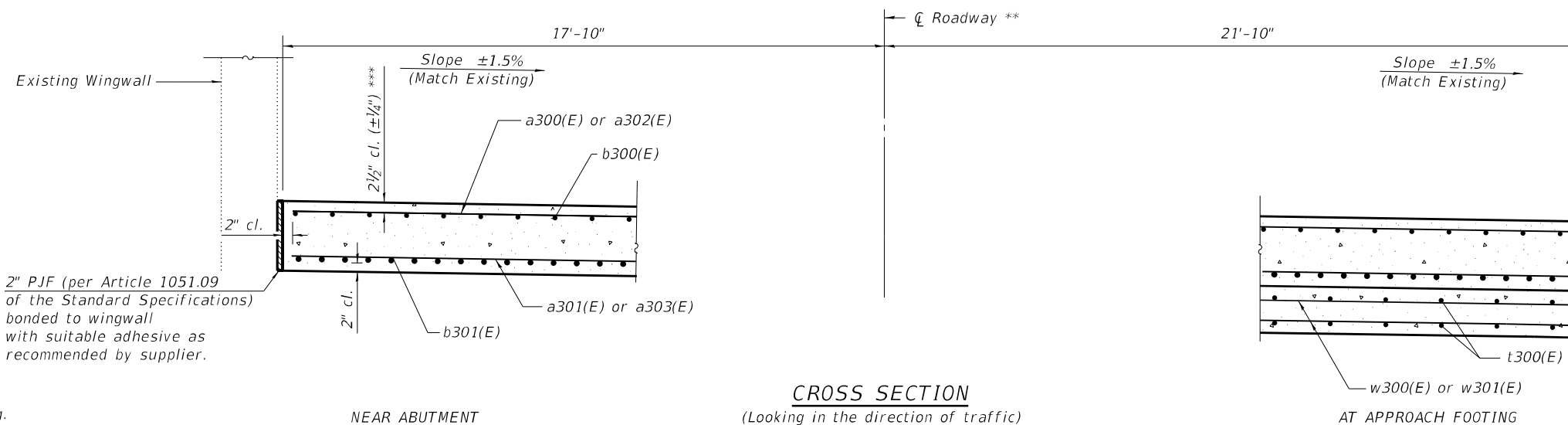


PLAN

SN 044-0043 north approach slab shown, SN 044-0043 south approach slab similar
 SN 044-0044 south approach slab shown, SN 044-0044 north approach slab similar



CROSS SECTION

(Looking in the direction of traffic)

*** Prior to diamond grinding.

* Pavement connector shall be paid for as Bridge Approach Pavement Connector (Special). The pavement connector shall be constructed per Hwy. Std. 420401 except that the 15'-0" length shall be 20'-6". See Special provision for additional details.

** Due to roadway curvature, approximate location shown.

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

S.N. 044-0043				
Point	North Approach		South Approach	
	Top	Bottom	Top	Bottom
A				
B				
C				
D				
E				
F				

S.N. 044-0044				
Point	North Approach		South Approach	
	Top	Bottom	Top	Bottom
A				
B				
C				
D				
E				
F				

The approach slab shall be placed to match existing elevations. The Contractor shall place the approach footing for the approach slabs to match existing elevations at grade. Adjustments for settlement of existing approach slabs shall be made as directed by the Engineer. Blank tables included for field notation.

See Section A-A on Sheet 10 of 24.

MODEL: Detail
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USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:28:39 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)**

SHEET 9 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	101
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

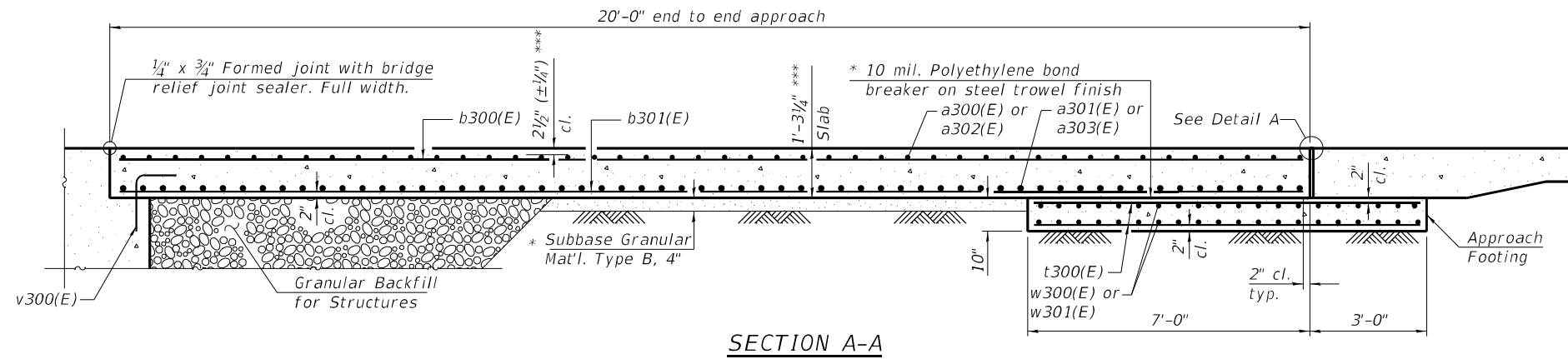
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).

Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

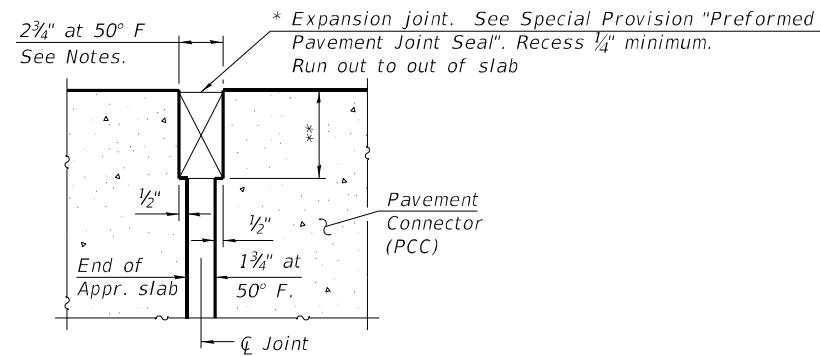
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 24.



SECTION A-A

FOUR APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a300(E)	124	#5	19'-7"	—
a301(E)	164	#8	19'-7"	—
a302(E)	124	#5	21'-8"	—
a303(E)	164	#8	21'-8"	—
b300(E)	244	#5	19'-8"	—
b301(E)	388	#9	19'-8"	—
t300(E)	336	#4	10'-3"	—
w300(E)	160	#5	19'-7"	—
w301(E)	160	#5	21'-8"	—
Concrete Structures			Cu. Yd.	52.4
Concrete Superstructure (Approach Slab)			Cu. Yd.	149.4
Reinforcement Bars, Epoxy Coated			Pound	63540
Bar Splicers			Each	448



DETAIL A
(@ Rt. L's)

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations.

*** Prior to diamond grinding.

(Sheet 2 of 2)

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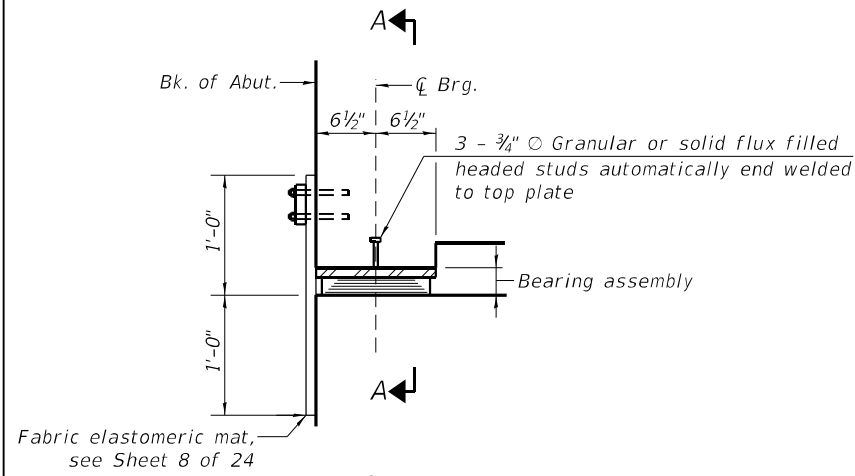
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

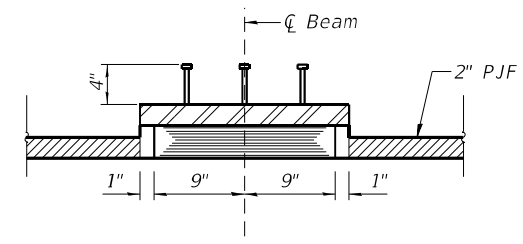
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

SHEET 10 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	102
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				

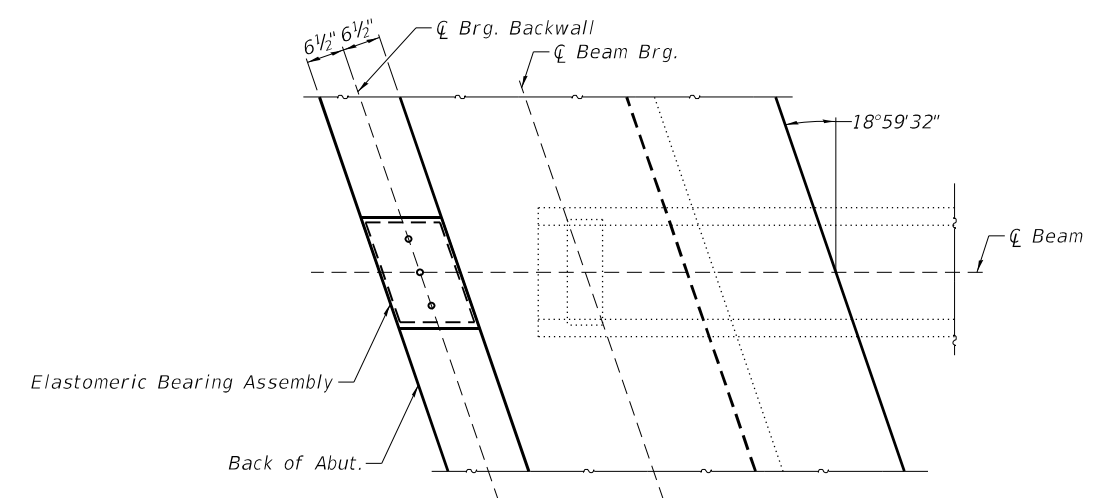


ELEVATION AT ABUT.

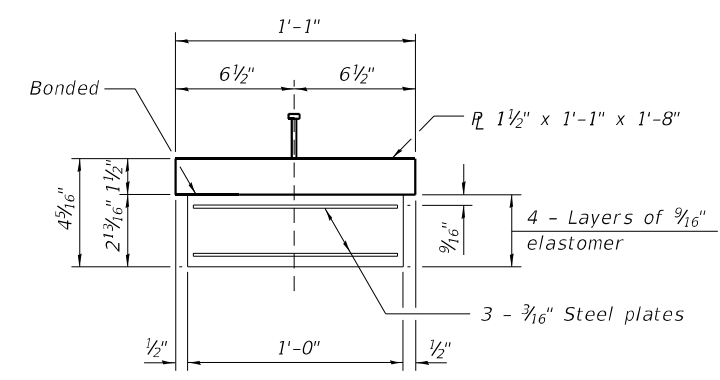


SECTION A-A

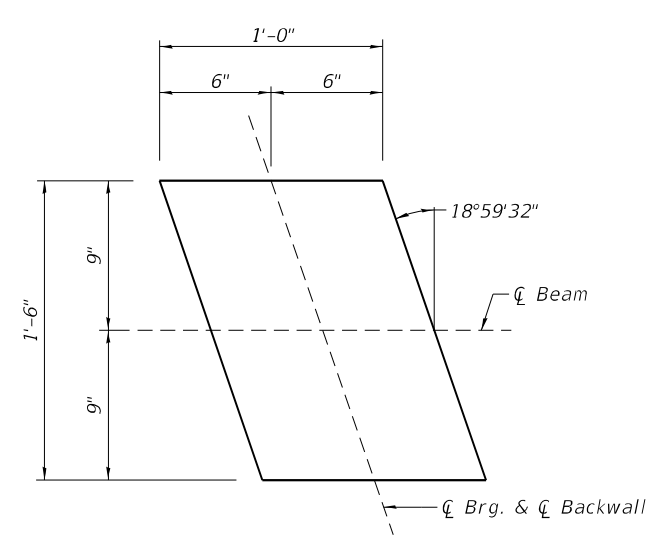
TYPE I ELASTOMERIC EXP. BRG.



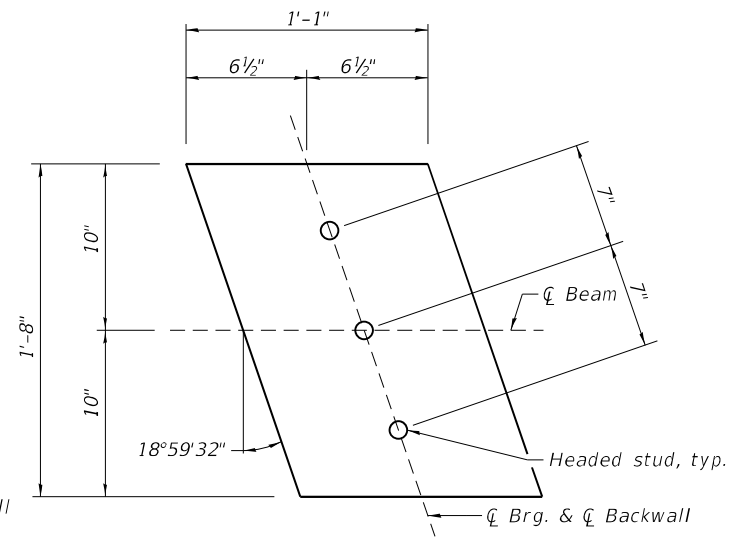
PARTIAL PLAN



BEARING ASSEMBLY



ELASTOMER PLAN



TOP PLATE PLAN

Notes:
 Stainless steel plates and welded studs shall be included in the cost of Elastomeric Bearing Assembly, Type I.
 All exposed bearing plates shall be hot dip galvanized according to AASHTO M111.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	24

MODEL: D:\cmt\11906910\VO_g\DrawStructures\SN 0043 & 0044\011_0043-0044_Bearing Details.dgn
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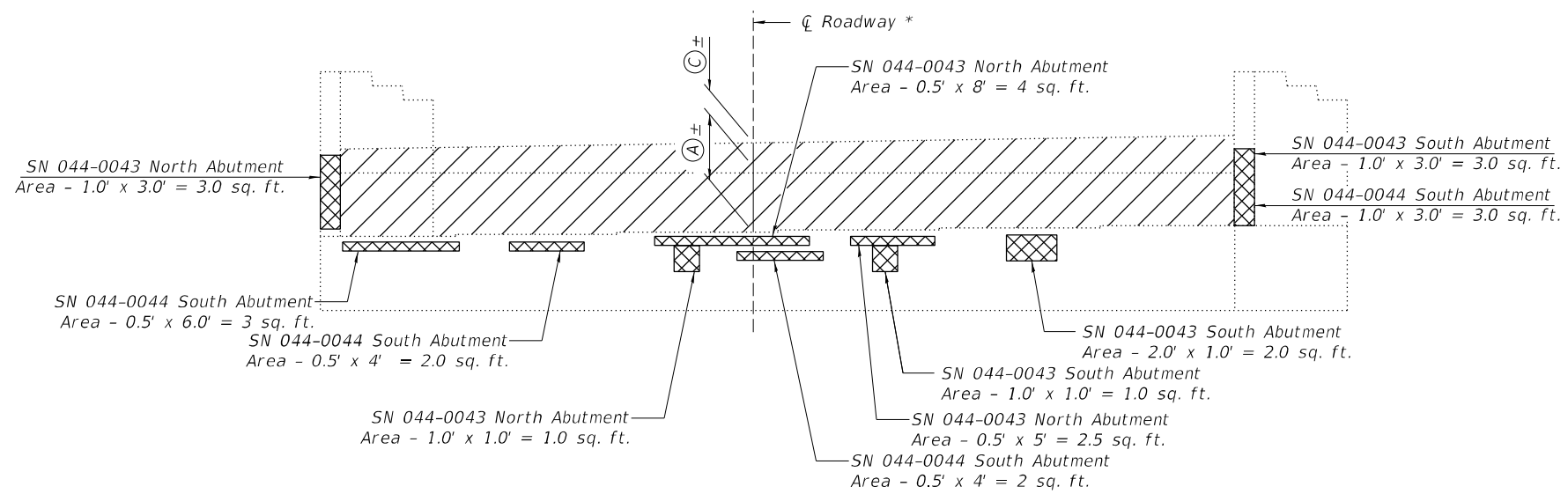
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	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
 STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

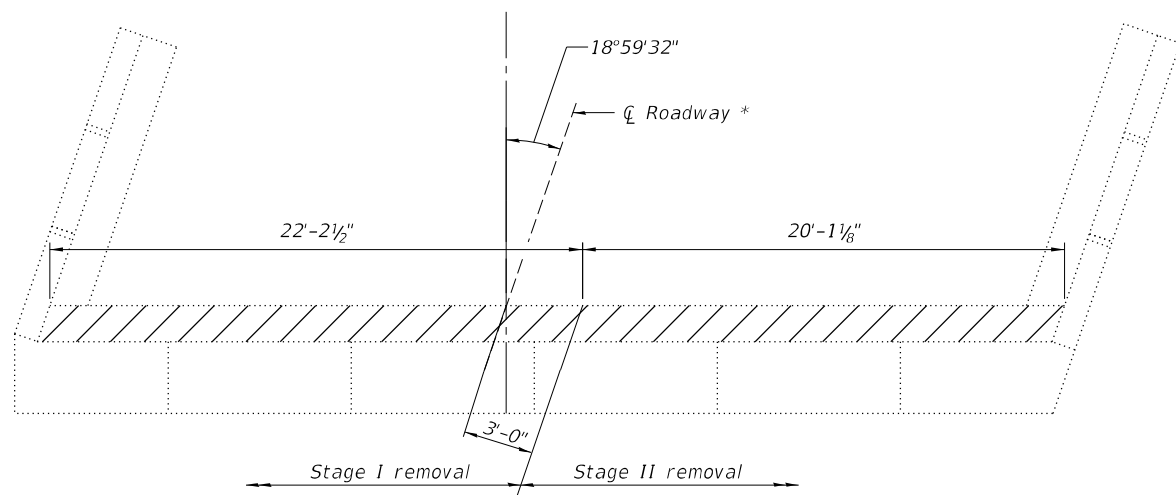
SHEET 11 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	103
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



ELEVATION

SN 044-0043 north abutment shown, SN 044-0043 south abutment similar
 SN 044-0044 south abutment shown, SN 044-0044 north abutment similar

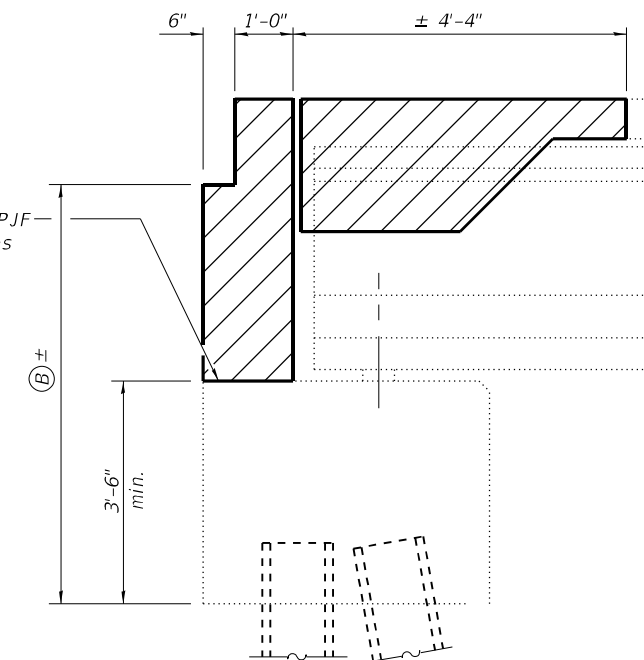


PLAN

SN 044-0043 north abutment shown, SN 044-0043 south abutment similar
 SN 044-0044 south abutment shown, SN 044-0044 north abutment similar

* Due to roadway curvature, approximate location shown.

Location	Dim. A	Dim. B	Dim. C
044-0043 - North Abutment	2'-8 1/4"	6'-6"	1'-6 3/4"
044-0043 - South Abutment	2'-9 7/8"	6'-6 1/4"	1'-6 1/2"
044-0044 - North Abutment	2'-9 1/8"	6'-6 7/8"	1'-6 5/8"
044-0044 - South Abutment	2'-10 5/8"	6'-7"	1'-6 5/8"



SECTION THRU ABUTMENT

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	43.5
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.	47

Concrete Removal quantity for deck concrete included in Bill of Material on sheet 6 of 24.

Concrete Removal quantity shown includes removal of approach slab bent caps.

A nominal quantity of 10 sq. ft. per bridge of Structural Repair of Concrete (Depth Equal to or Less than 5 Inches) is included for additional repairs in the field as determined by the Engineer.

LEGEND

- Concrete Removal
- Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)

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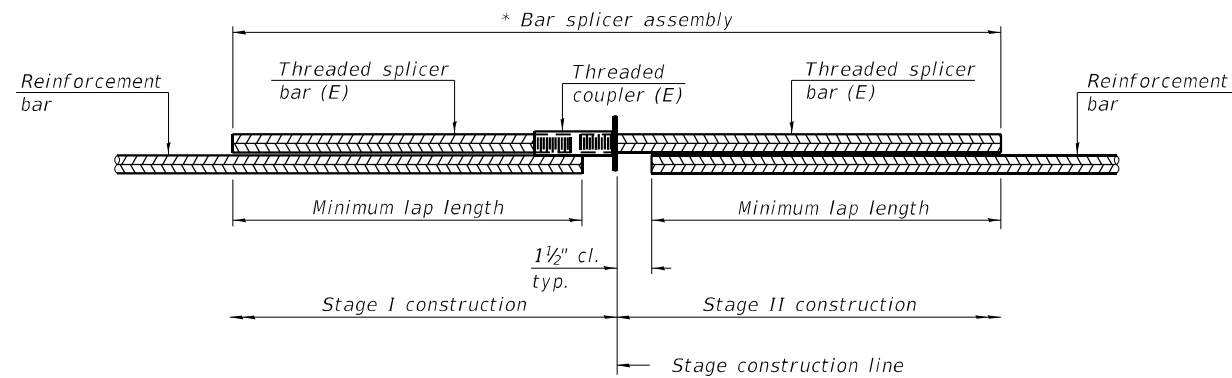
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	CHECKED - JTH	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT REMOVAL
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)**

SHEET 12 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	104
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

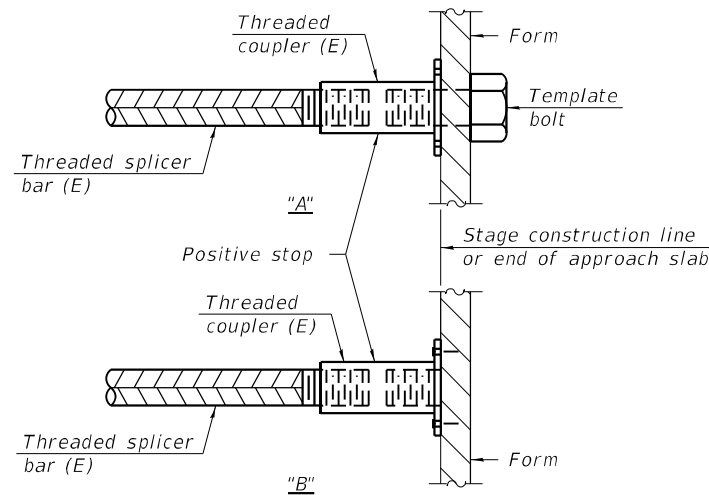


STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

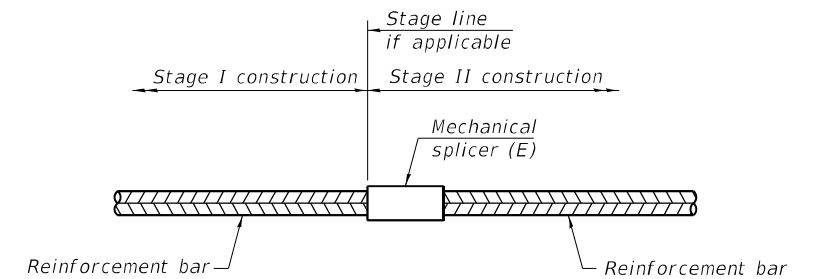


INSTALLATION AND SETTING METHODS

"A" : Set mechanical splicer assembly by means of a template bolt.

"B" : Set mechanical splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



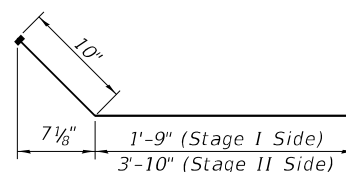
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Location	Bar size	No. assemblies required	Minimum lap length
044-0043 N. Abut. Superstructure	#5	24	3'-6"
044-0043 N. Abut. Diaphragm	#6	6	4'-0"
044-0043 N. Abut. Diaphragm	#6	2	**
044-0043 N. Abut. Diaphragm	#6	4	***
044-0043 N. Abut. Diaphragm	#4	2	2'-5"
044-0043 N. Approach Slab	#5	31	3'-6"
044-0043 N. Approach Slab	#8	41	6'-9"
044-0043 N. Approach Slab Footing	#5	40	3'-6"
044-0043 S. Abut. Superstructure	#5	24	3'-6"
044-0043 S. Abut. Diaphragm	#6	6	4'-0"
044-0043 S. Abut. Diaphragm	#6	2	**
044-0043 S. Abut. Diaphragm	#6	4	***
044-0043 S. Abut. Diaphragm	#4	2	2'-5"
044-0043 S. Approach Slab	#5	31	3'-6"
044-0043 S. Approach Slab	#8	41	6'-9"
044-0043 S. Approach Slab Footing	#5	40	3'-6"
044-0044 N. Abut. Superstructure	#5	24	3'-6"
044-0044 N. Abut. Diaphragm	#6	6	4'-0"
044-0044 N. Abut. Diaphragm	#6	2	**
044-0044 N. Abut. Diaphragm	#6	4	***
044-0044 N. Abut. Diaphragm	#4	2	2'-5"
044-0044 N. Approach Slab	#5	31	3'-6"
044-0044 N. Approach Slab	#8	41	6'-9"
044-0044 N. Approach Slab Footing	#5	40	3'-6"
044-0044 S. Abut. Superstructure	#5	24	3'-6"
044-0044 S. Abut. Diaphragm	#6	6	4'-0"
044-0044 S. Abut. Diaphragm	#6	2	**
044-0044 S. Abut. Diaphragm	#6	4	***
044-0044 S. Abut. Diaphragm	#4	2	2'-5"
044-0044 S. Approach Slab	#5	31	3'-6"
044-0044 S. Approach Slab	#8	41	6'-9"
044-0044 S. Approach Slab Footing	#5	40	3'-6"

** See Bent Headed Bar Splicer Detail.

*** 4'-5" bar on Stage II side, 2'-4" bar on Stage I side.



BENT HEADED BAR SPLICER DETAIL

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars. Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-1-2020

MODEL: D:\file\... FILE NAME: L:\DOT\11906910\VO_g\DrawStructures\043 & 044\013_0043-0044_Bar Splicer Assembly and Mechanical Splicer Details.dgn



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PLOT DATE = 12/1/2021 (9:28:45 AM)	DRAWN - RAH	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

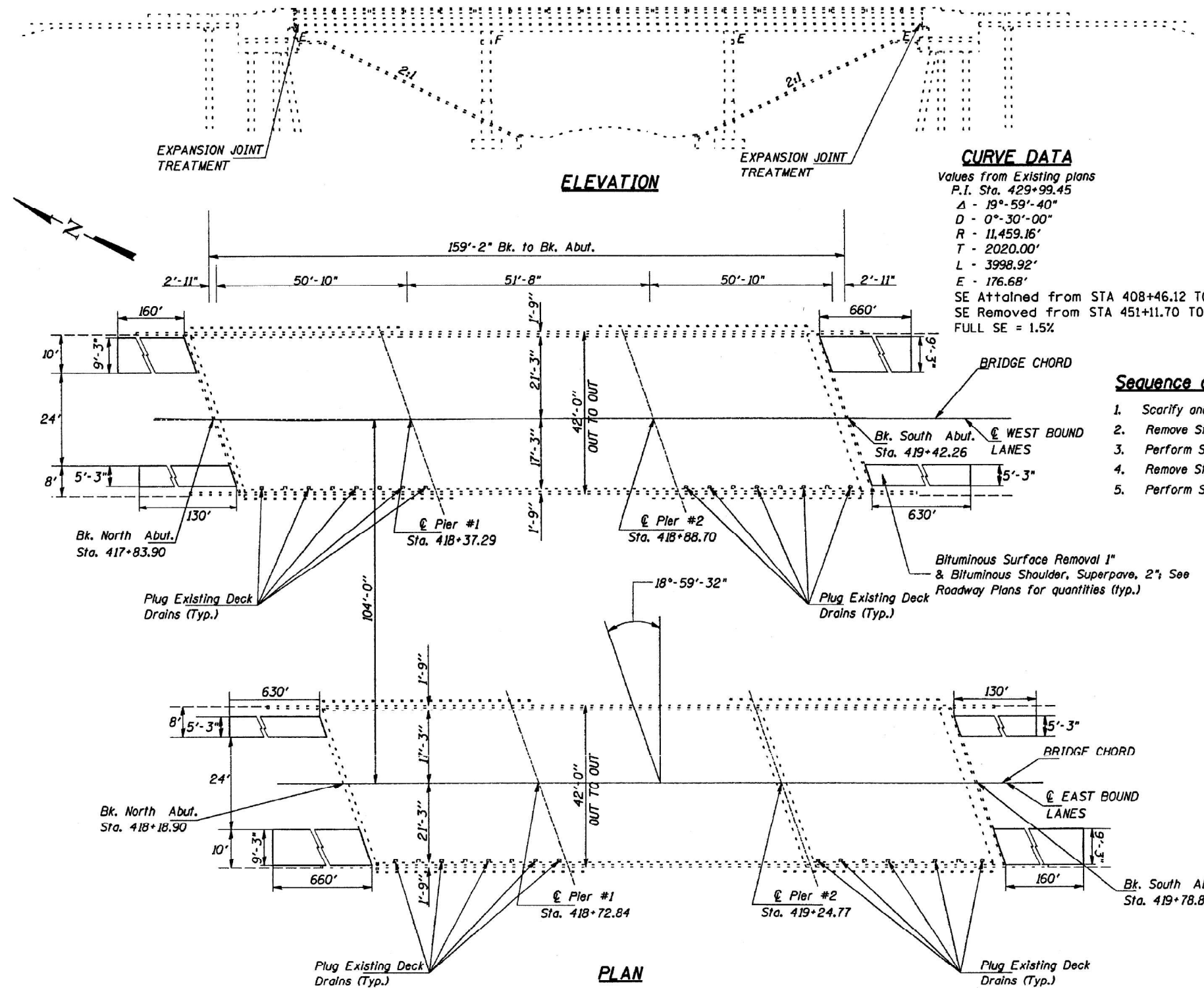
**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)**

SHEET 13 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	105
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24		JOHNSON	150	133
STA.	TO STA.			
FED. AID DIST. NO.	ALIGNED	FED. AID PROJECT		
• BSMART FY04-3 98836				



CURVE DATA
Values from Existing plans
P.I. Sta. 429+99.45
Δ - 19°-59'-40"
D - 0°-30'-00"
R - 11,459.16'
T - 2020.00'
L - 3998.92'
E - 176.68'
SE Attained from STA 408+46.12 TO STA 410+46.12
SE Removed from STA 451+11.70 TO STA 449+11.70
FULL SE = 1.5%

GENERAL NOTES

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

Sequence of Construction

1. Scarify and Resurface Existing Shoulders
2. Remove Stage I Areas
3. Perform Stage I Repairs and Overlay
4. Remove Stage II Areas
5. Perform Stage II Repairs and Overlay

Scope of Work

Scarify existing ±9" thick bituminous shoulders and resurface with bituminous shoulders.

Scarify existing bare deck

Partial depth deck patching

Eliminate every other drain and drains within 10' of abutments and piers

Microsilica Concrete Overlay

Expansion Joint Treatment

Design Stresses

Field Units
New Construction
f' = 3,500 psi
f_s = 60,000 psi (reinforcement)

Existing Structure
f_c = 1,200 psi (hatchblock)
f_s = 20,000 psi (reinforcement)

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL	0043	0044
Concrete Bridge Deck Scarification (1/2 Inch)	Sq. Yd.	1332	666	666
Deck Slab Repair (Partial Depth)	Sq. Yd.	27	13.7	13.3
Plug Existing Deck Drains	Each	20	10	10
Bridge Deck Microsilica Concrete Overlay 2 1/4"	Sq. Yd.	1332	666	666
Concrete Removal	Cu. Yd.	9.7	4.85	4.85
Reinforcement Bars, Epoxy Coated	Pound	1000	500	500
Bar Splicers	Each	16	8	8
Concrete Superstructure	Cu. Yd.	10.6	5.3	5.3
Polymer Concrete	Cu. Ft.	16.5	8.25	8.25
Silicone Joint Sealer 1 1/2"	Foot	85	42.5	42.5
Silicone Joint Sealer 2"	Foot	85	42.5	42.5
Bridge Deck Grooving	Sq. Yd.	1263	631.5	631.5

DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	LD TEB
CHECKED	MAS

GENERAL PLAN AND ELEVATION
FAI 24 OVER TUNNEL HILL STATE TRAIL
JOHNSON COUNTY
STA. 418+80.47
SN 044-0043 (WB)
SN 044-0044 (EB)

FOR INFORMATION ONLY

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	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

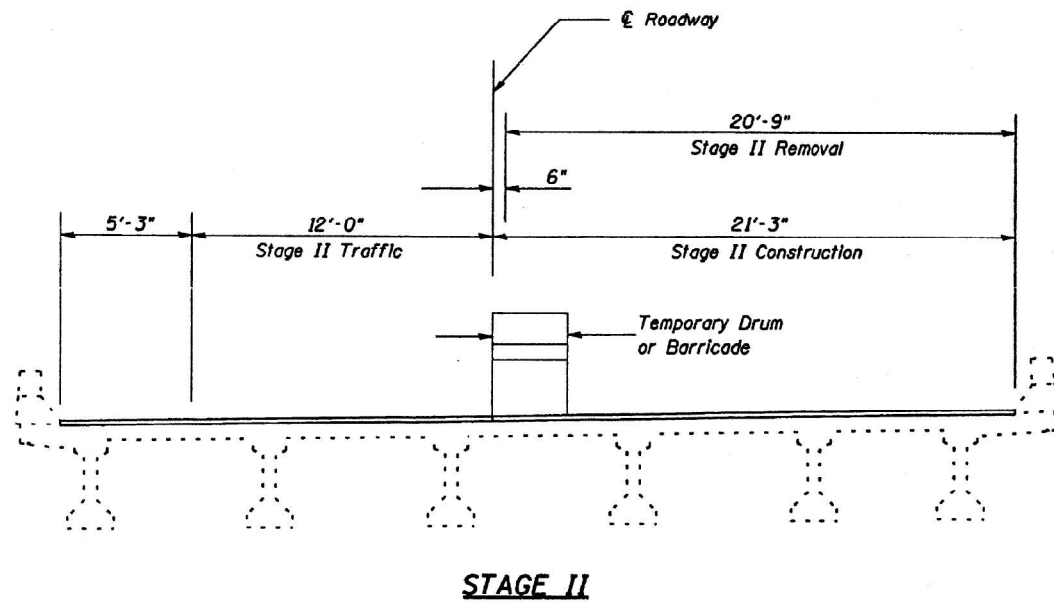
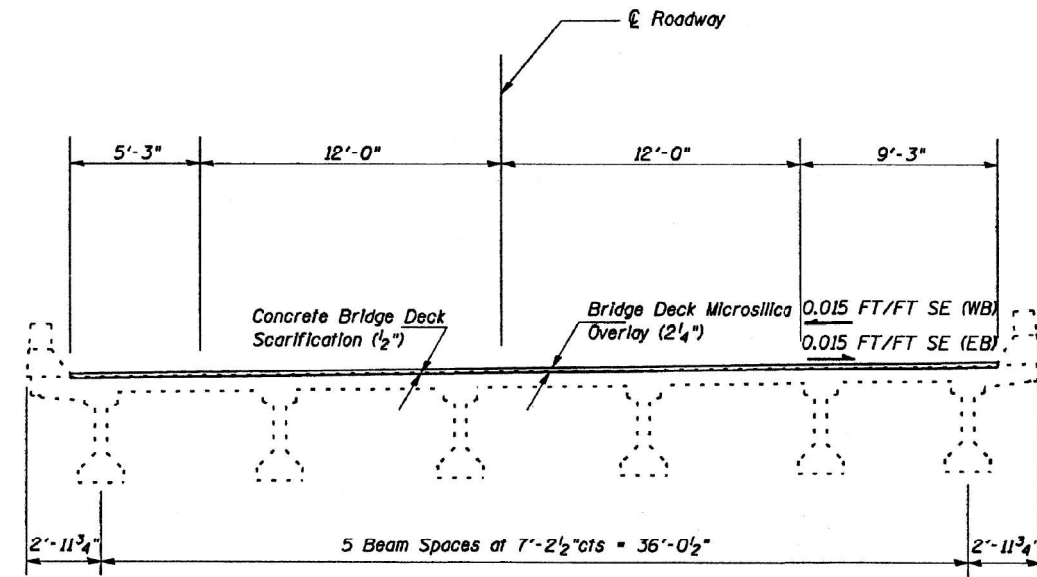
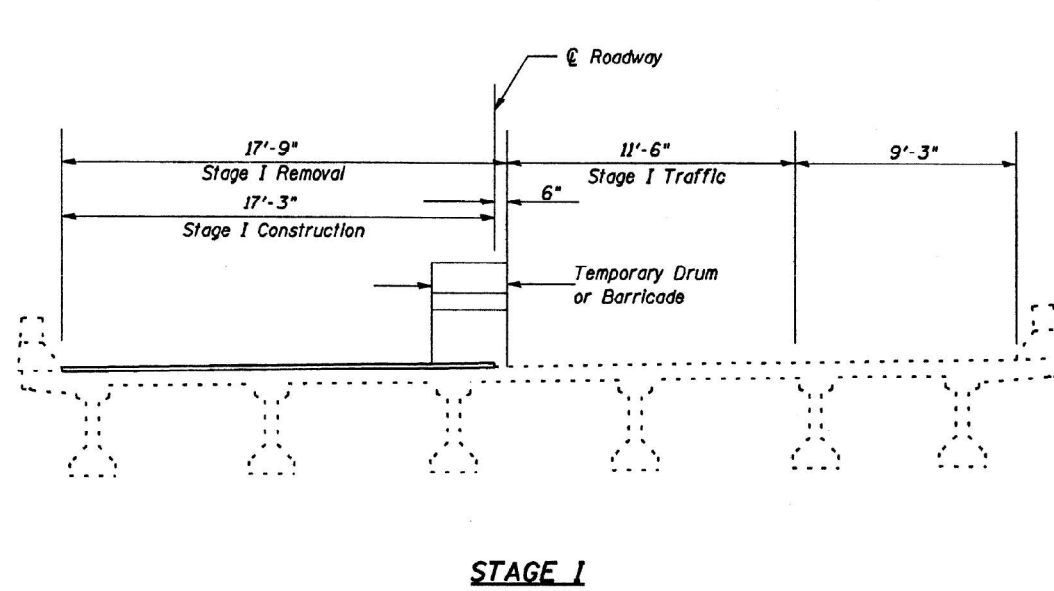
EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

SHEET 14 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	106
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24		JOHNSON	150	134
STA. TO STA.		FED. AID PROJECT		
		BSMART FY04-3 98836		



Notes: Cross sections are looking in direction of traffic.

The temporary drums or barricades shall be located as shown on this sheet except when workers are present, when they may be temporarily moved over 2'-0" shifting traffic onto the existing bituminous shoulders.

FOR INFORMATION ONLY

STAGE CONSTRUCTION DETAILS
JOHNSON COUNTY
SN 044-0043 (WB)
SN 044-0044 (EB)

DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	LD TEB
CHECKED	TWH MAS



USER NAME = Derek Cochran
PLOT SCALE = N/A
PLOT DATE = 12/1/2021 (9:28:59 AM)

DESIGNED - DAC
CHECKED - JTH
DRAWN - RAH
CHECKED - JTH

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

SHEET 15 OF 24 SHEETS

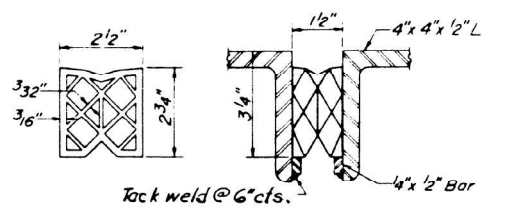
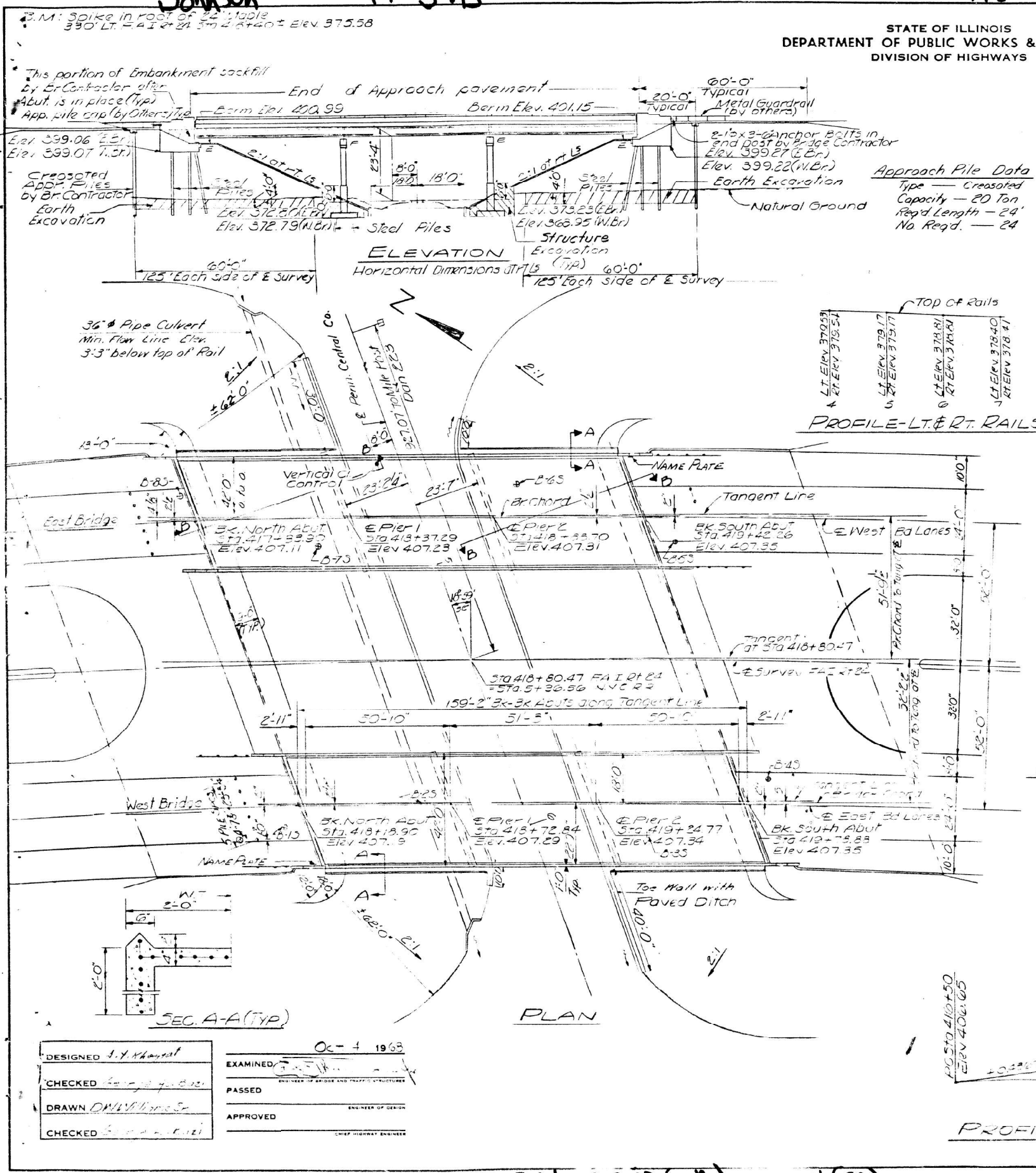
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	107
CONTRACT NO. 78849			ILLINOIS FED. AID PROJECT	

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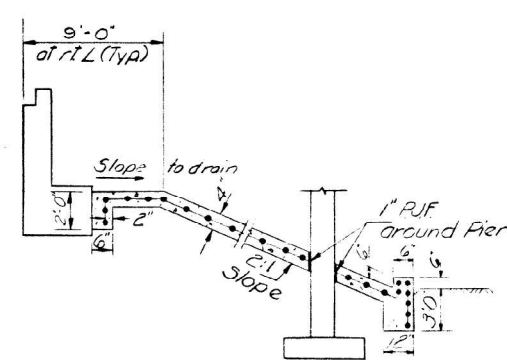
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. /
FAI RT. 24	*	Johnson	123	105	17 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

* 44-5HE-2, 44-5VE



PERFORMED JOINT SEALER



SEC. B-B

APPROACH PILE DATA

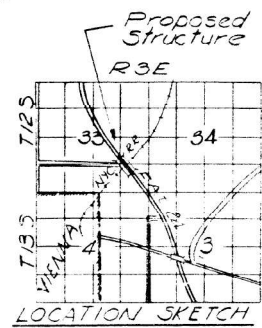
Type	Capacity	Req'd Length	No. Req'd.
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PENN CENTRAL
BUILT 197 BY
STATE OF ILLINOIS
FAI RT. 24 SEC. 44-5VB
FAI PROJ. I-6-24(118)
LOADING H300/ALT

NAME PLATE
(See Std. 2113.1)

HORIZ. CURVE DATA

PI STA 408+39.45
Δ = 19°-59'-40"
D = 0°-30'-00"
R = 11,459.18'
T = 2020.00'
L = 3998.92'
E = 176.65'
SE = 0.015
SE Attained:
STA 408+46.12 TO STA 410+46.12
STA 431+11.70 TO STA 449+11.70



LOCATION SKETCH

FOR INFORMATION ONLY

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.	Total
Structure Excavation	cu. yds.		500	500
Class X Concrete	cu. yds.	446.5	454.7	891.2
Furn'd Erecting precast pre-stressed Conc. I beams (42')	Lin. Ft.	16.48		16.48
Reinforcement Bars	Lbs.	104640	43730	150370
Created Piles (201 to 38)	Lin. Ft.			516
Steel Piles (50P36)	Lin. Ft.		2097	2097
Test Piles Steel (GBR36)	Eq.		2	2
Name Plates	Eq.	2		2
Slope Wall (4')	Sq. yds.			2340
Earth Excavation	cu. yds.			4410
Performed JT Sealer	Lin. Ft.			174

* includes applications on inside vertical face of Top, exposed end of the Abutment wings.

DESIGN STRESSED

FIELD UNITS
F_c = 12000 PSI - (SUPER)
F_c = 14000 PSI - (SUB)
F_s = 20000 PSI - (REIN)
F_c = 75 PSI - (FTGS)
n = 10

PRECAST PRESTRESSED UNITS

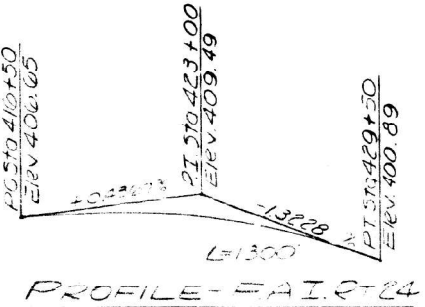
f_c = 5000 PSI
f_t = 4000 PSI
f_s = 248,000 PSI - (STRANDS)
f_s = 173,600 PSI - (TIE BARS)

GENERAL PLAN & ELEVATION

PROJECT - 2022-16-15
FAI RT. 24 OVER
PENN. CENTRAL COMPANY
FAI RT. 21 SEC. 44-5VB
JOHNSON COUNTY

DESIGNED	J. J. Kharrat	EXAMINED	[Signature]
CHECKED	[Signature]	PASSED	[Signature]
DRAWN	DWY/11/15/21	APPROVED	[Signature]
CHECKED	[Signature]		

DATE: 06-4-1963



PROFILE - FAI RT. 24



USER NAME =	Derek Cochran	DESIGNED -	DAC	REVISED -	
PLOT SCALE =	N/A	CHECKED -	JTH	REVISED -	
PLOT DATE =	12/1/2021 (9:28:13 AM)	DRAWN -	RAH	REVISED -	
		CHECKED -	JTH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)
SHEET 16 OF 24 SHEETS

FAI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	108
ILLINOIS			FED. AID PROJECT	

9-80

44-5VB

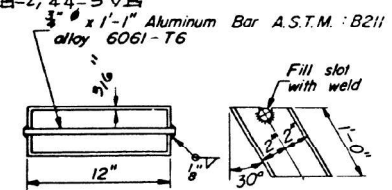
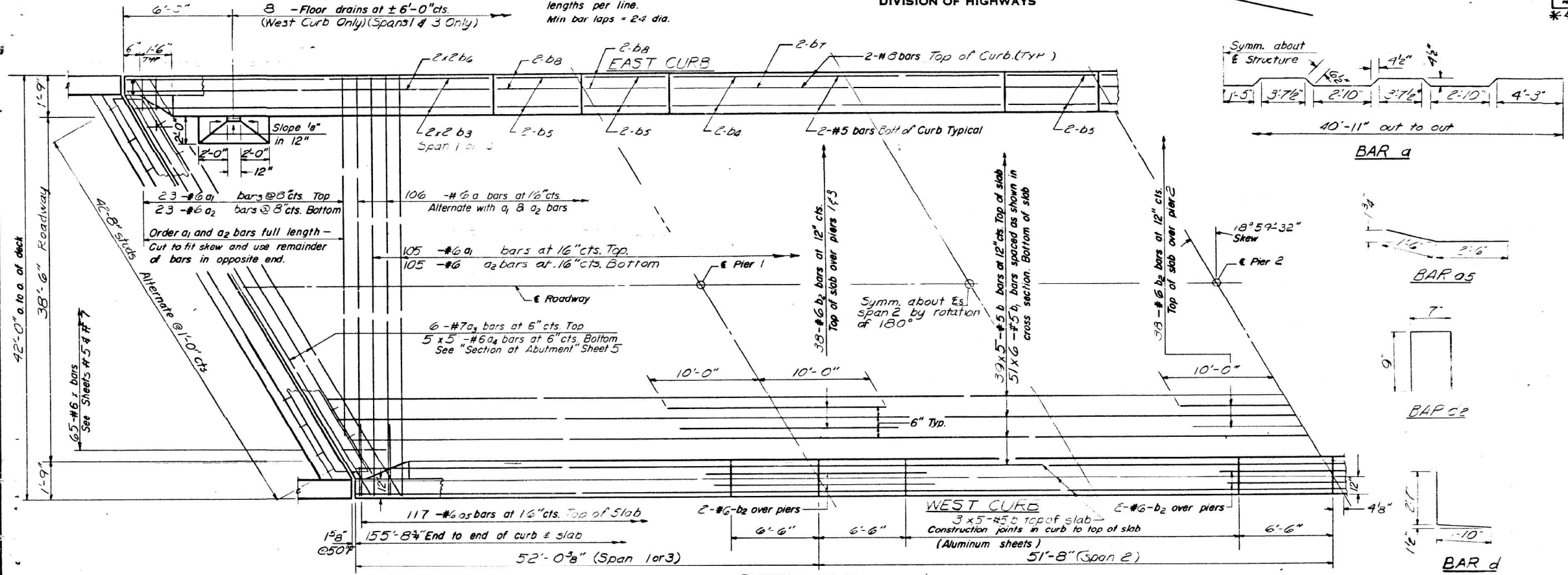
118+80.0

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	Johnson	123	109

SHEET NO. 4
17 SHEETS

Note:
Bars indicated thus 20x3-#5 etc.
indicate 20 lines of bars with 3
lengths per line.
Min bar laps = 24 dia.



3/8" x 1'-1" Aluminum Bar A.S.T.M.: B211
alloy 6061-T6
Fill slot with weld

3/8" Aluminum Sheets Welded
A.S.T.M.: B209 alloy 6061-T6
or Aluminum Extrusions ASTM
B221 alloy 6061-T6

FLOOR DRAIN
West Abut only



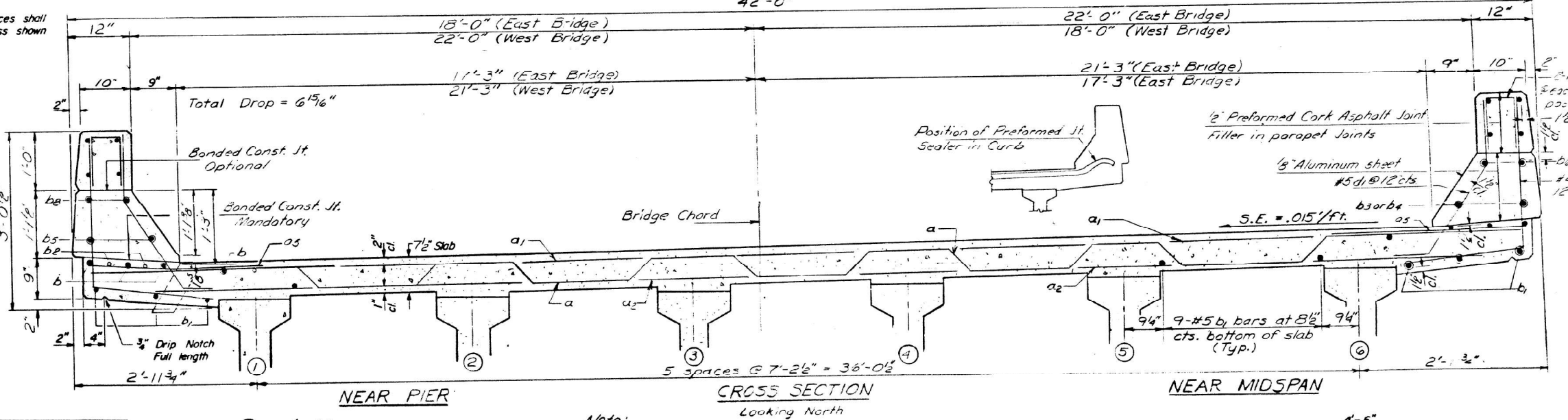
(TWO BRIDGES)
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	212	#6	42'-8"	—
a1	256	#6	43'-11"	—
a2	253	#6	39'-8"	—
a3	24	#7	43'-8"	—
a4	100	#6	6'-3"	—
a5	463	#6	4'-0"	—
b	450	#5	32'-0"	—
b1	612	#5	27'-0"	—
b2	103	#6	20'-0"	—
b3	32	#5	23'-3"	—
b4	8	#5	33'-5"	—
b5	32	#5	6'-3"	—
b6	32	#8	23'-9"	—
b7	8	#8	33'-5"	—
b8	32	#8	6'-3"	—
d	624	#4	4'-5"	L
d1	312	#5	3'-5"	L
d2	144	#4	2'-1"	L
m	140	#4	6'-8"	—
m1	40	#6	5'-2"	—
m2	60	#4	5'-3"	—
s	100	#4	10'-2"	—
s1	150	#4	8'-0"	—
x	260	#6	3'-5"	—

Reinforcement Bars lbs. 2210
Structural Steel lbs. 400
Class X Concrete Cu. Yds. 400

For locations and details of bars m, m1, m2, s and s1; see sheets 5 & 7.
The quantities of longitudinal reinforcement and concrete in parapets are billed separately on sheet 3 and are not included above.

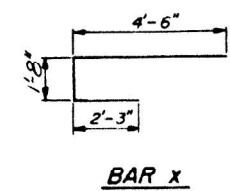
SUPERSTRUCTURE
EAST & WEST BRIDGES
EAST PT. 24 SEC. 1-1-VE
JOHNSON COUNTY
STA. 418 + 80.47



All clearances shall be 1/2" unless shown otherwise.

DESIGNED J. J. Layyat
CHECKED George H. B. 4-1-32
J. R. Boice
DRAWN James R. Carman
CHECKED George H. B. 4-1-32
OCT 4 1963
EXAMINED
PASSED
APPROVED
PI-1-R (>14°) 1-27-66

Note:
Those spans which will have railroad signal or communication lines under them shall have the deck drains spaced to clear the cross arms of these wire signal poles as determined in the field by the Engineer. No deck drains permitted in span over railroad tracks.



FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	109

SHEET 17 OF 24 SHEETS

ILLINOIS FED. AID PROJECT



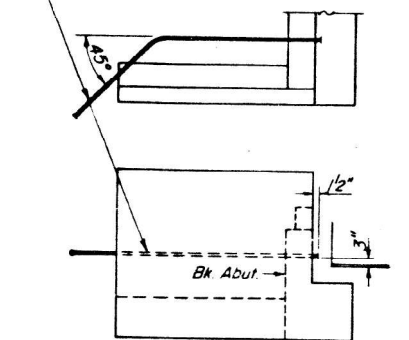
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PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:28:24 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

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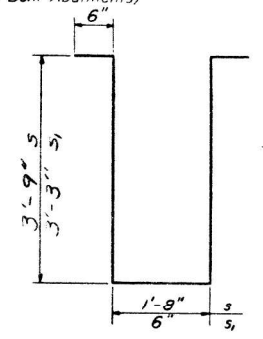
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

44-5RB-2, 44-5VB				
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	Johnson	123	110
17 SHEETS				

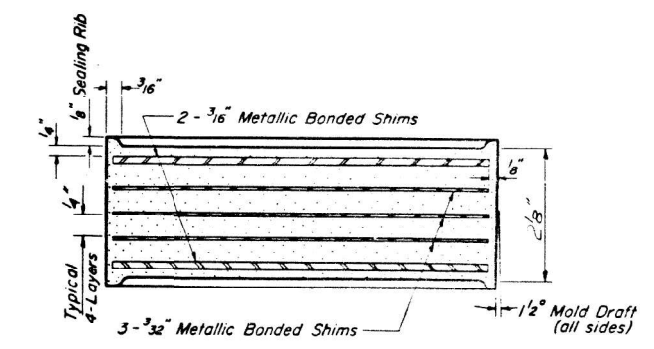
Locate 2" Galv. Conduit (Sch 40 Pipe) ±12" inside of fascia beam web and parallel to beam line. Extend to clear the wing wall and terminate at a point outside of shoulder. Thread and cap each end. Place conduit at the two outside corners of each dual bridge & all four corners of a single bridge. (4-Reqd) Cost incidental



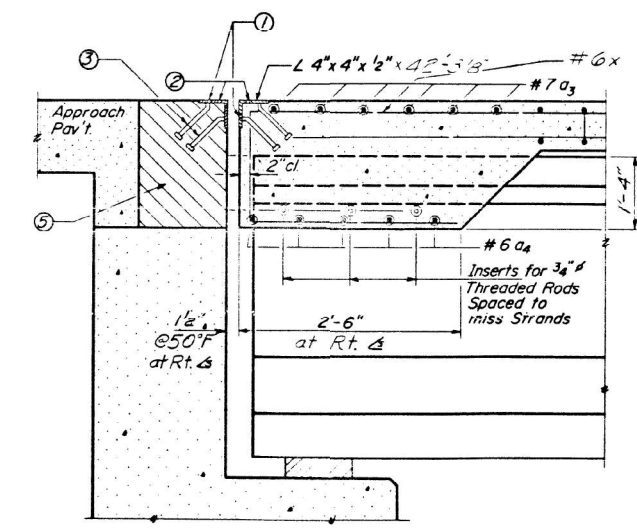
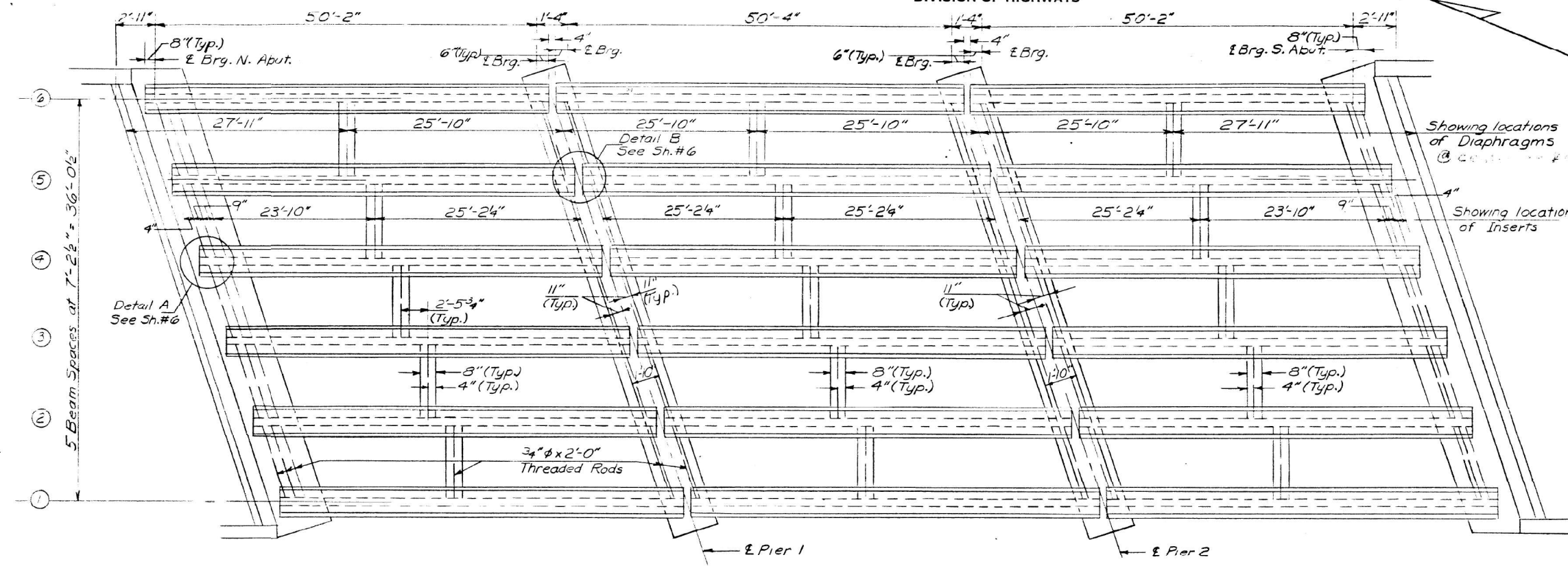
ELECTRICAL CONDUIT LOCATION
(Pile Bent Abutments)



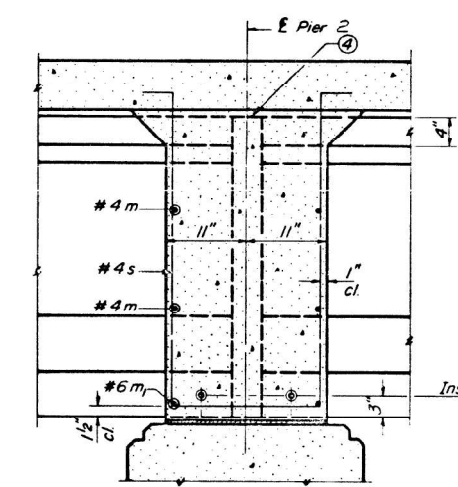
BARS s & s1



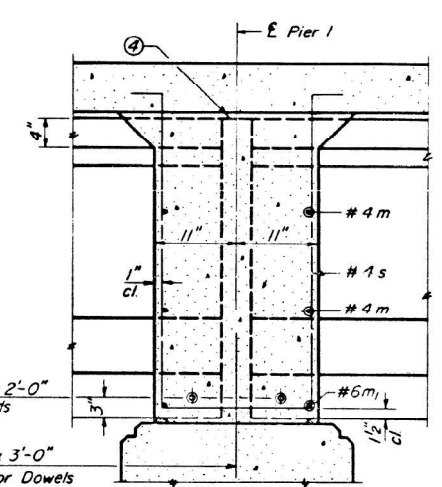
ELASTOMERIC BEARING DETAIL
See Sheet # 7



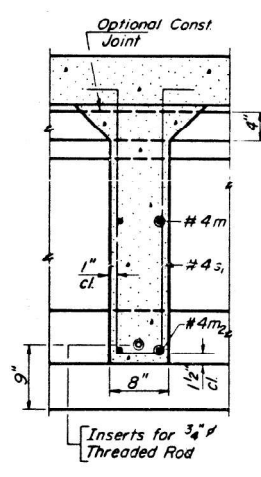
SECTION AT ABUTMENT



PIER 2



PIER 1



SEC. AT INT. DIAPHRAGM

- 1/16" holes at 12" cts for 3/8" bolts set on normal gage line. All bolts shall be burned, sawed or chipped off flush with the back of angles after forms are removed.
- 1/16" vent holes at 12" cts set on 1 3/8" gage line.
- 3/4" x 8" CR 1020 STL granular or solid flux filled headed studs—automatically end welded (alternate at 1'-0" cts)
- Pour diaphragm flush with top of beam. Concrete in slab above this line shall be placed not less than 45 minutes nor more than 90 minutes after diaphragm has been poured.
- Hatched area to be poured after Superstructure forms have been removed. Quantity of Class X Concrete included with Superstructure. See Sheet #1 for Reinforced Joint Sealer details and 1/4" x 1/2" bars.

Bars a3, a4; m, m1, m2; s & s1 are included in Bill of Material on Sheet #

DESIGNED	A. Y. Khayat	EXAMINED	[Signature]
CHECKED	George A. Boice	PASSED	[Signature]
DRAWN	J.R. Boice	APPROVED	[Signature]
CHECKED	George A. Boice	CHIEF HIGHWAY ENGINEER	

PI-2J 1-27-66

FRAMING PLAN
EAST & WEST BRIDGES
F.A.I. RT. 24 SEC. 44-5VB
JOHNSON COUNTY
STA. 413 + 80.47

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	110
CONTRACT NO. 78849				



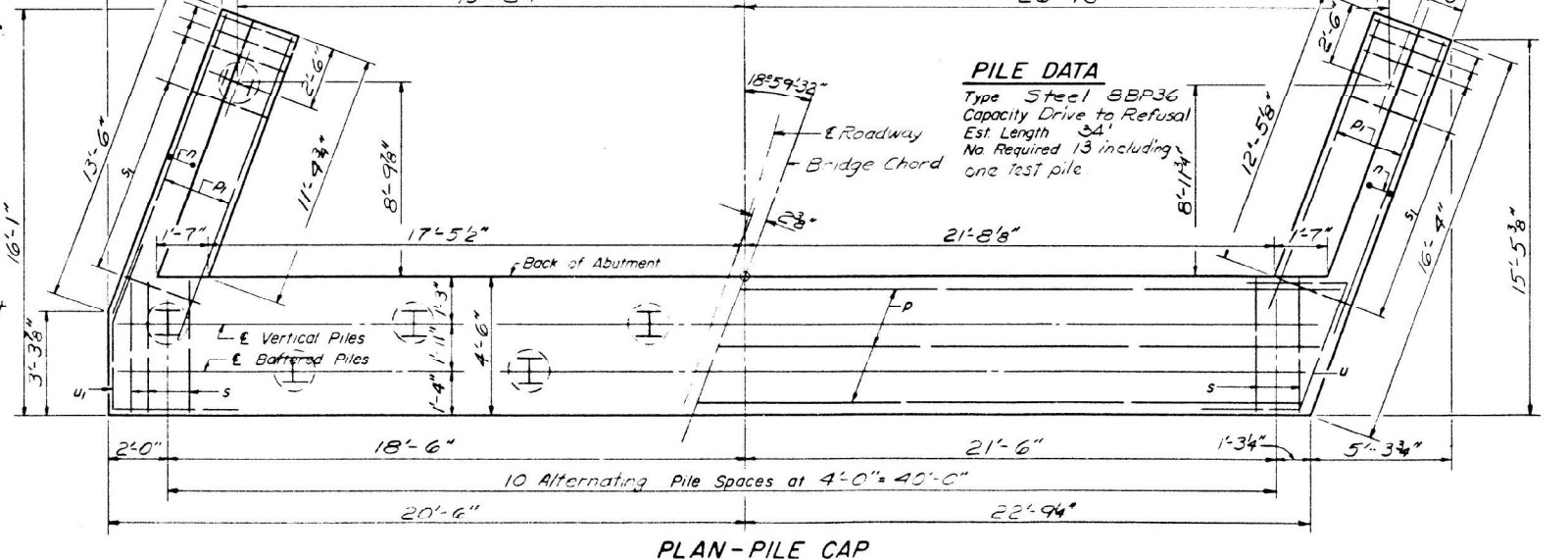
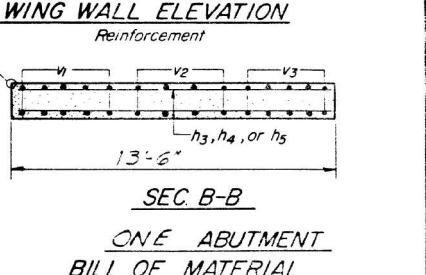
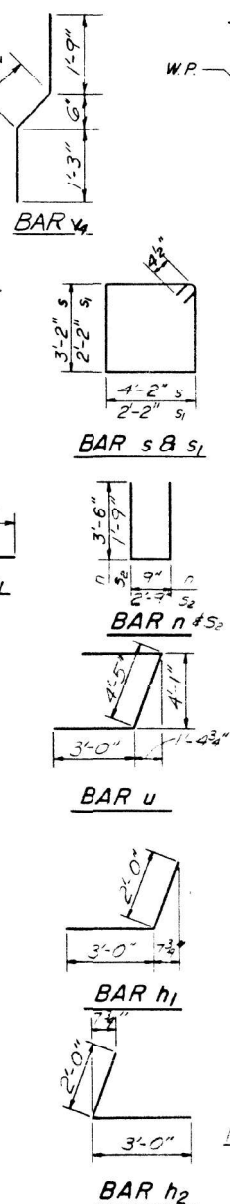
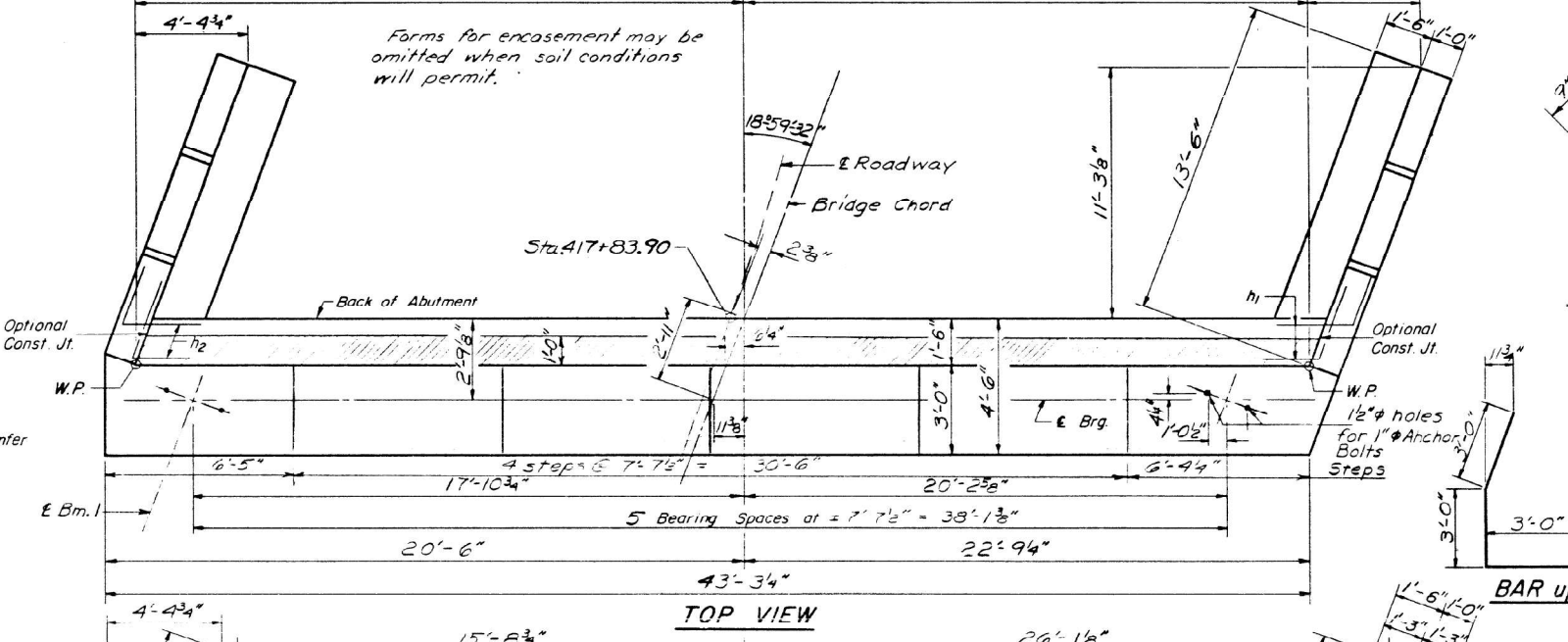
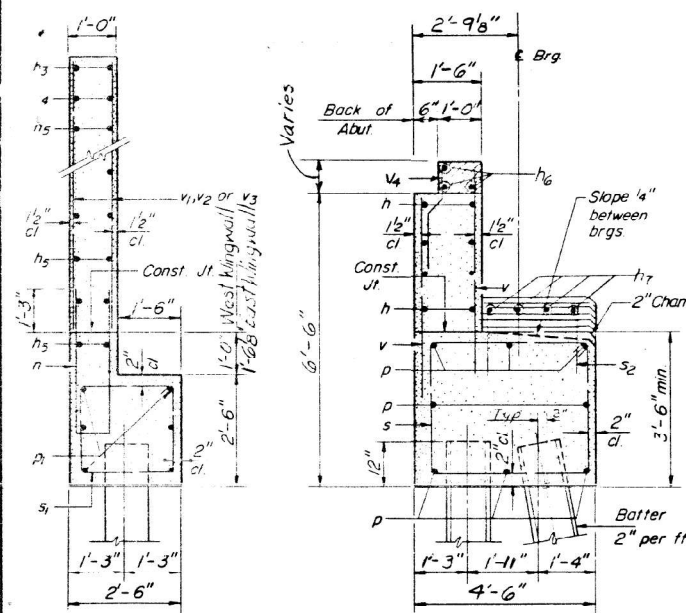
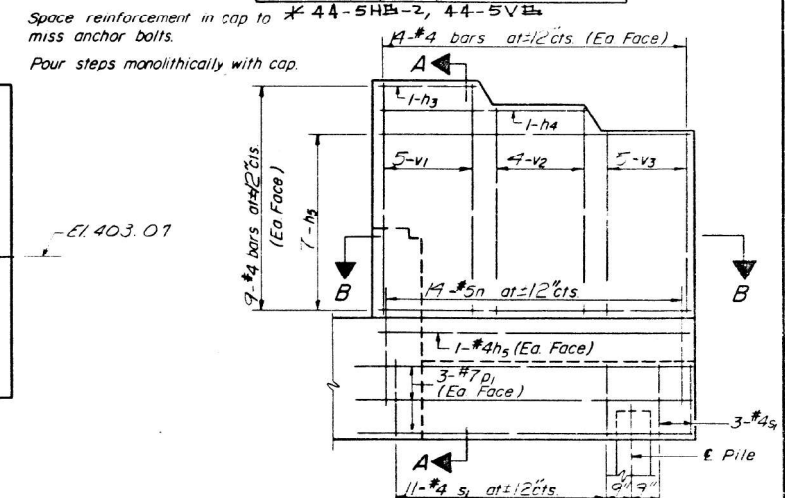
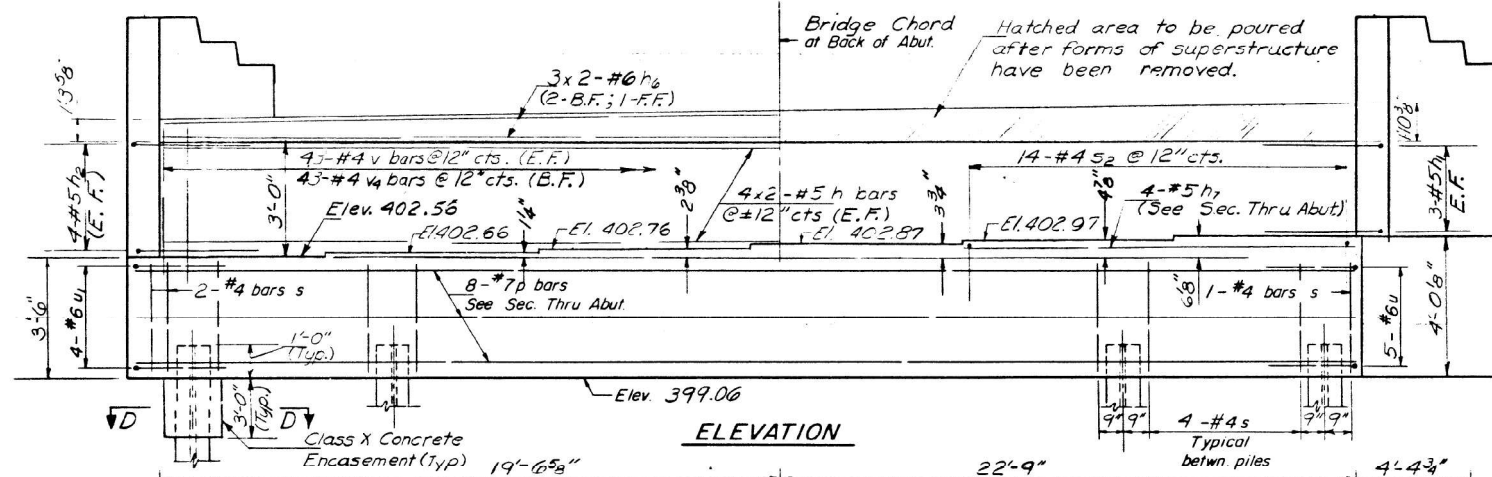
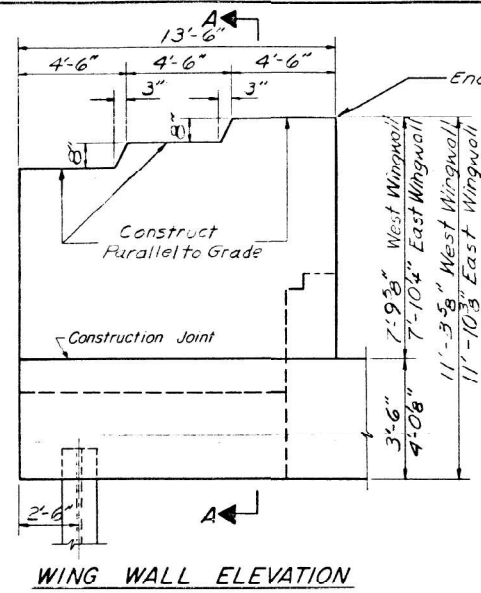
USER NAME =	Derek Cochran	DESIGNED -	DAC	REVISED -	
PLOT SCALE =	N/A	CHECKED -	JTH	REVISED -	
PLOT DATE =	12/1/2021 (9:28:34 AM)	DRAWN -	RAH	REVISED -	
		CHECKED -	JTH	REVISED -	

SHEET 18 OF 24 SHEETS

ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	Johnson	123	115
17 SHEETS				



NORTH ABUTMENT
EAST ABUTMENT
F.A.I. RT. 24 BRIDGE 44-5VB
JOHNSON COUNTY
STA. 417+83.90

DESIGNED A.Y. Khasyat
CHECKED George A. Bazi
DRAWN S.G. Ferchow
CHECKED George A. Bazi

EXAMINED
PASSED
APPROVED

4-19-63

A-9-R (15°-34°) 2-1-66

FOR INFORMATION ONLY

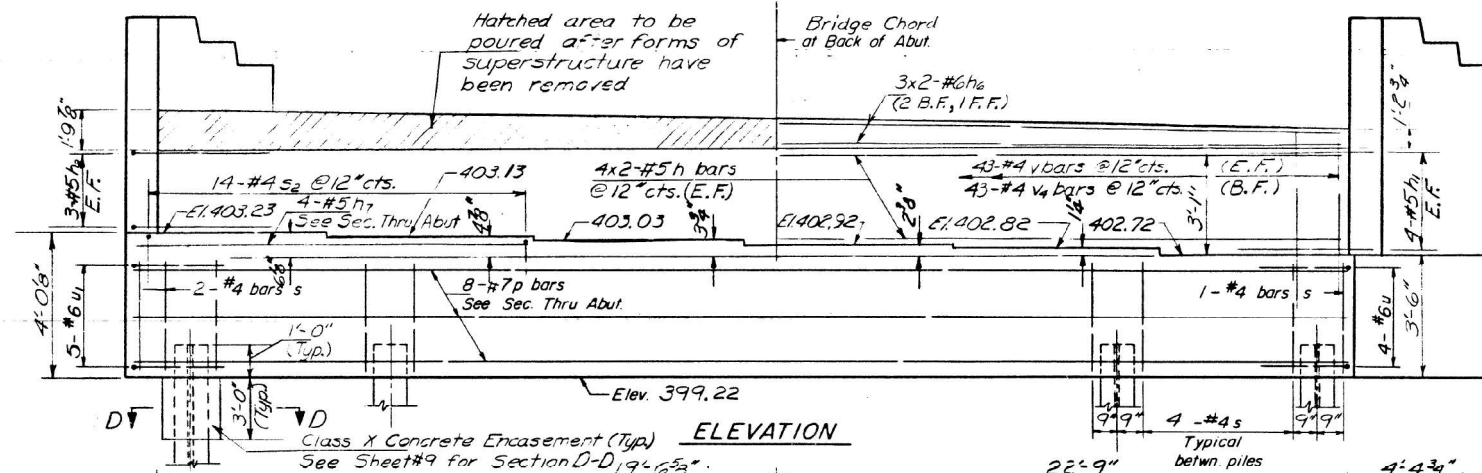
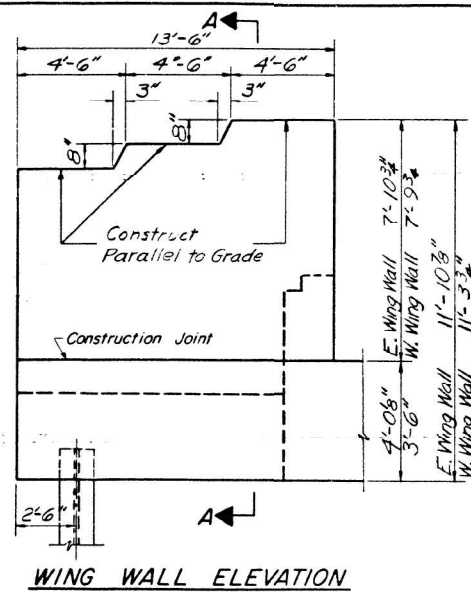
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

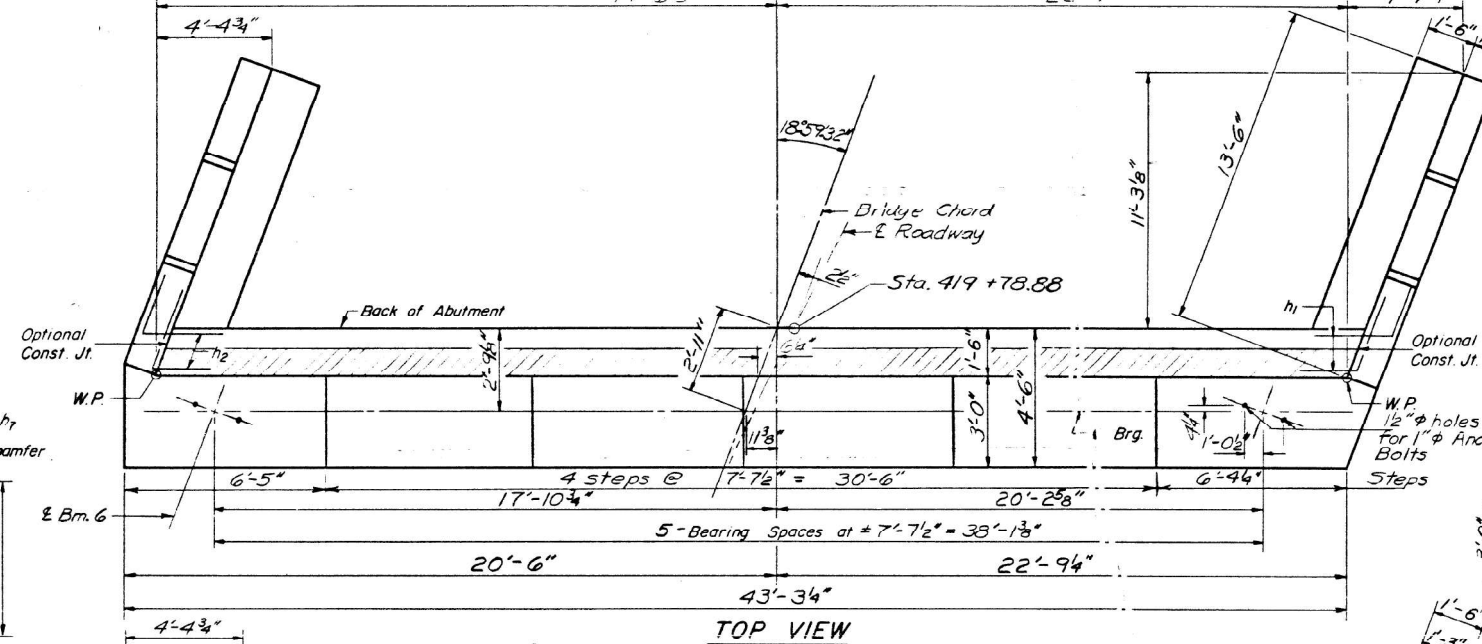
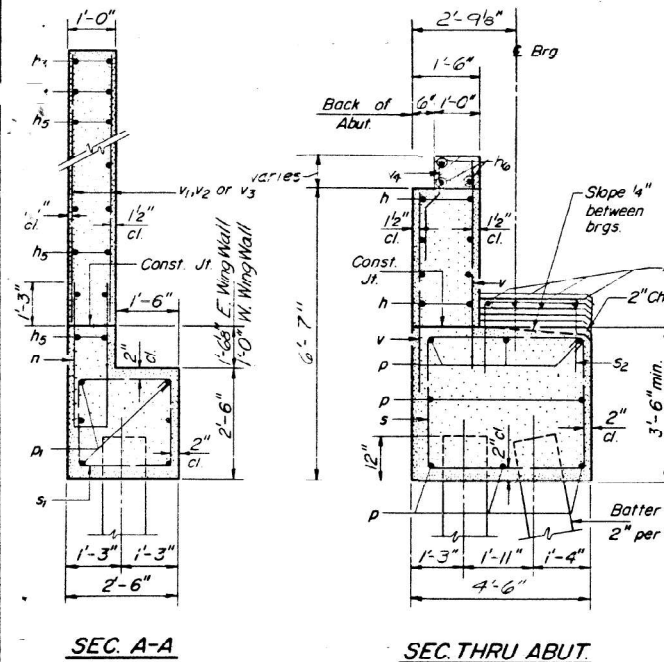
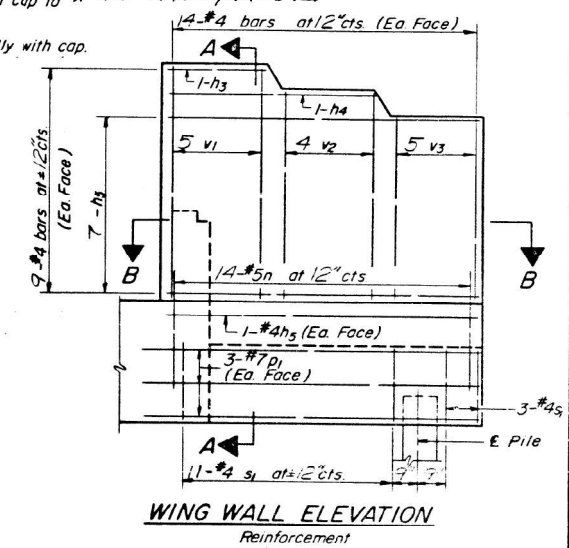
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	111
CONTRACT NO. 78849				



USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:28:44 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -



Space reinforcement in cap to * 4-4-5HB-2, 4A-5VB miss anchor bolts.
Pair steps monolithically with cap.



PILE DATA

Type Steel: BP36

Capacity Drive: Refusal

Est. Length: 30'

No. Required: 13 including 1-test pile.

ONE ABUTMENT BILL OF MATERIAL

Bar	No	Size	Length	Shape
n	16	#5	2'-4"	
h ₁	8	#5	5'-0"	L
h ₂	6	#5	5'-0"	L
h ₃	4	#4	4'-3"	
h ₄	4	#4	5'-9"	
h ₅	32	#4	3'-3"	
h ₆	6	#6	21'-9"	
h ₇	4	#5	3'-0"	
n	28	#5	7'-9"	L
p	8	#7	4'-0"	
p ₁	12	#7	13'-3"	
s	43	#4	15'-5"	
s ₁	25	#4	7'-5"	
s ₂	17	#4	6'-0"	
u	4	#6	10'-5"	
u ₁	5	#6	9'-0"	L
v	6	#4	2'-0"	
v ₁	20	#4	7'-0"	
v ₂	16	#4	7'-0"	
v ₃	20	#4	6'-0"	
v ₄	43	#4	3'-0"	

Class X Concrete Cu Yds

Reinforcement Bars Lbs

Steel Piles Lin Ft

Test Piles Ea

SOUTH ABUTMENT WEST BRIDGE

F.A.I. RT. 24 SEC. 4A-5VB

JOHNSON COUNTY

STA. 419 + 78.88

DESIGNED: A. Y. Khanapat

CHECKED: George H. Bozi

DRAWN: J. R. Boice

CHECKED: George H. Bozi

Oct. 4 1968

EXAMINED: [Signature]

PASSED: [Signature]

APPROVED: [Signature]

A-9-R (15°-34°) 2-1-66

FOR INFORMATION ONLY



USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:28:55 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

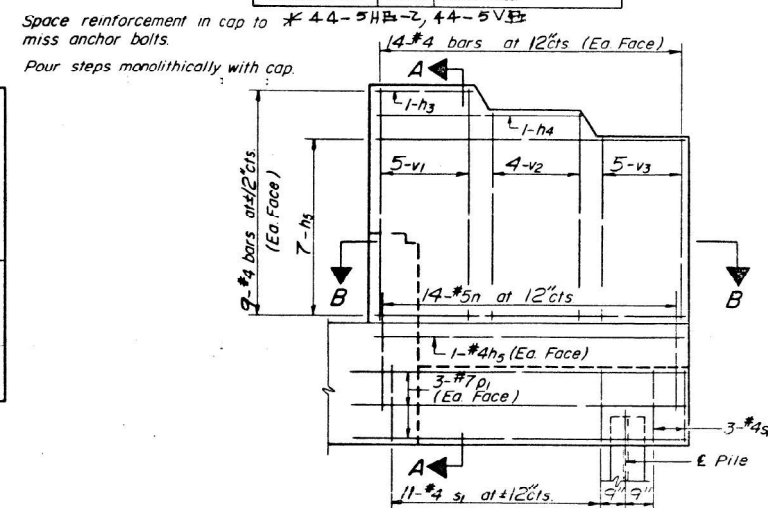
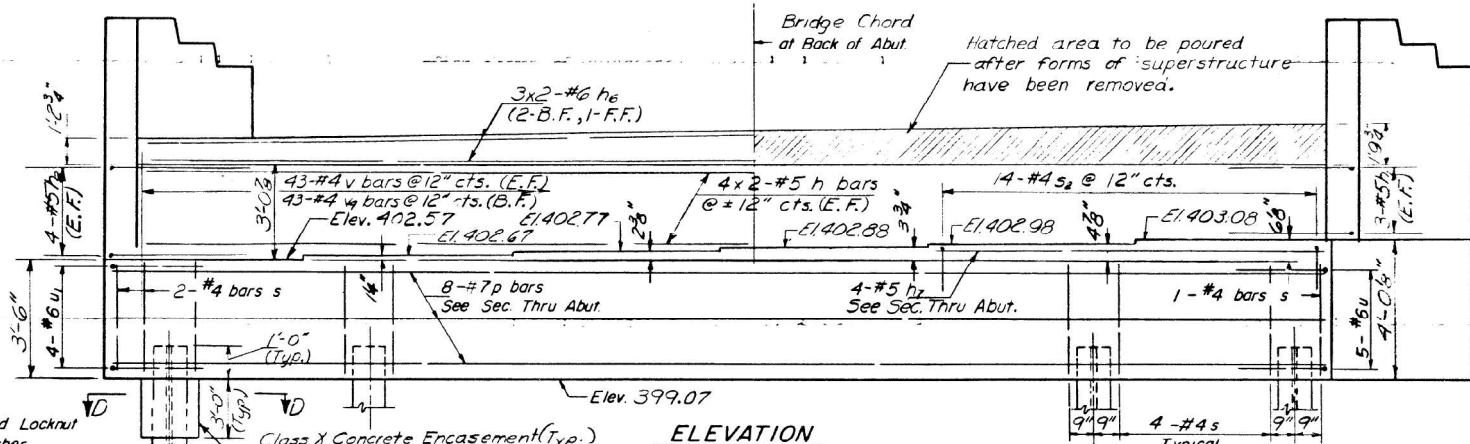
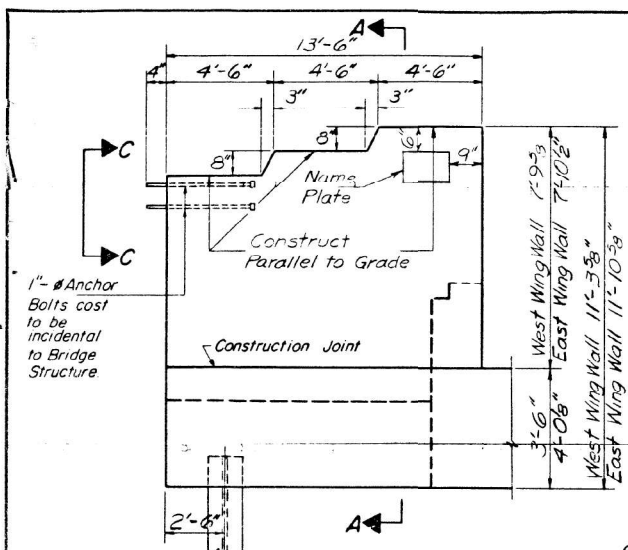
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

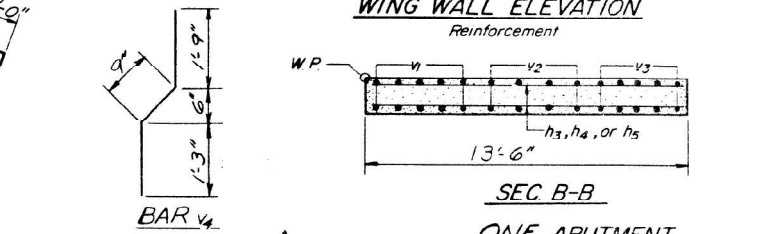
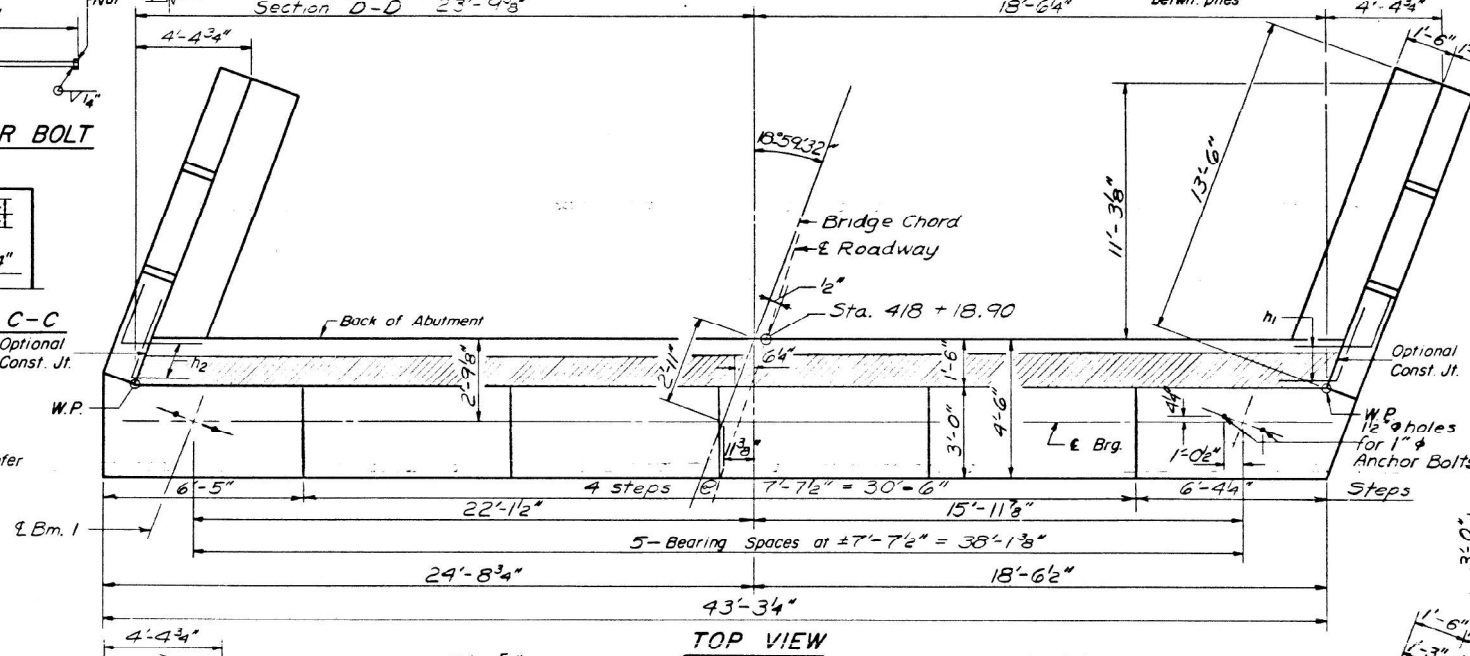
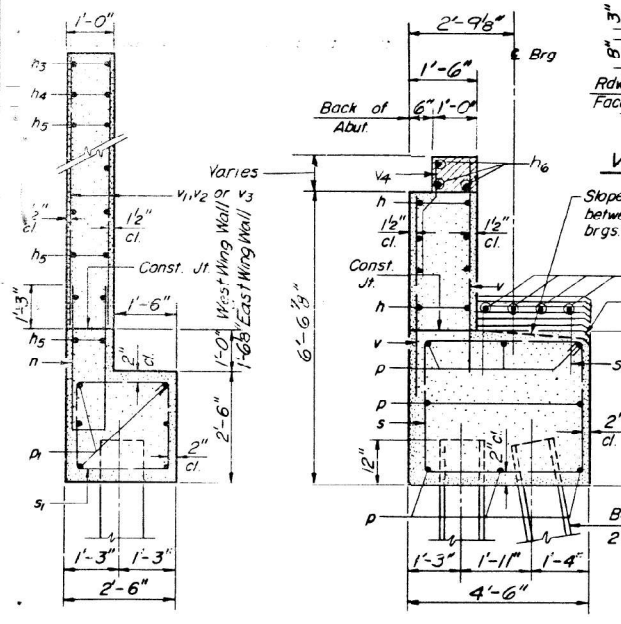
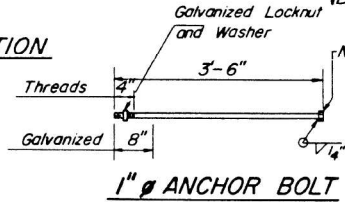
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	112
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. //
24		Johnson	173	117	17 SHEETS



Note: Locate Name Plate @ inside Face of West Wing Wall



ONE ABUTMENT BILL OF MATERIAL

Bar	No	Size	Length	Shape
n	16	#5	21'-9"	—
n ₁	6	#5	5'-0"	—
n ₂	8	#5	5'-0"	L
n ₃	4	#4	4'-3"	—
n ₄	4	#4	8'-9"	—
n ₅	32	#4	13'-3"	—
n ₆	6	#6	21'-7"	—
n ₇	4	#5	13'-9"	—
p	8	#7	43'-0"	—
p ₁	12	#7	13'-3"	—
s	43	#4	15'-5"	□
s ₁	28	#4	9'-5"	□
s ₂	14	#-	6'-3"	□
u	5	#6	10'-5"	—
u ₁	4	#6	7'-0"	L
v	36	#4	5'-6"	—
v ₁	20	#4	7'-9"	—
v ₂	16	#4	7'-1"	—
v ₃	20	#4	8'-5"	—
v ₄	43	#4	3'-9"	—
Class X Concrete				Cu Yds. 232
Reinforcement Bars				Lbs. 3720
Steel Piles (BBF36)				Lin Ft. 507
Name Plates				Ea. 1

PILE DATA
Type Steel BBF36
Capacity Drive to Refusal
Est. Length 39
No. Required 13

DESIGNED: J.Y. Khayyat
CHECKED: George H. Bazi
DRAWN: J.R. Boice
OCT. 4 1968
PASSED: [Signature]
APPROVED: [Signature]

NORTH ABUTMENT WEST BRIDGE
F.A.I. RT. 24 SEC. 44-5VB
JOHNSON COUNTY
STA. 418+80.47

FOR INFORMATION ONLY



USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:30:06 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	113

CONTRACT NO. 78849
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
P.A. 1. 24	*	Johnson	123	122
SHEET NO. 16				
17 SHEETS				
* 44-5HB-2, 44-5VB				

Boring No.	Station	Offset	Surface Water El.	Groundwater El. at Completion	After	Hours	Elevation	N	Qu / s.f.	w (%)
1-S	41814	50 FEET RIGHT	NONE	362.1	374.4	24				
Ground Surface 378.9 0										
MEDIUM MOIST BROWN AND GREY SILTY CLAY LOAM A-(8)										
Elevation 373.4 -5										
STIFF TO VERY STIFF MOIST BROWN MOTTLED GREY SILTY CLAY LOAM A-(9)										
Elevation 372.8 -10										
STIFF MOIST BROWN MOTTLED GREY CLAY A-(12)										
Elevation 365.9 -15										
HARD DRY BROWN ROTTEN SANDSTONE										
Elevation 363.4 -15										
HARD DRY BROWN ROTTEN SANDSTONE										
Elevation 360.3 -18										
BOTTOM OF HOLE = 18.6 FEET										
DURING DRILLING IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 17.5 FEET										

Boring No.	Station	Offset	Surface Water El.	Groundwater El. at Completion	After	Hours	Elevation	N	Qu / s.f.	w (%)
2-S	41860	52 FEET RIGHT	NONE							
Ground Surface 379.8 0										
STIFF DAMP BROWN MOTTLED GREY SILTY CLAY TO CLAY A-(12-13)										
Elevation 377.9 -5										
STIFF DAMP BROWN MOTTLED GREY SILTY CLAY A-(9-10)										
Elevation 375.3 -10										
STIFF DAMP BROWN MOTTLED GREY SILTY CLAY TO SILTY CLAY LOAM A-(8-9)										
Elevation 372.8 -15										
STIFF DAMP BROWN MOTTLED GREY SILTY CLAY A-(10-11)										
Elevation 370.3 -20										
VERY STIFF MOIST BROWN MOTTLED GREY SILTY CLAY TO CLAY A-(11-12)										
Elevation 367.8 -25										
VERY STIFF MOIST BROWN MOTTLED GREY CLAY A-(13+) WITH SOME GRAVEL										
Elevation 362.9 -30										
HARD DAMP BROWN MOTTLED GREY CLAY TO CLAY SHALE										
Elevation 360.3 -32										
BOTTOM OF HOLE = 17.0 FEET										

Boring No.	Station	Offset	Surface Water El.	Groundwater El. at Completion	After	Hours	Elevation	N	Qu / s.f.	w (%)
3-S	41936	60 FEET RIGHT	NONE	375.4						
Ground Surface 380.4 0										
SOFT VERY WET BROWN SILTY CLAY LOAM A-(8)										
Elevation 374.9 -5										
STIFF MOIST BROWN MOTTLED GREY SILTY CLAY LOAM TO SILTY CLAY A-(9)										
Elevation 372.4 -10										
STIFF MOIST BROWN MOTTLED GREY AND YELLOW SILTY CLAY TO CLAY LOAM A-(10-11)										
Elevation 369.9 -15										
HARD MOIST FINE GRAINED BROWN MOTTLED GREY ROTTEN SANDSTONE										
Elevation 367.7 -17										
BOTTOM OF HOLE = 12.7 FEET										

FOR INFORMATION ONLY

Boring No.	Station	Offset	Surface Water El.	Groundwater El. at Completion	After	Hours	Elevation	N	Qu / s.f.	w (%)
4-S	41983	45 FEET RIGHT	NONE	382.0						
Ground Surface 382.5 0										
MEDIUM VERY MOIST BROWN TO LIGHT BROWN SILTY CLAY LOAM A-(8)										
Elevation 379.0 -5										
SEE PREVIOUS COLUMN										
BOTTOM OF HOLE = 23.5 FEET										
DURING DRILLING IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 5.5 FEET										
Elevation 374.5 -10										
VERY STIFF MOIST GREY TO MOTTLED BROWN CLAY A-(8-9)										
Elevation 372.0 -15										
HARD DRY BROWN ROTTEN SANDSTONE										
Elevation 369.5 -18										
HARD DRY BROWN TO GREY LAMINATED SANDSTONE										
Elevation 368.5 -19										
CORER RECOVERY										

Boring No.	Station	Offset	Surface Water El.	Groundwater El. at Completion	After	Hours	Elevation	N	Qu / s.f.	w (%)
3-S	41947	45 FEET LEFT	NONE	379.5						
Ground Surface 385.0 0										
MEDIUM MOIST BROWN SILTY CLAY LOAM A-(8)										
Elevation 380.0 -5										
VERY STIFF MOIST GREY MOTTLED BROWN SILTY CLAY A-(9)										
Elevation 377.5 -10										
VERY STIFF DAMP BROWN MOTTLED GREY SILTY CLAY LOAM A-(8)										
Elevation 374.5 -15										
HARD DRY BROWN ROTTEN SANDSTONE										
Elevation 371.5 -18										
HARD DRY BROWN SANDSTONE										
Elevation 369.0 -20										
CORER RECOVERY										
BOTTOM OF HOLE = 16.5 FEET										

BORING DATA
FA.I.R.T. 24 SEC. 44-5VB
JOHNSON COUNTY
STATION 418180.47

N-Standard Penetration Test-Blows per foot to drive 2" QD. Split Spoon Sampler 12" with 140# hammer falling 30"
Qu-Unconfined Compressive Strength-1st w-Water Content-percentage of oven dry weight-%
Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

DESIGNED *J. Williams*
CHECKED *George A. Basi*
DRAWN *D.W. Williams Jr.*
CHECKED *George A. Basi*
EXAMINED *[Signature]*
PASSED
APPROVED
OCT. 4 1968

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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
44-5	24	Johnson	123	17
SHEETS				

*44-5HB-2, 44-5VB

Elevation	N	Qu / s.f.	w (%)	Surface Water El.	Groundwater El. at Completion	After 24 Hours
384.3	0			NONE	382.3	382.8
381.3	7	0.88	27			
356.3	22	-	16			
373.8	24	4.05	21			
371.3	100 in / 105	3.75	-			
366.8	100 in / 72	2.05	-			

SEE PREVIOUS COLUMN
BOTTOM OF HOLE = 28.0 FEET
CORED 53% RECOVERY

Elevation	N	Qu / s.f.	w (%)	Surface Water El.	Groundwater El. at Completion	After 24 Hours
382.0	0			NONE		
320.0	9	0.75	21			
375.0	13	2.08	22			
372.5	16	2.95	21			
365.0	33	4.25	14			
362.7						

GROUND SURFACE 382.0
MEDIUM DAMP BROWN MOTTLED GREY SILT LOAM TO SILTY CLAY LOAM A-2(3)
MEDIUM DAMP TO MOIST BROWN MOTTLED GREY SILTY CLAY A-5(8-9)
STIFF DAMP BROWN MOTTLED GREY SILTY CLAY A-6(11-12)
VERY STIFF TO STIFF MOIST CLAY A-7-6(15+)
HARD DAMP BROWN MOTTLED GREY CLAY TO CLAY SHALE
HARD DAMP GREY MOTTLED BROWN BROKEN SANDSTONE
BOTTOM OF HOLE = 21.6 FEET
CORED 54% RECOVERY

Elevation	N	Qu / s.f.	w (%)	Surface Water El.	Groundwater El. at Completion	After 24 Hours
382.7	0			NONE		
379.7	13	2.35	24			
374.7	33	-	14			
372.2	24	4.05	-			

GROUND SURFACE 382.7
MEDIUM MOIST BROWN SILTY CLAY A-4(8)
VERY STIFF TO STIFF MOIST TO DAMP BROWN MOTTLED GREY SILTY CLAY LOAM
STIFF DAMP BROWN MOTTLED GREY SILTY CLAY A-6(10)
VERY STIFF DAMP TO MOIST DARK BROWN SILTY CLAY TO CLAY A-6(12) TO A7-6(13)
HARD DRY BROWN SANDSTONE
BOTTOM OF HOLE
NO FREE W.

N-Standard Penetration Test- Blows per foot to drive 2" QD Split Spoon Sampler 12" with 140# hammer falling 30"
Qu-Unconfined Compress Strength-1/31 w-Water Content-perc of oven dry weight

DESIGNED *A. H. Kappat*
CHECKED *George PL. Razi*
DRAWN *D. Williams Jr*
CHECKED *George PL. Razi*

EXAMINED *Carl Thumant*
PASSED
APPROVED

OCT 4 1968
ENGINEER OF DESIGN
CHIEF MARKET ENGINEER

FOR INFORMATION ONLY

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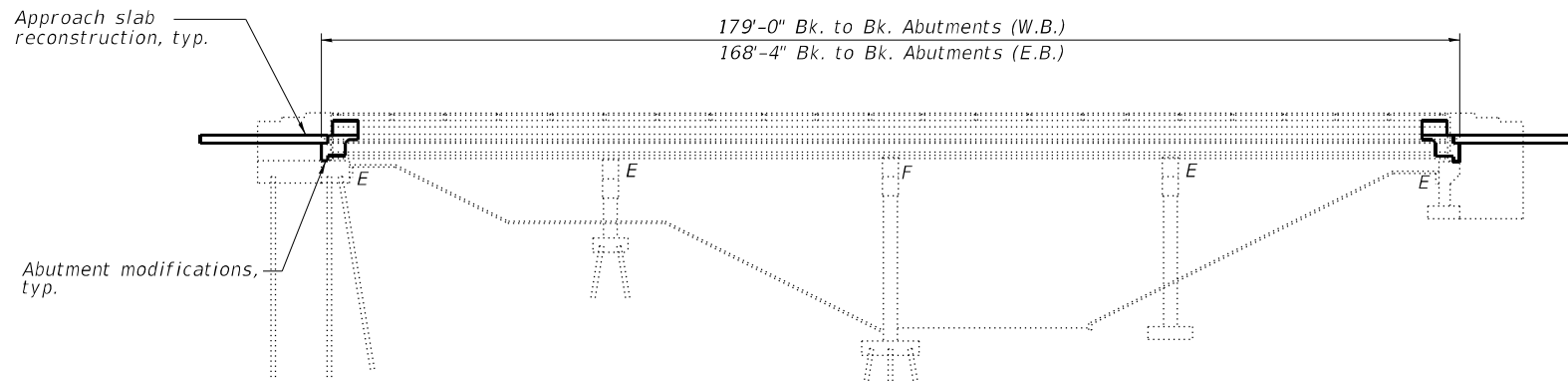
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

SHEET 24 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	116
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



ELEVATION

SCOPE OF WORK

1. Perform required pre-stage work, including necessary shoulder work.
2. Remove existing 2 1/4" concrete wearing surface with 3" Bridge Deck Scarification.
3. Perform deck repairs as shown.
4. Remove and replace bridge approach slabs and pavement connectors including removal of buried pile bent caps.
5. Perform concrete beam end repairs.
6. Convert existing stub abutments to semi-integral abutments.
7. Repair slopewalls.
8. Install new 3 1/4" latex concrete wearing surface and perform diamond grinding, longitudinal bridge deck grooving, and apply protective coat.

INDEX OF SHEETS

- 1 - General Plan and Elevation
- 2 - General Data
- 3 - Stage Construction Details
- 4 - Deck Patching Plan and Beam Repair Plan
- 5 - Temporary Concrete Barrier for Stage Construction
- 6 - Superstructure
- 7 - Diaphragms
- 8 - Diaphragm Details
- 9-10 - Bridge Approach Slab Details
- 11 - Bearing Details
- 12-13 - Abutment Removal
- 14 - Bar Splicer Assembly and Mechanical Splicer Details
- 15-27 - Existing Plans

DESIGN STRESSES

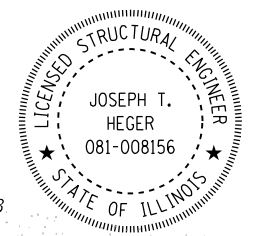
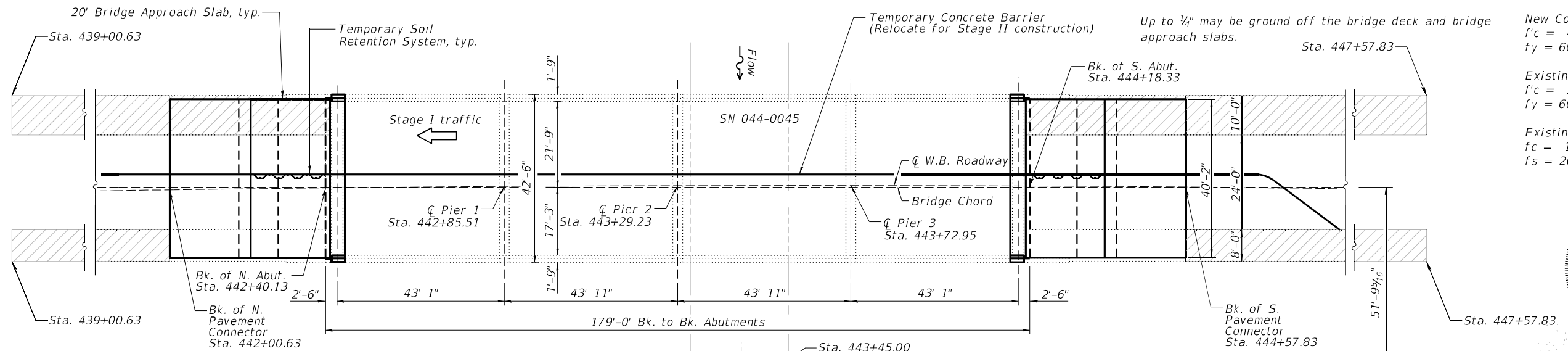
FIELD UNITS

New Construction
 $f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)

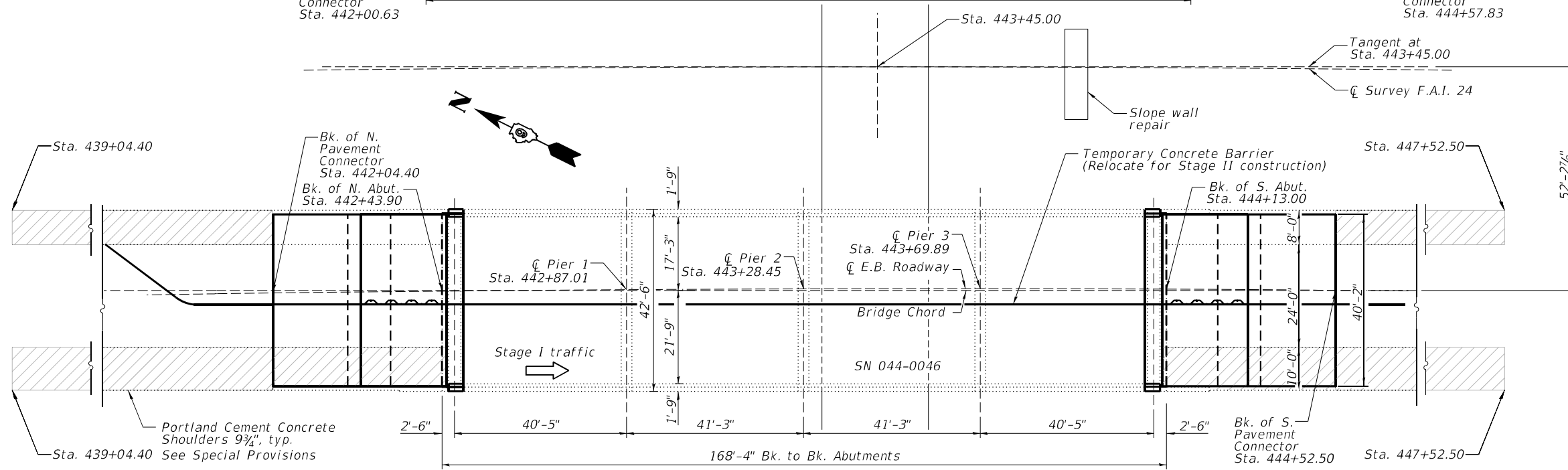
Existing Structure, 2005 Rehabilitation
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

Existing Structure, 1971
 $f'_c = 1,400$ psi (Super. & Sub.)
 $f_s = 20,000$ psi (Reinforcement)

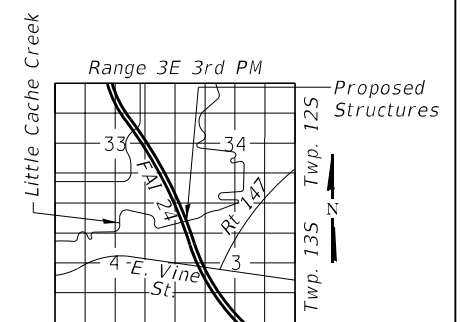
Up to 1/4" may be ground off the bridge deck and bridge approach slabs.



Exp. Date 11/30/2022



PLAN



LOCATION SKETCH

**GENERAL PLAN AND ELEVATION
 I-24 OVER LITTLE CACHE CREEK
 F.A.I. 24, SECTION BRIDGE REPAIR 2022-1
 JOHNSON COUNTY
 STA. 443+45.00
 SN 044-0045 & 044-0046**

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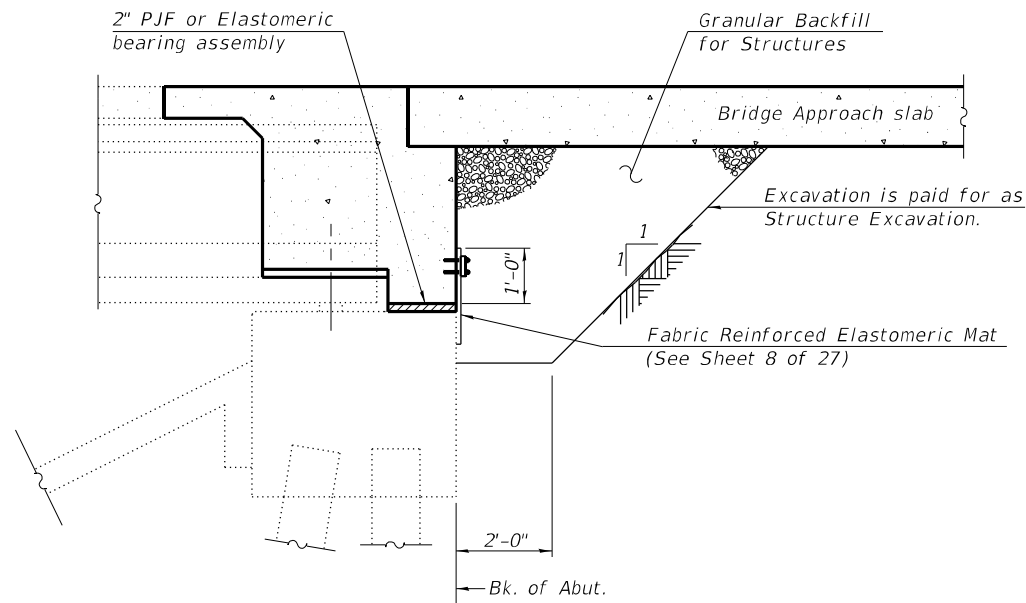
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

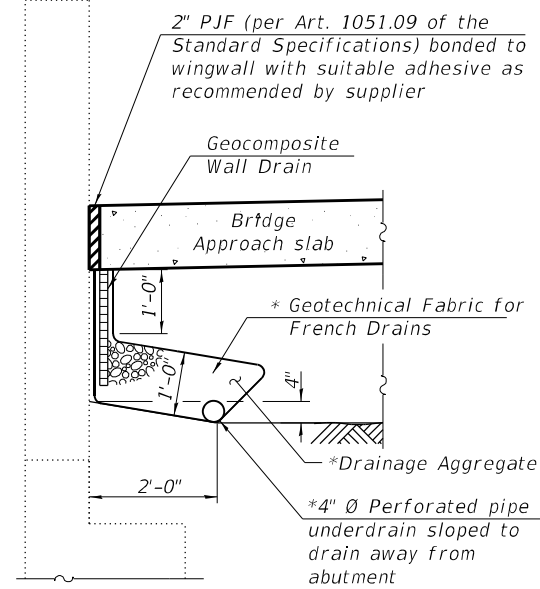
**GENERAL PLAN AND ELEVATION
 STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)**

SHEET 1 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	117
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



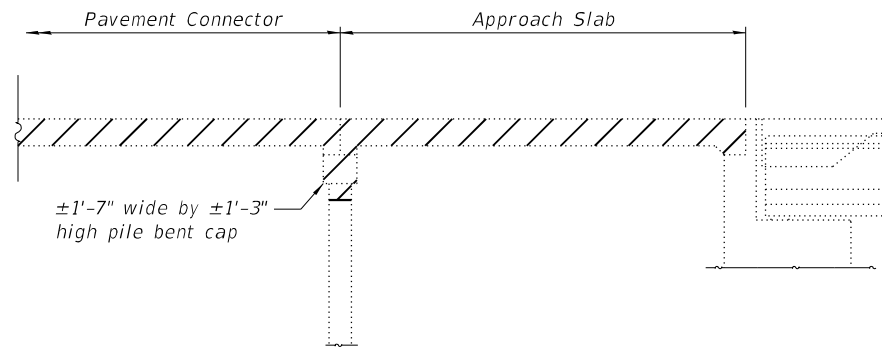
SECTION THRU SEMI-INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. Z's)



SECTION THRU ABUTMENT WINGWALL
(Horiz. dim. @ Rt. Z's)

*Included in the cost of Pipe Underdrains for Structures.
(See Special Provisions)

Note:
All drainage system components shall extend 2'-0" from the end of each wingwall except an outlet pipe shall wrap around and extend until intersecting with the side slope. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



APPROACH SLAB REMOVAL

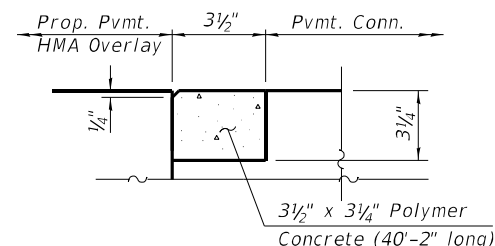
Existing approach slab and pavement connector to be removed. Buried pile bent cap to be completely removed. Piles shall be removed to 2' below finished grade. Approach slab and pavement connector removal shall be paid for as Approach Slab Removal. Pile bent cap removal shall be paid for as Concrete Removal. Pile removal shall be included in the cost of Concrete Removal.

SLOPE WALL REPAIRS

An opening in the slope wall with a voided area up to 2.5' deep exists at the top of the south slope wall between SN 044-0045 and SN 044-0046.

The voided area shall be filled with Slope Wall Slurry Pumping as directed by the Engineer. Approximate quantities have been included. Contractor shall be paid for actual quantity of slurry placed.

Small areas of slope wall may need to be removed to access the void in the slope wall. Any removals shall be repaired. Cost of removal and repairs shall be included with Slope Wall Slurry Pumping.



POLYMER CONCRETE NOSING DETAIL
(Typ. Ea. Approach)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SN 044-0045	SN 044-0046	TOTAL
Paved Shoulder Removal	Sq. Yd.	1358	1358	2716
Portland Cement Concrete Shoulders 9 3/4"	Sq. Yd.	1288	1288	2576
Concrete Removal	Cu. Yd.	36.6	36.6	73.2
Structure Excavation	Cu. Yd.	61	61	122
Concrete Structures	Cu. Yd.	24.8	24.8	49.6
Concrete Superstructure	Cu. Yd.	55.8	55.8	111.6
Protective Coat	Sq. Yd.	1099	1045	2144
Concrete Superstructure (Approach Slab)	Cu. Yd.	75.7	75.7	151.4
Reinforcement Bars, Epoxy Coated	Pound	38230	38230	76460
Bar Splicers	Each	300	300	600
Elastomeric Bearing Assembly, Type I	Each	12	12	24
Temporary Soil Retention System	Sq. Ft.	49	49	98
Granular Backfill for Structures	Cu. Yd.	70	70	140
Geocomposite Wall Drain	Sq. Yd.	10	10	20
Concrete Headwalls for Pipe Drains	Each	4	4	8
Temporary Concrete Barrier	Foot	550	553	1103
Relocate Temporary Concrete Barrier	Foot	550	553	1103
Impact Attenuators, Temporary (Non-Redirective), Test Level 3	Each	1	1	2
Impact Attenuators, Relocate (Non-Redirective), Test Level 3	Each	1	1	2
Raised Reflective Pavement Marker	Each	3	3	6
Raised Reflective Pavement Marker (Bridge)	Each	1	1	2
Barrier Wall Reflectors, Type B	Each	14	14	28
Raised Reflective Pavement Marker Removal	Each	4	4	8
Bridge Approach Pavement Connector (Special)	Sq. Yd.	183	183	366
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	579	550	1129
Pinning Temporary Concrete Barrier	Each	8	8	16
Raised Reflective Pavement Marker, Reflector Removal	Each	4	4	8
Approach Slab Removal	Sq. Yd.	216	216	432
Bridge Deck Scarification 3"	Sq. Yd.	725	679	1404
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	11	26	37
Diamond Grinding (Bridge Section)	Sq. Yd.	1311	1265	2577
Polymer Concrete	Cu. Ft.	6.3	6.3	12.7
Precast Prestressed Concrete I-Beam Repair	Sq. Ft.	17	14	31
Pipe Underdrains for Structures 4"	Foot	78	78	156
Slope Wall Slurry Pumping	Cu. Yd.	2.8	0.0	2.8
Bridge Deck Latex Concrete Overlay, 3/4 Inches	Sq. Yd.	725	679	1404

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Plan dimensions and details are relative to 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.
- To retain the temporary concrete barrier for Stage II traffic, the Contractor shall have the option of using either 2 (#5) bar splicers or 2 cast in place inserts at 6" centers at the mid-depth of the approach slab and pavement connector. The bar splicers or inserts shall have a minimum proof load of 5,000 pounds. Along with the anchoring devices the Contractor shall provide one steel retainer plate and 2 - 1/2" diameter bolt and washers every 6' as shown on Detail II on Standard R-27 (Sheet 5 of 27) from Sta. 442+00.63 to Sta. 442+40.13 and Sta. 444+18.33 to Sta. 444+57.83 for SN 044-0045 and Sta. 442+04.40 to Sta. 442+43.90 and Sta. 444+13.00 to 444+52.50 for SN 044-0046 for Stage II traffic. This work shall be included in the cost of Temporary Concrete Barrier, no additional compensation shall be provided.
- The Contractor shall use extreme care during concrete removal so as not to damage the PPC I-Beams

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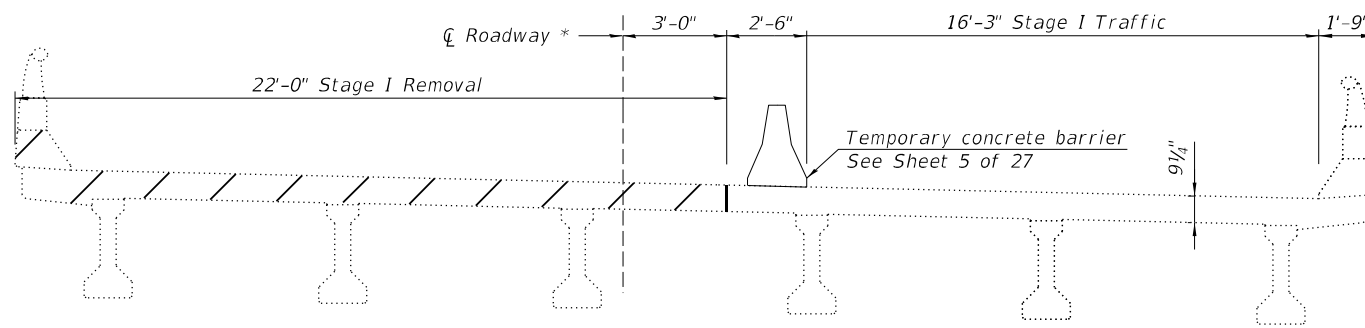
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

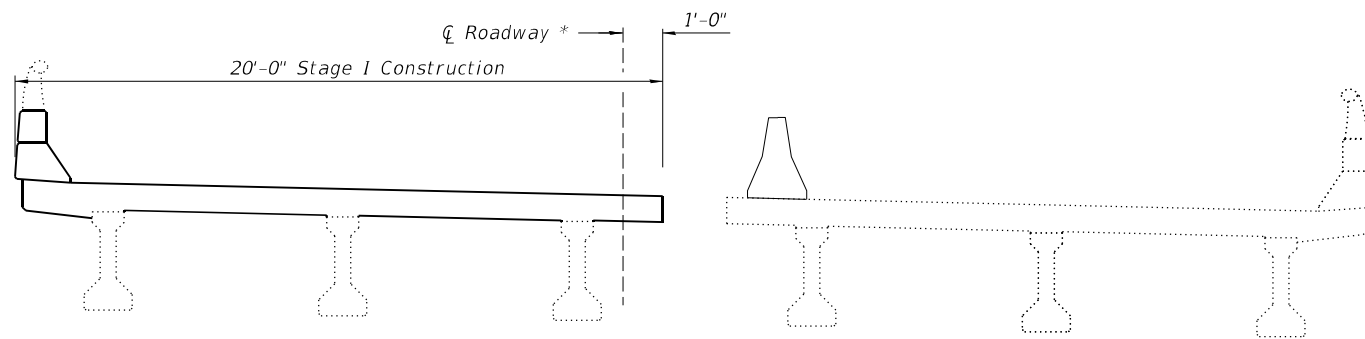
**GENERAL DATA
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)**

SHEET 2 OF 27 SHEETS

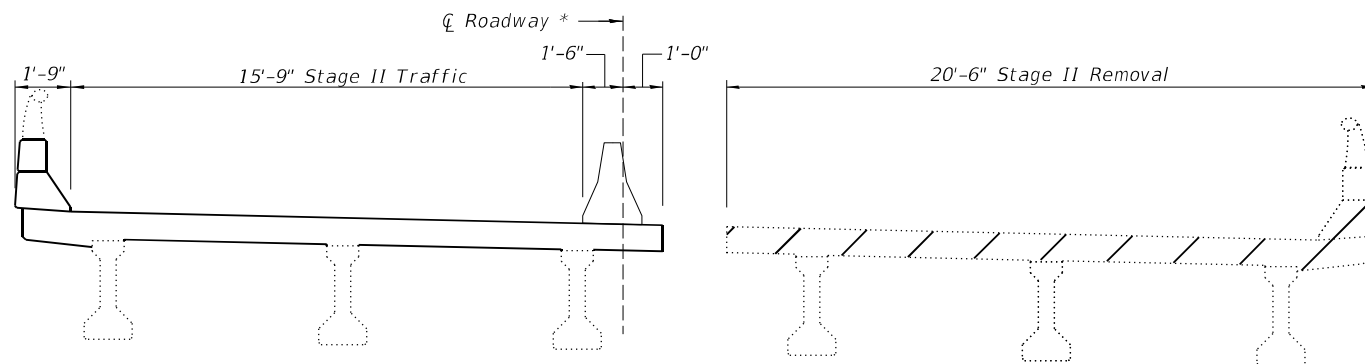
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CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



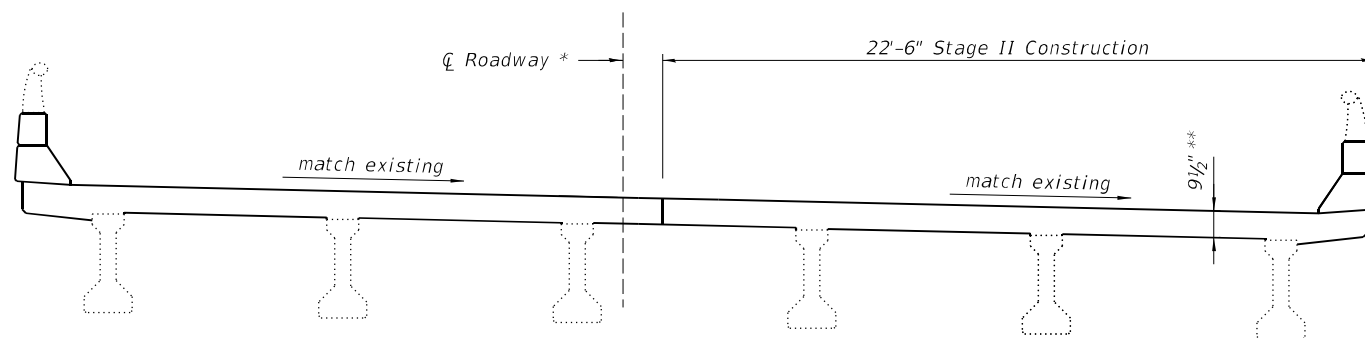
STAGE I REMOVAL
(Looking in the direction of traffic)



STAGE I CONSTRUCTION
(Looking in the direction of traffic)



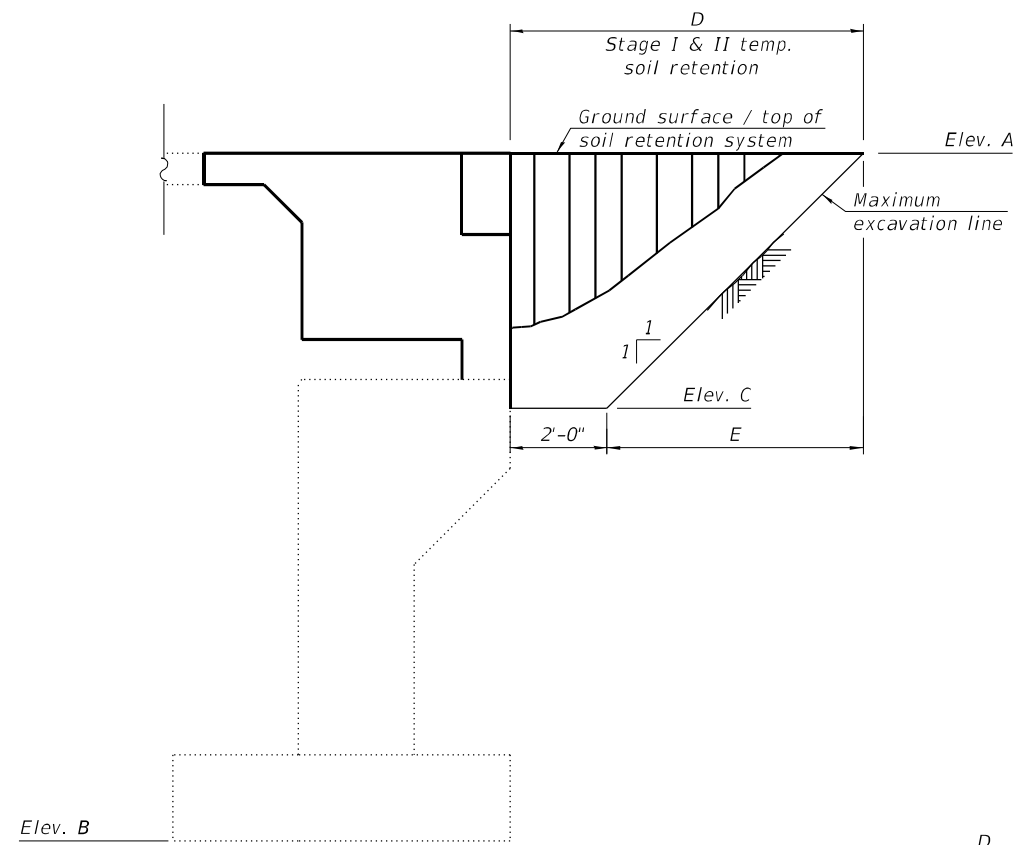
STAGE II REMOVAL
(Looking in the direction of traffic)



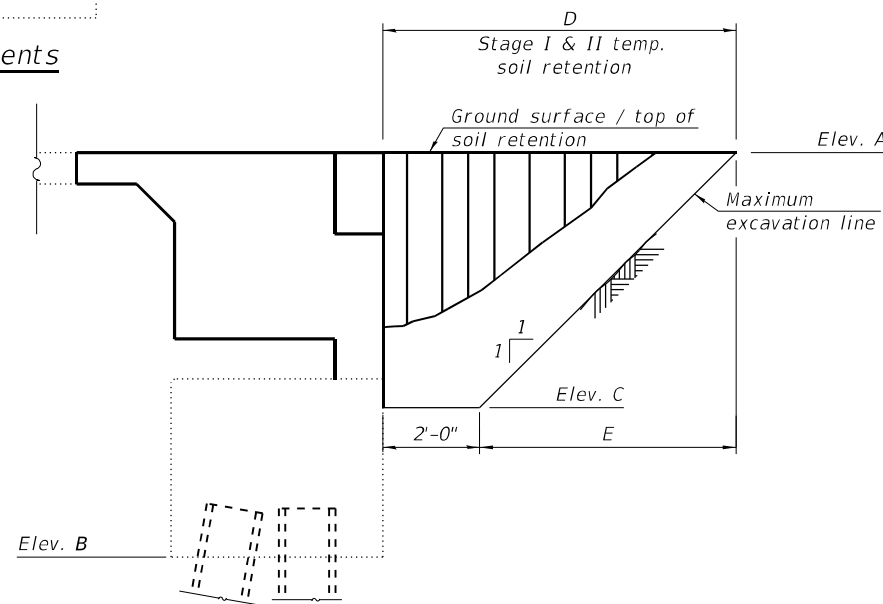
STAGE II CONSTRUCTION
(Looking in the direction of traffic)

Note:
Hatched area indicates, Concrete Removal at abutments.

* Due to roadway curvature, approximate location shown.
** Prior to diamond grinding



South Abutments



North Abutments

TEMPORARY SOIL RETENTION SYSTEM

Location	Elev. A	Elev. B	Elev. C	Dim. D	Dim. E
SN 044-0045 N. Abut.	388.91	380.92	383.64	7'-4"	5'-4"
SN 044-0045 S. Abut.	389.68	376.19	384.41	7'-4"	5'-4"
SN 044-0046 N. Abut.	387.18	379.19	381.91	7'-4"	5'-4"
SN 044-0046 S. Abut.	387.43	373.19	382.16	7'-4"	5'-4"

Notes:
A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
Elevations and dimensions shown are approximate based on existing plan data. Exact elevations and dimensions required shall be field verified by the Contractor.

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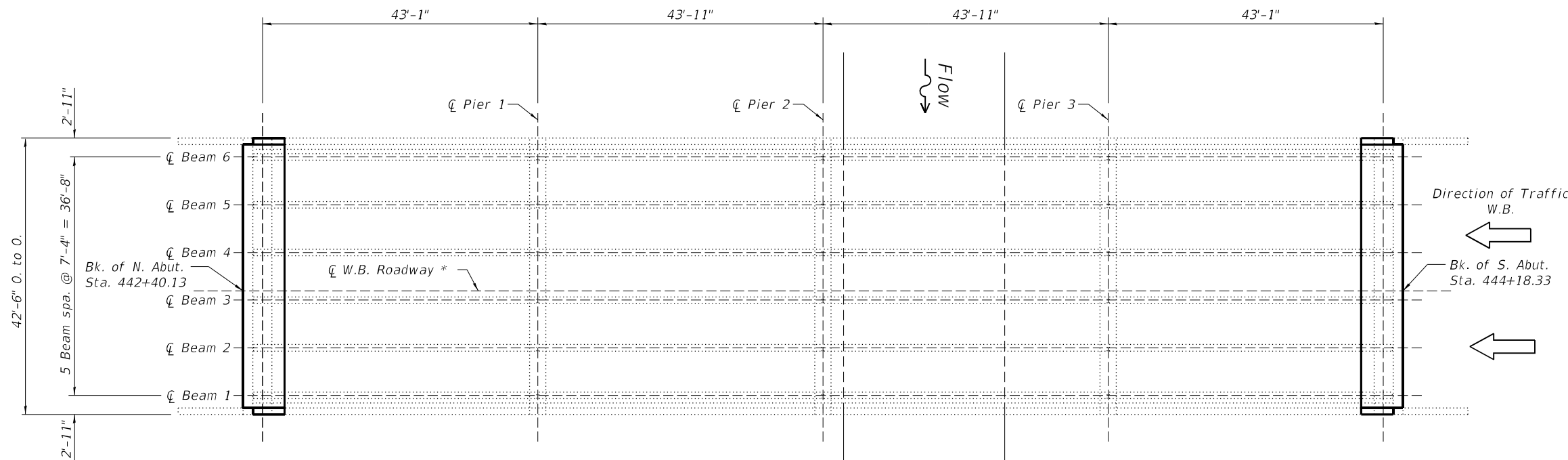
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

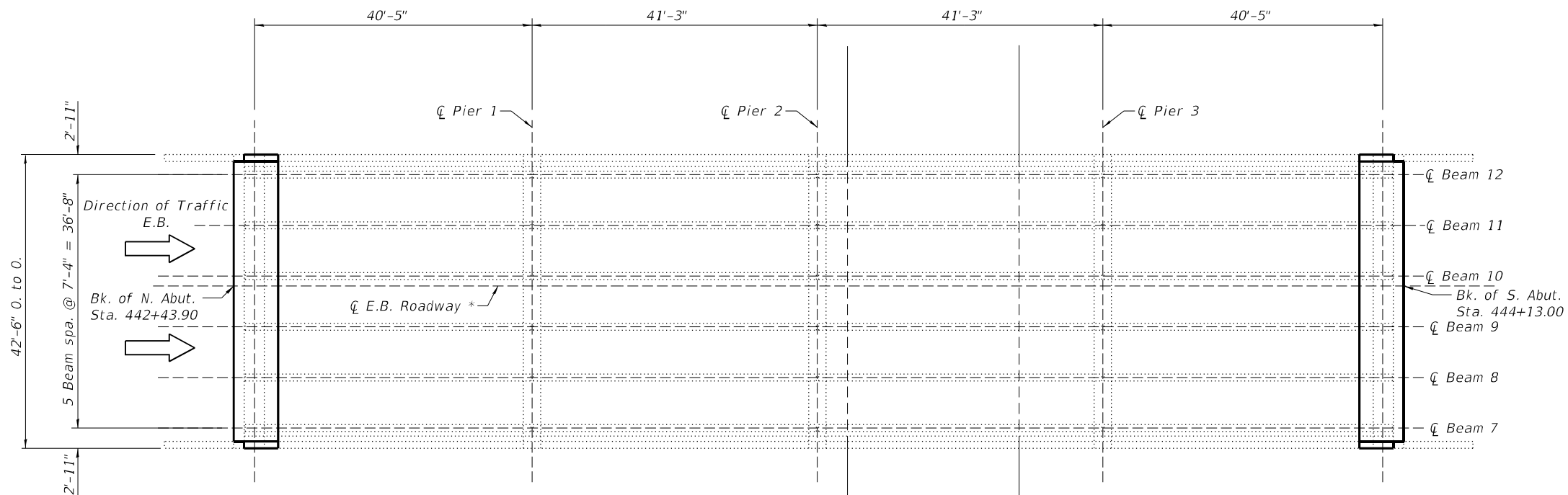
**STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)**

SHEET 3 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	119
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



DECK PLAN
SN 044-0045



DECK PLAN
SN 044-0046

PPC I-BEAM REPAIRS
S.N. 044-0045

Location	Quantity
Beam 1 @ N. Abutment	2 Sq. Ft.
Beam 2 @ N. Abutment	3 Sq. Ft.
Beam 3 @ N. Abutment	1 Sq. Ft.
Beam 4 @ N. Abutment	3 Sq. Ft.
Beam 5 @ N. Abutment	2 Sq. Ft.
Beam 6 @ N. Abutment	1 Sq. Ft.
Beam 1 @ S. Abutment	4 Sq. Ft.
Beam 5 @ S. Abutment	1 Sq. Ft.

PPC I-BEAM REPAIRS
S.N. 044-0046

Location	Quantity
Beam 7 @ S. Abutment	2 Sq. Ft.
Beam 9 @ S. Abutment	2 Sq. Ft.
Beam 10 @ S. Abutment	2 Sq. Ft.
Beam 11 @ S. Abutment	1 Sq. Ft.
Beam 7 @ Pier 3	1 Sq. Ft.
Beam 7 @ N. Abutment	2 Sq. Ft.
Beam 10 @ N. Abutment	2 Sq. Ft.
Beam 12 @ N. Abutment	2 Sq. Ft.

* Due to roadway curvature, approximate location shown.

Notes:
The Resident Engineer will determine final patch locations and quantities in the field after removal of the concrete wearing surface, before bridge deck patching operations begin.

The Engineer shall show actual locations of deck repairs on As-built Plans.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Precast Prestressed Concrete I-Beam Repairs	Sq. Ft.	31

PRECAST PRESTRESSED CONCRETE I-BEAM REPAIRS

Precast Prestressed Concrete I-Beam Repair shall be performed at the locations indicated in the tables above of Beam End Repairs. The Engineer shall approve repair limits and locations in the field.



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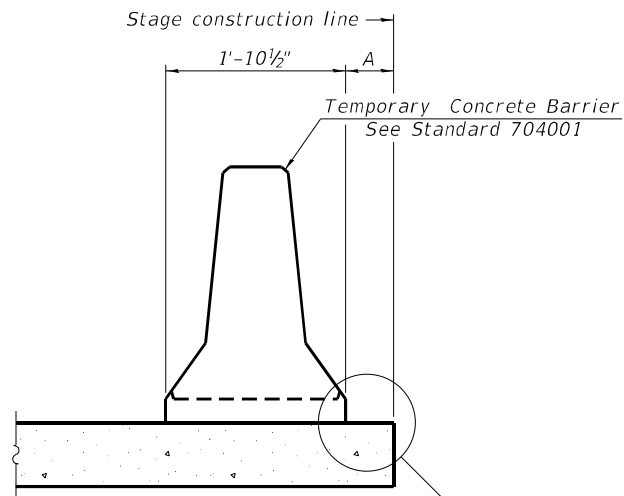
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PATCHING AND BEAM REPAIR PLAN
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 4 OF 27 SHEETS

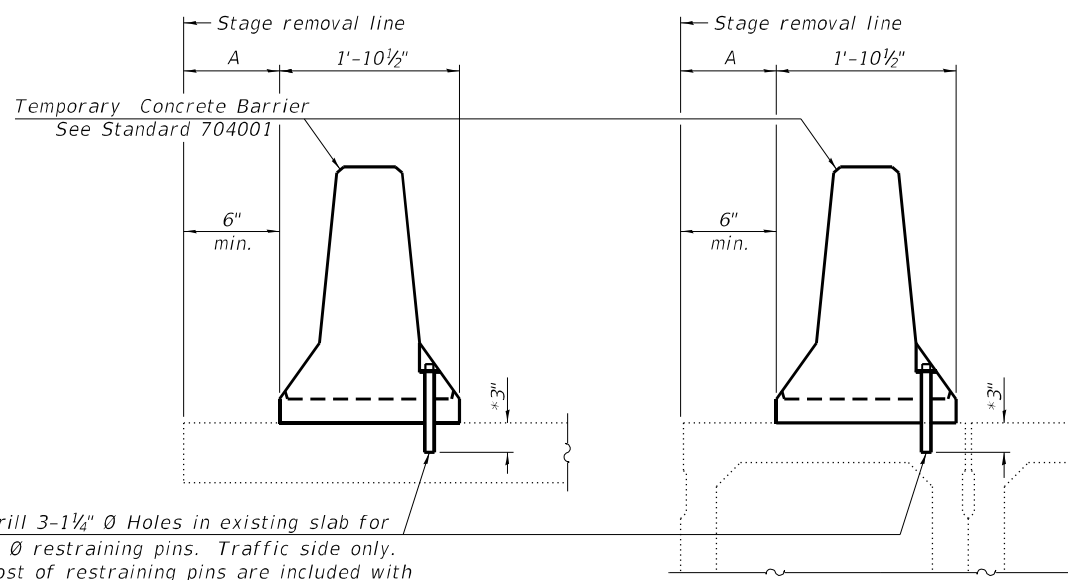
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	120
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

MODEL: Default
FILE NAME: L:\DOT\1906910\VO_g\DrawStructures\SN 0045 & 0046\04_0045-0046_Top of Deck Patch Plan.dgn
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When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

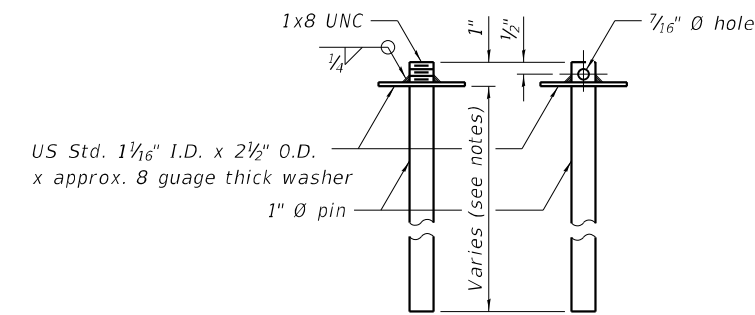


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

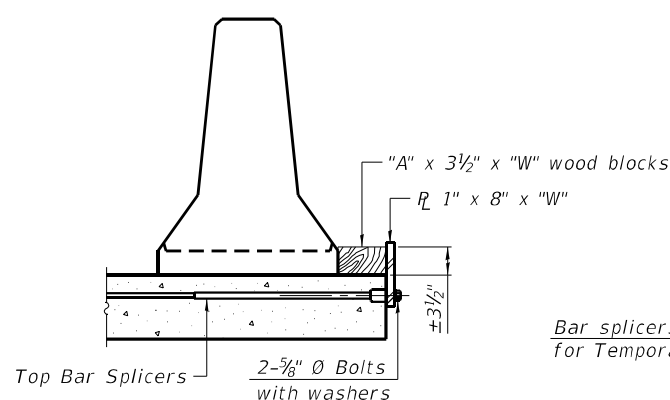
EXISTING SLAB

EXISTING DECK BEAM

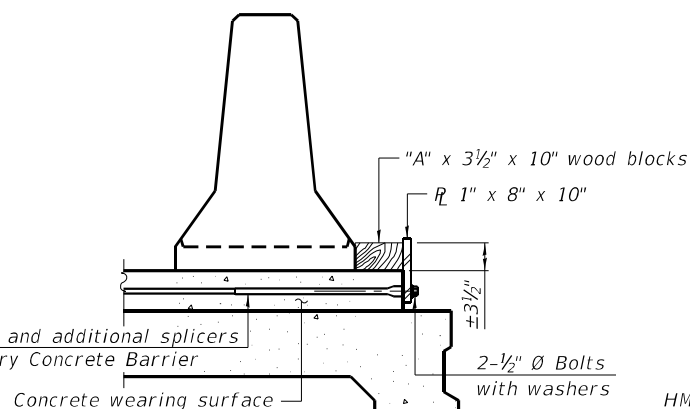
SECTIONS THRU SLAB OR DECK BEAM



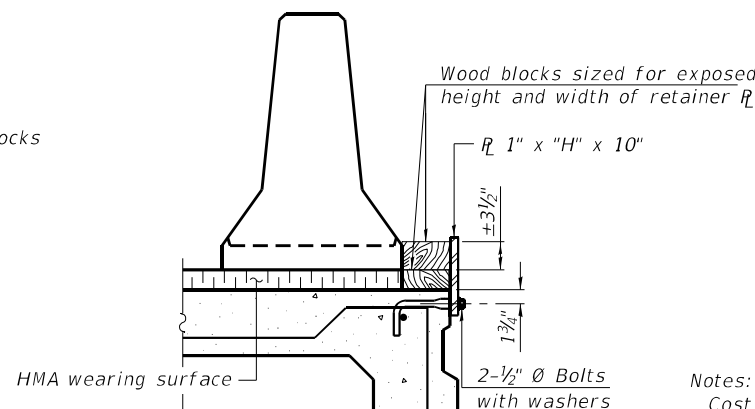
RESTRAINING PIN



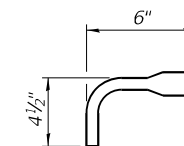
DETAIL I



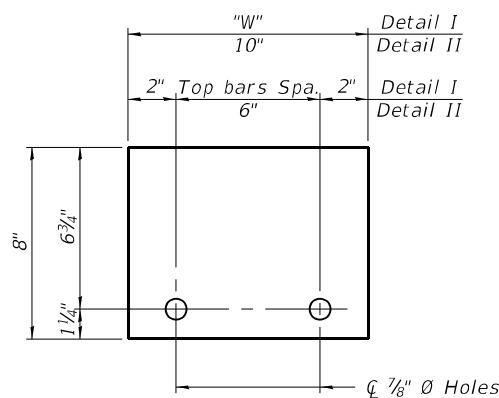
DETAIL II



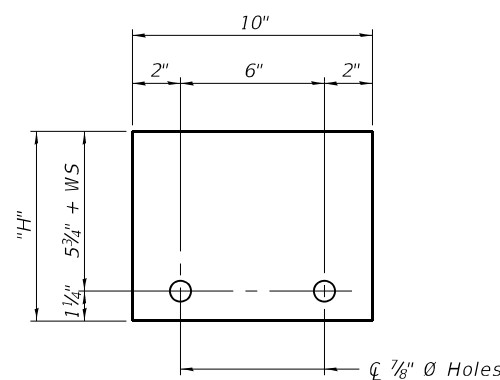
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"
(Detail III)

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate C of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

MODEL: Detail.dwg
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R-27 2-17-2017

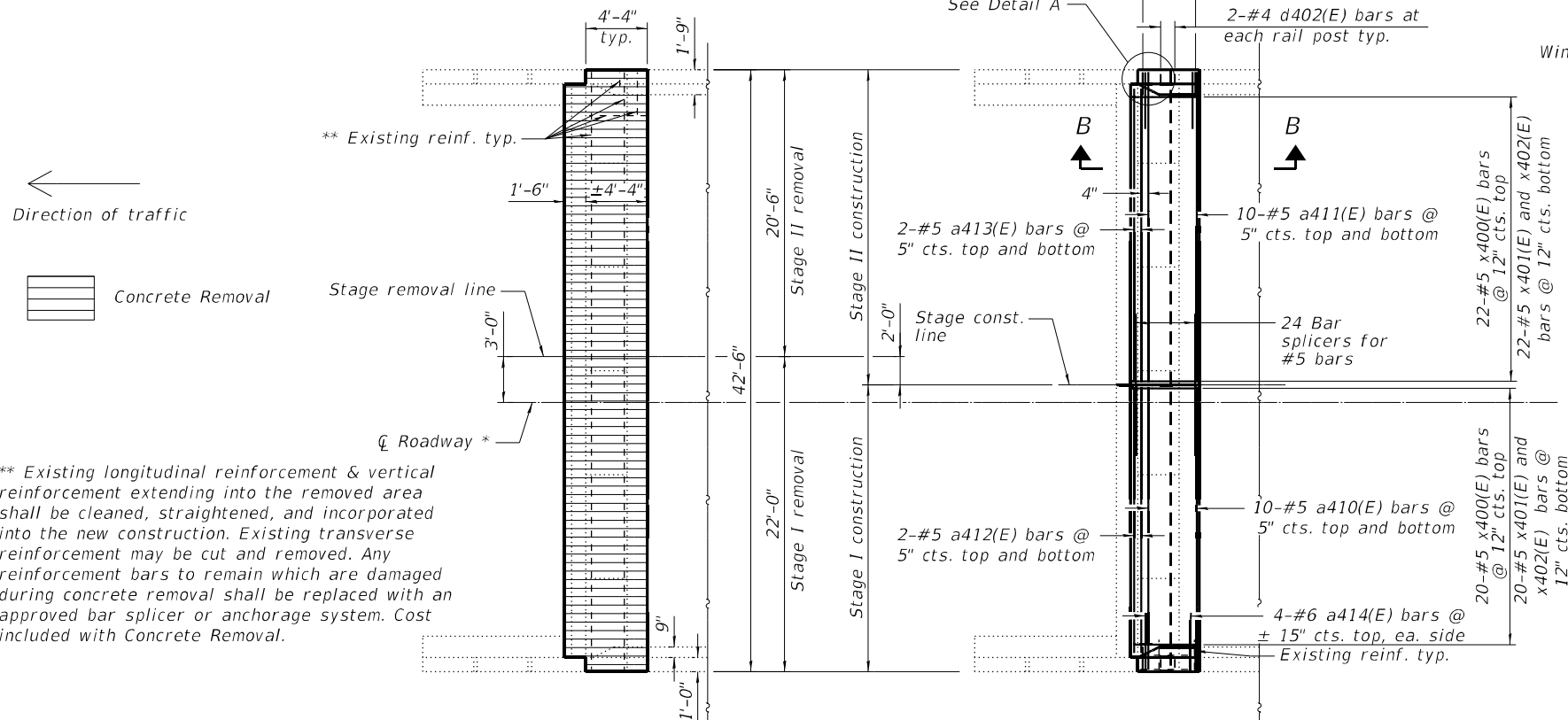
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	PLOT DATE = 12/1/2021 (9:46:05 AM)	DRAWN - RAH	REVISED -
		CHECKED - JTH	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	121
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

* Due to roadway curvature, approximate location shown.

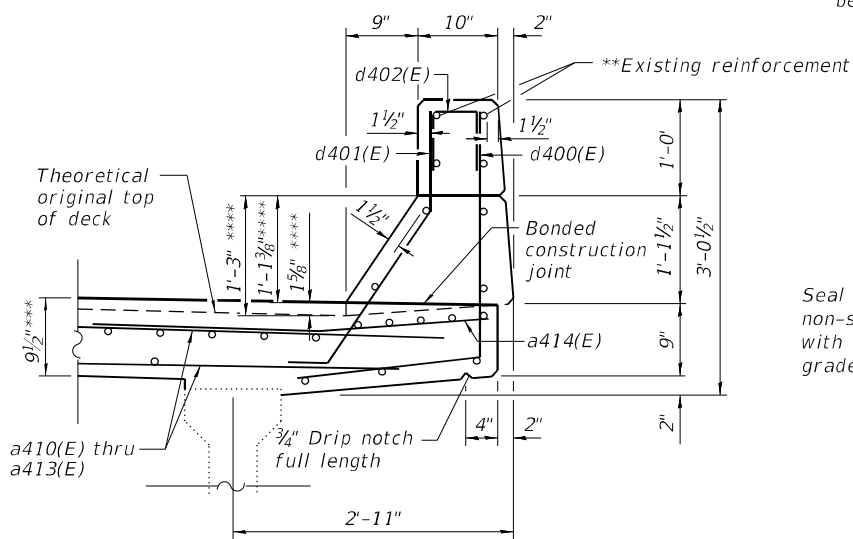


**ABUTMENT PLAN
SHOWING CONCRETE REMOVAL**

**ABUTMENT PLAN
SHOWING CONCRETE REPLACEMENT**

SN 044-0045 north abutment shown, SN 044-0045 south abutment similar
SN 044-0046 south abutment shown, SN 044-0046 north abutment similar

Note: d400(E) and d401(E) bars spaced at 12" cts.

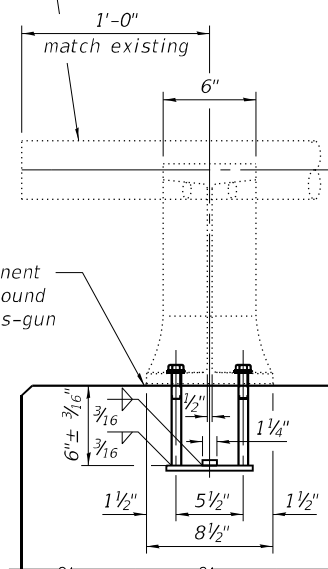


SECTION THRU PARAPET

**** Dimensions based on original 7 1/2" deck.
Proposed parapet section to align with existing parapet section.

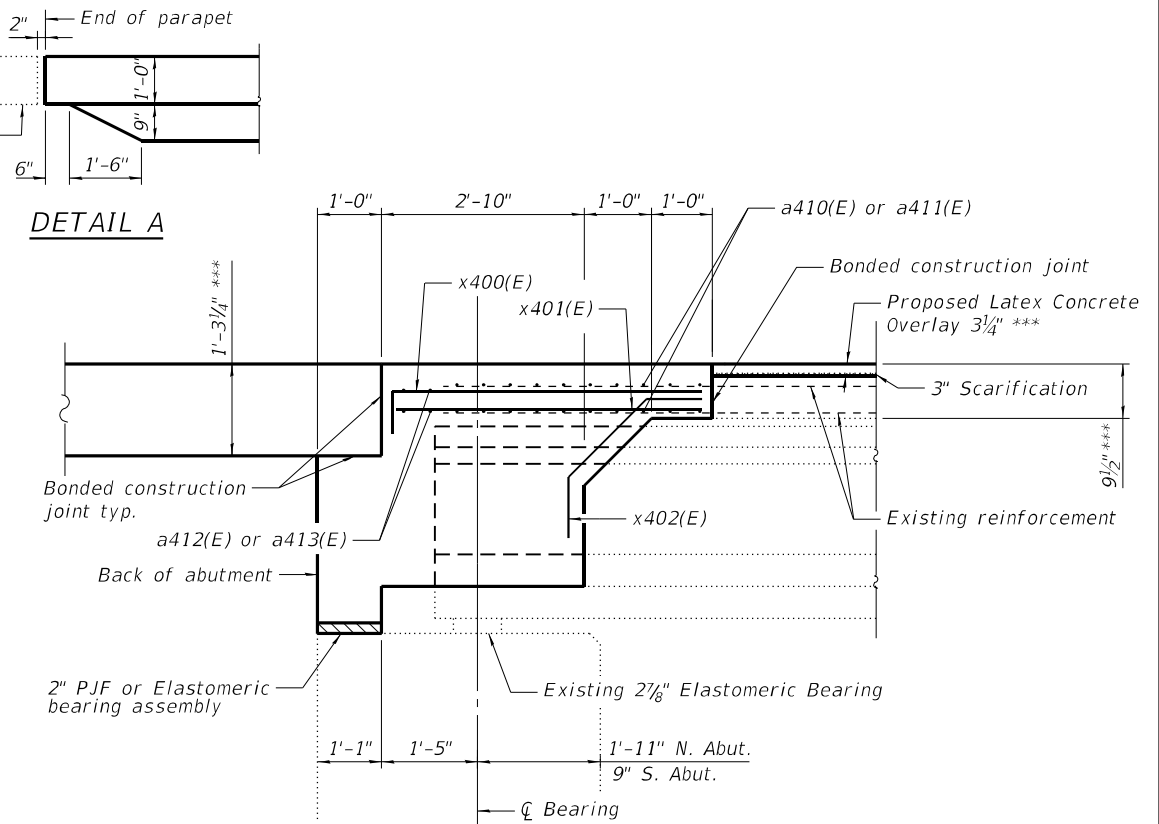
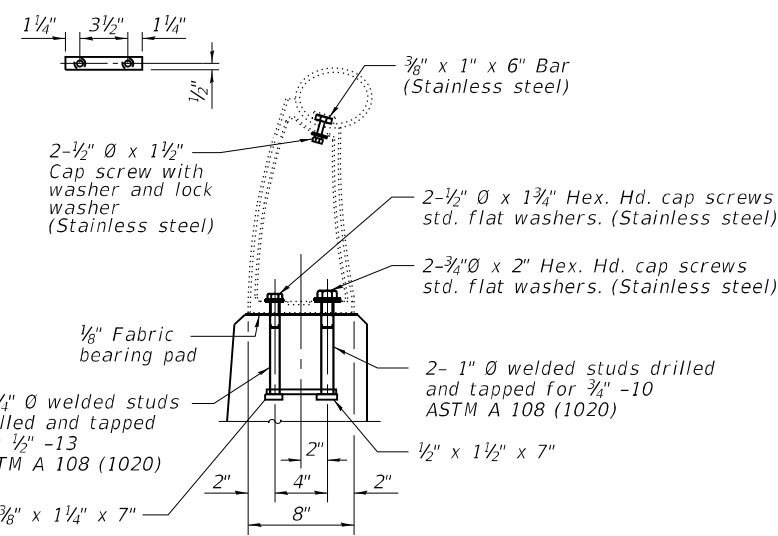
Existing aluminum end post & hand rail terminal section to be removed and re-erected

Seal perimeter with two component non-staining gray sealing compound with polysulfide liquid polymers-gun grade with primer



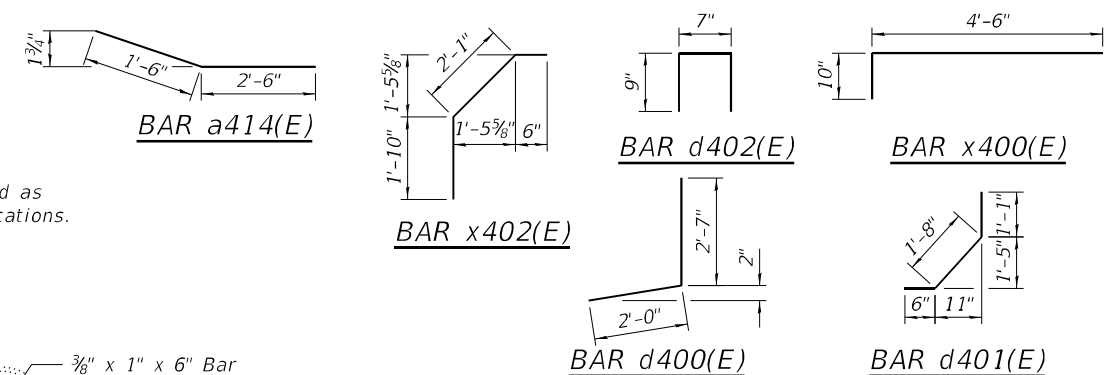
RAIL POST DETAILS

Note: Rail shall be removed and re-erected as necessary to allow structure modifications. Cost included in Concrete Removal.



**SECTION B-B
TYPICAL SECTION THRU REPAIRED EXISTING ABUTMENT**

(Dimensions measured at right angles)
For section showing deck removal see Sheets 11 and 12 of 27.



**FOUR SUPERSTRUCTURE ENDS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a410(E)	80	#5	19'-8"	—
a411(E)	80	#5	22'-2"	—
a412(E)	16	#5	18'-6"	—
a413(E)	16	#5	21'-0"	—
a414(E)	32	#6	4'-0"	—
d400(E)	40	#4	4'-7"	J
d401(E)	40	#5	3'-3"	J
d402(E)	16	#4	2'-1"	U
x400(E)	168	#5	5'-4"	—
x401(E)	168	#5	4'-6"	—
x402(E)	168	#5	4'-5"	—
Concrete Removal			Cu. Yd.	35.0
Concrete Superstructure			Cu. Yd.	111.6
Reinforcement Bars, Epoxy Coated			Pound	7080
Bar Splicers			Each	96

*** Prior to diamond grinding.

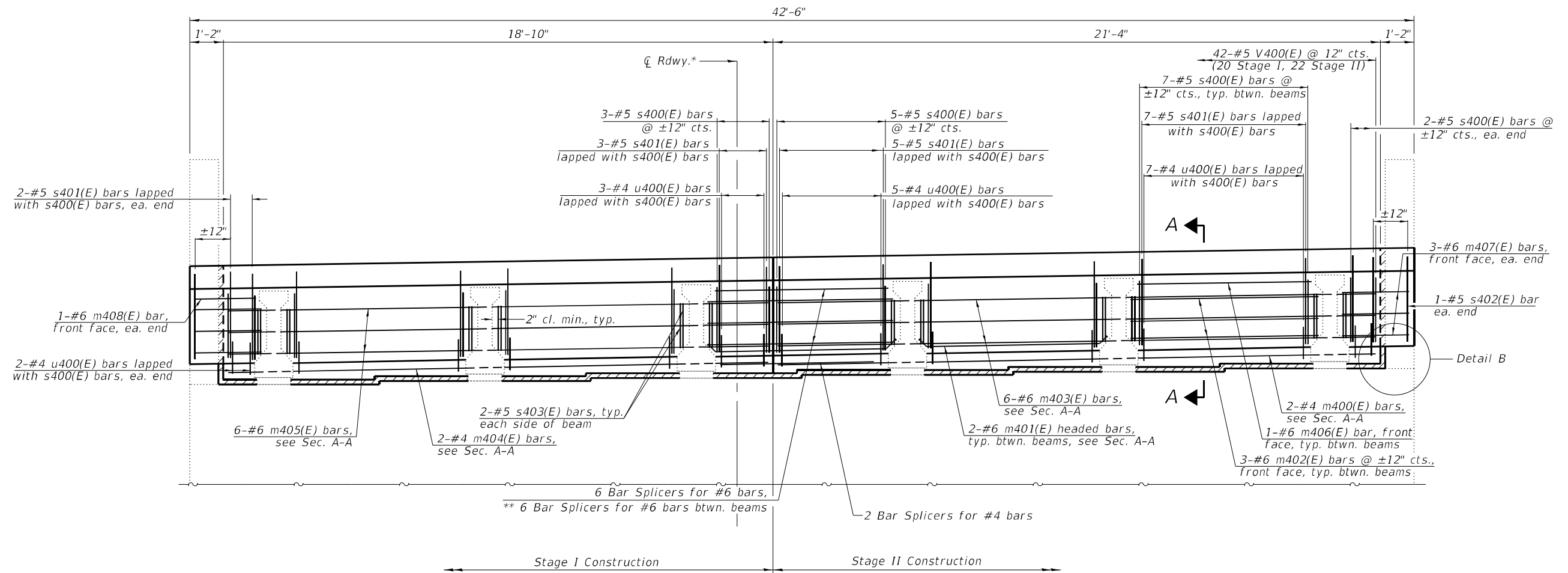
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 6 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	122
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				

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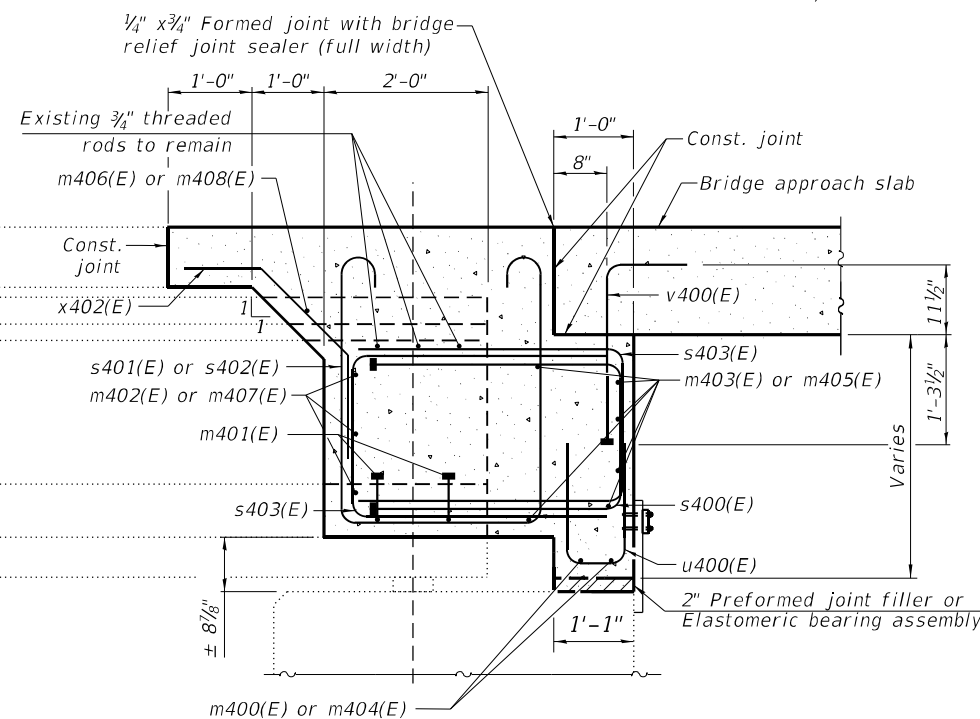


DIAPHRAGM ELEVATION AT ABUTMENT

SN 044-0045 north abutment shown, SN 044-0045 south abutment similar
SN 044-0046 south abutment shown, SN 044-0046 north abutment similar

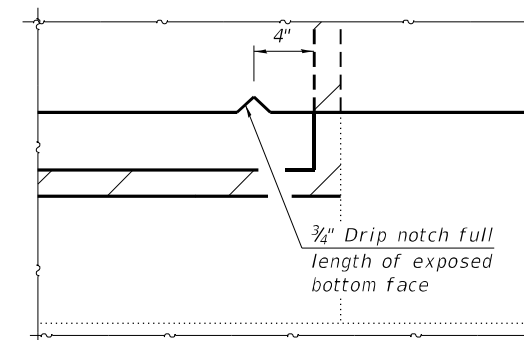
* Due to roadway curvature, approximate location shown.

** Bar Splicers shall act as bars when length is less than required lap length. See Sheet 14 of 27.



SECTION A-A

(Dimensions measured at right angles)



DETAIL B

Note:
See Sheet 8 of 27 for additional diaphragm details and Bill of Material.

MODEL: Default
FILE NAME: L:\DOT\1906910\VO_8\DrawStructures\SN 0045 & 0046\07_0045-0046_Diaphragm_Details.dgn



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

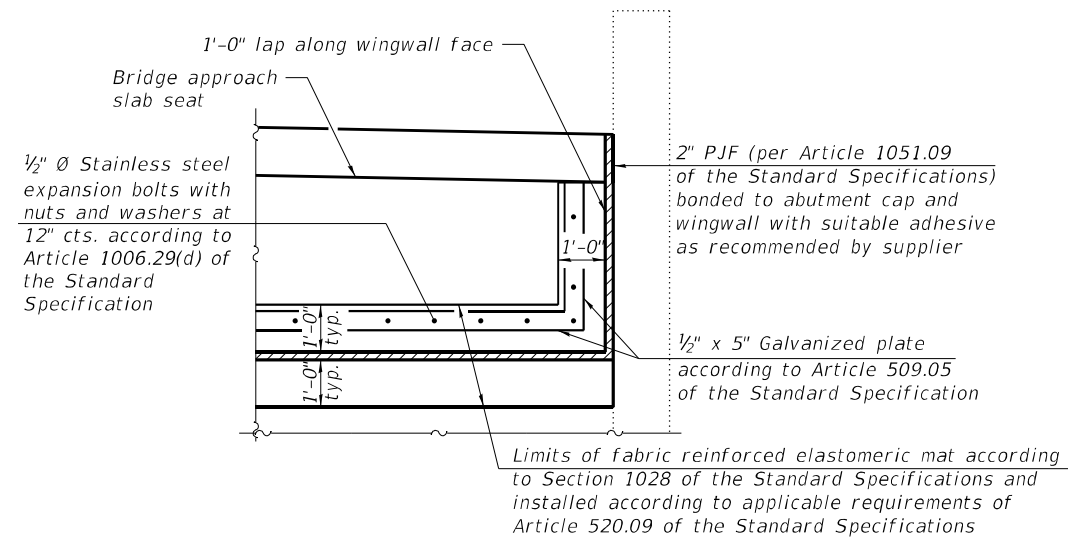
DIAPHRAGMS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 7 OF 27 SHEETS

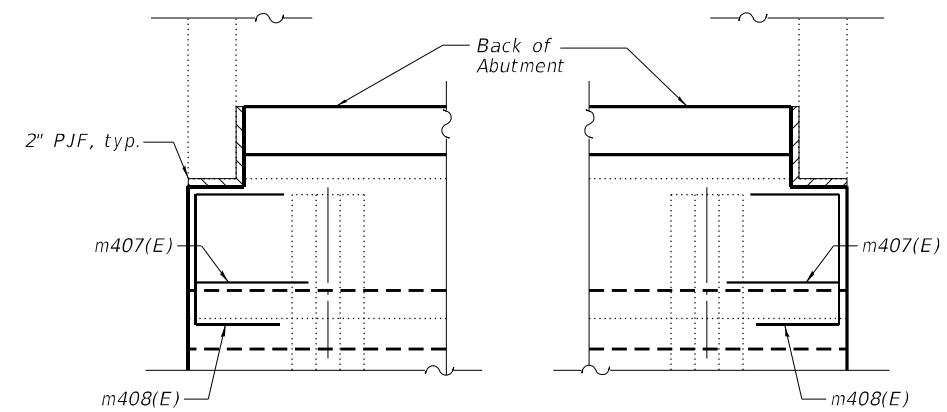
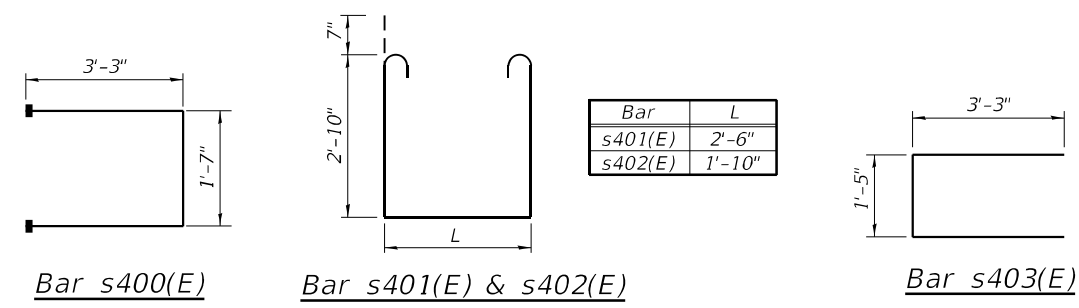
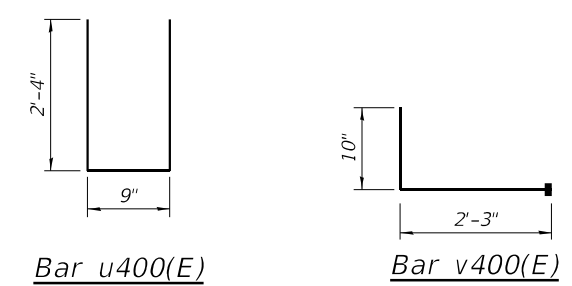
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	123
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

**FOUR DIAPHRAGMS
BILL OF MATERIAL**

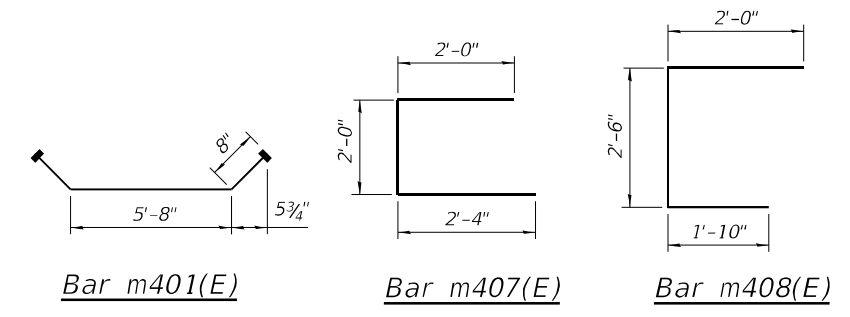
Bar	No.	Size	Length	Shape
m400(E)	8	#4	21'-0"	—
m401(E)	32	#6	7'-0"	⌋
m402(E)	48	#6	6'-6"	—
m403(E)	24	#6	21'-0"	—
m404(E)	8	#4	18'-6"	—
m405(E)	24	#6	18'-6"	—
m406(E)	16	#6	6'-0"	—
m407(E)	24	#6	6'-4"	⌋
m408(E)	8	#6	6'-4"	⌋
s400(E)	160	#5	8'-1"	⌋
s401(E)	160	#5	9'-4"	⌋
s402(E)	8	#5	8'-8"	⌋
s403(E)	96	#5	7'-11"	⌋
u400(E)	160	#4	5'-5"	⌋
v400(E)	168	#5	3'-1"	⌋
Reinforcement Bars, Epoxy Coated			Pound	7780
Bar Splicers			Each	56



ELEVATION
(Looking at back of abutment)



PARTIAL PLAN



Notes:
 Cost of fabric reinforced elastomeric mats, galvanized plates, stainless steel expansion bolts with nuts and washers, and installation are included in the cost of Concrete Superstructure.
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
 The s400(E), s401(E), s402(E), s403(E), u400(E), and v400(E) bars are placed parallel to beams and spaced at right angles to beams.
 Concrete Superstructure quantity included in quantity shown on Sheet 6 of 27.

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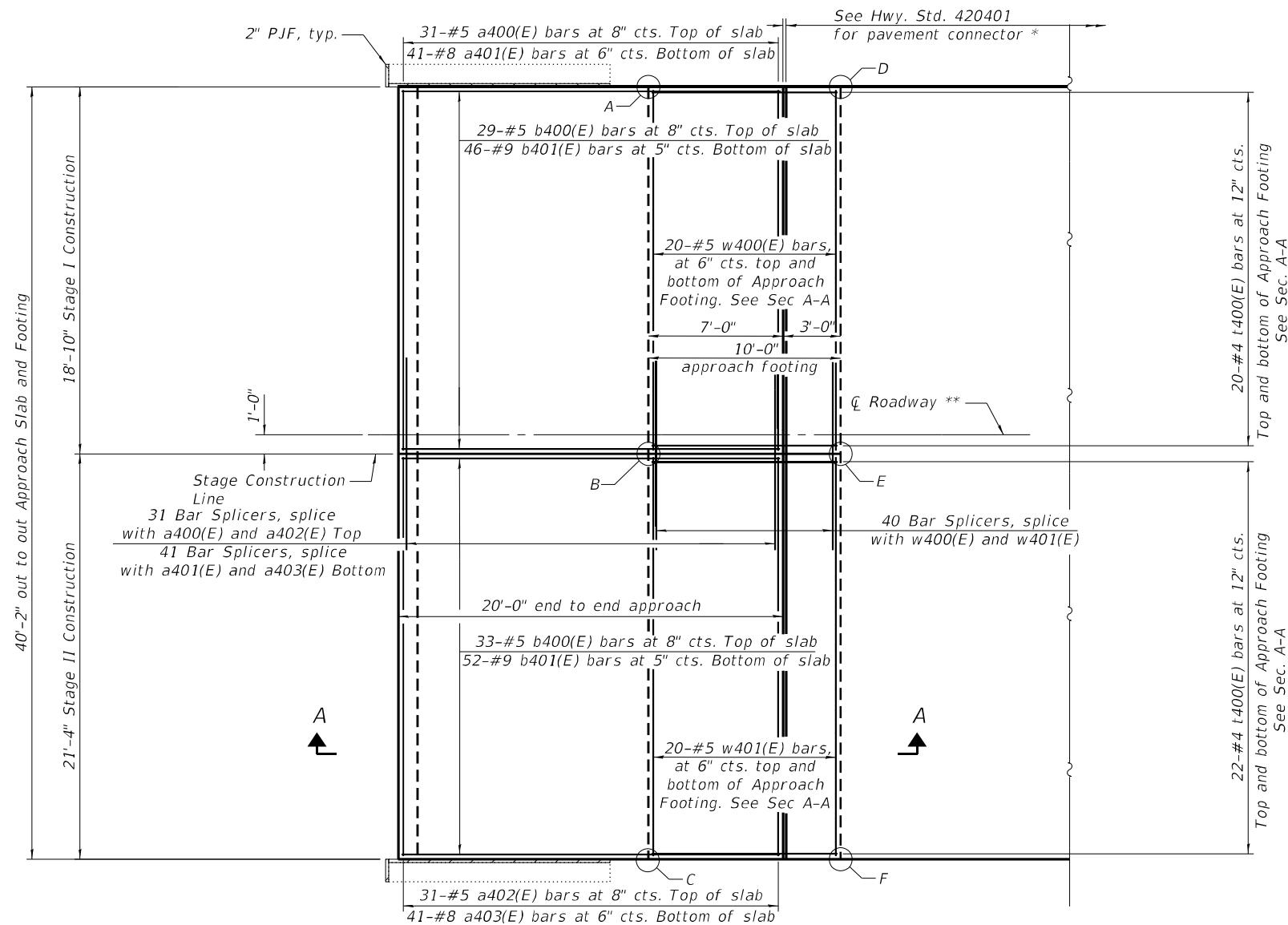
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	CHECKED - JTH	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DIAPHRAGM DETAILS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)**

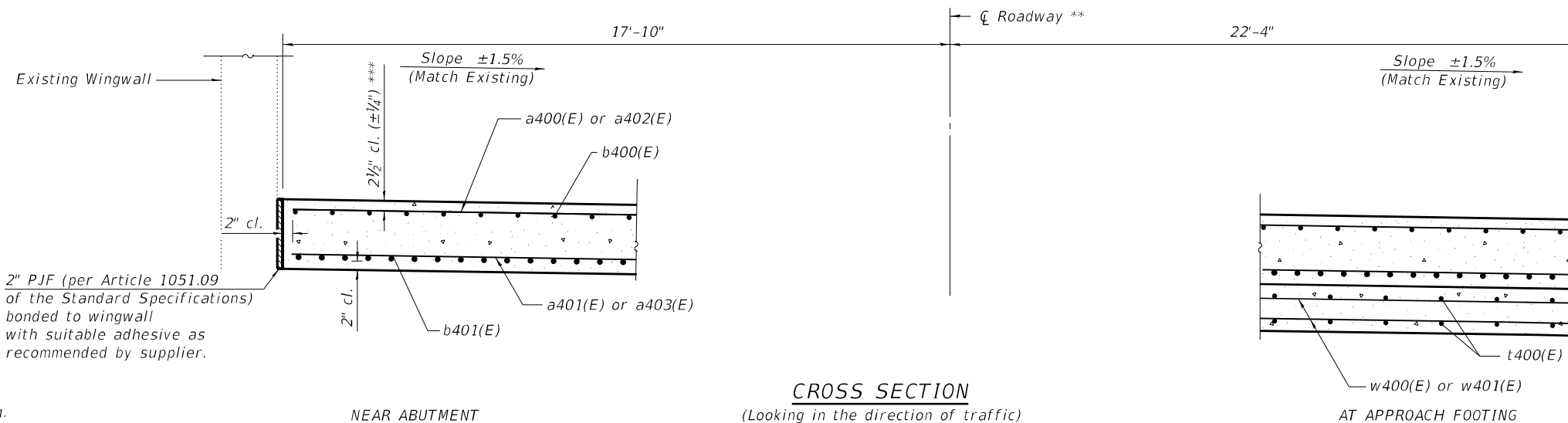
SHEET 8 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	124
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



PLAN

SN 044-0045 north approach slab shown, SN 044-0045 south approach slab similar
 SN 044-0046 south approach slab shown, SN 044-0046 north approach slab similar



CROSS SECTION

(Looking in the direction of traffic)

*** Prior to diamond grinding.

* Pavement connector shall be paid for as Bridge Approach Pavement Connector (Special). The pavement connector shall be constructed per Hwy. Std. 420401 except that the 15'-0" length shall be 20'-6". See Special provision for additional details.

** Due to roadway curvature, approximate location shown.

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

S.N. 044-0045				
Point	North Approach		South Approach	
	Top	Bottom	Top	Bottom
A				
B				
C				
D				
E				
F				

S.N. 044-0046				
Point	North Approach		South Approach	
	Top	Bottom	Top	Bottom
A				
B				
C				
D				
E				
F				

The approach slab shall be placed to match existing elevations. The Contractor shall place the approach footing for the approach slabs to match existing elevations at grade. Adjustments for settlement of existing approach slabs shall be made as directed by the Engineer. Blank tables included for field notation.

See Section A-A on Sheet 10 of 27.

MODEL: Detail
 FILE NAME: L:\DOT\1500610\VO_g\DrawStructures\SN 0045 & 0046\09_0045-0046_Approach Slab_Detail.rvt



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	CHECKED - JTH	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)**

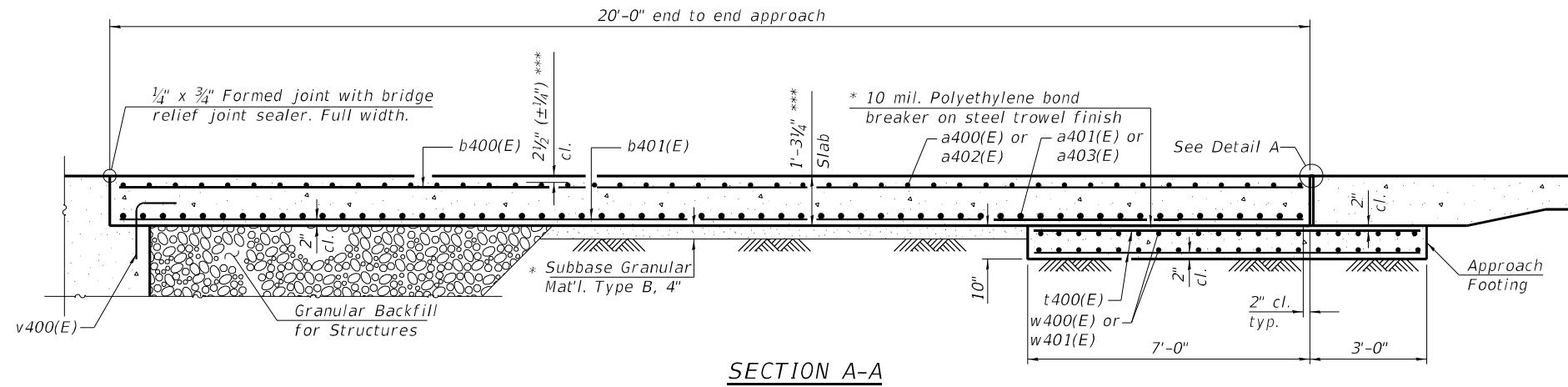
SHEET 9 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	125
CONTRACT NO. 78849				

ILLINOIS FED. AID PROJECT

Notes:

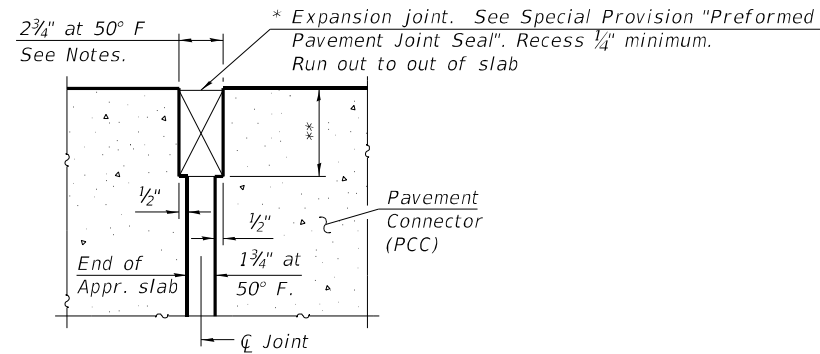
The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 27.



SECTION A-A

**FOUR APPROACHES
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a400(E)	124	#5	18'-6"	———
a401(E)	164	#8	18'-6"	———
a402(E)	124	#5	21'-0"	———
a403(E)	164	#8	21'-0"	———
b400(E)	248	#5	19'-8"	———
b401(E)	392	#9	19'-8"	———
t400(E)	336	#4	9'-8"	———
w400(E)	160	#5	18'-6"	———
w401(E)	160	#5	21'-0"	———
Concrete Structures			Cu. Yd.	49.6
Concrete Superstructure (Approach Slab)			Cu. Yd.	151.4
Reinforcement Bars, Epoxy Coated			Pound	61600
Bar Splicers			Each	448



DETAIL A
(@ Rt. L's)

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations.

*** Prior to diamond grinding.

(Sheet 2 of 2)

MODEL: Detail
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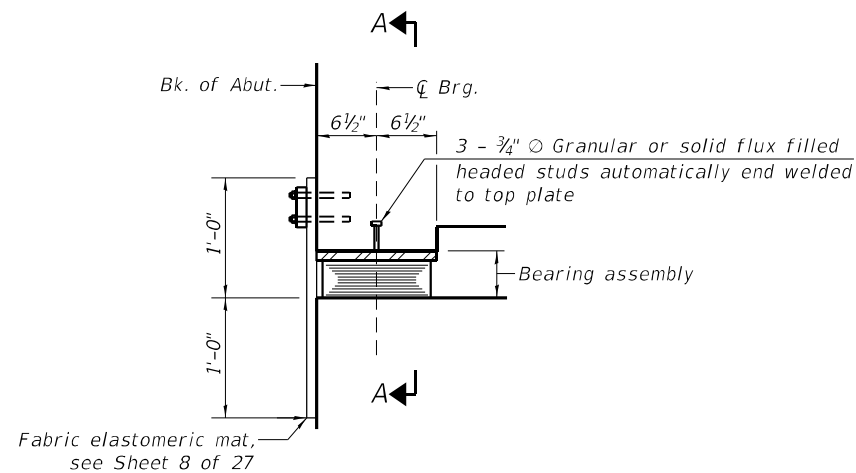
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

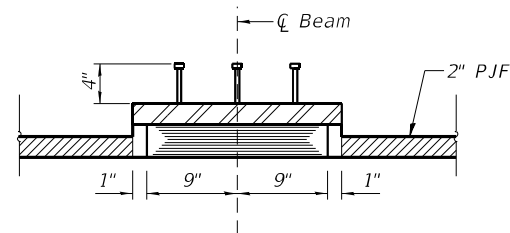
**BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)**

SHEET 10 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	126
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				

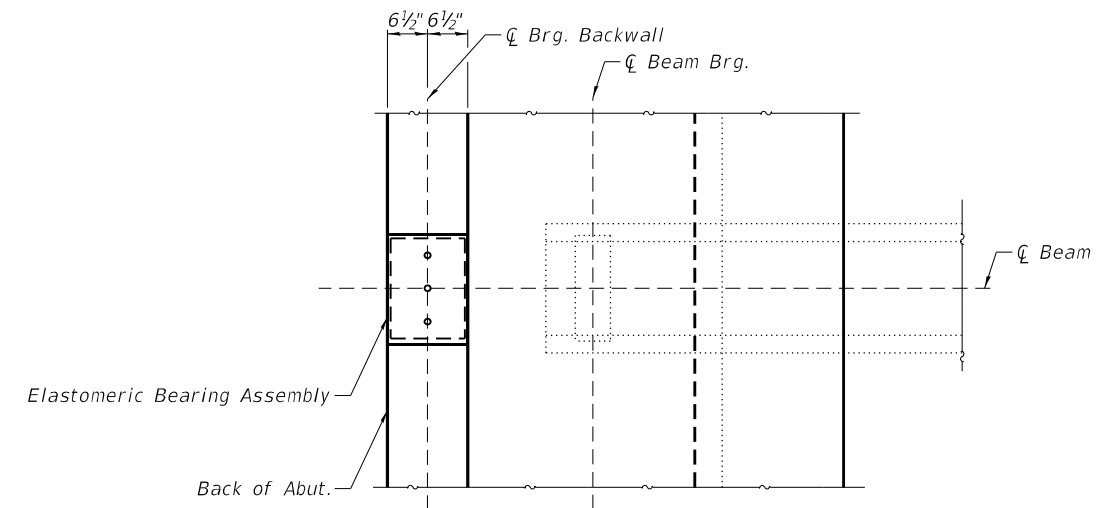


ELEVATION AT ABUT.

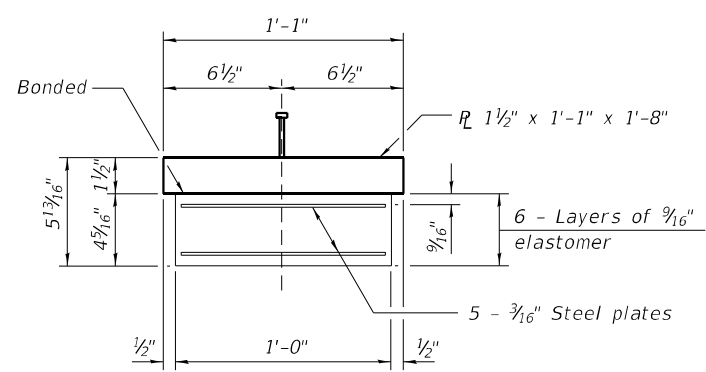


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



PARTIAL PLAN



BEARING ASSEMBLY

Notes:
 Stainless steel plates and welded studs shall be included in the cost of Elastomeric Bearing Assembly, Type I.
 All exposed bearing plates shall be hot dip galvanized according to AASHTO M111.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	24

MODEL: Default
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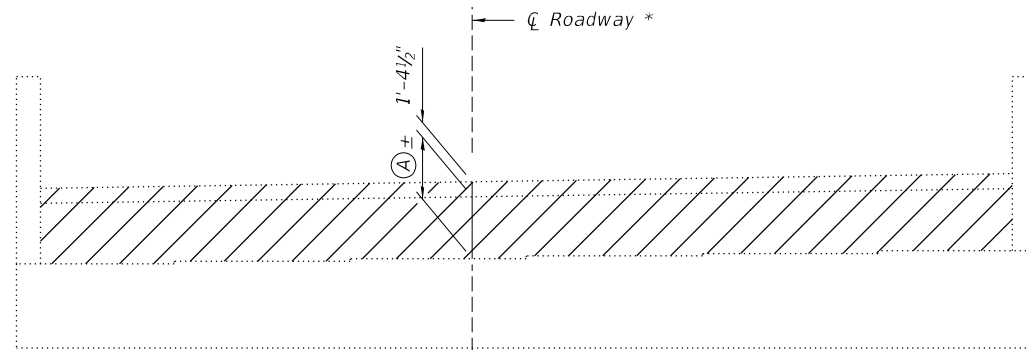


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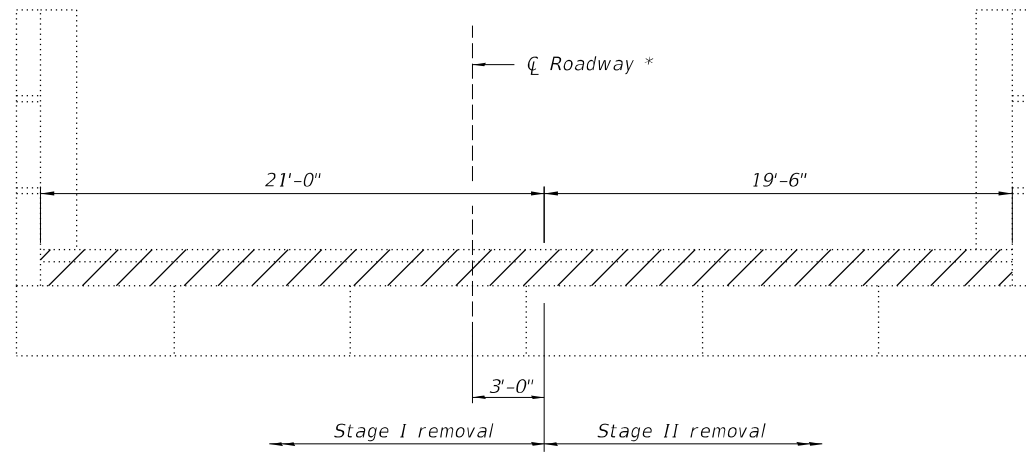
BEARING DETAILS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)
 SHEET 11 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	127
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



ELEVATION

SN 044-0045 north abutment shown, SN 044-0046 north abutment similar

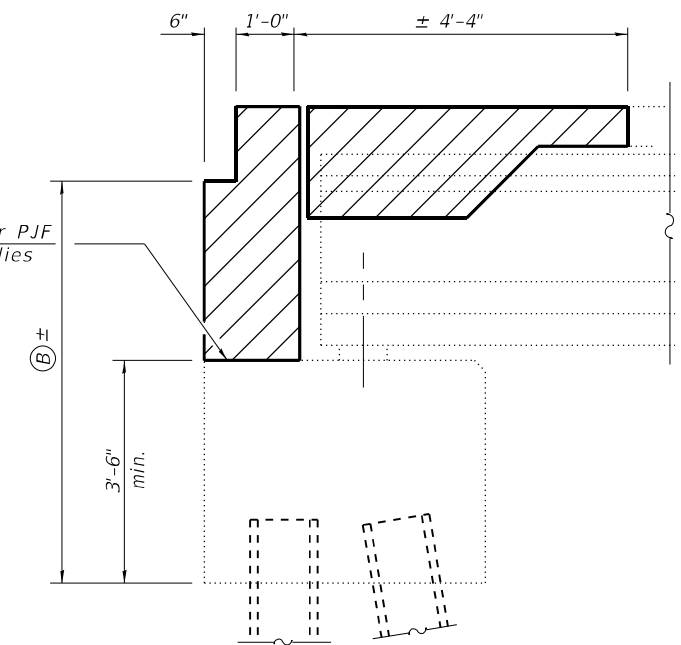


PLAN

SN 044-0045 north abutment shown, SN 044-0046 north abutment similar

Location	Dim. A	Dim. B
044-0045 - North Abutment	2'-6 ⁷ / ₈ "	6'-3 ⁷ / ₈ "
044-0046 - North Abutment	2'-6 ¹ / ₄ "	6'-3 ⁷ / ₈ "

Surface to be ground smooth for P/J and Elastomeric bearing assemblies



SECTION THRU ABUTMENT

LEGEND

Concrete Removal

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	19.2

Concrete Removal quantity for deck concrete included in Bill of Material on sheet 6 of 27.

Concrete Removal quantity shown includes removal of approach slab bent caps.

A nominal quantity of Structural Repair of Concrete (Depth Equal to or Less than 5 Inches) is included on Sheet 13 of 27 for additional repairs in the field as determined by the Engineer.

* Due to roadway curvature, approximate location shown.

MODEL: Default
FILE NAME: L:\DOT\1906910\VO_g\DrawStructures\SN 0045 & 0046\012_0045-0046_Abutment Removal-NORTH.dgn



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PLOT SCALE = N/A	CHECKED - JTH	REVISED -
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	CHECKED - JTH	REVISED -

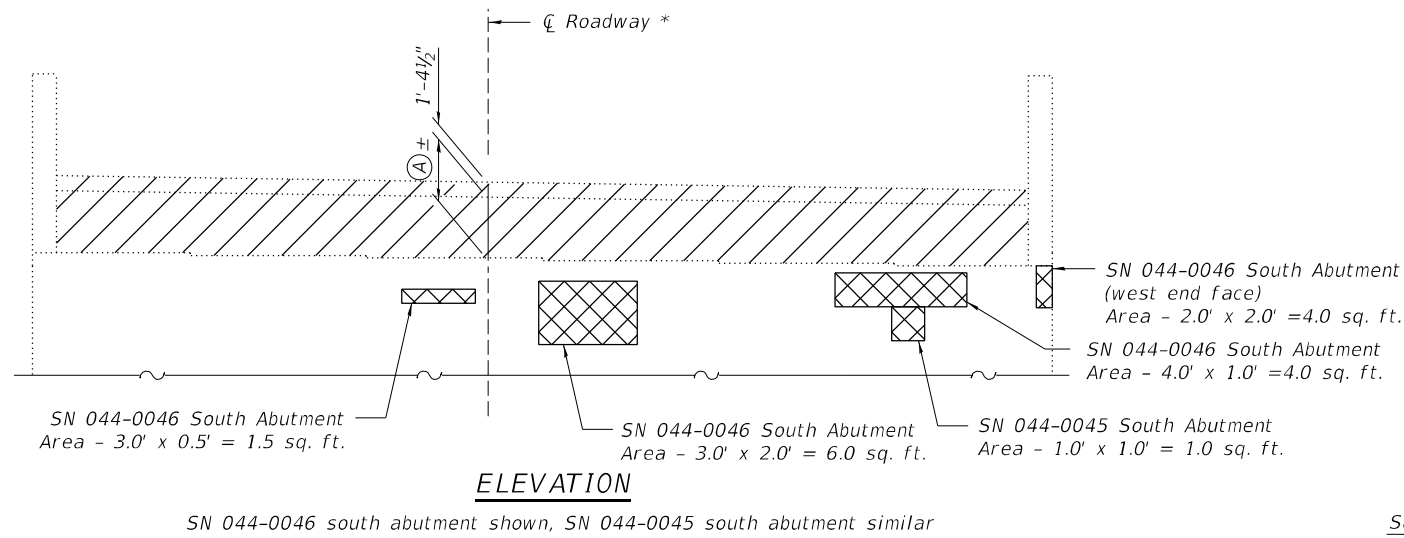
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT REMOVAL
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 12 OF 27 SHEETS

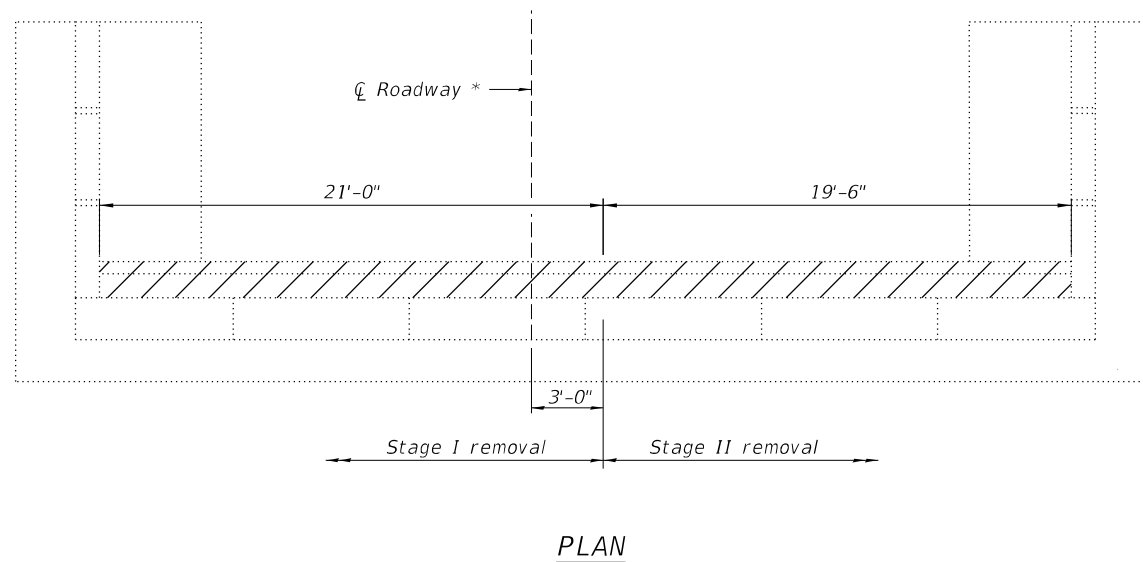
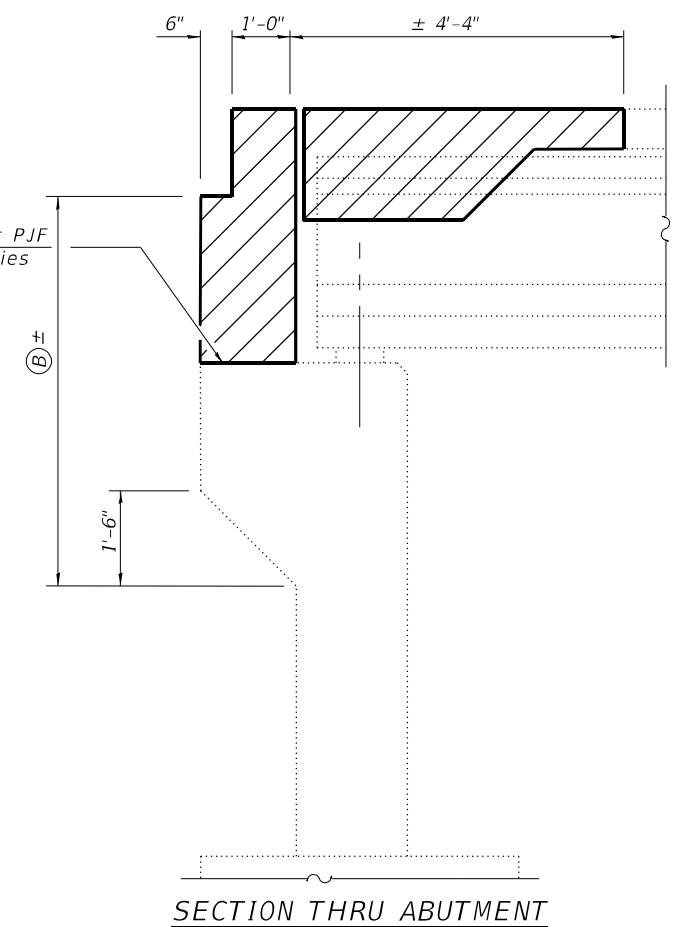
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	128
CONTRACT NO. 78849				

ILLINOIS FED. AID PROJECT



Location	Dim. A	Dim. B
044-0045 - South Abutment	2'-6 7/8"	5'-4 5/8"
044-0046 - South Abutment	2'-6 1/4"	4'-7 1/4"

Surface to be ground smooth for PJF and Elastomeric bearing assemblies



LEGEND

- Concrete Removal
- Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	19.1
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.	37

Concrete Removal quantity for deck concrete included in Bill of Material on sheet 6 of 27.

Concrete Removal quantity shown includes removal of approach slab bent caps.

A nominal quantity of 10 sq. ft. per bridge of Structural Repair of Concrete (Depth Equal to or Less than 5 Inches) is included for additional repairs in the field as determined by the Engineer.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT REMOVAL
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)**

SHEET 13 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	129
CONTRACT NO. 78849				

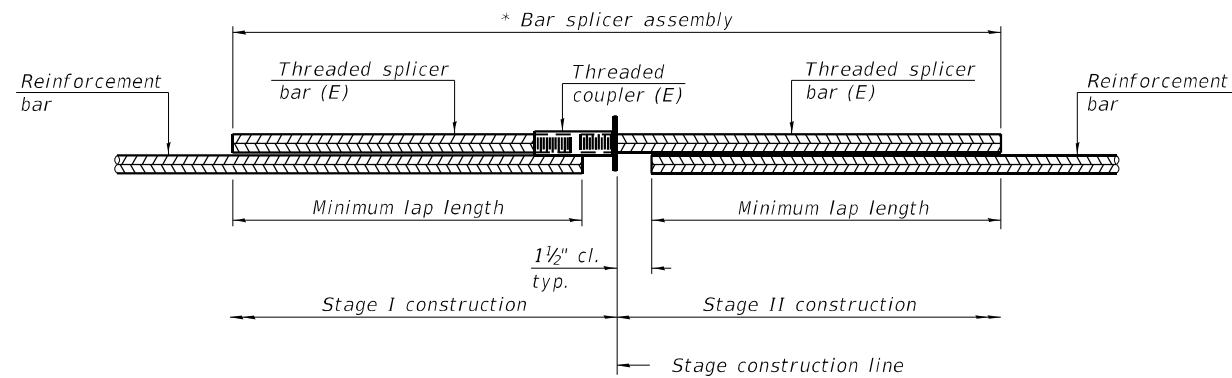
ILLINOIS FED. AID PROJECT

MODEL: Default
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PLOT SCALE = N/A	CHECKED - JTH	REVISED -
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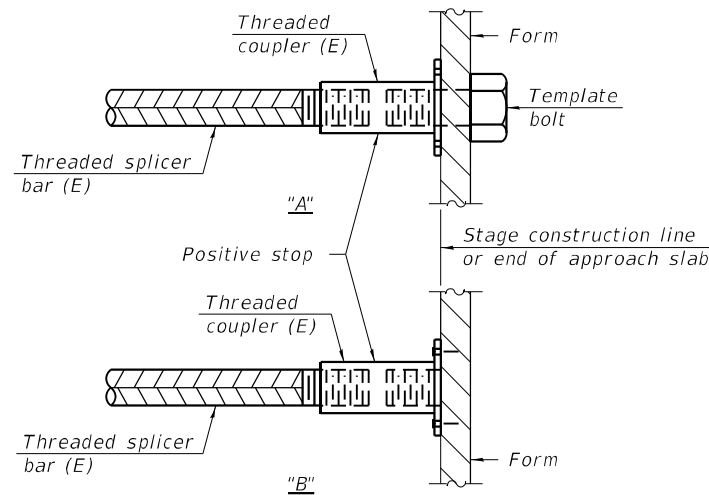


STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

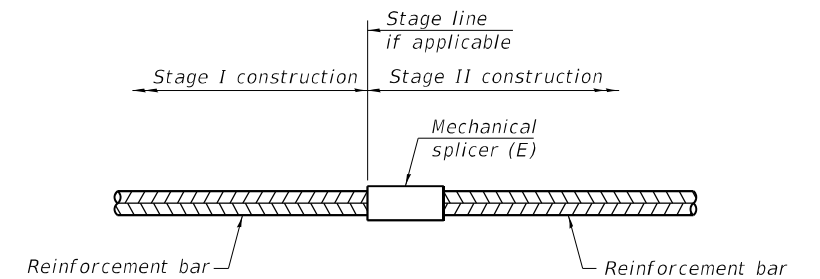
Threaded splicer bar length = min. lap length + 1 1/2" + thread length

* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.



INSTALLATION AND SETTING METHODS

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

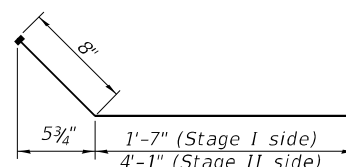


STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Location	Bar size	No. assemblies required	Minimum lap length
044-0045 N. Abut. Superstructure	#5	24	3'-6"
044-0045 N. Abut. Diaphragm	#6	6	4'-0"
044-0045 N. Abut. Diaphragm	#6	2	**
044-0045 N. Abut. Diaphragm	#6	4	***
044-0045 N. Abut. Diaphragm	#4	2	2'-5"
044-0045 N. Approach Slab	#5	31	3'-6"
044-0045 N. Approach Slab	#8	41	6'-9"
044-0045 N. Approach Slab Footing	#5	40	3'-6"
044-0045 S. Abut. Superstructure	#5	24	3'-6"
044-0045 S. Abut. Diaphragm	#6	6	4'-0"
044-0045 S. Abut. Diaphragm	#6	2	**
044-0045 S. Abut. Diaphragm	#6	4	***
044-0045 S. Abut. Diaphragm	#4	2	2'-5"
044-0045 S. Approach Slab	#5	31	3'-6"
044-0045 S. Approach Slab	#8	41	6'-9"
044-0045 S. Approach Slab Footing	#5	40	3'-6"
044-0046 N. Abut. Superstructure	#5	24	3'-6"
044-0046 N. Abut. Diaphragm	#6	6	4'-0"
044-0046 N. Abut. Diaphragm	#6	2	**
044-0046 N. Abut. Diaphragm	#6	4	***
044-0046 N. Abut. Diaphragm	#4	2	2'-5"
044-0046 N. Approach Slab	#5	31	3'-6"
044-0046 N. Approach Slab	#8	41	6'-9"
044-0046 N. Approach Slab Footing	#5	40	3'-6"
044-0046 S. Abut. Superstructure	#5	24	3'-6"
044-0046 S. Abut. Diaphragm	#6	6	4'-0"
044-0046 S. Abut. Diaphragm	#6	2	**
044-0046 S. Abut. Diaphragm	#6	4	***
044-0046 S. Abut. Diaphragm	#4	2	2'-5"
044-0046 S. Approach Slab	#5	31	3'-6"
044-0046 S. Approach Slab	#8	41	6'-9"
044-0046 S. Approach Slab Footing	#5	40	3'-6"

** See Bent Headed Bar Splicer Detail
 *** 4'-6" bar on Stage II side, 2'-0" bar on Stage I side.



BENT HEADED BAR SPLICER DETAIL

Notes:
 Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 1-1-2020

	USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = N/A	DRAWN - RAH	REVISED -			24	BRIDGE REPAIR 2022-1	JOHNSON	184	130
License No. 184-000613	PLOT DATE = 12/1/2021 (9:46:18 AM)	CHECKED - JTH	REVISED -	SHEET 14 OF 27 SHEETS		ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	

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F.A.I. No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24		JOHNSON	150	137
STA.	TO STA.			
FED. AID DIST. NO.	ILLINOIS	FED. AID PROJECT		
		* BSMART FY04-3 98836		

CURVE DATA

Values from Existing plans
 Δ - 19°-59'-40"
 D - 0°-30'-00"
 R - 11,459.16'
 T - 2020.00'
 L - 3998.92'
 E - 176.68'
 S.E. - .015 Ft./Ft.
 S.E. attained:
 sta. 408+46.12 to sta. 410+46.12
 sta. 451+11.70 to sta. 449+11.70

GENERAL NOTES

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars shall conform to the requirements of AASHTO M-31, or M-322 Grade 60.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost Included with Concrete Removal.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

Sequence of Construction

1. Scarify and Resurface Existing Shoulders
2. Remove Stage I Areas
3. Perform Stage I Repairs and Overlay
4. Remove Stage II Areas
5. Perform Stage II Repairs and Overlay

Scope of Work

Scarify existing ±9" thick bituminous shoulders and resurface with bituminous shoulder
 Scarify existing bare deck
 Partial depth deck patching
 Eliminate every other drain and drains within 10' of abutments and piers
 Microsilica Concrete Overlay
 Expansion Joint Treatment

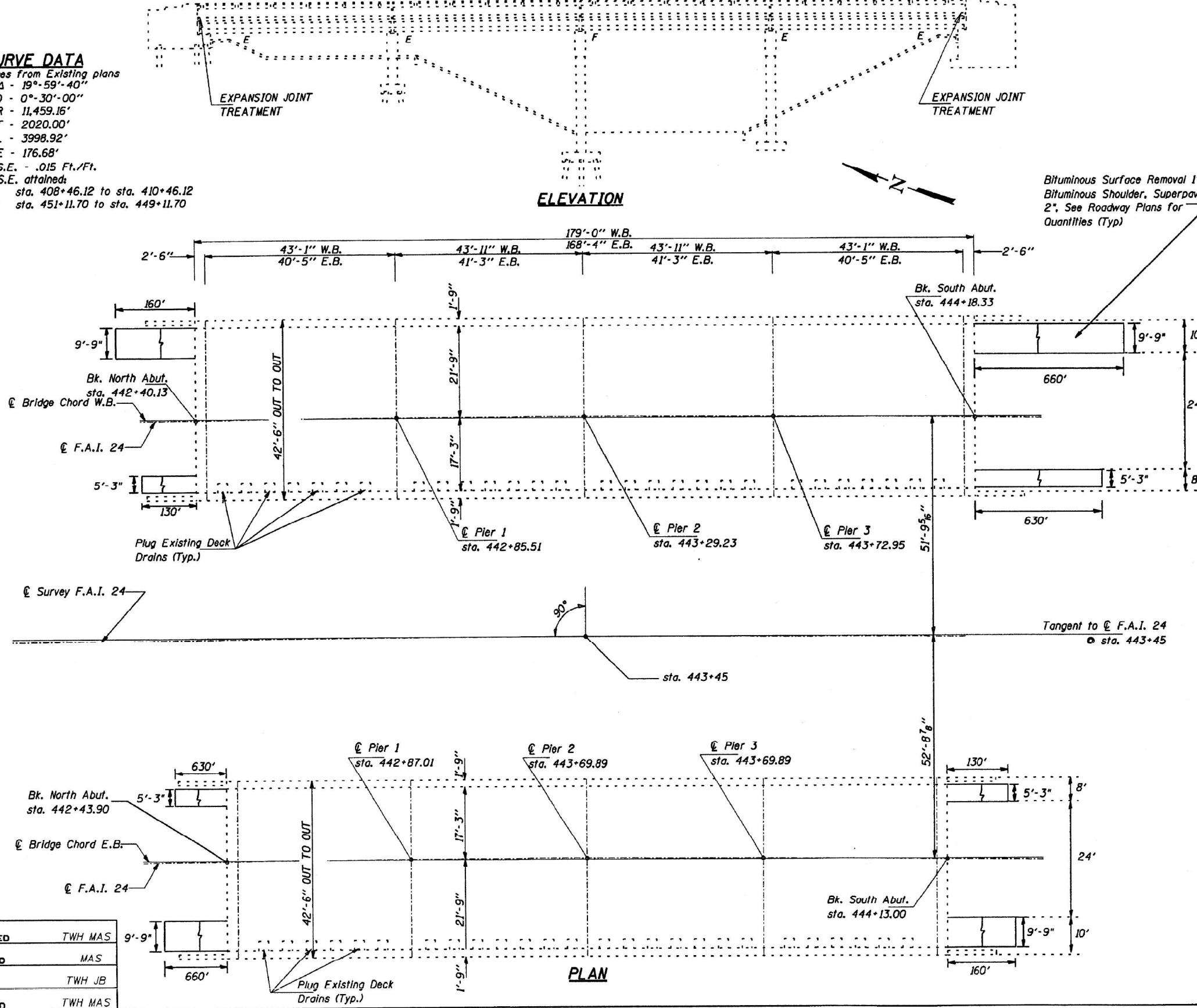
Design Stresses

FIELD UNITS
NEW CONSTRUCTION
 f'_c = 3,500 psi
 f_y = 60,000 psi (reinforcement)
EXISTING STRUCTURE
 f'_c = 1,200 psi (hatchblock)
 f_y = 20,000 (reinforcement)

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL	0045	0046
Concrete Bridge Deck Scarification (1/2 Inch)	Sq. Yd.	1491	768	723
Deck Slab Repair (Partial Depth)	Sq. Yd.	30	15	15
Plug Existing Deck Drains	Each	26	13	13
Bridge Deck Microsilica Concrete Overlay 2 1/4"	Sq. Yd.	1491	768	723
Concrete Removal	Cu. Yd.	8.2	4.1	4.1
Reinforcement Bars, Epoxy Coated	Pound	950	475	475
Bar Splicers	Each	16	8	8
Concrete Superstructure	Cu. Yd.	9.1	4.55	4.55
Polymer Concrete	Cu. Ft.	15.8	7.9	7.9
Silicone Joint Sealer 1 1/2"	Foot	162	81	81
Bridge Deck Grooving	Sq. Yd.	1414	729	685

GENERAL PLAN AND ELEVATION
FAI 24 OVER LITTLE CACHE CREEK
JOHNSON COUNTY
STA. 443+45
S.N. 044-0045 (W.B.)
S.N. 044-0046 (E.B.)



DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	TWH JB
CHECKED	TWH MAS

BRIDGE REPAIRS FOR SN 044-0045 AND 044-0046



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	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

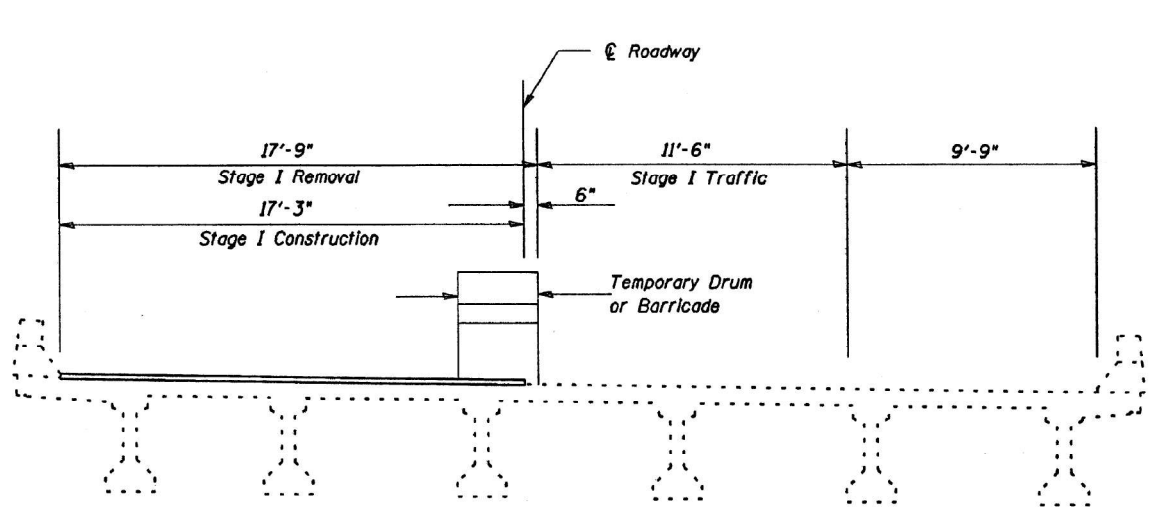
EXISTING PLANS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 15 OF 27 SHEETS

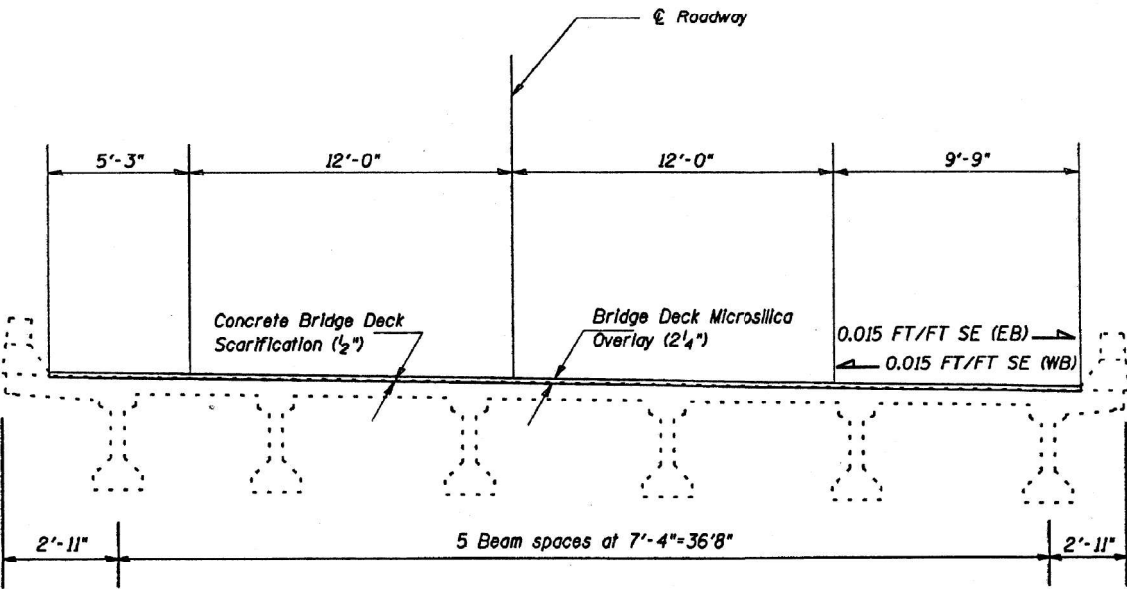
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	131
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

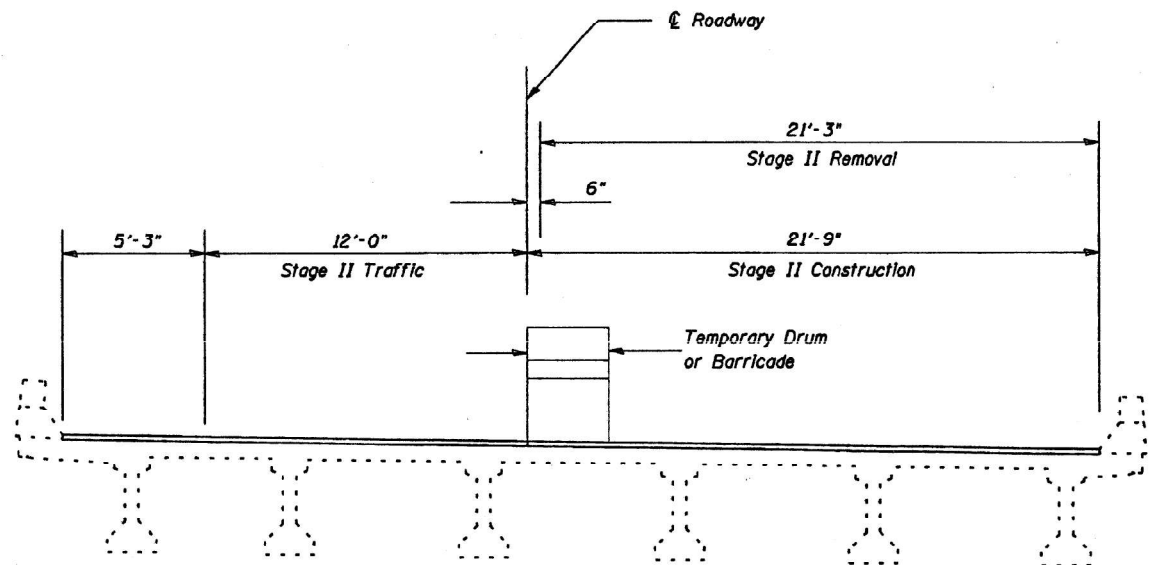
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24		JOHNSON	150	138
STA.		TO STA.		
FED. AID DIST. NO.		BLDG. NO.	FED. AID PROJECT	
BSMART FY04-3 98836				



STAGE I



TYPICAL CROSS SECTION
(Proposed cross slope matches the existing 0.015 F1/F1 SE)



STAGE II

Notes: Cross sections are looking in direction of traffic
The temporary drums or barricades shall be located as shown on this sheet except when workers are present, when they may be temporarily moved over 2'-0" shifting traffic onto the existing bituminous shoulders.

DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	TWH JIB
CHECKED	TWH MAS

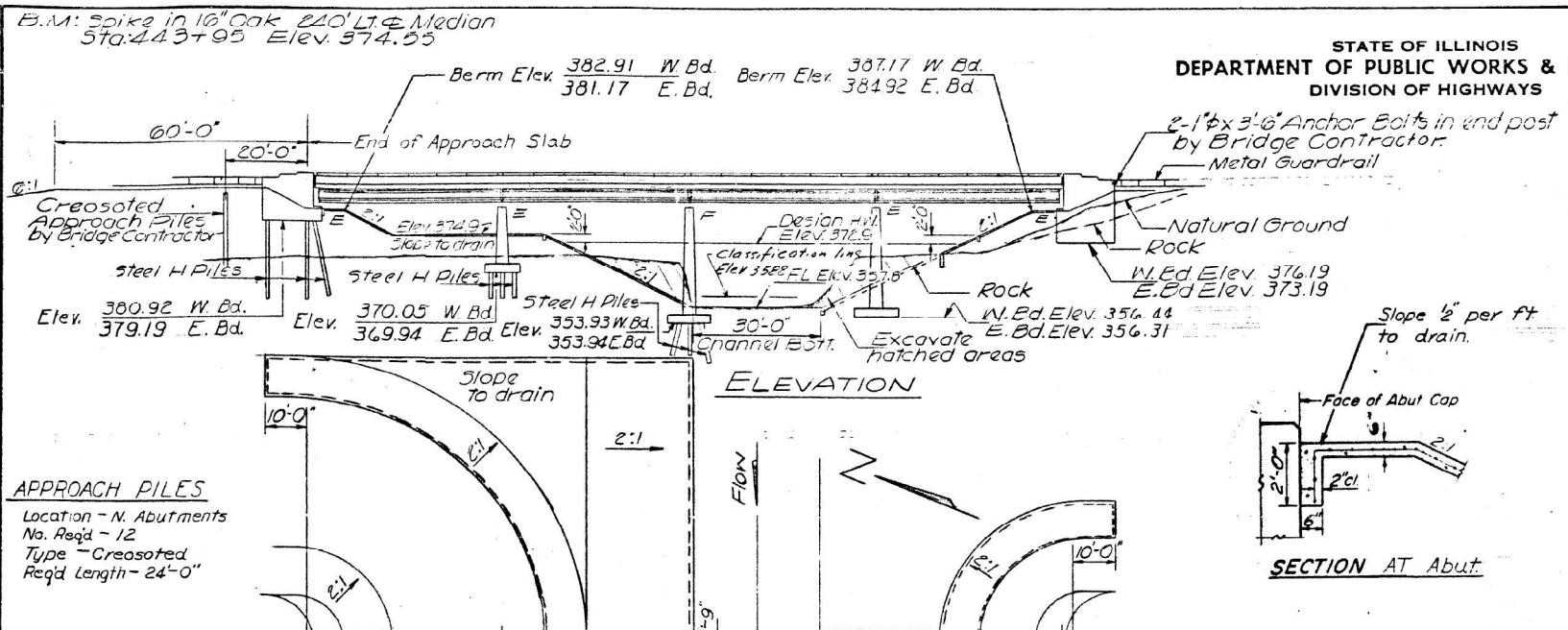
STAGE CONSTRUCTION DETAILS
JOHNSON COUNTY
SN 044-0045 (W.B.)
SN 044-0046 (E.B.)

FOR INFORMATION ONLY

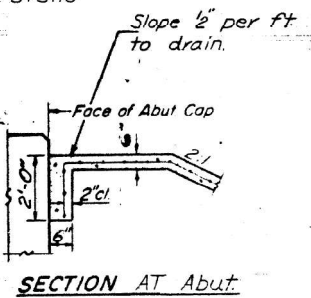
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	44-5B	Johnson	62	25
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT



APPROACH PILES
Location - N. Abutments
No. Req'd - 12
Type - Creosoted
Req'd Length - 24'-0"

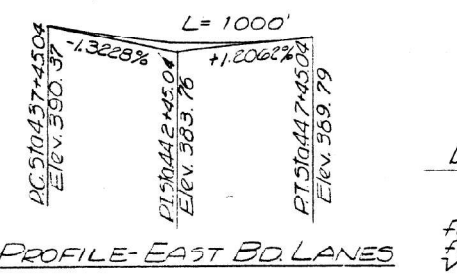
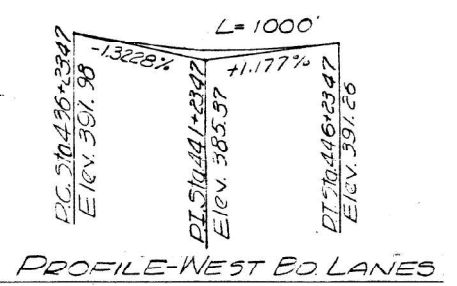
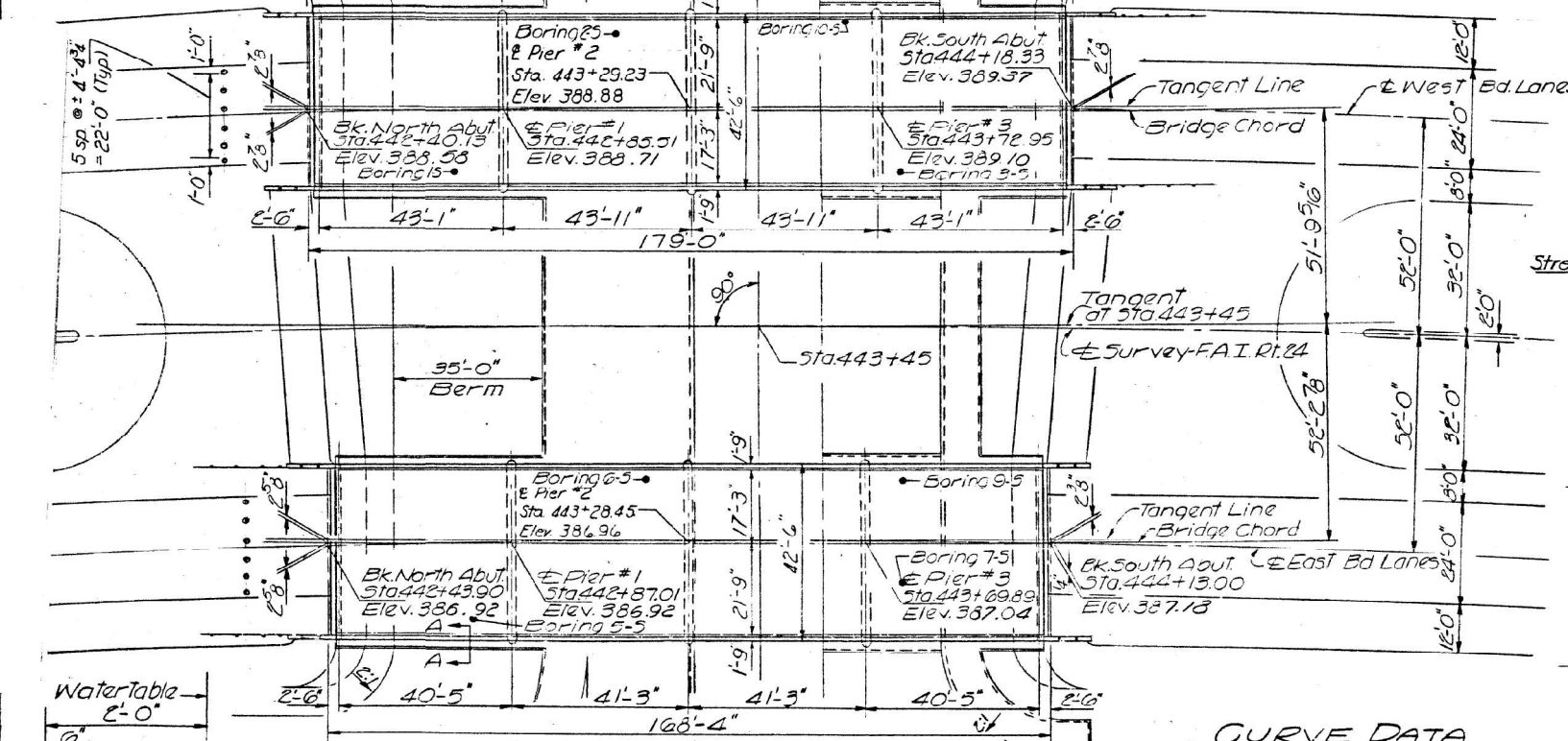
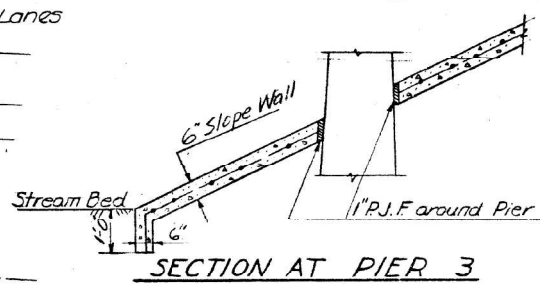


Locate 2" Galv. Conduit (Sch. 40 Pipe) ±1/2" inside of fascia beam web and parallel to beam line. Extend to clear the wing wall and terminate at a point outside of shoulder. Thread and cap each end. Place conduit at the two outside corners of each dual bridge. At all four corners of a single bridge. (4-Req'd) Cost incidental

GENERAL NOTES
All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint.
Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, weighing 58# per 100 sq. ft.
Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.
An alternate strand pattern using Extra High Strength Prestressing strand (270 k.s.i.) is permitted.
The Contractor shall drive 4 Steel Test piles (8BP36) at each of the following permanent locations: @ Piers 2 W & E. Bd. Structures and @ N. Abutment W & E. Bd. Structures as directed by the Engineer before ordering the remainder of piles.
For footing layout see sheet #23
Structural Steel Wt. 4,500 lbs.

ELECTRICAL CONDUIT LOCATION
(Pile Bent Abutments)



CURVE DATA
P.I. Sta. 429+99.45
Δ = 19° 59' 40" T = 2020.00'
D = 0° 30' 00" L = 3998.92'
R = 11,459.16' E = 176.68'
SE = 0.015%
SE attained:
Sta 408+46.12 to Sta. 410+46.12
Sta 431+11.70 to Sta. 449+11.70

WATERWAY INFORMATION
Drainage Area - 25 Sq. Miles
Character - hilly, clay, wooded, cultivated
Required Opening - (50 Year Flood) 850 Sq. Ft.
Present Opening - None
Proposed Opening - 850 Sq. Ft.

FOR INFORMATION ONLY

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Channel Excavation	Cu. Yds.			1560
Rock Excavation in Channel	Cu. Yds.			1330
Structure Excavation	Cu. Yds.			375
Rock Excavation for Structures	Cu. Yds.			173
Furnishing & Erecting Precast Prestressed Concrete I-Bms. (36)	Lin. Ft.	2023		2023
Class X Concrete	Cu. Yds.	487.4	687.2	1174.6
Protective Coat	Sq. Yds.			1300
Aluminum Railing	Lin. Ft.	682		682
Reinforcement Bars	Lbs.	119890	50530	170420
Creosoted Piles (20' to 38.0')	Lin. Ft.			288
Steel Piles (8BP36)	Lin. Ft.		2152	2152
Test Piles Steel (8BP36)	Each		4	4
Name Plates	Each			2
Slope Wall (6")	Sq. Yds.			3050
Preformed Jt. Sealer	Lin. Ft.	169		169
Structural Steel	L.S.			1

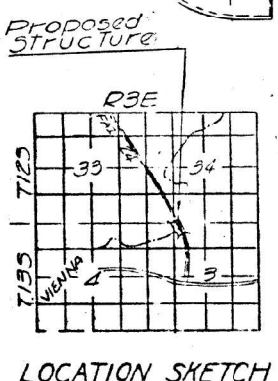
STATION 443+45
BUILT 19 BY
STATE OF ILLINOIS
F.A.I. RT. 24 SEC. 44-5B
FA PROJ. I-IG-24-1(18)
LOADING HS20 & ALT.

DESIGN STRESSES
FIELD UNITS
fc = 4000 psi - (Super. & Sub.)
fs = 20,000 psi - (Tens.)
vc = 75 psi - (FTG's)
n = 10

PRECAST PRESTRESSED UNITS
fc = 5000 psi
fs = 20,000 psi
fs = 248,000 psi - (Strands)
fs = 173,000 psi - (Strands)
Allowable Fut. In-Cr. On Surface 25%
LOADING HS20-44E ALTERNATE

NAME PLATE
(See Std. 2113-1)
9-80
PROJ I-IG-24-1(18)15
LITTLE CACHE CREEK
F.A.I. ROUTE 24
SECTION 44-5B
JOHNSON COUNTY
STATION 443+45

DESIGNED *A. Kerandi*
CHECKED *James Hamilton*
DRAWN *C.E. Wilkins*
EXAMINED *July 2 1969*
PASSED *W.E. Baumann*
APPROVED *Chief Highway Engineer*



USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:46:46 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

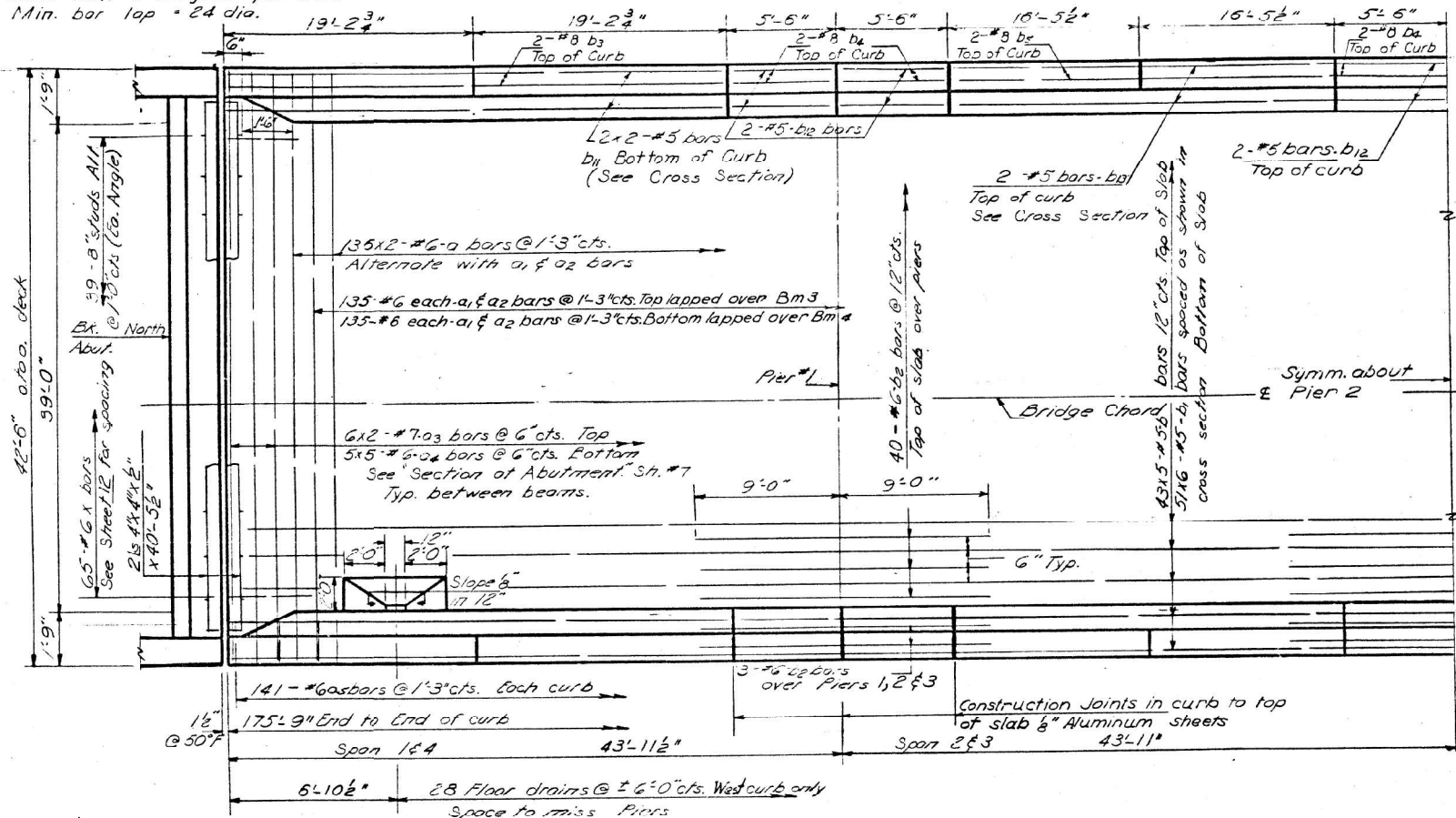
EXISTING PLANS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 17 OF 27 SHEETS

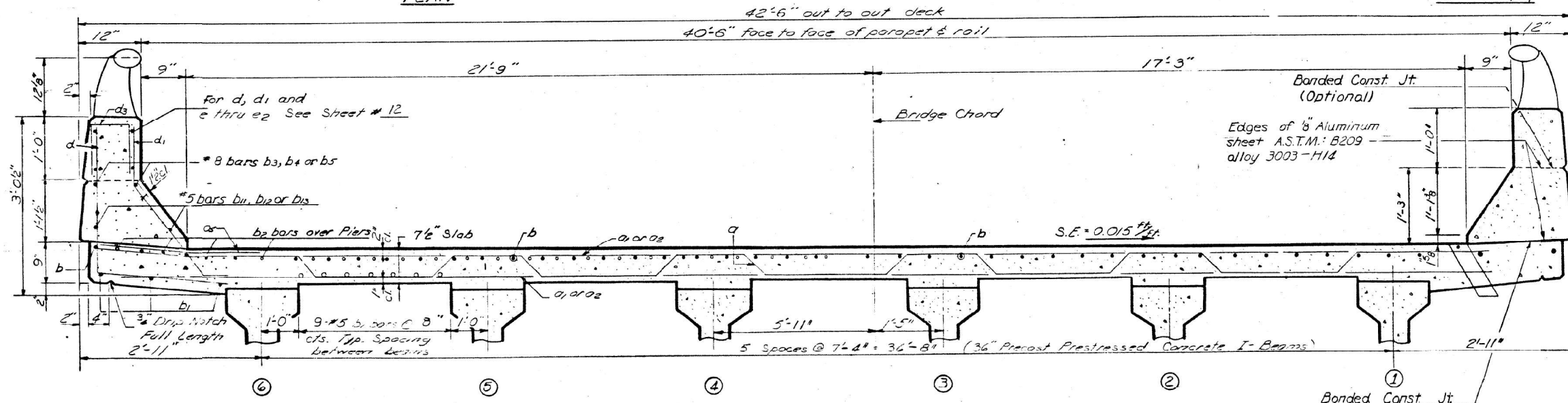
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	133
ILLINOIS			FED. AID PROJECT	

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

Note:
 Bars indicated thus 20X3-#5
 etc. indicate 20 lines of
 bars with 3 lengths per line.
 Min. bar lap = 24 dia.

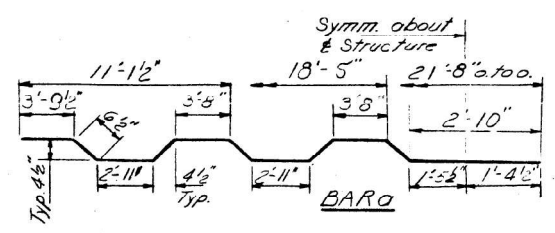


PLAN

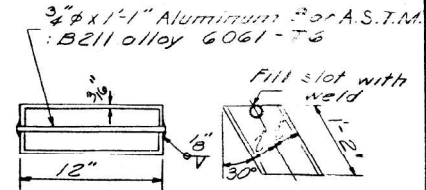
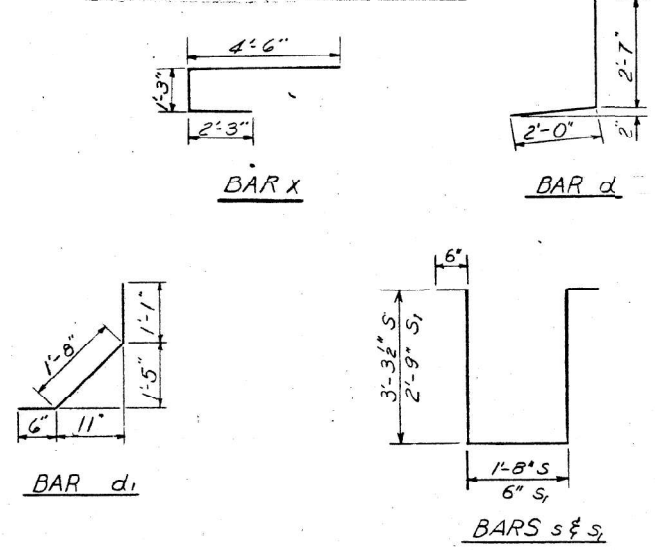


CROSS SECTION
 (Looking South)

Cost of Aluminum Sheets & Drains
 shall be incidental to Class X
 Concrete.



TYPICAL END OF SEALER TREATMENT



FLOOR DRAIN

3/4" x 1-1/2" Aluminum Bar A.S.T.M.
 B211 alloy 6061-T6
 Fill slot with weld

3/8" Aluminum Sheets Welded A.S.T.M.
 B209 alloy 6061-T6 or Aluminum
 Extrusions A.S.T.M.: B221 alloy
 6061-T6.

BILL OF MATERIAL

Bar No.	Size	Length	Shape
a	272 #6	22'-6"	U
a1	270 #6	18'-6"	U
a2	270 #6	25'-6"	U
a3	24 #7	22'-0"	U
a4	50 #6	6'-6"	U
a5	282 #6	4'-0"	U
b	215 #5	36'-0"	U
b1	306 #5	32'-6"	U
b2	138 #6	13'-0"	U
b3	8 #6	33'-0"	U
b4	24 #8	5'-3"	U
b5	3 #9	36'-0"	U
b11	16 #5	19'-9"	U
b12	24 #5	5'-3"	U
b13	3 #5	32'-6"	U
d	352 #4	4'-7"	J
d1	350 #5	3'-3"	J
m	100 #4	6'-6"	U
m1	30 #6	5'-3"	U
m2	40 #4	5'-9"	U
s	75 #4	9'-3"	U
s1	100 #4	7'-0"	U
x	130 #6	3'-0"	U
Reinforcement Bars	Loss		
Structural Steel	Lbs.	2250	
Class X Concrete	Cu. Yds.	2250	

* See sh. #12 for spacing of #3 & #4 bars.
 ** Includes Class X Concrete & Reinforcement in Parapet shown on sh. #12.
 For spacing of Bars m, m1, m2, s & s1, See sh. #11.

DESIGNED: [Signature]
 CHECKED: [Signature]
 DRAWN: C. E. Wilkins
 EXAMINED: [Signature]
 PASSED: [Signature]
 APPROVED: [Signature]

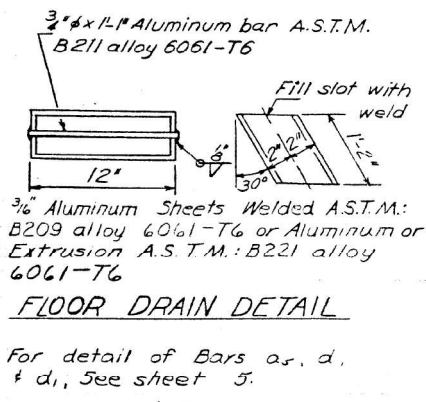
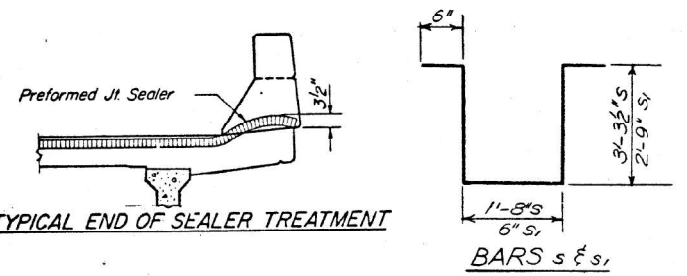
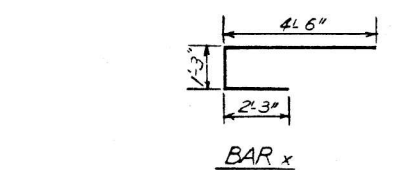
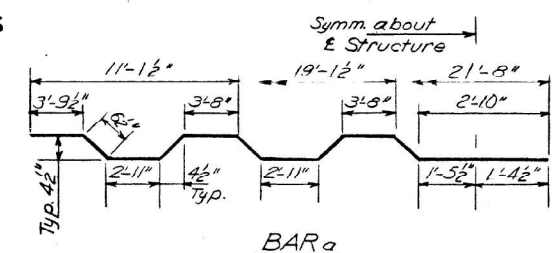
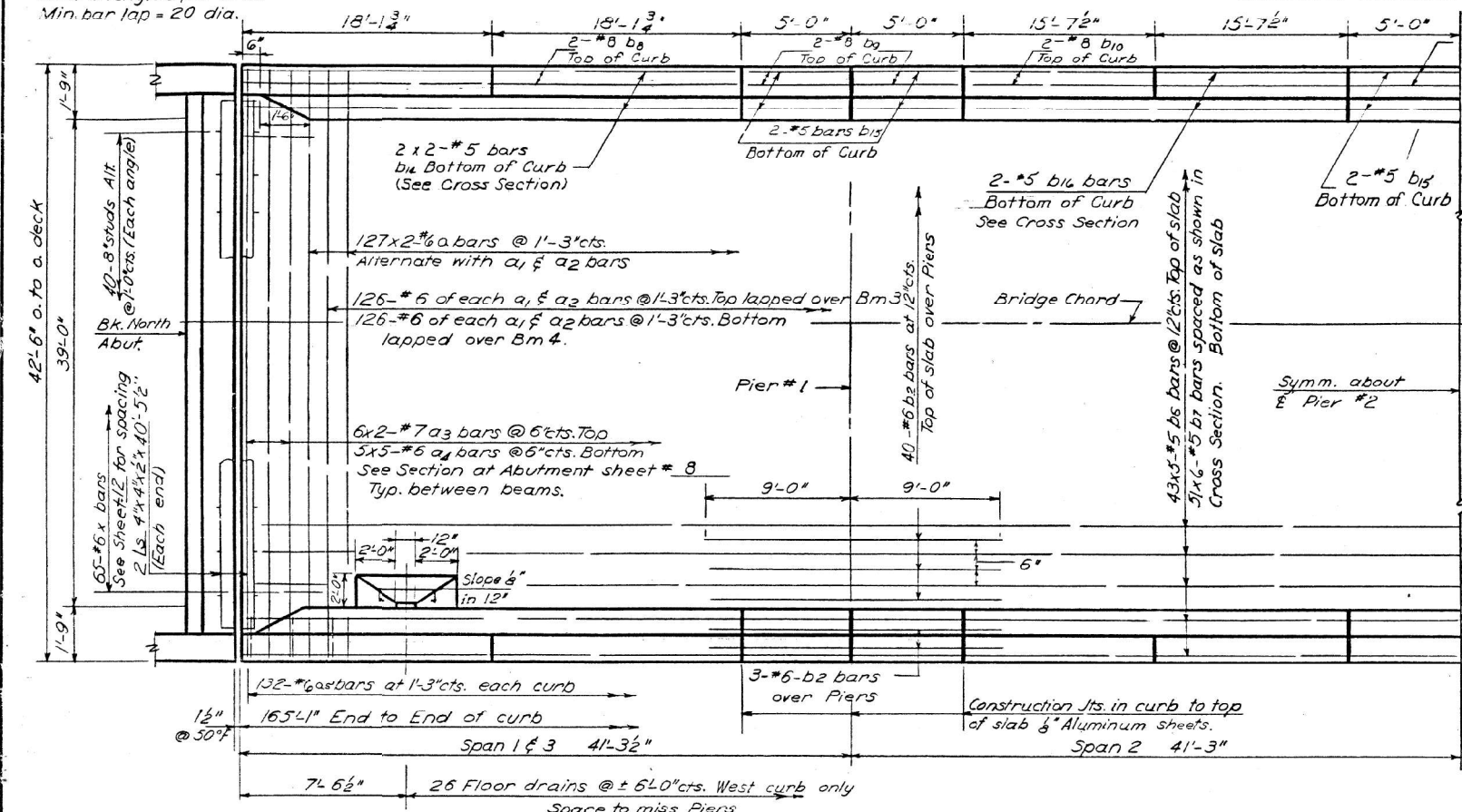
FOR INFORMATION ONLY

SUPERSTRUCTURE
 WEST BOUND STRUCTURE
 FAI RT 24 SEC. 44-55
 JOHNSON COUNTY
 STA. 44+45.00

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
44-58	Johnson	IL	17	25

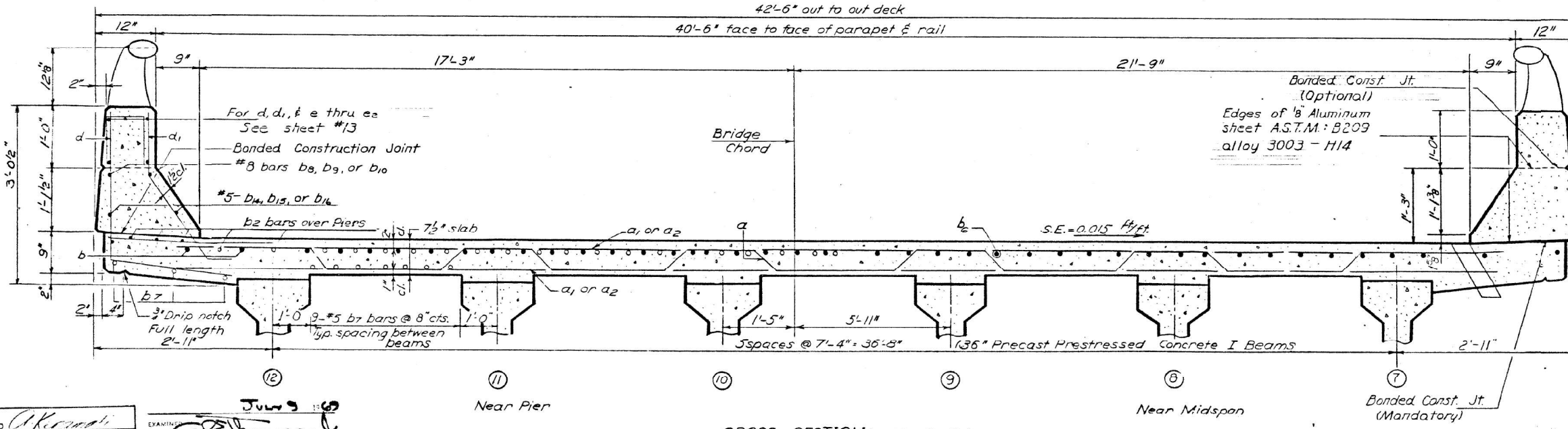
Note:
Bars indicated thus 20x3-#5 etc. indicate 20 lines of bars with 3 lengths per line.
Min. bar lap = 20 dia.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	254	#6	22'-6"	~
a1	252	#6	18'-6"	—
a2	252	#6	23'-6"	—
a3	24	#7	22'-0"	—
a4	50	#6	6'-6"	—
a5	264	#6	4'-0"	~
b2	138	#6	18'-0"	—
b6	215	#5	34'-3"	—
b7	306	#5	28'-9"	—
b8	8	#9	3'-0"	—
b9	24	#9	4'-9"	—
b10	8	#8	31'-0"	—
b14	16	#5	18'-9"	—
b15	24	#5	4'-9"	—
b16	8	#5	31'-0"	—
d	332	#4	4'-7"	~
d1	330	#5	3'-3"	~
m	100	#4	6'-6"	—
m1	30	#6	5'-9"	—
m2	40	#4	5'-9"	—
s	75	#4	9'-3"	~
s1	100	#4	7'-0"	~
x	130	#6	8'-0"	~
Reinforcement Bars			Lbs.	58320
Structural Steel			Lbs.	2250
Class X Concrete			Cu. Yds.	2374

* See sheet #12 for spacing of d and d1 bars.



DESIGNED: [Signature]
CHECKED: [Signature]
DRAWN: [Signature]
CHECKED: [Signature]

EXAMINED: [Signature]
PASSED: [Signature]
APPROVED: [Signature]

DATE: JUN 9 1969

CROSS SECTION (Looking South)
Cost of Aluminum sheets & drains shall be incidental to Class X Concrete.

FOR INFORMATION ONLY

SUPERSTRUCTURE
EAST BOUND STRUCTURE
FAI RT. 24 SEC. 44-5B
JOHNSON COUNTY
STA. 443+45.00



USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:47:08 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

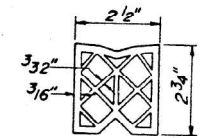
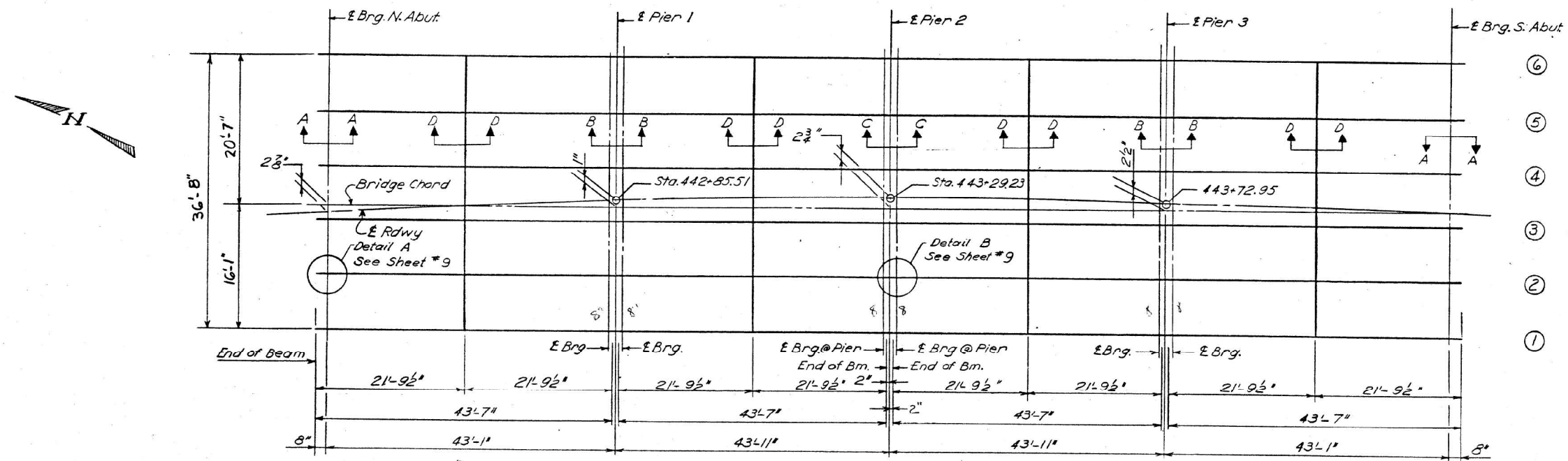
EXISTING PLANS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 19 OF 27 SHEETS

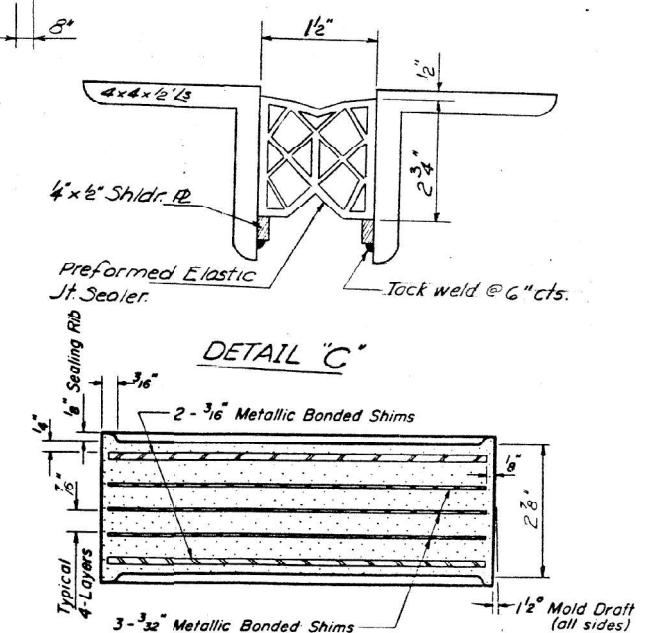
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	135

CONTRACT NO. 78849
ILLINOIS FED. AID PROJECT

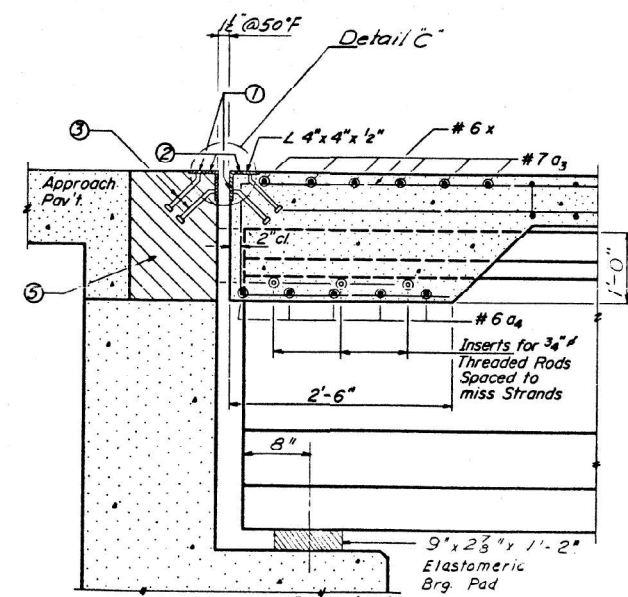
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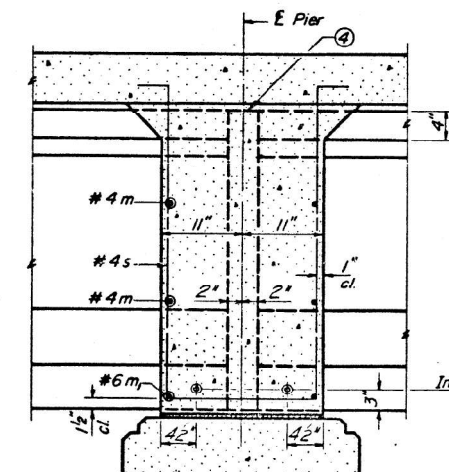
PREFORMED JOINT SEALER



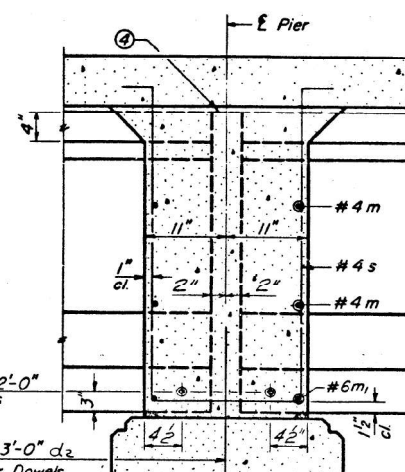
ELASTOMERIC BEARING DETAIL
used at abut. only.



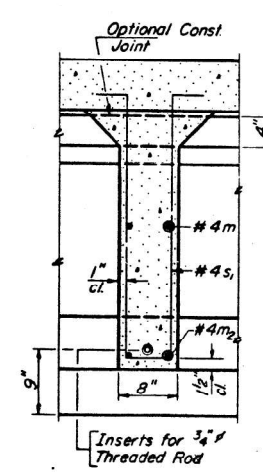
SECTION AT ABUTMENT



SECTION B-B
PIERS 1 & 3



SECTION C-C
PIER 2



SECTION D-D AT INT.
DIAPHRAGM

- 1/8" holes at 12" cts for 3/8" bolts set on normal gage line. All bolts shall be burned, sawed or chipped off flush with the back of angles after forms are removed.
- 1/8" vent holes at 12" cts set on 1 1/8" gage line.
- 3/4" x 8" CR 1020 STL granular or solid flux filled headed studs—automatically end welded. (alternate at 1'-0" cts.)
- Pour diaphragm flush with top of beam. Concrete in slab above this line shall be placed not less than 45 minutes nor more than 90 minutes after diaphragm has been poured.
- Hatched area to be poured after Superstructure forms have been removed. Quantity of Class X Concrete included with Superstructure.

Bars a₃, a₄; m, m₁, m₂;
s & s₁ are included in Bill
of Material on Sheet # 4

DESIGNED	<i>A. Karam</i>
CHECKED	<i>James Hamilton</i>
DRAWN	<i>Wanless</i>
CHECKED	<i>JH</i>

EXAMINED	<i>[Signature]</i>	DATE	July 9 1969
PASSED	<i>[Signature]</i>		
APPROVED	<i>[Signature]</i>		

PI-2J 1-27-66

FOR INFORMATION ONLY

FRAMING PLAN
WEST BOUND STRUCTURE
F.A.I. RT. 24 SEC. 44-5B
JOHNSON COUNTY
STA. 443+45.00



USER NAME	= Derek Cochran
DESIGNED	- DAC
CHECKED	- JTH
DRAWN	- RAH
CHECKED	- JTH
PLOT SCALE	= N/A
PLOT DATE	= 12/1/2021 (9:47:18 AM)

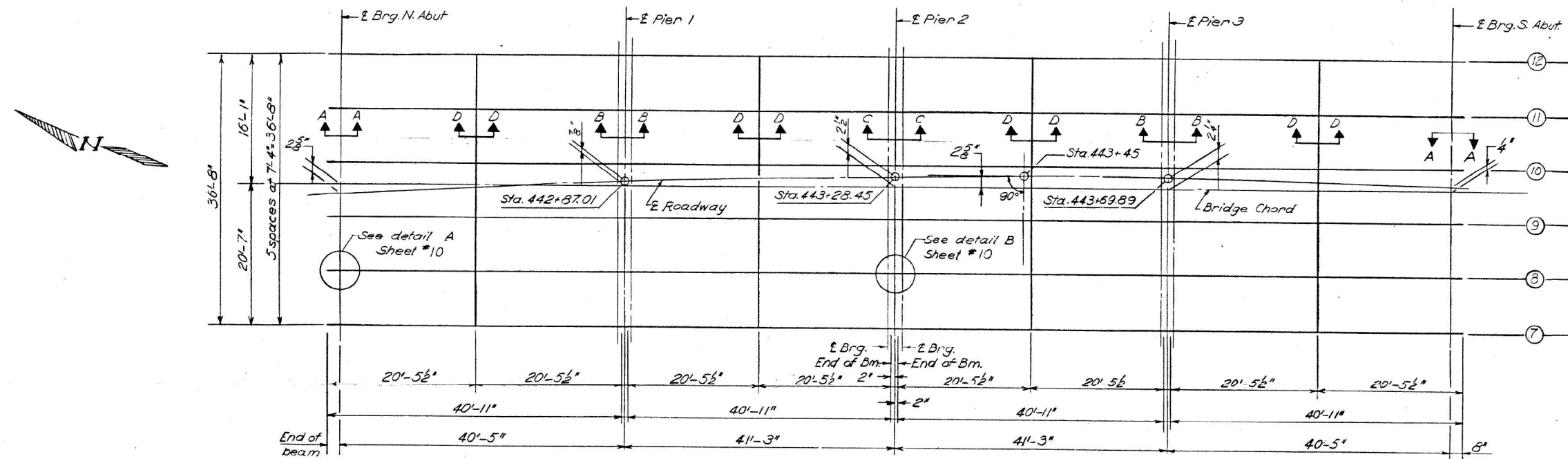
DESIGNED	- DAC	REVISED	-
CHECKED	- JTH	REVISED	-
DRAWN	- RAH	REVISED	-
CHECKED	- JTH	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

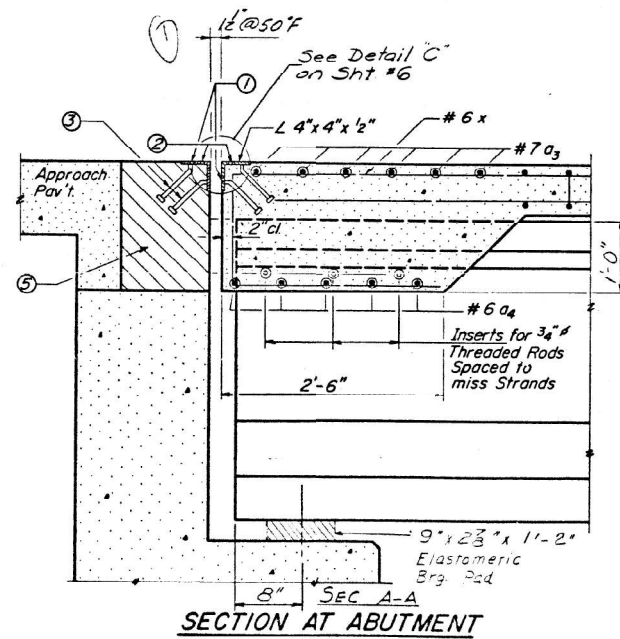
EXISTING PLANS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 20 OF 27 SHEETS

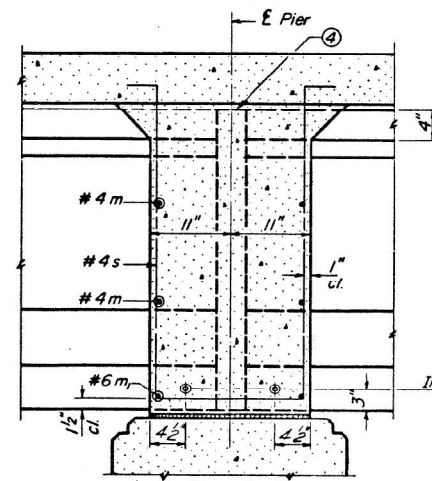
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	136
ILLINOIS			FED. AID PROJECT	



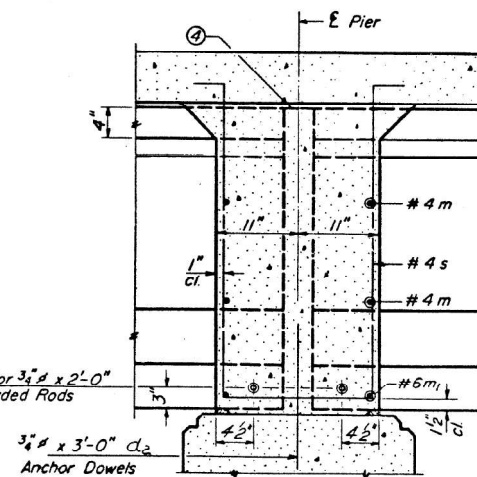
FRAMING PLAN - EAST BOUND STRUCTURE



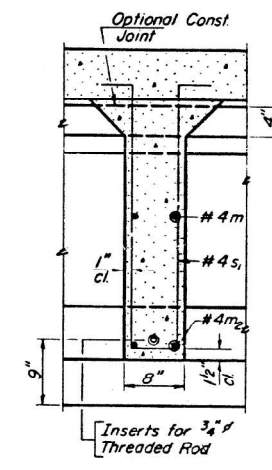
SECTION AT ABUTMENT



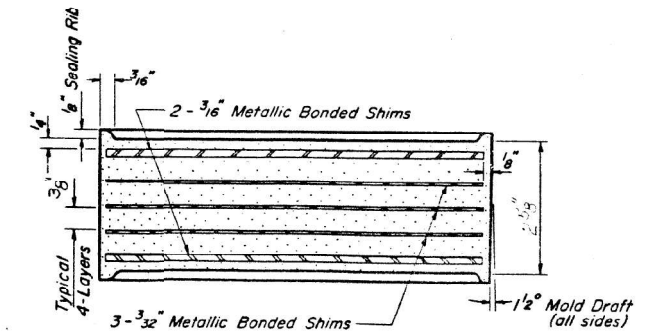
PIERS 1 & 3



PIER 2



SEC. D-D AT INT. DIAPHRAGM



ELASTOMERIC BEARING DETAIL
used at Piers 1 & 3 only.

DESIGNED *A. Keenani*
CHECKED *James Hamilton*
DRAWN *C. E. Wilkins*
CHECKED *JH*

EXAMINED *Ed Thurman*
PASSED *W. Baumann*
APPROVED *Ed Thurman*

PI-2J 1-27-66

- 1/16" holes at 12" cts for 3/8" bolts set on normal gage line. All bolts shall be burned, sawed or chipped off flush with the back of angles after forms are removed.
- 1/16" vent holes at 12" cts set on 1-3/8" gage line.
- 3/4" x 8" CR 1020 STL granular or solid flux filled headed studs—automatically and welded. (alternate at 1'-0" cts.)
- Pour diaphragm flush with top of beam. Concrete in slab above this line shall be placed not less than 45 minutes nor more than 90 minutes after diaphragm has been poured.
- Hatched area to be poured after Superstructure forms have been removed. Quantity of Class X Concrete included with Superstructure.

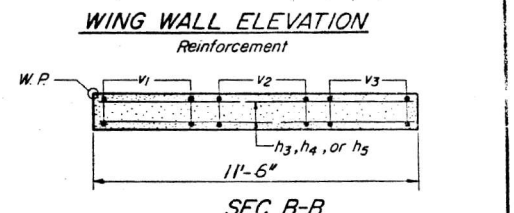
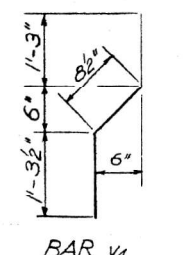
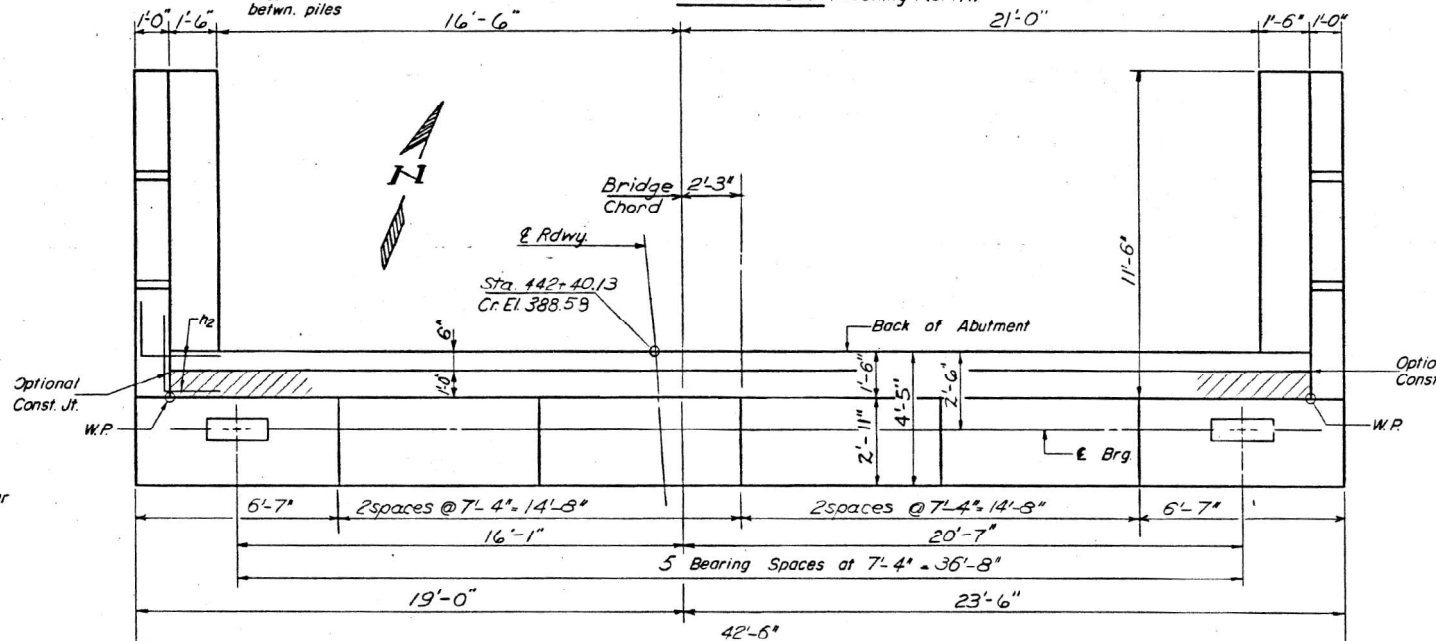
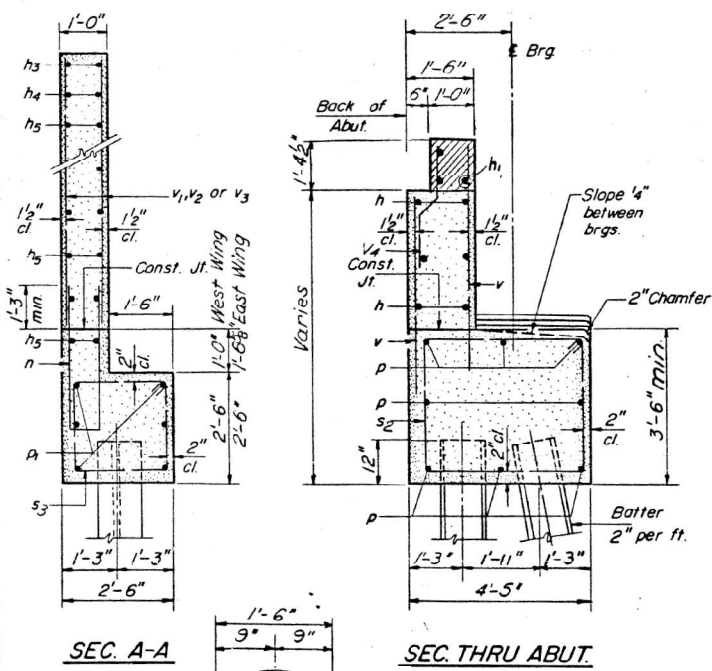
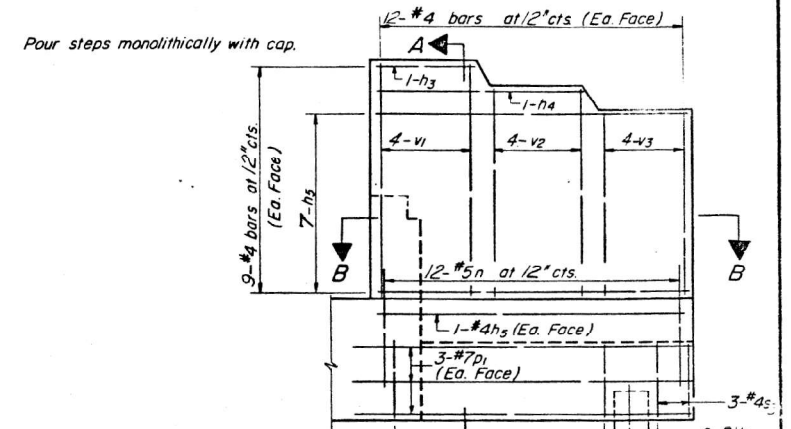
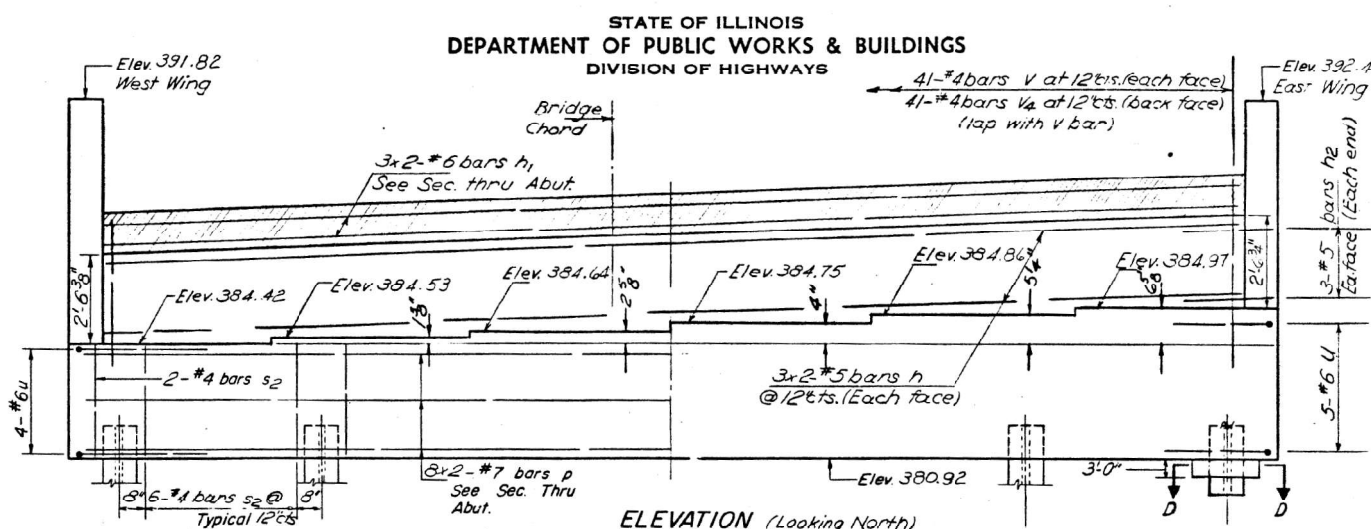
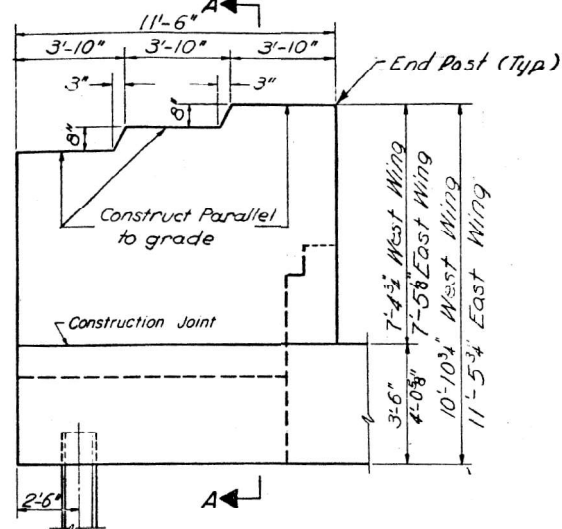
Bars a₃, a₄; m, m₁, m₂; s & s₁ are included in Bill of Material on Sheet # 5

FOR INFORMATION ONLY

FRAMING PLAN
EAST BOUND STRUCTURE
FAI RT 24 SEC 44-5B
JOHNSON COUNTY
STA. 443+45.00

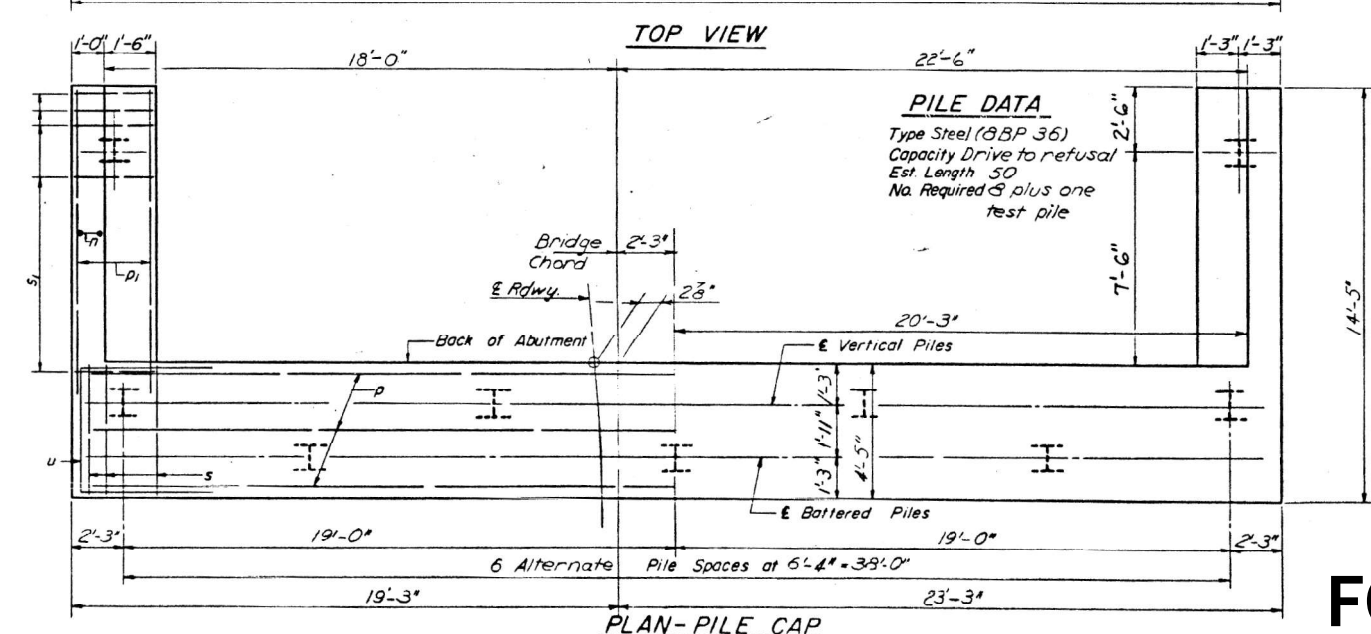
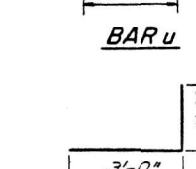
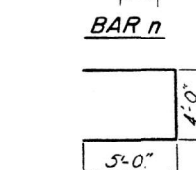
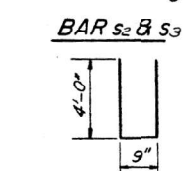
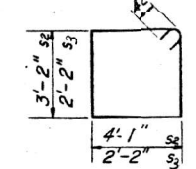
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 20 25 SHEETS
24	44-5B	Johnson	62	31	
FED. ROAD DIST. NO. 7					



ONE ABUTMENT
BILL OF MATERIAL

Bar	No	Size	Length	Shape
h	12	#5	21'-0"	—
h1	5	#6	21'-0"	—
h2	12	#5	5'-0"	—
h3	4	#4	3'-5"	—
h4	4	#4	7'-5"	—
h5	32	#4	11'-3"	—
n	24	#5	8'-9"	U
p	16	#7	22'-6"	—
ph	12	#7	12'-6"	—
s2	40	#4	15'-3"	□
s3	24	#4	9'-5"	□
u	9	#6	14'-0"	□
v	32	#4	5'-0"	—
v1	16	#4	7'-3"	—
v2	16	#4	6'-6"	—
v3	16	#4	5'-9"	—
v4	41	#4	3'-3"	—
Class X Concrete		Cu Yds	43.6	
Reinforcement Bars		Lbs	3380	
Steel Piles (B.B.P.36)		Lin Ft	400	
Test Piles (Steel B.B.P.36)		Ea.	1	



DESIGNED: A. Kerandi
CHECKED: James Hamilton
DRAWN: C. E. Wilkins
CHECKED: J.H.

EXAMINED: [Signature]
PASSED: W.E. Baugman
APPROVED: [Signature]

JULY 21 1966

2-1-66

NORTH ABUT W. Bd. STRUCTURE
FAI RT. 24 SEC 44-5B

FOR INFORMATION ONLY



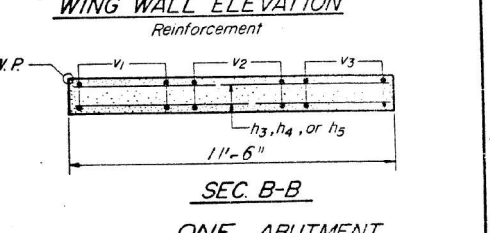
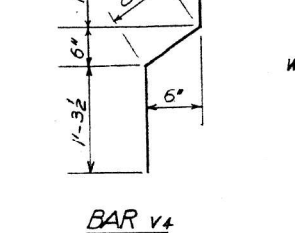
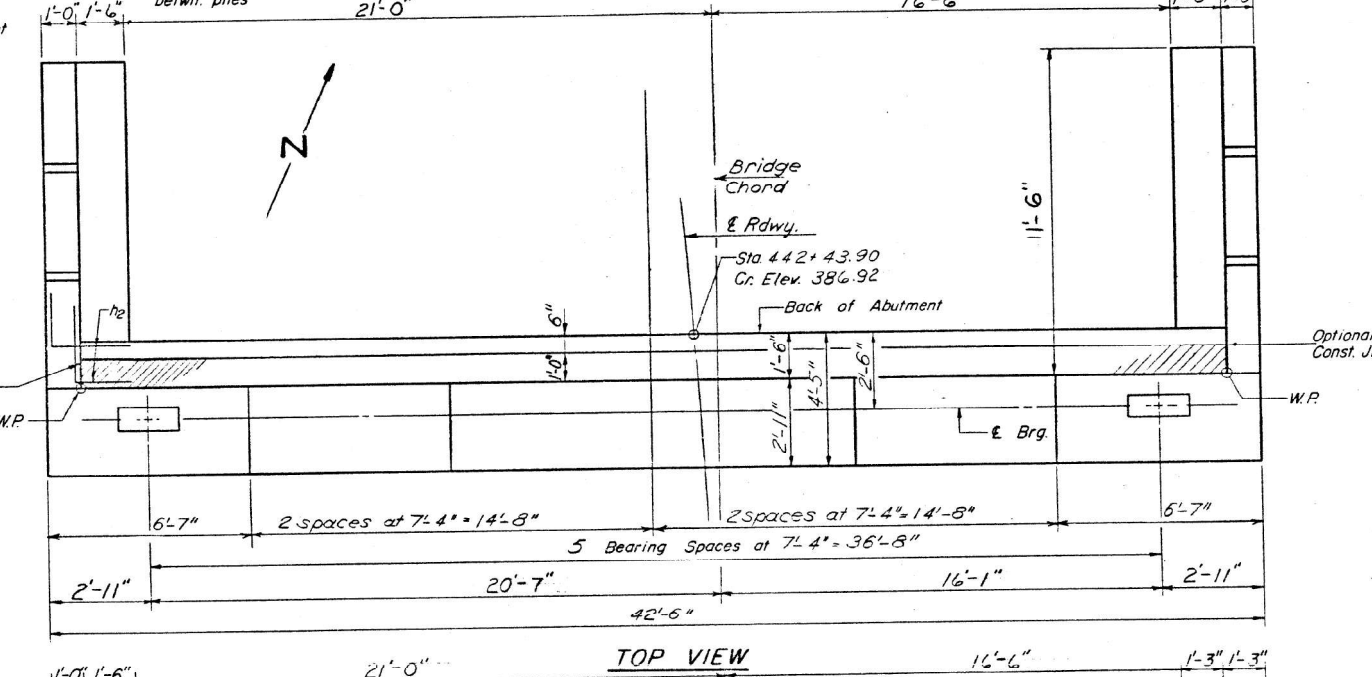
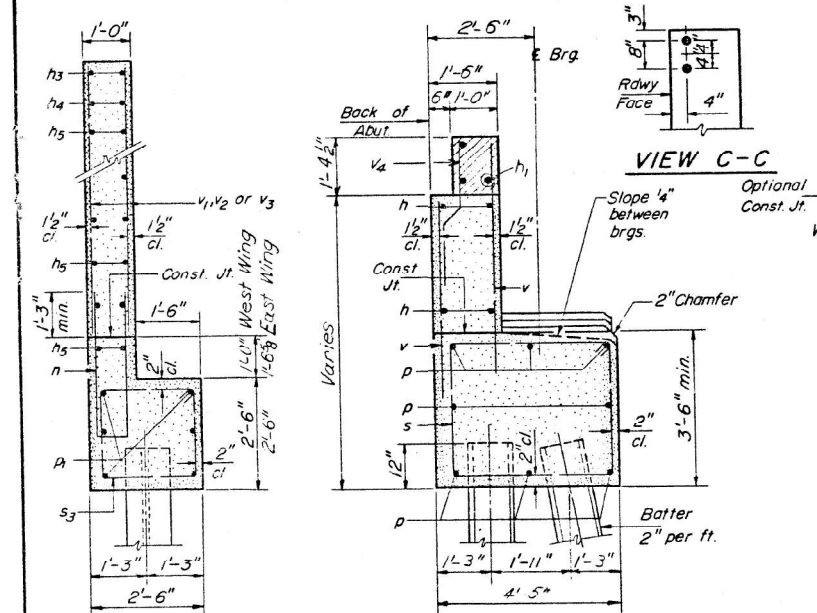
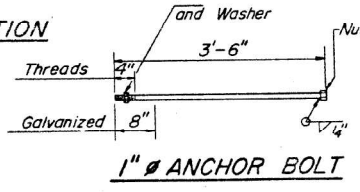
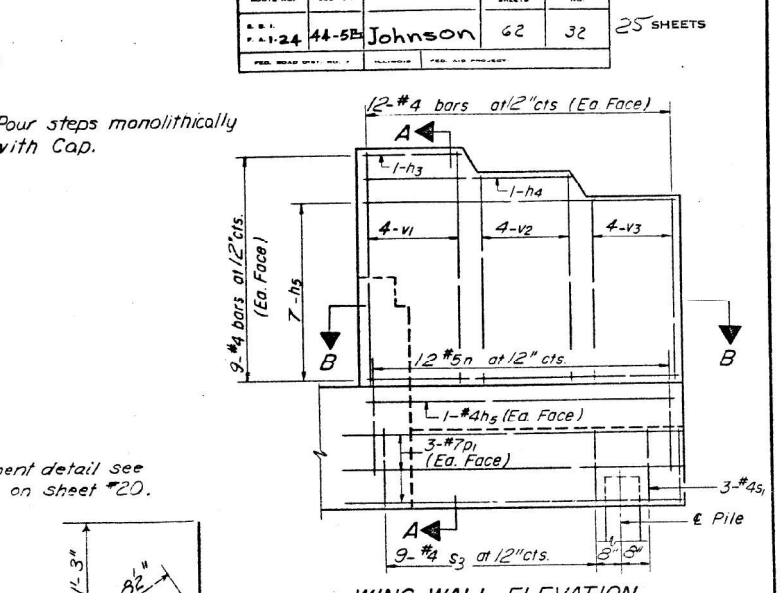
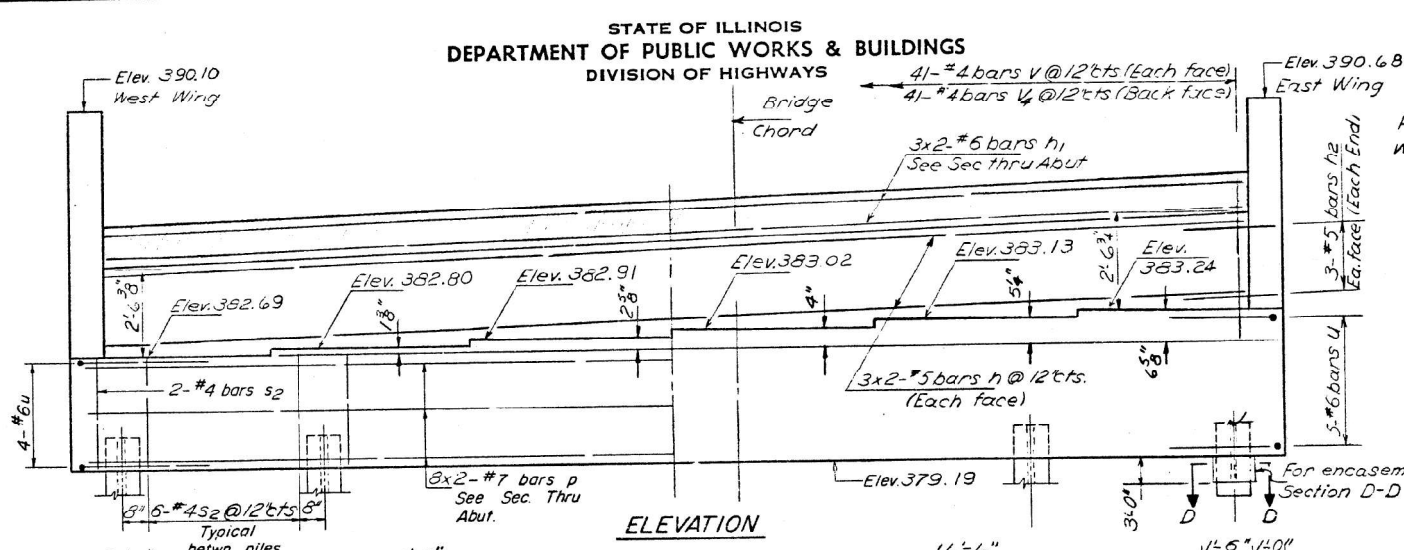
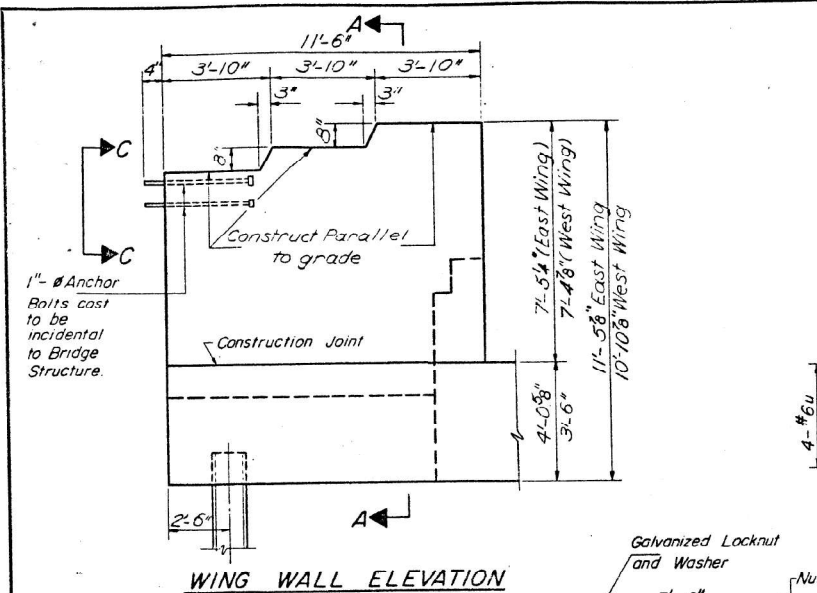
USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:47:40 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	138
ILLINOIS			FED. AID PROJECT	

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

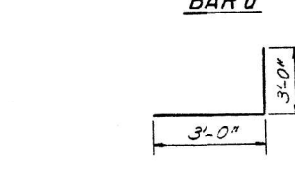
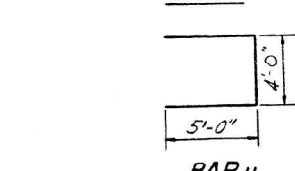
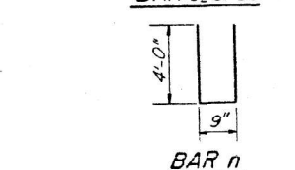
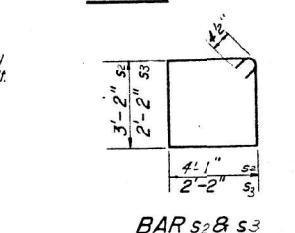
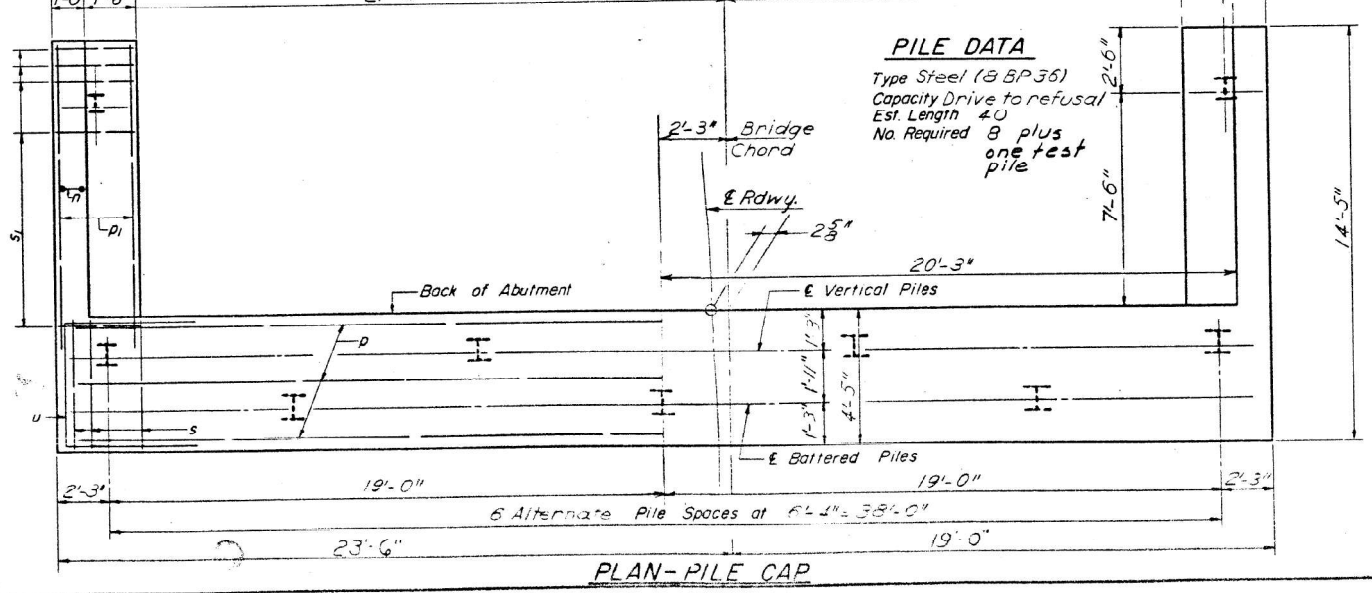


BILL OF MATERIAL

Bar	No	Size	Length	Shoos
h	12	#7	2'-3"	
h1	6	#6	2'-0"	
h2	12	#5	6'-2"	
h3	4	#4	3'-6"	
h4	4	#4	7'-6"	
h5	32	#4	11'-3"	
n	24	#5	8'-9"	U
p	15	#7	22'-6"	
p1	12	#7	12'-5"	
s2	40	#4	15'-3"	
s3	24	#4	9'-5"	
u	9	#6	14'-0"	
v	82	#4	5'-0"	
v1	16	#4	7'-3"	
v2	16	#4	5'-6"	
v3	16	#4	5'-8"	
v4	41	#4	3'-3"	

Class X Concrete Cu Yes 1:2
 Reinforcement Bars LBS 170
 Steel Piles 390-25 Lin Ft
 Test Piles Steel (33BP36) E

PILE DATA
 Type Steel (33BP36)
 Capacity Drive to refusal
 Est. Length 40
 No. Required 8 plus one test pile



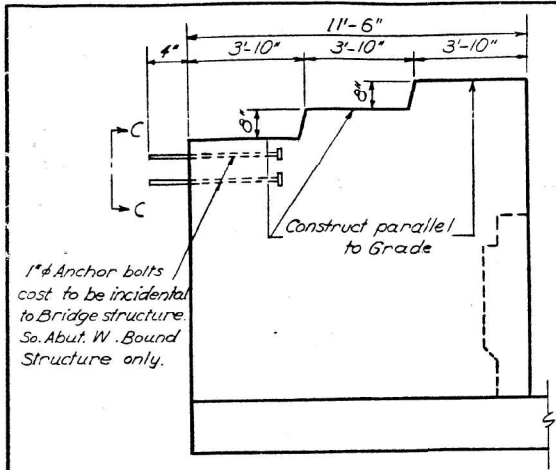
NORTH ABUT-EAST BD STRUCTURE
 F.A.I. RTE. 24 - SEC. 44-5B
 JOHNSON COUNTY
 STA. 443+45

DESIGNED: *OK*
 CHECKED: James Hamilton
 DRAWN: C E Wilkins
 CHECKED: JH

EXAMINED: *[Signature]*
 PASSED: *[Signature]*
 APPROVED: *[Signature]*

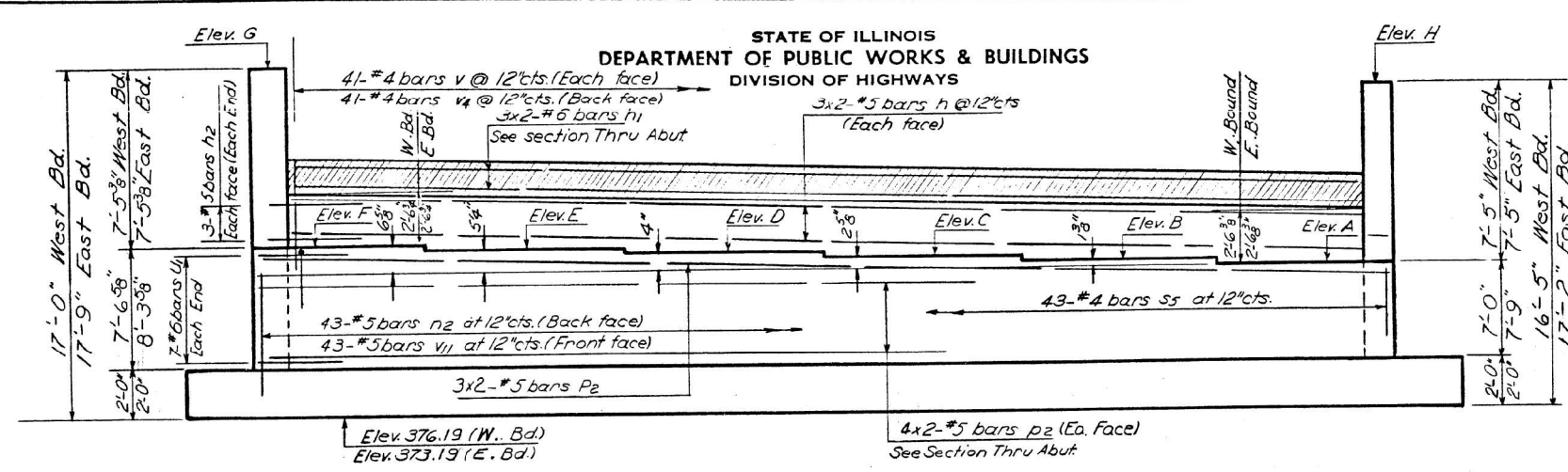
JULY 9 1969

FOR INFORMATION ONLY

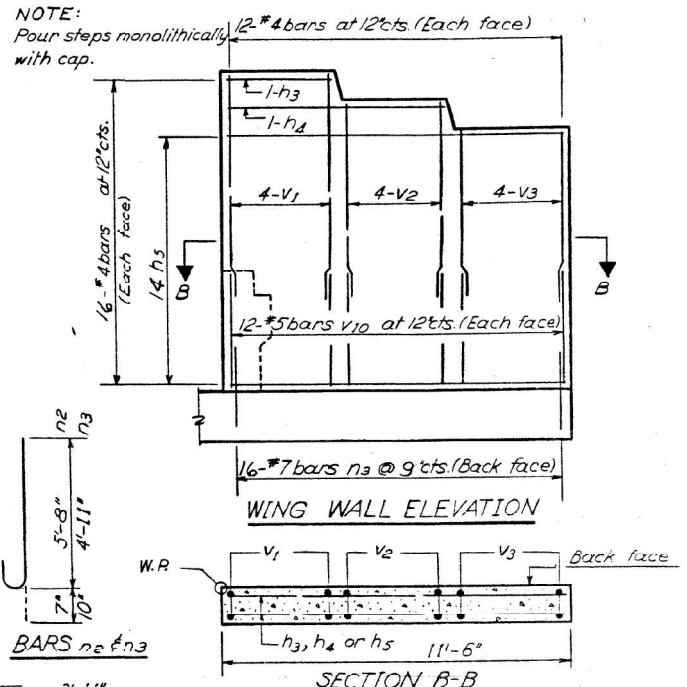


WING WALL ELEVATION

Elevation	A	B	C	D	E	F	G	H
West Bd.	385.19	385.30	385.41	385.52	385.63	385.74	393.19	392.61
East Bd.	382.94	383.05	383.16	383.27	383.38	383.49	390.94	390.36

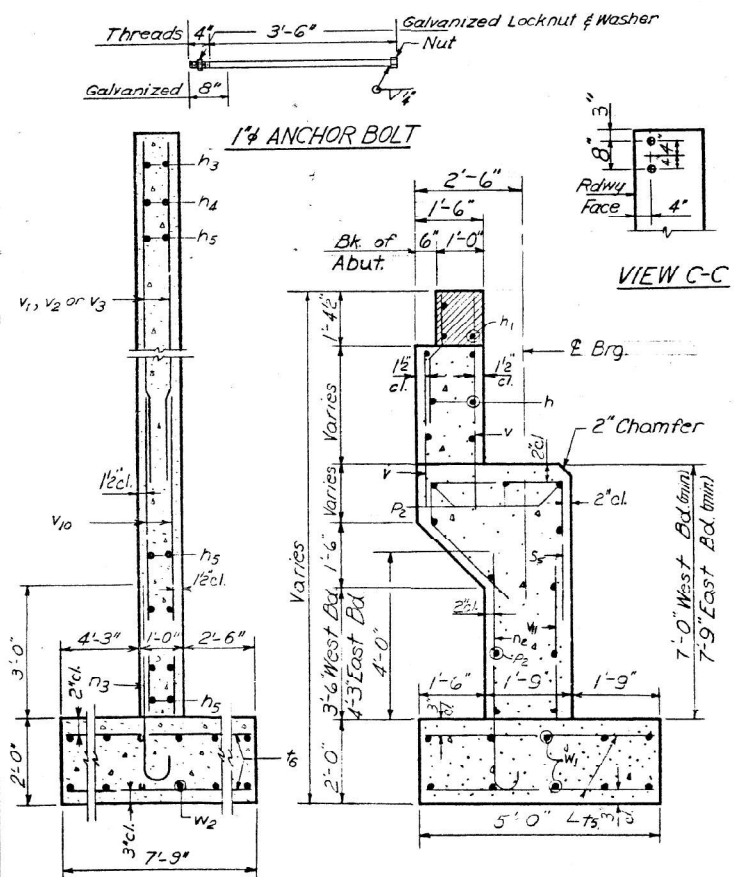


ELEVATION (Looking South)



SECTION B-B TWO ABUTMENTS BILL OF MATERIAL

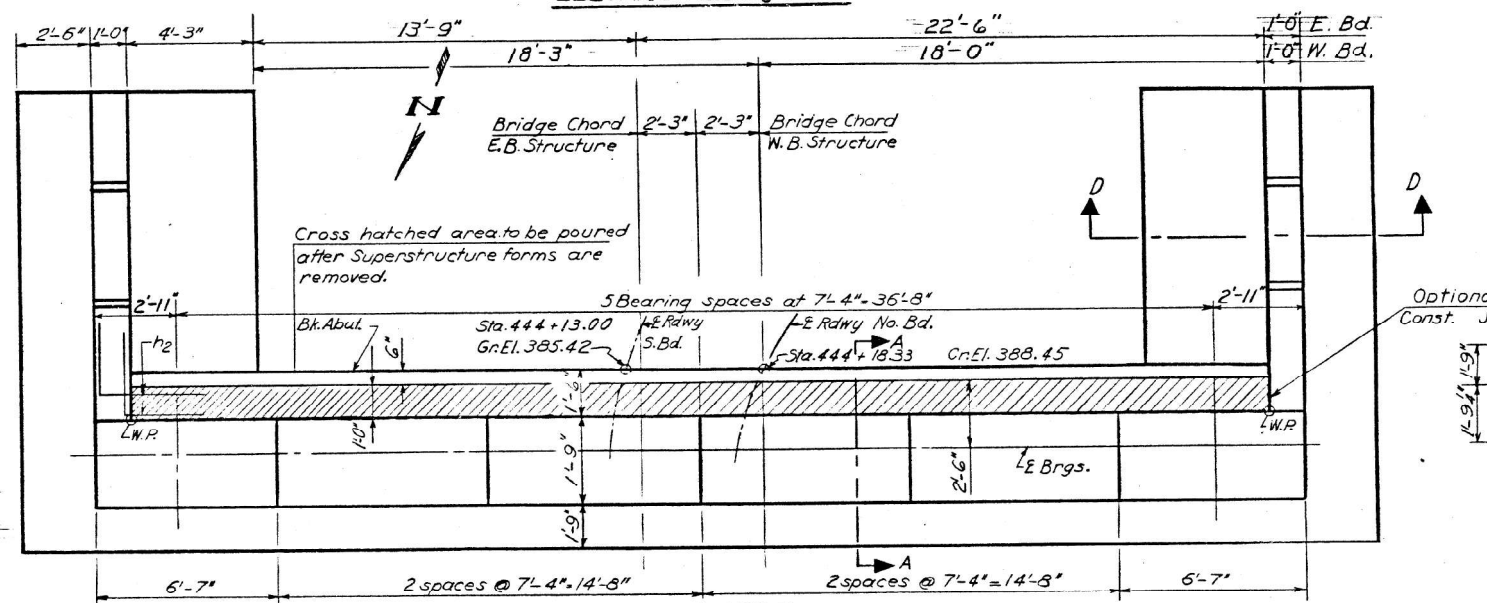
Bar	No.	Size	Length	Shape
h	24	#5	21'-0"	—
h1	12	#6	21'-0"	—
h2	24	#5	6'-0"	—
h3	8	#4	3'-6"	—
h4	8	#4	7'-6"	—
h5	112	#4	11'-3"	—
n2	86	#5	6'-3"	—
n3	64	#1	5'-9"	—
p2	44	#5	21'-9"	—
s5	86	#4	10'-9"	—
t5	192	#4	4'-9"	—
t6	80	#5	7'-6"	—
u1	28	#5	6'-6"	—
v	164	#4	5'-0"	—
v1	32	#4	7'-3"	—
v2	32	#4	6'-6"	—
v3	32	#4	5'-9"	—
v4	32	#4	3'-3"	—
v10	36	#5	9'-6"	—
v11	86	#5	6'-3"	—
w1	40	#5	25'-0"	—
w2	48	#5	12'-6"	—
Class X Concrete			Cu. Yds	151.1
Reinforcement bars			Lbs.	10,720



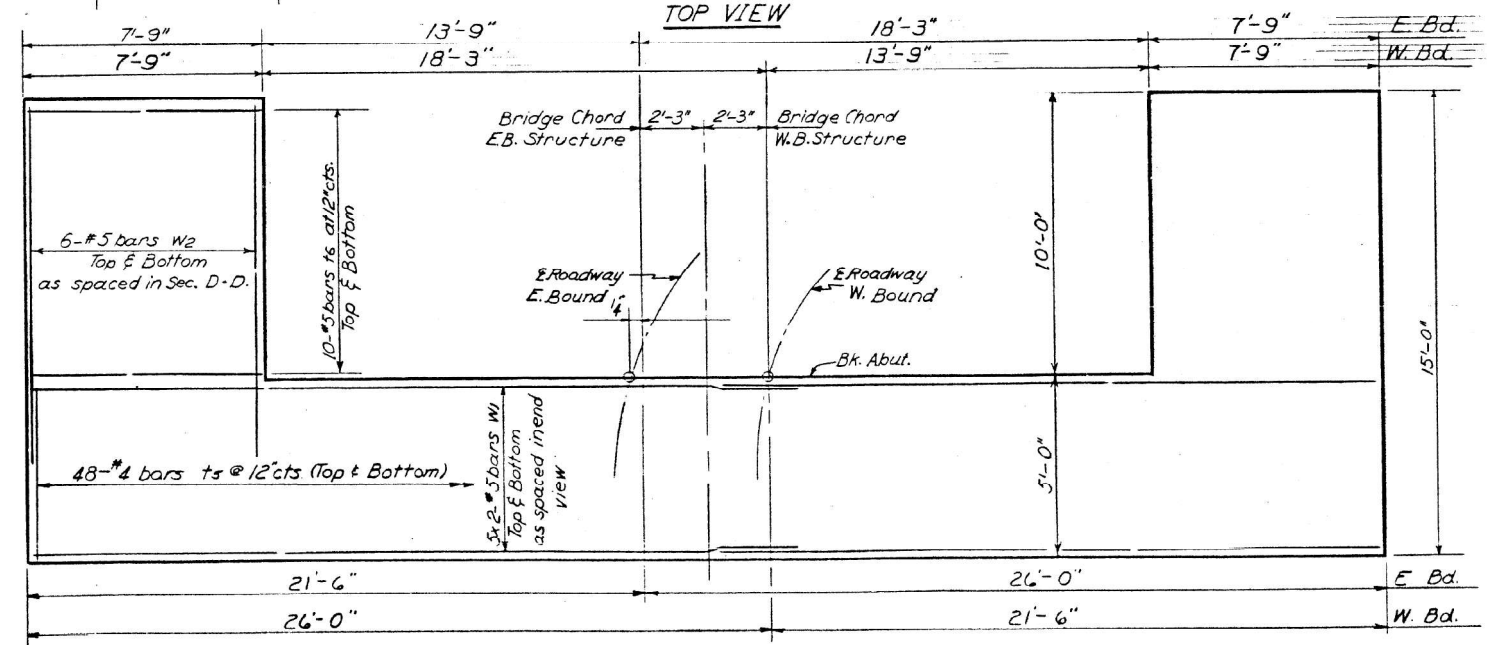
SECTION D-D

SECTION A-A

Max. footing pressure 2.2 T.S.F.



TOP VIEW



FOOTING PLAN

DESIGNED: C. Ceramari
 CHECKED: James Hamilton, C.E. Wilkins
 DATE: July 9 1969

FOR INFORMATION ONLY

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
 STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	140

CONTRACT NO. 78849
 ILLINOIS FED. AID PROJECT



USER NAME	DESIGNED	REVISIONS
Derek Cochran	DAC	
	JTH	
	RAH	
	JTH	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
A.A. 24	44-5B	Johnson	62	35
SHEET NO. 24				
25 SHEETS				

Boring No. 1-5
Station 442+74
Offset 37 FEET LEFT

Elevation	N	Qu / L.I.	w (%)
370.5 0			
12	0.6S	21	
-3	22	0.7S	21
27	0.7S	21	
27	1.0S	21	
14	1.1S	23	
360.5-10	14	0.5B	23
6	0.9B	27	
5	0.5B	27	
7	1.0B	27	
355.5-15	10	1.0B	27
4	0.8B	23	
5	0.5B	23	
352.5			
6	-	26	
-20	5	-	26
349.0	3	0.6B	27
4	0.7B	27	
4	0.5B	30	
-25	10	0.3B	30
10	0.9B	24	
10	1.0B	24	
342.5			
10	0.5B	20	
340.5-30	14	0.4B	20
15	0.5B	20	
338.0	19	0.4B	20
10	0.9B	28	
-35	13	0.9B	28
334.0	11	1.0B	42
65	-	42	
332.0			
100	In 12"		
-40			
329.5			
33			
-40			
327.5			
NO			
-45			

Surface Water El. NONE
Groundwater El. at Completion 363.5
After - Hours -

BOTTOM OF HOLE = 43.0 FEET
DURING DRILLING IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 15.0 FEET

Boring No. 2-5
Station 443+12
Offset 70 FEET

Elevation	N	Qu / L.I.	w (%)
370.5 0			
16	1.0S	11	
-5	12	0.9S	-
13	0.7S	22	
17	0.7S	-	
7	0.6S	23	
360.5-10	5	0.5B	-
2	0.3B	28	
358.0	3	0.3B	-
9	1.0B	23	
355.5-15	6	1.6S	-
4	0.4B	26	
6	0.3B	-	
352.5			
5	1.0B	22	
-20	6	0.8B	-
350.0			
6	0.3S	22	
5	0.8B	-	
15	0.5B	17	
345.4-25	13	1.3B	-
12	1.2S	28	
12	0.6B	-	
340.0			
12	-	-	
-30	15	-	-
340.0			
42	-	-	
339.4	100	BLOWS	-
7			
-35			

Surface Water El. NONE
Groundwater El. at Completion 355.7
After 72 Hours 359.9

DURING DRILLING OPERATIONS IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 15.5 FEET

Boring No. 3-5
Station 442+74
Offset 37 FEET CENTERLINE

Elevation	N	Qu / L.I.	w (%)
369.8 0			
15	3.5S	-	
367.3			
15	3.5S	-	
365.8			
-5	3B	-	-
46	-	-	-
90	-	-	-
100	BLOWS	IN 5"	
361.8			
100	BLOWS	IN 5"	
362.5			
26	0.8S	18	
-10	30	1.2S	18
18	1.0S	18	
358.0			
17	0.9S	18	
8	0.8B	22	
-13	8	1.1B	22
4	0.6B	22	
353.0			
6	0.6B	22	
351.5			
4	-	28	
4	0.5B	31	
350.0			
40	0.5B	30	
20	0.6B	30	
347.5			
18	-	17	
-25	17	-	17
6	0.6S	20	
9	0.7S	20	
13	1.0B	27	
340.5-30	39	-	27
43	-	-	-
339.0			
100	In 8"		
100			
335.0			
334.0			
335.0			
-35			
334.0			
334.0			
-40			

Surface Water El. NONE
Groundwater El. at Completion -
After - Hours -

34 FEET LEFT CENTERLINE MEDIAN
ORIGINAL GROUND ELEVATION 379.4
TOP OF ROCK ELEVATION 377.4

52 FEET LEFT CENTERLINE MEDIAN
ORIGINAL GROUND ELEVATION 379.6
TOP OF ROCK ELEVATION 379.3

70 FEET LEFT CENTERLINE MEDIAN
ORIGINAL GROUND ELEVATION 380.2
TOP OF ROCK ELEVATION 377.7

Boring No. 5-5
Station 442+74
Offset TO RIGHT

Elevation	N	Qu / L.I.	w (%)
370.5 0			
5	0.7S	16	
-5	7	0.8S	16
13	0.3S	20	
16	0.5S	20	
362.5			
26	0.8S	18	
-10	30	1.2S	18
18	1.0S	18	
358.0			
17	0.9S	18	
8	0.8B	22	
-13	8	1.1B	22
4	0.6B	22	
353.0			
6	0.6B	22	
351.5			
4	-	28	
4	0.5B	31	
350.0			
40	0.5B	30	
20	0.6B	30	
347.5			
18	-	17	
-25	17	-	17
6	0.6S	20	
9	0.7S	20	
13	1.0B	27	
340.5-30	39	-	27
43	-	-	-
339.0			
100	In 8"		
100			
335.0			
334.0			
335.0			
-35			
334.0			
334.0			
-40			

Surface Water El. NONE
Groundwater El. at Completion 365.5
After - Hours -

DURING DRILLING IT APPEARED THAT FREE WATER WAS ENCOUNTERED AT 17.5 FEET

DESIGNED <i>A. Karamoti</i>
CHECKED <i>James Hamilton</i>
DRAWN
CHECKED <i>JH</i>

July 9 19 69

EXAMINED <i>[Signature]</i>
PASSED <i>[Signature]</i>
APPROVED <i>[Signature]</i>

N-Standard Penetration Test- Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with #40 # hammer falling 30"

Qu-Unconfined Compressive Strength-1/3t
W-Water Content-percentage of oven dry weight-%

Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

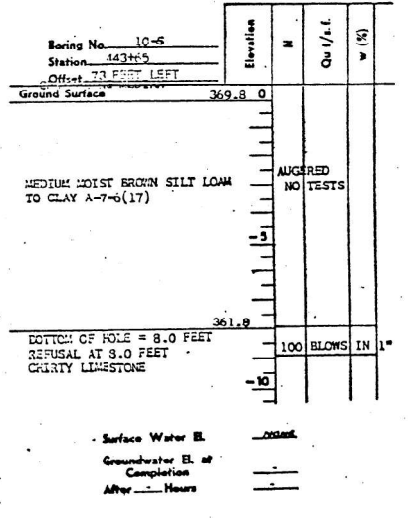
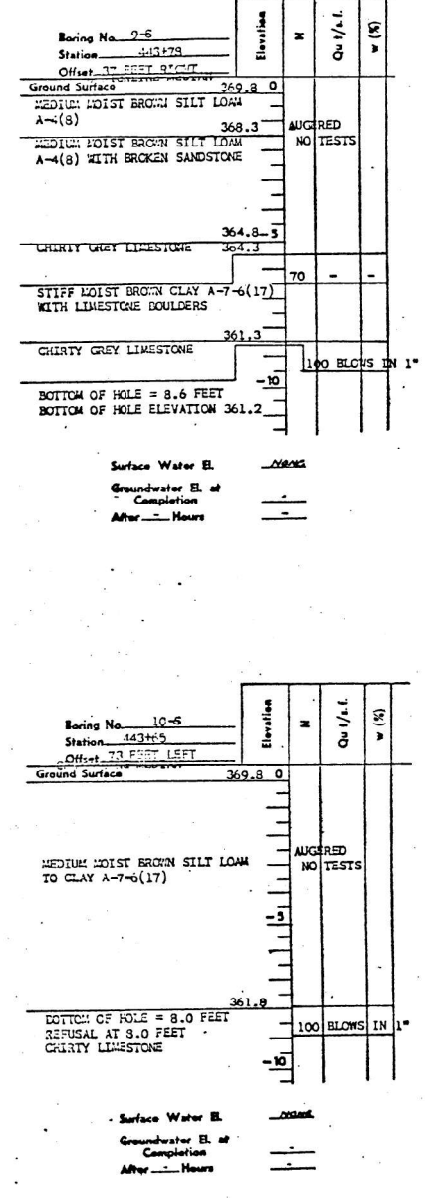
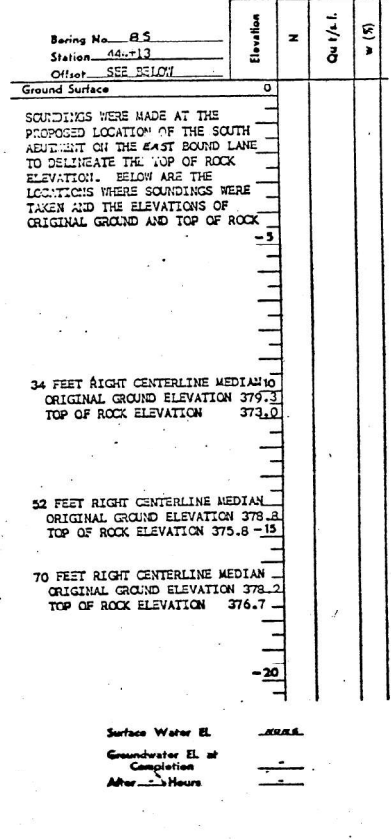
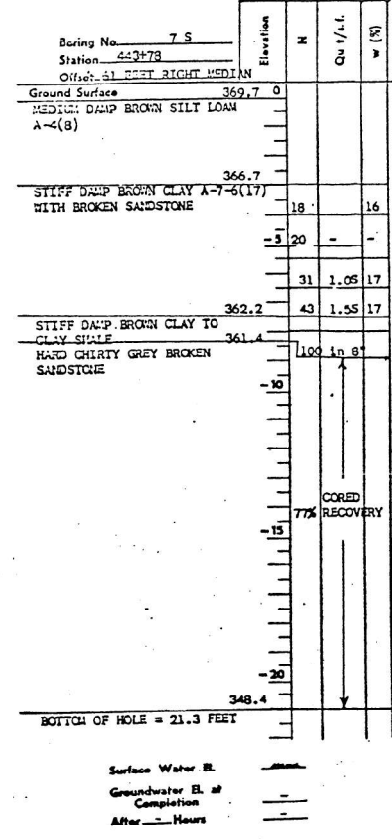
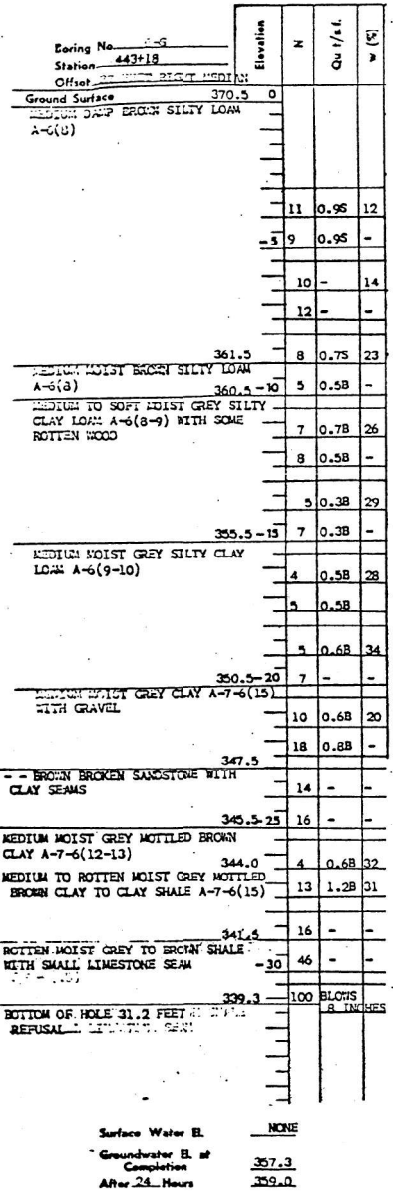
FOR INFORMATION ONLY

BORING DATA
F.A.I. Rt. 24 SEC. 44-5B
JOHNSON COUNTY
Sta. 443+45

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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	44-5B	Johnson	62	36
SHEET NO. 25 25 SHEETS				



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-1/3t
w-Water Content- percentage of oven dry weight-%
Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

FOR INFORMATION ONLY

DESIGNED *A. Keramich*
CHECKED *James Hamilton*
DRAWN
CHECKED *JH*

EXAMINED *W. S. Baumann*
PASSED
APPROVED *W. S. Baumann*

JULY 3 1969

BORING DATA
F.A.I. Rt 24 Sec. 44-5B
JOHNSON COUNTY
Sta. 443+45

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REVISED -
REVISED -
REVISED -
REVISED -

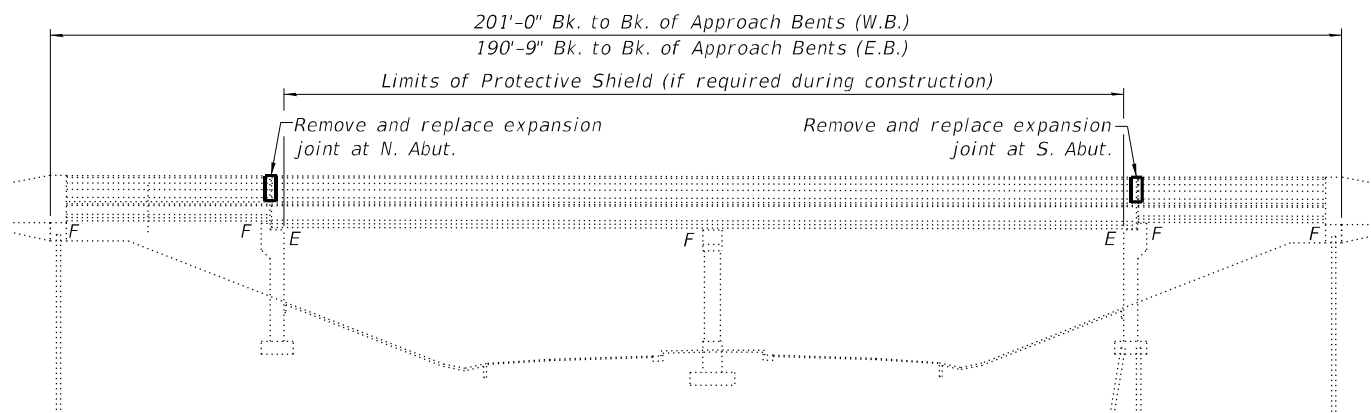
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0045 (W.B.) & 044-0046 (E.B.)

SHEET 27 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	143
ILLINOIS FED. AID PROJECT				

F.A.I. Rt 24 Sec. 44-5B Johnson County Sta. 443+45



ELEVATION

SCOPE OF WORK

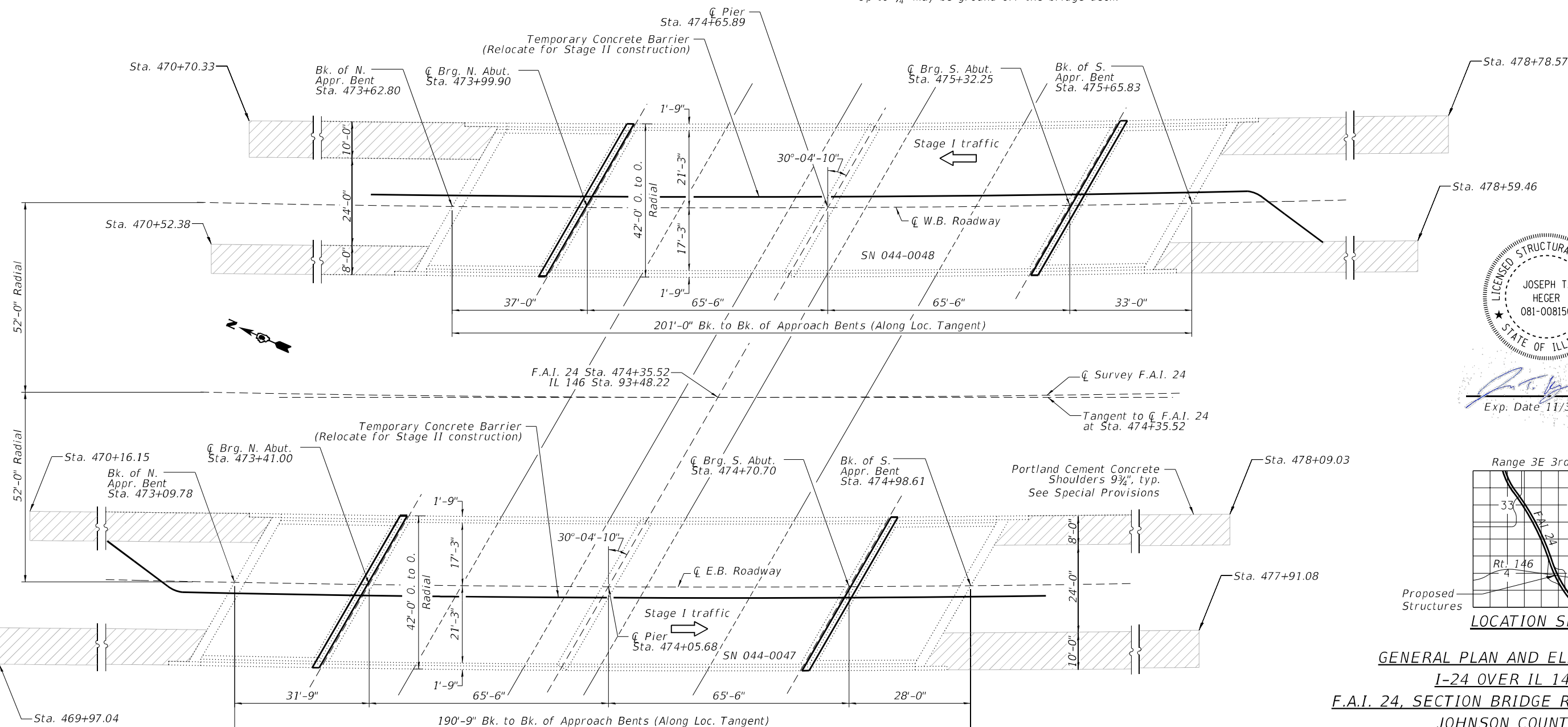
1. Perform required pre-stage work, including necessary shoulder work
2. Remove existing 2 1/4" concrete wearing surface with 3" Bridge Deck Scarification.
3. Perform deck repairs as shown.
4. Perform concrete beam repairs.
5. Perform concrete repairs on abutments as shown.
6. Remove and replace expansions joints.
7. Install new 3 1/4" latex concrete wearing surface and perform diamond grinding, longitudinal bridge deck grooving, and apply protective coat.
Up to 1/4" may be ground off the bridge deck.

INDEX OF SHEETS

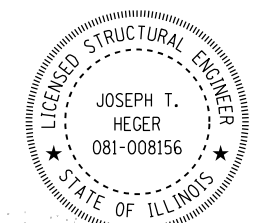
- 1 - General Plan and Elevation
- 2 - General Data
- 3 - Stage Construction Details
- 4 - Deck Patching Plan and Beam Repair Plan
- 5 - Temporary Concrete Barrier for Stage Construction
- 6 - Expansion Joint Replacement Details
- 7 - Preformed Joint Strip Seal
- 8 - Beam Repairs
- 9 - Abutment Repairs SN 044-0047
- 10 - Abutment Repairs SN 044-0048
- 11 - Bar Splicer Assembly and Mechanical Splicer Details
- 12-13 - Existing Plans

DESIGN STRESSES

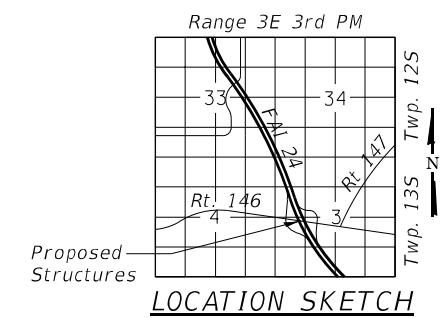
FIELD UNITS	
New Construction	
$f'_c = 4,000$ psi	
$f_y = 60,000$ psi (Reinforcement)	
Existing Structure, 2006 Rehabilitation	
$f'_c = 3,500$ psi	
$f_y = 60,000$ psi (Reinforcement)	
Existing Structure, 1971	
$f'_c = 1,200$ psi (Superstructure)	
$f'_c = 1,400$ psi (Substructure)	
$f_s = 20,000$ psi (Reinforcement)	



PLAN



Exp. Date 11/30/2022



GENERAL PLAN AND ELEVATION
I-24 OVER IL 146
F.A.I. 24, SECTION BRIDGE REPAIR 2022-1
JOHNSON COUNTY
STA. 474+35.52
SN 044-0047 & 044-0048

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

SHEET 1 OF 13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	144
CONTRACT NO. 78849				

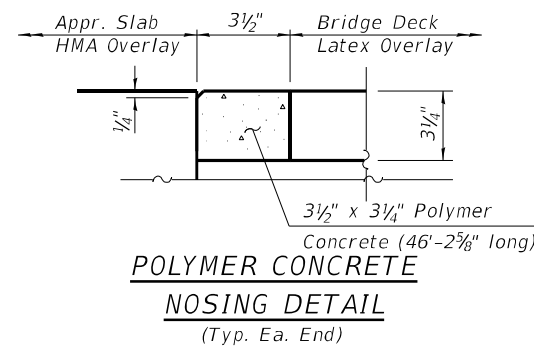
ILLINOIS FED. AID PROJECT

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details are relative to 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.
3. Joint openings shall be adjusted according to Art. 520.04 in the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.
4. Expansion joints shall be fabricated to conform to the existing cross slopes of the bridge.
5. Existing reinforcement bars extending into the removed area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
6. The Contractor shall use extreme care during concrete removal so as not to damage the PPC I-Beams

TOTAL BILL OF MATERIAL

ITEM	UNIT	SN 044-0047	SN 044-0048	TOTAL
Paved Shoulder Removal	Sq. Yd.	1220	1220	2440
Portland Cement Concrete Shoulders 9 3/4"	Sq. Yd.	1220	1220	2440
Concrete Removal	Cu. Yd.	3.8	3.8	7.6
Concrete Superstructure	Cu. Yd.	3.9	3.9	7.8
Protective Coat	Sq. Yd.	978	1030	2008
Reinforcement Bars, Epoxy Coated	Pound	690	690	1380
Bar Splicers	Each	8	8	16
Preformed Joint Strip Seal	Foot	97	97	194
Temporary Concrete Barrier	Foot	482	492	974
Relocate Temporary Concrete Barrier	Foot	482	492	974
Impact Attenuators, Temporary (Non-Redirective), Test Level 3	Each	1	1	2
Impact Attenuators, Relocate (Non-Redirective), Test Level 3	Each	1	1	2
Raised Reflective Pavement Marker	Each	3	3	6
Raised Reflective Pavement Marker (Bridge)	Each	1	1	2
Barrier Wall Reflectors, Type B	Each	12	12	24
Raised Reflective Pavement Marker Removal	Each	4	4	8
Cleaning and Painting Exposed Rebar	Sq. Ft.	36	104	140
Acrylic Coating	Sq. Yd.	12	8	20
Fiber Wrap	Sq. Ft.	89	55	144
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	506	533	1039
Raised Reflective Pavement Marker, Reflector Removal	Each	4	4	8
Bridge Deck Scarification 3"	Sq. Yd.	812	856	1667
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	60	88	148
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq. Ft.	6	0	6
Diamond Grinding (Bridge Section)	Sq. Yd.	812	856	1667
Polymer Concrete	Cu. Ft.	7.3	7.3	14.6
Precast Prestressed Concrete I-Beam Repair	Sq. Ft.	6	10	16
Bridge Deck Latex Concrete Overlay, 3/4 Inches	Sq. Yd.	812	856	1667



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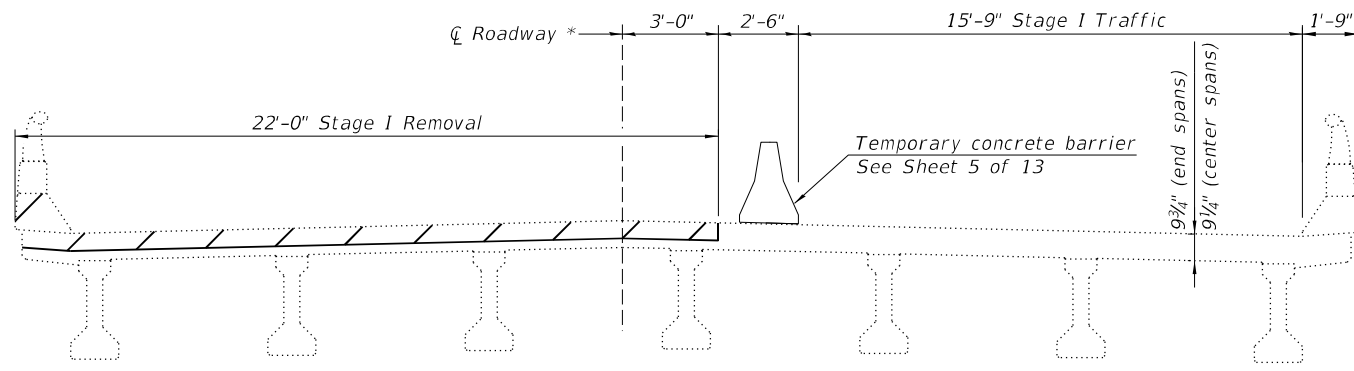
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

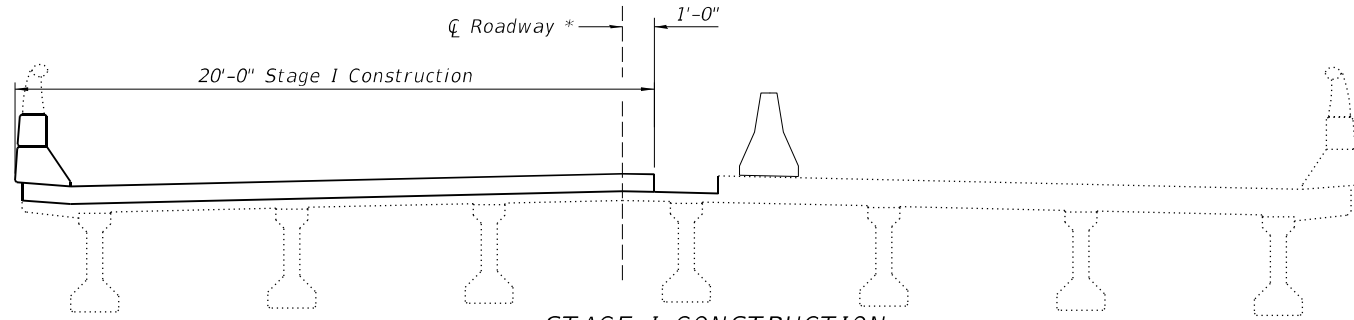
**GENERAL DATA
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)**

SHEET 2 OF 13 SHEETS

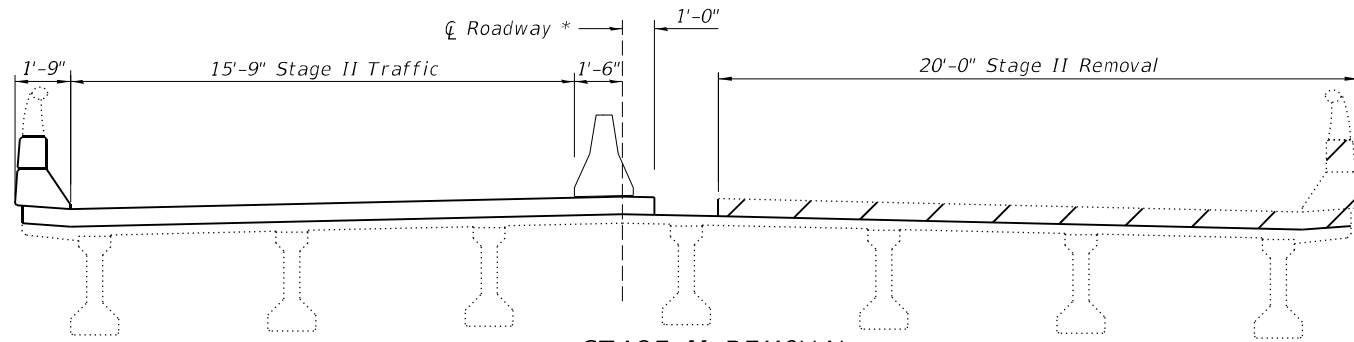
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24	BRIDGE REPAIR 2022-1	JOHNSON	184	145
			CONTRACT NO. 78849	
			ILLINOIS FED. AID PROJECT	



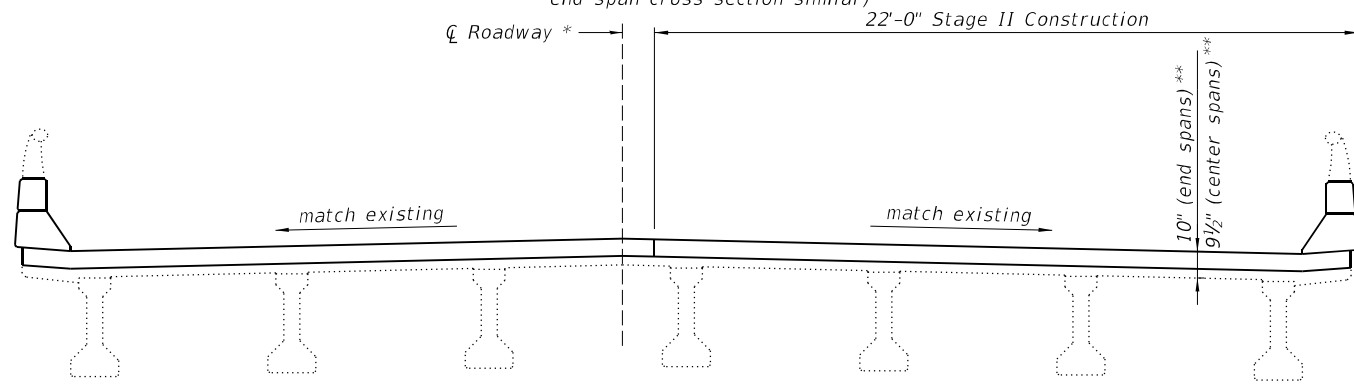
STAGE I REMOVAL
 (Looking in the direction of traffic)
 (Center span cross section shown,
 end span cross section similar)



STAGE I CONSTRUCTION
 (Looking in the direction of traffic)
 (Center span cross section shown,
 end span cross section similar)



STAGE II REMOVAL
 (Looking in the direction of traffic)
 (Center span cross section shown,
 end span cross section similar)



STAGE II CONSTRUCTION
 (Looking in the direction of traffic)
 (Center span cross section shown,
 end span cross section similar)

Note:
 Hatched area indicates, Concrete Removal
 at abutments.

* Due to roadway curvature, approximate
 location shown.
 ** Prior to diamond grinding

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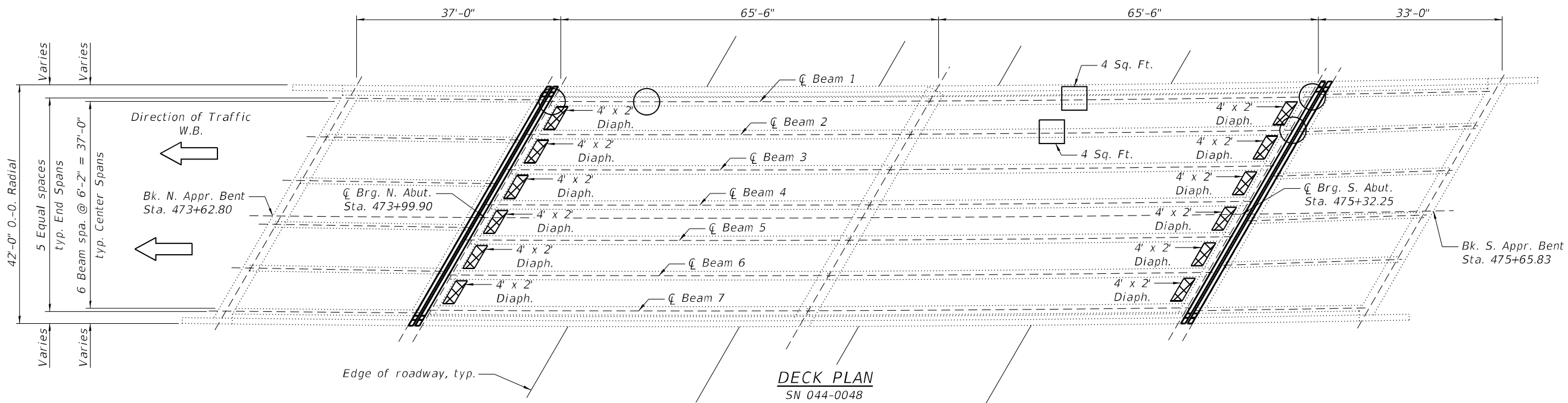
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

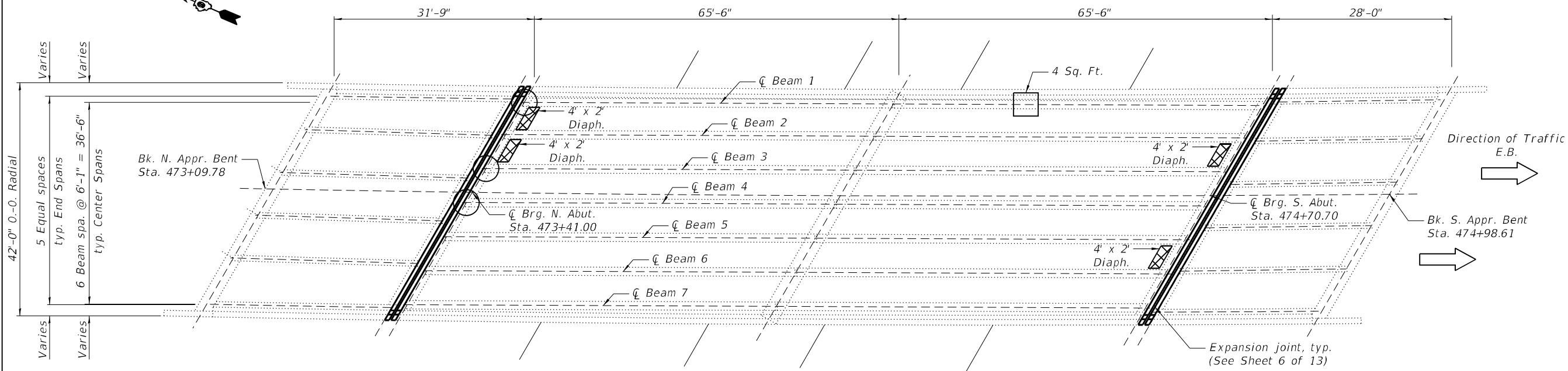
STAGE CONSTRUCTION DETAILS
 STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

SHEET 3 OF 13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	146
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				



DECK PLAN
SN 044-0048



DECK PLAN
SN 044-0047

Notes:
 No deck patches are shown based on field visits during plan preparation. The Resident Engineer will determine final patch locations and quantities in the field after removal of the concrete wearing surface, before bridge deck patching operations begin.
 Protective Shield shall be placed the full out to out width for the full length of any center spans determined to have full depth patches. The Contractor shall be paid for the actual quantity of Protective Shield placed.
 The Engineer shall show actual locations of deck repairs on As-built plans.
 See Special Provisions for more information of Cleaning and Painting Exposed Rebar.
 See Sheet 8 of 13 for beam repair details and quantities.

- Legend**
- Concrete diaphragm repairs (Cleaning and Painting Exposed Rebar)
 - I-Beam Repair (Cleaning and Painting Exposed Rebar)
 - I-Beam Repair with FRP wrap (See Sheet 8 of 13 for details)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Cleaning and Painting Exposed Rebar	Sq. Ft.	140

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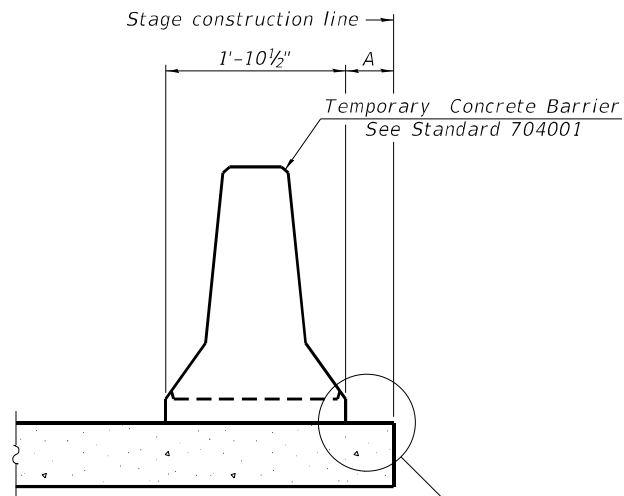
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PATCHING PLAN AND BEAM REPAIR PLAN
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

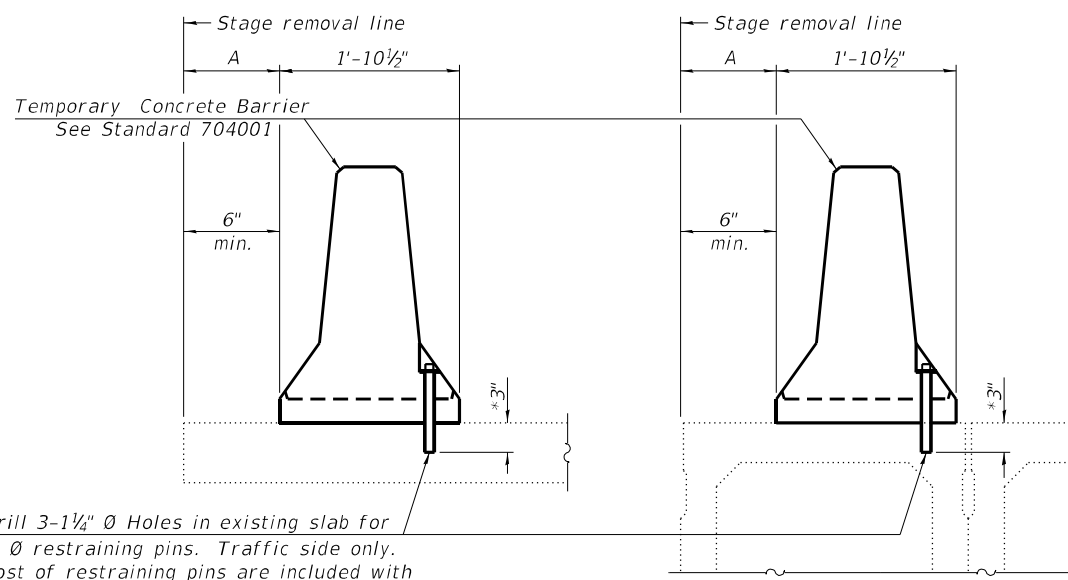
SHEET 4 OF 13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	147
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



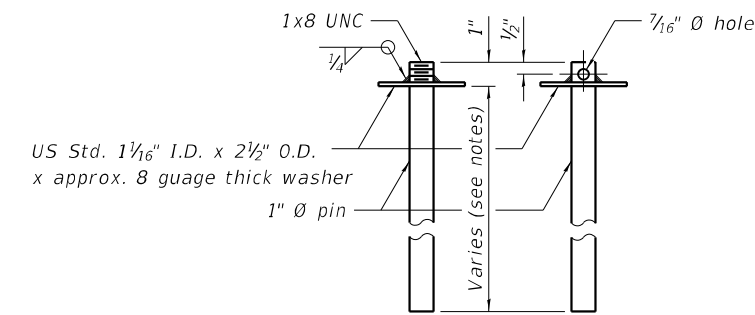
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

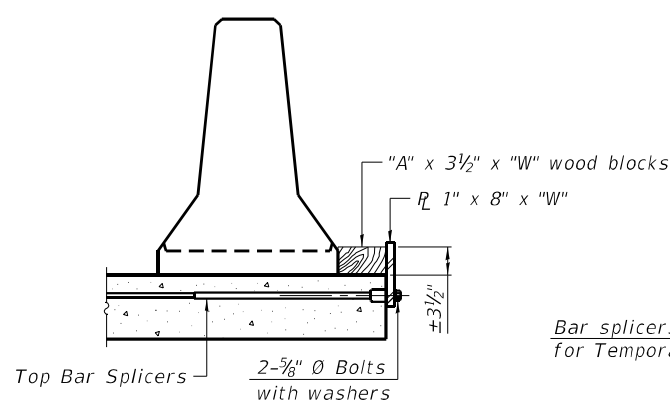
EXISTING DECK BEAM

* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

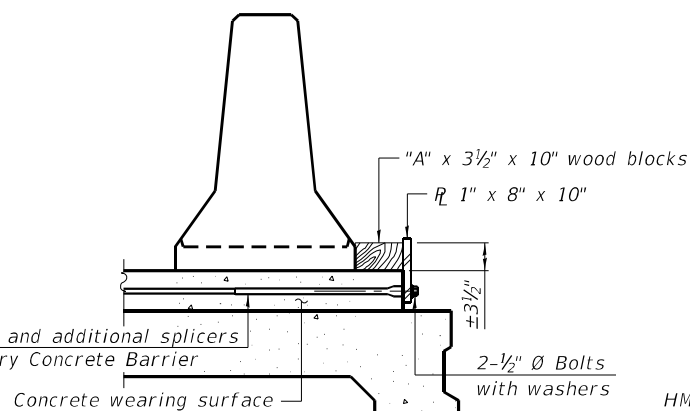
SECTIONS THRU SLAB OR DECK BEAM



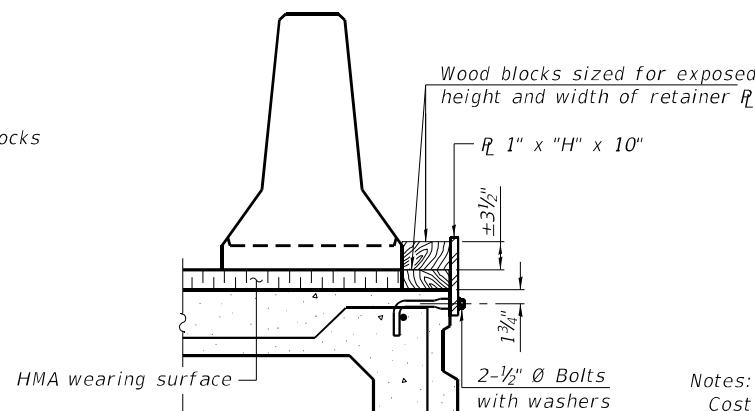
RESTRAINING PIN



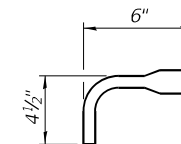
DETAIL I



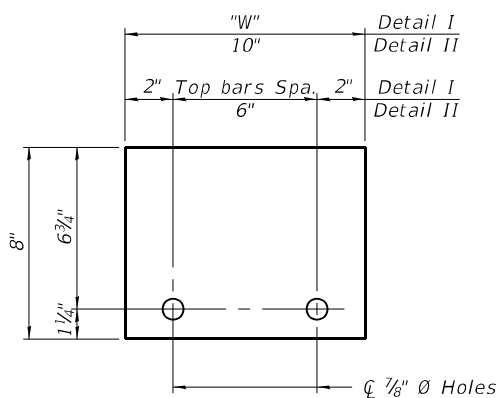
DETAIL II



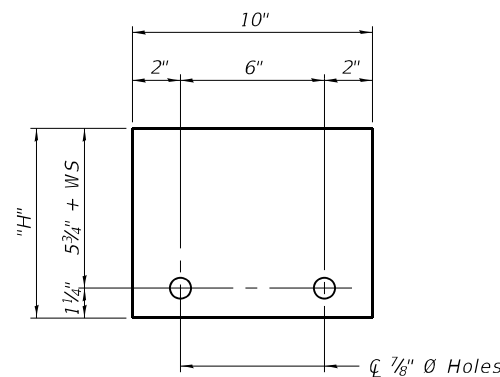
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"
(Detail III)

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate C of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

R-27 2-17-2017

MODEL: Detail.dwg
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USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

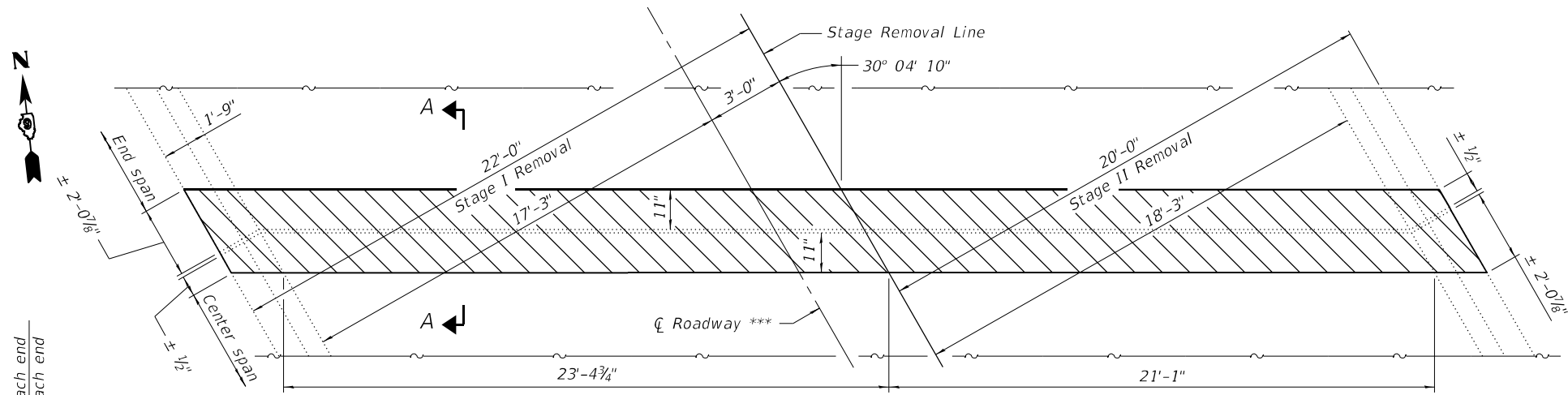
**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
 STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)**

SHEET 5 OF 13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	148
CONTRACT NO. 78849				

ILLINOIS FED. AID PROJECT

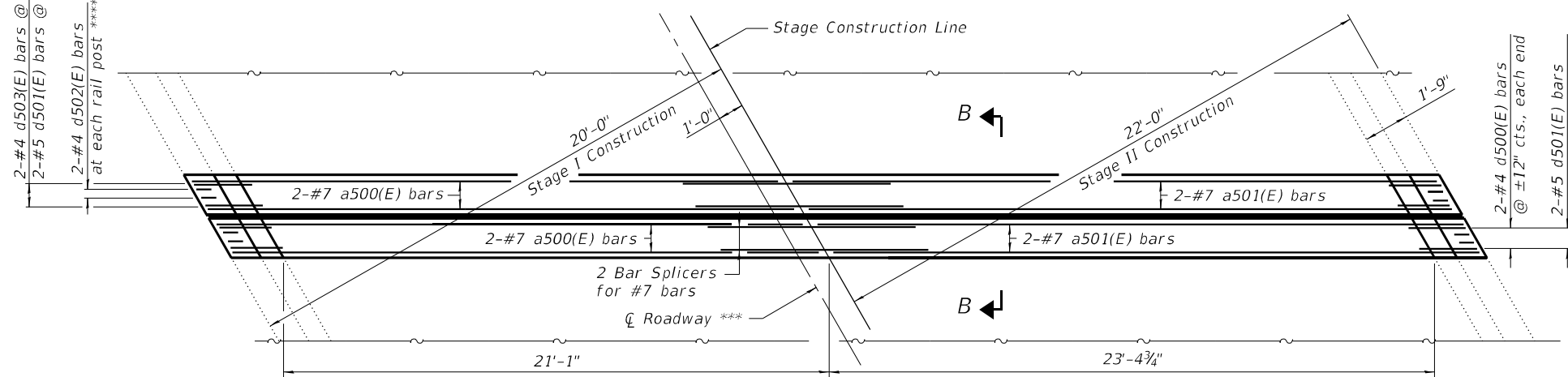
2-#4 d503(E) bars @ ±12" cts., each end
 2-#5 d501(E) bars @ ±12" cts., each end
 2-#4 d502(E) bars
 at each rail post ****



JOINT REMOVAL PLAN

SN 044-0047 south abutment shown, SN 044-0047 north abutment similar
 SN 044-0048 north abutment shown, SN 044-0048 south abutment similar

LEGEND

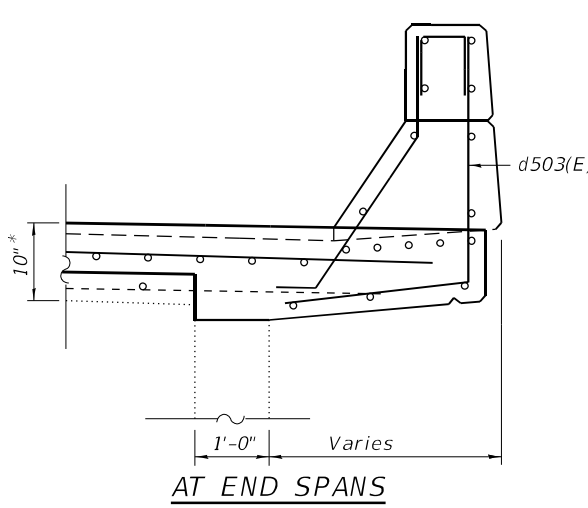
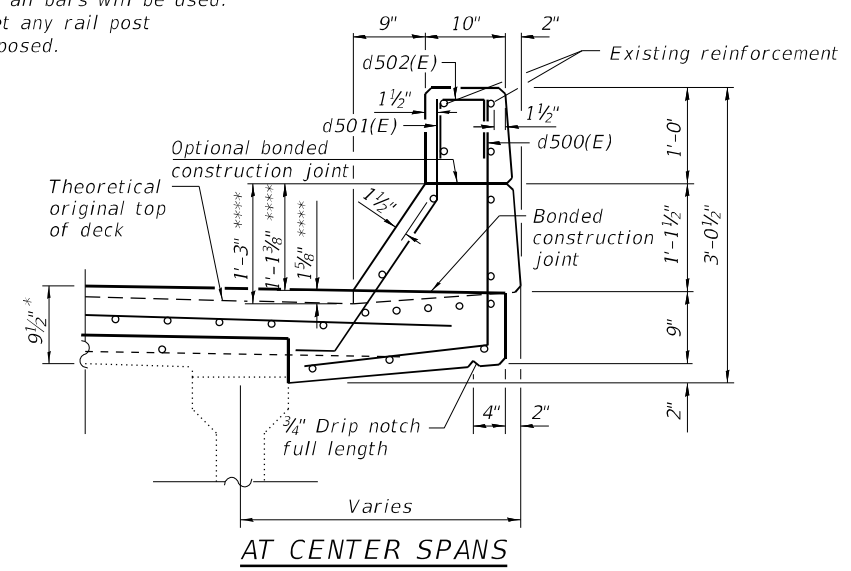


PROPOSED JOINT PLAN

SN 044-0047 south abutment shown, SN 044-0047 north abutment similar
 SN 044-0048 north abutment shown, SN 044-0048 south abutment similar

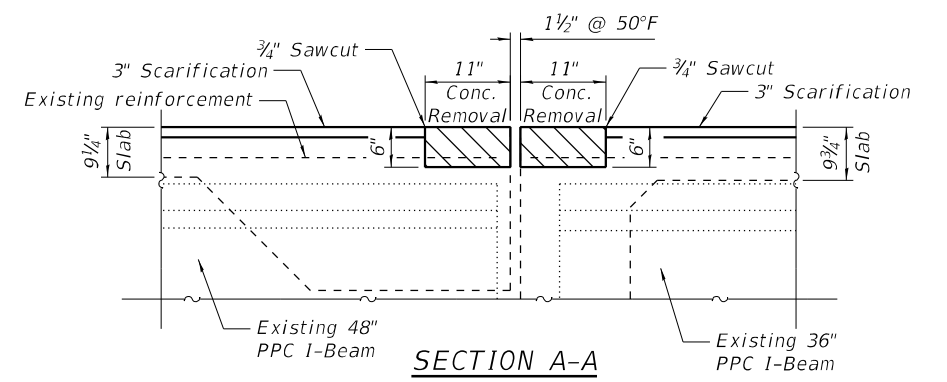
*** Due to roadway curvature approxiamte location shown.

***** 2 bars included at each end of each joint. Not all bars will be used. Clean and reset any rail post anchorages exposed.

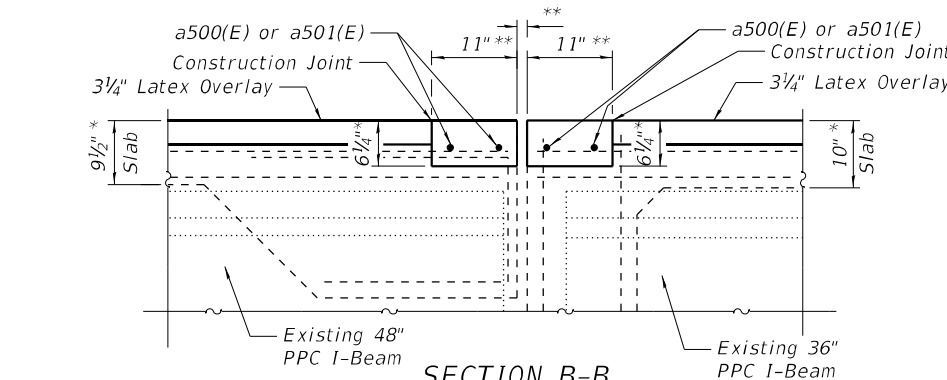


SECTIONS THRU PARAPET AT JOINT

**** Dimensions based on original deck thickness. Proposed parapet section to align with existing parapet section.



SECTION A-A

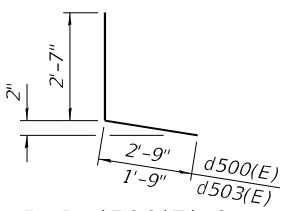


SECTION B-B

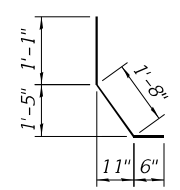
* Prior to diamond grinding
 ** See Joint Strip Seal Details for opening dimension.

FOUR ABUTMENTS BILL OF MATERIAL

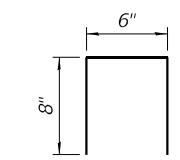
Bar	No.	Size	Length	Shape
a500(E)	16	#7	22'-8"	—
a501(E)	16	#7	25'-0"	—
d500(E)	16	#4	5'-4"	J
d501(E)	32	#5	3'-3"	J
d502(E)	16	#4	1'-10"	J
d503(E)	16	#4	4'-4"	J
Concrete Removal			Cu. Yd.	7.6
Concrete Superstructure			Cu. Yd.	7.8
Reinforcement Bars, Epoxy Coated			Pound	1380



BAR d500(E) & d503(E)



BAR d501(E)



BAR d502(E)

Notes:
 Existing horizontal bars in parapet and existing longitudinal bars in slab shall remain and be incorporated into the new construction. Hatched area indicates concrete removal. The Contractor shall use extreme care during concrete removal so as not to damage the PPC I-Beams. Any damage to PPC I-Beam should be repaired at no additional cost to the Department.

MODEL: Default
 FILE NAME: L:\DOT\1500610\VO_g\DrawStructures\SN 0047 & 0048\006_0047-2048_Abutment Expansion Joint Detail.dgn
 License No. 184-00613 © Copyright CMT, Inc.



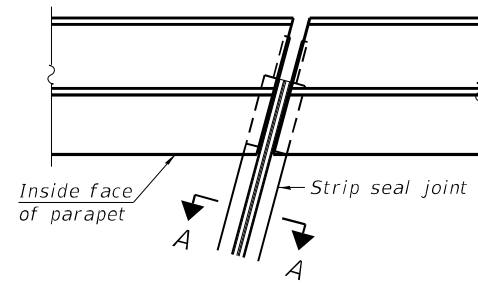
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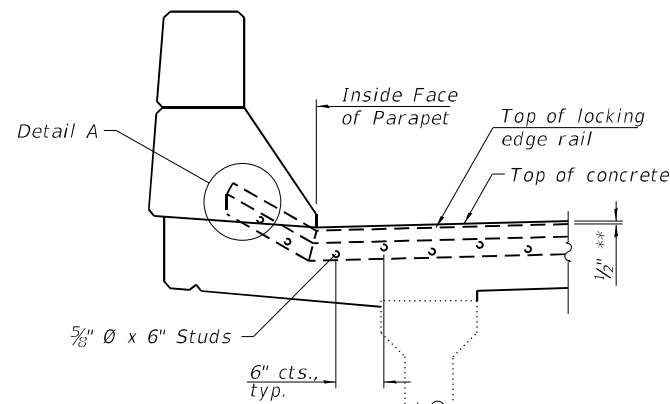
**EXPANSION JOINT REPLACEMENT DETAILS
 STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)**

SHEET 6 OF 13 SHEETS

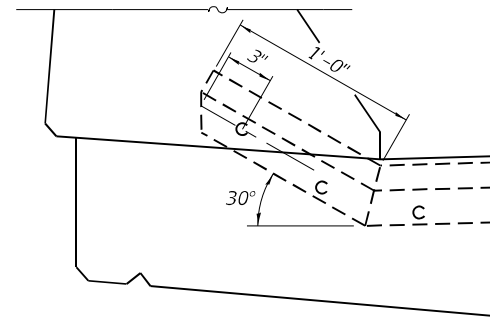
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	149
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



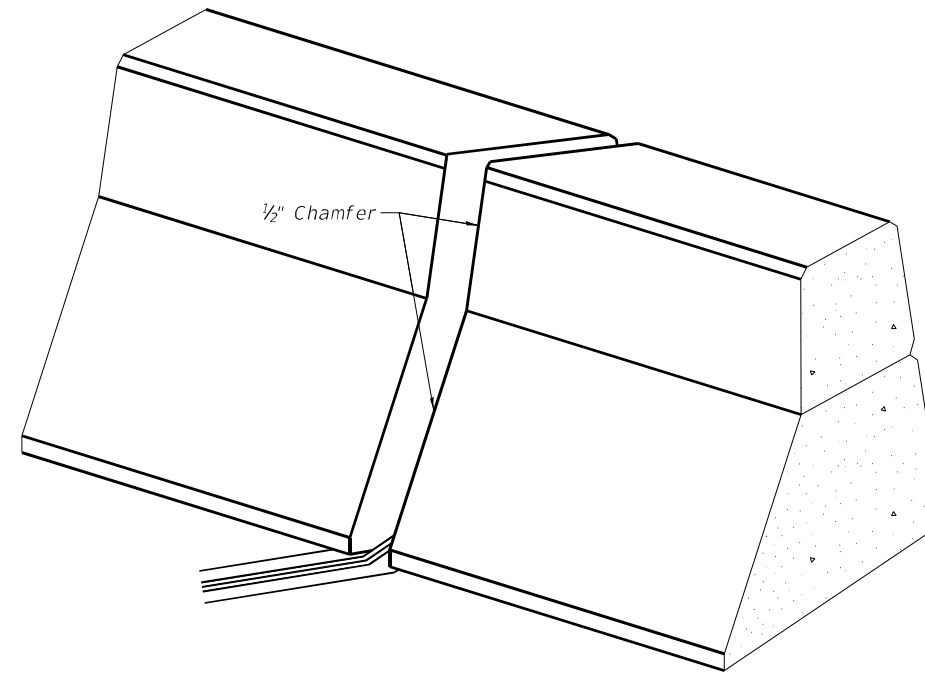
PLAN AT PARAPET



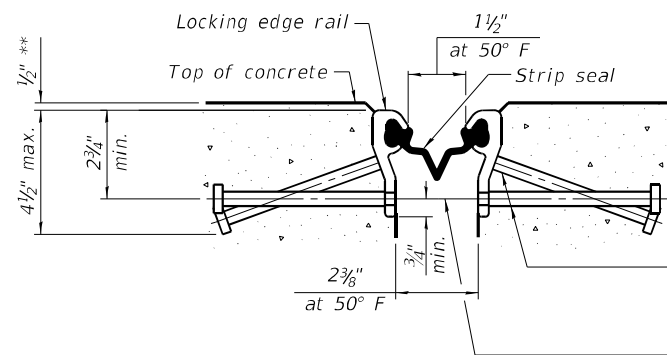
SECTION AT PARAPET



DETAIL A



TRIMETRIC VIEW



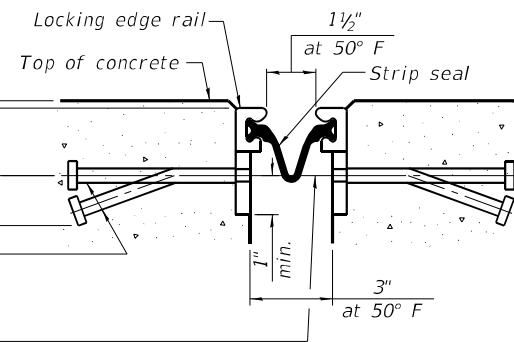
SHOWING ROLLED RAIL JOINT

* 5/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

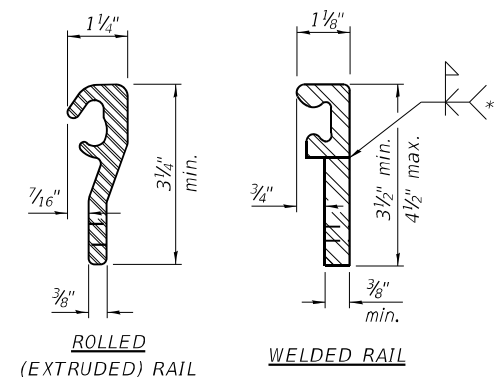
3/8" ϕ threaded rods in 1/16" ϕ holes at ± 4 -0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

* Granular or solid Flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.
 ** Prior to diamond grinding.

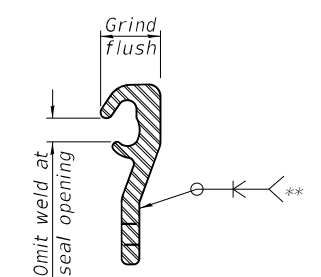


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
 Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	194

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
 The manufacturer's recommended installation methods shall be followed.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.
 The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

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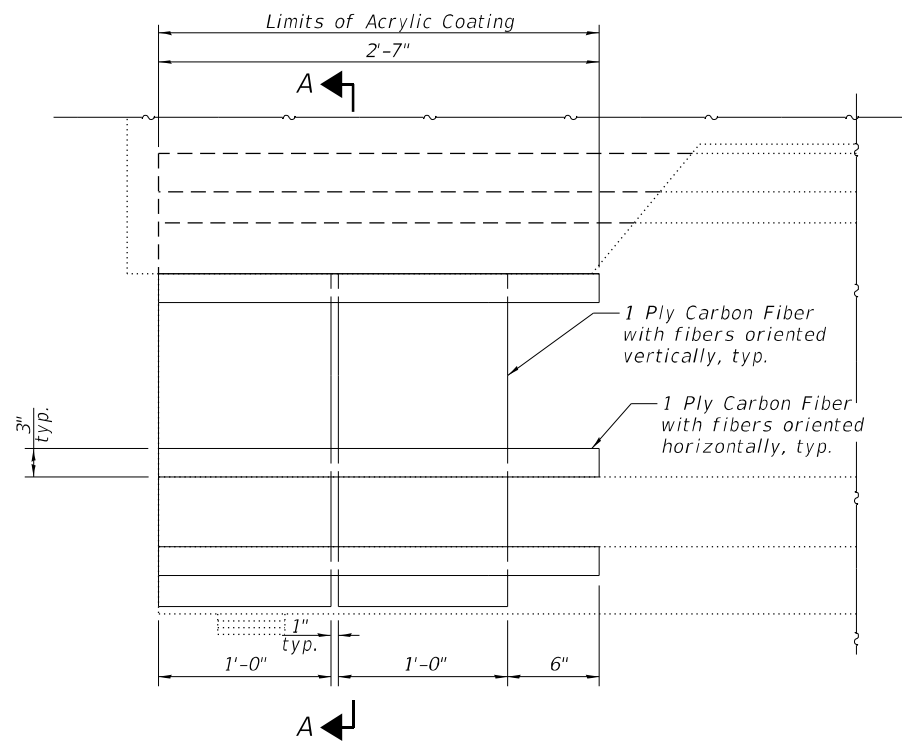
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

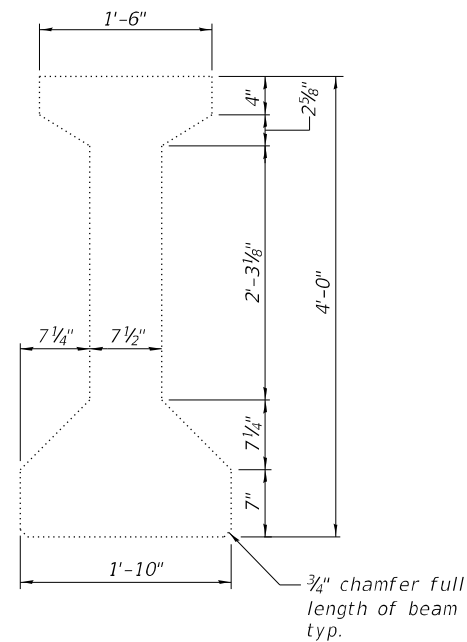
PREFORMED JOINT STRIP SEAL
 STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

SHEET 7 OF 13 SHEETS

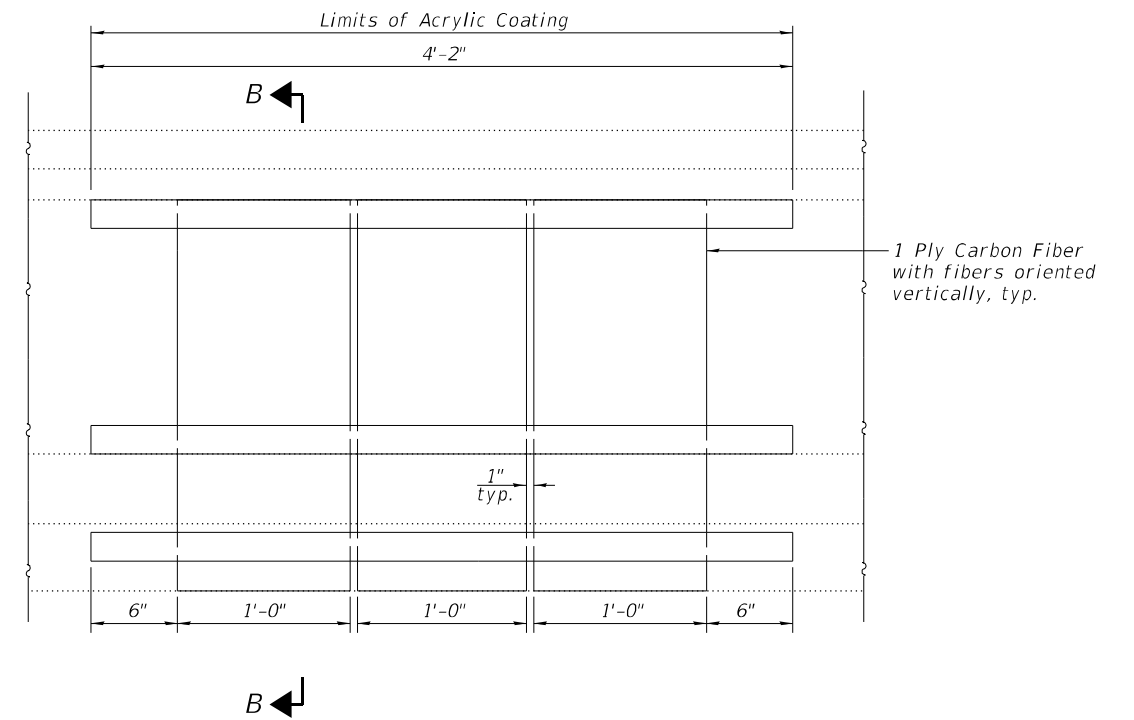
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CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



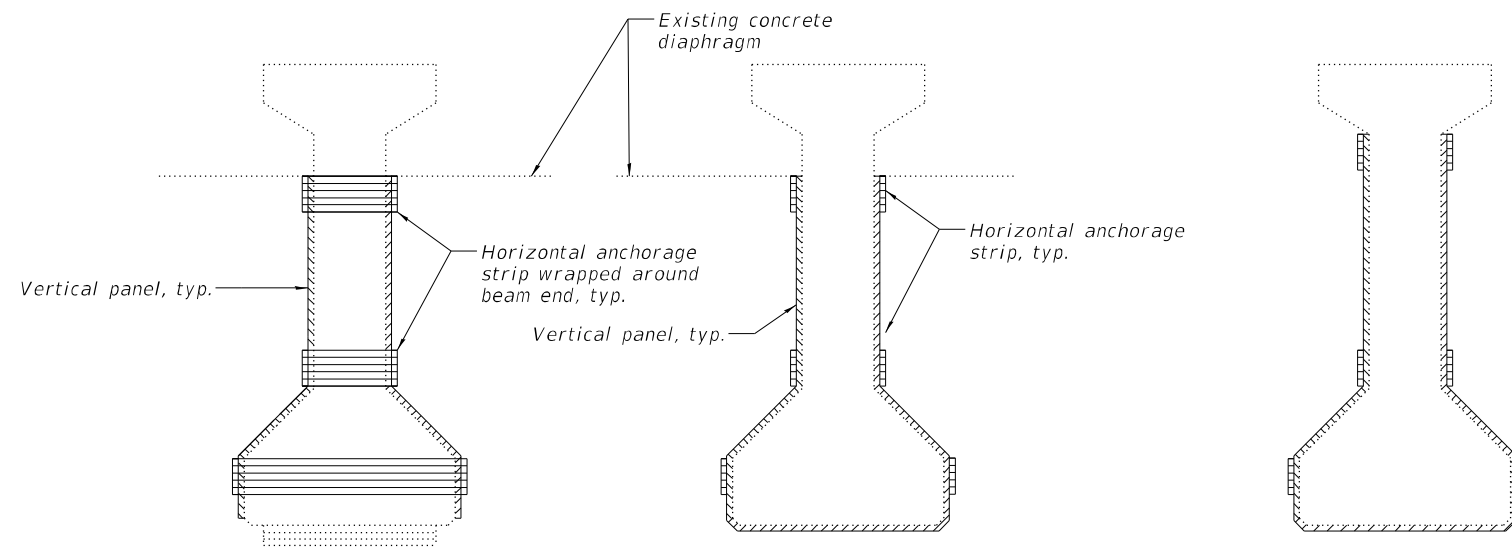
ELEVATION OF BEAM REPAIR AT ABUTMENT
(6 required)



CROSS SECTION



ELEVATION OF BEAM WEB REPAIR
(1 required)



BEAM END VIEW

SECTION A-A

SECTION B-B

PPC I-BEAM REPAIR
SN 044-0047

Location	Quantity
Beam 1 - N. Abutment	2.0 Sq. Ft.
Beam 3 - N. Abutment	2.0 Sq. Ft.
Beam 4 - N. Abutment	2.0 Sq. Ft.

PPC I-BEAM REPAIR
SN 044-0048

Location	Quantity
Beam 1 - N. Abutment	2.0 Sq. Ft.
Beam 1 - ± 10' S. of N. Abut., E. Fascia	4.0 Sq. Ft.
Beam 1 - S. Abutment	2.0 Sq. Ft.
Beam 2 - S. Abutment	2.0 Sq. Ft.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Precast Prestressed Concrete I-Beam Repair	Sq. Ft.	16
Fiber Wrap	Sq. Ft.	144
Acrylic Coating	Sq. Yd.	20

Notes:

The existing concrete surface shall be cleaned and prepared in accordance with the Special Provisions.

See Special Provisions for "FRP Strengthening for PPC I-Beam Repairs".

See Special Provisions for "Precast Prestressed Concrete I-Beam Repair".

Acrylic Coating shall be placed over Fiber Wrap repairs. Two coats shall be applied.

Vertical panels must be between 10" and 12". Vertical panels shall extend beyond the repairs zone by a minimum of 3". Vertical panels located above the bearing location shall be placed in two pieces. Vertical panels outside the bearing locations shall wrap under the bottom of the beam in a continuous strip up both sides of the beam.

Horizontal anchorage strips shall be 3" wide as shown and extend a minimum of 6" beyond the vertical panels. The horizontal strips shall be placed on top of the vertical panels.

MODEL: D:\file\... FILE NAME: L:\DOT\1500610\VO_8\Draw\Structures\SN 0047 & 0048\008_0047-0048_Beam Repairs.dgn



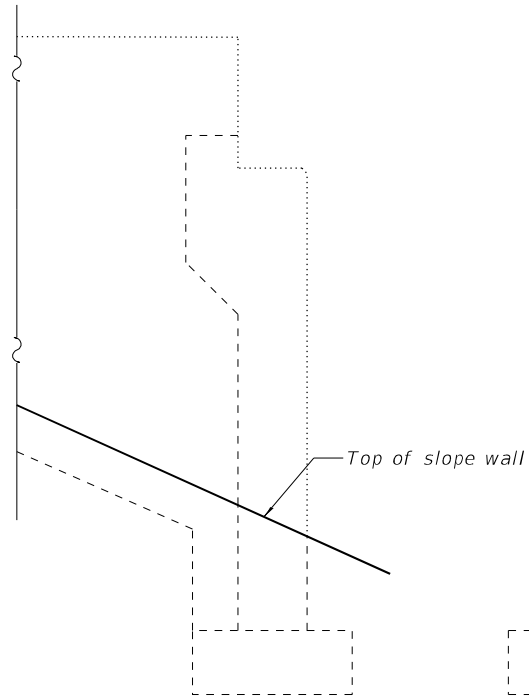
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

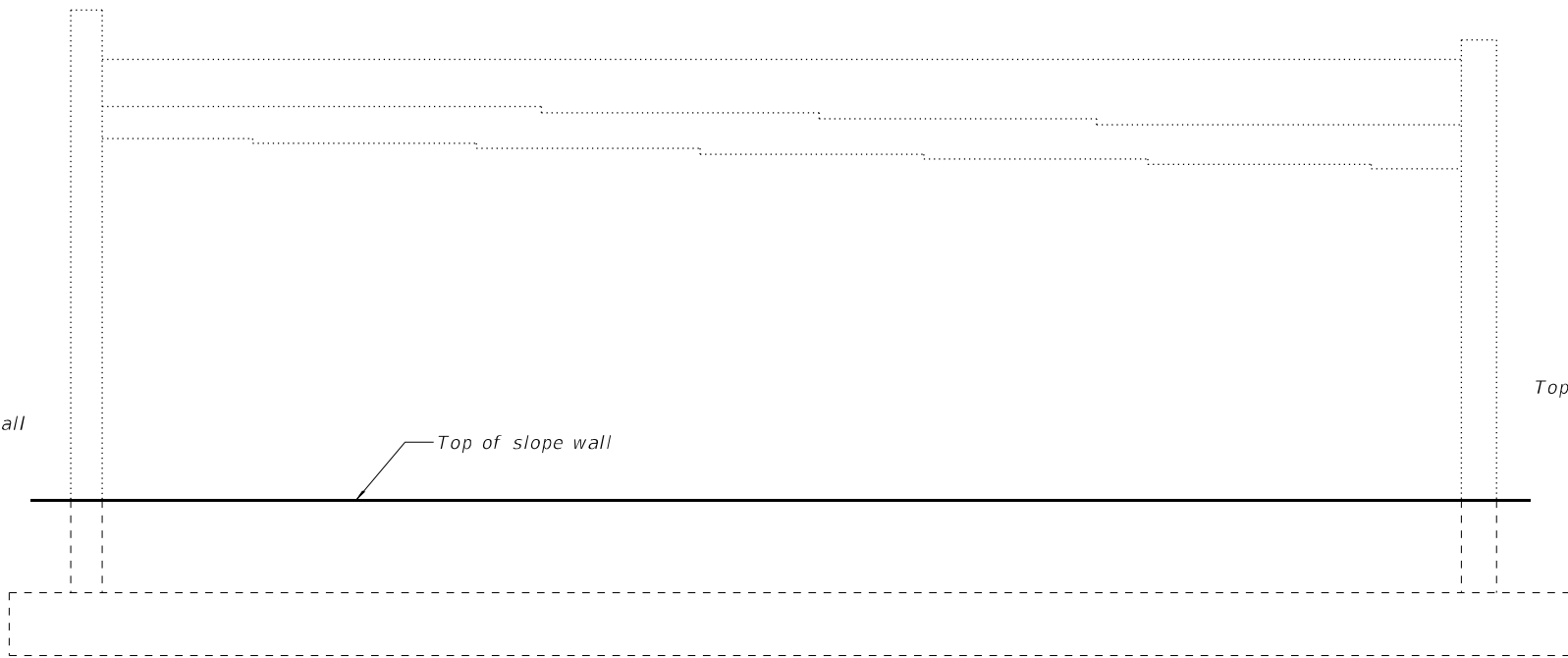
BEAM REPAIRS
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

SHEET 8 OF 13 SHEETS

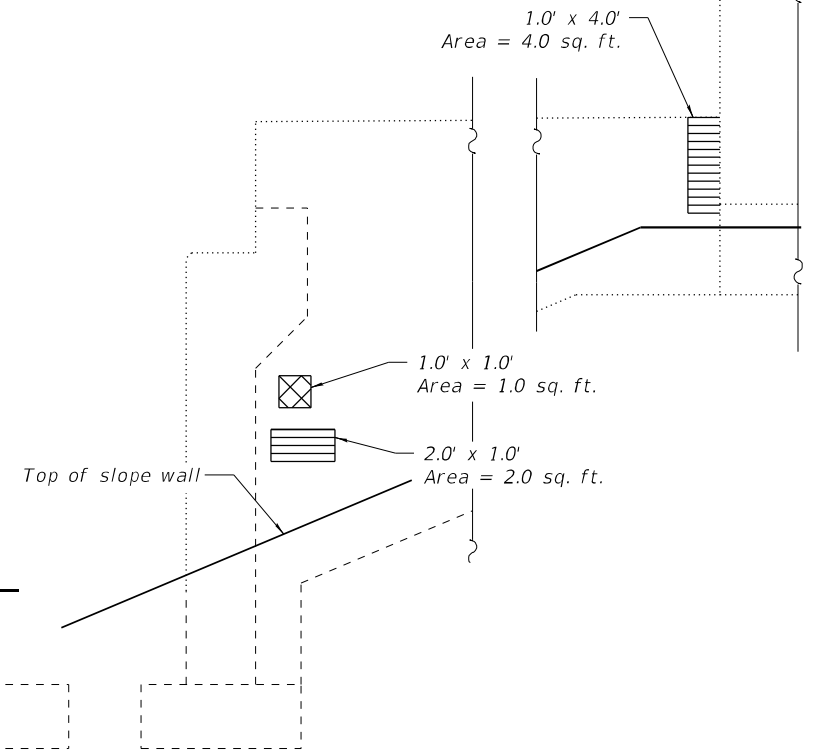
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24	BRIDGE REPAIR 2022-1	JOHNSON	184	151
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



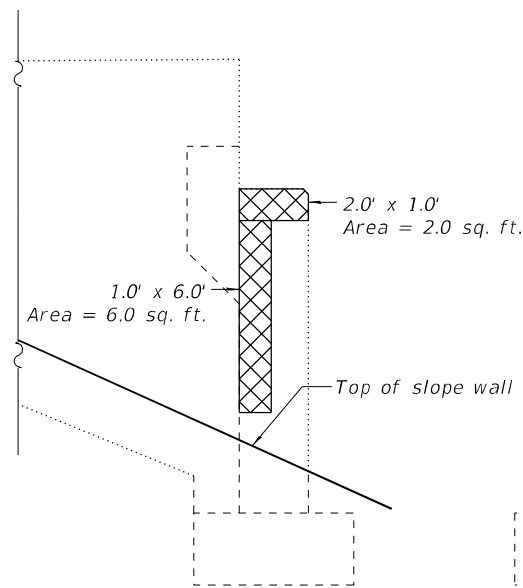
NORTHWEST CURTAIN WALL ELEVATION



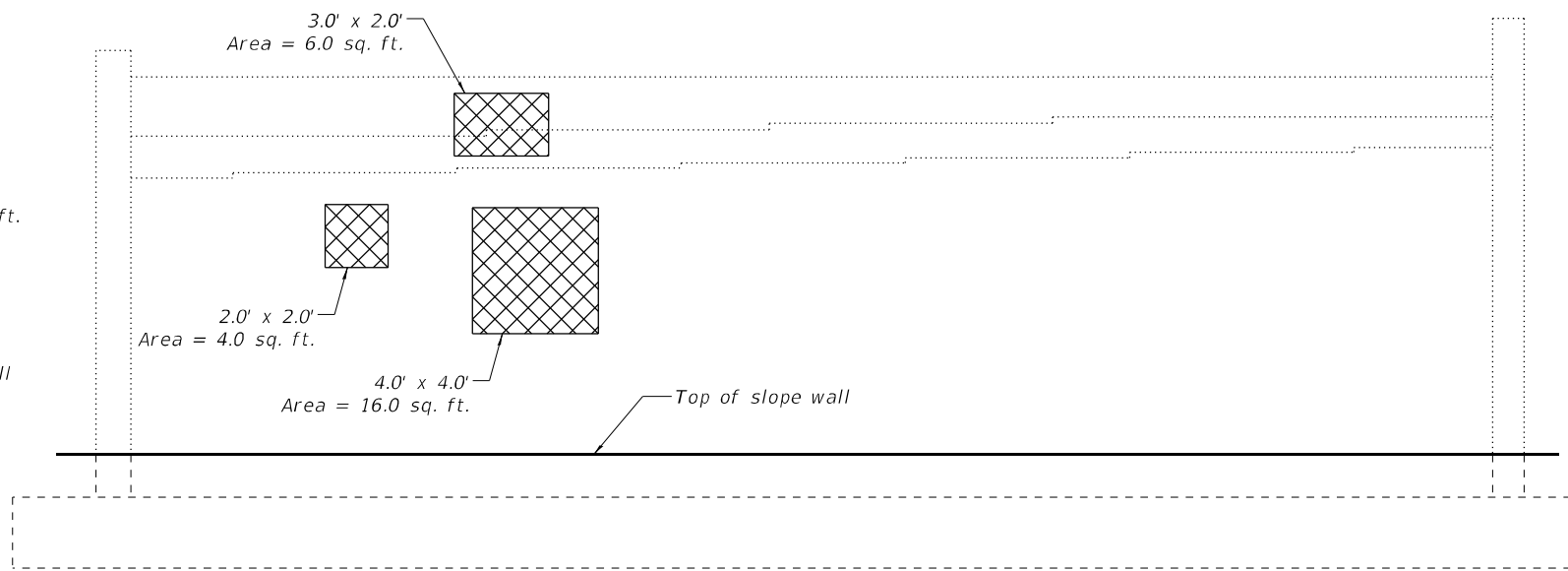
NORTH ABUTMENT ELEVATION



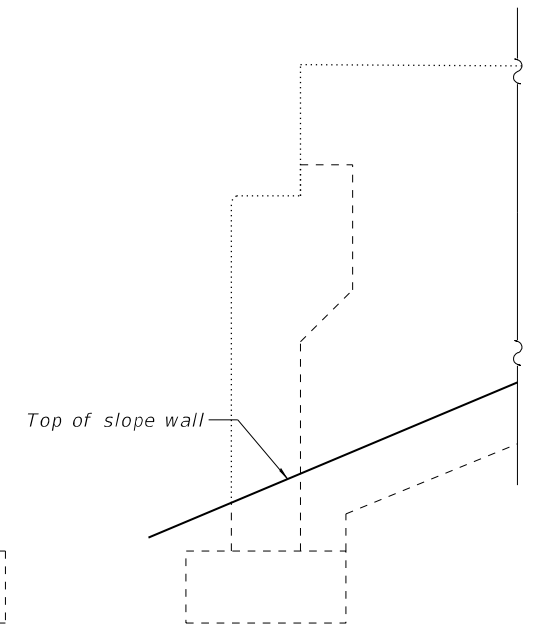
NORTHEAST CURTAIN WALL ELEVATION



SOUTHEAST CURTAIN WALL ELEVATION





SOUTH ABUTMENT ELEVATION



SOUTHWEST CURTAIN WALL ELEVATION

LEGEND

-  Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)
-  Structural Repair of Concrete (Depth greater than 5 Inches)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.	60
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq. Ft.	6

Note:
A nominal quantity of 25 sq. ft. per bridge of Structural Repair of Concrete (Depth Equal to or Less than 5 Inches) is included for additional repairs in the field as determined by the Engineer.

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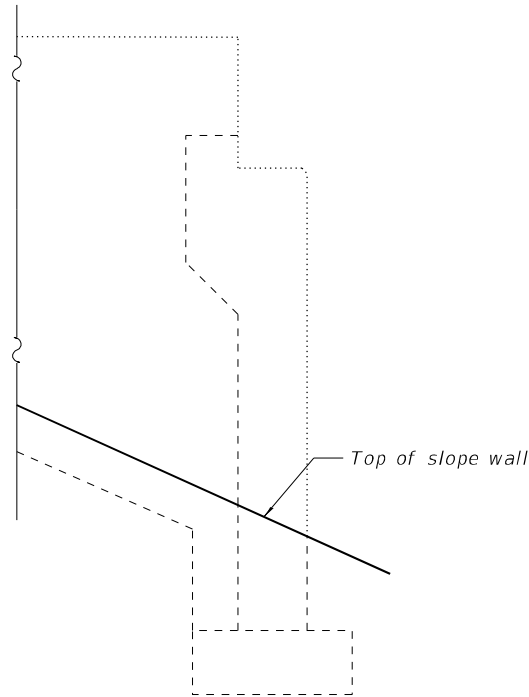
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DEPARTMENT OF TRANSPORTATION**

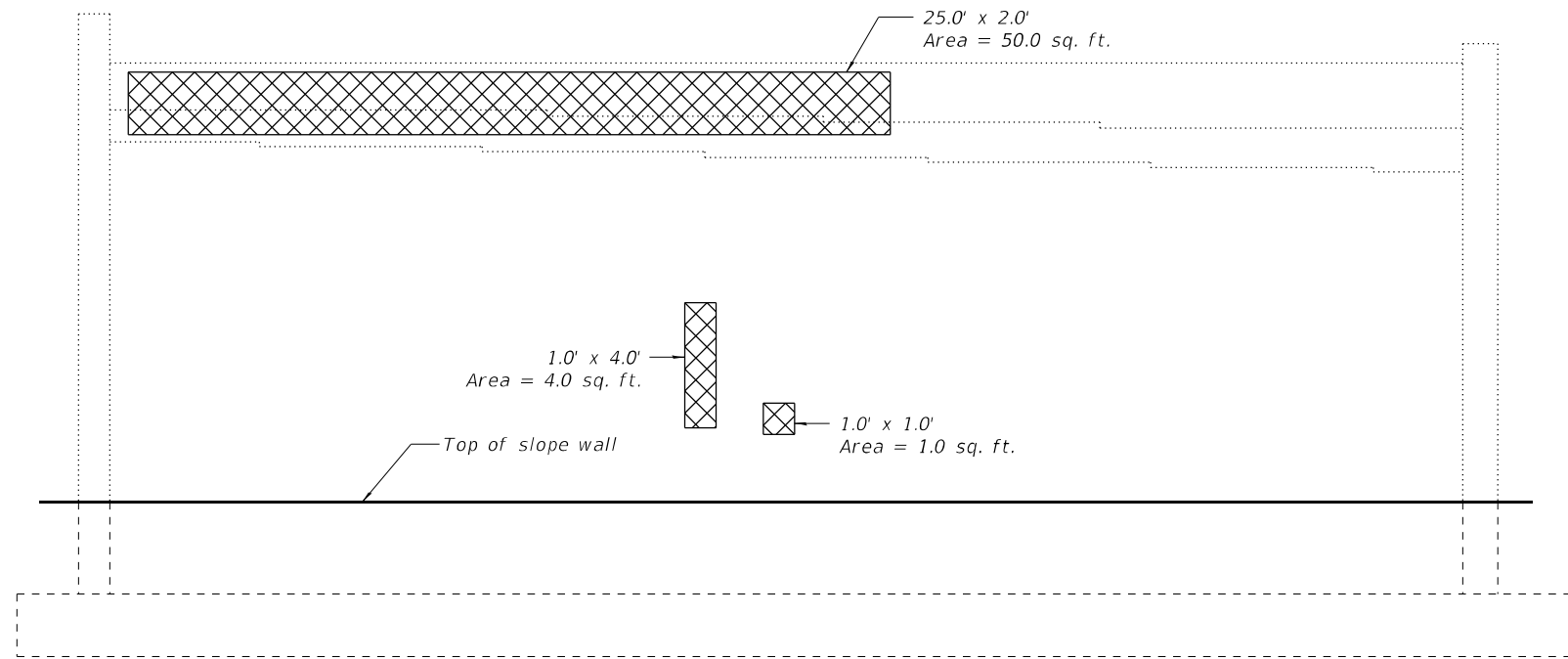
**ABUTMENT REPAIRS SN 044-0047
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)**

SHEET 9 OF 13 SHEETS

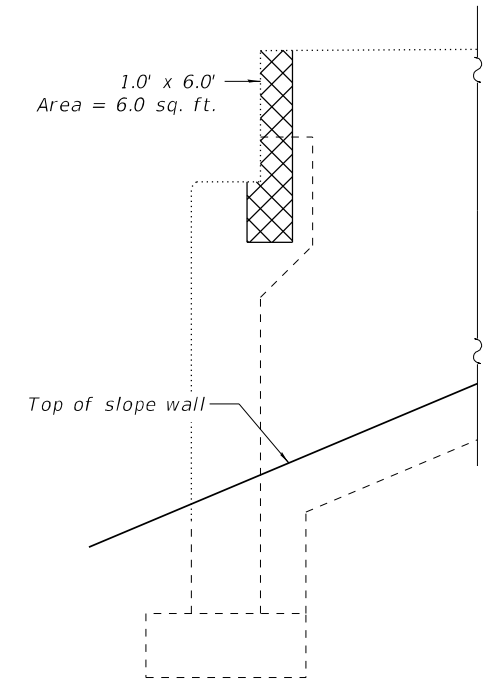
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ILLINOIS FED. AID PROJECT				



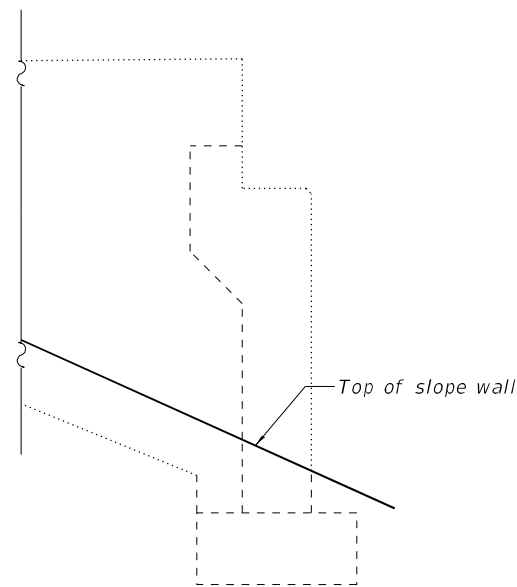
NORTHWEST CURTAIN WALL ELEVATION



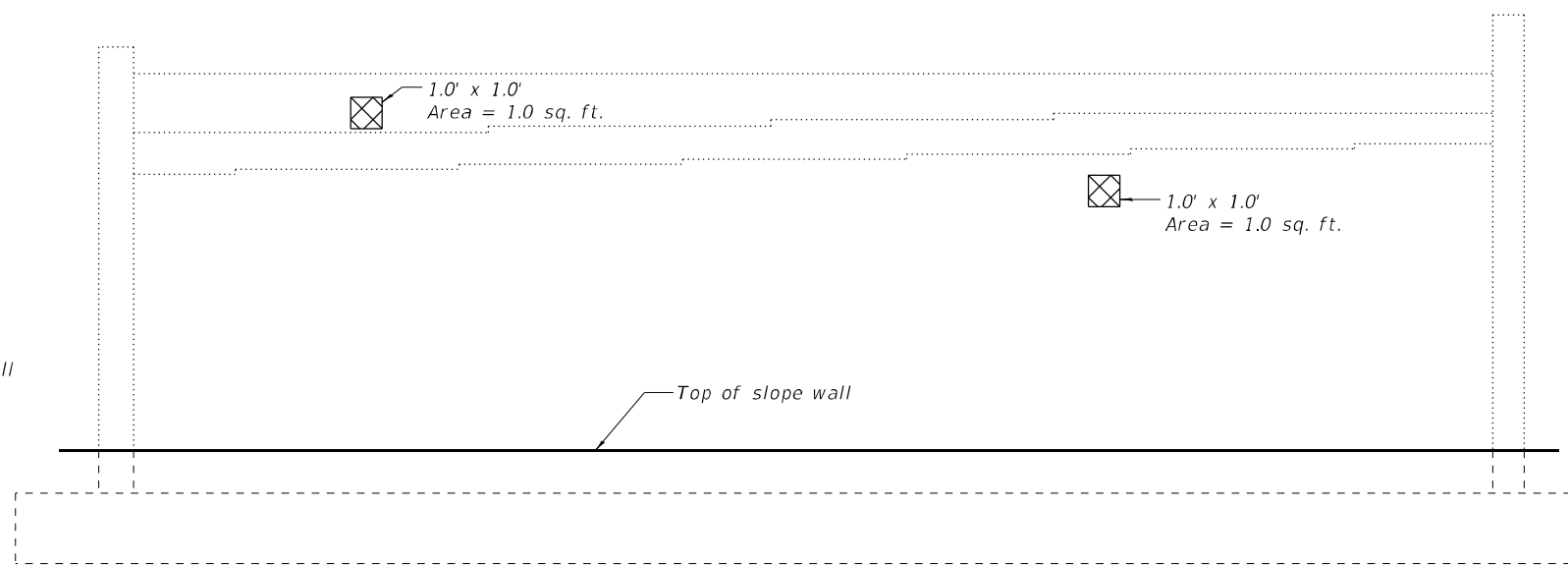
NORTH ABUTMENT ELEVATION



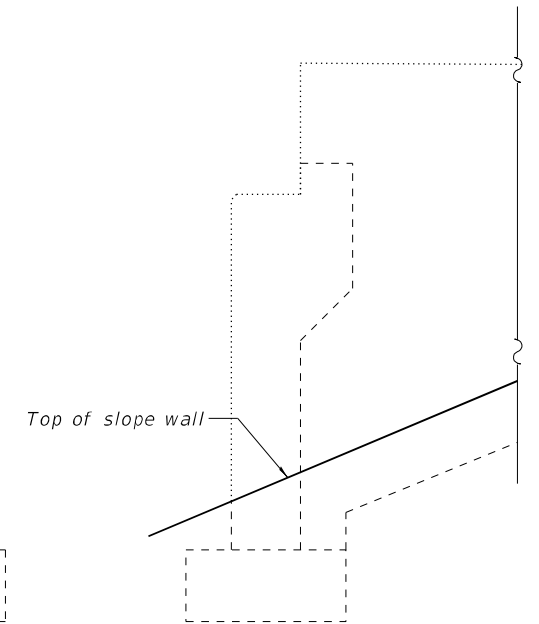
NORTHEAST CURTAIN WALL ELEVATION



SOUTHEAST CURTAIN WALL ELEVATION



SOUTH ABUTMENT ELEVATION



SOUTHWEST CURTAIN WALL ELEVATION

LEGEND



Structural Repair of Concrete
(Depth Equal to or Less than
5 Inches)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.	88

Note:
A nominal quantity of 25 sq. ft. per bridge of
Structural Repair of Concrete (Depth Equal to or Less
than 5 Inches) is included for additional repairs in the
field as determined by the Engineer.

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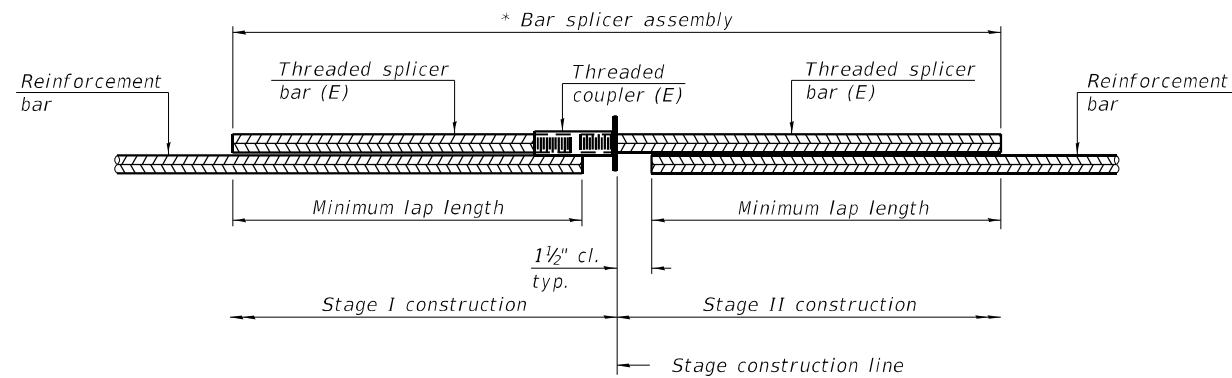
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT REPAIRS SN 044-0048
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

SHEET 10 OF 13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				



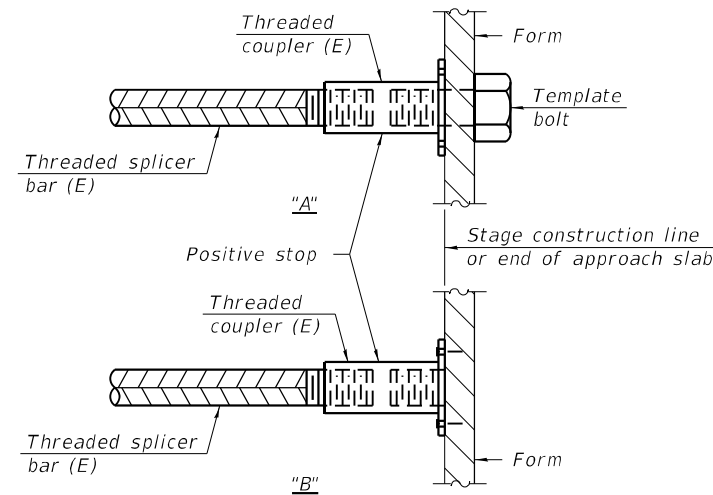
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
044-0047 N. Abutment	#7	4	4'-2"
044-0047 S. Abutment	#7	4	4'-2"
044-0048 N. Abutment	#7	4	4'-2"
044-0048 S. Abutment	#7	4	4'-2"

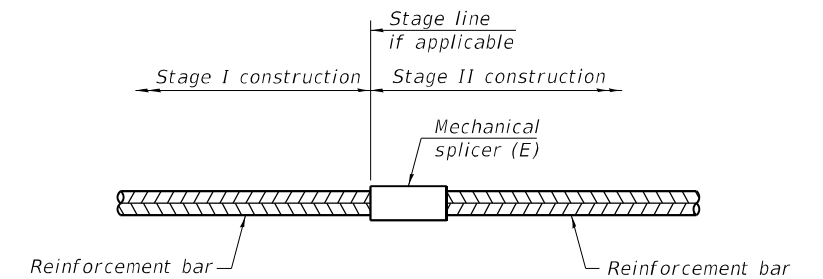


INSTALLATION AND SETTING METHODS

"A" : Set mechanical splicer assembly by means of a template bolt.

"B" : Set mechanical splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:
 Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 1-1-2020

MODEL: D:\cmt\11906610\VO_g\DrawStructures\047 & 048\01_0047-048_Bar Splicer Assembly and Mechanical Splicer Details.dgn



USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
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PLOT DATE = 12/1/2021 (9:48:40 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

SHEET 11 OF 13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	154
ILLINOIS			FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	JOHNSON	150	141
STA. TO STA.		FED. AID PROJECT	
FED. AID DIST. NO.		FED. AID PROJECT	

* BSMART FY04-3
98836

CURVE DATA
Values from Existing plans
Δ - 34°-25'-13"
D - 0°-50'-00"
R - 6875.50'
T - 2129.66'
L - 4130.44'
E - 322.27'
S.E. - .023 Ft./Ft.
P.I. - Sta. 491+61.52

GENERAL NOTES

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

Sequence of Construction

1. Scarify and Resurface Existing Shoulders
2. Remove Stage I Areas
3. Perform Stage I Repairs and Overlay
4. Remove Stage II Areas
5. Perform Stage II Repairs and Overlay

Scope of Work

Scarify existing ±9" thick bituminous shoulders and resurface with bituminous shoulder
Scarify existing bare deck
Partial depth deck patching
Eliminate drains within 10' of abutments
Microsilica Concrete Overlay
Expansion Joint Treatment

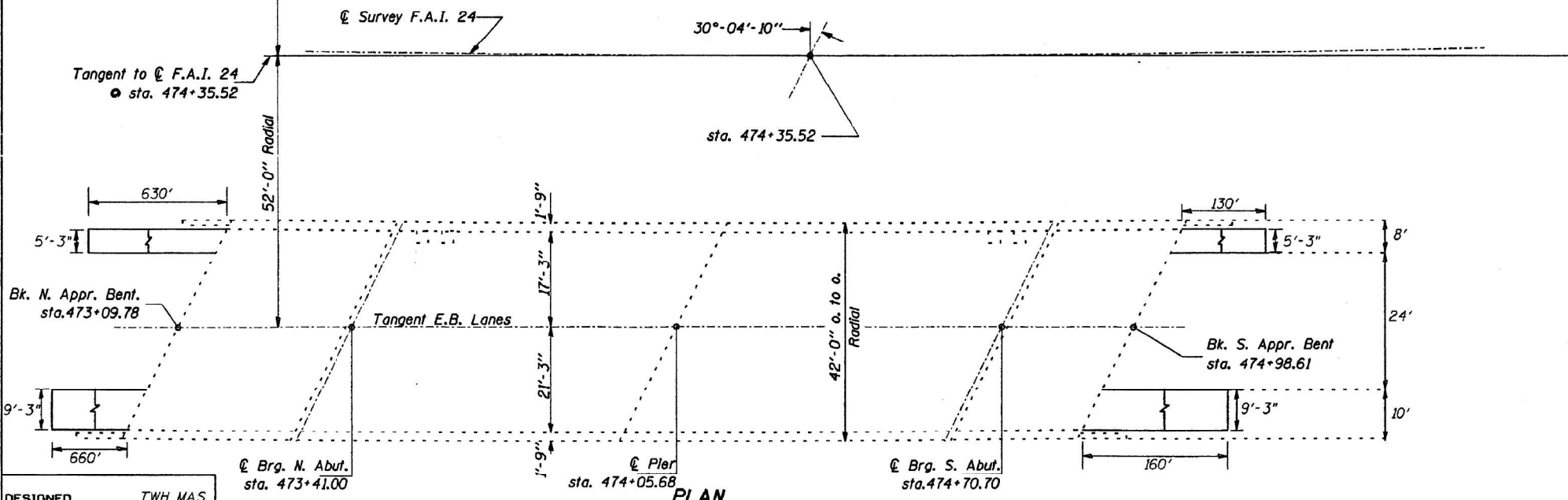
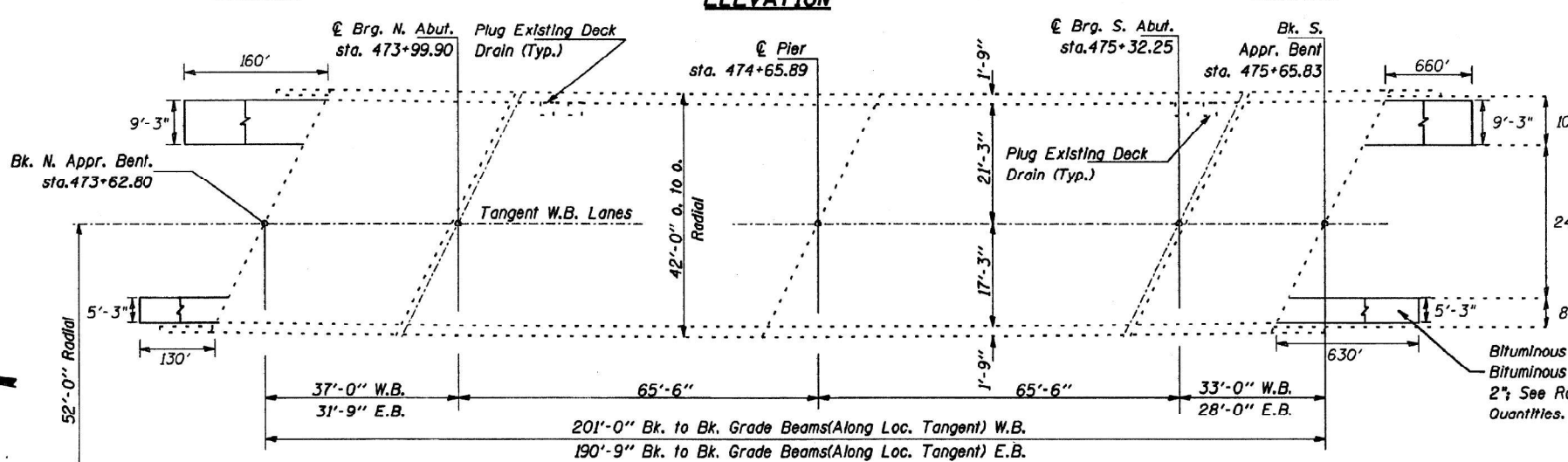
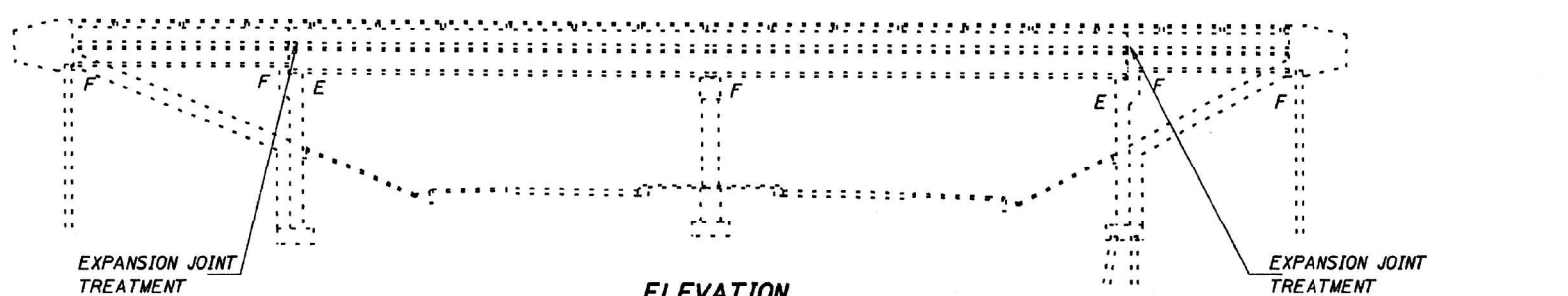
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL	0047	0048
Concrete Bridge Deck Scarification (1/2 Inch)	Sq. Yd.	1663	810	853
Deck Slab Repair (Partial Depth)	Sq. Yd.	33	16	17
Plug Existing Deck Drains	Each	4	2	2
Bridge Deck Microsilica Concrete Overlay (2 1/4 inch)	Sq. Yd.	1663	810	853
Polymer Concrete	Cu. Ft.	17.2	8.6	8.6
Silicone Joint Sealer (1 1/2 inch)	Foot	186	93	93
Bridge Deck Grooving	Sq. Yd.	1577	768	809

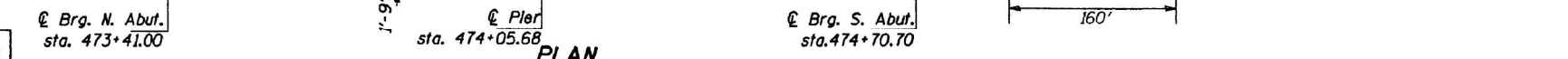
GENERAL PLAN AND ELEVATION
FAI 24 OVER IL 146
JOHNSON COUNTY
STA. 474+35.52
S.N. 044-0047 (E.B.)
S.N. 044-0048 (W.B.)

FOR INFORMATION ONLY

BRIDGE REPAIRS FOR S.N. 044-0047 AND 044-0048



DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	TWH TEB
CHECKED	TWH MAS



MODEL: Default
FILE NAME: L:\DOT\15006910\02_048\012_0047\048_Existing Plans-12.dgn



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	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

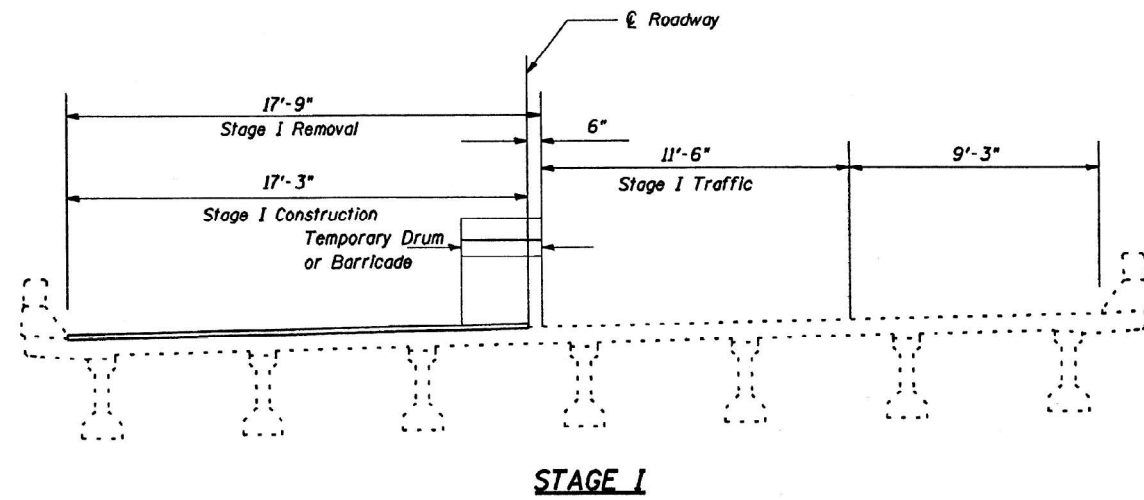
EXISTING PLANS
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	155
		CONTRACT NO. 78849		
ILLINOIS FED. AID PROJECT				

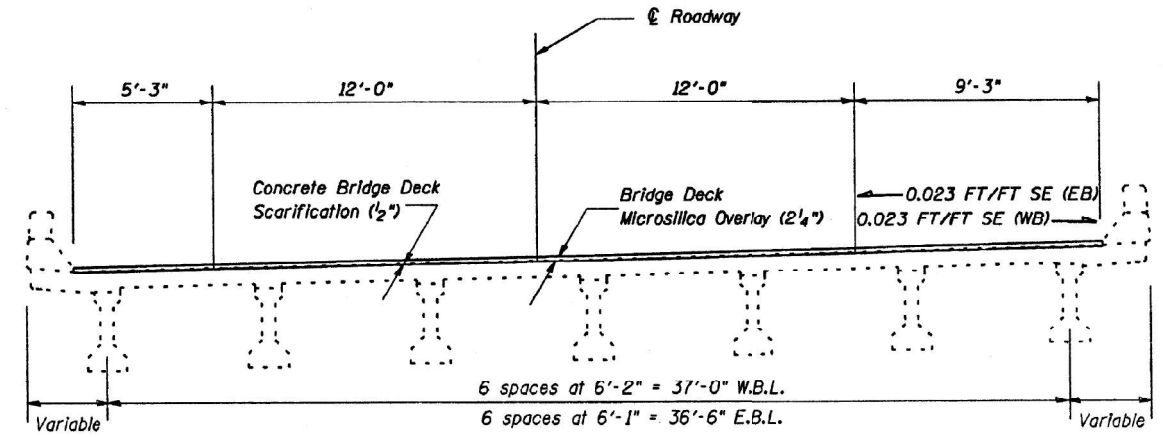
SHEET 12 OF 13 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. #	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24		JOHNSON	150	142
STA. TO STA.				
REL. ROAD DIST. NO.		ALWAYS	FED. AID PROJECT	
* BSMART FY04-3 98836				



STAGE I



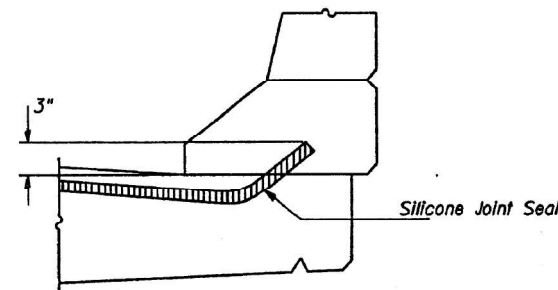
TYPICAL CROSS SECTION

(Proposed cross slope matches the existing 0.023 Ft/Ft SE)

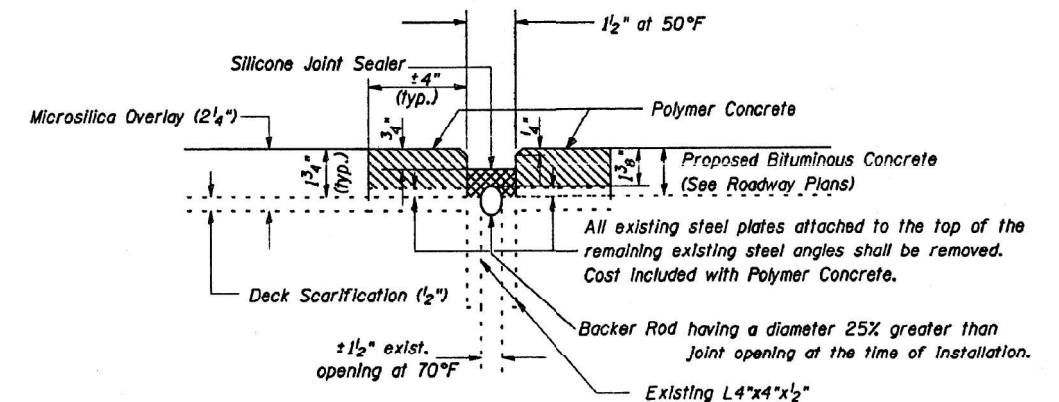
Notes: Cross sections are looking in direction of traffic

The temporary drums or barricades shall be located as shown on this sheet except when workers are present, when they may be temporarily moved over 2'-0" shifting traffic onto the existing bituminous shoulders.

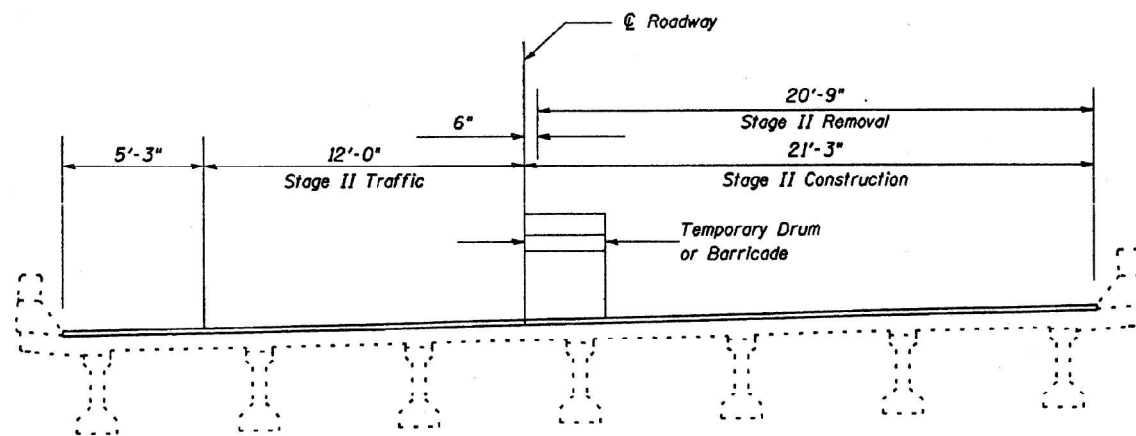
All abutments typical



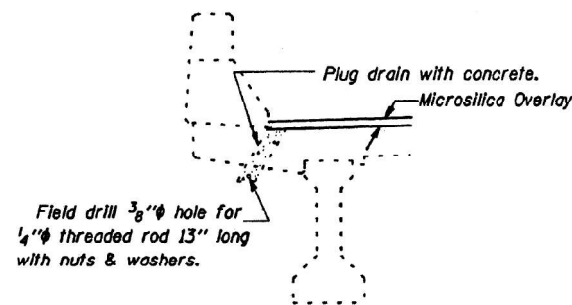
TYPICAL END OF SEAL TREATMENT AT EXPANSION JOINT



JOINT TREATMENT



STAGE II



**SECTION AT DRAIN
DRAIN ELIMINATION DETAIL**
(4 Locations)

STAGE CONSTRUCTION, JOINT TREATMENT & DRAIN ELIMINATION DETAILS

JOHNSON COUNTY
SN 044-0047 (E.B.)
SN 044-0048 (W.B.)

FOR INFORMATION ONLY

BRIDGE REPAIRS FOR S.N. 044-0047 AND 044-0048

DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	TWH TEB
CHECKED	TWH MAS

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CMT
License No. 184-000613

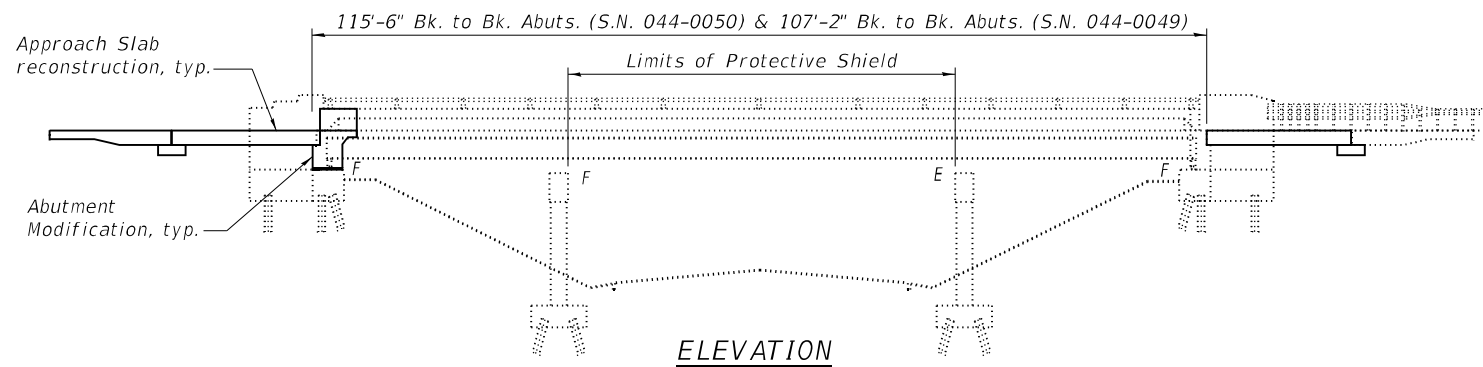
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	CHECKED - JTH	REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0047 (E.B.) & 044-0048 (W.B.)

SHEET 13 OF 13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	156
CONTRACT NO. 78849			ILLINOIS FED. AID PROJECT	



SCOPE OF WORK

1. Perform required pre-stage work including necessary shoulder work.
 2. Remove existing 2 1/4" concrete wearing surface with 3" bridge deck scarification.
 3. Perform deck repairs as directed by Engineer.
 4. Remove and replace bridge approach slabs and pavement connectors including removal of buried pile bent caps.
 5. Clean and paint all steel beam ends at each abutment as preparation for concrete encasement.
 6. Convert existing stub abutments to integral abutments. Perform concrete repairs on abutment caps and wingwalls as shown.
 7. Install new 3 1/4" latex concrete wearing surface and perform diamond grinding, longitudinal bridge deck grooving and apply protective coat.
- Up to 1/4" may be ground off the bridge deck and the bridge approach slabs.

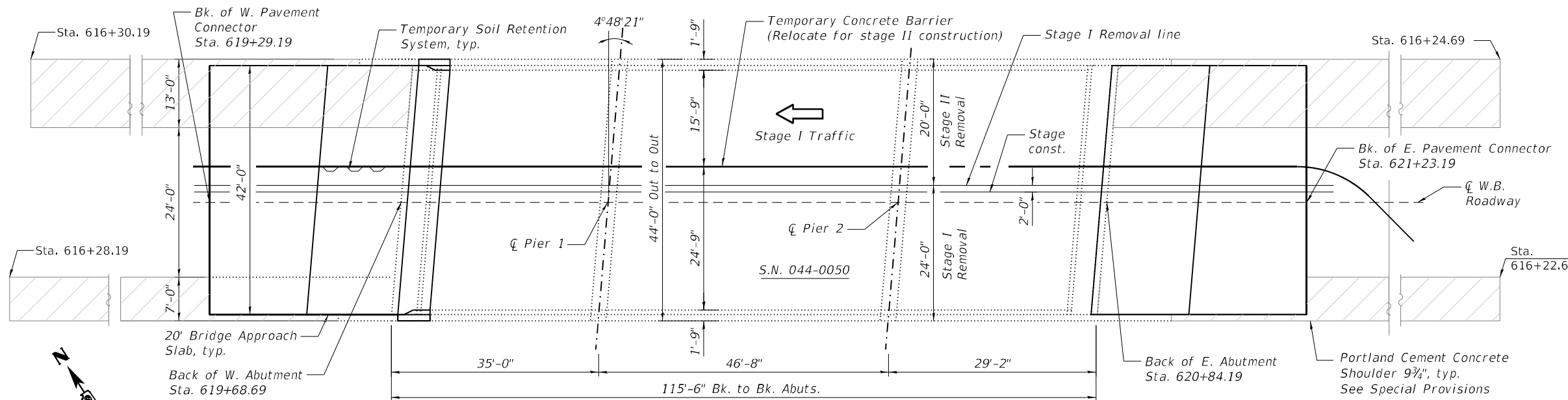
INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Data
- 3 Stage Construction Details
- 4 Deck Patching Plan
- 5 Temporary Concrete Barrier for Stage Construction
- 6-7 Superstructure
- 8-9 Diaphragm Details
- 10-11 Approach Slab Details
- 12 Abutment Removal & Wingwall Repair
- 13 Bar Splicer Assembly and Mechanical Splicer Details
- 14-28 Existing Plans

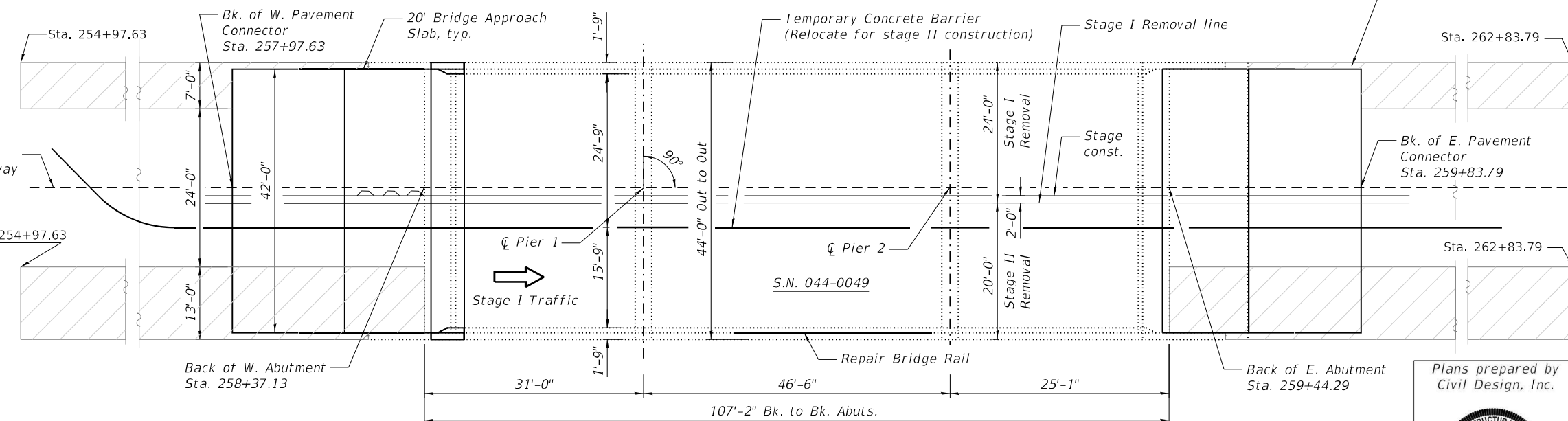
DESIGN STRESSES

FIELD UNITS

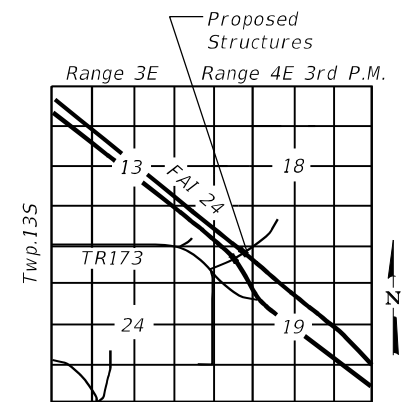
- New Construction
 $f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)
- Existing Structure, 2001 & 1998 Rehabilitation
 $f'_c = 1,400$ psi
 $f_s = 20,000$ psi (Reinforcement)
- Existing Structure, 1970
 $f'_c = 1,200$ psi
 $f_s = 20,000$ psi (Reinforcement)



PLAN (WB BRIDGE)



PLAN (EB BRIDGE)



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

I-24 OVER T.R. 173

F.A.I. 24, SECTION BRIDGE REPAIR 2022-1

JOHNSON COUNTY

STA. 620+29.36 (W.B.), STA. 258+93.67 (E.B.)

S.N. 044-0050 (W.B.) & 044-0049 (E.B.)

Plans prepared by
Civil Design, Inc.



Expires: 11/30/2022

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)**

SHEET 1 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	157
CONTRACT NO. 78849				

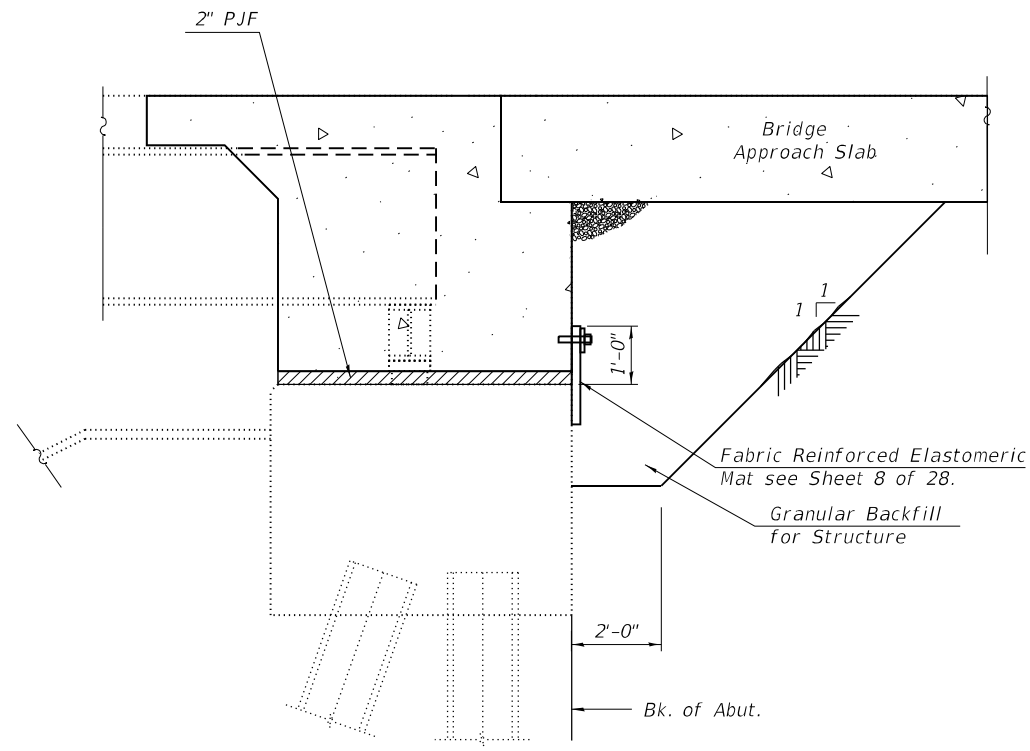
ILLINOIS FED. AID PROJECT

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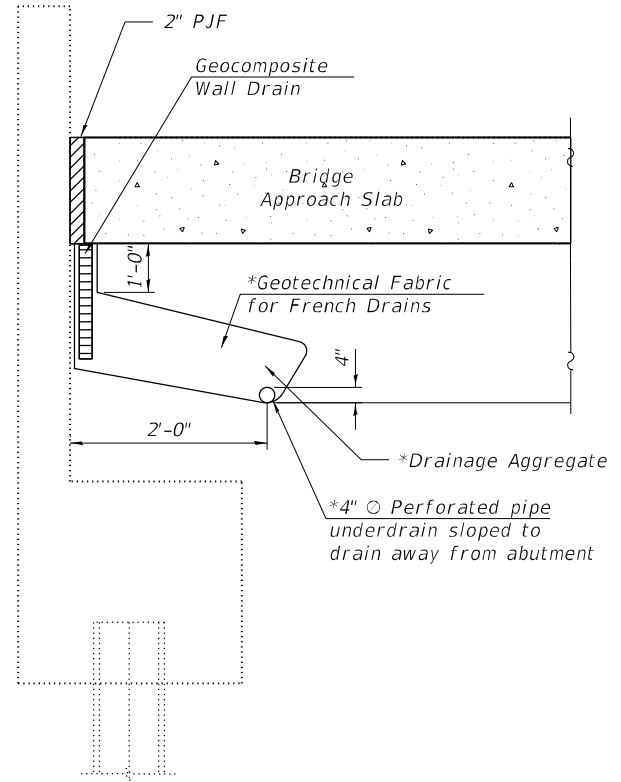
CIVIL DESIGN, INC.
WBE | DBE
EFFINGHAM, IL
LICENSE #184.003222

USER NAME	DESIGNED	REVISIONS
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JS	JS	REVISIONS
RBT	RBT	REVISIONS
KAS	KAS	REVISIONS

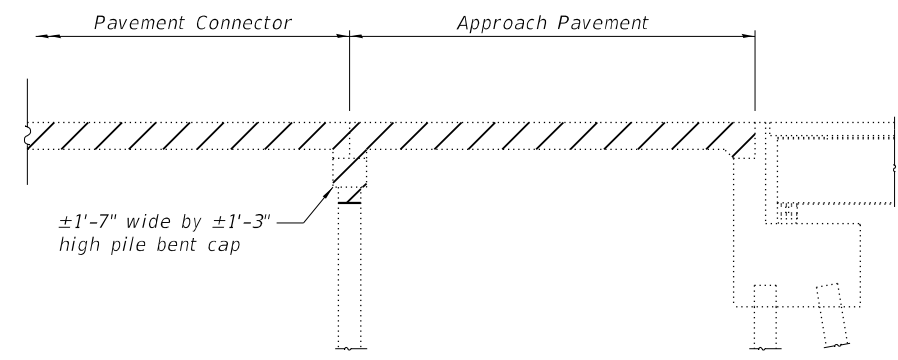
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SECTION THROUGH INTEGRAL ABUTMENT

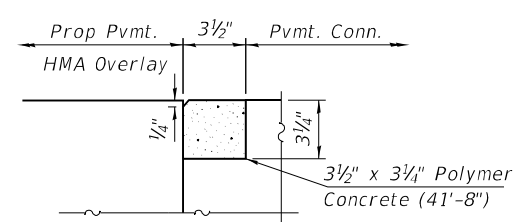


SECTION THROUGH ABUTMENT WINGWALL



APPROACH SLAB REMOVAL

Existing approach slab and pavement connector to be removed. Buried pile bent cap to be completely removed. Piles shall be removed to 2' below finished grade. Approach slab and pavement connector removal shall be paid for as Approach Slab Removal. Pile bent cap removal shall be paid for as Concrete Removal. Pile removal shall be included in the cost of Concrete Removal.



POLYMER CONCRETE NOSING DETAIL
 (Typ. Ea. Approach)

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

Note:
 All drainage system components shall extend 2'-0" from the end of each wingwall except an outlet pipe shall wrap around and extend until intersecting with the side slope. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

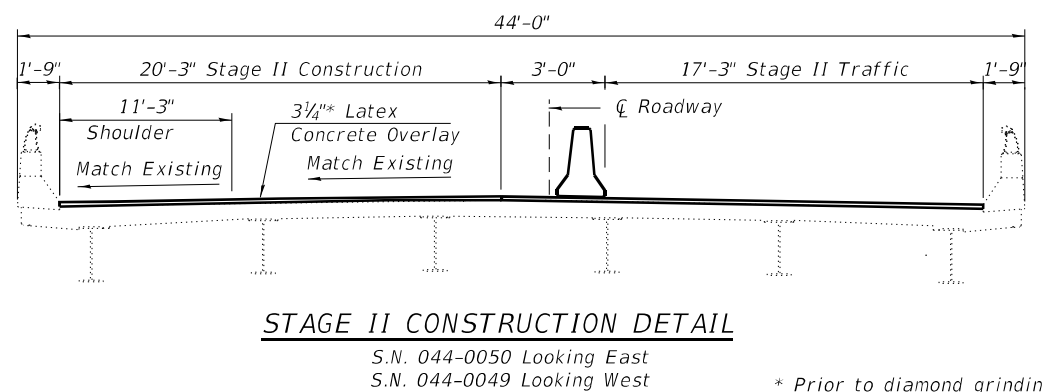
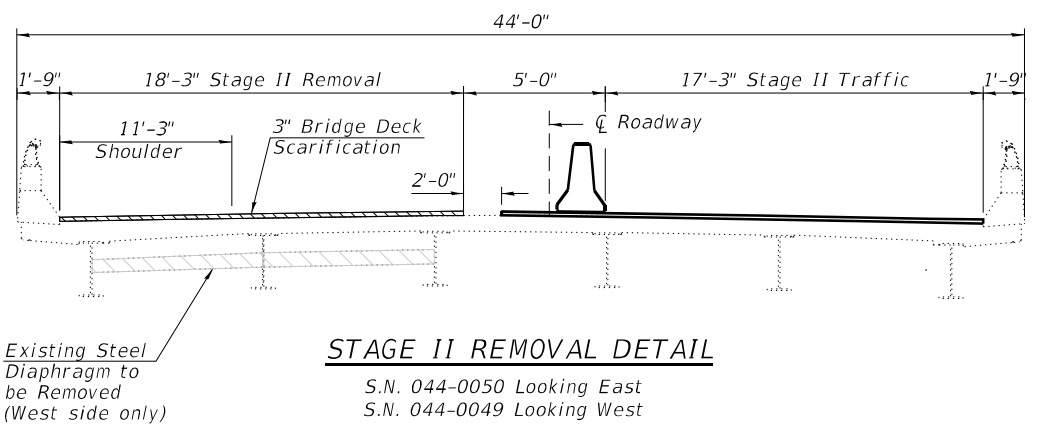
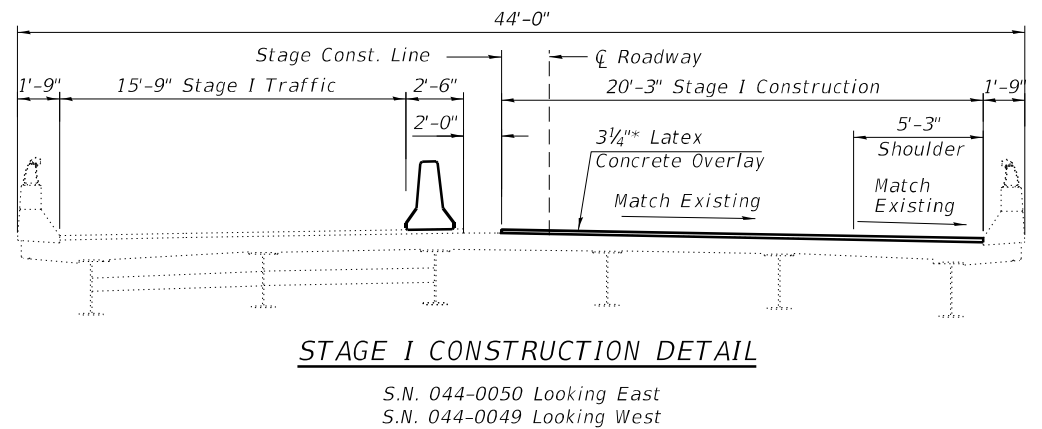
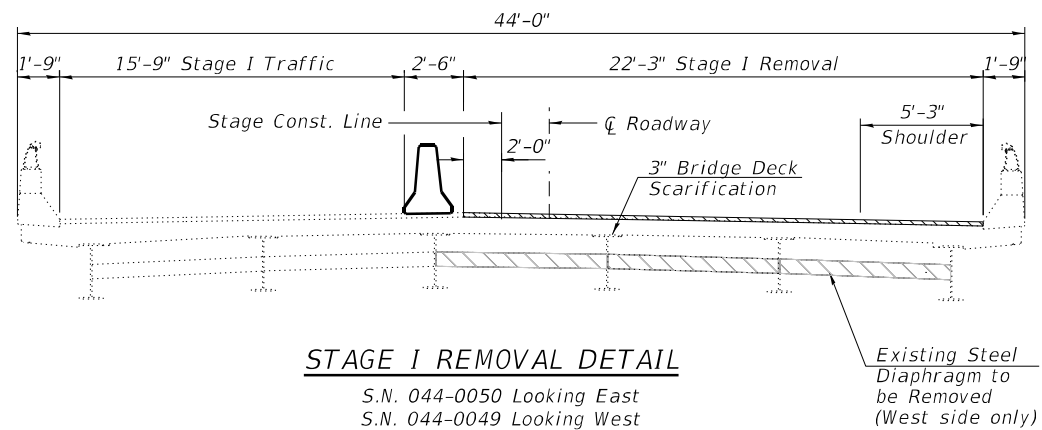
TOTAL BILL OF MATERIAL

ITEM	UNIT	044-0050	044-0049	TOTAL
Paved Shoulder Removal	Sq. yd.	1,562	1,562	3124
Portland Cement Concrete Shoulders 9 3/4"	Sq. Yd.	1214	1,214	2428
Concrete Removal	Cu. yd.	15.8	16	31.8
Protective Shield	Sq. yd.	228	228	456
Structure Excavation	Cu. yd.	55.6	56	111.6
Concrete Structures	Cu. yd.	26.5	27	53.5
Concrete Superstructure	Cu. yd.	25.1	25	50.1
Protective Coat	Sq. yd.	327	327	654
Concrete Superstructure (Approach Slab)	Cu. yd.	78.8	79	157.8
Reinforcement Bars, Epoxy Coated	Pound	29,970	29,950	59,920
Bar Splicers	Each	249	260	509
Temporary Soil Retention System	Sq Ft	68	68	136
Granular Backfill for Structures	Cu. Yd.	127	127	254
Geocomposite Wall Drain	Sq. yd.	13	13	26
Concrete Headwalls for Pipe Drains	Each	4	4	8
Temporary Concrete Barrier	Foot	366	358	724
Relocate Temporary Concrete Barrier	Foot	366	358	724
Impact Attenuators, Temporary (Non-Redirective), Test Level 3	Each	1	1	2
Impact Attenuators, Relocate (Non-Redirective), Test Level 3	Each	1	1	2
Raised Reflective Pavement Marker	Each	11	11	22
Raised Reflective Pavement Marker (Bridge)	Each	4	4	8
Barrier Wall Reflectors, Type B	Each	11	11	22
Raised Reflective Pavement Marker Removal	Each	15	15	30
Bridge Approach Pavement Connector (Special)	Sq. Yd.	98	96	194
Bridge Deck Grooving (Longitudinal)	Sq. yd.	416	395	811
Pinning Temporary Concrete Barrier	Each	28	28	56
Raised Reflective Pavement Marker, Reflector Removal	Each	8	8	16
Structural Steel Removal	Pound	3,068	3,068	6136
Approach Slab Removal	Sq. yd.	80	84	164
Containment and Disposal of Lead Paint Cleaning Residues Location 3	L. Sum	1	0	1
Containment and Disposal of Lead Paint Cleaning Residues Location 4	L. Sum	0	1	1
Cleaning and Painting Steel Bridge Location 3	L. Sum	1	0	1
Cleaning and Painting Steel Bridge Location 4	L. Sum	0	1	1
Bridge Deck Scarification 3"	Sq. Yd.	522	486	1008
Structural Repair of Concrete (Depth Equal to or Less than 5 inches)	Sq. Ft.	66	71	137
Deck Slab Repair (Full Depth Type II)	Sq. yd.	5	5	10
Diamond Grinding (Bridge Section)	Sq. yd.	700	664	1364
Polymer Concrete	Cu. Ft.	6.6	7	13.6
Pipe Underdrain for Structures 4"	Foot	160	160	320
Bridge Deck Latex Concrete Overlay 3 1/4 inches	Sq. yd.	475	439	914
Repair Bridgr Rail	Foot	0	30	30

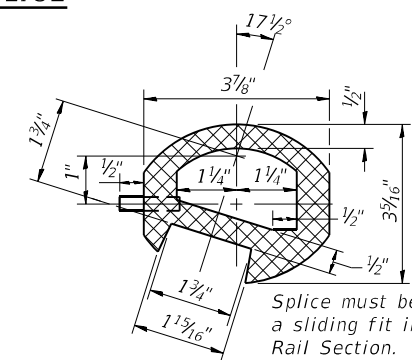
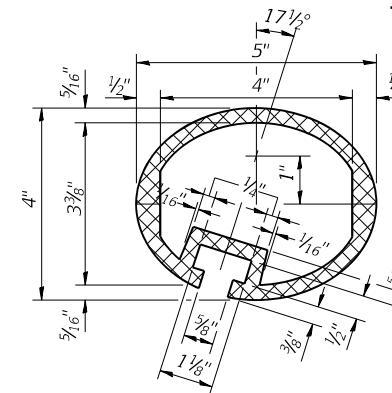
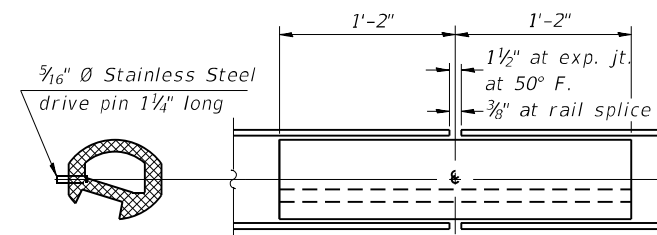
GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
- Plan dimensions and details are relative to 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 existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structural steel from the end of the beam to 1'-6" (measured along the beam) beyond the face of the concrete diaphragm shall be cleaned per Near White Blast Cleaning (SSPC- SP10).
- The designated areas cleaned per Near White Blast Cleaning (SSPC- SP10) shall be painted according to the requirements of the Organic Zinc-Rich Primer/Epoxy Intermediate Coat/Urethane Topcoat system. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No 7.5G 4/8.
- A minimum of 2 air monitors will be required to monitor abrasive blasting operations at this site. See special provision for Containment and Disposal of Lead Paint Cleaning Residues
- SSPC QP1 and SSPC QP2 Certification is required for this Contract.
- To retain the temporary concrete barrier for Stage II Traffic, the Contractor shall have the option of using either 2 (#5) bar splicers or 2 cast in place inserts at 6" centers at the mid-depth of the approach slab and pavement connector. The bar splicers or inserts shall have a minimum proof load of 5,000 pounds. Along with the anchoring devices the Contractor shall provide one steel retainer plate and 2 1/2" diameter bolt and washers every 6' as shown on Detail II on Standard R-27 (Sheet 5 of 28) from Sta. 257+97.63 to Sta. 258+37.13 and Sta. 259+44.29 to Sta. 259+83.79 for S.N. 044-0049 and Sta. 619+29.19 to Sta. 619+68.69 and Sta. 620+84.19 to Sta. 621+23.19 for S.N. 044-0050 for Stage II traffic. This work shall be included in the cost of Temporary Concrete Barrier, no additional compensation shall be provided.

<p>CIVIL DESIGN, INC. WBE / DBE EFFINGHAM, IL LICENSE # 184.003222</p>	USER NAME = DESIGNED - RBT CHECKED - JS PLOT SCALE = PLOT DATE =	DESIGNED - RBT CHECKED - JS DRAWN - RBT CHECKED - KAS	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)	F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.	24 BRIDGE REPAIR 2022-1 JOHNSON 184 158	CONTRACT NO. 78849
	SHEET 2 OF 28 SHEETS					ILLINOIS FED. AID PROJECT		



Note:
 Hatched area indicates Structural Steel Removal at abutments. See sheet 22 of 28 for existing diaphragm details.

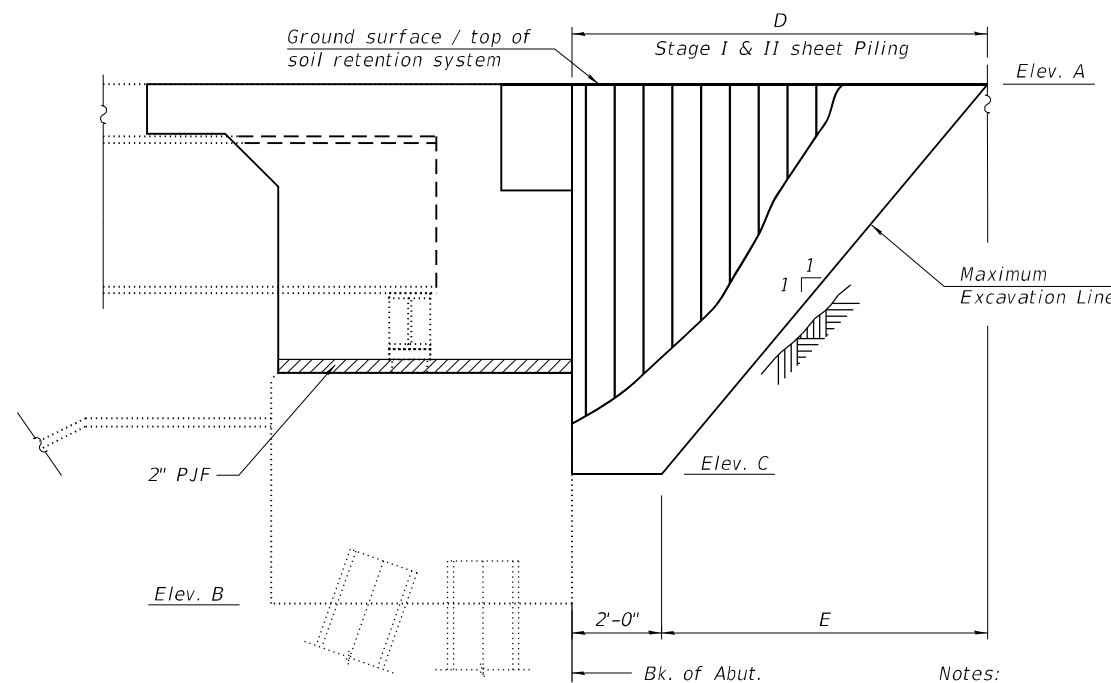


SEC. THRU ELLIPTICAL RAIL SECTION

SEC. THRU SPLICE RAIL SECTION

REPAIR BRIDGE RAIL

A segment of aluminum bridge rail is damaged along the south rail near the center of SN 044-0049. The rail shall be repaired and properly spliced to the adjacent rail section. Rail elements may be repaired and reused or replaced. See the special provision for "Repair Bridge Rail". See Existing Plans for rail details not shown.



Location	Elev. A	Elev. B	Elev. C	Dim. D	Dim. E
S.N. 044-0049 W. Abutment	538.74	530.91	533.92	6'-10"	4'-10"
S.N. 044-0050 W. Abutment	527.40	519.62	522.67	6'-9"	4'-9"

Notes:
 A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
 Elevations and dimensions shown are approximate based on existing plan data. Exact elevations and dimensions required shall be field verified by the Contractor.

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USER NAME =	DESIGNED - RBT	REVISED -
PLOT SCALE =	CHECKED - JS	REVISED -
PLOT DATE =	DRAWN - RBT	REVISED -
	CHECKED - KAS	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS
 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)**

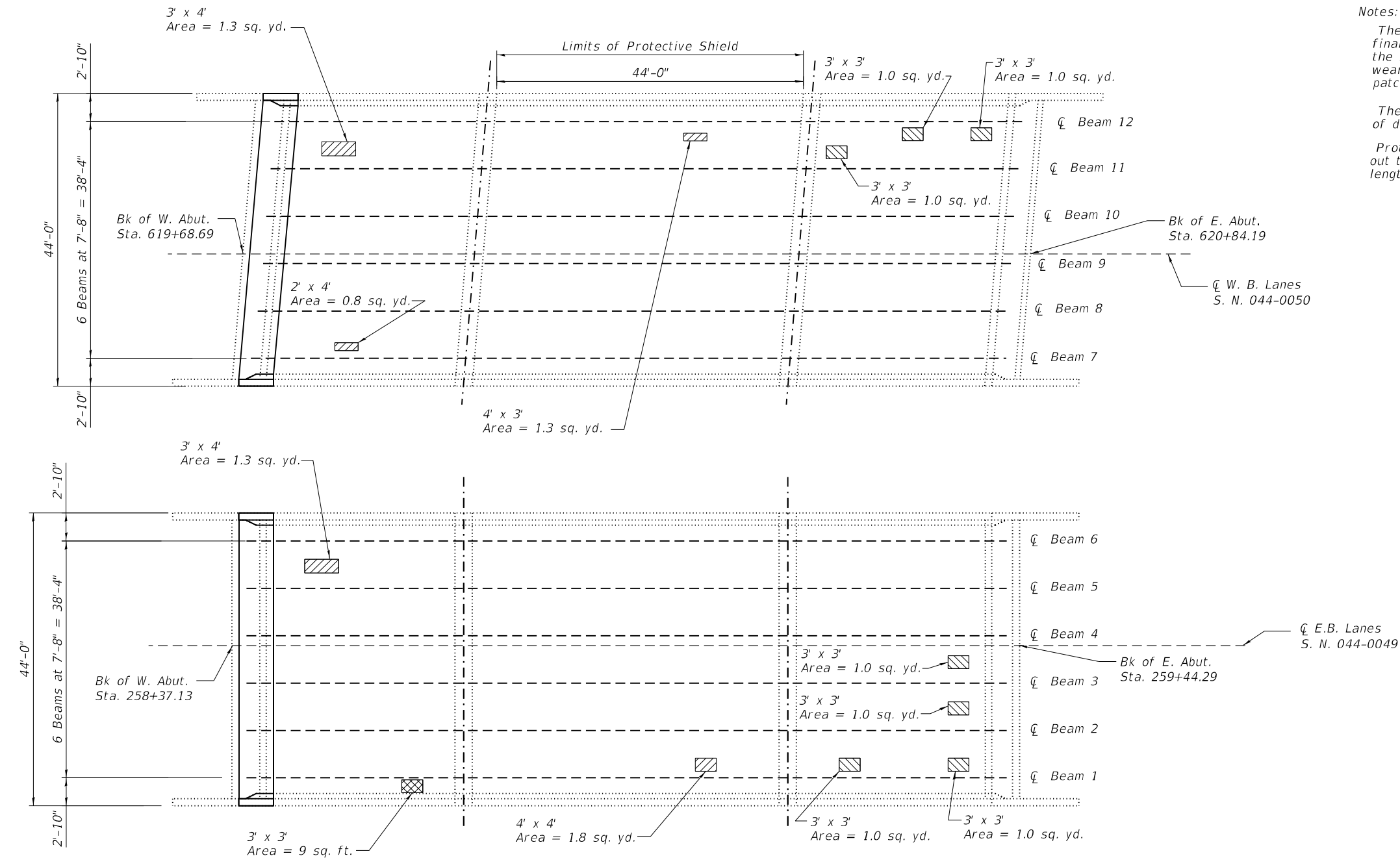
SHEET 3 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	159
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

Notes:
 The Resident Engineer will determine final patch locations and quantities in the field after removal of the concrete wearing surface, before bridge deck patching operation begin.

The Engineer shall show actual locations of deck repairs on as-built plans.

Protective Shield shall be placed the full out to out width of each bridge for full length of span 2.



PLAN

- Full Depth, Type II
- Structural Repair of Concrete (Depth Equal to or Less than 5 inches)

NOTES:

The actual sizes and locations of patching shall be determined by the engineer. The Engineer Shall show the actual locations of the deck repairs on this sheet.

Extreme care must be used when removing concrete near the top flange of the beams. The contractor is responsible for any damage to the beams.

BILL OF MATERIAL

Structure No. 044-0049 (E.B.) & 044-0050 (W.B.) Combined.

Item	Unit	Total
Protective Shield	Sq. Yd.	455
Structural Repair of Concrete (Depth Equal to or Less than 5 inches)	Sq. Ft.	9
Deck Slab Repair (Full Depth Type II)	Sq. Yd.	14

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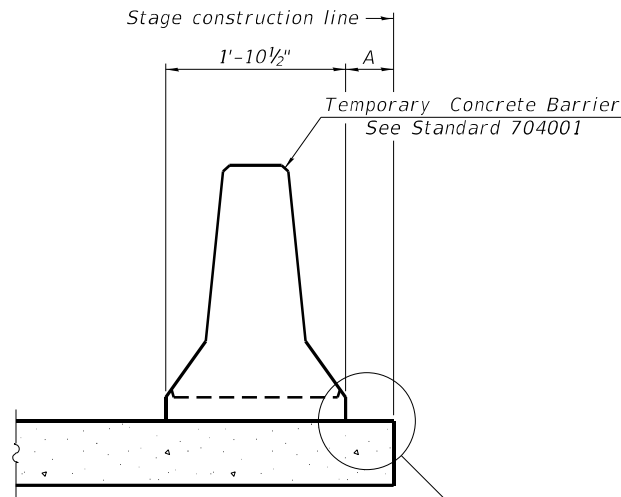
CDI
 CIVIL DESIGN, INC.
 WBE / DBE
 EFFINGHAM, IL
 LICENSE # 184.003222

USER NAME =	DESIGNED - RBT	REVISED -
	CHECKED - JS	REVISED -
PLOT SCALE =	DRAWN - RBT	REVISED -
PLOT DATE =	CHECKED - KAS	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

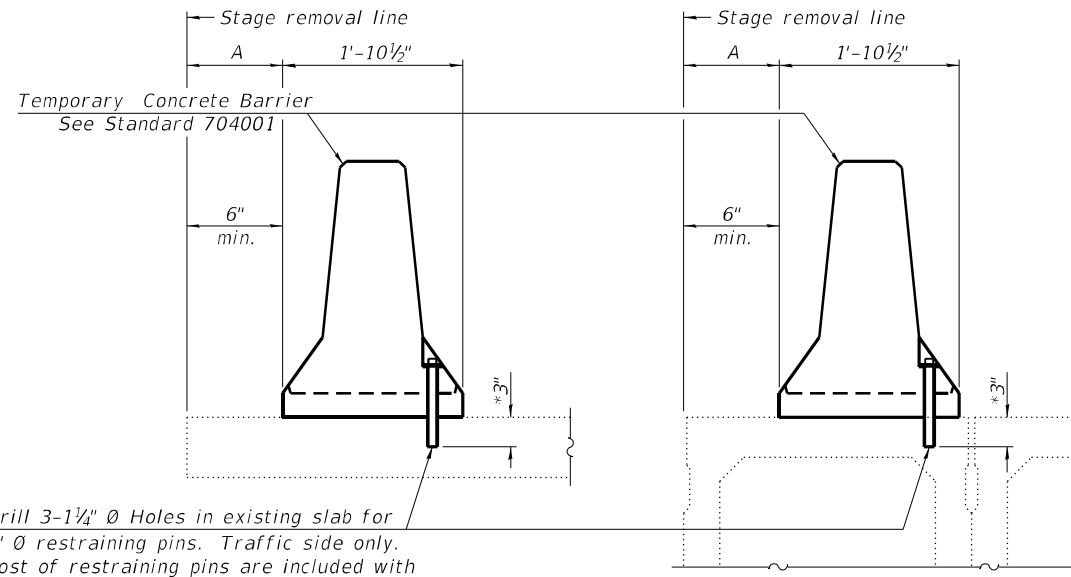
DECK PATCHING PLAN
 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)
 SHEET 4 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	160
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

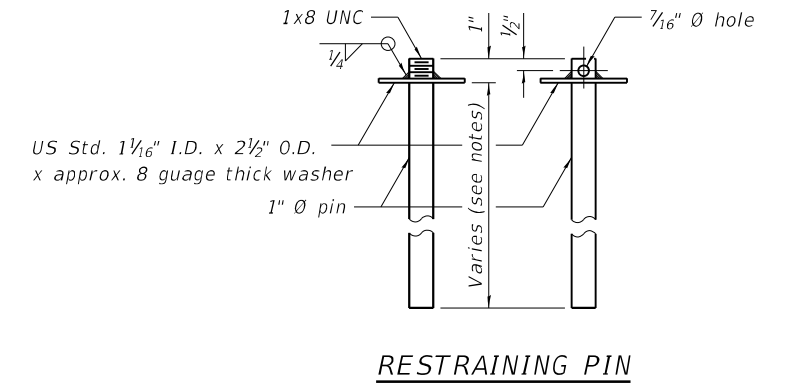
NEW SLAB OR NEW DECK BEAM



Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

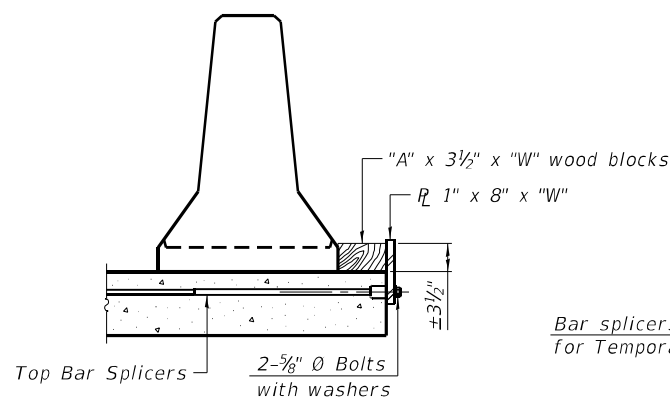
EXISTING DECK BEAM



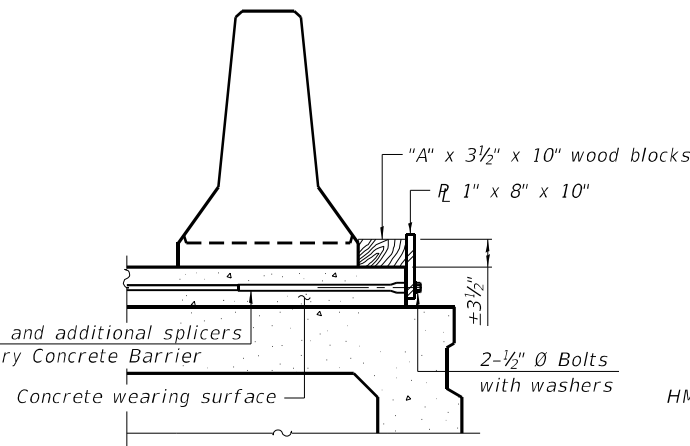
RESTRAINING PIN

* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

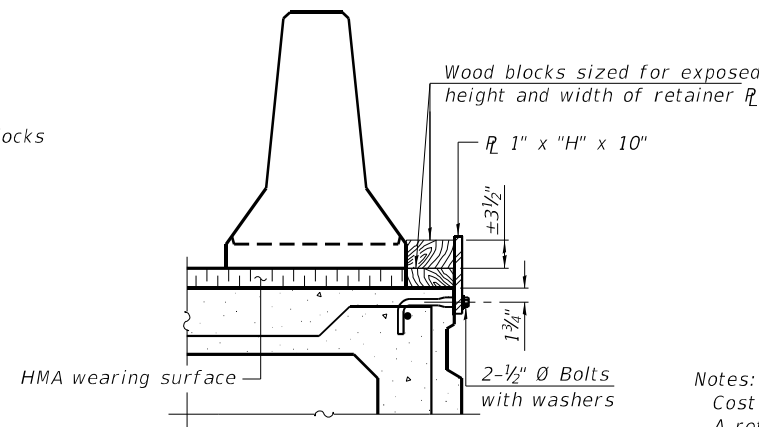
SECTIONS THRU SLAB OR DECK BEAM



DETAIL I

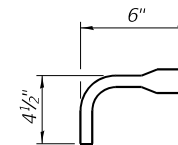


DETAIL II



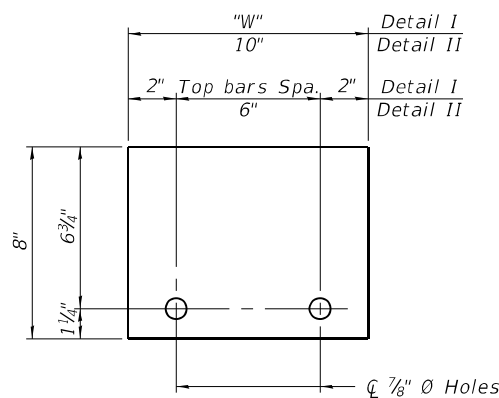
DETAIL III

BAR SPLICER FOR #4 BAR - DETAIL III

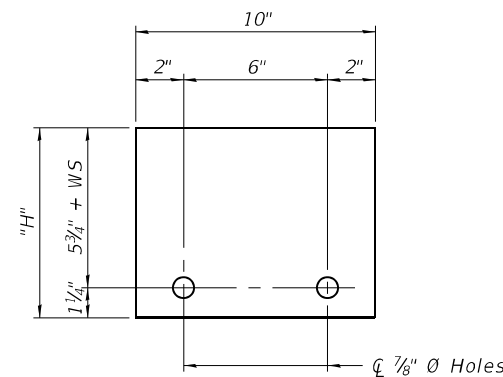


Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate $\frac{1}{2}$ of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate.
 For deck beam applications the minimum required 'A' distance is 6' to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.



STEEL RETAINER $\frac{1}{2}$ " x 8" x "W"
(Detail I and II)



STEEL RETAINER $\frac{1}{2}$ " x "H" x 10"
(Detail III)

R-27 2-17-2017

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CHECKED - JS	REVISIONS -	
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PLOT DATE =	CHECKED - KAS	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

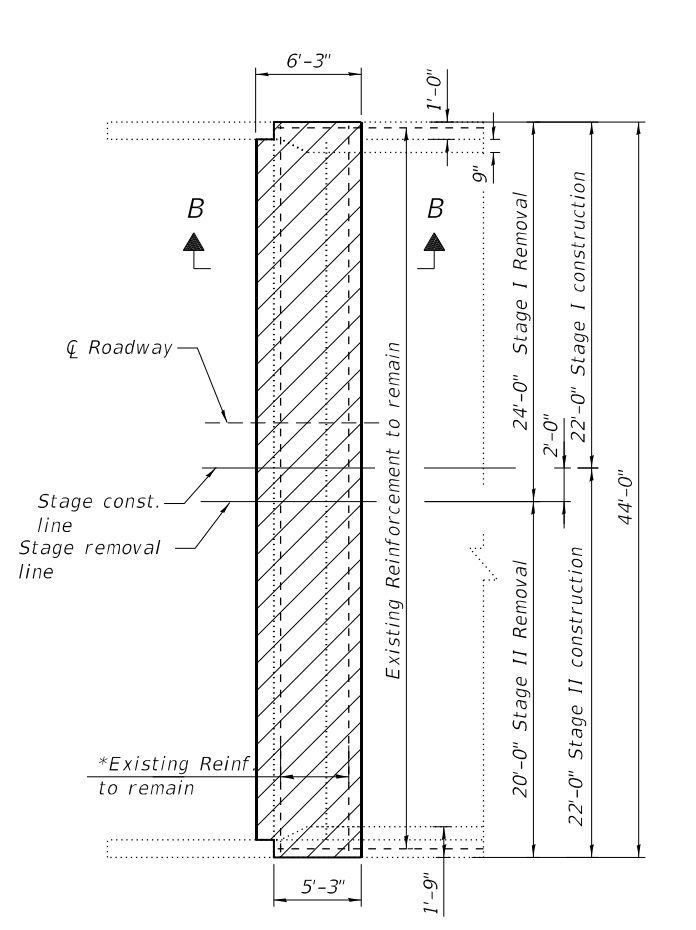
**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)**

SHEET 5 OF 28 SHEETS

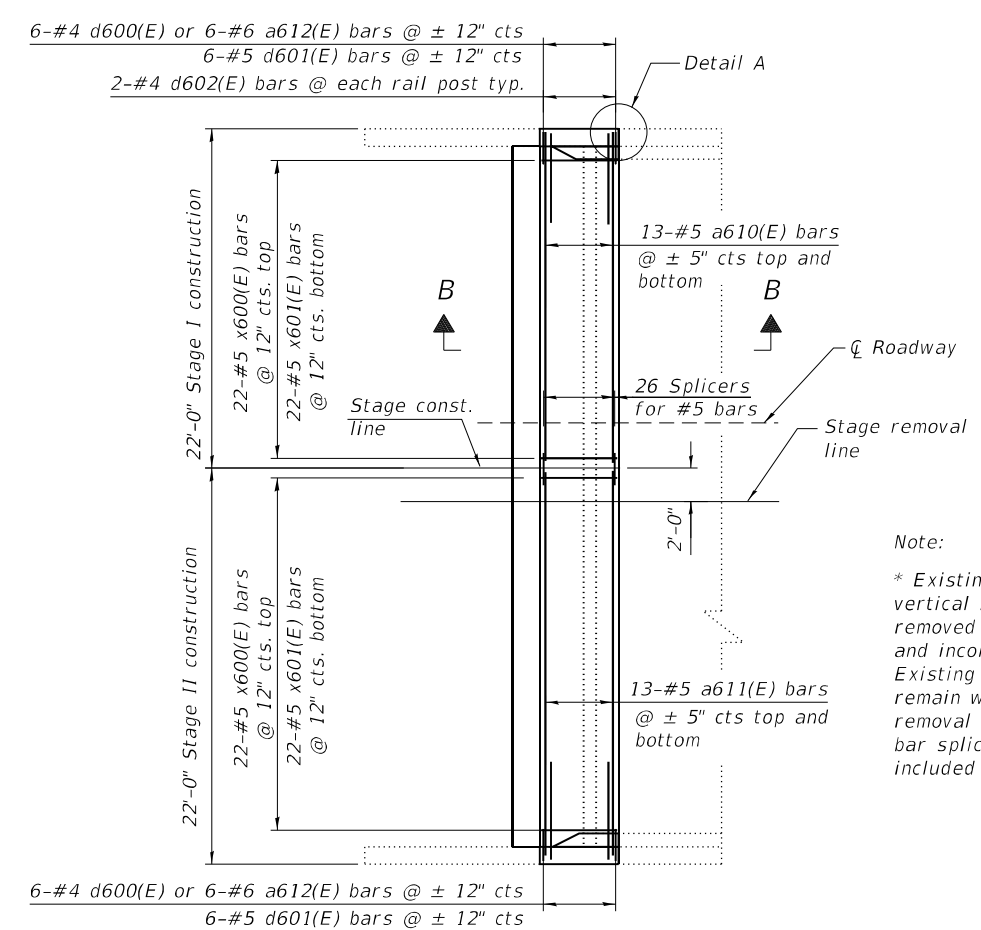
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	161
			CONTRACT NO. 78849	

ILLINOIS FED. AID PROJECT

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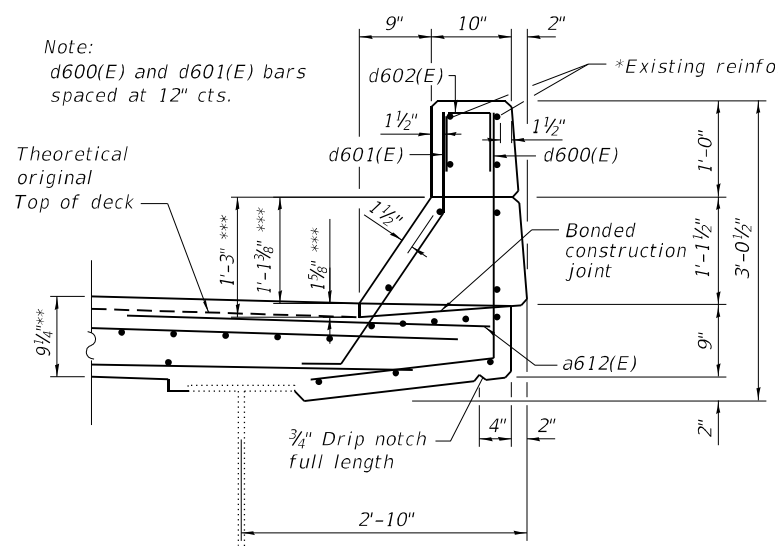


**ABUTMENT PLAN
 SHOWING CONCRETE REMOVAL**



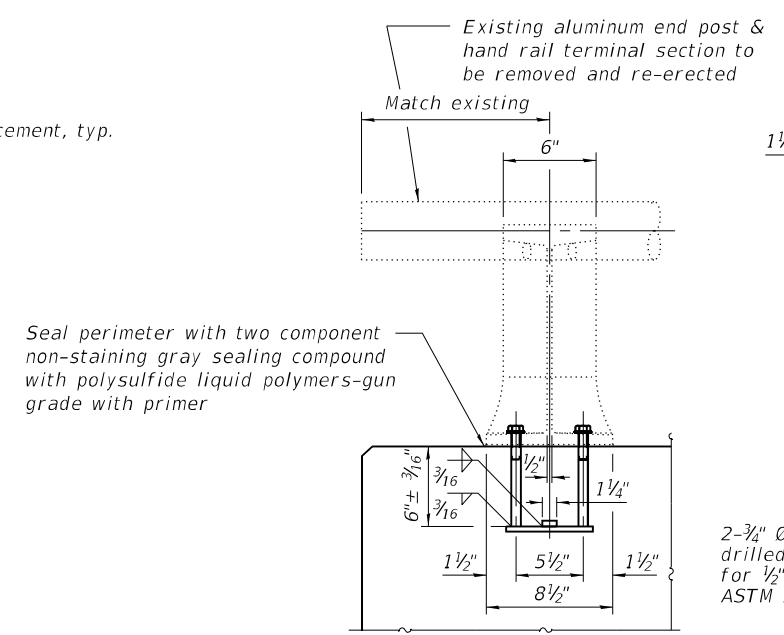
**ABUTMENT PLAN
 SHOWING CONCRETE REPLACEMENT**

S.N. 044-0049 West Abutment



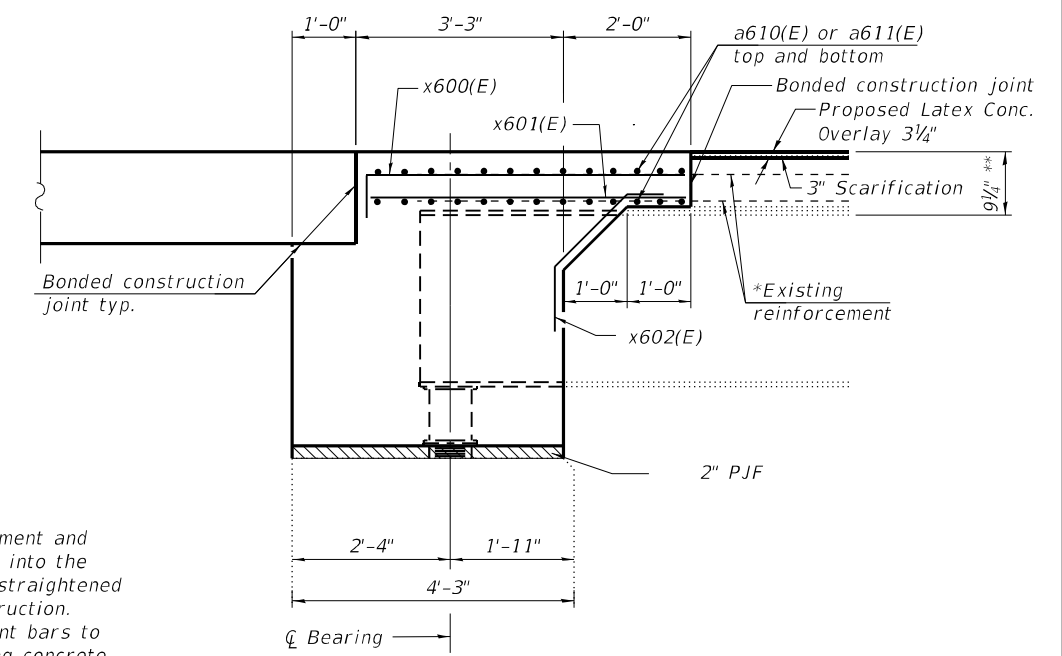
SECTION THRU PARAPET

*** Dimensions based on original 8" deck. Proposed parapet section to align with existing parapet section.
 ** Prior to diamond grinding



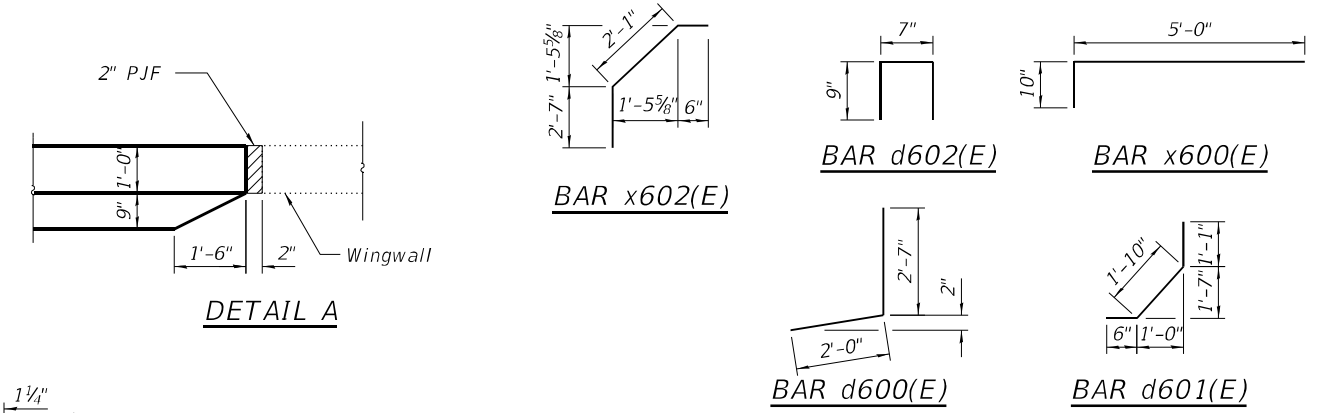
RAIL POST DETAILS

Note:
 * Existing longitudinal reinforcement and vertical reinforcement extending into the removed area shall be cleaned, straightened and incorporated into new construction. Existing transverse reinforcement bars to remain which are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.



**SECTION B-B
 TYPICAL SECTION THRU ABUTMENT**

(Dimensions measured at right angles)



**SUPERSTRUCTURE END (WEST)
 BILL OF MATERIAL (044-0049)**

Bar	No.	Size	Length	Shape
a610(E)	13	#5	21'-6"	—
a611(E)	13	#5	21'-6"	—
a612(E)	12	#6	4'-0"	—
d600(E)	12	#4	4'-7"	J
d601(E)	12	#5	3'-5"	J
d602(E)	12	#4	2'-1"	U
x600(E)	44	#5	5'-10"	┌
x601(E)	44	#5	5'-0"	┌
x602(E)	44	#5	3'-7"	┌
Concrete Removal			Cu. Yd.	15.8
Concrete Superstructure			Cu. Yd.	25.1
Reinforcement Bars, Epoxy Coated			Pound	1420
Bar Splicers			Each	13

Sheet 1 of 2



USER NAME =	DESIGNED - RBT	REVISED -
PLOT SCALE =	CHECKED - JS	REVISED -
PLOT DATE =	DRAWN - RBT	REVISED -
	CHECKED - KAS	REVISED -

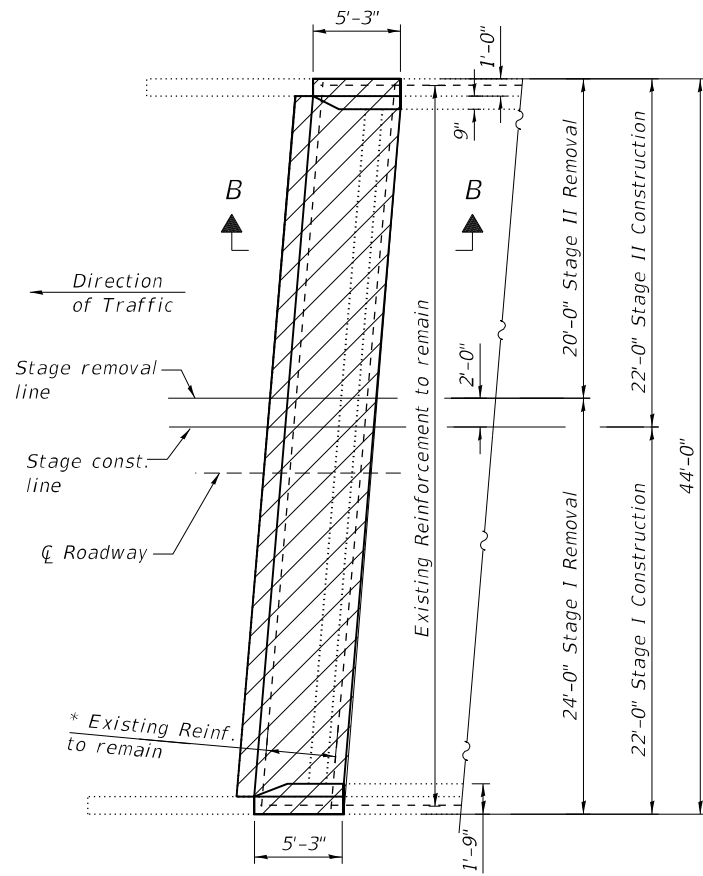
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE
 STRUCTURE NO. 044-0049 (E.B.)**

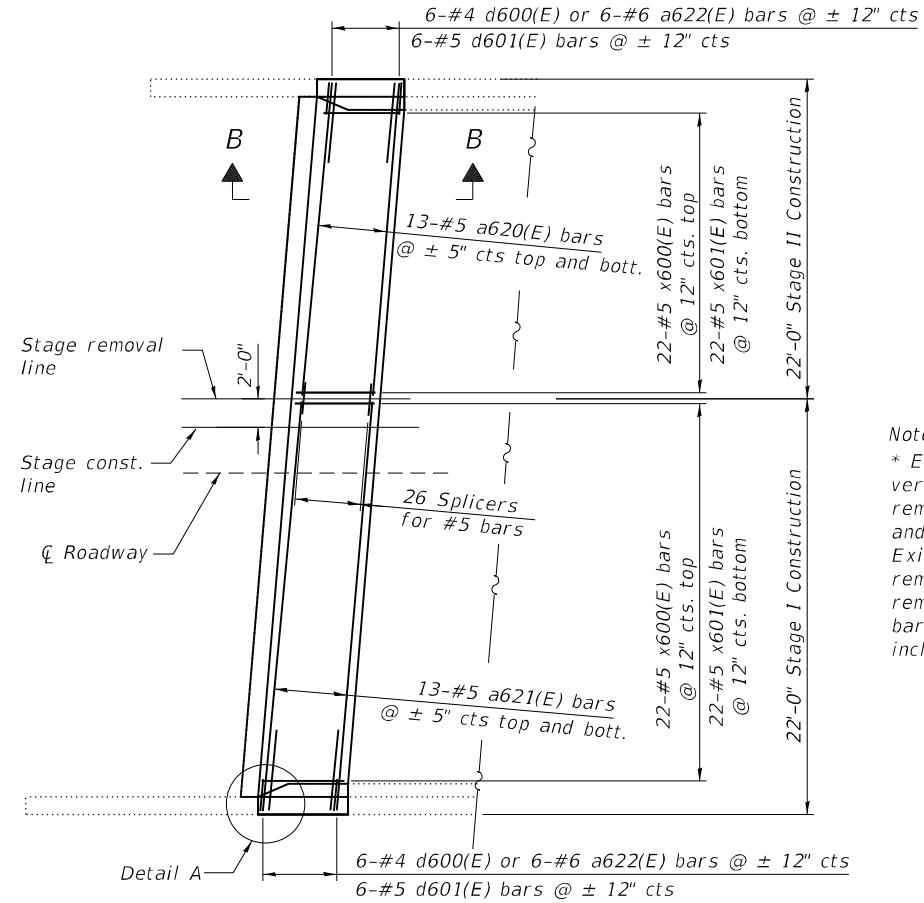
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	162
			CONTRACT NO. 78849	
		ILLINOIS FED. AID PROJECT		

SHEET 6 OF 28 SHEETS

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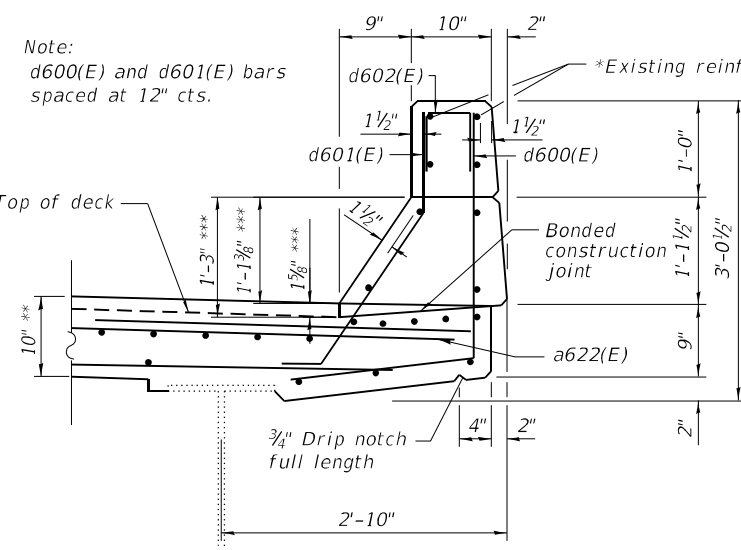


**ABUTMENT PLAN
 SHOWING CONCRETE REMOVAL**



**ABUTMENT PLAN
 SHOWING CONCRETE REPLACEMENT**

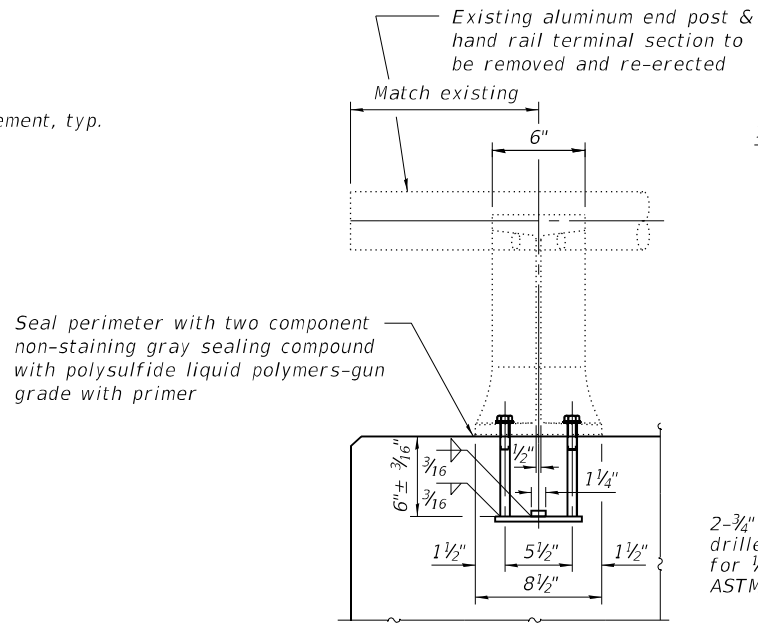
S.N. 044-0050 West Abutment



SECTION THRU PARAPET

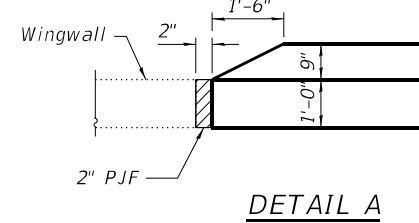
*** Dimensions based on original 8" deck. Proposed parapet section to align with existing parapet section.

** Prior to diamond grinding



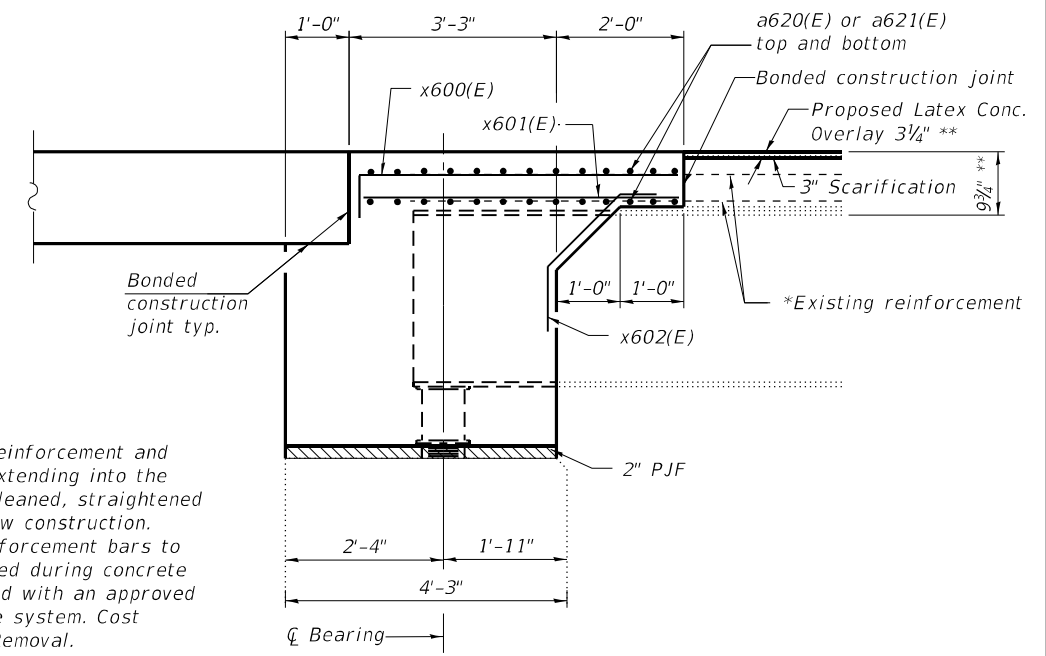
RAIL POST DETAILS

Note: Rail shall be removed and re-erected as necessary to allow structure modifications. Cost included in Concrete Removal.



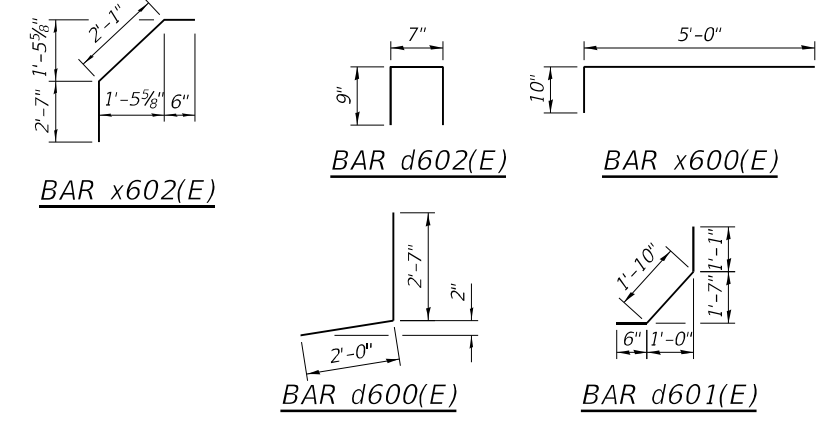
DETAIL A

Note:
 * Existing longitudinal reinforcement and vertical reinforcement extending into the removed area shall be cleaned, straightened and incorporated into new construction. Existing transverse reinforcement bars to remain which are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.



**SECTION B-B
 TYPICAL SECTION THRU ABUTMENT**

(Dimensions measured at right angles)



**SUPERSTRUCTURE END (WEST)
 BILL OF MATERIAL (044-0050)**

Bar	No.	Size	Length	Shape
a620(E)	13	#5	21'-7"	—
a621(E)	13	#5	21'-7"	—
a622(E)	12	#6	4'-0"	—
d600(E)	12	#4	4'-7"	J
d601(E)	12	#5	3'-5"	J
d602(E)	12	#4	2'-1"	U
x600(E)	44	#5	5'-10"	—
x601(E)	44	#5	5'-0"	—
x602(E)	44	#5	3'-7"	—
Concrete Removal			Cu. Yd.	15.8
Concrete Superstructure			Cu. Yd.	25.1
Reinforcement Bars, Epoxy Coated			Pound	1420
Bar Splicers			Each	13

Sheet 2 of 2



CIVIL DESIGN, INC.
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 EFFINGHAM, IL
 LICENSE #184.003222

USER NAME	DESIGNED	REVISIONS
RBT	RBT	
JS	JS	
RBT	RBT	
KAS	KAS	

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

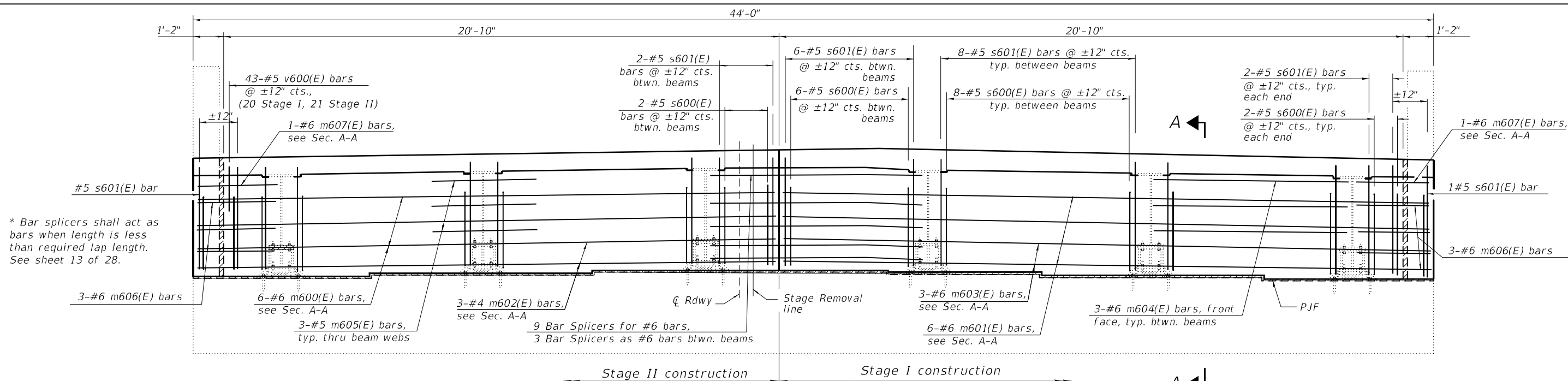
**SUPERSTRUCTURE
 STRUCTURE NO. 044-0050 (W.B.)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	163
				CONTRACT NO. 78849

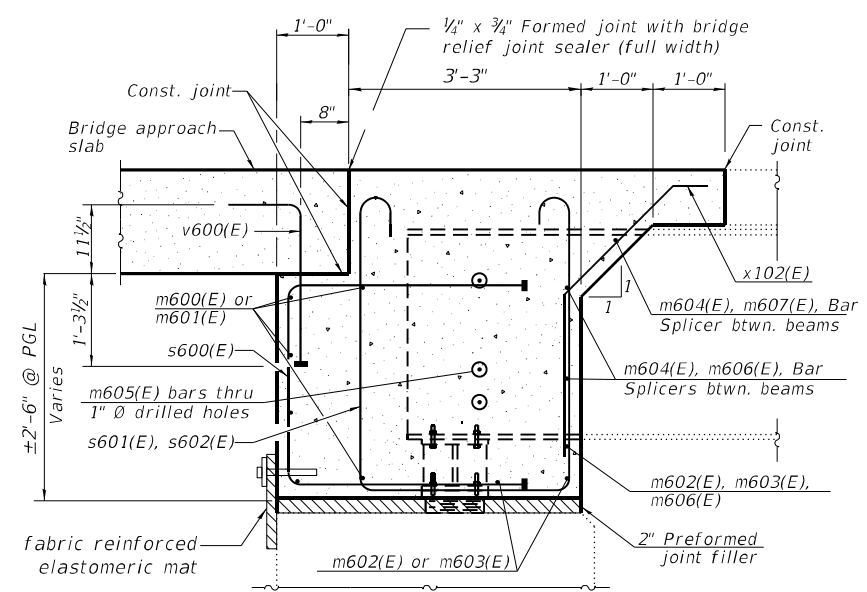
SHEET 7 OF 28 SHEETS

ILLINOIS FED. AID PROJECT

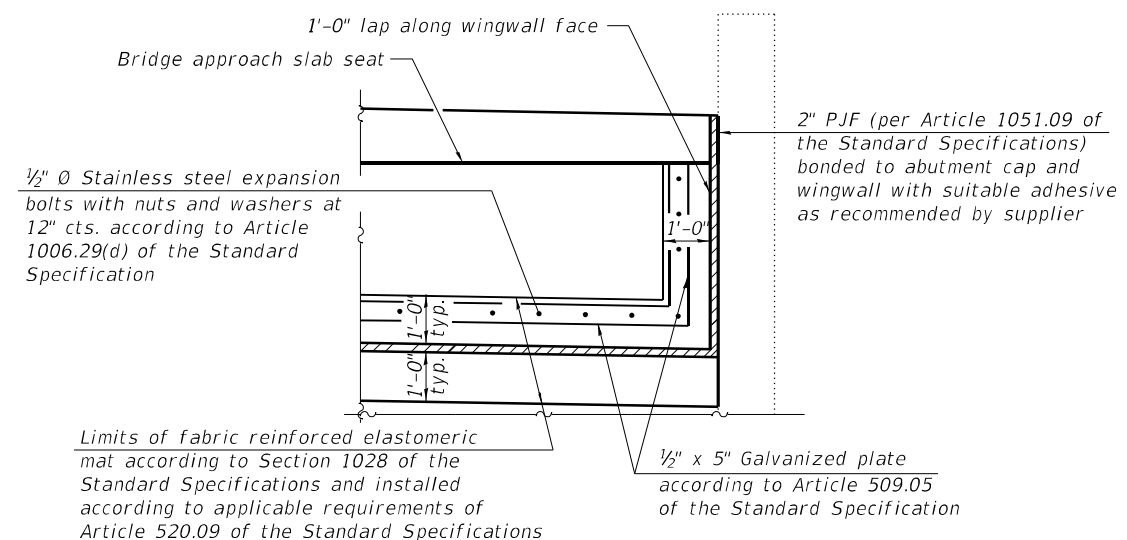
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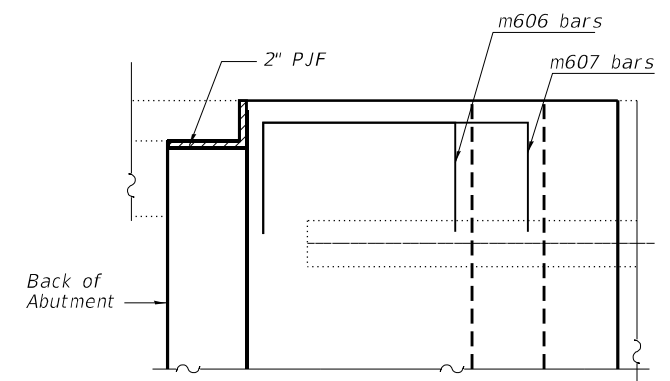
DIAPHRAGM ELEVATION AT ABUTMENT
S.N. 044-0049 West abutment



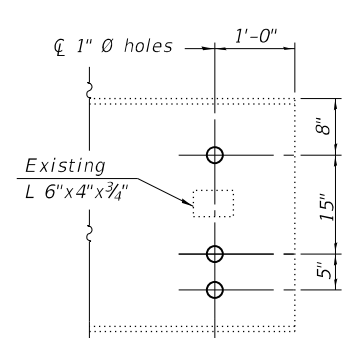
SECTION A-A
(Dimensions measured at right angles)



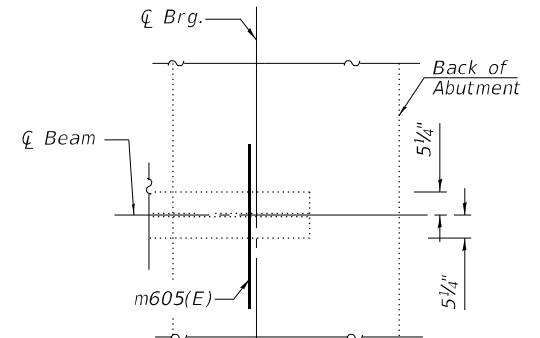
ELEVATION
(Looking at back of abutment)



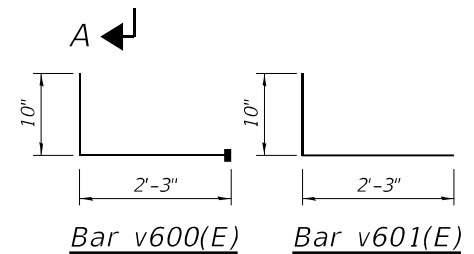
PARTIAL PLAN



STEEL BEAM END ELEVATION



PARTIAL PLAN AT BEAMS
(Showing bottom flange of beam)



WEST DIAPHRAGM BILL OF MATERIAL (044-0049)

Bar	No.	Size	Length	Shape
m600	6	#6	21'-6"	—
m601	6	#6	21'-6"	—
m602	3	#6	21'-6"	—
m603	3	#6	21'-6"	—
m604	12	#6	7'-4"	—
m605	18	#6	4'-0"	—
m606	6	#6	9'-3"	⌋
m607	2	#6	9'-0"	⌋
s600	46	#5	9'-2"	⌋
s601	46	#5	10'-1"	⌋
v600	43	#5	3'-1"	┌
Reinforcement Bars, Epoxy Coated			Pound	2000
Bar Splicers			Each	12

Notes:
 Cost of fabric reinforced elastomeric mat, galvanized plates, stainless steel expansion bolts with nuts and washers and installation are included in the cost of Concrete Superstructure.
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
 The s600(E), s601(E), v600(E) and v601(E) bars are placed parallel to beams and spaced at right angles to beams.
 Concrete Superstructure quantity included in quantity shown on Sheet 6 of 28.



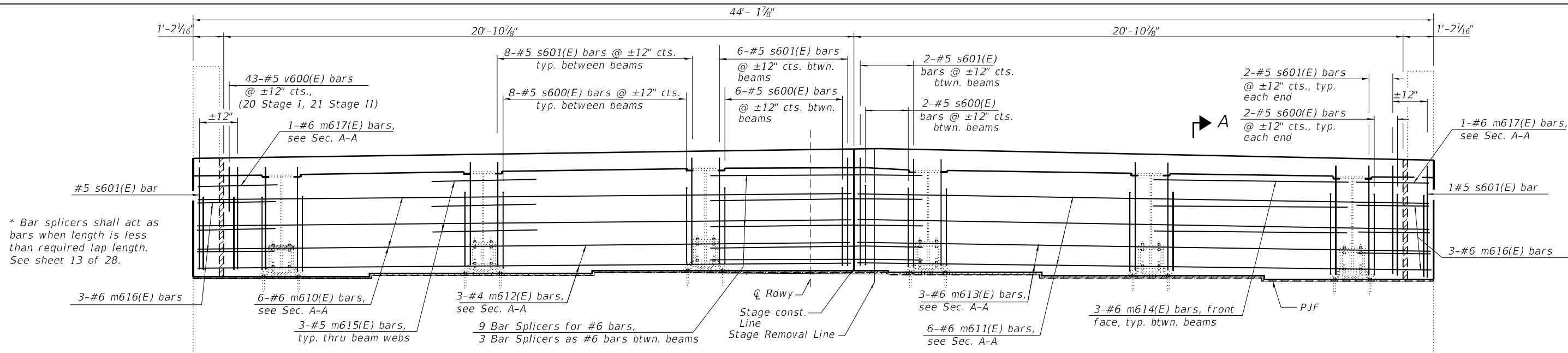
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

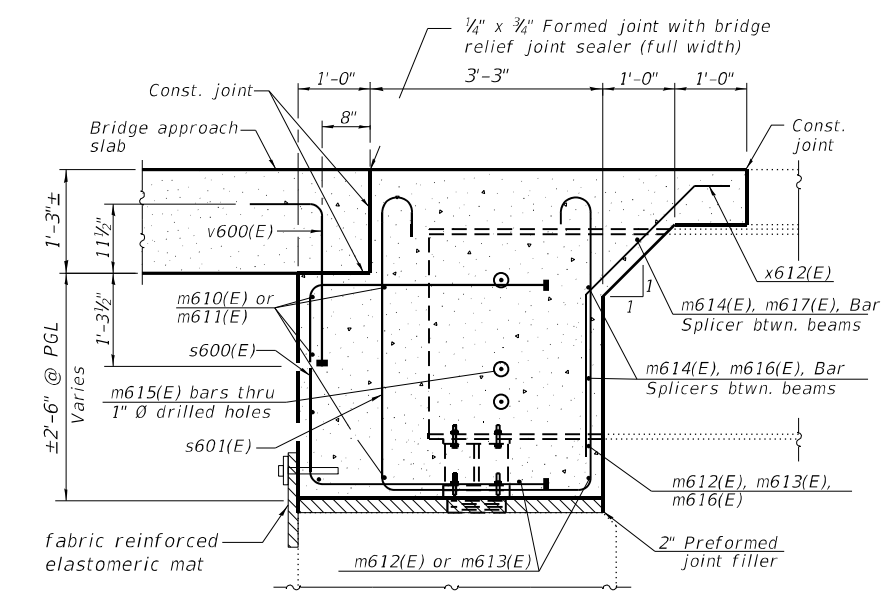
DIAPHRAGM DETAILS
STRUCTURE NO. 044-0049 (E.B.)
SHEET 8 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	

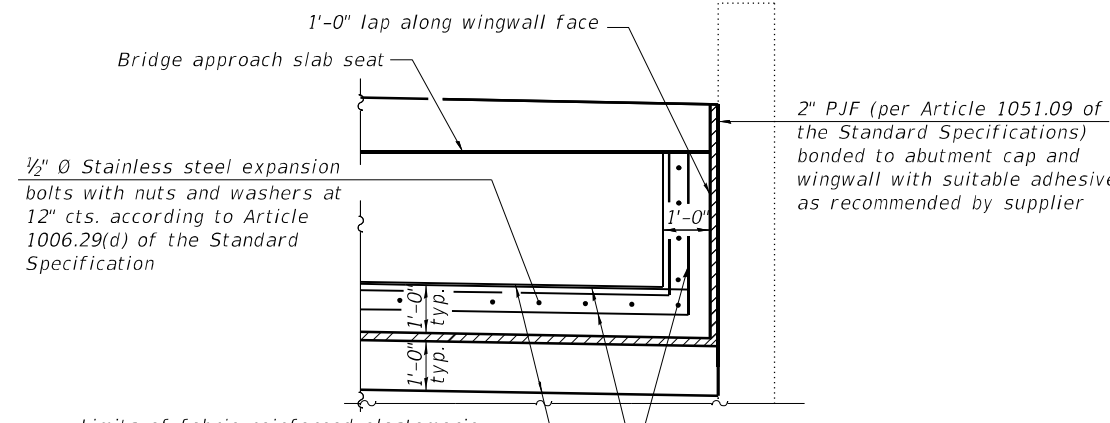
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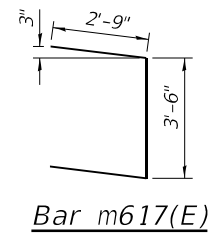
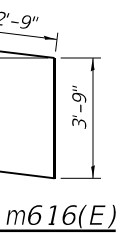
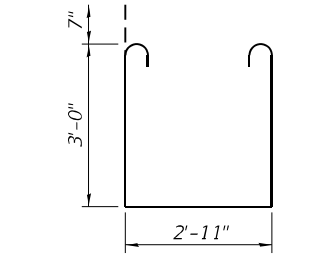
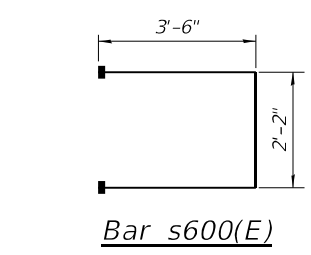
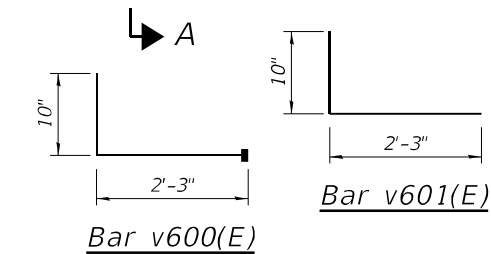
DIAPHRAGM ELEVATION AT ABUTMENT
 S.N. 044-0050 West abutment



SECTION A-A
 (Dimensions measured at right angles)



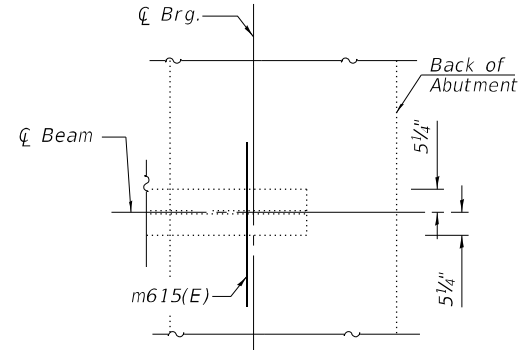
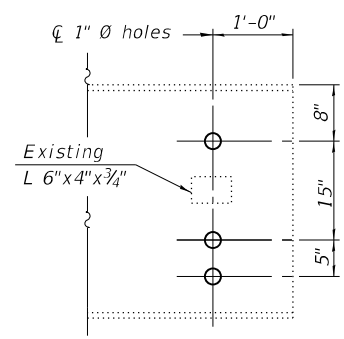
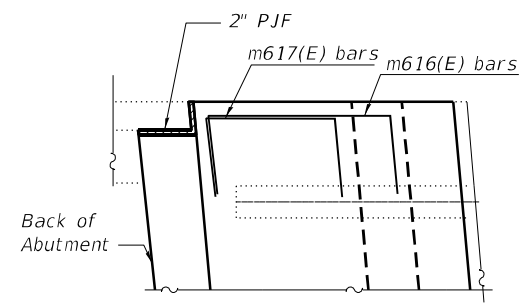
ELEVATION
 (Looking at back of abutment)



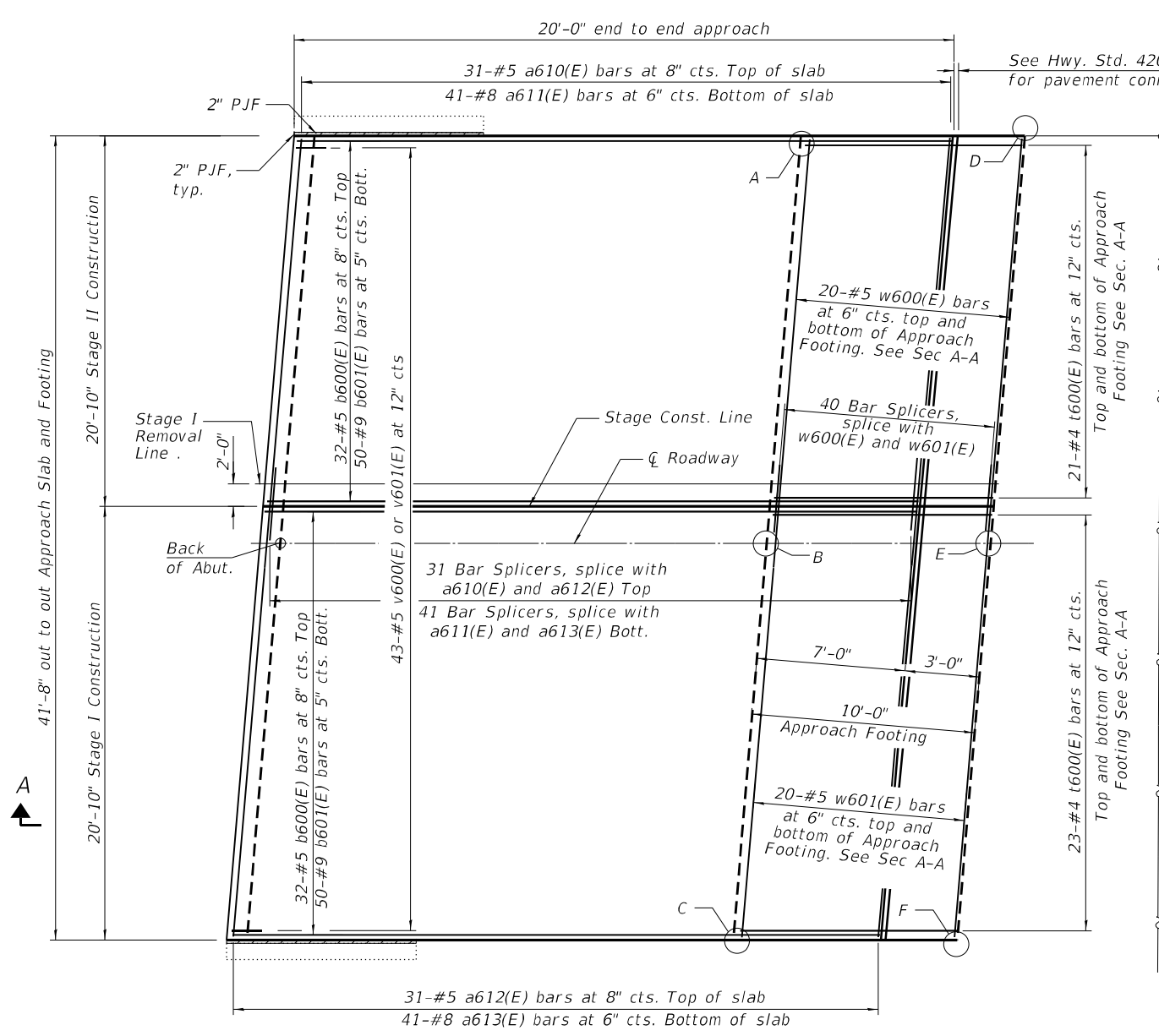
WEST DIAPHRAGM BILL OF MATERIAL (044-0050)

Bar	No.	Size	Length	Shape
m610	6	#6	21'-7"	—
m611	6	#6	21'-7"	—
m612	3	#6	21'-7"	—
m613	3	#6	21'-7"	—
m614	12	#6	7'-4"	—
m615	18	#6	4'-0"	—
m616	6	#6	9'-3"	U
m617	2	#6	9'-0"	U
s600	46	#5	9'-2"	□
s601	46	#5	10'-1"	□
v600	43	#5	3'-1"	Γ
Reinforcement Bars, Epoxy Coated			Pound	2000
Bar Splicers			Each	12

Notes:
 Cost of fabric reinforced elastomeric mat, galvanized plates, stainless steel expansion bolts with nuts and washers and installation are included in the cost of Concrete Superstructure.
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
 The s600(E), s601(E), v600(E) and v601(E) bars are placed parallel to beams and spaced at right angles to beams.
 Concrete Superstructure quantity included in quantity shown on Sheet 7 of 28.

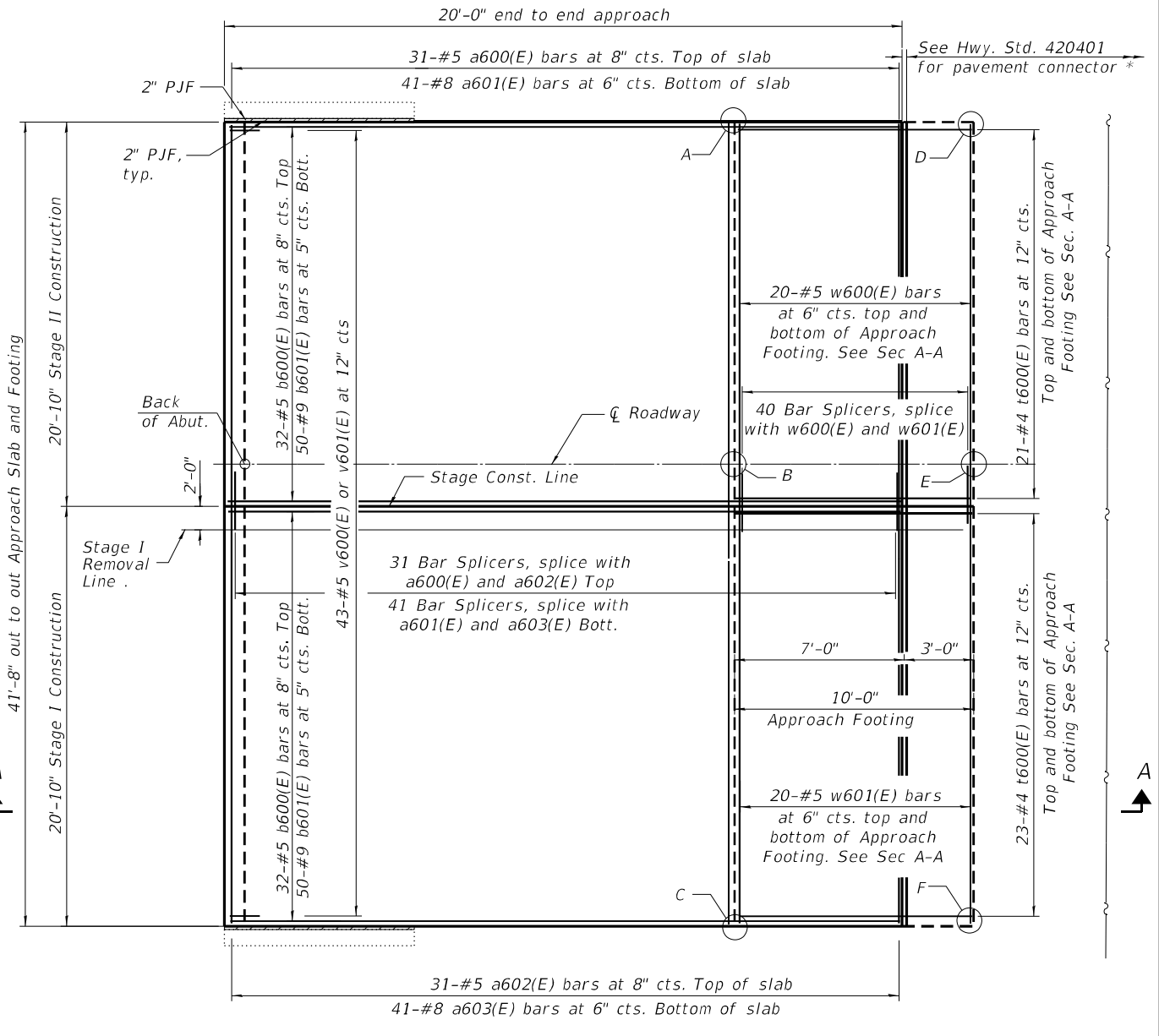


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PLAN

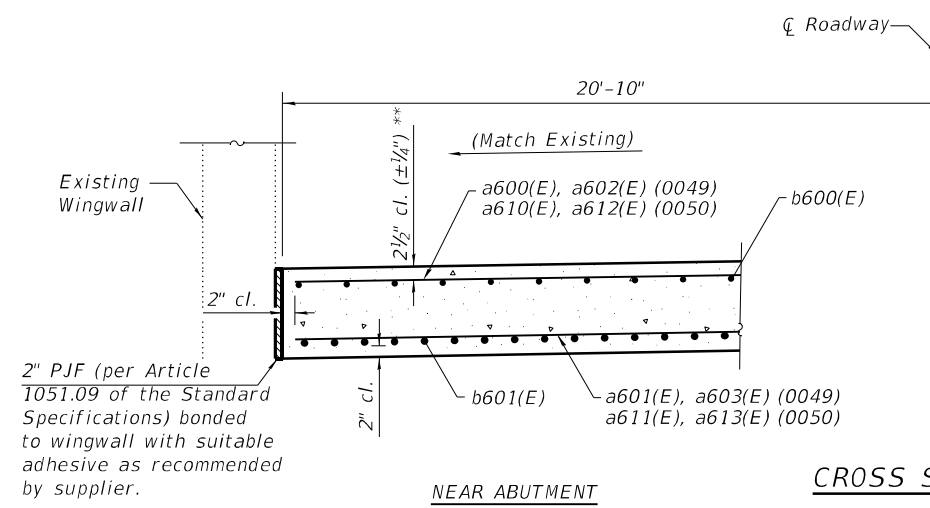
S.N. 044-0050 East Approach slab
 S.N. 044-0050 West Approach slab similar



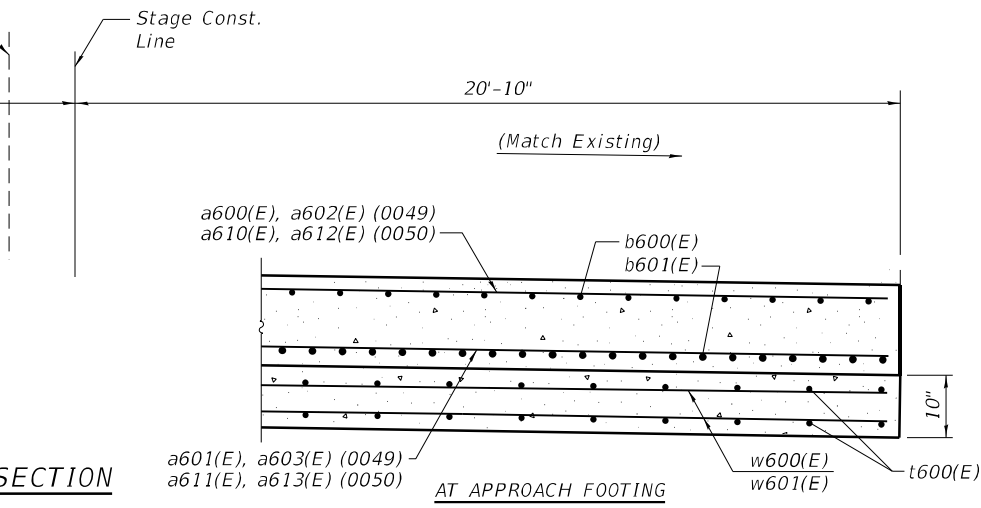
PLAN

S.N. 044-0049 East approach
 S.N. 044-0049 West approach similar

* Pavement connector shall be paid for as Bridge Approach Pavement Connector (Special). The pavement connector shall be constructed per Hwy. Std. 420401 except that the 15'-0" length shall be 20'-6". See Special provision for additional details.



NEAR ABUTMENT



AT APPROACH FOOTING

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

Point	S.N. 044-0049			
	West Approach Top	West Approach Bottom	East Approach Top	East Approach Bottom
A				
B				
C				
D				
E				
F				

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

Point	S.N. 044-0050			
	West Approach Top	West Approach Bottom	East Approach Top	East Approach Bottom
A				
B				
C				
D				
E				
F				

The approach slab shall be placed to match existing elevations. The Contractor shall place the approach footing for the approach slabs to match existing elevations at grade. Adjustments for settlement of existing approach slabs shall be made as directed by the engineer. Blank tables included for field notation.



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PLOT DATE =	DRAWN - RBT	REVISED -
	CHECKED - KAS	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)
 SHEET 10 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	166
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

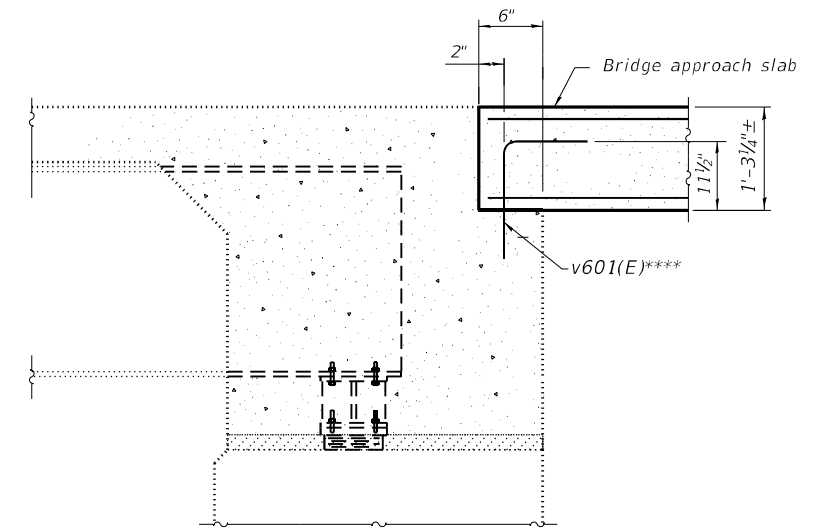
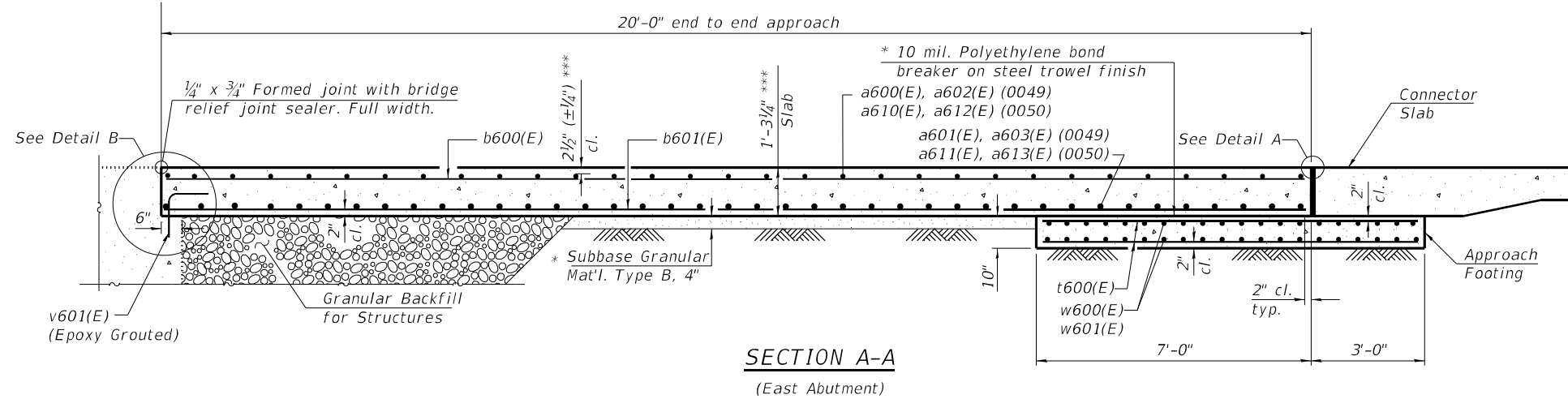
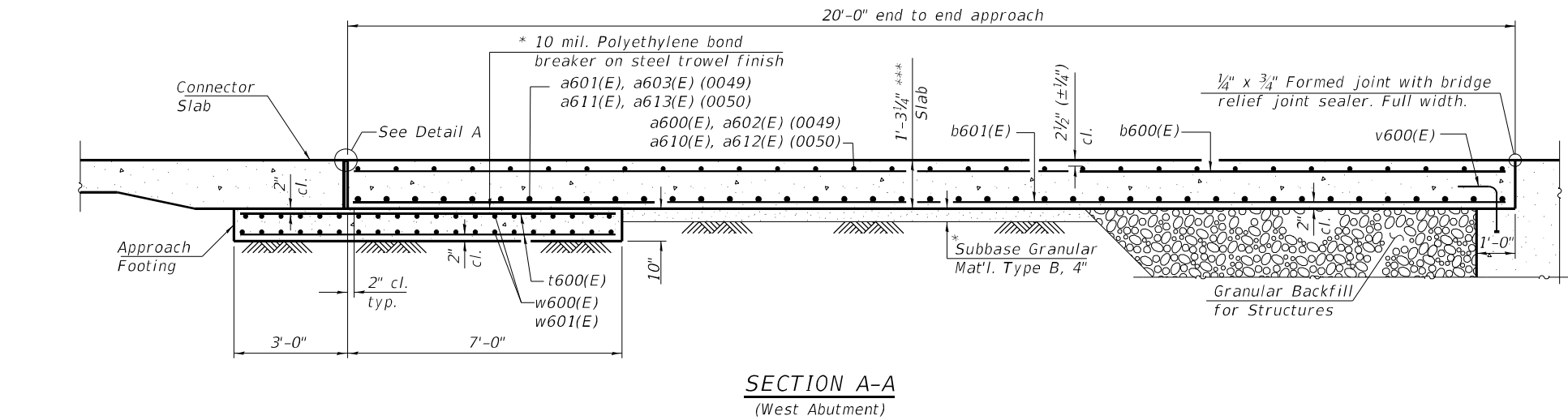
Approach Slab shall be paid for as Concrete Superstructure (Approach Slab).

Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 28.



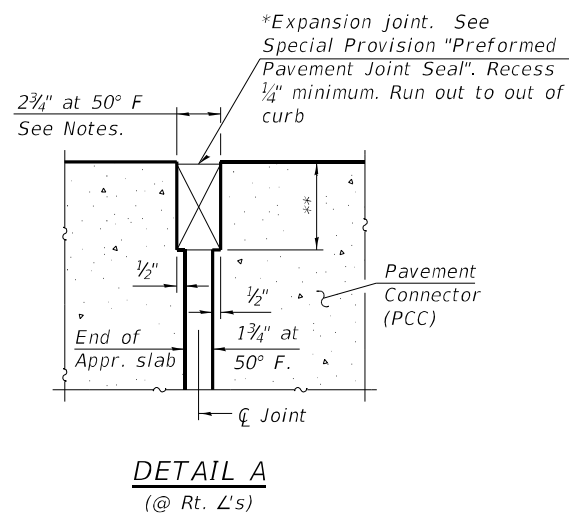
****Bar V601(E) to be drilled and epoxy grouted (Min 6" embedment). Cost included in Reinforcement Bars, Epoxy Coated.

BILL OF MATERIAL
SN 044-0049

Bar	No.	Size	Length	Shape
a600(E)	31	#5	20'-6"	—
a601(E)	41	#8	20'-6"	—
a602(E)	31	#5	20'-6"	—
a603(E)	41	#8	20'-6"	—
b600(E)	128	#5	19'-8"	—
b601(E)	200	#9	19'-8"	—
w600(E)	80	#5	21'-5"	—
w601(E)	80	#5	19'-5"	—
t600(E)	176	#4	9'-8"	—
v601(E)	43	#5	3'-1"	Γ
Concrete Superstructure (Approach Slab)			Cu. Yd.	78.8
Concrete Structures			Cu. Yd.	26.5
Reinforcement Bars, Epoxy Coated			Pound	26530
Bar Splicers			Each	224

BILL OF MATERIAL
SN 044-0050

Bar	No.	Size	Length	Shape
a610(E)	31	#5	20'-7"	—
a611(E)	41	#8	20'-7"	—
a612(E)	31	#5	20'-7"	—
a613(E)	41	#8	20'-7"	—
b600(E)	126	#5	19'-8"	—
b601(E)	202	#9	19'-8"	—
w600(E)	80	#5	21'-5"	—
w601(E)	80	#5	19'-5"	—
t600(E)	176	#4	9'-8"	—
v601(E)	43	#5	3'-1"	Γ
Concrete Superstructure (Approach Slab)			Cu. Yd.	78.8
Concrete Structures			Cu. Yd.	26.5
Reinforcement Bars, Epoxy Coated			Pound	26550
Bar Splicers			Each	224



* Cost included with Concrete Superstructure (Approach Slab).
** Per manufacturer recommendations
*** Prior to grinding.

(Sheet 2 of 2)

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USER NAME	DESIGNED	REVISIONS
RBT	RBT	
JS	JS	
RBT	RBT	
KAS	KAS	

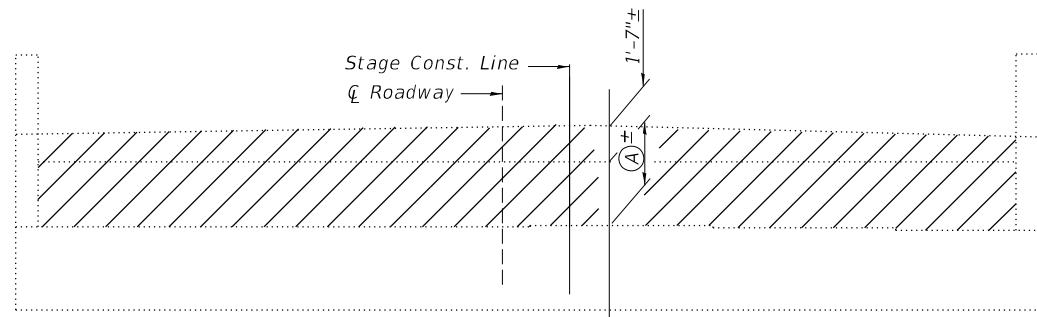
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

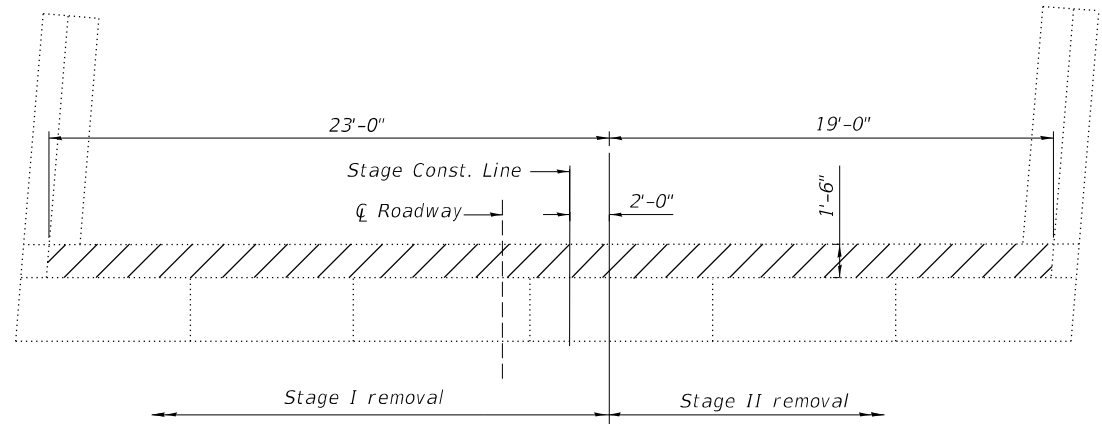
SHEET 11 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	167
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

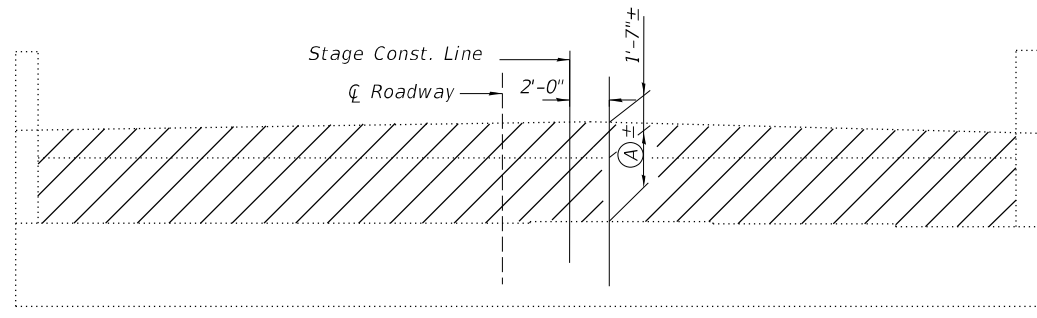
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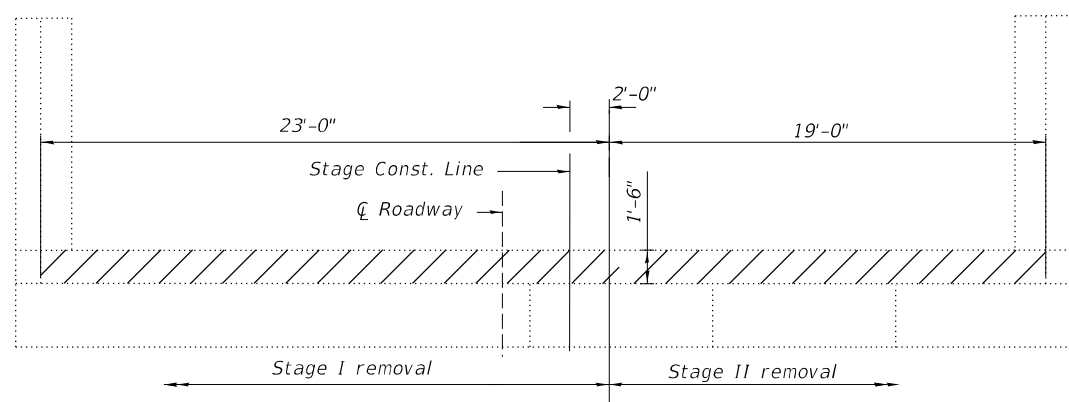
ELEVATION
 SN 044-0050 West Abutment



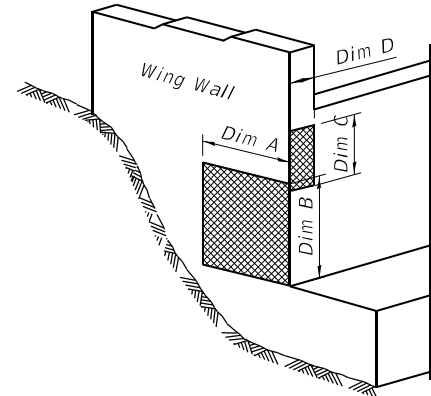
PLAN
 SN 044-0050 West Abutment



ELEVATION
 SN 044-0049 West Abutment



PLAN
 SN 044-0049 West Abutment



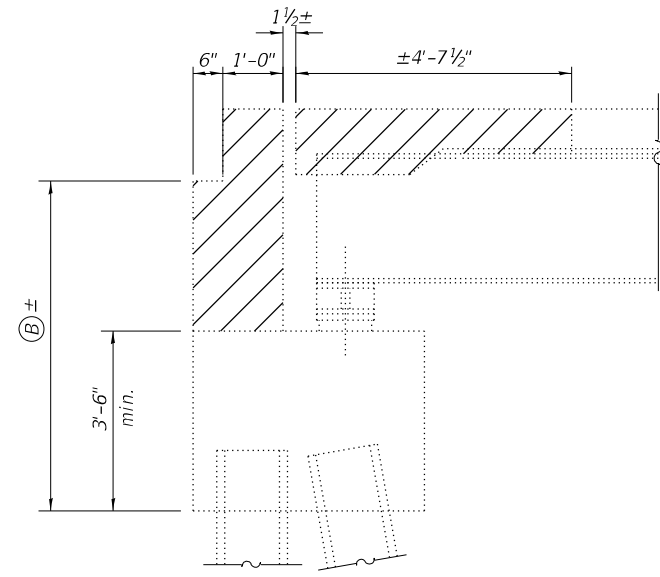
STRUCTURAL REPAIR OF CONCRETE
 (Depth Equal To or Less than 5")

S.N. 044-0049
STRUCTURAL REPAIR OF CONCRETE
 (Depth Equal To or Less than 5")

ABUTMENT CORNER	Repair Area Dimensions				Repair Area Sq. Ft.
	Wingwall		Wingwall		
	A (ft)	B (ft)	C (ft)	D (ft)	
Northeast	2	3	1	1	7
Southeast	3	2	2	1	8
Northwest	2	2	1	1	5
Southwest	3	3	1	1	10

S.N. 044-0050
STRUCTURAL REPAIR OF CONCRETE
 (Depth Equal To or Less than 5")

ABUTMENT CORNER	Repair Area Dimensions				Repair Area Sq. Ft.
	Wingwall		Wingwall		
	A (ft)	B (ft)	C (ft)	D (ft)	
Northeast	3	2	1	1	7
Southeast	2	3	2	1	8
Northwest	4	2	1	1	9
Southwest	3	2	1	1	7



SECTION THRU ABUTMENT
 (West Abutments)

LEGEND

- Concrete Removal
- Structural Repair of Concrete Depth Equal To or Less than 5"

Concrete Removal quantity for deck concrete included in Bill of Material on Sheet 6 & 7 of 28.

Location	Dim. A	Dim. B
044-0049 - West Abutment	2'-2 1/4"	6'-2"
044-0050 - West Abutment	2'-1 3/4"	6'-2"

BILL OF MATERIAL
 044-0049 and 044-0050 COMBINED

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	31.6
Structural Repair of Concrete, Depth Equal to or Less than 5"	Sq. Ft.	61



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PLOT DATE =	CHECKED - KAS	REVISED -

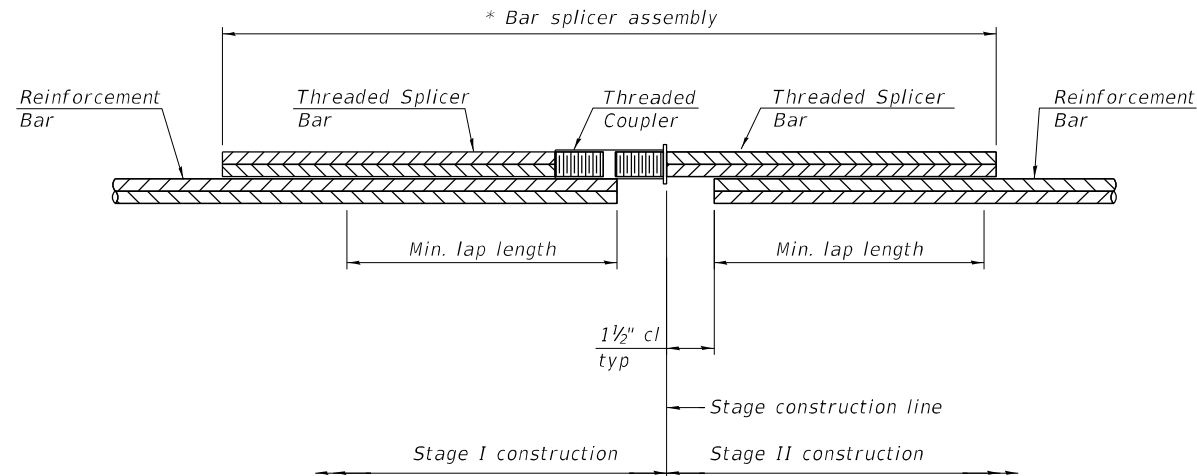
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT REMOVAL AND WINGWALL REPAIR
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

SHEET 12 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	168
CONTRACT NO. 78849				

ILLINOIS FED. AID PROJECT



STANDARD BAR SPLICER ASSEMBLY PLAN

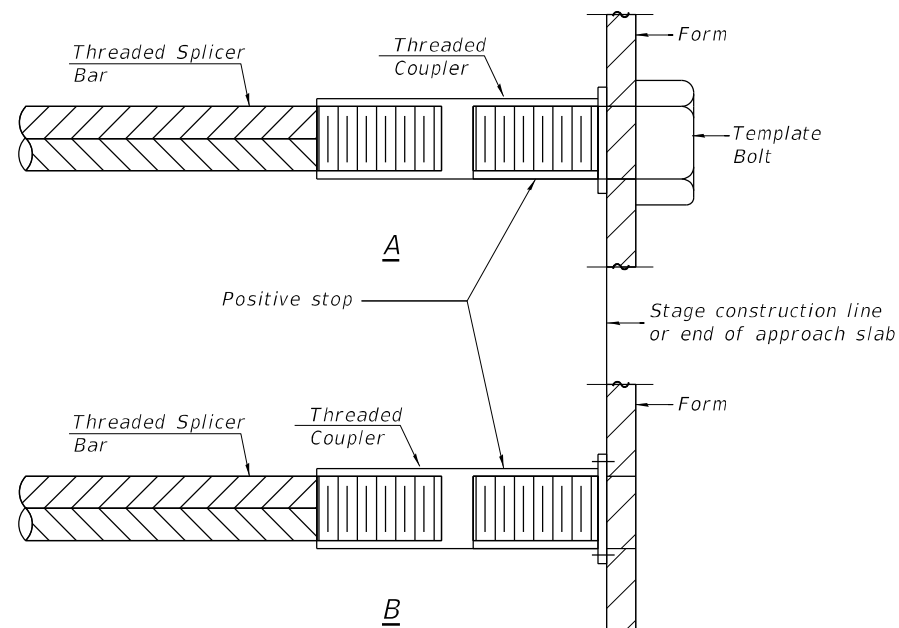
(All components shall be provided from one supplier.)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	size	No. Reqd	Min lap length
044-0050 W. Abutment Superstructure	#5	13	3'-6"
044-0050 W. Abutment Diaphragm	#6	9	4'-0
044-0050 W. Abutment Diaphragm	#6	3	**
044-0050 W. Abutment Approach slab	#5	31	3'-6"
044-0050 W. Abutment Approach slab	#8	41	6'-9"
044-0050 W. Abutment Approach slab Footing	#5	40	3'-6"
044-0050 E. Abutment Approach slab	#5	31	3'-6"
044-0050 E. Abutment Approach slab	#8	41	6'-9"
044-0050 W. Abutment Approach slab Footing	#5	40	3'-6"
044-0049 W. Abutment Superstructure	#5	13	3'-6"
044-0049 W. Abutment Diaphragm	#6	9	4'-0
044-0049 W. Abutment Diaphragm	#6	3	**
044-0049 W. Abutment Approach slab	#5	31	3'-6"
044-0049 W. Abutment Approach slab	#8	41	6'-9"
044-0049 W. Abutment Approach slab Footing	#5	40	3'-6"
044-0049 E. Abutment Approach slab	#5	31	3'-6"
044-0049 E. Abutment Approach slab	#8	41	6'-9"
044-0049 W. Abutment Approach slab Footing	#5	40	3'-6"

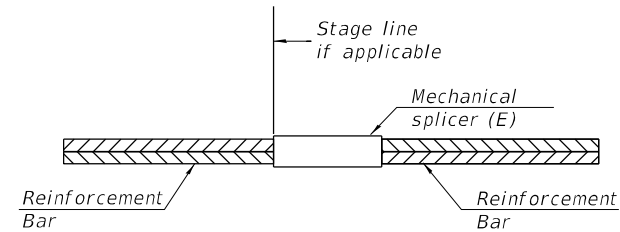
** See Bent Headed Bar Splicer Detail
 ***4'-5" minimum lap on Stage II side, 2'-4" bar on Stage I side



INSTALLATION AND SETTING METHODS

A : Set mechanical splicer assembly by means of a template bolt.
 B : Set mechanical splicer assembly by nailing to the wood forms or cementing to steel forms.

(E) indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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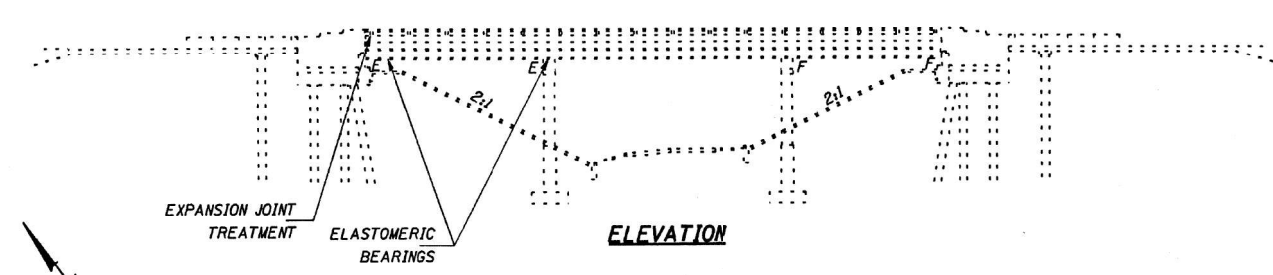
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	169
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
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P.L.L. NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
24	*	JOHNSON	150	144
STA.	TO STA.			
FED. AID DIST. NO.	ALIAS	FED. AID PROJECT		
RSMART FY04-3 98836				



GENERAL NOTES

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars shall conform to the requirements of AASHTO M-31, or M-322 Grade 60.
Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". The inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the Acrylic finish coat shall be Interstate Green, Munsell # 7.5G 4/7B. See Special Provision for "Cleaning and Painting New Metal Structures".

Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50 F.
All structural steel shall conform to AASHTO M270 Grade 36.

Sequence of Construction

1. Scarify and Resurface Existing Shoulders
2. Remove Stage I Areas
3. Perform Stage I Repairs and Overlay
4. Remove Stage II Areas
5. Perform Stage II Repairs and Overlays

Design Stresses

Field Units

New Construction

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

Existing Structure

$f'_c = 1,200$ psi (hatchblock)
 $f_y = 20,000$ (reinforcement)

Scope of Work

Scarify existing +9" thick bituminous shoulders and resurface with bituminous shoulder.
Scarify existing bare deck
Partial depth deck patching
Eliminate drains within 10' of abutments and piers
Microsilica Concrete Overlay
Expansion Joint Treatment
Replace bearings at west abutments and pier 1
Extend drains

TOTAL BILL OF MATERIAL

ITEM	UNIT	Total	0049	0050
Concrete Bridge Deck Scarification (1/2 inch)	Sq. Yd.	980	471	509
Deck Slab Repair (Partial Depth)	Sq. Yd.	19	9	10
Plug Existing Deck Drains	Each	20	10	10
Bridge Deck Microsilica Concrete Overlay 2 1/2"	Sq. Yd.	980	471	509
Jack and Remove Existing Bearings	Each	24	12	12
Furnishing and Erecting Structural Steel	Pound	4640	2320	2320
Elastomeric Bearing Assembly, Type I	Each	12	6	6
Elastomeric Bearing Assembly, Type II	Each	12	6	6
Concrete Removal	Cu. Yd.	4.4	2.2	2.2
Reinforcement Bars, Epoxy Coated	Pound	500	250	250
Bar Splicers	Each	8	4	4
Concrete Superstructure	Cu. Yd.	4.8	2.4	2.4
Polymer Concrete	Cu. Ft.	8.2	4.1	4.1
Silicone Joint Sealer 1 1/2"	Foot	84	42	42
Bridge Deck Grooving	Sq. Yd.	931	448	483
Floor Drain Extension	Each	16	8	8

GENERAL PLAN AND ELEVATION

F&I 24 OVER I.R. 173

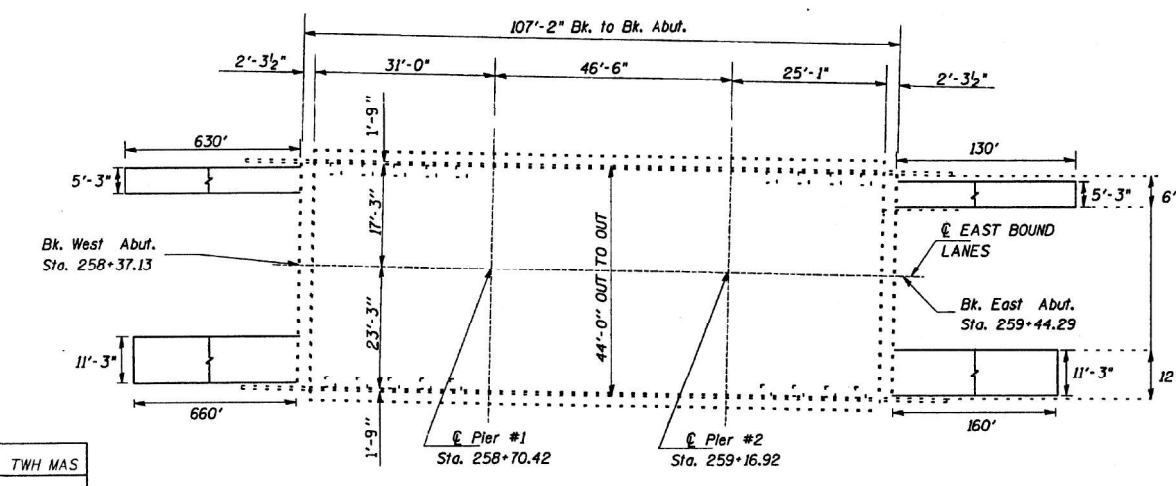
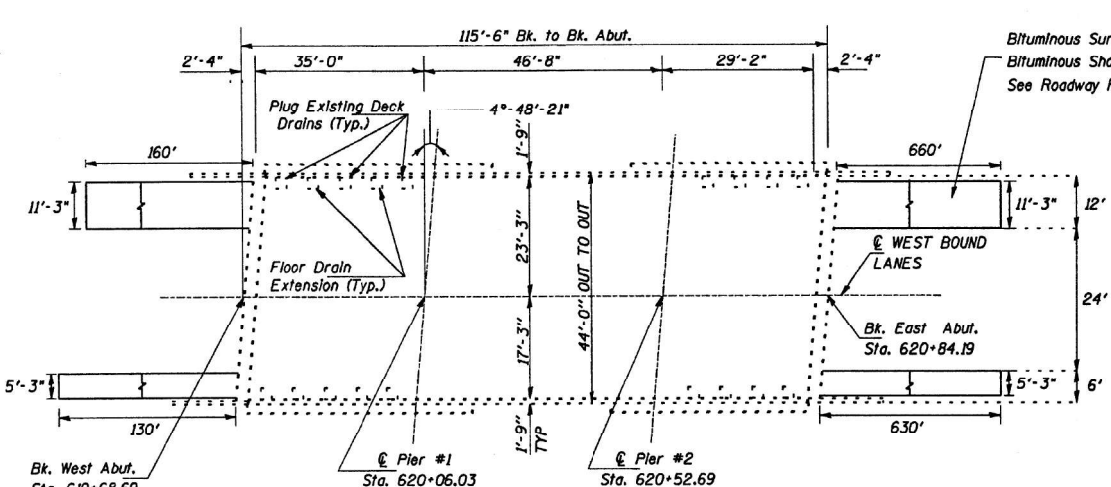
JOHNSON COUNTY

STA. 620+29.36 (W.B.L.)

STA. 258+93.67 (E.B.L.)

SN 044-0049 (EB)

SN 044-0050 (WB)



DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	Krantz / Dickerson
CHECKED	TWH MAS

BRIDGE REPAIRS FOR SN 044-0049 AND 044-0050

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

SHEET 14 OF 28 SHEETS

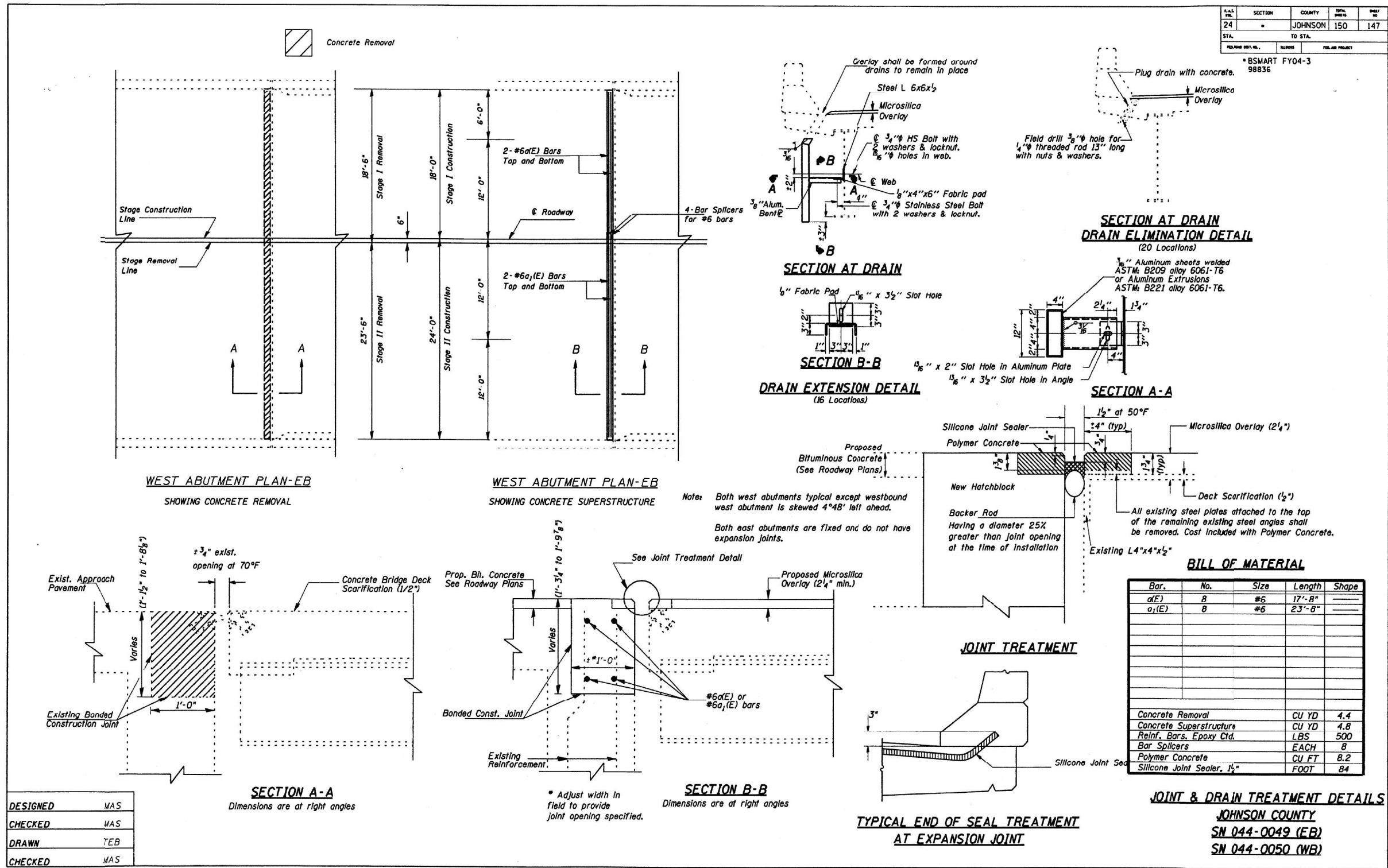
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			CONTRACT NO. 78849	
		ILLINOIS FED. AID PROJECT		

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F.A.I. SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24		JOHNSON	150	147

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CHECKED	MAS

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

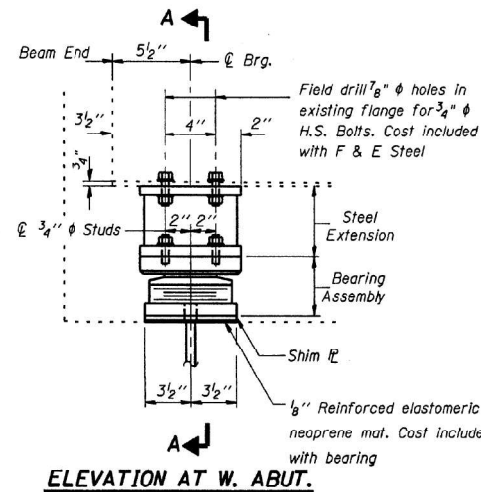
EXISTING PLANS
 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)
 SHEET 15 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	171

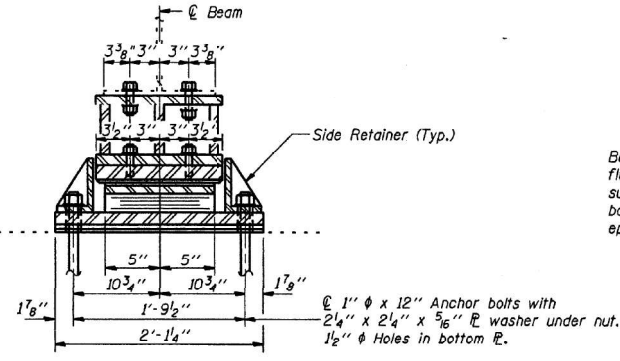
CONTRACT NO. 78849
 ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

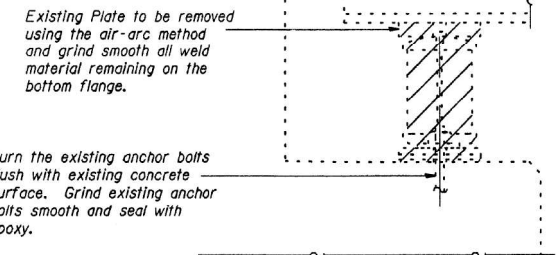
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FED. AID PROJECT -				
S.M.A.R.T. FY 04-3				
98B36				



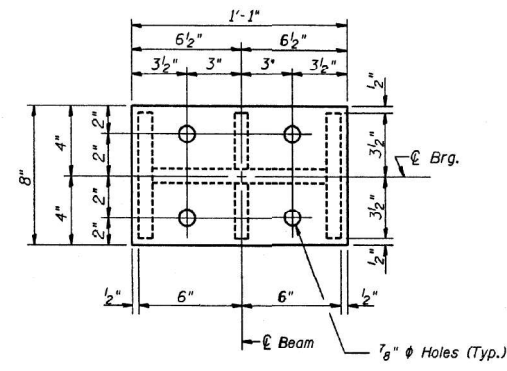
ELEVATION AT W. ABUT.



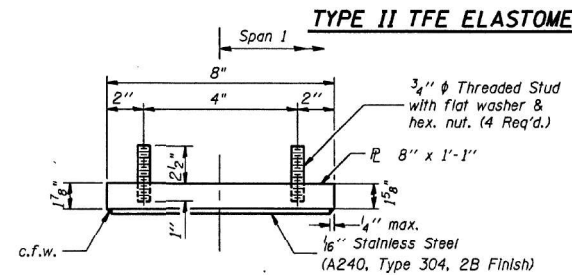
SECTION A-A



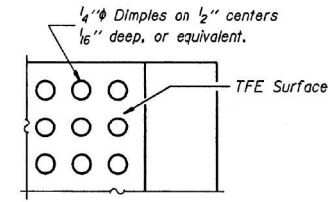
EXISTING BEARING REMOVAL DETAILS
Cost is included with Jack and Remove Existing Bearings



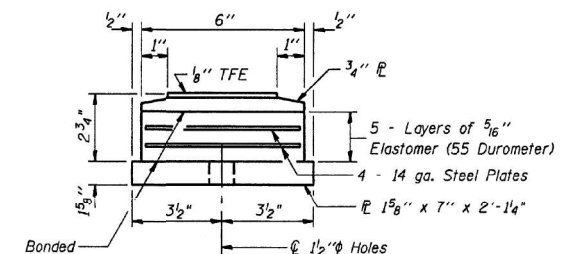
PLAN-TOP & BOTTOM PLATE



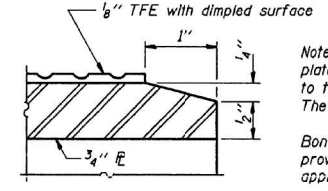
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



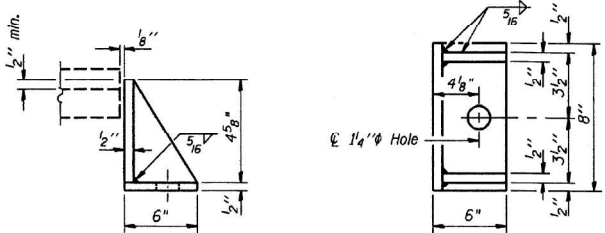
BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

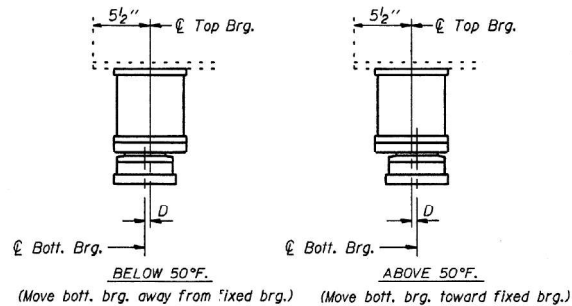
Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each .00' of expansion for every 15° temp. change from the normal temp. of 50°F.

Notes: Diaphragm removal and replacement may be required to facilitate drilling holes. Cost shall be included in the cost of Furnishing and Erecting Structural Steel.

New steel extensions, side retainers, shim R's, connection bolts and anchor bolts are included in Furnishing and Erecting Structural Steel.

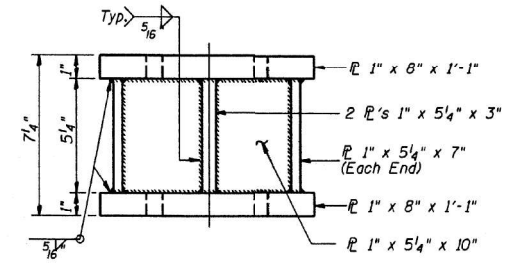
See Sheet 150 for Anchor Bolt Installation.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. The minimum jack capacity required is 30 Tons.

GIRDER REACTIONS

R _p	(K)	12.6
R _t	(K)	33.2
Imp.	(K)	10.0
R (Total)	(K)	55.8

STEEL EXTENSION AT WEST ABUT.



BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	6
Jack and Remove Existing Bearings	Each	6

WEST ABUTMENT
TYPE II ELASTOMERIC BEARING
JOHNSON COUNTY
S.N. 044-0049 (E.B.)

DESIGNED:	MAS
CHECKED:	MAS
DRAWN:	JMB
CHECKED:	MAS

BRIDGE PLANS AND DETAILS FOR S.N. 044-0049

MODEL: Default
FILE NAME: P:\Effingham\4267 - IDOT PTB 193-32 D9_VV_CWITW081Structural\Working Folder WO #8 RTCAD Preliminary RT1041-0049-005016 Existing Plans.dgn
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CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LICENSE # 184.003222

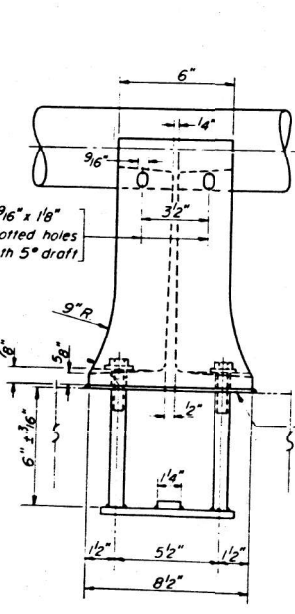
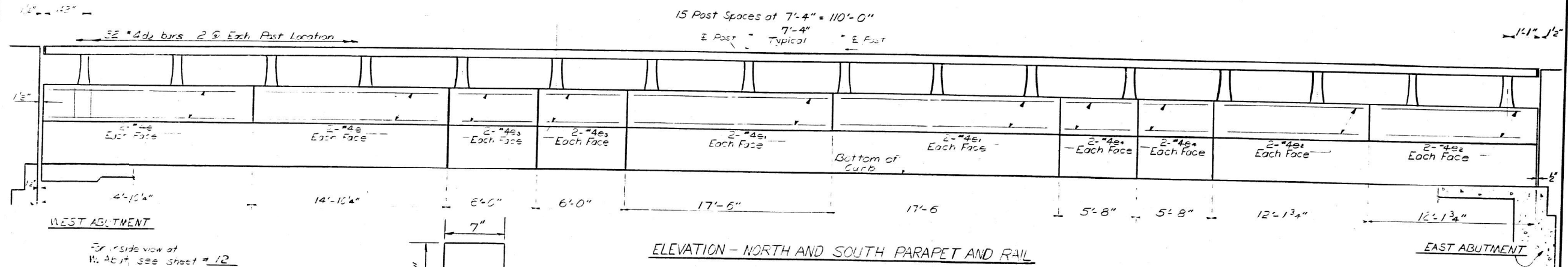
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	CHECKED - JS	REVISIONS -
PLOT SCALE =	DRAWN - RBT	REVISIONS -
PLOT DATE =	CHECKED - KAS	REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

SHEET 16 OF 28 SHEETS

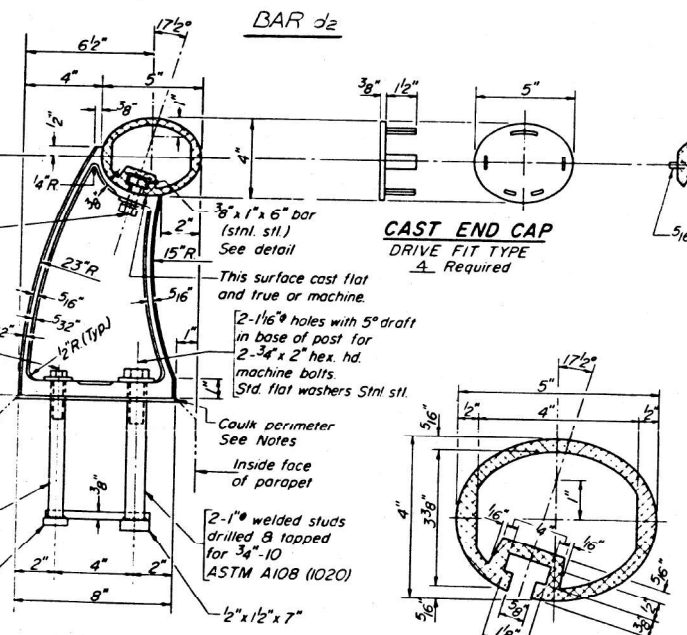
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	172
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



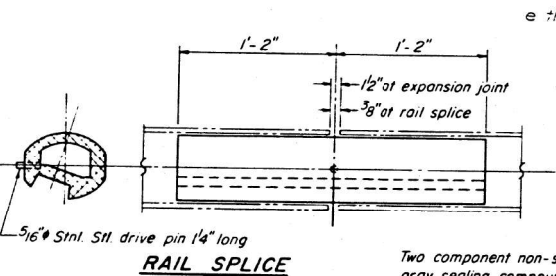
RAIL POST DETAILS

DESIGNED: *[Signature]* 4/22/68
 CHECKED: J.M. P
 DRAWN: J. Sutherland
 CHECKED: J.M.P

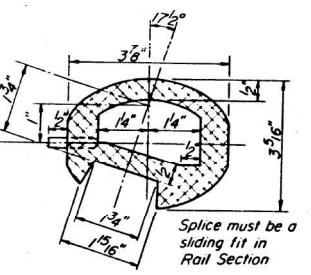
EXAMINED: *[Signature]*
 PASSED: _____
 APPROVED: _____



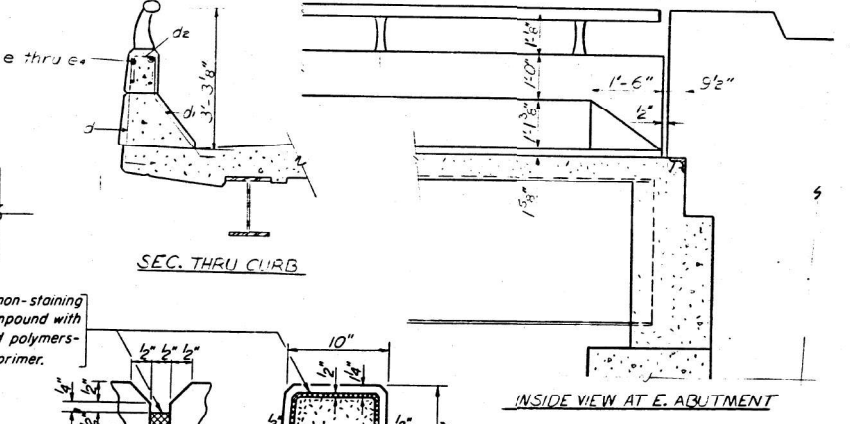
SEC. THRU ELLIPTICAL RAIL SECTION



SEC. THRU SPLICE



CLAMP BAR



PARAPET JOINT DETAIL

NOTES:

All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.

All joints in rail shall be spliced per detail.

Provide 1-1/8" and 2-1/16" Aluminum Shim for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

Aluminum alloy rail shall conform to ASTM B221 alloy 6061-T6 or 6351-T3 with min. yield 35ksi, min. tensile 38ksi, and elongation of 10% in 2 inches.

PARAPETS & RAILS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e	16	#4	14'-9"	—
e1	16	#4	17'-3"	—
e2	16	#4	12'-0"	—
e3	16	#4	5'-9"	—
e4	16	#4	5'-6"	—
d2	64	#4	2'-1"	□
Reinforcement Bars		Lbs.	680	
Class X Concrete		Cu Yds.	7.3	
Aluminum Railing		Lin. Ft.	225	

ALUMINUM RAILING
WEST BOUND LANES
F.A.I. RT. 24 SEC 44 GHB-1
JOHNSON COUNTY
STATION 620+29.36



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WBE / DBE
EFFINGHAM, IL
LICENSE # 184.003222

USER NAME =	DESIGNED - RBT	REVISED -
PLOT SCALE =	CHECKED - JS	REVISED -
PLOT DATE =	DRAWN - RBT	REVISED -
	CHECKED - KAS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

SHEET 17 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	173
		CONTRACT NO. 78849		
		ILLINOIS FED. AID PROJECT		

B.M. #50 Q.R. 50k in 15" Oak
120' Lt. Eastbound Lane
Sta 259+37 El. 518.63
No existing structure.

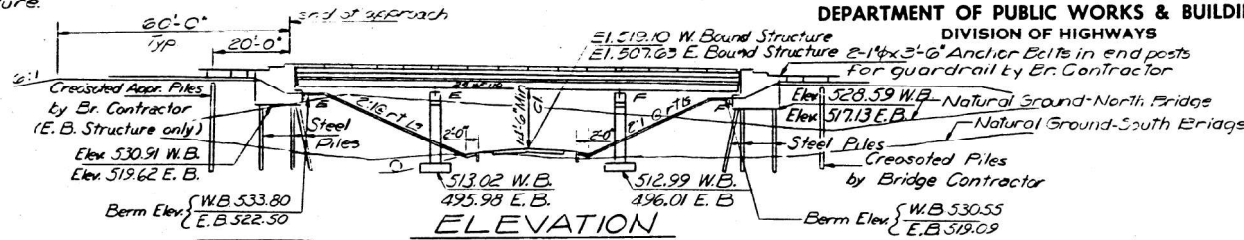
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
44-6	44-6	JOHNSON	57	16
SHEET NO. 1				
24 SHEETS				

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
Rivets $\frac{3}{4}$ " ϕ , open holes $1\frac{1}{2}$ " ϕ , unless otherwise noted.
Diaphragm connections may be adapted to shop welding subject to approval by the Engineer.
The basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.
Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length, each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
Anchor bolts shall be set before riveting diaphragms over supports.
Slope wall shall be reinforced with welded wire fabric 2"x2" mesh, weighing 50# per 100 sq. ft.
Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer.
The contractor shall drive 1 steel test pile each in permanent locations at west abutment carrying west bound lanes and at the east abutment carrying east bound lanes as directed by the Engineer before ordering the remainder of piles.
Class A Excavation for structures includes excavation for slope wall.
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
The concrete rail section above the mandatory construction limit at the top of the cut shall be constructed of Class X Conc. except the aggregates shall conform to the requirements of Handrail Conc.

Note:
Deck shall be poured commencing at the West Abutments and shall continue to the East Abutments.



STATION 620+29.36 BUILT BY STATE OF ILLINOIS F.A.I. RT. 24 SEC. 44-6HB-1 F.A. PROJ. I-24-1(30) LOADING HS20-44 & ALT.	STATION 258+93.67 BUILT BY STATE OF ILLINOIS F.A.I. RT. 24 SEC. 44-6HB-1 F.A. PROJ. I-24-1(30) LOADING HS20-44 & ALT.
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NAME PLATES
See STA. 2137

STRESS TABLE - W. BOUND STRUCTURE

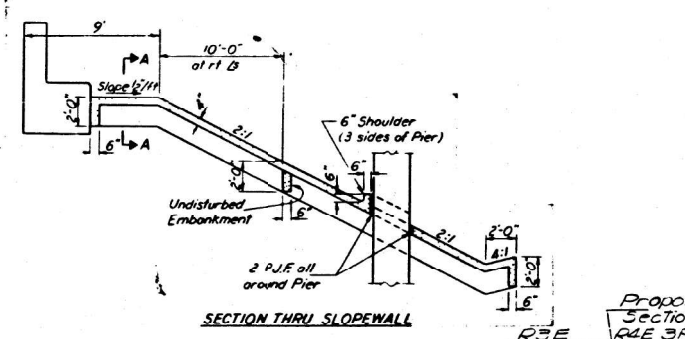
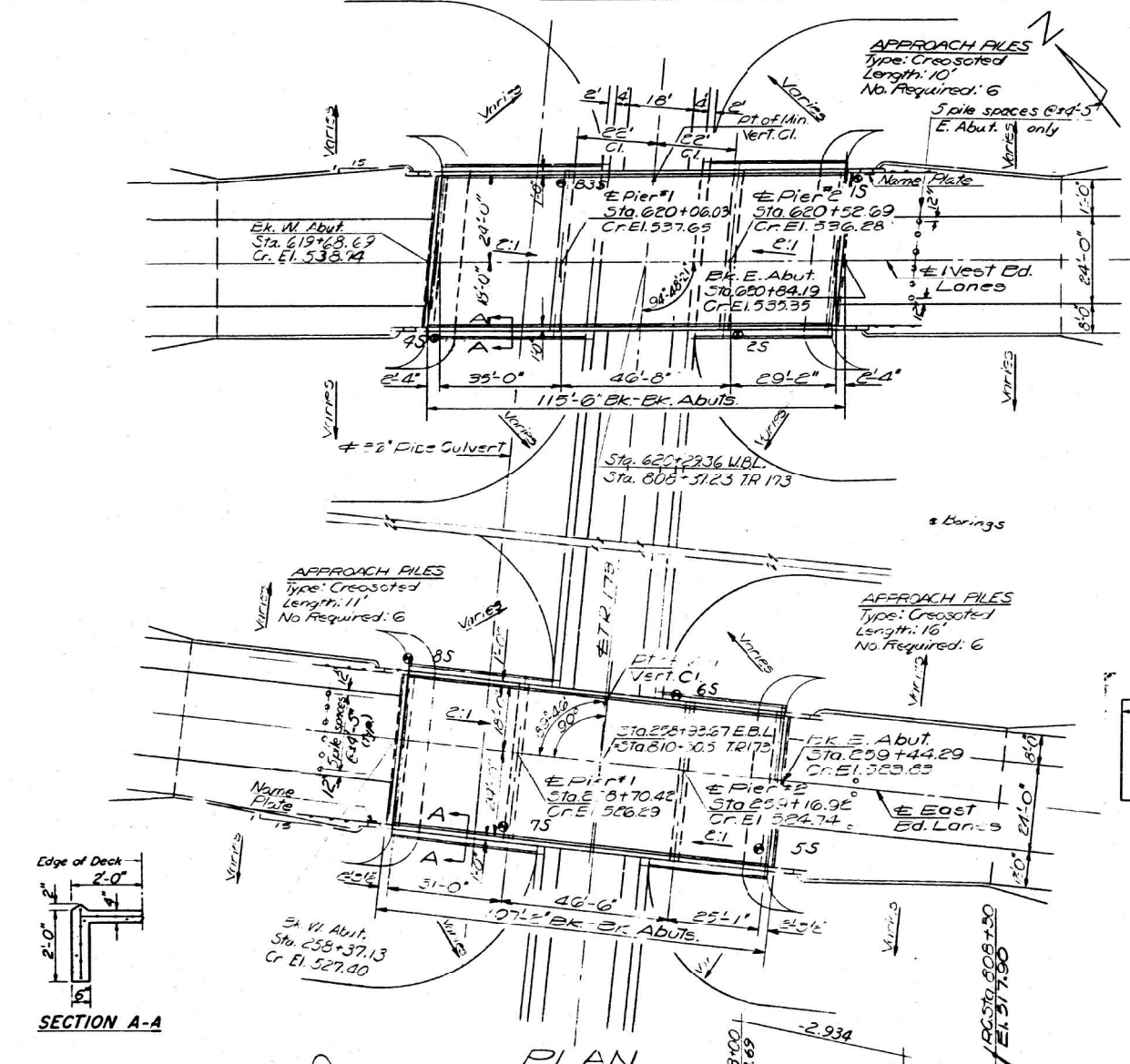
Table of Moments and Reactions-Interior Beam									
Moments (Ft. Kips)					Reactions (Kips)				
ASp.1	Pier 1	ASp.2	Pier 2	ASp.3	W. Abut	Pier 1	Pier 2	E. Abut	
D.L.	93.9	-218.6	131.7	-190.0	37.0	15.36	57.30	52.72	11.49
L.L.	215.2	-175.6	228.5	-173.8	178.1	34.66	45.41	45.92	32.31
Imp.	64.5	-52.8	68.5	-52.1	53.4	10.39	13.62	13.78	9.69
Total	373.6	-447.4	428.7	-415.9	268.5	60.41	116.33	112.42	53.49

STRESS TABLE - E. BOUND STRUCTURE

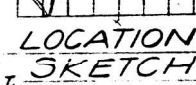
Table of Moments and Reactions-Interior Beam									
Moments (Ft. Kips)					Reactions (Kips)				
ASp.1	Pier 1	ASp.2	Pier 2	ASp.3	W. Abut	Pier 1	Pier 2	E. Abut	
D.L.	60.7	-204.2	139.4	-194.5	19.4	12.55	54.87	57.13	9.13
L.L.	189.3	-164.3	220.8	-180.4	151.2	33.15	44.84	46.15	32.31
Imp.	56.8	49.3	66.3	-54.1	45.4	9.85	13.45	13.85	9.34
Total	306.8	417.8	426.5	-419.0	216.0	55.65	113.16	117.13	48.60

Item	Unit	Sub	Super	Total
Class A' Excavation for Structures	Cu. Yds.	630		630
Rock Excavation for Structures	Cu. Yds.	80		80
Protective Coat	Sq. Yds.		1,160	1,160
Class X Concrete	Cu. Yds.	446.7	309.2	755.9
Aluminum Railing	Lin. Ft.		435	435
Reinforcement Bars	Pounds	32,230	76,990	109,220
Steel Piles (8 BP36)	Lin. Ft.		1,062	1,062
Test Piles Steel (8 BP36)	Each		2	2
Name Plates	Each		2	2
Creasoted Piles (up to 20')	Lin. Ft.		222	222
Slope Wall 4"	Sq. Yds.		1,000	1,000
* Structural Steel	L. Sum		1	1
Preformed Joint Sealer	Lin. Ft.		84	84

*Calculated plan weight of Structural Steel is 172,810 lbs.

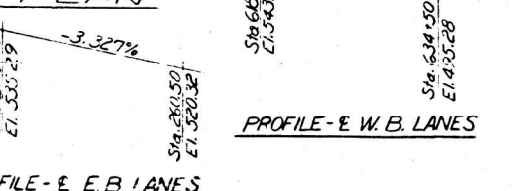


DESIGN STRESSES
 $f_c = 1200$ psi. Deck Slab
 $f_c = 1400$ psi. Curb
 $f_s = 20,000$ psi. Reinf.
 $f_s = 20,000$ psi. Struct.
 $f_c = 75$ psi. Ftgs.
 $n = 10$
 Allowable $f_{t,WS} = 25\% f_c$
 Allowable Δ_{1000} Non-Comp.
 LOADING HS20-44 & ALT.



DESIGNED	Kuriam, C. O. on the Sp.
CHECKED	J. S. P. et al
DRAWN	J. Sutherland
CHECKED	

EXAMINED	Jan 26 1969
PASSED	
APPROVED	



GENERAL PLAN & ELEVATION
 F.A.I. RT. 24 OVER T.R. 173
 F.A.I. ROUTE 24
 SECTION 44-6HB-1
 JOHNSON COUNTY
 STATION 620+29.36 W.B.L.
 STATION 258+93.67 E.B.L.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	174
CONTRACT NO. 78849				

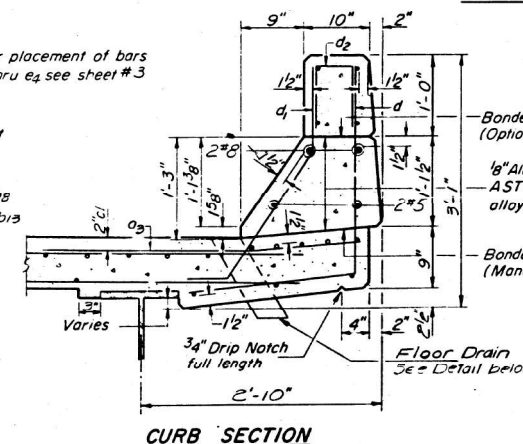
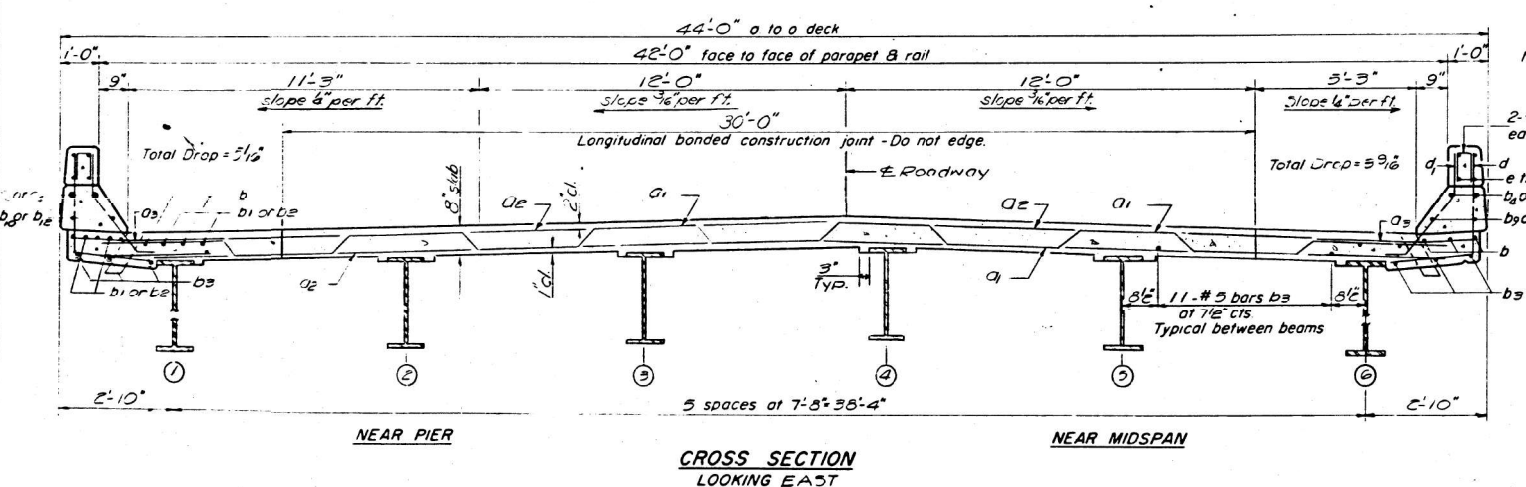
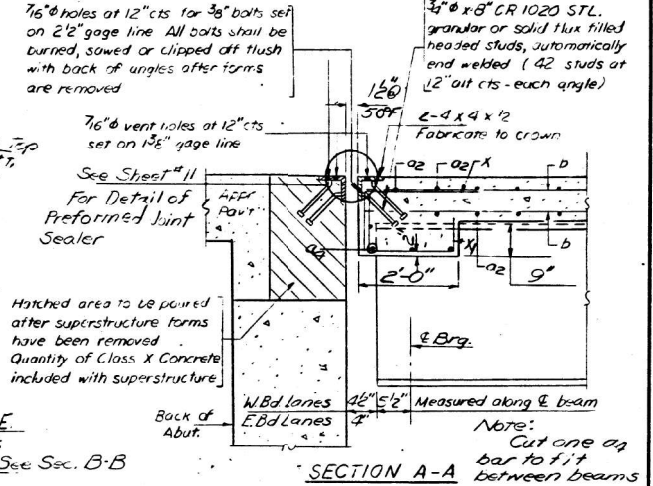
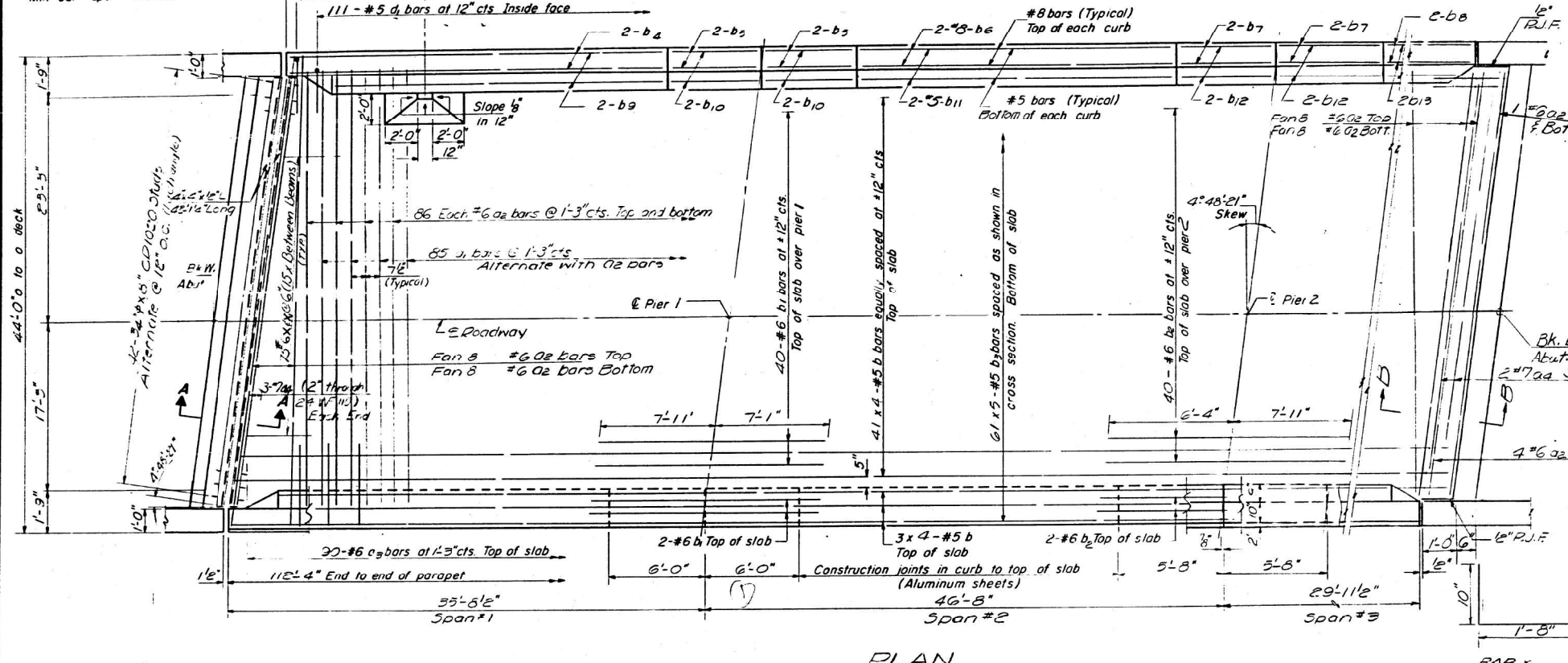
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Note
 Bars indicated thus 20x3-#5 etc.
 indicates 20 lines of bars with 3
 lengths per line.
 Min bar laps = 24 dia

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	4A-6 4B-1	JOHNSON	57	17
SHEET NO. 2		24 SHEETS		

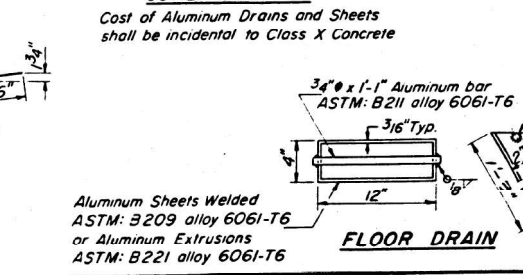
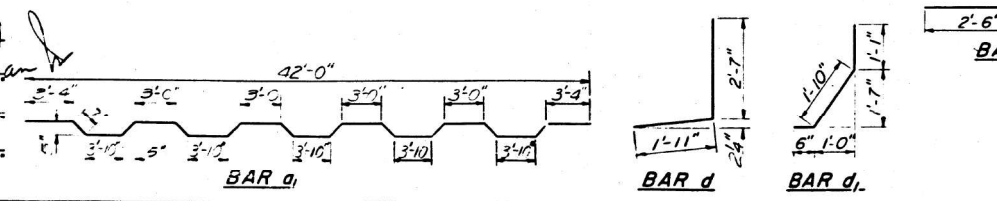


BILL OF MATERIAL

Bar	No	Size	Length	Shape
a1	85	#6	43'-8"	
a2	210	#6	42'-0"	
a3	180	#6	4'-0"	
a4	5	#7	38'-3"	
b1	188	#5	29'-0"	
b2	24	#6	15'-0"	
b3	24	#6	14'-3"	
b4	305	#5	23'-6"	
b5	4	#8	29'-6"	
b6	5	#8	5'-9"	
b7	4	#8	34'-6"	
b8	8	#8	5'-6"	
b9	4	#5	29'-6"	
b10	8	#5	3'-9"	
b11	4	#5	34'-6"	
b12	8	#5	5'-6"	
b13	4	#5	24'-0"	
c	226	#4	4'-6"	
d	222	#5	3'-5"	
x	75	#6	5'-4"	
x1	75	#6	7'-2"	
Reinforcement Bars	Lbs.		39,580	
Structural Steel	Lbs.		Lump Sum	
Class X Concrete	Cu Yds		152.2	

DESIGNED: *Jonathan D. Rowe*
 CHECKED: *J. M. Patel*
 DRAWN: *J. Sutherland*
 I-4106-L (E15) 3-1-68

EXAMINED: *Chris He* 1809
 PASSED
 APPROVED



*Calculated plan weight of
 Structural Steel is 89,130

The lengths and quantities of longitudinal
 reinforcement and Class X Concrete in
 parapets are not included in above
 quantities. See sheet 3

SUPERSTRUCTURE
WEST BOUND LANES
F.A.I.R.T. 24 SEC. 44-GHB-1
JOHNSON COUNTY
STA. 620+29.36 (W.B.L.)



CIVIL DESIGN, INC.
 WBE / DBE
 EFFINGHAM, IL
 LICENSE #184.003222

USER NAME =	DESIGNED - RBT	REVISED -
PLOT SCALE =	CHECKED - JS	REVISED -
PLOT DATE =	DRAWN - RBT	REVISED -
	CHECKED - KAS	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

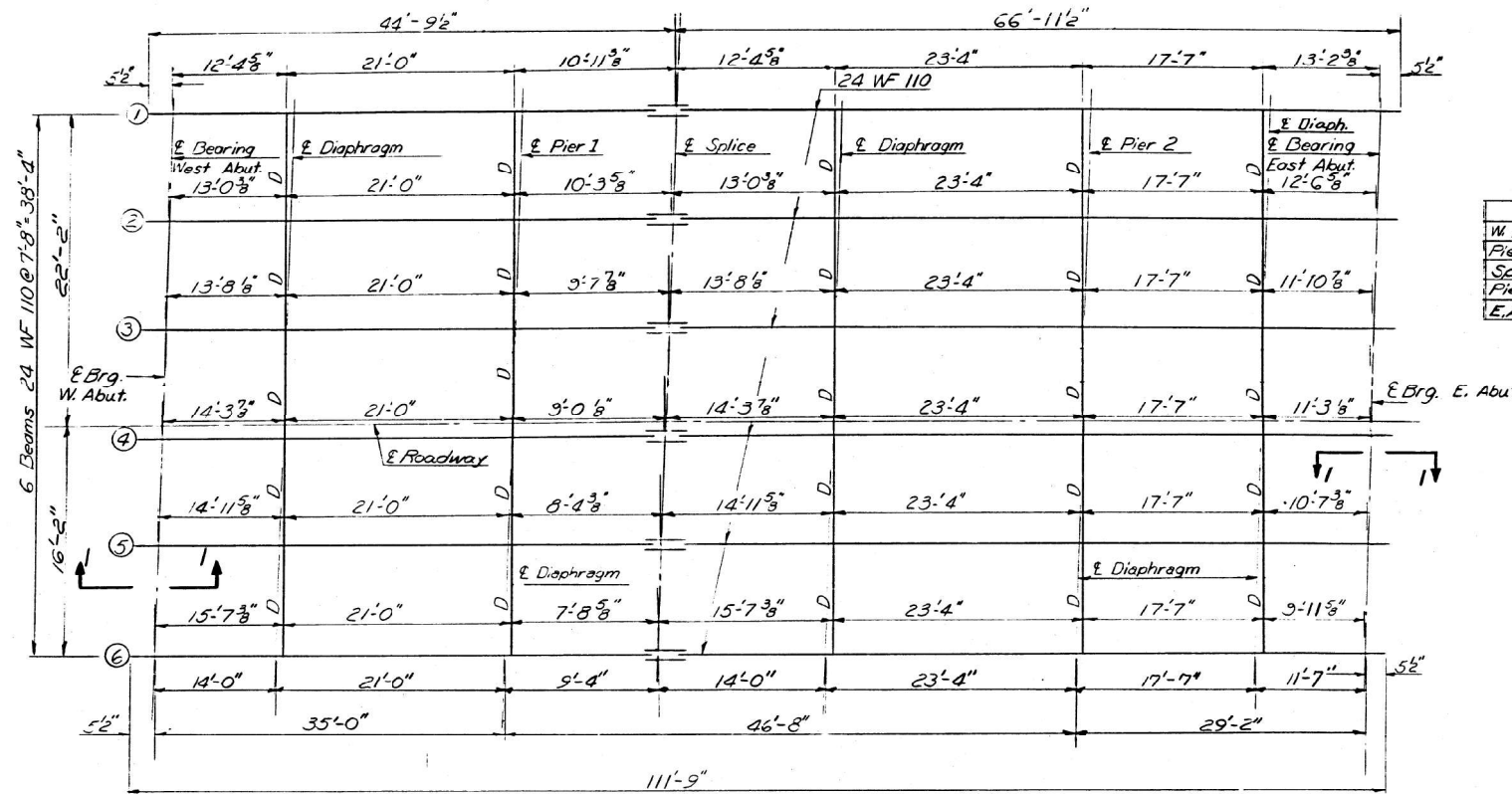
EXISTING PLANS
 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

SHEET 19 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	175
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	

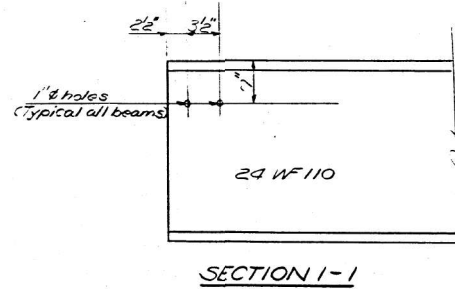
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
124	44-6 HB-1	JOHNSON	57	23
SHEET NO. 8 24 SHEETS				

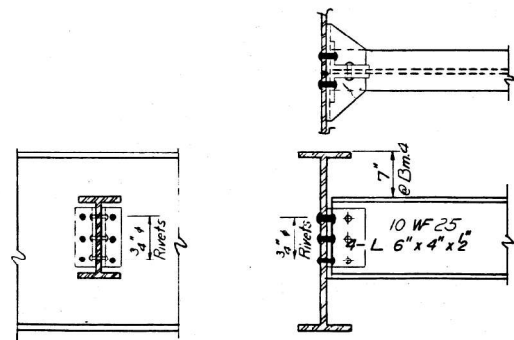


TOP OF BEAM ELEVATION

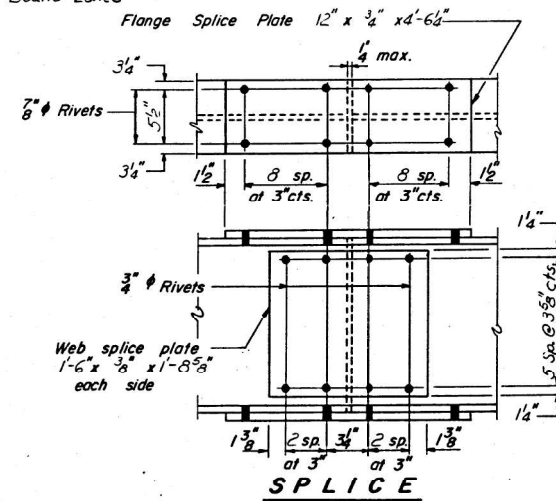
	1	2	3	4	5	6
W. Abut.	537.55	537.73	537.88	537.99	537.69	537.77
Pier #1	536.48	536.65	536.81	536.92	536.82	536.70
Splice	536.19	536.37	536.52	536.63	536.53	536.41
Pier #2	535.13	535.31	535.46	535.57	535.47	535.35
E. Abut.	534.30	534.46	534.63	534.74	534.64	534.52



FRAMING PLAN
West Bound Lanes



DIAPHRAGM D
25 Required



DESIGNED	J. M. P.	EXAMINED	Carl E. Thuman
CHECKED	J. M. P.	PASSED	
DRAWN	J. Schneller	APPROVED	
CHECKED	J. M. P.		

I-2-D 9-1-65

STRUCTURAL STEEL LAYOUT
WEST BOUND LANES
F.A.I. RT. 24 SEC. - 44-6HB-1
JOHNSON COUNTY
STATION 620+29.36 (W.B.)

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EFFINGHAM, IL
LICENSE # 184.003222

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PLOT SCALE =	CHECKED - JS	REVISED -
PLOT DATE =	DRAWN - RBT	REVISED -
	CHECKED - KAS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

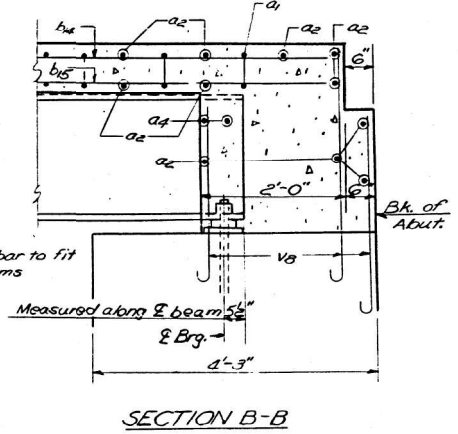
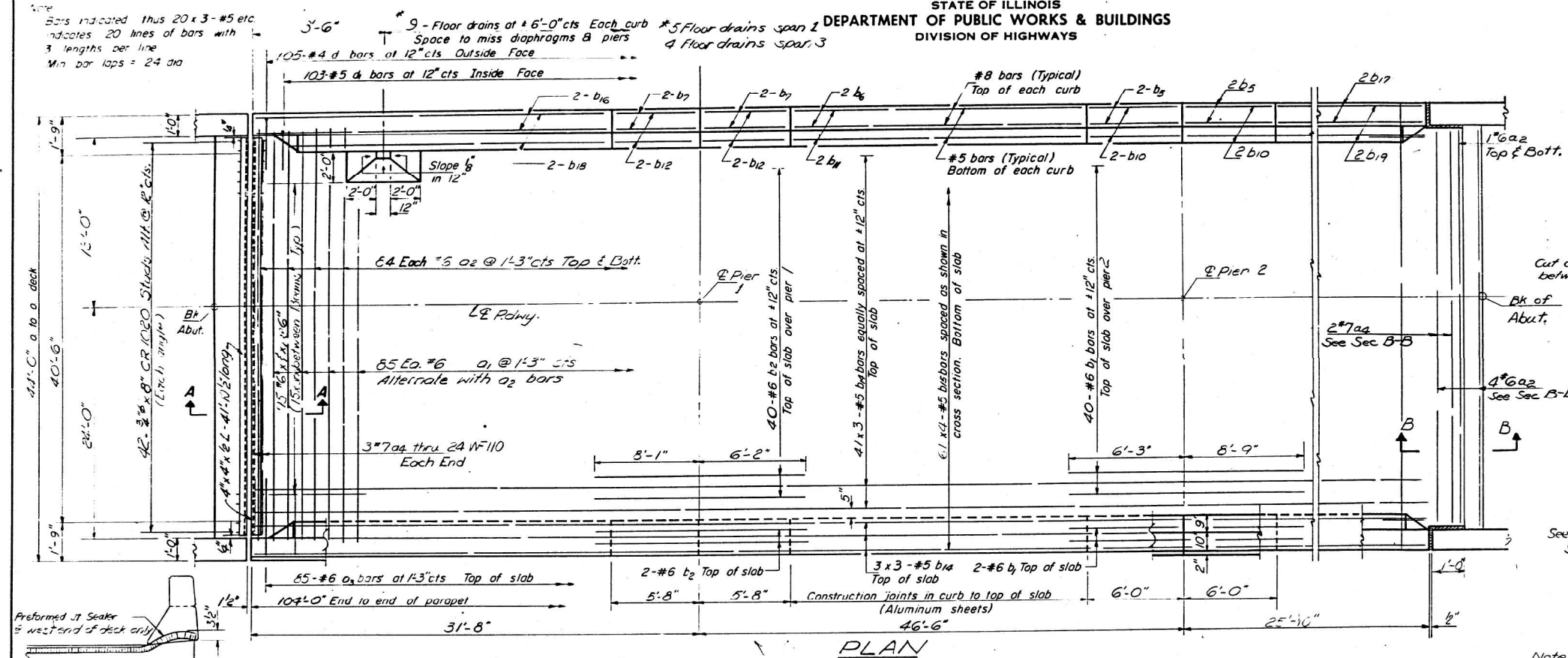
SHEET 22 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	178
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

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STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

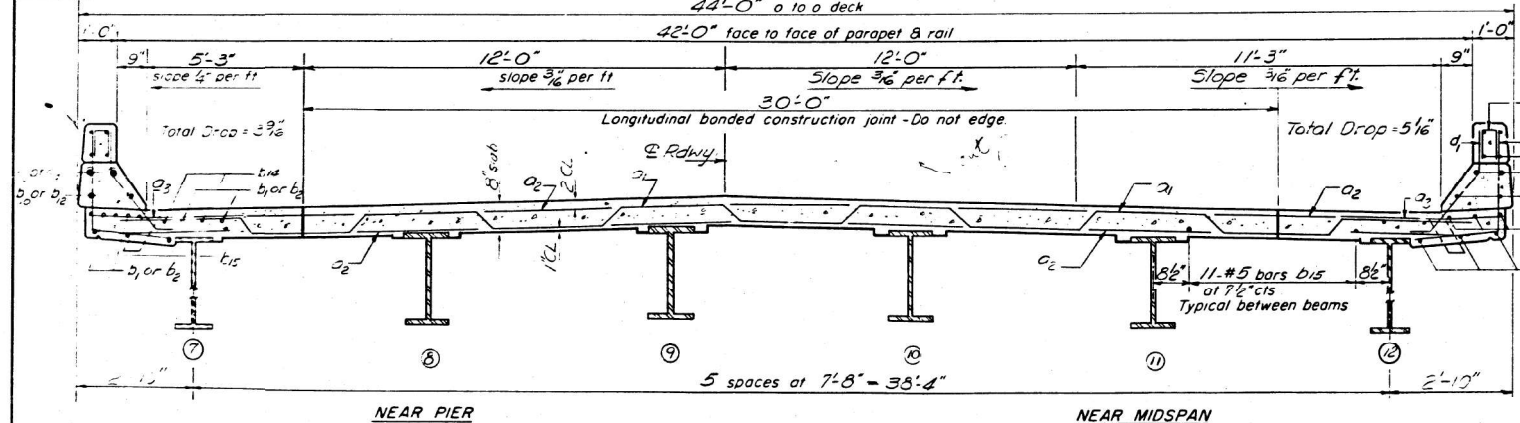
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	3A-6 HB-1	JOHNSON	57	26
SHEET NO. 11			24 SHEETS	



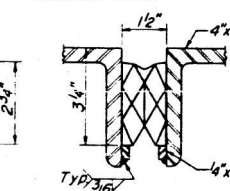
BILL OF MATERIAL

Bar	No	Size	Length	Shape
a1	85	#6	43'-8"	~
a2	174	#6	42'-0"	~
a3	170	#6	4'-0"	~
a4	5	#7	38'-3"	~
b1	44	#6	13'-0"	~
b2	44	#6	14'-3"	~
b3	8	#8	5'-9"	~
b4	4	#8	34'-6"	~
b7	8	#8	5'-6"	~
b10	8	#5	5'-9"	~
b11	4	#5	34'-6"	~
b12	8	#5	5'-6"	~
b14	141	#5	36'-0"	~
b15	244	#5	27'-3"	~
b16	4	#8	25'-9"	~
b17	4	#8	20'-6"	~
b18	4	#5	25'-9"	~
b19	4	#5	20'-6"	~
d	210	#4	4'-6"	~
d1	206	#5	3'-5"	~
x	75	#6	5'-11"	~
x1	75	#6	4'-2"	~
Reinforcement Bars			Lbs.	36,100
Structural Steel			Lbs.	Lump Sum
Class X Concrete			Cu Yds.	142.9

TYPICAL END OF SEALER TREATMENT

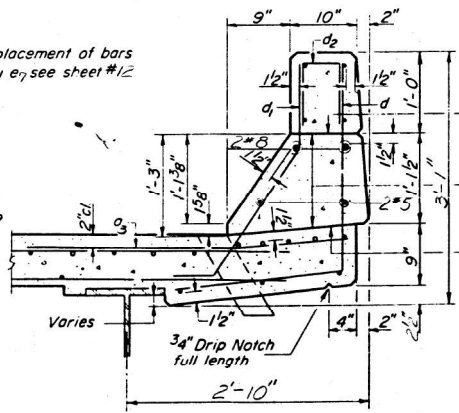


CROSS SECTION LOOKING EAST



CURB SECTION

Cost of Aluminum Drains and Sheets shall be incidental to Class X Concrete



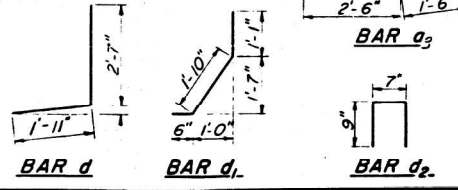
DESIGNED	J. M. Patel
CHECKED	J. M. Patel
DRAWN	A. B. 10-20
CHECKED	J. M. P.

EXAMINED	APPROVED
PASSED	
APPROVED	

I-4106-0 3-1-68

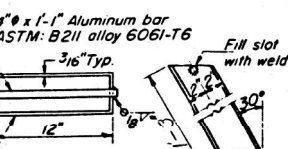
PREFORMED JOINT SEALER

See Sheet #2 for details of bars a1, x, & x1



Aluminum Sheets Welded
 ASTM: B209 alloy 6061-T6
 or Aluminum Extrusions
 ASTM: B221 alloy 6061-T6

FLOOR DRAIN



*Calculated plan weight of Structural Steel is 63,680.

The lengths and quantities of longitudinal reinforcement and Class X Concrete in parapets are not included in above quantities. See sheet 12.

SUPERSTRUCTURE
EAST BD. LANES
F.A.I.R.T. 24 SEC. 44-6HB1
JOHNSON COUNTY
STA. 258+93.67 (E.B.L.)



CIVIL DESIGN, INC.
 WBE | DBE
 EFFINGHAM, IL
 LICENSE #184.003222

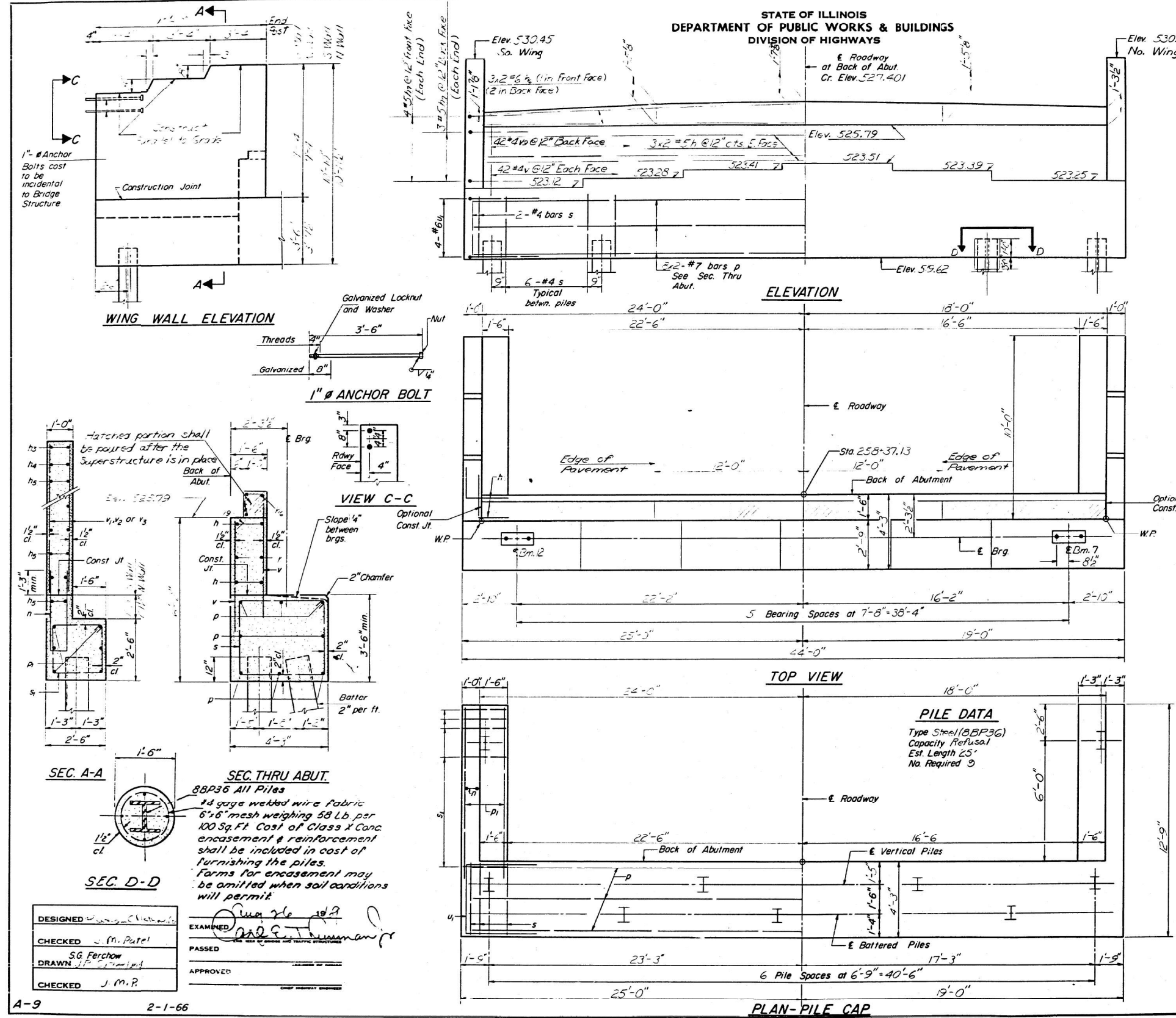
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PLOT SCALE =	CHECKED - JS	REVISED -
PLOT DATE =	DRAWN - RBT	REVISED -
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

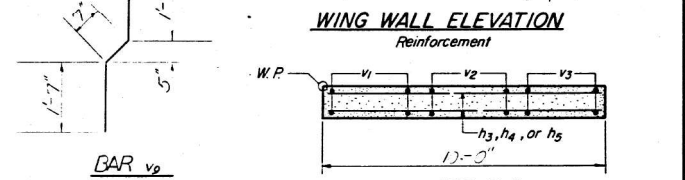
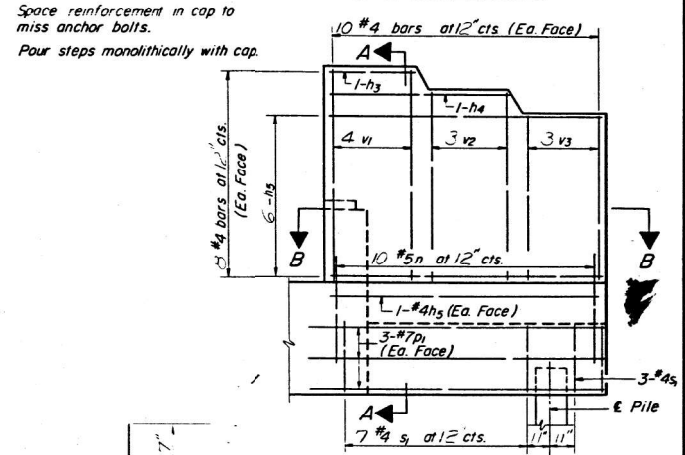
EXISTING PLANS
 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	179
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	44-6	JOHNSON	57	28
PROJECT NO.	SHEET NO. 13			
24	24 SHEETS			



WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	12	#5	21'-9"	—
h2	4	#4	3'-0"	—
h4	4	#4	6'-6"	—
h5	28	#4	9'-9"	—
h6	6	#6	21'-9"	—
h7	14	#5	5'-0"	—
n	20	#5	7'-9"	U
p	16	#7	23'-0"	—
pi	12	#7	11'-0"	—
s	40	#4	14'-11"	□
si	20	#4	9'-5"	□
u	8	#6	7'-10"	□
v	84	#4	3'-6"	—
v1	16	#4	7'-0"	—
v2	12	#4	6'-6"	—
v3	12	#4	5'-9"	—
v4	42	#4	3'-9"	—
Class X Concrete			Cu. Yds.	40.9
Reinforcement Bars			Lbs.	3120
Steel (BEP36) Piles			Lin. Ft.	225

PILE DATA

Type Steel (BEP36)
 Capacity Refusal
 Est. Length 25'
 No. Required 3

WEST ABUT. E.B.L.
 F. I. A. RT. 24-SEC. 44-6H-1
 JOHNSON COUNTY
 STATION 258+93.67 E.B.L.

DESIGNED [Signature]
CHECKED M. Patel
DRAWN S.G. Ferchow
CHECKED J.M.P.

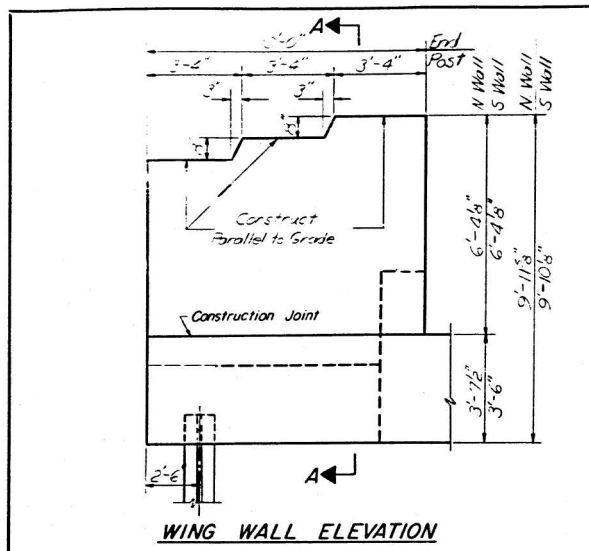
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PASSED
APPROVED

DESIGNED - RBT
 CHECKED - JS
 DRAWN - RBT
 CHECKED - KAS

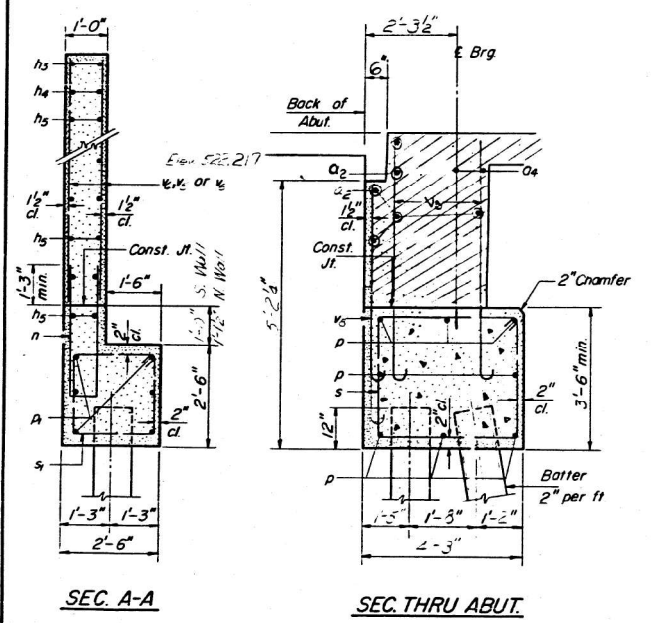
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DATE: 2-1-66

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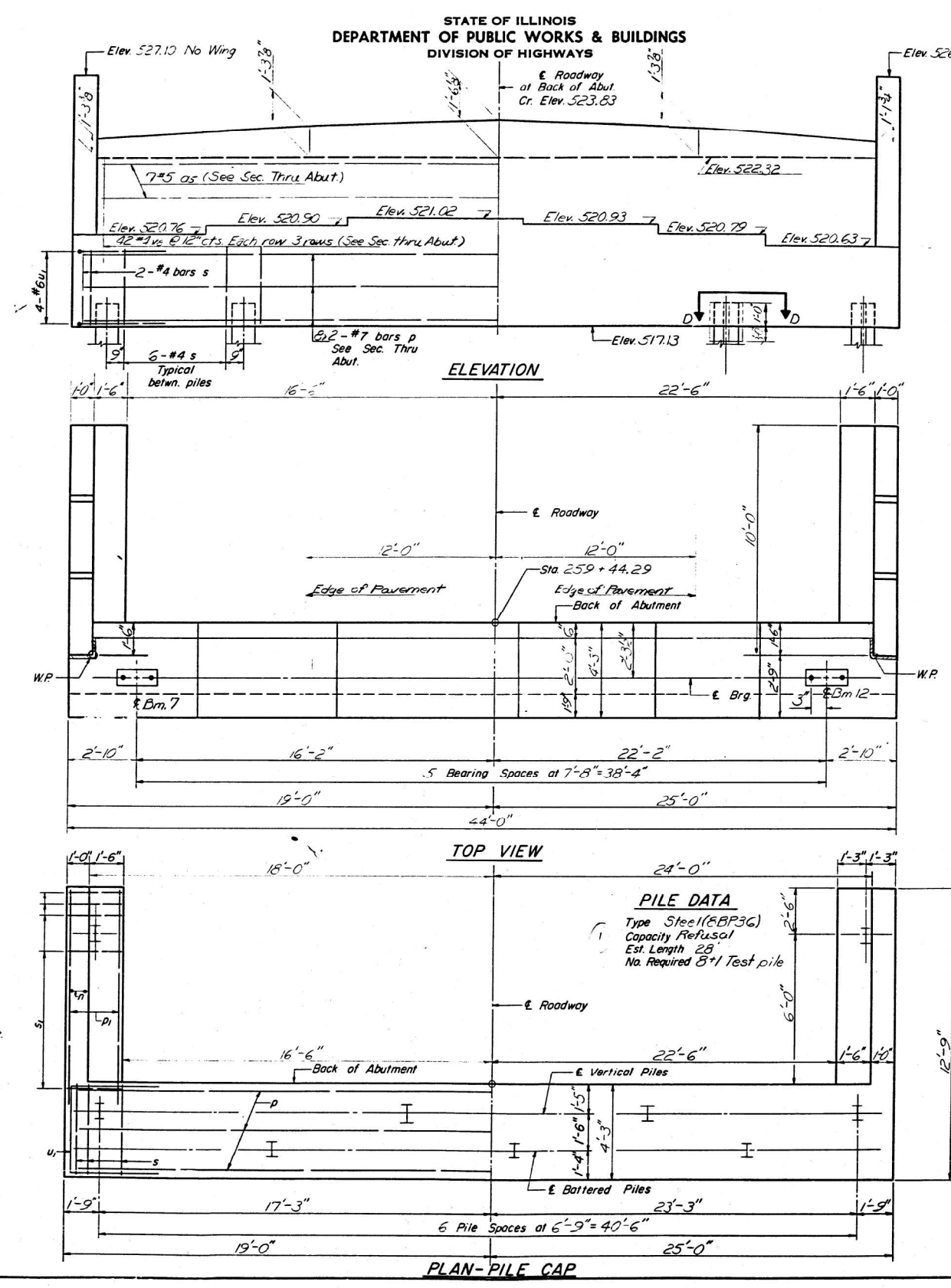
Note:
 Bars indicated this 20x3-#5 etc.
 indicates 20 lines of bars with 3
 lengths per line.
 Min. bar laps - 24 dia.



DESIGNED: J. M. Pate
 CHECKED: J. M. Pate
 DRAWN: J. R. Sutherland
 CHECKED: J. M. P.

EXAMINED: [Signature]
 PASSED: [Signature]
 APPROVED: [Signature]

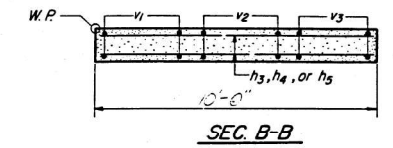
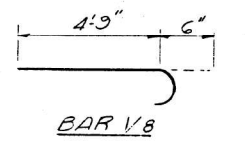
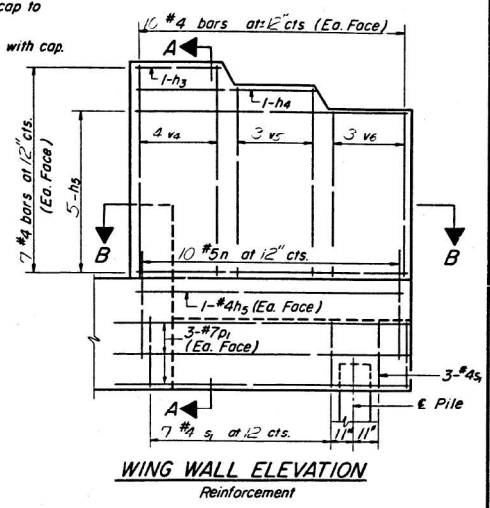
A-9 2-1-66



PILE DATA
 Type Steel (BBP3G)
 Capacity Refusal
 Est. Length 28'
 No. Required 8+1 Test pile

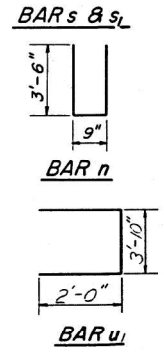
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	44-6	JOHNSON	57	29
SHEET NO. 14				
24 SHEETS				

Space reinforcement in cap to miss anchor bolts.
 Four steps monolithically with cap.



ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
hs	4	#4	3'-0"	—
ha	4	#4	6'-6"	—
hs	24	#4	9'-9"	—
n	20	#5	7'-9"	U
p	16	#7	23'-0"	—
pi	12	#7	10'-0"	—
s	40	#4	14'-11"	□
si	20	#4	9'-5"	□
u1	8	#6	7'-10"	J
v4	16	#4	6'-3"	—
v5	12	#4	5'-6"	—
v6	12	#4	4'-9"	—
v8	126	#4	5'-3"	—
Class X Concrete			Cu. Yds.	34.0
Reinforcement Bars			Lbs.	2580
Steel BBP3G Piles			Lin. Ft.	224
Test Piles (Steel BBP3G)			Ea.	1



EAST ABUT. E.B.L.
 F.I.A. RT.24 - SEC. 44-6H-1
 JOHNSON COUNTY
 STATION 258+93.67 E.B.L.



CIVIL DESIGN, INC.
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 LICENSE # 184.003222

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PLOT DATE =	CHECKED - KAS	REVISIONS -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

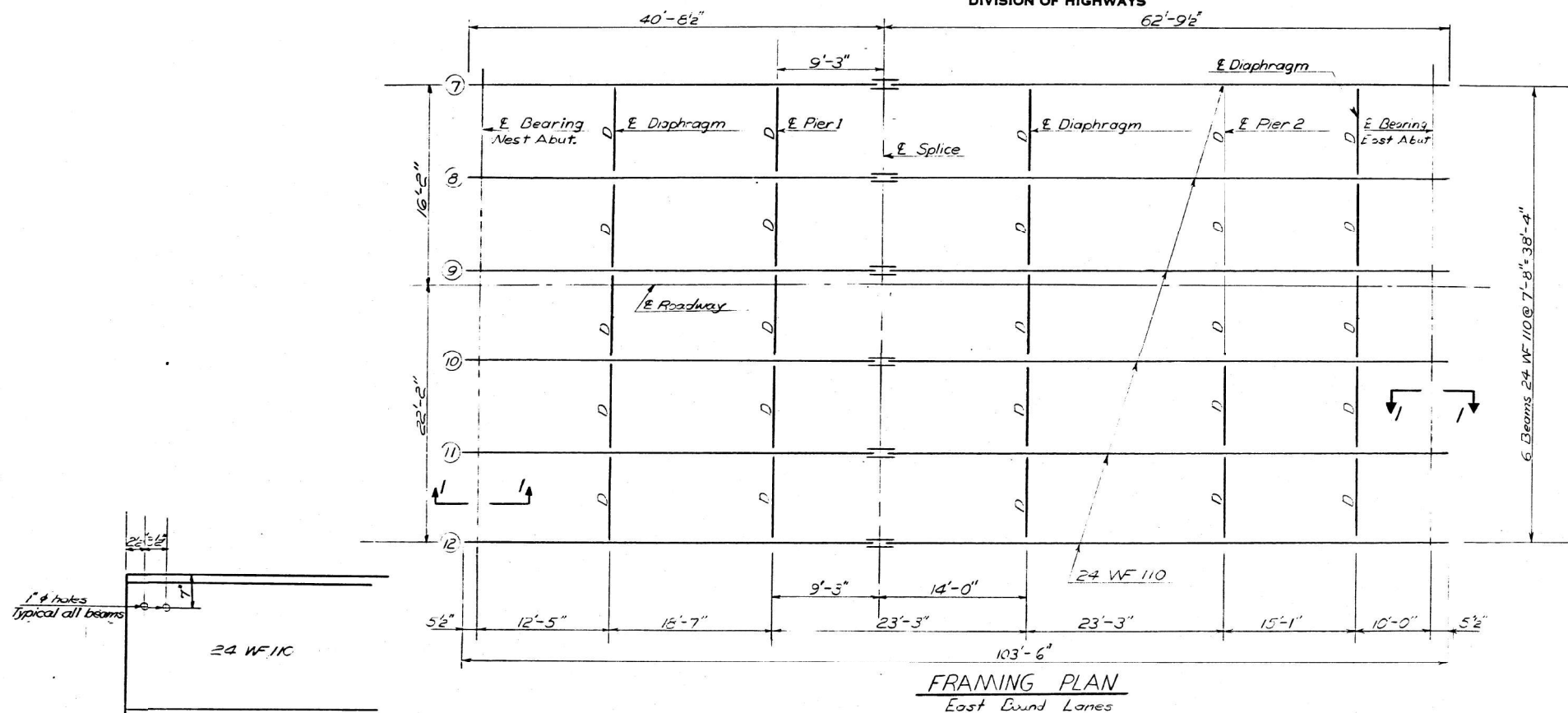
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 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)
 SHEET 25 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	181
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

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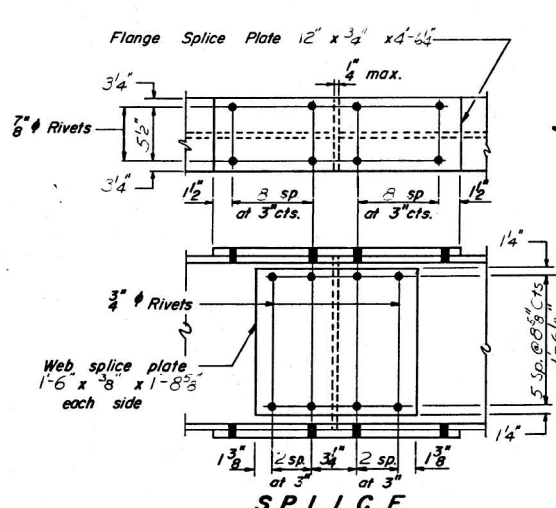
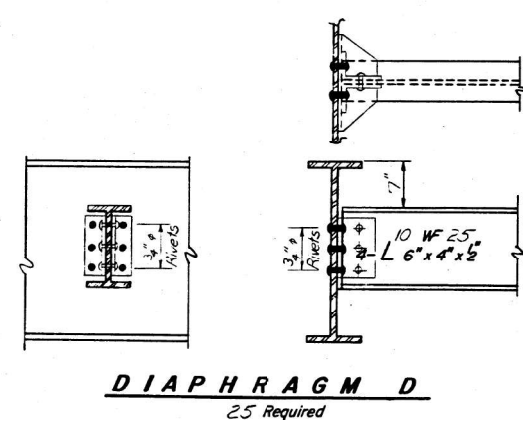
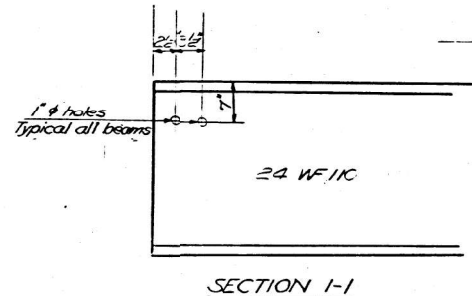
STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 17
RT. 24	4A-6 HB-1	JOHNSON	57	32	24 SHEETS
ILLINOIS FED. AID PROJECT					



TOP OF BEAM ELEVATIONS

	7	8	9	10	11	12
W. Abut.	526.39	526.53	526.65	526.55	526.42	526.26
Pier 1	525.31	525.45	525.57	525.47	525.34	525.18
Splice	524.98	525.13	525.24	525.15	525.02	524.85
Pier 2	523.78	523.92	524.04	523.95	523.81	523.65
E. Abut.	522.97	523.11	523.23	523.14	523.00	522.84



DESIGNED *[Signature]*
 CHECKED J. M. Patel
 DRAWN J. Sutherland
 CHECKED J. M. P.

EXAMINED *[Signature]*
 PASSED
 APPROVED

I-20 1-1-95

STRUCTURAL STEEL LAYOUT
 EAST BOUND LANES
 F.A.I. RT. 24 SEC. - 44-6HB-1
 JOHNSON COUNTY
 STATION 258+93.67 (E.B.)



CIVIL DESIGN, INC.
 WBE / DBE
 EFFINGHAM, IL
 LICENSE # 184.003222

USER NAME =	DESIGNED - RBT	REVISED -
PLOT SCALE =	CHECKED - JS	REVISED -
PLOT DATE =	DRAWN - RBT	REVISED -
	CHECKED - KAS	REVISED -

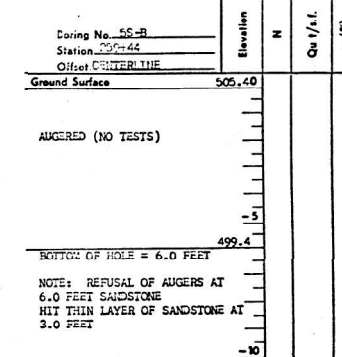
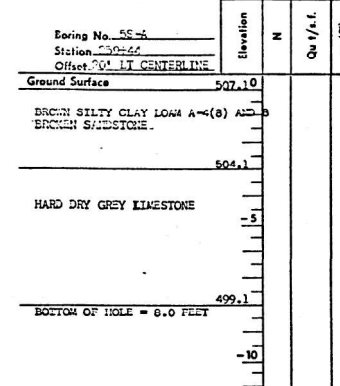
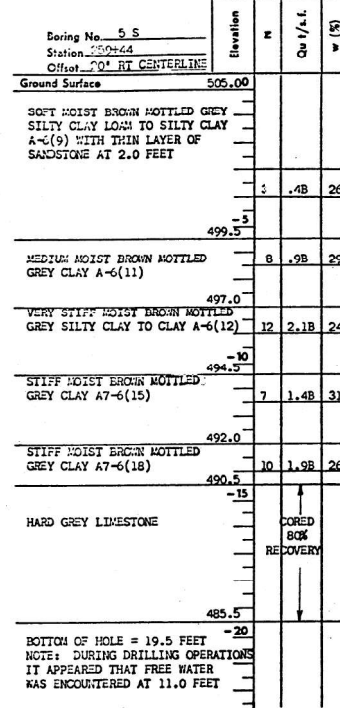
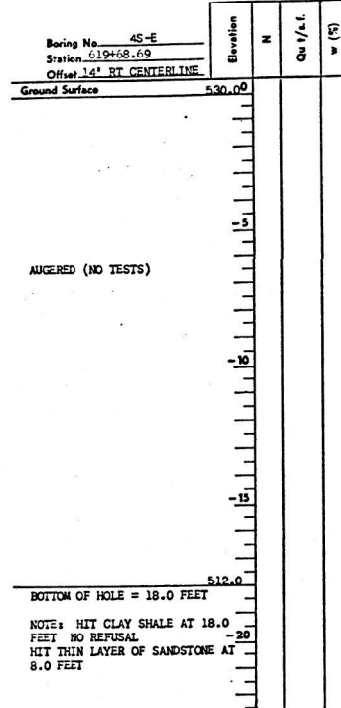
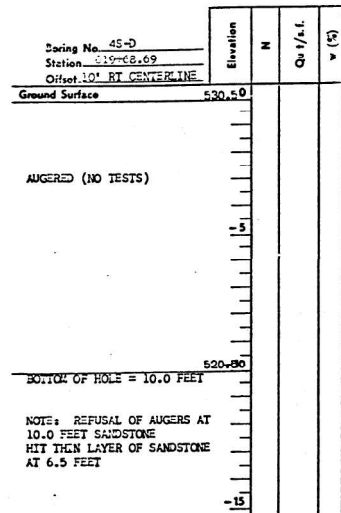
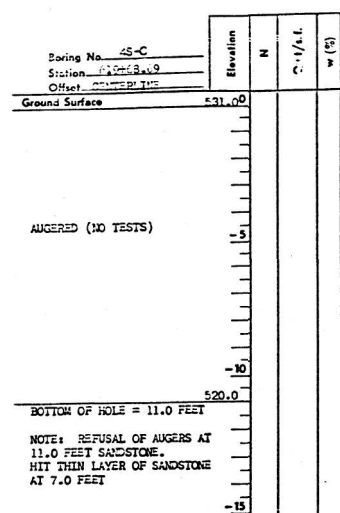
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
 STRUCTURE NO. 044-0049 (E.B.) & 044-0050 (W.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	182
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

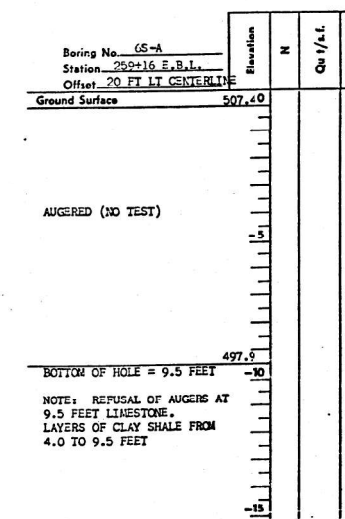
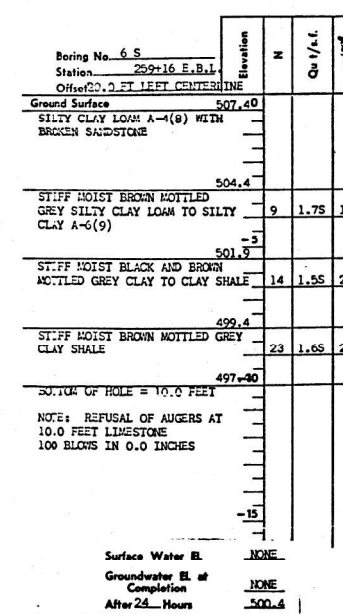
PROJECT NO.	44-6	CONTRACT	57	SHEET NO.	22
DATE	11-24	DESIGNER	JOHNSON	NO. OF SHEETS	24
PROJECT NAME	I-55 BRIDGE REPAIR				



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-1/4"
w-Water Content - percentage of oven dry weight - %
Type failure
B-Bulge Failure
S-Shear Failure
E-Estimated Value
P-Penetrometer

DESIGNED *[Signature]*
CHECKED J.M. Patel
DRAWN *[Signature]*
CHECKED J.M.P.

EXAMINED *[Signature]*
PASSED
APPROVED



BORINGS 4S-C THRU 6S-A
F.A.I. RT. 24 SEC. 44-6MB-1
JOHNSON COUNTY
STA. W.B. 620+29.36
E.B. 258+93.67

Surface Water El. NONE
Groundwater El. at Completion NONE
After 24 Hours 500.4

MODEL: Default
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