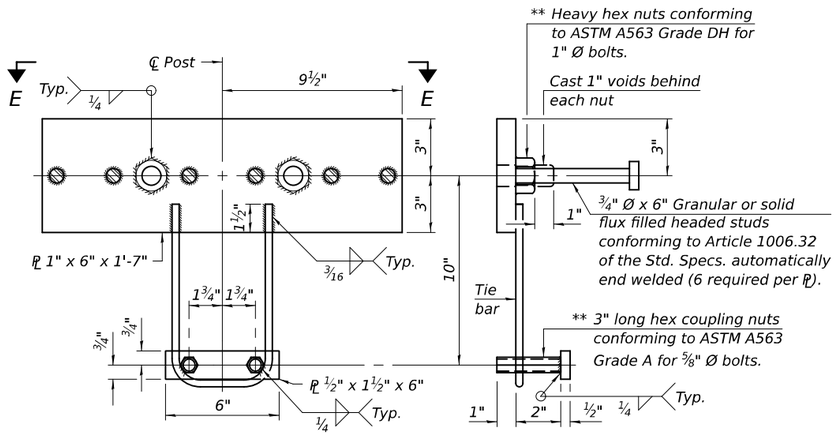
RAILING ELEVATION
(Looking West)



PLAN

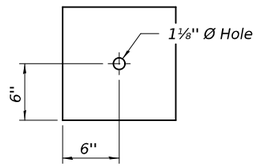


SECTION

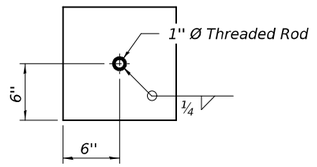


ANCHORAGE ASSEMBLY

** Threaded areas shall be plugged or blocked off during casting of concrete.



BOTTOM CLAMPING PLATE



TOP CLAMPING PLATE

DESIGNED - AMD	EXAMINED	DATE - MARCH 21, 2025	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**REPAIR DETAILS SN 092-0197**	F.A.S. RTE. 502 / SECTION (86BR)BR-1,(Z-1)BR-2 / COUNTY VERMILION / TOTAL SHEETS 21 / SHEET NO. 15
CHECKED - SMR	PASSED	REVISED -		SHEET 4 OF 5 SHEETS	CONTRACT NO. 70H43
DRAWN - dacurdell	ENGINEER OF STRUCTURAL SERVICES	REVISED -			ILLINOIS / FED. AID PROJECT
CHECKED - AMD SMR	Joyce F. Schaff ENGINEER OF BRIDGES AND STRUCTURES				

MODEL: 70H43-015
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SHEET INTENTIONALLY LEFT BLANK

MODEL: 70H43-016
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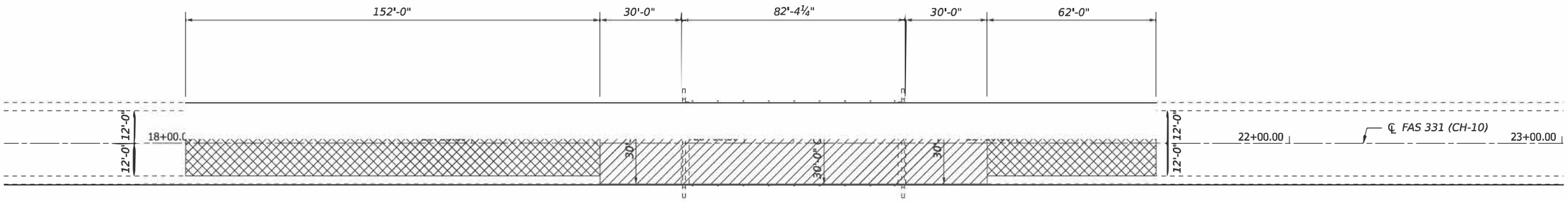
DESIGNED -	AMD	EXAMINED		DATE -	MARCH 21, 2025	STATE OF ILLINOIS
CHECKED -	SMR		ENGINEER OF STRUCTURAL SERVICES			DEPARTMENT OF TRANSPORTATION
DRAWN -	daburdell	PASSED		REVISED -		
CHECKED -	AMD SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		

SHEET 5 OF 5 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	VERMILION	21	16
		CONTRACT NO. 70H43		
		ILLINOIS FED. AID PROJECT		

3/20/2025 6:22:27 PM

PLAN OF WEARING SURFACE REMOVAL



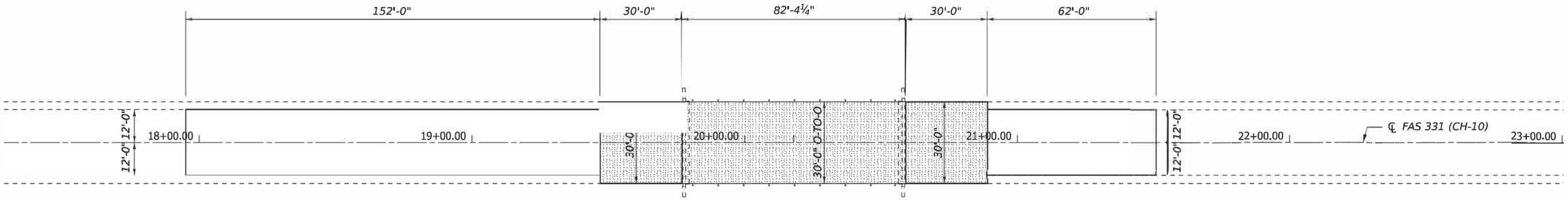
HOT-MIX ASPHALT SURFACE REMOVAL (DECK)

HOT-MIX ASPHALT SURFACE REMOVAL 1½"

BILL OF MATERIALS

ITEM	UNIT	TOTAL
HOT-MIX ASPHALT SURFACE REMOVAL 1½"	SQ. YD.	571.0
HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ. YD.	475.0

PLAN OF WEARING SURFACE CONSTRUCTION



WATERPROOFING MEMBRANCE SYSTEM

HOT-MIX ASPHALT SURFACE COURSE

BILL OF MATERIALS

ITEM	UNIT	TOTAL
BITUMINOUS MATERIALS (TACK COAT)	POUND	470.0
HOT-MIX ASPHALT SURFACE COURSE, IL 9.5, MIX "C", N50	TONS	95.0
WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	475.0

MODEL: 092-0197 Wearing Surface Detail [Sheet]
FILE NAME: c:\pw_work\pwdot\sherer\md101927\D570H43-StructurePlans.dgn

USER NAME = Jeff.Sherer	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 11/13/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL OF WEARING SURFACE
S.N. 092-0197

SCALE: NONE | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1, (Z-1)BR-2	*	21	17
	*CHAMPAIGN/ VERMILION		CONTRACT NO. 70H43	
		ILLINOIS FED. AID PROJECT		

Bench Mark → N E W →
Chiseled □ top of northeast wingwall of existing Structure
No. 092-0068, El. 684.66

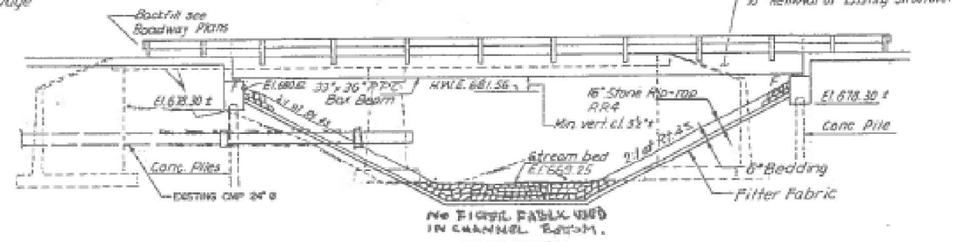
P.B.M. TARGET IN TOP OF S.W. WINGWALL OF STR. No. 092-0068 EL. 684.415 SET 11-5-93

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

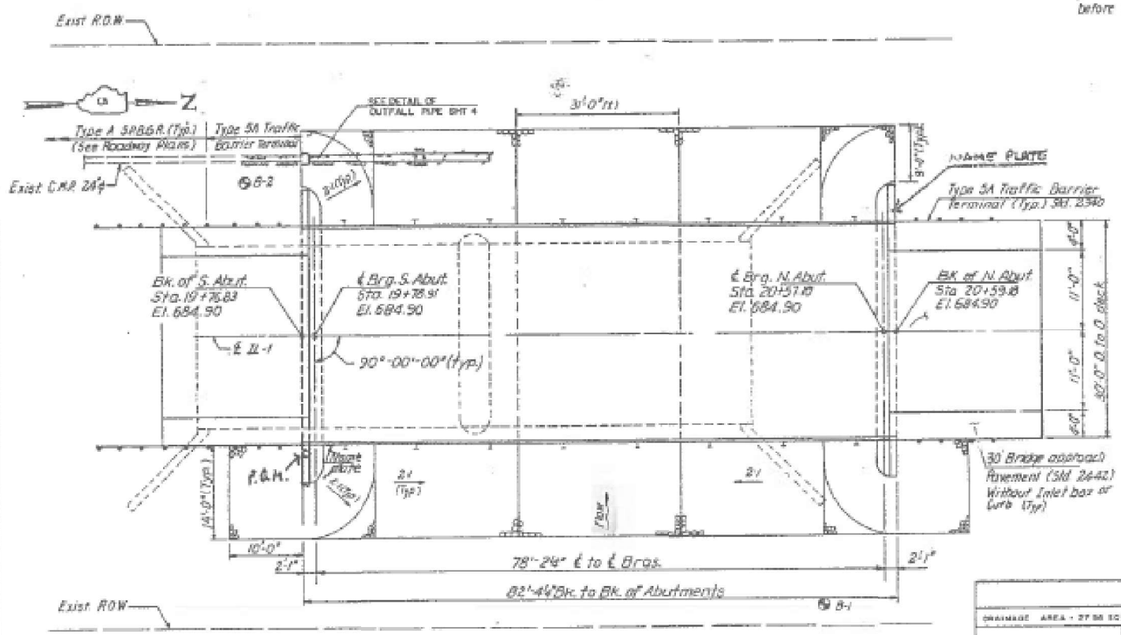
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	(2-(86R-1	VERMILION	13	6
FED. ROAD PROJ. NO.	MARKER	FED. AID PROJECT		

SHEET NO. 1
SHEETS 7

Existing Structure
A two simple span reinforced concrete thru girder bridge on closed abutments and concrete pier to be removed.
No staging road to be closed
No Salvage



ELEVATION



PLAN

DESIGNED	R.V.P.
CHECKED	J.M.P.
DRAWN	K.A.C.
CHECKED	R.V.P.

GENERAL NOTES

The embankment configuration shown shall be the min. embankment that must be constructed prior to construction of the abutments.

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

Layout of slope protection system may be varied in the field to suite ground conditions as directed by the Engineer.

The top surface of the beam shall be finished in accordance with Article 905.06 of the Standard Specification except that the surface shall not be roughened by broaming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of ¾".

A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the conc. for P.P. Conc. deck beams.

The contractor shall drive One Concrete test pile in a permanent location at N. Abut as directed by the Engineer before ordering the remainder of piles.

STATION 20+18.08
BUILT 1993 BY
STATE OF ILLINOIS
F.A.P. RTE. 331 SEC. (2-(86R-1
FA PROJ. BRS-0331(JT)
LOADING HS20
STR. NO. 092-0197

NAME PLATE
(STD. 2111)

DESIGN SPECIFICATIONS

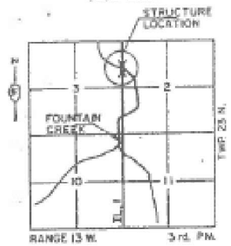
AASHTO 1989 Standard Specifications for Highway Bridges with 1990 and 1991 interims as applicable.

DESIGN CRITERIA

Live load HS-20-44
Allow 25 p.s.f. for future wearing surface.

DESIGN STRESSES

Concrete:
f'_c = 3500 p.s.i.
Reinforcing Steel:
f_y = 60000 p.s.i.
P.P.C. Bar Beams:
f'_c = 5000 p.s.i. — Concrete Strength
f'_{ci} = 4000 p.s.i.
f_s = 270 000 p.s.i. — Prestressed Steel ½" ø Strands
f_{si} = 189000 psi



LOCATION MAP

Sta. 19+00 El. 684.90 — Sta. 21+00 El. 684.90 — 0.00%

PROFILE GRADE

TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER STRUCT.	SUB STRUCT.	TOTAL
Removal of Existing Structures	Each	—	—	1
Structure Excavation	Cu. Yd.	—	48.0	48.0
Class X Concrete Superstructure	Cu. Yd.	9.4	—	9.4
Class X Concrete	Cu. Yd.	—	25.6	25.6
Furnishing Concrete Piles	Lin. Ft.	—	684	684
Driving Concrete Piles	Lin. Ft.	—	684	684
Test Piles, Concrete	Each	—	1	1
Reinforcement Bars, Epoxy Coated	Lbs.	—	2940	2940
Precast Prestressed Conc. Deck Beams, 33"	Sq. Ft.	2381	—	2381
Stone Riprap Class A4	Sq. Yd.	—	595	595
Filter Fabric for use with riprap	Sq. Yd.	—	595	595
Steel Railing Type S-1	Lin. Ft.	180	—	180
Bituminous Surface Course, Class I	Ton	32	—	32
Name Plates	Each	1	—	1
Waterproofing Membrane System	Sq. Yd.	27	—	27
Permanent Benchmark	Each	1	—	1
Channel Excavation	Cu. Yd.		270	270
Portland Cement Mortar Tooling Course	Lin. Ft.	714	—	714

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
Engineer of Bridge and Structures

WATERWAY INFORMATION

DRAINAGE AREA = 27.98 SQ. MI.
LOW GRADE EL. = 684.3 (SERIES) & STA. 19+00 (EXIST.) STA. 19+00 (PROP.)
STA. 19+00 (EXIST.) STA. 19+00 (PROP.)

FLOOD		FREQ. YR	Q, CFS EXIST	Q, CFS PROP	OPEN SQ. FT. EXIST	OPEN SQ. FT. PROP	MAX. HGE.	MAX. HEAD FT. EXIST.	MAX. HEAD FT. PROP.	HEADWATER EL. EXIST.	HEADWATER EL. PROP.
DESIGN	MAIN CHANNEL	20	2228	2113	540	555	681.44	0.35	0.42	686.09	685.55
	OVERFLOW		69	240	18	79					
	OVERTOP TOTAL		44 2341	2353	526	736					
BASE	MAIN CHANNEL	100	1922	2931	563	675	682.21	0.56	0.49	687.27	687.10
	OVERFLOW		55	416	15	81					
	OVERTOP TOTAL		1977 3347	3347	578	756					
MAX. OR OVERTOPPING	MAIN CHANNEL	500	2276	3704	605	815	682.81	0.85	0.89	687.66	687.66
	OVERFLOW		115	536	16	60					
	OVERTOP TOTAL		2391 4098	4240	621	756					

REVISIONS	
NAME	DATE

P.G. ENGINEERING ASSOCIATES, INC.
800 WEST JACKSON BLVD.
CHICAGO ILS, 60605

GENERAL PLAN & ELEVATION
FAS 331 OVER FOUNTAIN CREEK
FAS-331 SEC. (2-(86R-1
STA. 20+18.08
VERMILION COUNTY
STRUCTURE NUMBER 092-0197

SCALE VERT.
HORIZ.
DATE

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USER NAME = Jeff.Sherer	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 11/13/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS
S.N. 092-0197

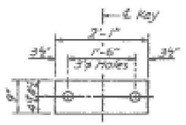
SCALE: | SHEET 1 OF 3 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	18
	* CHAMPAIGN/ VERMILION	CONTRACT NO. 70H43		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

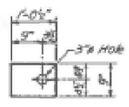
SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	(21BR)-1	VERMILION	15	7

SHEETS 7

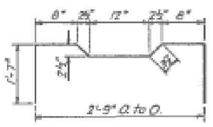


FABRIC BEARING PAD
(Interior)

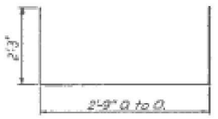
FIXED



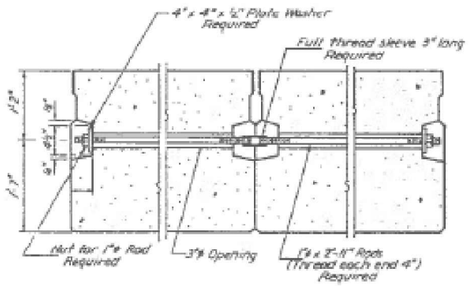
FABRIC BEARING PAD
(Exterior)



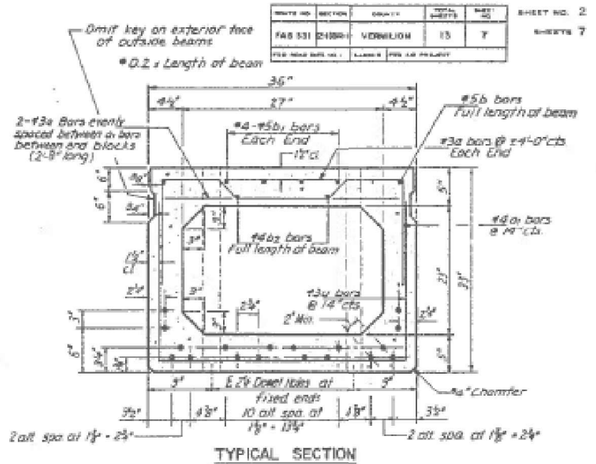
a1 BAR



a1 & a2 BARS

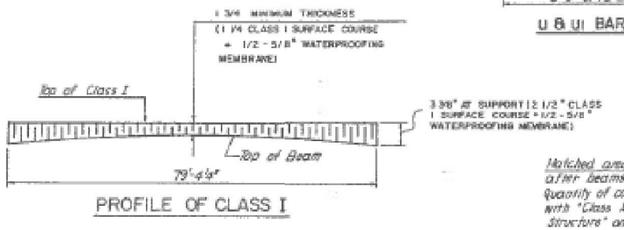


TYPICAL TRANSVERSE TIE ASSEMBLY

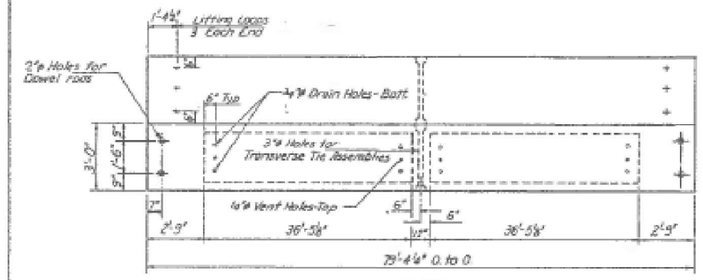


TYPICAL SECTION

½"ø Strands Each Strand Stressed to 28,900 Lbs.
6-Strands 4"up, 6-Strands 3½"up,
2-Strands 6"up, 2-Strands 9"up.

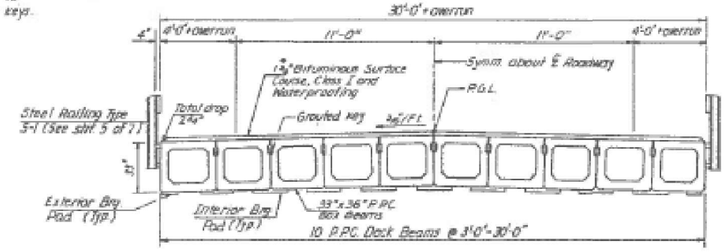


PROFILE OF CLASS I



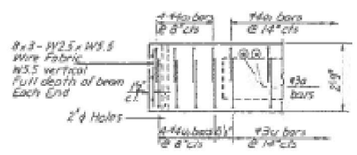
PLAN

SECTION THRU ABUTMENT

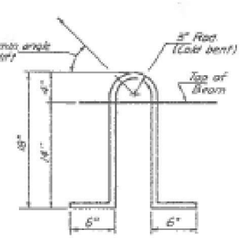


TYPICAL CROSS SECTION

* Includes thickness of waterproofing membrane



END ELEVATION



LIFTING LOOP DETAIL

BILL OF MATERIALS

ITEM	UNIT	QTY.
P.P.C. Deck Beams (33" depth)	Sq. Ft	2381
Class X Concrete Super structure	Cu. Yd	7.0

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Lifting loops shall be ¾" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 46,000 lbs. or 3-5/8"ø-270 ksi strands, as shown.

The 1"ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to AASHTO M-31 or M-53, Grade 60.

The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two ⅛" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.

Required Release Strength f'ci shall be 4,000 psi.

An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.

DESIGNED	JTT
CHECKED	RVP
DRAWN	ASR/VBP
CHECKED	JTT

REVISIONS	
NAME	DATE

P.C. ENGINEERING ASSOCIATES, INC.
600 WEST JACKSON BLVD.
CHICAGO ILLINOIS 60606

SUPESTRUCTURE DETAILS

FAS 331 OVER FOUNTAIN CREEK
FAS 331 SEC. (Z-1) BR-1
STA. 20+18.08
VERMILION COUNTY
STRUCTURE NUMBER 092-0197

SCALE VERT.
HORIZ.
DATE

MODEL: 092-0197 Info-1 [Sheet]
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USER NAME = Jeff.Sherer	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 11/13/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS
S.N. 092-0197

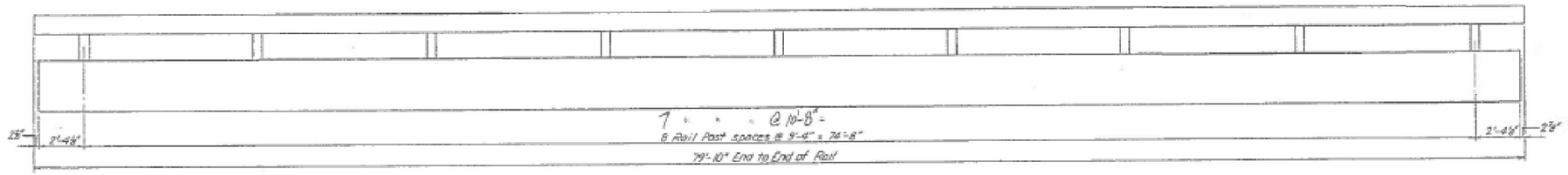
SCALE: | SHEET 2 OF 3 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	19
	* CHAMPAIGN/ VERMILION	CONTRACT NO. 70H43		
	ILLINOIS | FED. AID PROJECT			

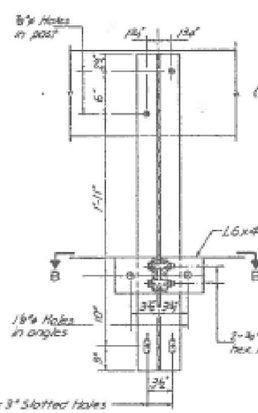
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	(2-1)BR-1	VERMILION	13	10
PRS ROAD DIST NO. 1	ILLINOIS	FED. AID PROJECT		

SHEET NO. 5
SHEETS 7

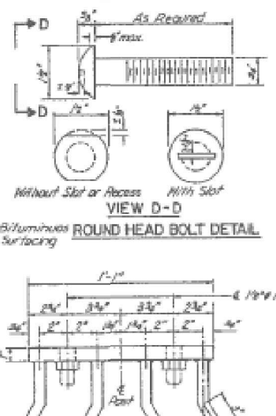


ELEVATION



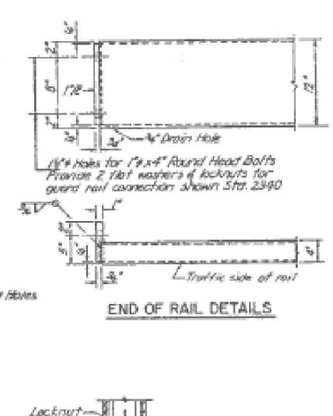
SECTION A-A

SECTION AT RAIL POST



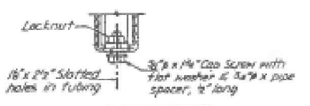
VIEW D-D

ROUND HEAD BOLT DETAIL

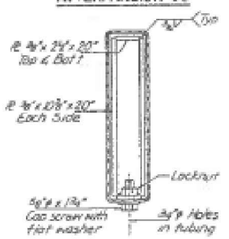


END OF RAIL DETAILS

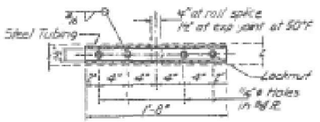
VIEW C-C



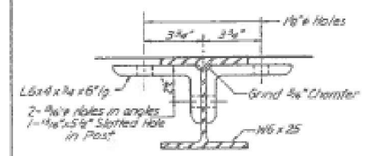
RAIL SPLICE CONNECTION AT EXPANSION JT.



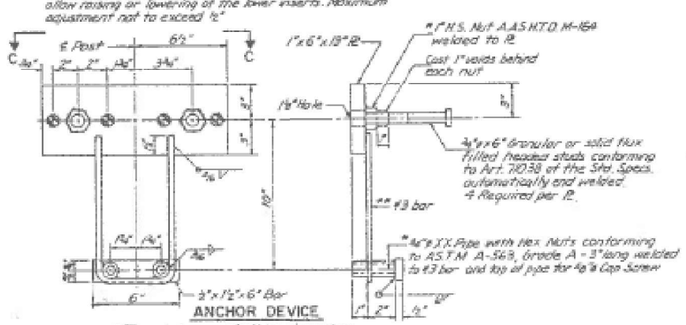
SECTION AT RAIL SPLICE



PLAN - BOTT. SPLICE PL. TYPICAL



SECTION B-B



ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

NOTES:

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

All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. M-183 except rails and angles shall conform to A.A.S.H.T.O. M-223, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with A.A.S.H.T.O. M-232.

All posts, railing, rail splices, anchor sleeves and angles shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O. M-111 and A.S.T.M. A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specification, except as noted and will be paid for at the contract unit price per lineal foot for STEEL RAILING, Type S-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 1functionB Type B or place ⅛" fabric bearing pad between the post and concrete.

The ¾"ø high strength bolts used to connect the 6x4x⅜ angles to the post shall be tightened in accordance with Article 307.06(a)(3) of the Standard Specifications. The 1"ø high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional ½ turn. The ⅝"ø cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Lin. Ft.	160

P.G. ENGINEERING ASSOCIATES, INC.
620 WEST JACKSON BLVD.
CHICAGO ILLINOIS, 60606

TYPE S-1 STEEL RAILING

FAS 331 OVER FOUNTAIN CREEK
FAS 331 SEC. (2-1)BR-1
STA. 20+18.08
VERMILION COUNTY
STRUCTURE NUMBER 092-0197

SCALE VERT.
HORIZ.
DATE

REVISIONS	
NAME	DATE

DESIGNED	
CHECKED	
DRAWN	A.S.R.
CHECKED	

12-23.A 12-31-87 (10'-9" Max. Post Spac)

MODEL: 092-0197 Info-2 [Sheet]
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USER NAME = Jeff.Sherer	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 11/13/2024	DATE -	REVISED -	

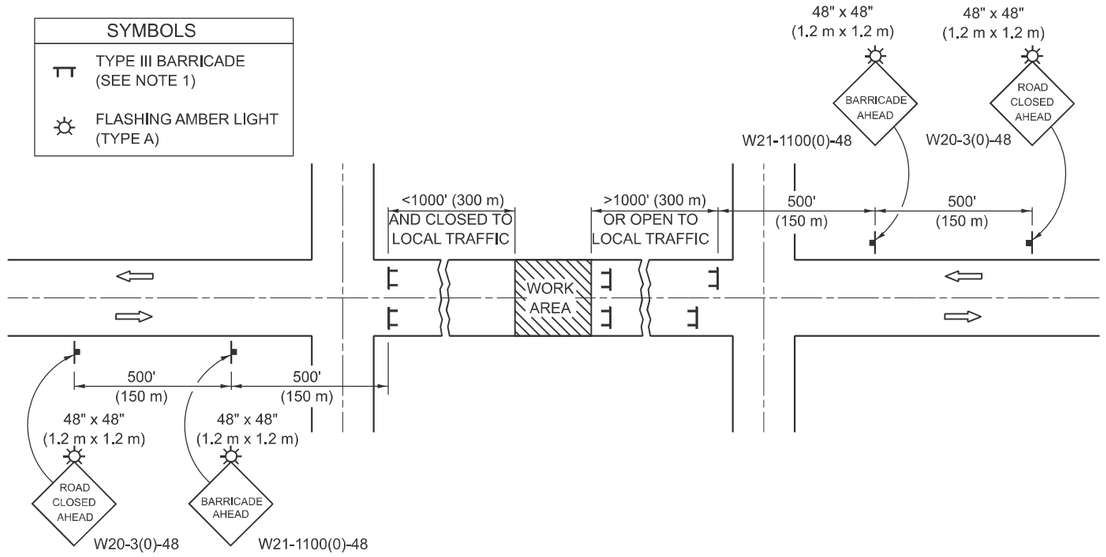
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS
S.N. 092-0197

SCALE: | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	20
	* CHAMPAIGN/ VERMILION	CONTRACT NO. 70H43		
	ILLINOIS FED. AID PROJECT			

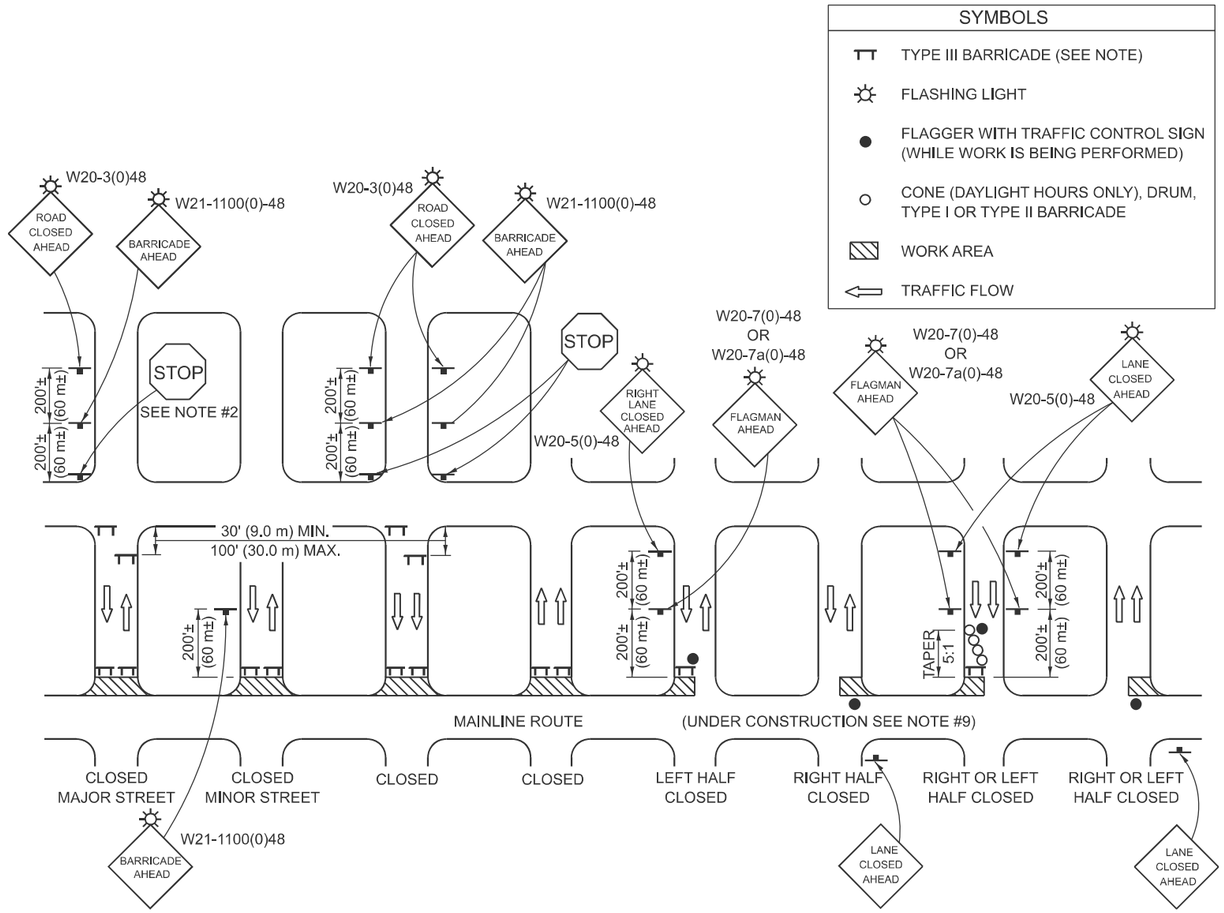
ROAD CLOSURE



GENERAL NOTES

1. TYPE III BARRICADES SHALL BE AS SHOWN ON STANDARD 701901 "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
2. IF THE ROAD IS OPEN TO LOCAL TRAFFIC OR EXCEEDS 1000' (300 m), ANOTHER SET OF TYPE III BARRICADES, EQUIPPED AS IN NOTE 1 ABOVE, SHALL BE PLACED AT EACH END OF THE WORK AREA.
3. WHEN A STOP CONDITION EXISTS, NO SIGNS ARE REQUIRED IN ADVANCE OF THE "STOP" SIGN WHEN THE ROAD IS CLOSED WITHIN 100' (30 m) OF THE INTERSECTION.
4. STANDARD 701901 SHALL APPLY FOR THE PLACEMENT & DESIGN OF TYPE III BARRICADES.
5. IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON AN NCHRP 350 TEMPORARY SIGN SUPPORT DIRECTLY IN FRONT OF THE BARRICADE.
6. REFLECTORIZED STRIPING SHALL APPEAR ON BOTH SIDES OF THE TY III BARRICADES IF ROAD IS OPEN TO LOCAL TRAFFIC.
7. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
8. A MINIMUM OF TWO FLASHING LIGHTS SHALL BE USED AT NIGHT ON EACH APPROACH IN ADVANCE OF THE WORK AREA. FLASHING LIGHTS SHALL BE INSTALLED ABOVE THE FIRST TWO SIGNS IN THE SERIES.
9. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
10. FORMS BT. 725 AND BT. 726 ARE REQUIRED.
11. WHEN A SIDEROAD INTERSECTS THE HIGHWAY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC DEVICES SHALL BE ERECTED AND PROVIDED AS DIRECTED BY THE ENGINEER.
12. AN ADDITIONAL SIGN MAY BE REQUIRED AT A MAJOR INTERSECTING ROAD IN ADVANCE OF THE CLOSURE. THE ADDITIONAL SIGN SHALL GIVE THE DISTANCE TO THE BARRICADE IN MILES OR FRACTIONS OF A MILE.

SIDEROAD / STREET CLOSURE



GENERAL NOTES

1. TYPE III BARRICADES SHALL BE AS SHOWN ON "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
2. WHERE A STOP CONDITION EXISTS, AS SHOWN ABOVE, WARNING SIGNS MAY BE OMITTED IN ADVANCE OF THE "STOP" SIGN.
3. STANDARD 701901 SHALL APPLY FOR THE PLACEMENT & MANUFACTURE OF TYPE III BARRICADES.
4. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
5. ONE FLASHING LIGHT IS REQUIRED ABOVE EACH ADVANCE WARNING SIGN DURING HOURS OF DARKNESS.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
7. FORMS BT 725 AND BT 726 ARE REQUIRED.
8. THE MAINLINE ROUTE TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
9. ALL FLAGGERS REQUIRED AT SIDE ROADS AND ENTRANCES REMAINING OPEN TO TRAFFIC AND/OR ADDITIONAL BARRICADES REQUIRED BY THE ENGINEER TO CLOSE SIDE ROADS AND ENTRANCES WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 70200000

USER NAME = Jeff.Sherer	DESIGNED -	REVISED -	11/06
	DRAWN -	REVISED -	12/07
PLOT SCALE = $SCALE$	CHECKED -	REVISED -	09/09 KJT
PLOT DATE = 10/23/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL & PROTECTION DEVICES (ROAD & SIDEROAD / STREET CLOSURES)

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	(86BR)BR-1,(Z-1)BR-2	*	21	21
	*CHAMPAIGN/ VERMILION	CONTRACT NO. 70H43		
	ILLINOIS	FED. AID PROJECT		

MODEL: 70200000
FILE NAME: c:\pw_work\pwidotsherer\md1019270\D570H43-Sht-Detail_70200000.dgn