

01-21-2022 LETTING ITEM 061

FOR INDEX OF SHEETS, SEE SHEET NO. 3

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 7

FOR ROADWAY STATION EQUATIONS, SEE SHEET NO. 5

FOR STRUCTURAL PAVEMENT DESIGN
INFORMATION, SEE SHEET NO. NA

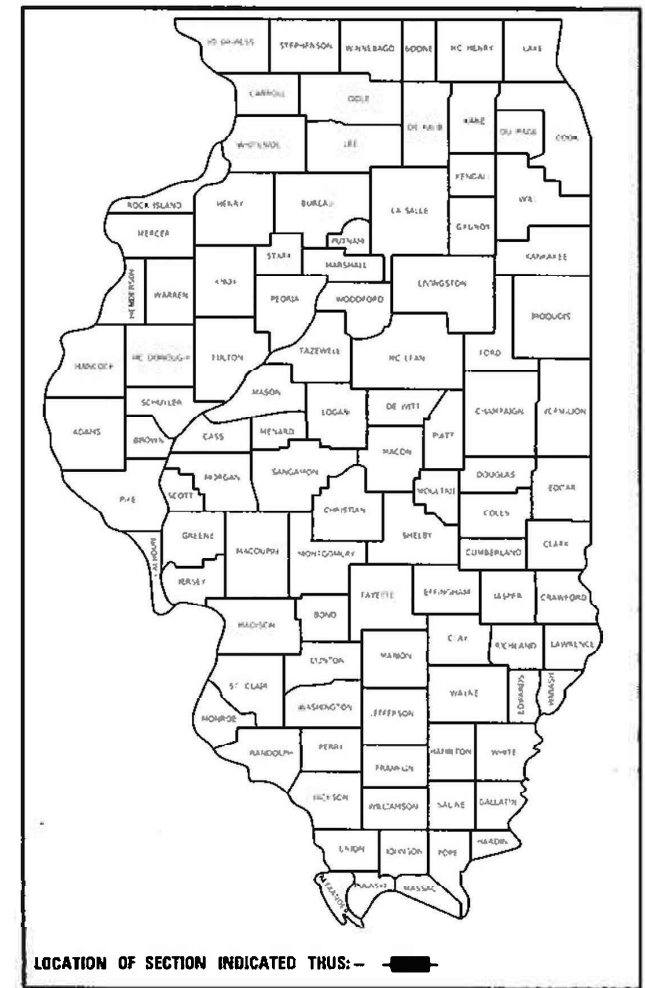
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PROPOSED
HIGHWAY PLANS**

FAI 24 (I-24)
SECTION (44-5,44-6)RS-2;BRIDGE REPAIR 2022-1
PROJECT NHPP-W7ME(729)
RESURFACING AND BRIDGE REPAIR
JOHNSON COUNTY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24		JOHNSON	184	1
ILLINOIS			CONTRACT NO.	78849

D-99-026-21



TRAFFIC DATA

FAI-24 JOHNSON	LOC A	LOC B	LOC C
MP	5 63-12 05	12 05-14 41	14 41-22 05
2020			
PV =	11,725	11,400	11,450
SU =	575	600	650
MU =	5,600	6,400	6,300
ADT =	17,900	18,400	18,400
2032			
PV =	14,870	14,465	14,525
SU =	730	760	825
MU =	7,100	8,115	7,990
ADT =	22,700	23,340	23,340
% TRUCKS	34%	38%	38%

TOWNSHIPS

BLOOMFIELD, VIENNA, GRANTSBURG

DESIGN DESIGNATION : NA

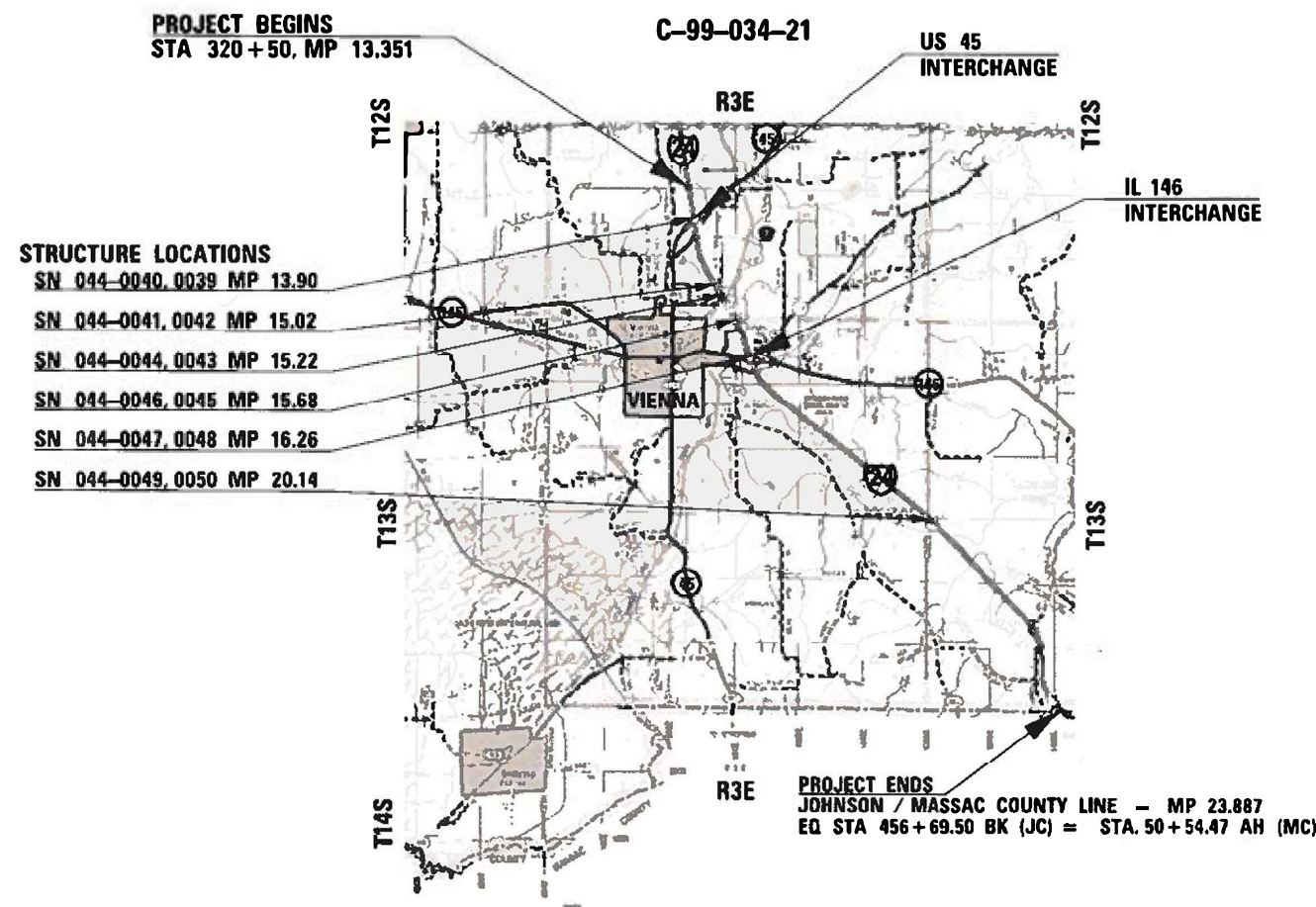
COORDINATE SYSTEM : NA

POSTED SPEED : 70 MPH

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

PROJECT ENGINEER VALERIE ROLLA 618-351-5214
PROJECT DESIGNER DARRYL LEFTWICH .. 618-351-5291

CONTRACT NO. 78849



GROSS LENGTH = 55,630.0 FT. = 10.54 MILES
NET LENGTH = 55,630.0 FT. = 10.54 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 10-22-2021

[Signature]
REGION FIVE ENGINEER

December 10, 2021
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

December 10, 2021
[Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

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DISTRICT OPERATIONS ENGINEER

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DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: Douglas J. [Signature]
DISTRICT CONSTRUCTION ENGINEER

Examined By: R. C. [Signature]
DISTRICT MATERIALS ENGINEER

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	PLOT DATE * 10/15/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SIGNATURE SHEET

SCALE: SHEET _ OF _ SHEETS STA. TO STA.

F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24		JOHNSON	84	2

CONTRACT NO. 78849

ILLINOIS FED. AID PROJECT

INDEX OF SHEETS

SHEET NO	DESCRIPTION
1	COVER SHEET
2	SIGNATURE SHEET
3	INDEX OF SHEETS, HIGHWAY STANDARDS.
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5	ALIGNMENT DETAILS, BRIDGE & OMISSION DATA
6	MTD CROSSING RESTRICTION FOR BRIDGES & CULVERTS
7-15	SUMMARY OF QUANTITIES
16	TYPICAL SECTION: EB & WB I-24
17	TYPICAL SECTION: INTERCHANGE RAMP
18-22	SCHEDULES: PATCHING
23-26	SCHEDULES: HMA RESURFACING
27	SCHEDULES: PCC SHOULDERS - INTERCHANGE RAMP
28-31	SCHEDULES: PAVEMENT MARKING
31	SCHEDULES: ILLINOIS STATE POLICE SPEED ZONE MARKINGS
32	SCHEDULES: DELINEATORS
33-34	SCHEDULES: GUARDRAIL
35-39	SCHEDULES: PIPE UNDERDRAINS
40-41	PLAN SHEETS - US 45 INTERCHANGE
42-43	PLAN SHEETS - IL 146 INTERCHANGE
44	DETAILS: MEDIAN CROSSOVERS FOR AUTHORIZED VEHICLES PIPE UNDERDRAIN OUTLET MARKER
45	DETAILS: CULVERT CLEANOUT : SN 044-2002
46	DETAILS: WINGWALL STABILAZITION: SN 044-7090
47	DETAILS: WIDE LOAD SIGNING PLAN
48	DETAILS: TEMPORARY HMA TRANSITIONS
49	SIGNS: UNEVEN LANE SIGN
50-184	STRUCTURE REPAIR PLANS

HIGHWAY STANDARDS

000001-08	STANDARD SYMBOLS ABBREVIATIONS & PATTERNS
001001-02	AREAS OF REINF REBARS
001006-00	DECIMAL OF INCH & FOOT
421201-07	24 FT CRC PVMT - WITH LUG SYSTEM
442001-04	CLASS A PATCHES
442101-09	CLASS B PATCHES
483001-06	PCC SHOULDER
601001-05	PIPE UNDERDRAINS
630001-12	STEEL PLATE BEAM GUARDRAIL
630301-09	SHLD WIDEN FOR TYPE 1 GRDRAIL TERMS
631011-10	TRAF BAR TERM TYPE 2
631031-17	TRAF BAR TERM TYPE 6
635001-02	DELINEATORS
642001-03	SHOULDER RUMBLE STRIP 16 IN
701101-05	OFF RD OP-MULTI LN - LESS THAN 15 FT TO EOP
701106-02	OFF-ROAD OP, MULTILANE, MORE THAN 15' (4.5m) AWAY
701400-11	APPRCH TO LN CLOSURE - FRWAY EXPWAY
701401-13	LN CLOSURE FRWAY EXPWAY
701402-12	LN CLOSURE FRWAY EXPWAY WITH BARRIER
701406-13	LN CLOSURE FRWAY EXPWAY - DAY OP ONLY
701411-09	LN CLOSURE MULTI LN - ENTR OR EXIT RAMP 45 MPH OR MORE
701426-09	LN CLOSURE MULTI LN - INTERMITTANT OR MOVING OP 45 MPH OR MORE
701456-05	PARTIAL EXIT RAMP CLOSURE FREEWAY EXPRESSWAY
701901-08	TRAF CNTRL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PVMT MRKINGS
781001-04	TYPICAL APP RAISED REFLC PVMT MRKRS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DEATILS
420001-10	PAVEMENT JOINTS
420401-13	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
420701-03	PAVEMENT WELDED WIRE REINFORCEMENT
601101-02	CONCRETE HEADWALL FOR PIPE UNDERDRAIN
606001-08	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
704001-08	TEMPORARY CONCRETE BARRIER

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USER NAME = Lefwichd	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS STANDARDS				F.A.I. RTE:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 11/02/2021	CHECKED -	REVISED -		24 * JOHNSON 184 3 CONTRACT NO. 78849								
	DATE -	REVISED -		*(44-5.44-6)RS-2;BRIDGE REPAIR 2022-1								

GENERAL NOTES

FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL HOT MIX ASPHALT	2.016 TONS/CU. YD.
ALL AGGREGATE	2.05 TONS/CU. YD.
RIPRAP	1.50 TONS/CU. YD.

THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE HMA SURFACE REMOVAL, AND SURFACE COURSE

THE CONTRACTOR SHALL STAMP STATIONING IN THE HOT MIX ASPHALT SURFACE AT 300 FT INTERVALS ON THE INSIDE EDGE OF THE OUTSIDE SHOULDER AND AS DIRECTED BY THE ENGINEER. THE STATION SYMBOL STAMPS USED SHALL BE FURNISHED BY THE CONTRACTOR. THEY SHALL BE 5 1/2 IN. TALL OF A DESIGN APPROVED BY THE ENGINEER, AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

EXISTING PIPE UNDERDRAIN OUTLETS IN THE FORESLOPES OR MEDIAN SLOPES SHALL BE PRESERVED AND PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO AN UNDERDRAIN OUTLET RESULTING FROM CONSTRUCTION ACTIVITY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

HMA RESURFACING SHALL BE PLACED IN A SEQUENCE THAT WILL MINIMIZE THE TIME THE CENTERLINE EDGE IS EXPOSED TO TRAFFIC. WHEN AT THE END OF A DAY'S OPERATION THE EXPOSED CENTERLINE EDGE IS GREATER THAN 2,000 FT, THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE ADJACENT LANE ON THE FOLLOWING WORK DAY. PRIOR TO WINTER SHUTDOWN, RESURFACING ON ADJACENT LANES IS TO BE BROUGHT UP TO THE SAME ELEVATION.

ALL GUARDRAIL POSTS SHALL BE DRIVEN THROUGH THE AGGREGATE SHOULDER.

TREES MAY BE REMOVED FROM OCT 1ST TO MARCH 31ST

COMMITMENTS: NONE

HMA MIXTURE REQUIREMENTS TABLES

The following HMA mixture requirements are applicable for this project.

Locations	Hot-Mix Asphalt Surface Course
Mixture Use(s):	Polymerized Stone Matrix Asphalt, Surface, Mix E, N80
AB/PG:	SBS PG76-22
ABR % (Max):	See Special Provision
Design Air Voids:	4.0 %, 80 Gyration Design
Mixture Composition:	IL-9.5mm SMA
(Gradation Mixture)	
Friction Aggregate:	SMA Mix E
Mixture Weight:	112 lbs/Sq Yd/in
Quality Management Program:	PFP
Sublot Size:	TBD
Material Transfer Device (Required?)	Yes
Locations	Hot-Mix Asphalt Shoulders and Incidental Hot-Mix Asphalt Surfacing
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix C, N70
AB/PG:	PG64-22
ABR % (Max):	See Special Provision
Design Air Voids:	4.0 %, 70 Gyration Design
Mixture Composition:	IL-9.5mm
(Gradation Mixture)	
Friction Aggregate:	C Surface
Mixture Weight:	112 lbs/Sq Yd/in
Quality Management Program:	QCQA
Sublot Size:	TBD
Material Transfer Device (Required?)	No

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PLOT DATE = 10/22/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES
MIX DESIGNS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	4
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

MTD CROSSING RESTRICTIONS TABLE - BRIDGES

ROUTE I-24 MASSAC CO						MTD CROSSING RESTRICTIONS	
STRUCTURE	FACILITY CARRIED	FEATURE CROSSED	STATION	MP			
BRIDGE STRUCTURES							
PROJECT BEGINS			STA	320+50.00	MP	13.35	
SN 044-0039	I 24 WB	US 45	STA	349+08.64	MP	13.89	Emptied *
SN 044-0040	I 24 EB	US 45	STA	349+59.36	MP	13.90	Emptied *
SN 044-0041	I 24 EB	Old Bloomfield Rd	STA	408+62.20	MP	15.02	Emptied *
SN 044-0042	I 24 WB	Old Bloomfield Rd	STA	408+62.20	MP	15.02	Emptied *
SN 044-0044	I 24 EB	Tunnel Hill State Trail	STA	418+98.89	MP	15.22	Emptied *
SN 044-0043	I 24 WB	Tunnel Hill State Trail	STA	418+63.08	MP	15.21	Emptied *
SN 044-0046	I 24 EB	Little Cache Creek	STA	443+28.45	MP	15.68	Emptied *
SN 044-0045	I 24 WB	Little Cache Creek	STA	443+29.23	MP	15.68	Emptied *
SN 044-0047	I 24 EB	ILL 146	STA	474+04.20	MP	16.26	Emptied *
SN 044-0048	I 24 WB	ILL 146	STA	474+64.32	MP	16.27	Emptied *
SN 044-0049	I 24 EB	TR 173 Bethlehem Ch	STA	258+90.71	MP	20.14	Emptied *
SN 044-0050	I 24 WB	TR 173 Bethlehem Ch	STA	620+26.44	MP	20.14	Emptied *
PROJECT ENDS			STA	456+69.50	MP	23.89	

* Emptied MTD: Max Gross Weight <= 40 Tons

MTD CROSSING RESTRICTIONS TABLE - 2000 & 7000 SERIES CULVERTS

ROUTE I-24 MASSAC CO						EXIST FILL HEIGHT OVER CULVERT	EXISTING ** PVMT-THICK OVER CULVERT	Culvert Rating	MTD-CROSSING RESTRICTIONS
STRUCTURE	FACILITY CARRIED	FEATURE CROSSED	STATION	MP		FOOT	FT-IN		
2000 CULVERTS									
SN 044-2002	I-24 EB & WB	DITCH	STA 485+93.03	MP 16.48		24'	0'-11 $\frac{3}{4}$ "	7	Emptied *
7000 CULVERTS									
SN 044-7084	I-24 EB & WB	DITCH	STA 318+66.40	MP 13.32		29'	0'-11 $\frac{3}{4}$ "	6	Emptied *
SN 044-7085	I-24 EB US 45 Exit Ramp	DITCH	STA 342+00.00	MP 13.76		5.1'	0'-11 $\frac{3}{4}$ "	5	Emptied *
SN 044-7086	I-24 EB & WB	DITCH	STA 342+38.00	MP 13.77		13'	0'-11 $\frac{3}{4}$ "	6	Emptied *
SN 044-7087	I-24 EB & WB	DITCH	STA 438+48.66	MP 15.59		17'	0'-11 $\frac{3}{4}$ "	6	Emptied *
SN 044-7088	I 24 EB	DITCH	STA 268+67.38	MP 20.33		24'	0'-11 $\frac{3}{4}$ "	6	Emptied *
SN 044-7093	I 24 WB	DITCH	STA 639+97.30	MP 20.52		16'	0'-11 $\frac{3}{4}$ "	7	Emptied *
SN 044-7092	I 24 WB	DITCH	STA 667+31.20	MP 21.03		41'	0'-11 $\frac{3}{4}$ "	6	Emptied *
SN 044-7089	I 24 EB	DITCH	STA 307+13.47	MP 21.05		54'	0'-11 $\frac{3}{4}$ "	6	Emptied *
SN 044-7091	I 24 EB (60" at 40° Skew)	DITCH	STA 321+87.20	MP 21.33		7'	0'-11 $\frac{3}{4}$ "	5	Emptied *
SN 044-7090	I-24 EB & WB	DITCH	STA 445+00.00	MP 23.67		16'	0'-11 $\frac{3}{4}$ "	5	Emptied *

* Emptied MTD: Max Gross Weight <= 40 Tons

** EXISTING: Most Culverts have 11 $\frac{3}{4}$ " (8" CRC & 3 $\frac{3}{4}$ " HMA) of existing Pavement over them.
There is 4" of Aggregate Subbase beneath the Existing CRC Pavement

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PLOT DATE = 10/22/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

MTD CROSSING RESTRICTIONS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*		184	6
CONTRACT NO. 78849				
		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES - CONT

COUNTY:	JOHNSON CO	JOHNSON CO
ROUTE:	FAI 24	FAI 24
FUNDING:	90% FEDERAL 10% STATE	90% FEDERAL 10% STATE
LOCATION:	RURAL	BRIDGE
	ROADWAY	REHABILITATION
	0005	0013

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ROADWAY	BRIDGE REHABILITATION
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	94		94
60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	32		32
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	928		928
60600605	CONCRETE CURB, TYPE B	FOOT	360	360	
60905305	BOX CULVERTS TO BE CLEANED	FOOT	1,330	1,330	
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	7,452.5	7,452.5	
* 63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	3,687.5	3,687.5	
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	7	7	
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	24	24	
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	28	28	
63200310	GUARDRAIL REMOVAL	FOOT	12,902	12,902	
63500105	DELINEATORS	EACH	486	486	
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	220,329	220,329	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	22	22	

* SPECIALTY ITEM

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			SCALE:	SHEET OF SHEETS	STA. TO STA.

*(44-5.44-6)RS-2;BRIDGE REPAIR 2022-1

SUMMARY OF QUANTITIES - CONT

COUNTY:	JOHNSON CO	JOHNSON CO
ROUTE:	FAI 24	FAI 24
FUNDING:	90% FEDERAL 10% STATE	90% FEDERAL 10% STATE
LOCATION:	RURAL	BRIDGE
	ROADWAY	REHABILITATION
	0005	0013

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ROADWAY	BRIDGE REHABILITATION
X2503100	MOWING	UNIT	556	556	
X4201410	BRIDGE APPROACH PAVEMENT CONNECTOR (SPECIAL)	SQ YD	1,224		1,224
X5030250	BRIDGE DECK GROOVING (LONGITUDINAL)	SQ YD	5,799		5,799
X6350120	DELINEATOR REMOVAL	EACH	486	486	
X7830050	RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL	EACH	64		64
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	12,272		12,272
Z0004552	APPROACH SLAB REMOVAL	SQ YD	1,226		1,226
Z0006021	BRIDGE DECK LATEX CONCRETE OVERLAY, 3 1/4 INCHES	SQ YD	7,650		7,650
* Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1		1
* Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1		1
* Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1		1
* Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4	L SUM	1		1
* Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1		1

* SPECIALTY ITEM

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*(44-5.44-6)RS-2;BRIDGE REPAIR 2022-1

SUMMARY OF QUANTITIES - CONT

COUNTY:	JOHNSON CO	JOHNSON CO
ROUTE:	FAI 24	FAI 24
FUNDING:	90% FEDERAL 10% STATE	90% FEDERAL 10% STATE
LOCATION:	RURAL	BRIDGE
	ROADWAY	REHABILITATION
	0005	0013

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY		
* Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1		1
* Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1		1
* Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1		1
Z0012148	BRIDGE DECK SCARIFICATION 3"	SQ YD	7,830		7,830
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	931		931
Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	66		66
Z0015550	DEBRIS REMOVAL	CU YD	2		2
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	1		1
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	23		23
Z0029090	DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	10,628		10,628
Z0034105	MATERIAL TRANSFER DEVICE	TON	26,997	26,997	
Z0041895	POLYMER CONCRETE	CU FT	79.6		79.6
Z0043800	PRECAST PRESTRESSED CONCRETE I-BEAM REPAIR	SQ FT	96.3		96.3
Ø Z0076600	TRAINEES	HOUR	1500	1500	
Z0065730	SLOPE WALL SLURRY PUMPING	CU YD	15.3		15.3
Ø Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	1500	1500	

* SPECIALTY ITEM

Ø 0042

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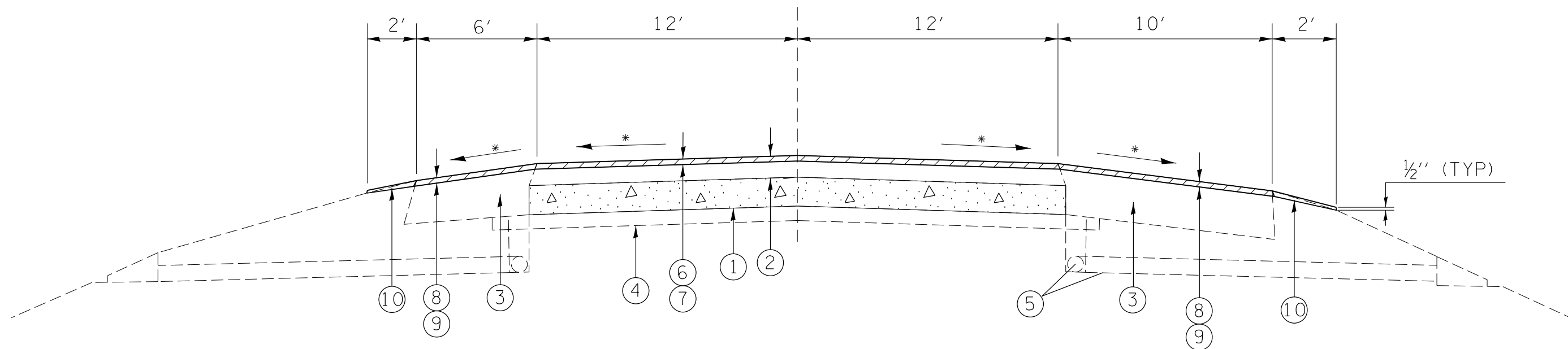
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USER NAME = Leftwichd	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES SHEET 9 OF 9				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	JOHNSON	184	15
PLOT DATE = 10/22/2021	DATE -	REVISED -									CONTRACT NO. 78849		
											ILLINOIS	FED. AID PROJECT	

*(44-5.44-6)RS-2:BRIDGE REPAIR 2022-1

TYPICAL SECTION I-24

⊥ FAI 24
 (EB & WB LANES)
 (LOOKING IN DIRECTION OF TRAVEL)



TO BE USED:
 EAST BOUND LANES THROUGHOUT
 SEE SHEET 5 FOR STATION EQUATIONS & OMISSIONS

TO BE USED:
 WEST BOUND LANES THROUGHOUT
 SEE SHEET 5 FOR STATION EQUATIONS & OMISSIONS

- ① EXIST CRC PAVEMENT, 8"
- ② EXIST BIT SURFACE (1 1/2") AND BINDER (2 1/4")
- ③ EXIST HMA SHOULDERS
- ④ EXIST STABILIZED SUB-BASE, 4"
- ⑤ EXIST PIPE UNDERDRAINS (TO REMAIN IN PLACE - TYP)
- ⑥ PROP HMA SURFACE REMOVAL, 1 1/2" (REMOVE EXISTING HMA SURFACE)
- ⑦ PROP POLY HMA SURFACE COURSE, SMA, 9.5 MIX E, N80 (1 1/2")
- ⑧ PROP HMA SURFACE REMOVAL, 1 1/2" (SHOULDERS)
- ⑨ PROP HMA SHOULDERS (1 1/2") WITH RUMBLE STRIPS
- ⑩ PROP AGGREGATE WEDGE SHOULDERS, TY B

* MATCH EXIST SLOPES
 ** THE DEPTH OF HMA SURFACE REMOVAL MAY VARY BENEATH OVERPASSES AND ADJACENT AREAS

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PLOT DATE = 10/22/2021	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TYPICAL SECTION
 I-24 EAST BOUND & WEST BOUNDS LANES**

SCALE: SHEET OF SHEETS STA. TO STA.

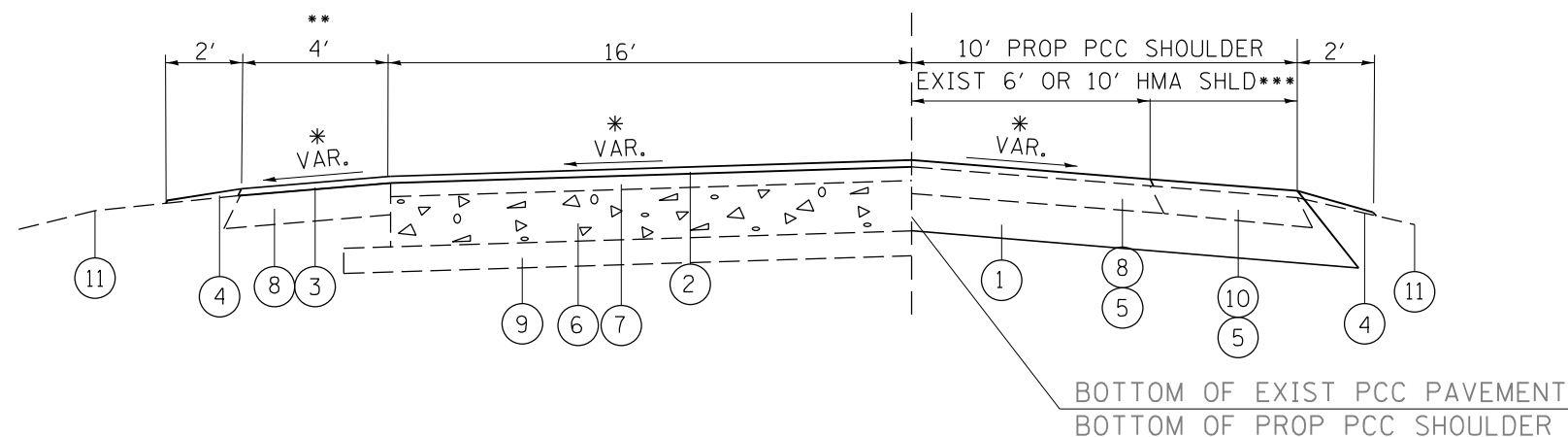
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	16
			CONTRACT NO. 78849	
			ILLINOIS FED. AID PROJECT	

TYPICAL SECTION

INTERCHANGE RAMPS

DRAWING NOT TO SCALE

T
L
RAMP
(LOOKING IN DIRECTION OF TRAVEL)



TO BE USED

US 45 INTERCHANGE (VIENNA/HARRISBURG)

RAMP A, WB ENTR: STA 11+15 TO STA 21+70

RAMP B, WB EXIT: STA 10+00 TO STA 25+20

RAMP C, EB ENTR: STA 11+13 TO STA 20+00

RAMP D, EB EXIT: STA 10+00 TO STA 25+20

IL 146 INTERCHANGE (VIENNA/GOLCONDA)

RAMP A, WB ENTR: STA 10+24 TO STA 22+34.5

RAMP B, WB EXIT: STA 10+00 TO STA 19+98.5

RAMP C, EB ENTR: STA 11+03 TO STA 25+50.0

RAMP D, EB EXIT: STA 10+00 TO STA 20+86.8

- ① PROP PCC SHOULDERS, 11 $\frac{3}{4}$ "
- ② PROP HMA SURFACE REMOVAL, 1 $\frac{1}{2}$ "
PROP POLY HMA SURFACE COURSE, SMA, 9.5 MIX E, N80 (1 $\frac{1}{2}$ "')
- ③ HMA SURFACE REMOVAL, 1 $\frac{1}{2}$ "
PROP HMA SHOULDERS (1 $\frac{1}{2}$ "')
- ④ PROP AGG WEDGE SHOULDERS
- ⑤ PROP PAVED SHOULDER REMOVAL
- ⑥ EXIST 8" PCC PAVEMENT
- ⑦ EXIST 3 $\frac{3}{4}$ " HMA OVERLAY
- ⑧ EXIST BITUMINOUS SHOULDERS - SEE SHOULDER NOTE BELOW
- ⑨ EXIST 4" AGGREGATE SUB-BASE
- ⑩ EXIST HMA SHOULDER WIDENING AT VARIOUS LOCATIONS ***
- ⑪ EXIST GROUNDLINE

- * MATCH EXISTING SLOPES
- ** WIDTH MAY VARY
- *** 10' AT VARIOUS LOCATIONS - SEE INTERCHANGE PLAN SHEETS

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PLOT DATE = 10/22/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION
I-24 INTERCHANGE RAMPS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	17
			CONTRACT NO. 78849	
			ILLINOIS FED. AID PROJECT	

(44-5.44-6)RS-2;BRIDGE REPAIR 2022-1

PAVEMENT PATCHING - CLASS A - WEST BOUND LANES - CONT

PAVEMENT PATCHING - CLASS A					CLASS A PATCHING				ADDITIONAL QUANTITIES FOR CLASS A PAVEMENT PATCHING			
PATCH NO	MP	LANE	WIDTH LENGTH		TOTAL AREA	PVMT PATCHES I-12" SQ YD	PVMT PATCHES II-12" SQ YD	PVMT PATCHES III-12" SQ YD	PVMT PATCHES IV-12" SQ YD	SAW CUTS FOOT	TIE BARS EACH	PATCHING REINFORCEMENT SQ YD
			FT	FT								
TOTALS FROM PREVIOUS SHEET												
I-24 WB - CONT												
41		DL	12	6	8		8			2838	80	603
42		DL	12	10	14		14					
43		DL	12	10	14		14					
44		PL	12	6	8		8			60		8
45		PL	12	6	8		8			68		14
46		PL	12	8	11		11			68		14
47		PL	12	8	11		11					
48		PL	4	4	2	2				60		8
49		PL	12	6	8		8			60		8
50		PL	12	5	7		7			64		11
51		PL	12	5	7		7			64		11
52		PL	12	5	7		7			24		2
53		PL	12	6	8		8			60		8
54		PL	12	5	7		7			58		7
55		PL	12	6	8		8			58		7
56		PL	12	10	14		14			58		7
I-24 WB TOTALS						8	355	160	222	3786	80	745

PAVEMENT PATCHING - CLASS A - PROJECT TOTALS

PAVEMENT PATCHING - CLASS A					CLASS A PATCHING				ADDITIONAL QUANTITIES FOR CLASS A PAVEMENT PATCHING			
PATCH NO	MP	LANE	WIDTH LENGTH		TOTAL AREA	PVMT PATCHES I-12" SQ YD	PVMT PATCHES II-12" SQ YD	PVMT PATCHES III-12" SQ YD	PVMT PATCHES IV-12" SQ YD	SAW CUTS FOOT	TIE BARS EACH	PATCHING REINFORCEMENT SQ YD
			FT	FT								
I-24 DIP TOTALS							36	4567		9562	1116	4603
EAST BOUND LANES TOTAL							159	737		5680	206	1310
WEST BOUND LANES TOTAL						8	355	160	222	3786	80	745
I-24 CLASS A PATCHING TOTALS						8	769	355	5526	19028	1402	6658

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*(44-5,44-6)RS-2;BRIDGE REPAIR 2022-1

PAVEMENT PATCHING - CLASS B - RAMPS

PATCHING SURVEY ESTIMATES DETAILS						CLASS B PATCHING				ADDITIONAL QUANTITIES FOR CLASS B PAVEMENT PATCHING				
PATCH NO	MP	LANE	WIDTH FT	LENGTH FT	TOTAL AREA SQ YD	PVMT	PVMT	PVMT	PVMT	*	SAW CUTS	DOWEL BARS	TIE BARS	WELDED WIRE REINFORCEMENT
						TY I-12" SQ YD	TY II-12" SQ YD	TY III-12" SQ YD	TY IV-12" SQ YD	FOOT	EACH	EACH	SQ YD	
INTERCHANGE RAMPS														
1		RAMP	16	8	15			15			72	28		15
2		RAMP	16	6	11		11				66	28		
3		RAMP	16	6	11		11				66	28		
4		RAMP	16	6	11		11				66	28		
5		RAMP	16	6	11		11				66	28		
6		RAMP	16	8	15			15			72	28		15
7		RAMP	16	6	11		11				66	28		
8		RAMP	16	6	11		11				66	28		
9		RAMP	16	6	11		11				66	28		
10		RAMP	16	6	11		11				66	28		
11		RAMP	16	6	11		11				66	28		
12		RAMP	16	20	36				36		108	28	6	36
13		RAMP	16	6	11		11				66	28		
14		RAMP	16	7	13		13				69	28		
15		RAMP	16	7	13		13				69	28		
16		RAMP	16	6	11		11				66	28		
17		RAMP	16	7	13		13				69	28		
18		RAMP	16	6	11		11				66	28		
19		RAMP	16	6	11		11				66	28		
20		RAMP	16	6	11		11				66	28		
21		RAMP	16	6	11		11				66	28		
22		RAMP	16	6	11		11				66	28		
23		RAMP	16	6	11		11				66	28		
24		RAMP	16	6	11		11				66	28		
25		RAMP	16	8	15			15			72	28		15
26		RAMP	16	8	15			15			72	28		15
27		RAMP	16	8	15			15			72	28		15
28		RAMP	16	8	15			15			72	28		15
29		RAMP	16	6	11		11				66	28		
30		RAMP	16	6	11		11				66	28		
31		RAMP	16	6	11		11				66	28		
32		RAMP	16	6	11		11				66	28		
33		RAMP	16	6	11		11				66	28		
34		RAMP	16	6	11		11				66	28		
35		RAMP	16	6	11		11				66	28		
36		RAMP	16	8	15			15			72	28		15
37		RAMP	16	6	11		11				66	28		
38		RAMP	16	6	11		11				66	28		
39		RAMP	16	6	11		11				66	28		
40		RAMP	16	6	11		11				66	28		
41		RAMP	16	8	15			15			72	28		15
42		RAMP	16	6	11		11				66	28		
43		RAMP	16	8	15			15			72	28		15
44		RAMP	16	8	15			15			72	28		15
INTERCHANGE RAMP TOTALS							369.0	150.0	36.0		3015	1232	6	186

* ADDITIONAL SAW CUTS ARE REQUIRED WHEN PATCHES ARE ADJACENT TO PCC SHOULDERS
FOR QUANTITIES SHOWN, THESE PATCHES ARE ASSUMED TO BE ADJACENT TO PCC

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PLOT DATE = 11/29/2021	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CLASS B PATCHING - INTERCHANGE RAMPS
SHEET 1 OF 1**

SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____

F.A.L. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	22
			CONTRACT NO. 78849	

SCHEDULE FOR I-24 HMA PAVING - INTERCHANGE RAMP

FAI-24 - Mainline				COMMENTS	SECTION LENGTH	HMA SURF REMOVAL	HMA SURFACE	HMA SHLDS	AGG SHLD WEDGE	POLY BIT MATLS TACK CT	MATERIAL TRANSFER DEVICE	TEMP RAMPS	INCIDENTAL HMA SURFACE
					(INFO ONLY)	1 1/2"	1 1/2"	1 1/2"					1 1/2"
					FEET	SQ YD	TON	TON	TON	POUND	TON	SQ YD	TON
MP													
US 45 INTERCHANGE													
RAMP A				Begins 10+00.00	WB Entrance Ramp (US 45)								
STA	10+00.00	TO STA	11+15.00		By Others	115.0							
STA	11+15.00	TO STA	19+30.00		Computed Areas (i.e. L x W)	815.0	1812	123	31	21	816	123	18
STA	19+30.00	TO STA	21+70.00		Computed Areas (i.e. L x W)	240.0	534	37	9	7	241	37	18
STA	21+70.00	BK = STA	335+86.10	AH	Stationing Switch								
STA	335+86.10	TO STA	323+83.30		Included with Mainline Quantities	1202.8							
RAMP B				Begins 368+10.10	WB Exit Ramp (US 45)								
STA	368+10.10	TO STA	361+52.20		Included with Mainline Quantities	657.9							
STA	361+52.20	BK = STA	10+00.00	AH	Stationing Switch								
STA	10+00.00	TO STA	15+00.00		Computed Areas (i.e. L x W)	500.0	1112	76	19	13	501	76	18
STA	15+00.00	TO STA	25+20.00		Computed Areas (i.e. L x W)	1020.0	2267	154	39	26	1021	154	18
STA	25+20.00	TO STA	26+43.35		By Others	123.4							
RAMP C				Begins 10+00.00	EB Entrance Ramp (US 45)								
STA	10+00.00	TO STA	11+13.00		By Others	113.0							
STA	11+13.00	TO STA	17+00.00		Computed Areas (i.e. L x W)	587.0	1305	89	22	15	588	89	18
STA	17+00.00	TO STA	20+00.00		Computed Areas (i.e. L x W)	300.0	667	46	12	8	301	46	18
STA	20+00.00	BK = STA	361+04.09	AH	Stationing Switch								
STA	361+04.09	TO STA	371+18.78		Included with Mainline Quantities	1014.7							
RAMP D				Begins 331+31.76	EB Exit Ramp (US 45)								
STA	331+31.76	TO STA	337+90.60		Included with Mainline Quantities	658.8							
STA	337+90.60	BK = STA	10+00.00	AH	Stationing Switch								
STA	10+00.00	TO STA	16+00.00		Computed Areas (i.e. L x W)	600.0	1334	91	23	16	601	91	18
STA	16+00.00	TO STA	25+20.00		Computed Areas (i.e. L x W)	920.0	2045	139	35	24	921	139	18
STA	25+20.00	TO STA	26+18.73		By Others	98.7							
IL 146 INTERCHANGE													
RAMP A				Begins 10+24.00	WB Entrance Ramp (IL 146)								
STA	10+24.00	TO STA	11+13.50		CADD Measured Areas	89.5	423	33	4	3	191	33	112
STA	11+13.50	TO STA	22+34.50		Computed Areas (i.e. L x W)	1121.0	2492	169	42	29	1122	169	18
STA	22+34.50	BK = STA	467+95.10	AH	Stationing Switch								
STA	467+95.10	TO STA	456+27.00		Included with Mainline Quantities	1168.1							
RAMP B				Begins 493+77.10	WB Exit Ramp (IL 146)								
STA	493+77.10	= STA	487+29.20		Included with Mainline Quantities	647.9							
STA	487+29.20	BK TO STA	10+00.00	AH	Stationing Switch								
STA	10+00.00	TO STA	17+00.00		Computed Areas (i.e. L x W)	700.0	1556	106	27	18	701	106	18
STA	17+00.00	TO STA	18+90.00		Computed Areas (i.e. L x W)	190.0	423	29	8	5	191	29	18
STA	18+90.00	= STA	19+98.50		CADD Measured Areas	108.5	682	43	16	4	307	43	135
RAMP C				Begins 10+00.00	EB Entrance Ramp (IL 146)								
STA	10+00.00	TO STA	11+02.90		BY OTHERS	102.9							
STA	11+02.90	TO STA	20+00.00		Computed Areas (i.e. L x W)	897.1	1994	136	34	23	898	136	18
STA	20+00.00	TO STA	25+50.00		Computed Areas (i.e. L x W)	550.0	1223	83	21	14	551	83	18
STA	25+50.00	BK = STA	483+77.40	AH	Stationing Switch								
STA	483+77.40	TO STA	495+11.44		Included with Mainline Quantities	1134.0							
RAMP D				Begins 453+70.99	EB Exit Ramp (IL 146)								
STA	453+70.99	TO STA	460+31.45		Included with Mainline Quantities	660.5							
STA	460+31.45	BK = STA	10+00.00	AH	Stationing Switch								
STA	10+00.00	TO STA	20+86.80		Computed Areas (i.e. L x W)	1086.8	2416	164	41	28	1088	164	18
STA	20+86.80	TO STA	22+11.63		BY OTHERS	124.8							
RAMP TOTALS						17547	22285	1518	383	254	10039	1518	481

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 OFFICE: District 01
 DATE: 10/22/2021

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PLOT DATE = 10/22/2021	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PAVING SCHEDULE - INTERCHANGE RAMP
SHEET 3 - 4**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	25
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				

SCHEDULE FOR I-24 HMA PAVING - PROJECT TOTALS

FAI-24 PAVING TOTALS		COMMENTS	SECTION LENGTH (INFO ONLY)	HMA SURF REMOVAL 1 1/2"	HMA SURFACE 1 1/2"	HMA SHLDS 1 1/2"	AGG SHLD WEDGE	POLY BIT MATLS TACK CT	MATERIAL TRANSFER DEVICE	TEMP RAMPS	INCIDENTAL HMA SURFACE 1 1/2"
	MP		FEET	SQ YD	TON	TON	TON	POUND	TON	SQ YD	TON
		EAST BOUND LANES PAVING TOTALS	55628	248387	12716	8160		111787	12716	858	72
		WEST BOUND LANES PAVING TOTALS	55770	248253	12763	8177		111724	12763	858	
		INTERCHANGE RAMPS Paving TOTALS	17547	22285	1518	383	254	10039	1518	481	
		FROM GUARDRAIL SCHEDULE					150				
		HMA PAVING PROJECT TOTALS		518925	26997	16720	404	233550	26997	2197	72

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PAVING SCHEDULE - PROJECT TOTALS
SHEET 4 - 4**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	26
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

(44-5,44-6)RS-2;BRIDGE REPAIR 2022-1

SCHEDULE FOR I-24 RESURFACING - PCC SHOULDERS

FAI-24 - Mainline				COMMENTS	SECTION LENGTH (INFO ONLY)	PAVED SHOULDER REMOVAL	EXCAVATING AND GRADING EXIST SHLDS	PCC SHOULDERS 11 3/4"	TIE BARS 3/4"	PROTECTIVE COAT
MP	FEET	SQ YD	UNIT							
US 45 INTERCHANGE										
RAMP A										
STA	10+00.00	TO STA	11+15.00	By Others	115.0					
STA	11+15.00	TO STA	19+30.00	Computed Areas (i.e. L x W)	815.0	906	9	906	272	906
STA	19+30.00	TO STA	23+11.14	Computed Areas (i.e. L x W)	381.1	255	4	424	128	424
RAMP B										
STA	10+00.00	TO STA	15+00.00	Computed Areas (i.e. L x W)	500.0	334	5	556	167	556
STA	15+00.00	TO STA	25+20.00	Computed Areas (i.e. L x W)	1020.0	1134	11	1134	340	1134
STA	25+20.00	TO STA	26+43.35	By Others	123.4					
RAMP C										
STA	10+00.00	TO STA	11+13.00	By Others	113.0					
STA	11+13.00	TO STA	17+00.00	Computed Areas (i.e. L x W)	587.0	653	6	653	196	653
STA	17+00.00	TO STA	21+19.41	Computed Areas (i.e. L x W)	419.4	280	5	467	140	467
RAMP D										
STA	10+00.00	TO STA	16+00.00	Computed Areas (i.e. L x W)	600.0	400	6	667	200	667
STA	16+00.00	TO STA	25+20.00	Computed Areas (i.e. L x W)	920.0	1023	10	1023	307	1023
STA	25+20.00	TO STA	26+18.73	By Others	98.7					
IL 146 INTERCHANGE										
RAMP A										
STA	10+24.00	TO STA	11+13.50	CADD Measured Areas	89.5					
STA	11+13.50	TO STA	23+30.10	Computed Areas (i.e. L x W)	1216.6	1352	13	1352	406	1352
RAMP B										
STA	10+00.00	TO STA	17+00.00	Computed Areas (i.e. L x W)	700.0	467	7	778	234	778
STA	17+00.00	TO STA	18+90.00	Computed Areas (i.e. L x W)	190.0	212	2	212	64	212
STA	18+90.00	= STA	19+98.50	CADD Measured Areas	108.5					
RAMP C										
STA	10+00.00	TO STA	11+02.90	BY OTHERS	102.9					
STA	11+02.90	TO STA	20+00.00	Computed Areas (i.e. L x W)	897.1	997	9	997	300	997
STA	20+00.00	TO STA	26+18.60	Computed Areas (i.e. L x W)	618.6	413	7	688	207	688
RAMP D										
STA	10+00.00	TO STA	20+86.80	Computed Areas (i.e. L x W)	1086.8	725	11	1208	363	1208
STA	20+86.80	TO STA	22+11.63	BY OTHERS	124.8					
RAMP TOTALS					17972	9151	105	11065	3324	11065

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PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/22/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

OUTSIDE PCC SHOULDERS - INTERCHANGE RAMPS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	27
			CONTRACT NO. 78849	

SCHEDULE FOR I-24 PAVEMENT MARKING - WEST BOUND LANES

FAI-24 - Mainline	MP	COMMENTS	SECTION LENGTH (INFO ONLY)	THERMOPLASTIC PAVEMENT MARKING					GROOVING FOR RECESSED PAVEMENT MARKING			PAVEMENT MARKING REMOVAL GRINDING	RAISED REFLECTIVE PAVEMENT MARKERS			SHLD RUMBLE STRIP 16"	
				SOLID YELLOW	SOLID WHITE	SKIP DASH WHITE	SOLID WHITE	SOLID WHITE	FOR 6" TPPM	FOR 8" TPPM	FOR 24" TPPM		CRYSTAL	AMBER	REMOVAL		
				6"	6"	6"	8"	24"	7"	9"	25"						
			FEET	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	SQ FT	EACH		EACH	FOOT		
I-24 EB LANES - RURAL																	
PROJECT BEGINS STA 320+50.00 BK																	
STA 320+50.00 TO STA 322+21.19	13.351	Improvement Begins	171.19	172	172	43				387			194	2		2	343
STA 322+21.19 TO STA 322+21.19	13.383	Median Crossover															
STA 322+21.19 TO STA 323+83.30			162.11	163	163	41				367			184	2		2	325
STA 323+83.30 TO STA 331+38.00		WB Entrance Ramp Merge Area	754.70	755	755	189				1699			850	48		48	1510
STA 331+38.00 TO STA 335+86.10		WB Entrance Ramp Merge Area	448.10	449	449	113	897			1011	897		1104	42		42	897
STA 335+86.10 TO STA 348+18.39			1232.29	1233	1233	309				2775			1388	15		15	2465
STA 348+18.39 TO STA 348+18.39		Connector Pvmt & Approach Slab	0.00							0			0				0
STA 348+18.39 TO STA 349+98.89	13.892	Bridge Omission - SN 044-0039	180.50	181	181	46				408			204				361
STA 349+98.89 TO STA 349+98.89		Approach Slab & Connector Pvmt	0.00							0			0				0
STA 349+98.89 TO STA 361+52.20			1153.31	1154	1154	289				2597			1299	14		14	2307
STA 361+52.20 TO STA 365+27.00		WB Exit Ramp Departure Area	374.80	375	375	94	750			844	750		922	35		35	750
STA 365+27.00 TO STA 368+10.10		WB Exit Ramp Departure Area	283.10	284	284	71				639			320	19		19	567
STA 368+10.10 TO STA 407+66.20			3956.10	3957	3957	990				8904			4452	49		49	7913
STA 407+66.20 TO STA 408+06.20		Connector Pvmt & Approach Slab	40.00	40	40	10				90			45				80
STA 408+06.20 TO STA 409+18.20	15.020	Bridge Omission - SN 044-0042	112.00	112	112	28				252			126				224
STA 409+18.20 TO STA 409+58.20		Approach Slab & Connector Pvmt	40.00	40	40	10				90			45				80
STA 409+58.20 TO STA 417+37.14			778.94	779	779	195				1753			877	9		9	1558
STA 417+37.14 TO STA 417+84.40		Connector Pvmt & Approach Slab	47.26	48	48	12				108			54	0		0	95
STA 417+84.40 TO STA 419+41.76	15.210	Bridge Omission - SN 044-0043	157.36	158	158	40				356			178	1		1	315
STA 419+41.76 TO STA 419+87.84		Approach Slab & Connector Pvmt	46.08	47	47	12				106			53	0		0	93
STA 419+87.84 TO STA 442+00.63			2212.79	2213	2213	554				4980			2490	27		27	4426
STA 442+00.63 TO STA 442+40.63		Connector Pvmt & Approach Slab	40.00	40	40	10				90			45				80
STA 442+40.63 TO STA 444+17.83	15.677	Bridge Omission - SN 044-0045	177.20	178	178	45				401			201				355
STA 444+17.83 TO STA 444+57.83		Approach Slab & Connector Pvmt	40.00	40	40	10				90			45				80
STA 444+57.83 TO STA 456+27.00			1169.17	1170	1170	293				2633			1317	14		14	2339
STA 456+27.00 TO STA 463+63.00		WB Entrance Ramp Merge Area	736.00	736	736	184				1656			828	47		47	1472
STA 463+63.00 TO STA 467+95.00		WB Entrance Ramp Merge Area	432.00	432	432	108	864			972	864		1062	40		40	864
STA 467+95.00 TO STA 473+63.30			568.30	569	569	143				1281			641	7		7	1137
STA 473+63.30 TO STA 473+63.30		Connector Pvmt & Approach Slab	0.00										0				0
STA 473+63.30 TO STA 475+65.33	16.270	Bridge Omission - SN 044-0048	202.03	203	203	51				457			229				405
STA 475+65.33 TO STA 475+65.33		Approach Slab & Connector Pvmt	0.00										0				0
STA 475+65.33 TO STA 487+29.20			1163.87	1164	1164	291				2619			1310	14		14	2328
STA 487+29.20 TO STA 491+38.00		WB Exit Ramp Departure Area	408.80	409	409	103	818			921	818		1006	39		39	818
STA 491+38.00 TO STA 493+77.00		WB Exit Ramp Departure Area	239.00	239	239	60				538			269	15		15	478
STA 493+77.00 TO STA 499+01.37			524.37	525	525	132				1182			591	6		6	1049
EQ STA 499+01.37 BK = STA 78+90.80 AH	16.732																
STA 78+90.80 TO STA 88+79.85			989.05	990	990	248				2228			1114	12		12	1979
STA 88+79.85 TO STA 88+79.85	16.919	Median Crossover															
STA 88+79.85 TO STA 231+45.39			14265.54	14266	14266	3567				32099			16050	178		178	28532
STA 231+45.39 TO STA 231+45.39	19.621	Median Crossover															
STA 231+45.39 TO STA 236+52.37			506.98	507	507	127				1141			571	6		6	1014
EQ STA 236+52.37 BK = STA 597+79.11 AH	19.717																
STA 597+79.11 TO STA 619+29.19			2150.08	2151	2151	538				4840			2420	26		26	4301
STA 619+29.19 TO STA 619+29.19		Connector Pvmt & Approach Slab	40.00	40	40	10				90			45				80
STA 619+29.19 TO STA 620+83.69	20.143	Bridge Omission - SN 044-0050	114.50	115	115	29				259			130				229
STA 620+83.69 TO STA 621+23.69		Approach Slab & Connector Pvmt	40.00	40	40	10				90			45				80
STA 621+23.69 TO STA 739+20.44			11796.75	11797	11797	2950				26544			13272	147		147	23594
STA 739+20.44 TO STA 739+20.44		OVERPASS - RICE HILL RD															
STA 739+20.44 TO STA 766+19.20			2698.76	2699	2699	675				6073			3037	33		33	5398
EQ STA 766+19.20 BK = STA 403+52.86 AH	22.906																
STA 403+52.86 TO STA 456+69.50			5316.64	5317	5317	1330				11964			5982	66		66	10634
EQ STA 456+69.50 BK = STA 50+54.47 AH	23.913	County Line															
STA 50+54.47	23.913	Improvement Ends															
WB LANES TOTALS					55787	55787	13960	3329	0	125534	3329	0	64995	913	0	913	111555

FOR ADDITIONAL PAVEMENT MARKING QUANTITIES, SEE SCHEDULES FOR I-24 PAVEMENT MARKING - EAST BOUND LANES & I-24 PAVEMENT MARKING - INTERCHANGE RAMPS

USER NAME = Leftwichd PLOT SCALE = 100,0000' / in. PLOT DATE = 10/22/2021	DESIGNED - DRAWN - CHECKED - DATE -	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING SCHEDULE - WB LANES SHEET 2 - 4	F.A.I. RTE. 24 SECTION * COUNTY JOHNSON TOTAL SHEETS 184 SHEET NO. 29 CONTRACT NO. 78849
SCALE: SHEET OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

(44-5.44-6)RS-2; BRIDGE REPAIR 2022-1

SCHEDULE FOR I-24 PAVEMENT MARKING - INTERCHANGE RAMP

FAI-24 - Mainline				COMMENTS	SECTION LENGTH (INFO ONLY)	THERMOPLASTIC PAVEMENT MARKING					GROOVING FOR RECESSED PAVEMENT MARKING				PAVEMENT MARKING REMOVAL GRINDING	RAISED REFLECTIVE PAVEMENT MARKERS			
						SOLID YELLOW	SOLID WHITE	SOLID WHITE	SOLID WHITE	LTRS & SYMB	FOR 6" TPPM	FOR 12" TPPM	FOR 24" TPPM	LTRS & SYMB		CRYSTAL	AMBER	REMOVAL	
						6"	6"	12"	24"	SQ FT	FOOT	FOOT	FOOT	SQ FT		FOOT	FOOT	FOOT	SQ FT
MP					FEET	FOOT	FOOT	FOOT	FOOT	SQ FT	FOOT	FOOT	FOOT	SQ FT	SQ FT	EACH	EACH	EACH	
US 45 INTERCHANGE																			
RAMP A				Begins 10+00.00	WB Entrance Ramp (US 45)														
STA	10+00.00	TO STA	11+15.00		By Others	115.00													
STA	11+15.00	TO STA	19+78.78		Computed Areas (i.e. L x W)	863.78	864	864			1728			864					
STA	19+78.78	TO STA	21+70.00		Computed Areas (i.e. L x W)	191.22	192	192			384			192		6		6	
STA	21+70.00	BK =	STA 335+86.10	AH	Stationing Switch														
STA	335+86.10	TO STA	323+83.30		Included with Mainline Quantities	1202.80													
RAMP B				Begins 368+10.10	WB Exit Ramp (US 45)														
STA	368+10.10	TO STA	361+52.20		Included with Mainline Quantities	657.90													
STA	361+52.20	BK =	STA 10+00.00	AH	Stationing Switch														
STA	10+00.00	TO STA	15+00.00		Computed Areas (i.e. L x W)	500.00	500	500			1000			500		10		10	
STA	15+00.00	TO STA	25+20.00		Computed Areas (i.e. L x W)	1020.00	1020	1020			2040			1020					
STA	25+20.00	TO STA	26+43.35		By Others	123.35													
RAMP C				Begins 10+00.00	EB Entrance Ramp (US 45)														
STA	10+00.00	TO STA	11+13.00		By Others	113.00													
STA	11+13.00	TO STA	17+00.00		Computed Areas (i.e. L x W)	587.00	587	587			1174			587					
STA	17+00.00	TO STA	20+00.00		Computed Areas (i.e. L x W)	300.00	300	300			600			300		9		9	
STA	20+00.00	BK =	STA 361+04.09	AH	Stationing Switch														
STA	361+04.09	TO STA	371+18.78		Included with Mainline Quantities	1014.69													
RAMP D				Begins 331+31.76	EB Exit Ramp (US 45)														
STA	331+31.76	TO STA	337+90.60		Included with Mainline Quantities	658.84													
STA	337+90.60	BK =	STA 10+00.00	AH	Stationing Switch														
STA	10+00.00	TO STA	16+00.00		Computed Areas (i.e. L x W)	600.00	600	600			1200			600		12		12	
STA	16+00.00	TO STA	25+20.00		Computed Areas (i.e. L x W)	920.00	920	920			1840			920					
STA	25+20.00	TO STA	26+18.73		By Others	98.73													
IL 146 INTERCHANGE																			
RAMP A				Begins 10+24.00	WB Entrance Ramp (IL 146)														
STA	10+24.00	TO STA	11+13.50		CADD Measured Areas	89.50	87	118			205			103					
STA	11+13.50	TO STA	17+37.20		Computed Areas (i.e. L x W)	623.70	624	624			1248			624					
STA	17+37.20	TO STA	22+34.50		Computed Areas (i.e. L x W)	497.30	498	498			996			498		14		14	
STA	17+37.20	BK =	STA 467+95.10	AH	Stationing Switch														
STA	467+95.10	TO STA	456+27.00		Included with Mainline Quantities	1168.10													
RAMP B				Begins 493+77.10	WB Exit Ramp (IL 146)														
STA	493+77.10	=	STA 487+29.20		Included with Mainline Quantities	647.90													
STA	487+29.20	BK TO STA	10+00.00	AH	Stationing Switch														
STA	10+00.00	TO STA	15+03.91		Computed Areas (i.e. L x W)	503.91	504	504			1008			504		14		14	
STA	15+03.91	TO STA	18+90.00		Computed Areas (i.e. L x W)	386.09	387	387			774			387					
STA	18+90.00	=	STA 19+98.50		CADD Measured Areas	108.50	104	377	105	34	481	105	34	42	351				
RAMP C				Begins 10+00.00	EB Entrance Ramp (IL 146)														
STA	10+00.00	TO STA	11+02.90		BY OTHERS	102.90													
STA	11+02.90	TO STA	20+88.29		Computed Areas (i.e. L x W)	985.39	986	986			1972			986					
STA	20+88.29	TO STA	25+50.00		Computed Areas (i.e. L x W)	461.71	462	462			924			462		14		14	
STA	25+50.00	BK =	STA 483+77.40	AH	Stationing Switch														
STA	483+77.40	TO STA	495+11.44		Included with Mainline Quantities	1134.04													
RAMP D				Begins 453+70.99	EB Exit Ramp (IL 146)														
STA	453+70.99	TO STA	460+31.45		Included with Mainline Quantities	660.46													
STA	460+31.45	BK =	STA 10+00.00	AH	Stationing Switch														
STA	10+00.00	TO STA	13+15.73		Computed Areas (i.e. L x W)	315.73	316	316			632			316		9		9	
STA	13+15.73	TO STA	20+86.80		Computed Areas (i.e. L x W)	771.07	772	772			1544			772					
STA	13+15.73	TO STA	22+11.63		BY OTHERS	895.90													
RAMP TOTALS							9723	10027	105	34	42	19750	105	34	42	9986	0	86	86

MODEL: Default
 FILE: Mainline_PavementMarking_Schedule_IL146_IL146_Sheets.dgn
 PROJECT: 78849-CADD-Data-CAD-Projects-09_78849-Sheets.dgn

USER NAME = Leftwichd	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/22/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING SCHEDULE - INTERCHANGE RAMP
SHEET 3 - 4

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE. 24	SECTION *	COUNTY JOHNSON	TOTAL SHEETS 184	SHEET NO. 30
		CONTRACT NO. 78849		
		ILLINOIS FED. AID PROJECT		

SCHEDULE: I-24 DELINEATORS

FAI-24 - Mainline	MP	COMMENTS	SECTION LENGTH (INFO ONLY)	DELINEATORS	
				CRYSTAL	REMOVAL
				EACH	EACH
I-24 EB LANES					
PROJECT BEGINS STA 320+50.00 BK					
STA 320+50.00 TO STA 331+31.76	13.351	Improvement Begins	FEET	EACH	EACH
STA 331+31.76 TO STA 337+90.60		EB Exit Ramp Departure Area	1081.76	3	3
STA 337+90.60 TO STA 361+04.09		EB Entrance Ramp Merge Area	658.84	7	7
STA 361+04.09 TO STA 373+06.00		EB Exit Ramp Departure Area	2313.49	6	6
STA 373+06.00 TO STA 453+70.99		EB Entrance Ramp Merge Area	1201.91	13	13
STA 453+70.99 TO STA 460+33.30		EB Exit Ramp Departure Area	8064.99	21	21
STA 460+33.30 TO STA 483+77.40		EB Entrance Ramp Merge Area	662.31	7	7
STA 483+77.40 TO STA 495+11.44		EB Exit Ramp Departure Area	2344.10	6	6
STA 495+11.44 TO STA 499+01.37		EB Entrance Ramp Merge Area	1134.04	12	12
EQ STA 499+01.37 BK = STA 78+90.80 AH	16.732		389.93	1	1
STA 78+90.80 TO STA 236+52.37		County Line	15761.57	39	39
EQ STA 236+52.37 BK = STA 236+57.01 AH	19.717		16697.96	41	41
STA 236+57.01 TO STA 403+54.97		Improvement Ends	5316.64	13	13
EQ STA 403+54.97 BK = STA 403+52.86 AH	22.880				
STA 403+52.86 TO STA 450+69.50		EB Lanes Totals		169	169
EQ STA 450+69.50 BK = STA 50+54.47 AH	23.887				
STA 50+54.47	23.887				

I-24 EB LANES					
PROJECT BEGINS STA 320+50.00 BK					
STA 320+50.00 TO STA 323+83.30	13.351	Improvement Begins	FEET	EACH	EACH
STA 323+83.30 TO STA 335+86.10		WB Entrance Ramp Merge Area	333.30	1	1
STA 335+86.10 TO STA 361+52.20		WB Exit Ramp Departure Area	1202.80	13	13
STA 361+52.20 TO STA 368+10.10		WB Entrance Ramp Merge Area	2566.10	7	7
STA 368+10.10 TO STA 456+27.00		WB Exit Ramp Departure Area	657.90	7	7
STA 456+27.00 TO STA 467+95.00		WB Entrance Ramp Merge Area	8816.90	23	23
STA 467+95.00 TO STA 487+29.20		WB Exit Ramp Departure Area	1168.00	12	12
STA 487+29.20 TO STA 493+77.00		WB Entrance Ramp Merge Area	1934.20	5	5
STA 493+77.00 TO STA 499+01.37		WB Exit Ramp Departure Area	647.80	7	7
EQ STA 499+01.37 BK = STA 78+90.80 AH	16.732		524.37	2	2
STA 78+90.80 TO STA 236+52.37		County Line	15761.57	39	39
EQ STA 236+52.37 BK = STA 597+79.11 AH	19.717		16840.09	42	42
STA 597+79.11 TO STA 766+19.20		Improvement Ends	5316.64	13	13
EQ STA 766+19.20 BK = STA 403+52.86 AH	22.906				
STA 403+52.86 TO STA 456+69.50		WB Lanes Totals		171	171
EQ STA 456+69.50 BK = STA 50+54.47 AH	23.913				
STA 50+54.47	23.913				

US 45 INTERCHANGE					
RAMP A					
Begins 10+00.00					
STA 11+15.00 TO STA 19+78.78		WB Entrance Ramp (US 45)	FEET	EACH	EACH
STA 19+78.78 TO STA 21+70.00		Computed Areas (i.e. L x W)	863.78	5	5
RAMP B					
Begins 368+10.10					
STA 10+00.00 TO STA 13+50.84		Computed Areas (i.e. L x W)	191.22	2	2
STA 13+50.84 TO STA 25+20.00		WB Exit Ramp (US 45)	350.84	4	4
RAMP C					
Begins 10+00.00					
STA 11+13.00 TO STA 17+02.55		Computed Areas (i.e. L x W)	1169.16	6	6
STA 17+02.55 TO STA 20+00.00		WB Entrance Ramp (US 45)	589.55	3	3
RAMP D					
Begins 331+31.76					
STA 10+00.00 TO STA 14+49.39		Computed Areas (i.e. L x W)	297.45	3	3
STA 14+49.39 TO STA 25+20.00		WB Exit Ramp (US 45)	449.39	5	5
JL 146 INTERCHANGE					
RAMP A					
Begins 10+24.00					
STA 11+13.50 TO STA 17+37.20		WB Entrance Ramp (IL 146)	623.70	4	4
STA 17+37.20 TO STA 22+34.50		Computed Areas (i.e. L x W)	497.30	5	5
RAMP B					
Begins 493+77.10					
STA 10+00.00 TO STA 15+03.91		WB Exit Ramp (IL 146)	503.91	6	6
STA 15+03.91 TO STA 18+90.00		Computed Areas (i.e. L x W)	386.09	2	2
RAMP C					
Begins 10+00.00					
STA 11+02.90 TO STA 20+88.29		WB Entrance Ramp (IL 146)	985.39	5	5
STA 20+88.29 TO STA 25+50.00		Computed Areas (i.e. L x W)	461.71	5	5
RAMP D					
Begins 453+70.99					
STA 10+00.00 TO STA 13+15.73		WB Exit Ramp (IL 146)	315.73	4	4
STA 13+15.73 TO STA 20+86.80		Computed Areas (i.e. L x W)	771.07	8	8
RAMP TOTALS					
				73	73
				146	146

EB LANES TOTALS	169	0	169
WB LANES TOTALS	171	0	171
RAMP TOTALS	73	73	146
PROJECT TOTALS	413	73	486

USER NAME = Leftwichd	DESIGNED -	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 10/22/2021	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DELINEATORS		SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE:	SHEET OF SHEETS	*	JOHNSON	184	32
				CONTRACT NO. 78849	
				ILLINOIS FED. AID PROJECT	

SCHEDULE FOR I-24 GUARDRAIL - EAST BOUND LANES

FAI-24 - Mainline		COMMENTS	GRD RUN LENGTH INFO ONLY	GRDRAIL REMOVAL	SPBG TYPE A 6 FOOT POSTS	SPBG * TYPE A 9 FOOT POSTS	TRAF BAR TERMINAL TYPE 1 (SPECIAL) TANGENT	TRAF BAR TERM TYPE 2	TRAF BAR TERM TYPE 6	TERM MRK DIRECT APPLIED	GRDRAIL REFLECT TYPE A	CONCRETE CURB TYPE B	AGG SHLD WEDGE				
	MP			FOOT	FOOT	FOOT	EACH	EACH	EACH	EACH	EACH	FOOT	TON				
I-24 EB LANES - RURAL																	
PROJECT BEGINS STA 320+50.00 BK			13.351	Improvement Begins													
STA 345+55.79	TO STA 348+73.79		318.00	318	237.5		1		1	1	5	15	5.0				
STA 345+73.93	TO STA 348+54.43		280.50	281	212.5		1		1	1	4	15	4.4				
STA 348+69.11	TO STA 350+49.61	13.902	Bridge Omission - SN 044-0040														
STA 404+78.20	TO STA 407+96.20		318.00	318	237.5		1		1	1	5	15	5.0				
STA 405+15.70	TO STA 407+96.20		280.50	156	262.5				1		4	15	4.4				
STA 408+06.20	TO STA 409+18.20	15.020	Bridge Omission - SN 044-0041														
STA 414+95.84	TO STA 418+13.84		318.00	318	237.5		1		1	1	5	15	5.0				
STA 415+19.70	TO STA 418+00.20		280.50	281	212.5		1		1	1	4	15	4.4				
STA 418+19.40	TO STA 419+78.38	15.216	Bridge Omission - SN 044-0044														
STA 439+16.40	TO STA 442+34.40		318.00	318	237.5		1		1	1	5	15	5.0				
STA 439+66.40	TO STA 442+34.40		268.00	69	262.5				1		4	15	4.2				
STA 442+44.40	TO STA 444+12.50	15.676	Bridge Omission - SN 044-0046														
STA 469+73.82	TO STA 472+91.82		318.00	318	237.5		1		1	1	5	15	5.0				
STA 470+45.72	TO STA 473+13.72		268.00	268	212.5		1		1	1	4	15	4.2				
STA 473+10.28	TO STA 474+98.11	16.259	Bridge Omission - SN 044-0047														
EQ STA 499+01.37 BK =	STA 78+90.80 AH	16.732	Station Equation														
STA 103+36.00	TO STA 115+73.50		1237.50	1188	175.5	950.0		1			8		3.0				
EQ STA 236+52.37 BK =	STA 236+57.01 AH	19.717	Station Equation														
STA 255+34.63	TO STA 258+27.63		293.00	293	212.5		1		1	1	4	15	4.6				
STA 255+47.13	TO STA 258+27.63		280.50	281	212.5		1		1	1	4	15	4.4				
STA 258+37.63	TO STA 259+43.79	20.140	Bridge Omission - SN 044-0049														
STA 302+07.00	TO STA 310+19.50		812.50	813	238.0	512.5	1	1		1	8		4.8				
STA 301+30.00	TO STA 310+17.50		887.50	888	375.5	450.0	1	1		1	8		7.0				
STA 373+12.50	TO STA 377+50.00		437.50								7		0.0				
EQ STA 403+54.97 BK =	STA 403+52.86 AH	22.880	Station Equation														
EQ STA 456+69.50 BK =	STA 50+54.47 AH	23.887	County Line														
STA 50+54.47		23.887	Improvement Ends														
* 9 FT POSTS TO BE USED AT THE LOCATIONS INDICATED BEHIND CC&G				EB LANE TOTALS				6108	3564.0	1912.5	12	3	12	12	84	180	71

FOR ADDITIONAL GUARDRAIL QUANTITIES, SEE THE WEST BOUND LANES GUARDRAIL SCHEDULE

REV. - MS

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PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/22/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL SCHEDULE - EB LANES
SHEET 1 OF 2**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE. 24	SECTION *	COUNTY JOHNSON	TOTAL SHEETS 184	SHEET NO. 33
		CONTRACT NO. 78849		
ILLINOIS FED. AID PROJECT				

*(44-5.44-6)RS-2; BRIDGE REPAIR 2022-1

MODEL: Default
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FOR INFORMATION ONLY PIPE UNDERDRAIN SCHEDULE FROM CN 98619

LOCATION STATION TO STATION (MP IS THE LAST STA UNLESS OTHERWISE NOTED)	PIPE UNDERDRAINS 4"		PIPE UNDERDRAINS 4" (SPECIAL)		CONCRETE HEADWALLS FOR PIPE DRAINS		COMMENTS
	FOOT		FOOT		EACH		
	LT.	RT.	LT.	RT.	LT.	RT.	
FAL 24 JOHNSON CO. EB LANES							
STA 320 + 50 TO 321 + 60 (MP 13.4)	110.0		12		16	2	
STA 321 + 60							
GAP EXISTING ROCK CUT							
331 + 31.49 TO 336 + 62.31 (MP 13.7)	530.8		12			1	US 45 INTERCHANGE (RAMP 'D')
STA 331 + 31.49							
STA 336 + 00			12			1	
336 + 62.31 TO 337 + 68.04 (MP 13.7)	105.7						US 45 INTERCHANGE (RAMP 'D') NO OUTLETS
337 + 68.04 TO 348 + 68.61 (MP 13.9)	1,100.6		24			2	US 45 INTERCHANGE SAG LOCATION
STA 340 + 00						1	
STA 345 + 00			12			1	
STA 348 + 68			12			1	
338 + 50 TO 348 + 68.61 (MP 13.9)		1,018.6					
STA 338 + 50					16	1	
STA 343 + 00					16	1	
STA 348 + 68					16	1	
GAP STRUCTURE #044-0040							
350 + 50.11 TO 361 + 07.57 (MP 14.1)	1,057.5	1,057.5	12		16	2	US 45 INTERCHANGE
STA 350 + 50.11						2	
STA 355 + 00			12		16	2	
STA 361 + 07			12		16	2	
361 + 07.57 TO 363 + 26.79 (MP 14.2)	219.2						US 45 INTERCHANGE (RAMP 'C') NO OUTLETS
363 + 26.79 TO 372 + 77.18 (MP 14.3)	950.4		12			1	US 45 INTERCHANGE (RAMP 'C')
STA 365 + 00						1	
STA 370 + 00			12			1	
GAP EXISTING ROCK CUT							
380 + 86 TO 408 + 05.70 (MP 15.0)	2,719.7	2,719.7					
STA 385 + 00			12		16	2	
STA 390 + 00			12		16	2	
STA 395 + 00			12		16	2	
STA 400 + 00			12		16	2	
STA 404 + 50			24		32	4	SAG LOCATION
GAP STRUCTURE #044-0041							
409 + 18.7 TO 418 + 18.90 (MP 15.2)	900.2	900.2	12		16	2	
STA 409 + 19						2	
STA 415 + 00			12		16	2	
GAP STRUCTURE #044-0044							
419 + 78.88 TO 427 + 00 (MP 15.4)	721.1	721.1	12		16	2	
STA 419 + 79						2	
STA 425 + 00			12		16	2	
427 + 00 TO 429 + 00 (MP 15.4)	200.0	200.0					
429 + 00 TO 438 + 00 (MP 15.6)	900.0	900.0	12		16	2	
STA 430 + 00						2	
STA 435 + 00			12		16	2	
438 + 00 TO 442 + 43.90 (MP 15.6)	443.9	443.9	12		16	2	
STA 439 + 00							
GAP STRUCTURE #044-0047 AND EXIST. ROCK CUT							
452 + 50 TO 463 + 00 (MP 16.0)	1,050.0		12			1	IL 146 INTERCHANGE (RAMP 'D')
STA 452 + 50						1	
STA 455 + 00			12			1	NO OUTLETS 456+33.68 TO 460+33.97
STA 460 + 50			12			1	
462 + 50 TO 463 + 50 (MP 16.0)	100.0						
STA 463 + 50						1	
STA 463 + 50						1	

1(44-5,44-6)RS-2;BRIDGE REPAIR 2022-1

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FOR INFORMATION ONLY PIPE UNDERDRAIN SCHEDULE FROM CN 98619

LOCATION STATION TO STATION (MP IS THE LAST STA UNLESS OTHERWISE NOTED)	PIPE UNDERDRAINS 4"		PIPE UNDERDRAINS 4" (SPECIAL)		CONCRETE HEADWALLS FOR PIPE DRAINS EACH	COMMENTS
	LT.	RT.	LT.	RT.		
	FOOT	FOOT	FOOT	FOOT		
463 + 00 TO 473 + 09.78 (MP 16.2)	1,009.8	1,009.8	12	16	2	IL 146 INTERCHANGE
STA 463 + 00			12	16	2	
STA 468 + 00						
GAP STRUCTURE #044-0047						
474 + 98.61 TO 479 + 00 (MP 16.4)	401.4	401.4	12	16	2	IL 146 INTERCHANGE
STA 475 + 00						
479 + 00 TO 483 + 78.86 (MP 16.4)	478.9	478.9	12	16	2	IL 146 INTERCHANGE
STA 480 + 00			12	16	2	
STA 482 + 50			12	72	2	
483 + 78.86 TO 485 + 38 (MP 16.5)	159.1	159.1				IL 146 INTERCHANGE (RAMP 'C') NO OUTLETS
485 + 38 TO 485 + 80 (MP 16.5)	42.0	42.0	12	16	2	STRUCTURE #044-2002
STA 485 + 50						
485 + 80 TO 495 + 00 (MP 16.6)	920.0	920.0	24	32	4	IL 146 INTERCHANGE (RAMP 'C') SAG LOCATION
STA 490 + 00			12	16	2	
STA 495 + 00						
485 + 00 TO 489 + 01.37 (MP 16.7)	401.4	401.4				
STATION EQUATION						
78 + 90.80 TO 90 + 53 (MP 17.0)	1,162.2	1,162.2	12	16	2	
STA 80 + 00			12	16	2	
STA 85 + 00			12	16	2	
STA 90 + 50			12	16	2	
GAP EXISTING ROCK CUT						
105 + 50 TO 124 + 00 (MP 17.6)	1,850.0	1,850.0	12	14	2	
STA 105 + 50			12	13	2	
STA 110 + 00			12	13	2	
STA 115 + 00			12	16	2	
STA 120 + 00			12	16	2	
GAP EXISTING ROCK CUT						
130 + 00 TO 197 + 00 (MP 19.0)	6,700.0	6,700.0	12	16	2	CREST AT STA. 138+00
STA 130 + 00			12	16	2	
STA 135 + 00			12	16	2	
STA 140 + 00			12	16	2	
STA 145 + 00			12	16	2	
STA 150 + 00			12	16	2	
STA 155 + 00			12	16	2	
STA 160 + 00			12	16	2	
STA 165 + 00			12	16	2	
STA 168 + 50			24	32	4	
STA 175 + 00			12	16	2	
STA 180 + 00			12	16	2	
STA 185 + 00			12	16	2	
STA 190 + 00			12	16	2	
STA 195 + 00			12	16	2	
GAP EXISTING ROCK CUT						
204 + 00 TO 239 + 60 (MP 19.7)	3,560.0	3,560.0	12	16	2	SAG LOCATION
STA 204 + 00			12	16	2	
STA 210 + 00			12	16	2	
STA 215 + 00			12	16	2	
STA 220 + 00			12	16	2	
STA 225 + 00			12	16	2	
STA 230 + 00			12	16	2	
STA 235 + 00			12	16	2	
STA 239 + 60			12	16	2	CREST AT STA. 228+00
GAP EXISTING ROCK CUT						
253 + 25 TO 258 + 35.92 (MP 20.1)	510.9	510.9	12	16	2	
STA 258 + 35						
GAP STRUCTURE#044-0049						
259 + 51.42 TO 265 + 00 (MP 20.8)	3,548.6	3,548.6	12	16	2	
STA 265 + 00			12	16	2	
STA 270 + 00			12	16	2	

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAIN SCHEDULE
 SHEET 2 OF 5**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	36
CONTRACT NO. 78849				

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FOR INFORMATION ONLY PIPE UNDERDRAIN SCHEDULE FROM CN 98619

LOCATION STATION TO STATION (MP IS THE LAST STA UNLESS OTHERWISE NOTED)	PIPE UNDERDRAINS 4"		PIPE UNDERDRAINS 4" (SPECIAL)		CONCRETE HEADWALLS FOR PIPE DRAINS	COMMENTS
	FOOT		FOOT			
	LT.	RT.	LT.	RT.		
STA 275 + 00			12	16	2	
STA 280 + 00			12	16	2	
STA 285 + 00			12	16	2	
STA 290 + 00			12	16	2	
STA 295 + 00			12	16	2	
GAP EXISTING ROCK CUT						
303 + 75 TO 312 + 54 (MP 21.2)	879.0	879.0	20	28	4	SAG LOCATION
STA 305 + 50						
STA 309 + 00			9	13	2	
GAP EXISTING ROCK CUT						
318 + 00 TO 388 + 00 (MP 22.6)	7,000.0	7,000.0				
STA 318 + 00			12	16	2	
STA 320 + 00			12	16	2	
STA 325 + 00			12	16	2	
STA 330 + 00			12	16	2	
STA 335 + 00			12	16	2	
STA 340 + 00			12	16	2	
STA 345 + 00			12	16	2	
STA 350 + 00			12	16	2	
STA 355 + 00			12	16	2	
STA 360 + 00			12	16	2	
STA 365 + 00			12	16	2	
STA 370 + 00			12	16	2	
STA 375 + 00			12	16	2	
STA 380 + 00			12	16	2	
STA 385 + 00			12	16	2	CREST AT STA 386+00
STA 388 + 00			12	16	2	
GAP EXISTING ROCK CUT						
409 + 00 TO 423 + 00 (MP 23.2)	1,400.0	1,400.0				
STA 415 + 00			12	16	2	
STA 420 + 00			12	16	2	
STA 423 + 00			12	16	2	
GAP EXISTING ROCK CUT						
431 + 60 TO 457 + 44.50 (MP 23.9)	2,584.5	2,584.5				
STA 435 + 00			12	15	2	
STA 440 + 00			12	13	2	
STA 445 + 00			12	16	2	
STA 451 + 50			24	32	4	SAG LOCATION
STA 455 + 00			12	16	2	
EA STBOUND SUBTOTALS						
	43,616.9	40,577.7	1,229	1,589	200	
EASTBOUND TOTALS						
	84,195.0		2,818		200	
WB LANES						
STA 320 + 50 TO 323 + 90.93 (MP 13.3)	340.9	340.9				
STA 323 + 90			16	12	2	
323 + 90.93 TO 333 + 40.71 (MP 13.6)		949.8				
STA 326 + 50				12	1	US 45 INTERCHANGE (RAMP 'A')
STA 330 + 00				12	1	
333 + 40.71 TO 335 + 82.45 (MP 13.7)		241.8				
STA 334 + 00				12	1	US 45 INTERCHANGE (RAMP 'A')
335 + 82.45 TO 348 + 12.89 (MP 13.9)	1,230.4	1,230.4				
STA 336 + 50			16	12	2	US 45 INTERCHANGE
STA 341 + 00.0			32	24	4	SAG LOCATION
STA 345 + 00			16	12	2	
GAP STRUCTURE#044-0039						
349 + 99.39 TO 361 + 48.42 (MP 14.1)	1,149.0	1,149.0				
STA 350 + 00			16	12	2	US 45 INTERCHANGE
STA 353 + 50			16	12	2	
STA 359 + 00			16	12	2	
STA 361 + 48			16	12	2	
361 + 48.42 TO 362 + 85.19 (MP 14.1)	136.8	136.8				
362 + 85.19 TO 368 + 15.18 (MP 14.2)	530.0	530.0				

USER NAME = Leftwichd	DESIGNED -	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 10/22/2021	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAIN SCHEDULE
 SHEET 3 OF 5**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE. 24	SECTION *	COUNTY JOHNSON	TOTAL SHEETS 184	SHEET NO. 37
		CONTRACT NO. 78849		

FOR INFORMATION ONLY PIPE UNDERDRAIN SCHEDULE FROM CN 98619

LOCATION STATION TO STATION <small>(MP IS THE LAST STA UNLESS OTHERWISE NOTED)</small>	PIPE UNDERDRAINS 4"		PIPE UNDERDRAINS 4" (SPECIAL)		CONCRETE HEADWALLS FOR PIPE DRAINS EACH	COMMENTS
	LT.	RT.	LT.	RT.		
	FOOT	FOOT	FOOT	FOOT		
STA 364 + 00 STA 368 + 00			16	12	2	
			16	12	2	
GAP EXISTING ROCK CUT						
380 + 10 TO 408 + 05 (MP 15.0)	2,795.0	2,795.0				
STA 385 + 00			16	12	2	
STA 390 + 00			16	12	2	
STA 395 + 00			16	12	2	
STA 400 + 00			16	12	2	
STA 405 + 50			32	24	4	SAG LOCATION
GAP STRUCTURE #044-0042						
409 + 18 TO 417 + 83.90 (MP 15.2)	865.9	865.9				
STA 409 + 18			16	12	2	
STA 412 + 50			16	12	2	
STA 417 + 00			16	12	2	
GAP STRUCTURE #044-0043						
419 + 42.26 TO 427 + 00 (MP 15.4)	757.7	757.7				
STA 423 + 00			16	12	2	
STA 427 + 00			16	12	2	
427 + 00 TO 429 + 00 (MP 15.4)	200.0	200.0				
429 + 00 TO 438 + 00 (MP 15.6)	900.0	900.0				
STA 432 + 00			16	12	2	
STA 437 + 00			16	12	2	
438 + 00 TO 442 + 40.13 (MP 15.6)	440.1	440.1				
STA 441 + 50			32	24	4	SAG LOCATION
GAP STRUCTURE #044-0045 AND EXISTING ROCK CUT						
452 + 50 TO 456 + 00 (MP 16.0)	350.0	350.0				
STA 455 + 00			16		1	IL 146 INTERCHANGE (RAMP "A") 456+46.80 TO 463+62.28 (NO OUTLETS LT.)
462 + 50 TO 463 + 62.28 (MP 16.0)		1,112.3				
STA 455 + 00				12	1	
STA 460 + 00				12	1	
463 + 62.28 TO 473 + 62.80 (MP 16.2)		1,000.5				
STA 463 + 63				12	1	IL 146 INTERCHANGE
STA 465 + 00				12	1	NO OUTLETS LT. 463+62.28 TO 468+03.68
STA 470 + 00				12	1	
468 + 00 TO 473 + 62.80 (MP 16.2)	562.8	562.8				
STA 470 + 00			16		1	
STA 473 + 62			16		1	
475 + 65.83 TO 479 + 00 (MP 16.4)	334.2	334.2				
STA 475 + 65.83			16	12	2	IL 146 INTERCHANGE
479 + 00 TO 487 + 39.58 (MP 16.5)	839.6	839.6				
STA 480 + 00			16	12	2	IL 146 INTERCHANGE
STA 485 + 00			16	12	2	
487 + 39.58 TO 491 + 37.89 (MP 16.6)		386.3				
STA 490 + 00				12	1	IL 146 INTERCHANGE (RAMP "B") NO OUTLETS LT.
491 + 37.89 TO 493 + 92.71 (MP 16.6)		254.8				
STA 492 + 00				24	2	IL 146 INTERCHANGE (RAMP "B") NO OUTLETS LT. SAG LOCATION
493 + 92.71 TO 499 + 00.66 (MP 16.7)		508.0				
STA 495 + 00				12	1	
494 + 50 TO 499 + 00.66 (MP 16.7)	450.7	450.7				
STA 495 + 00			16		1	
STATION EQUATION						
78 + 90.80 TO 90 + 53 (MP 17.0)	1,162.2	1,162.2				
STA 80 + 00			16	12	2	
STA 85 + 00			16	12	2	
GAP EXISTING ROCK CUT						
105 + 50 TO 197 + 00 (MP 19.0)	9,150.0	9,150.0				

USER NAME = Leftwichd	DESIGNED -	REVISED -	
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIPE UNDERDRAIN SCHEDULE
 SHEET 4 OF 5**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	38
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY PIPE UNDERDRAIN SCHEDULE FROM CN 98619

LOCATION STATION TO STATION (MP IS THE LAST STA UNLESS OTHERWISE NOTED)	PIPE UNDERDRAINS 4"		PIPE UNDERDRAINS 4" (SPECIAL) FOOT		CONCRETE HEADWALLS FOR PIPE DRAINS EACH	COMMENTS
	LT.	RT.	LT.	RT.		
	FOOT	FOOT	FOOT	FOOT		
STA 110 + 00			16	12	2	
STA 115 + 00			16	12	2	
STA 120 + 00			16	12	2	
STA 125 + 00			16	12	2	
STA 130 + 00			16	12	2	
STA 135 + 00			16	12	2	
STA 140 + 00			16	12	2	
STA 145 + 00			16	12	2	
STA 150 + 00			16	12	2	
STA 155 + 00			16	12	2	
STA 160 + 00			16	12	2	
STA 165 + 00			16	12	2	
STA 168 + 50			32	24	4	SAG LOCATION
STA 171 + 00			16	12	2	
STA 175 + 00			16	12	2	
STA 180 + 00			16	12	2	
STA 185 + 00			16	12	2	
STA 190 + 00			16	12	2	
STA 195 + 00			16	12	2	
GAP EXISTING ROCK CUT						
204 + 00 TO 236 + 57 (MP 19.7)	3,257.0	3,257.0				
STA 204 + 00			16	12	2	
STA 210 + 00			16	12	2	
STA 215 + 00			16	12	2	
STA 220 + 00			16	12	2	
STA 225 + 00			16	12	2	
STA 230 + 00			16	12	2	
STA 236 + 50			16	12	2	
STATION EQUATION						
597 + 79.11 TO 602 + 50 (MP 19.8)	470.9	470.9				
STA 602 + 50			16	12	2	
GAP EXISTING ROCK CUT						
615 + 70 TO 619 + 68.69 (MP 20.1)	398.7	398.7				
STA 619 + 68			16	12	2	
GAP STRUCTURE #044-0050						
620 + 84.19 TO 752 + 00 (MP 22.6)	13,115.8	13,115.8				
STA 625 + 00			16	12	2	
STA 630 + 00			16	12	2	
STA 635 + 00			16	12	2	
STA 640 + 00			16	12	2	
STA 645 + 00			32	24	4	SAG LOCATION
STA 650 + 00			16	12	2	
STA 655 + 00			16	12	2	
STA 660 + 00			10	15	2	
STA 665 + 00			16	12	2	
STA 675 + 00			16	12	2	
STA 680 + 00			16	12	2	
STA 685 + 00			16	12	2	
STA 690 + 00			16	12	2	
STA 695 + 00			16	12	2	
STA 700 + 00			16	12	2	
STA 705 + 00			16	12	2	
STA 710 + 00			16	12	2	
STA 715 + 00			16	12	2	
STA 720 + 00			16	12	2	
STA 725 + 00			16	12	2	
STA 730 + 00			16	12	2	
STA 735 + 00			16	12	2	
STA 740 + 00			16	12	2	
STA 750 + 00			16	12	2	
STA 752 + 00			16	12	2	
GAP EXISTING ROCK CUT						
410 + 00 TO 422 + 52 (MP 23.2)	1,250.0	1,250.0				
STA 415 + 00			16	12	2	
STA 420 + 00			16	12	2	
STA 422 + 50			16	12	2	
GAP EXISTING ROCK CUT						
433 + 00 TO 457 + 46 (MP 23.9)	2,446.0	2,446.0				
STA 435 + 00			16	12	2	
STA 440 + 00			16	12	2	
STA 445 + 00			16	12	2	
STA 450 + 00			16	12	2	
STA 452 + 50			32	24	4	SAG LOCATION
WESTBOUND SUBTOTALS						
	43,133.7	46,235.7	1,578	1,287	206	
WESTBOUND TOTALS						
	89,369.0		2,865		206	
PROJECT TOTALS						
	173,564.0		5,683		406	

THIS PIPE UNDERDRAIN SCHEDULE IS FOR INFORMATION ONLY
 IT IS PROVIDED TO GIVE APPROXIMATE OF THE PIPE UNDERDRAIN HEADWALL
 AND TO ESTABLISH APPROXIMATE QUANTITIES FOR RODENT SHIELDS AND HEADWALL SHOULDER MARKERS
 SEE DETAIL SHEET #43

THIS PROJECT: THERMOPLASTIC PAVEMENT MARKING LETTERS AND SYMBOLS RODENT SHIELDS 406 EACH SEE DETAIL SHEET #44
 812 SQ FT

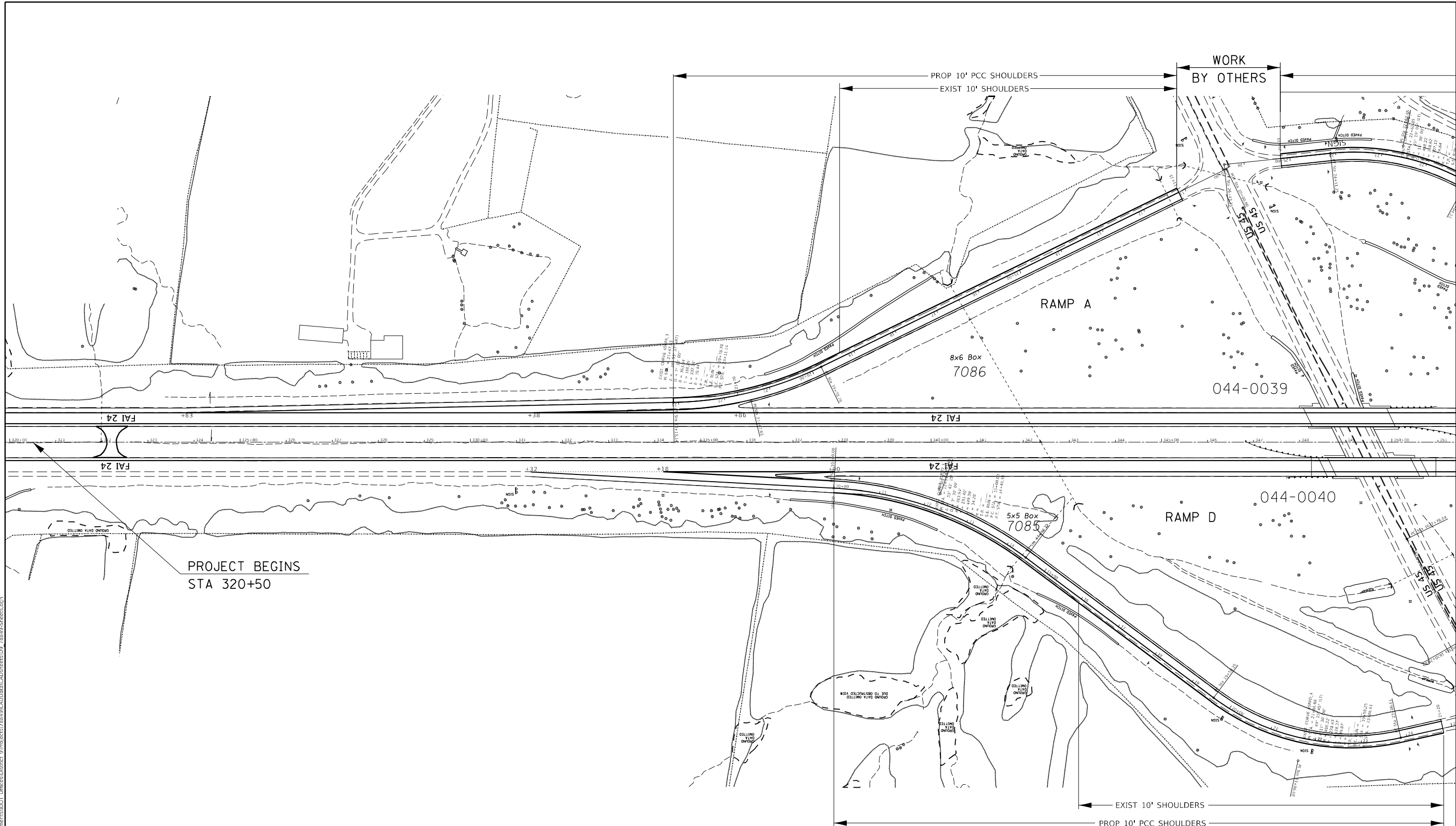
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REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PIPE UNDERDRAIN SCHEDULE
 SHEET 5 OF 5**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE. 24	SECTION *	COUNTY JOHNSON	TOTAL SHEETS 184	SHEET NO. 39
		CONTRACT NO. 78849		
		ILLINOIS FED. AID PROJECT		



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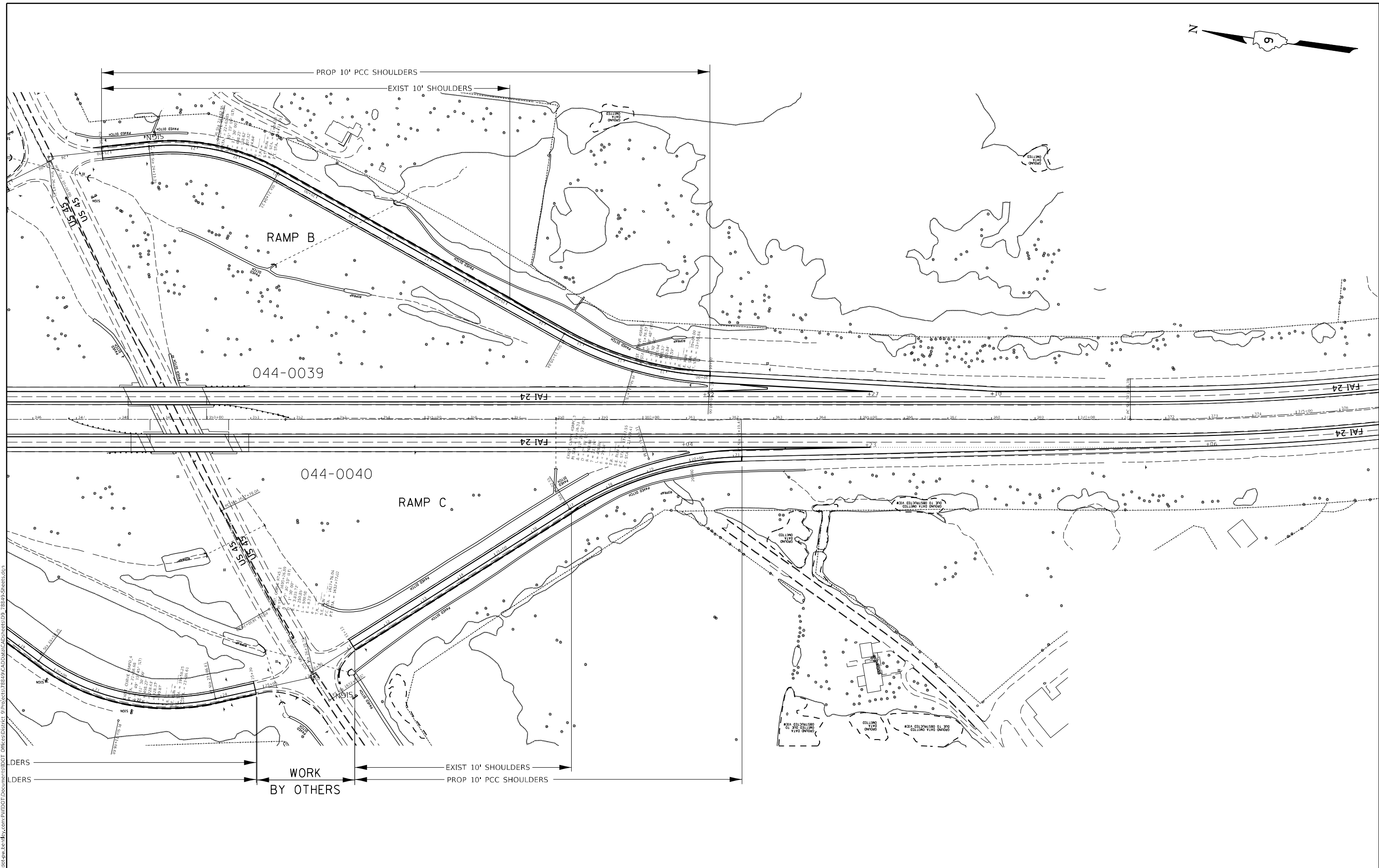
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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN - US 45 INTERCHANGE			
SHEET 1 OF 2			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	40
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

(44-5,44-6)RS-2;BRIDGE REPAIR 2022-1



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

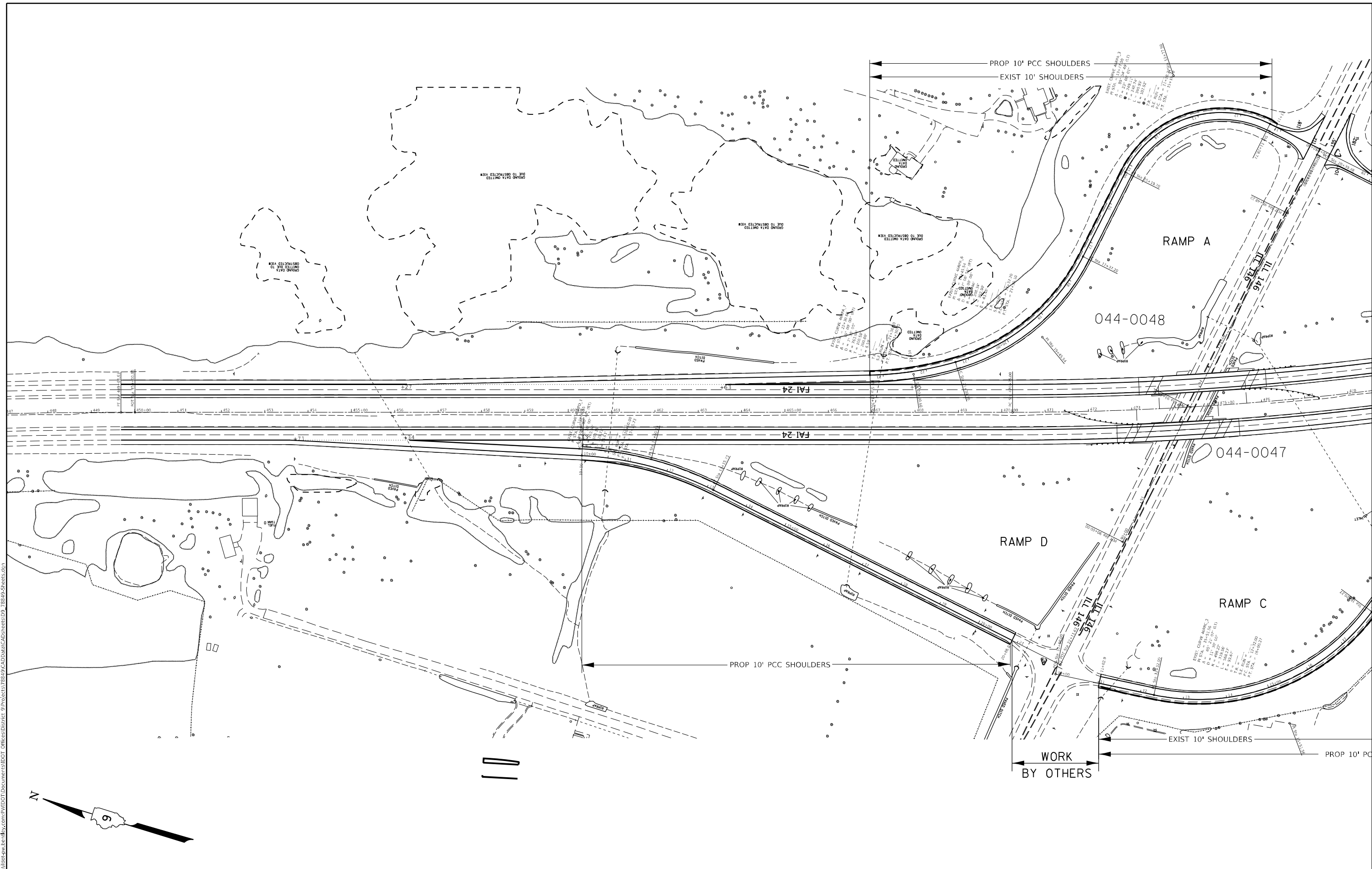
PLAN - US 45 INTERCHANGE
SHEET 2 OF 2

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	41
CONTRACT NO. 78849				
		ILLINOIS	FED. AID PROJECT	

(44-5,44-6)RS-2; BRIDGE REPAIR 2022-1

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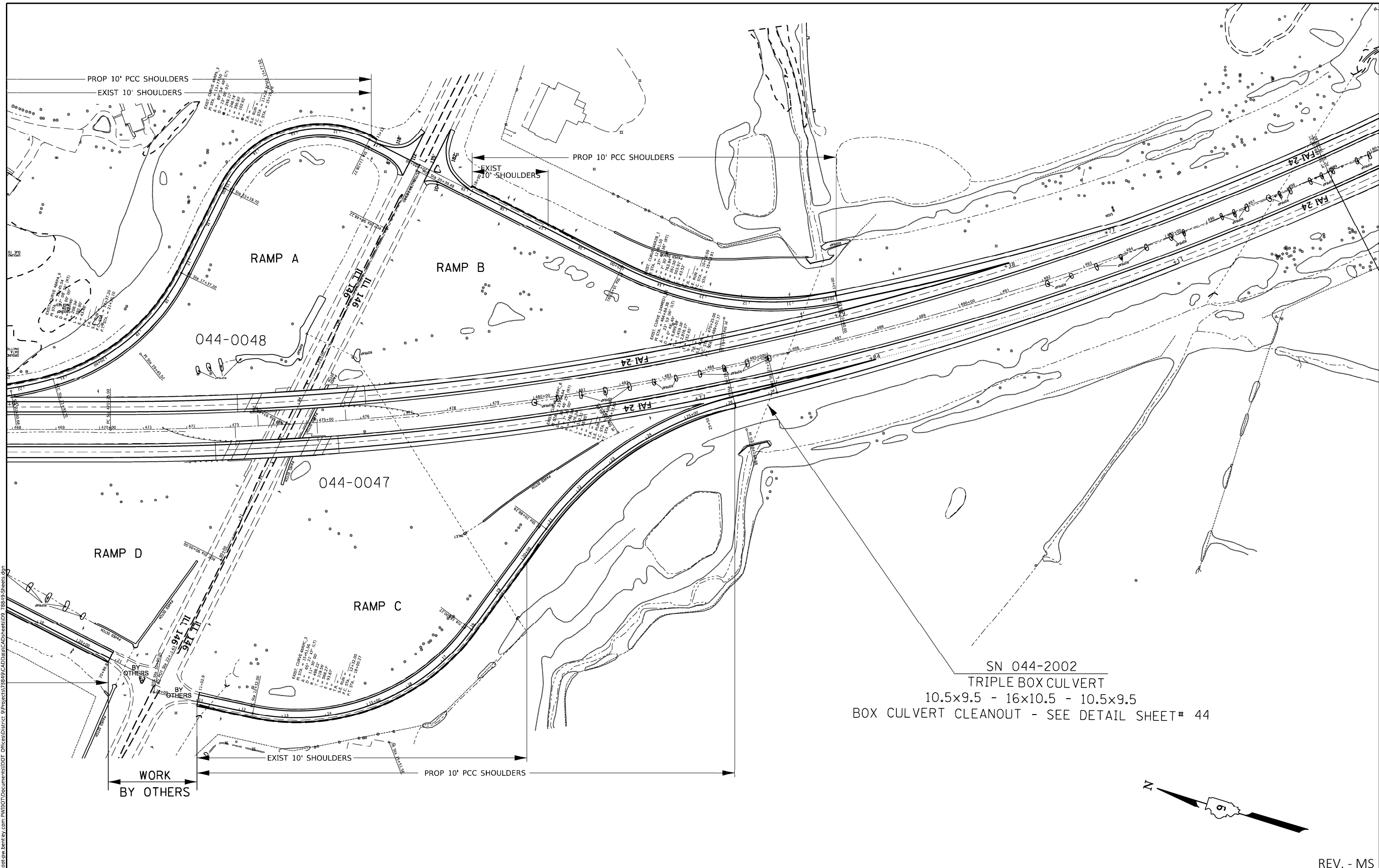
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PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/22/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN - IL 146 INTERCHANGE
SHEET 1 OF 2

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	42
CONTRACT NO. 78849				

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 SHEET: 24



REV. - MS

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	DRAWN -	REVISED -
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PLOT DATE = 10/22/2021	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PLAN - IL 146 INTERCHANGE
 SHEET 2 OF 2**

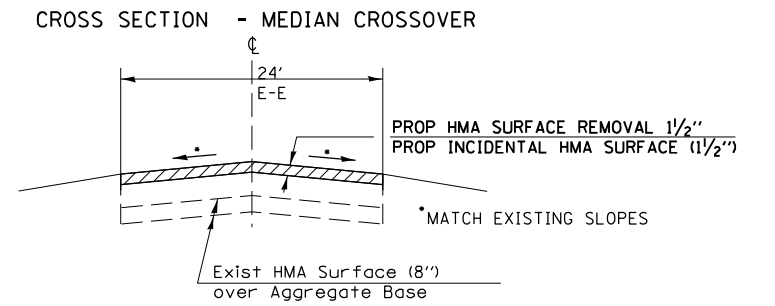
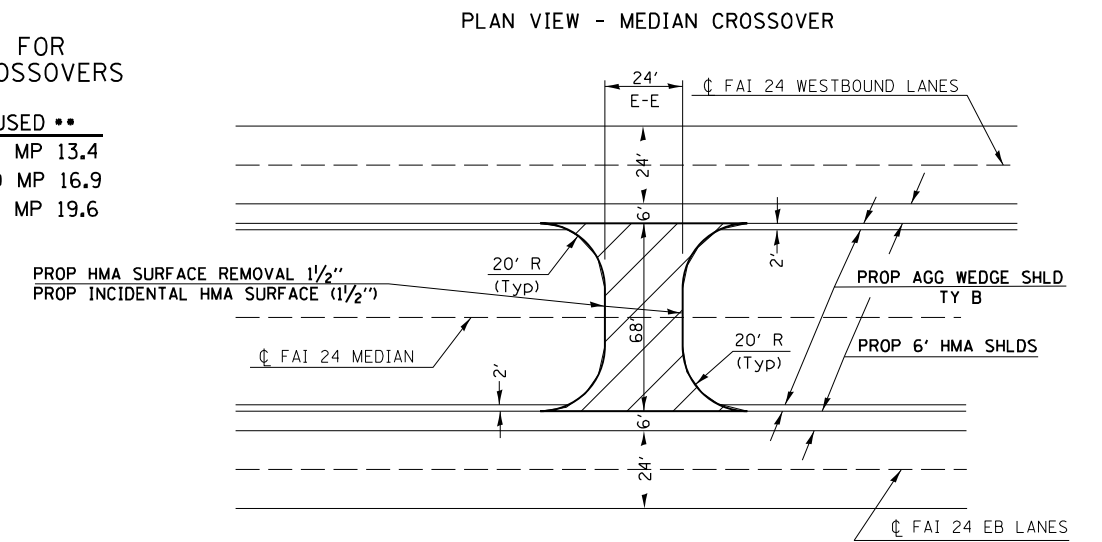
SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	43
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

*(44-5,44-6)RS-2; BRIDGE REPAIR 2022-1

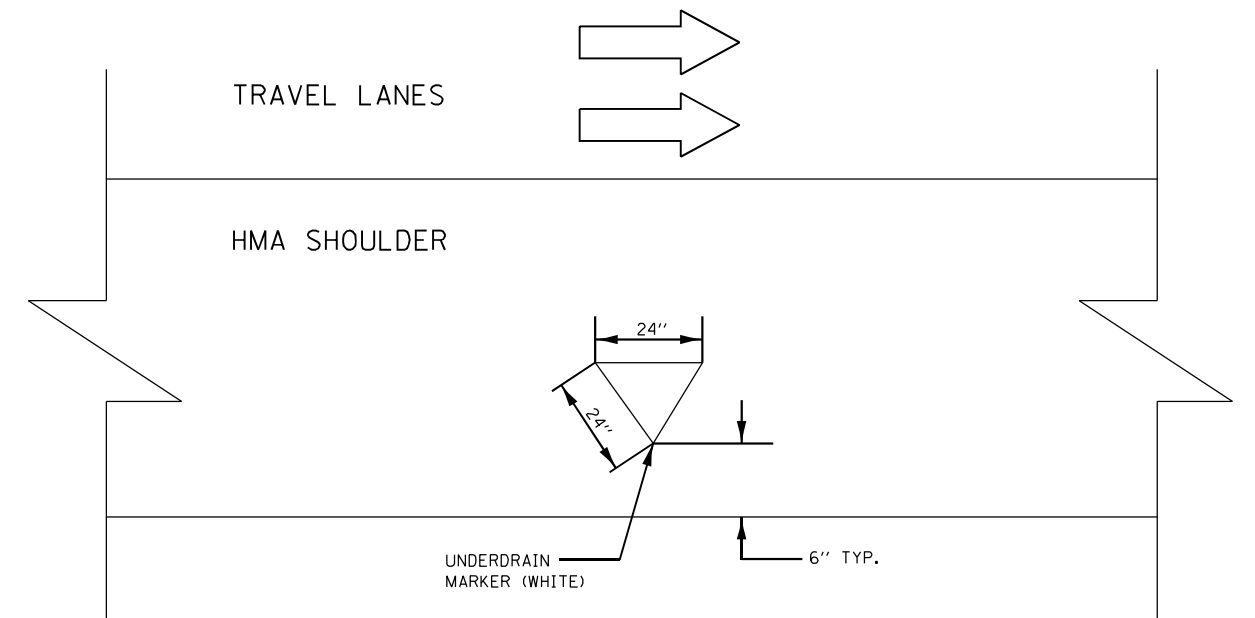
DETAIL FOR
MEDIAN CROSSOVERS

TO BE USED **
STA 322+21 MP 13.4
STA 88+80 MP 16.9
STA 231+45 MP 19.6



** SEE PAVING SCHEDULE (EBL) FOR INCIDENTAL HMA

TYPICAL UNDERDRAIN OUTLET MARKER DETAIL



NOTES:
TO BE PAID FOR AS THERMOPLASTIC PAVEMENT MARKING LETTERS AND SYMBOLS
(USE 2 SQ FT FOR AREA) PROJECT TOTAL = 56831 PIPE UNDERDRAIN HDWLS X 2 = 11366 SQ FT

*(44-5,44-6)RS-2:BRIDGE REPAIR 2022-1

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PLOT DATE = 10/22/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

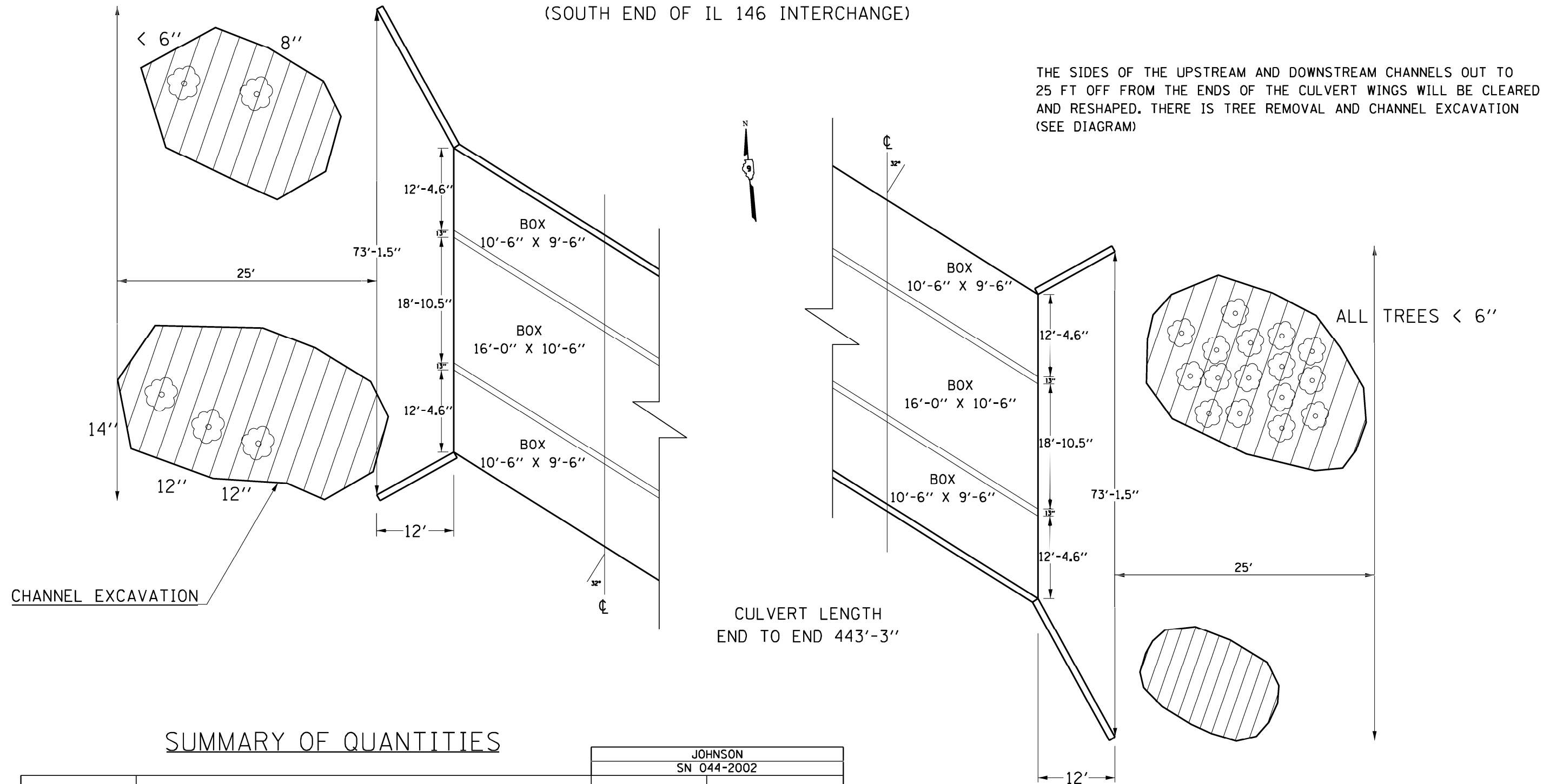
**MEDIAN CROSSOVERS
PIPE UNDERDRAIN MARKERS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	44
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

*(44-5,44-6)RS-2:BRIDGE REPAIR 2022-1

BOX CULVERT CLEANOUT - CULVERT DETAILS
 SN 044-2002 @ STA 486+00
 (SOUTH END OF IL 146 INTERCHANGE)



SUMMARY OF QUANTITIES

		JOHNSON SN 044-2002	
CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	46
20300100	CHANNEL EXCAVATION	CU YD	50
60905305	BOX CULVERT CLEANOUT	FOOT	1330

REV. - MS

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	DATE -	REVISID -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION



BOX CULVERT CLEANOUT - SN 044-2002

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	45
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	

*(44-5,44-6)RS-2;BRIDGE REPAIR 2022-1

**SN 044-7090 ON I-24 JOHNSON COUNTY
EAST END SECTION WINGWALL STABILIZATION**

 VOID BEHIND WINGWALLS
 SCOUR VOID IN CHANNEL

GENERAL NOTES

THE CONTRACTOR MAY REMOVE TREES IN ORDER TO ACCESS THE JOB SITE.

THE MATERIAL EXCAVATED DURING THE CHANNEL EXCAVATION PROCESS MAY BE USED TO FILL THE SCOUR VOIDS IN THE CHANNEL.

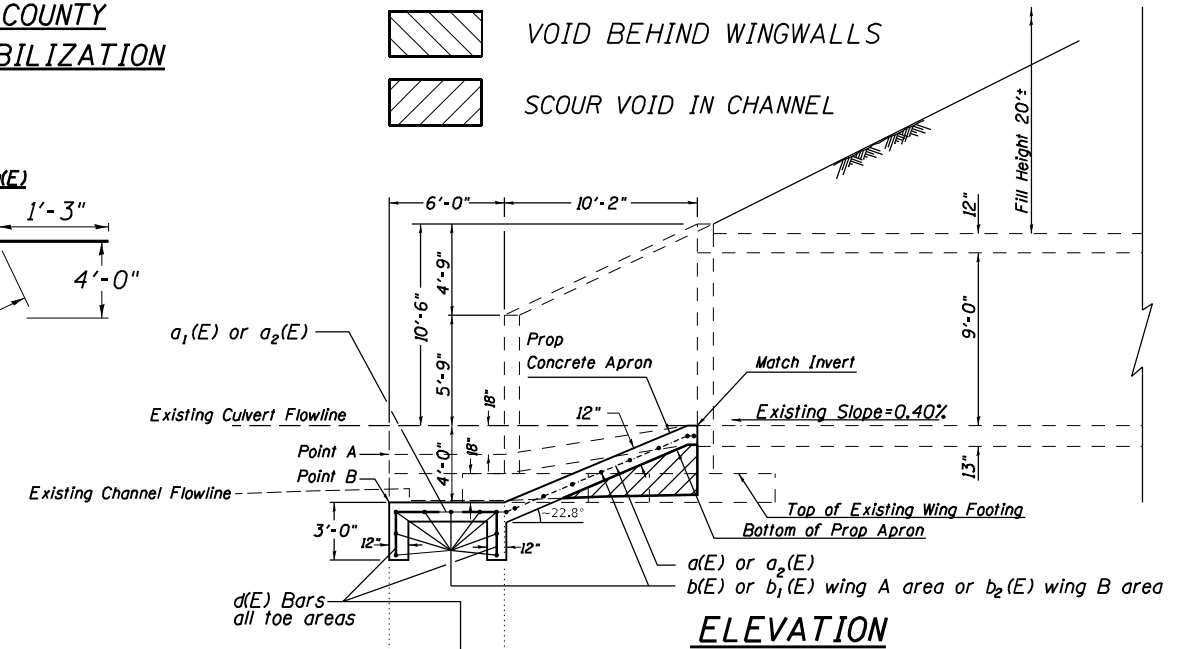
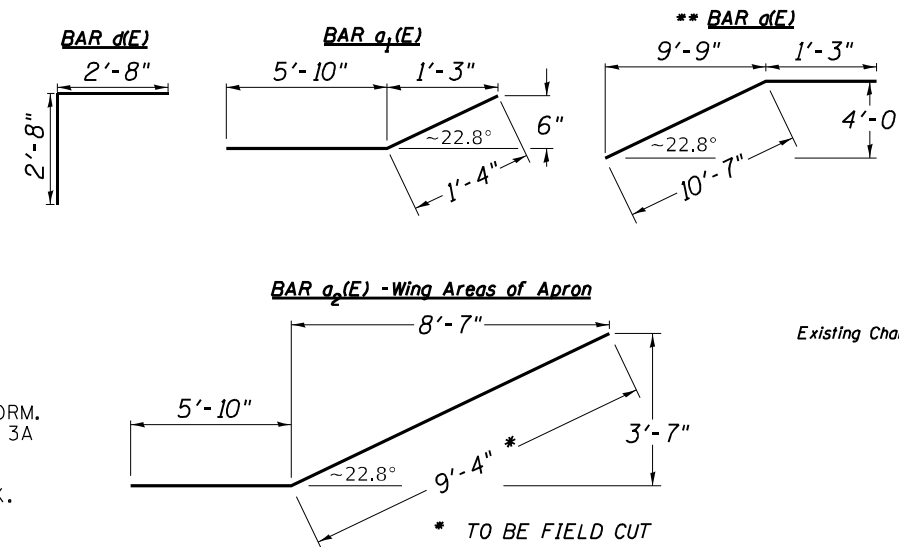
CLASS A3 RIPRAP IS TO BE USED TO FILL THE VOIDS BEHIND THE WING WALLS AND TO RAISE THE STREAM BED TO POUR THE CONCRETE APRON.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.








** EPOXY GROUT BARS IN 9" DRILLED HOLES (MIN) ACCORDING TO SECTION 584 OF THE STANDARD SPECIFICATIONS.

CAP THE CLASS A3 RIPRAP WITH #6" OF CA7 OR CA 11 FOR A WORKING PLATFORM. QUANTITY AND COST TO BE INCLUDED WITH THE STONE DUMPED RIPRAP, CLASS 3A

ANY AREAS OF DISTURBED SOIL SHALL BE SEEDED AT THE CONCLUSION OF WORK.



BILL OF MATERIAL

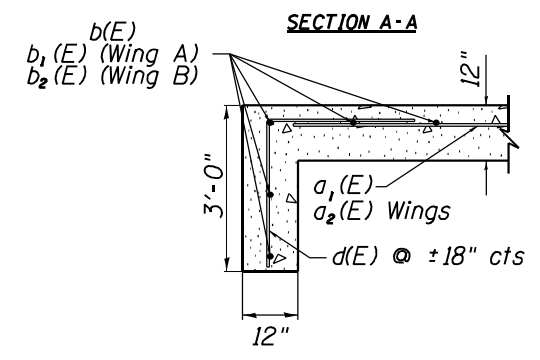
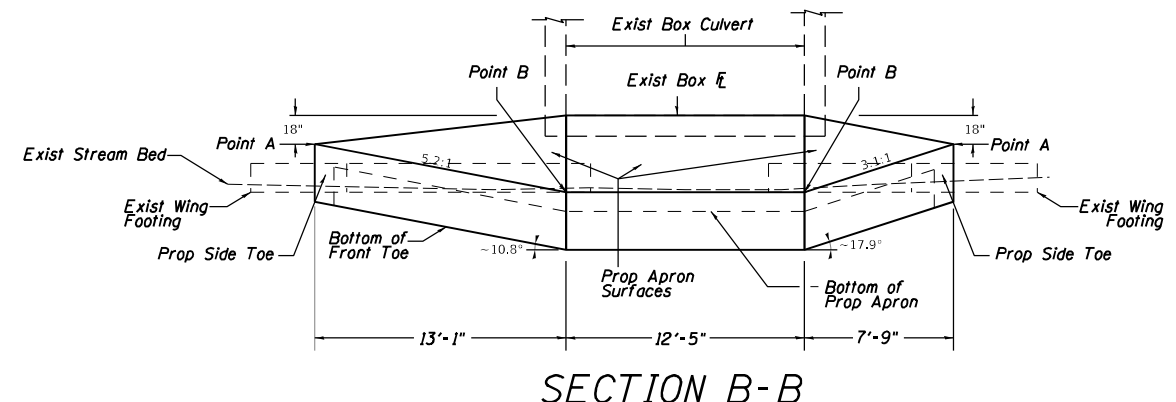
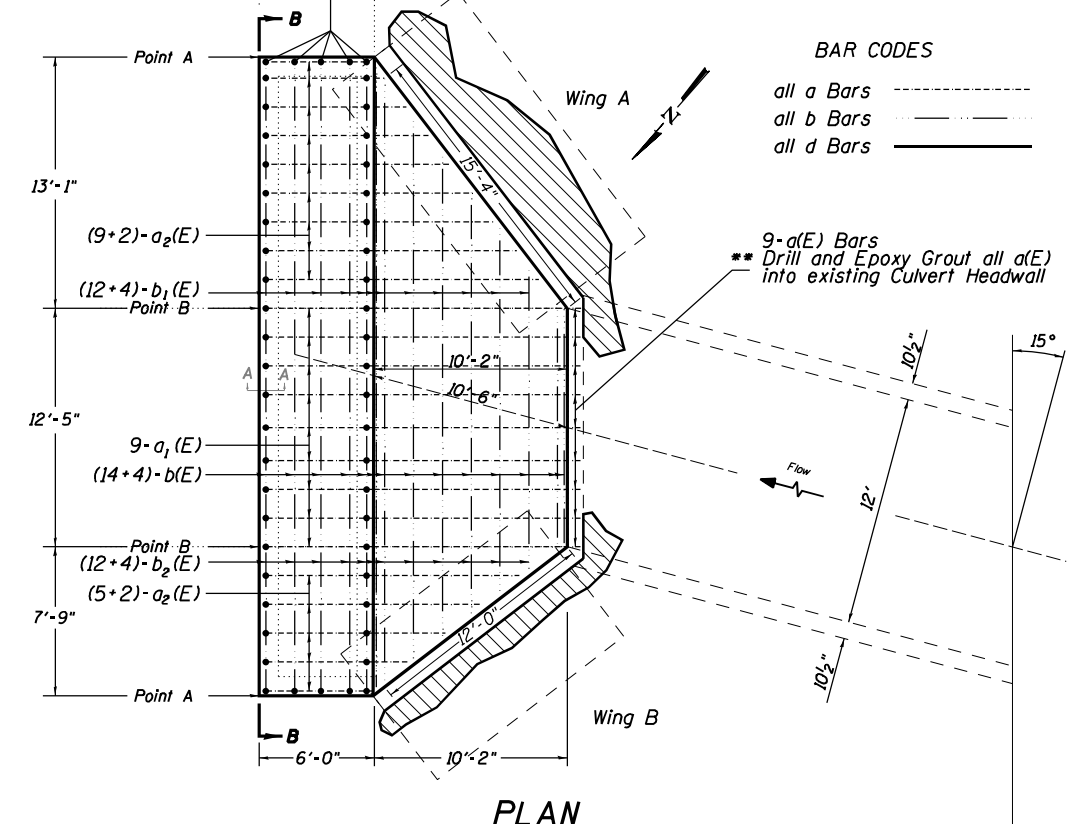
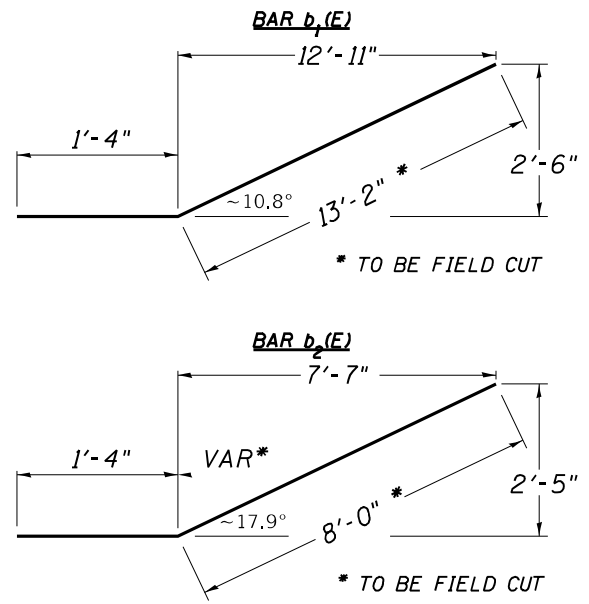
Bar	No.	Size	Length	Shape
a(E)	9	#4	11'-10"	
a ₁ (E)	9	#4	7'-2"	
a ₂ (E)	18	#4	15'-2"	
b(E)	18	#4	12'-5"	
b ₁ (E)	16	#4	14'-6"	
b ₂ (E)	16	#4	9'-4"	
d(E)	52	#4	5'-4"	
Reinforcement Bars, Epoxy Coated			Pound	890

Min Lap
#4 Bar - 1'-4"

Bar Spacing
all rebar at 18" on ctr

DESIGN STRESSES
f_y = 60,000 psi
f_c = 3,500 psi

of Bars indicated as "(x+y)"
x = # of Bars in the Apron
y = # of Bars in the Toe



BILL OF MATERIAL

Code Number	ITEM	UNIT	TOTAL
20300200	Rock Excavation in Channel	Cu Yd	13.5
28100805	Stone Dumped Riprap, Class A3	Ton	15
54003000	Concrete Box Culvert	Cu Yd	22.5
50800205	Reinforcement Bars, Epoxy Coated	LBS	890

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

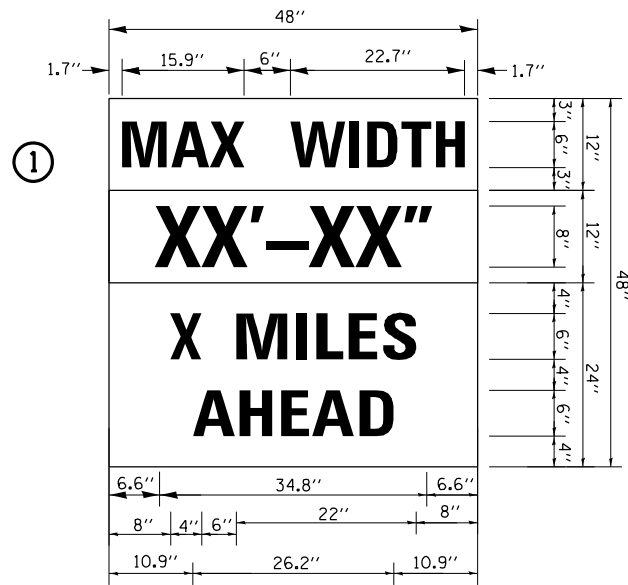
DETAIL FOR WINGWALL STABILIZATION - SN 044-7090

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE. 24	SECTION *	COUNTY JOHNSON	TOTAL SHEETS 184	SHEET NO. 46
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				

(44-5.44-6)RS-2;BRIDGE REPAIR 2022-1

SIGN LEGEND



W12-I103

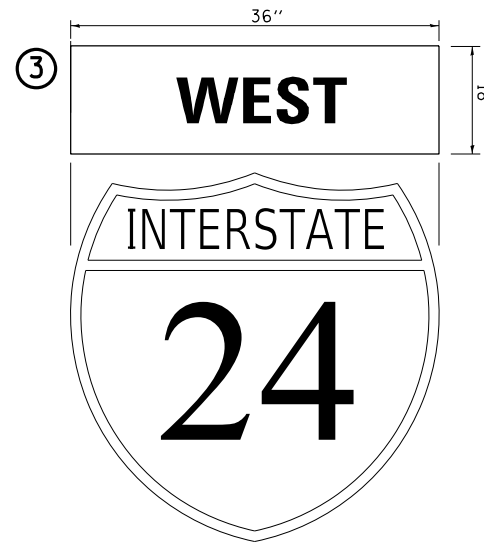
W12-I103 (WIDTH IS 8D);
 NO BORDER, BLACK ON WHITE; "MAX WIDTH" D;
 NO BORDER, BLACK ON ORANGE; "XX'-XX''"; D;
 NO BORDER, BLACK ON WHITE; "X MILES"; D; "AHEAD" D



SB I-57



M3-2 & M1-1



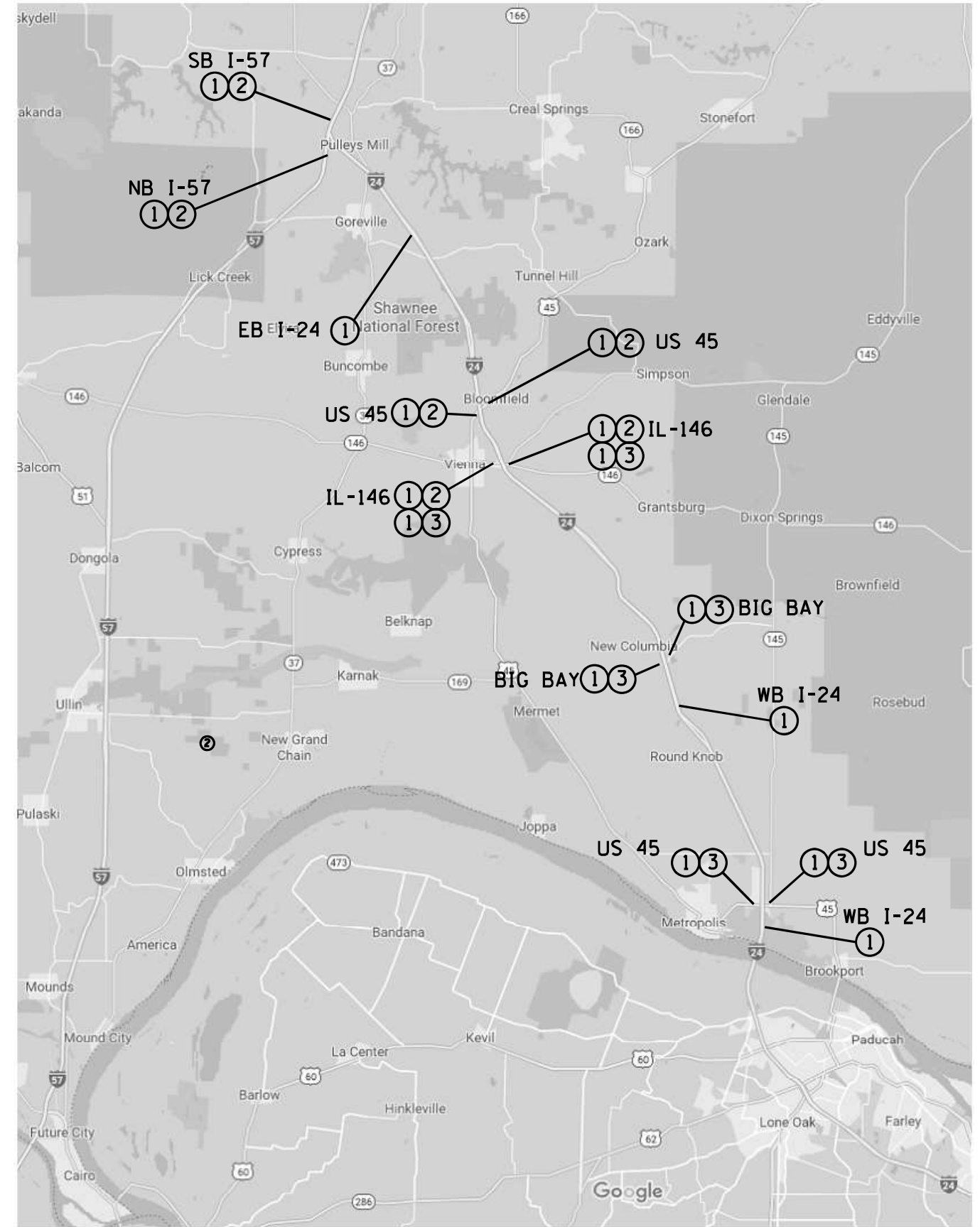
M3-4 & M1-1

DETOUR NOTES:

1. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT THE SIGNS AT THE LOCATIONS AS DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE POST MOUNTED.

THE ABOVE NOTED WORK, INCLUDING SIGNS, POSTS, HARDWARE AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE, EACH, FOR TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 AND NO OTHER COMPENSATION WILL BE ALLOWED.

FOR WORK ON ALL STRUCTURES, THE WIDTH SHOWN ON THE W12-I103 SIGN SHALL BE 14'-3" OR AS DIRECTED BY THE ENGINEER. THE "X" MILES AHEAD WILL BE DETERMINED BY THE ENGINEER.



WIDE LOAD SIGNING PLAN

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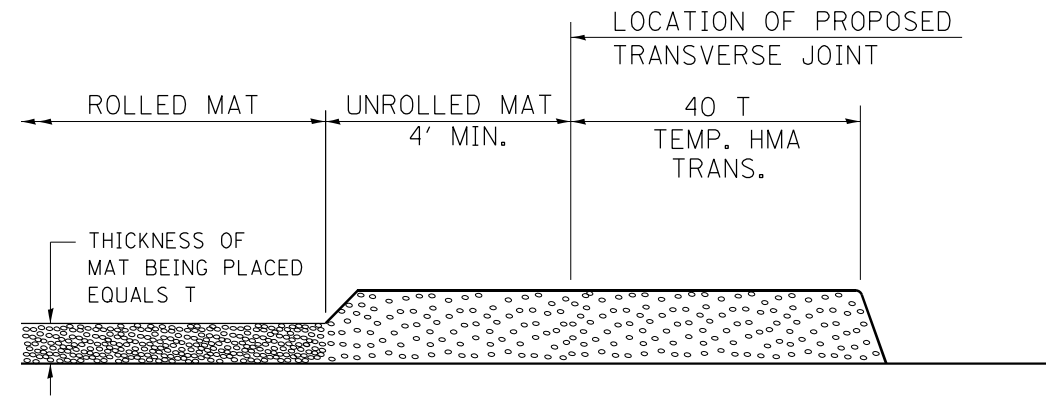
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

WIDE LOAD SIGNING PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

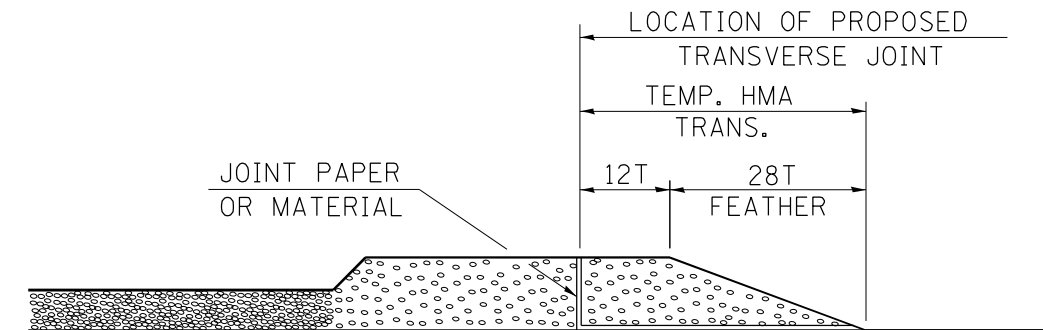
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	47
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

TEMPORARY HOT-MIX ASPHALT TRANSITIONS



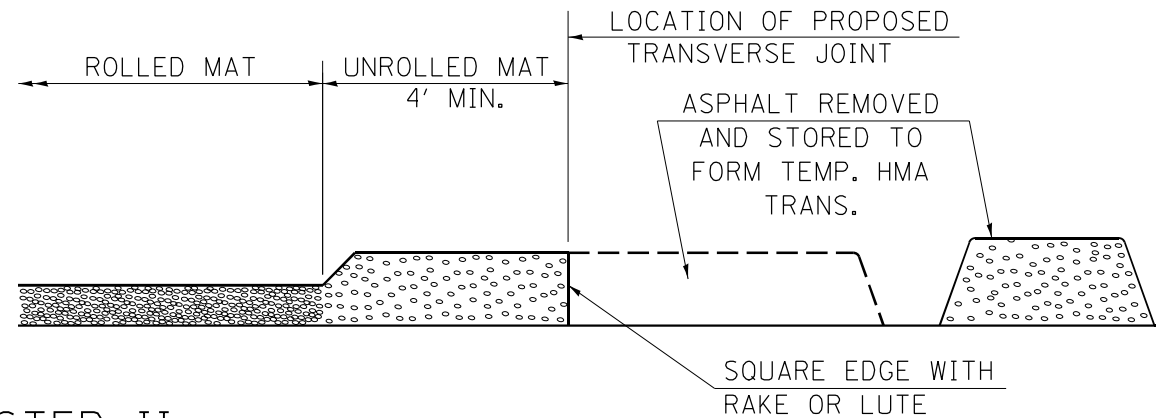
STEP I

1. PLACE HOT-MIX ASPHALT MAT, LENGTH 40 TIMES THE THICKNESS OF THE MAT BEING PLACED PAST THE PROPOSED TRANSVERSE JOINT LOCATION USING NORMAL OPERATING PROCEDURES.
2. EXTREME CARE SHOULD BE TAKEN TO MAINTAIN ENOUGH MATERIAL IN FRONT OF THE SCREED TO MAINTAIN REQUIRED PAVING DEPTH.



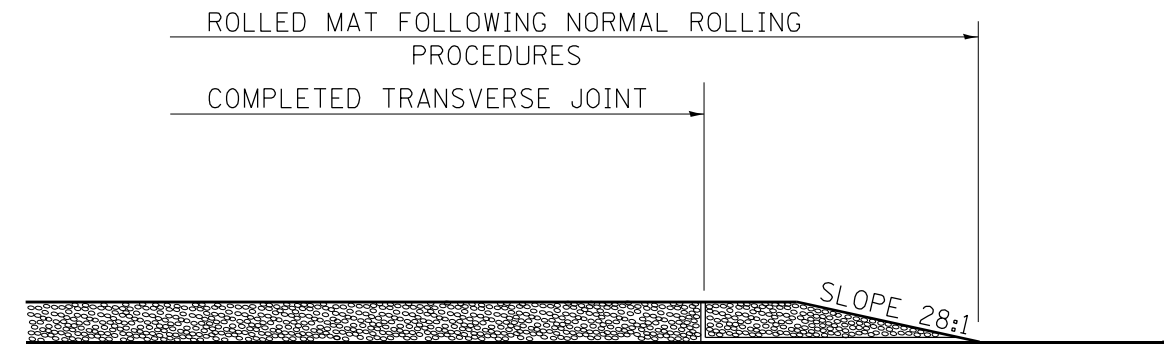
STEP III

1. JOINT PAPER OR OTHER PRESELECTED JOINT MATERIAL IS THEN PLACED IN THE CLEARED AREA AND THE EXCESS ASPHALT USED TO HAND FORM A TRANSITION TO THE DIMENSIONS SHOWN ABOVE.
2. NOTE THAT IN CONSTRUCTING THE TRANSITION, THE MAT DEPTH IS CONTINUED AS PART OF THE TRANSITION BEFORE FORMING THE FEATHER.



STEP II

1. MOVE THE PAVER OUT OF THE WAY AND REMOVE THE ASPHALT FROM THE AREA OF THE PROPOSED TEMPORARY HOT-MIX ASPHALT TRANSITION.
2. SQUARE UP THE END OF THE MAT WITH A RAKE OR LUTE.
3. NOTE THAT THE MAT WITHIN 4' OF THE END OF JOINT IS NOT TO BE ROLLED AT THIS TIME.



STEP IV

1. COMPLETE TEMPORARY TRANSITION BY ROLLING.
2. TO RESUME PAVING, AT THE JOINT, REMOVE TEMPORARY TRANSITION AND DISPOSE OF THE MATERIAL ACCORDING TO ART. 202.03 OF THE STD. SPECS. (COST INCLUDED IN THE CONTRACT).
3. CONSTRUCTING THE TEMPORARY TRANSITIONS WILL NOT BE PAID FOR SEPARATELY IN ACCORDANCE WITH ARTICLE 406.14 OF THE STANDARD SPECIFICATIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-16-94
REVISED	01-09-07
RESIZED	05-8-08
REVISED	05-16-13

STD. 9-26

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY HOT-MIX ASPHALT TRANSITIONS

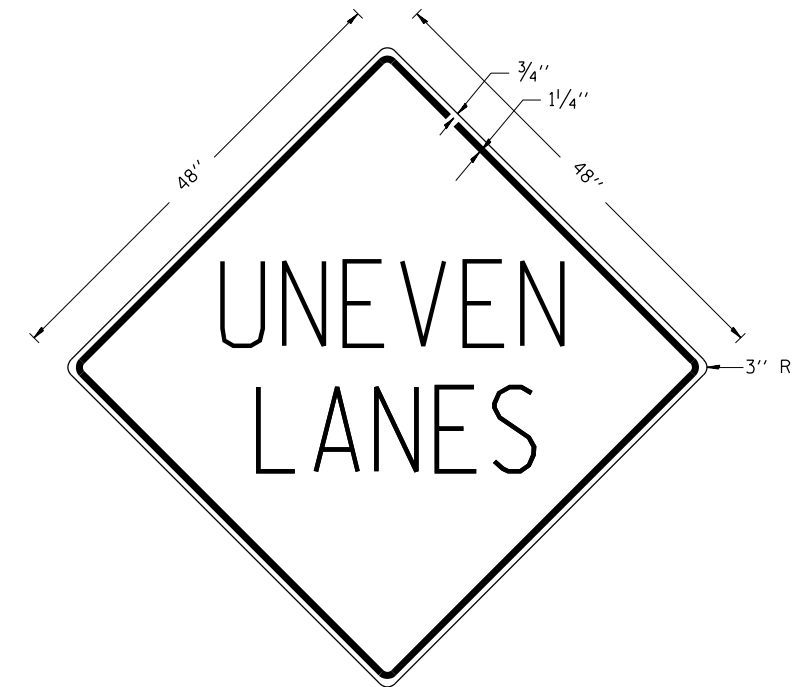
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	48
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

(44-5,44-6)RS-2;BRIDGE REPAIR 2022-1

UNEVEN LANES SIGN

W8-11 (48" x 48")



COLORS:

LEGEND AND BORDER - BLACK NON-REFLECTORIZED
 BACKGROUND - ORANGE REFLECTORIZED

NOTE: PRIOR TO ALLOWING TRAFFIC ON ANY PORTION OF THE ROADWAY THAT HAS BEEN COLDMILLED OR BEFORE RESURFACING OPERATIONS BEGIN, THE CONTRACTOR SHALL HAVE ERECTED "UNEVEN PAVEMENT" SIGNS THAT CONFORM TO THE ABOVE DETAILS. A MINIMUM OF ONE SIGN AT EACH END OF THE IMPROVEMENT WILL BE REQUIRED. THE CONTRACTOR SHALL MAINTAIN THE "UNEVEN PAVEMENT" SIGNS UNTIL THE RESURFACING OPERATIONS ARE COMPLETED.

IF AT ANY TIME THE SIGNS ARE IN PLACE BUT NOT APPLICABLE, THEY SHALL BE TURNED FROM THE VIEW OF MOTORISTS OR COVERED AS DIRECTED BY THE ENGINEER.

THE COST OF FURNISHING, ERECTING, MAINTAINING, AND REMOVING THE REQUIRED SIGNS SHALL BE INCLUDED IN THE CONTRACT.

REVISIONS	
DRAWN	2-15-89
REVISED	4-06-93
REDESIGNED	
RESIZED	
REVIEWED	5-17-13

STD. 9-41

MODEL: Default
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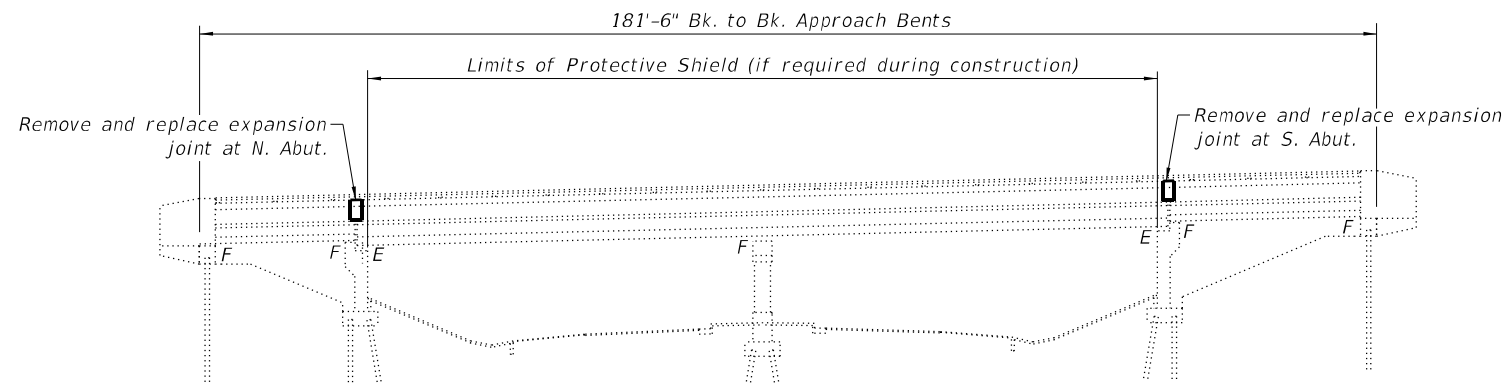
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	DRAWN -	REVISED -
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 10/22/2021	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

UNEVEN LANES SIGN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	JOHNSON	184	49
CONTRACT NO. 78849				



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 and parapets as shown.
6. Remove and replace expansion 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
- 5 - Temporary Concrete Barrier for Stage Construction
- 6 - Expansion Joint Replacement Details
- 7 - Preformed Joint Strip Seal
- 8-10 - Girder Repairs
- 11 - Abutment Repairs SN 044-0039
- 12 - Abutment Repairs SN 044-0040
- 13 - Bar Splicer Assembly and Mechanical Splicer Details
- 14-15 - Existing Plans

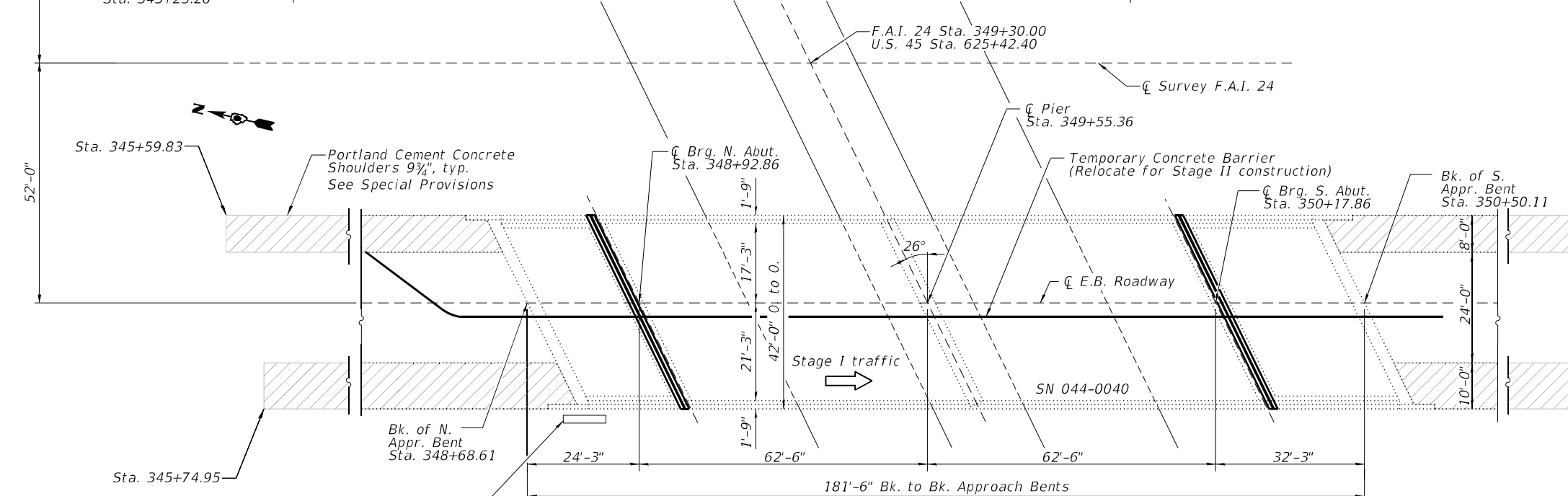
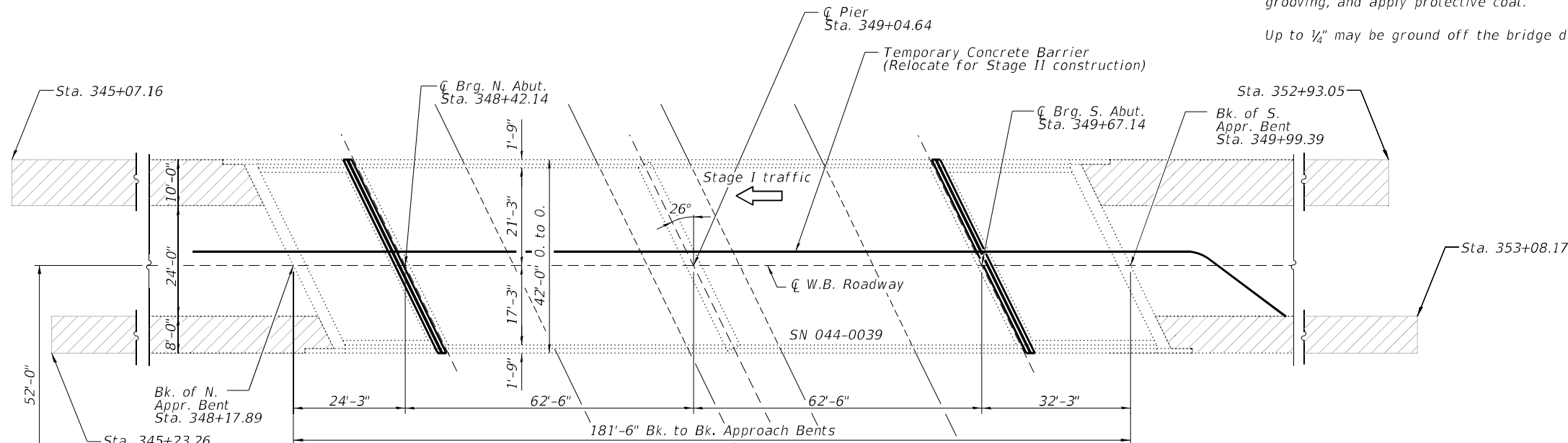
DESIGN STRESSES

FIELD UNITS

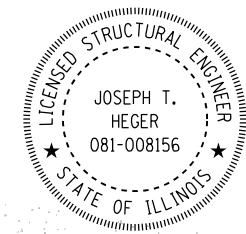
New Construction
 $f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)

Existing Structure, 2006 Rehabilitation
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

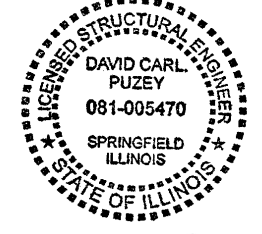
Existing Structure, 1971
 $f_c = 1,200$ psi (Deck)
 $f_c = 1,400$ psi (Substructure, Parapet, App. Slab)
 $f_s = 20,000$ psi (Reinforcement)



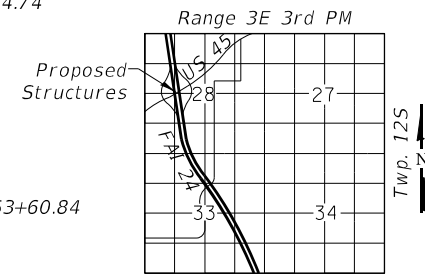
PLAN



Exp. Date 11/30/2022
 (Applies to Sheets 1-7 & 11-15)



Exp. Date 11/30/2022
 (Applies to Sheets 8 - 10)



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
I-24 OVER US 45
F.A.I. 24, SECTION BRIDGE REPAIR 2022-1
JOHNSON COUNTY
STA. 349+30.00
SN 044-0039 & 044-0040

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PLOT DATE = 12/1/2021 (12:24:21 PM)	DRAWN - RAH	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)

SHEET 1 OF 15 SHEETS

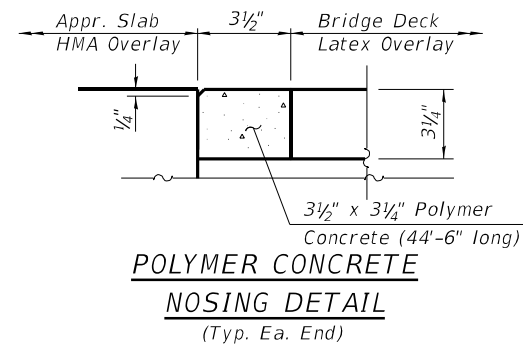
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	50
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

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 044-0039	SN 044-0040	TOTAL
Paved Shoulder Removal	Sq. Yd.	1216	1215	2431
Portland Cement Concrete Shoulders 9 3/4"	Sq. Yd.	1216	1215	2431
Concrete Removal	Cu. Yd.	3.6	3.6	7.2
Concrete Superstructure	Cu. Yd.	3.7	3.7	7.4
Protective Coat	Sq. Yd.	920	920	1840
Reinforcement Bars, Epoxy Coated	Pound	670	670	1340
Bar Splicers	Each	8	8	16
Preformed Joint Strip Seal	Foot	94	94	188
Temporary Concrete Barrier	Foot	564	564	1128
Relocate Temporary Concrete Barrier	Foot	564	564	1128
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
Grading and Shaping Special	Sq. Yd.	0	2	2
Acrylic Coating	Sq. Yd.	15.7	18.9	34.6
Fiber Wrap	Sq. Ft.	163.1	196.5	359.6
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	481	481	962
Raised Reflective Pavement Marker, Reflector Removal	Each	4	4	8
Bridge Deck Scarification 3"	Sq. Yd.	772	772	1544
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	206	234	440
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq. Ft.	0	60	60
Diamond Grinding (Bridge Section)	Sq. Yd.	768	768	1536
Polymer Concrete	Cu. Ft.	7.1	7.1	14.2
Precast Prestressed Concrete I-Beam Repair	Sq. Ft.	15.1	18.2	33.3
Bridge Deck Latex Concrete Overlay, 3 1/4 Inches	Sq. Yd.	772	772	1544



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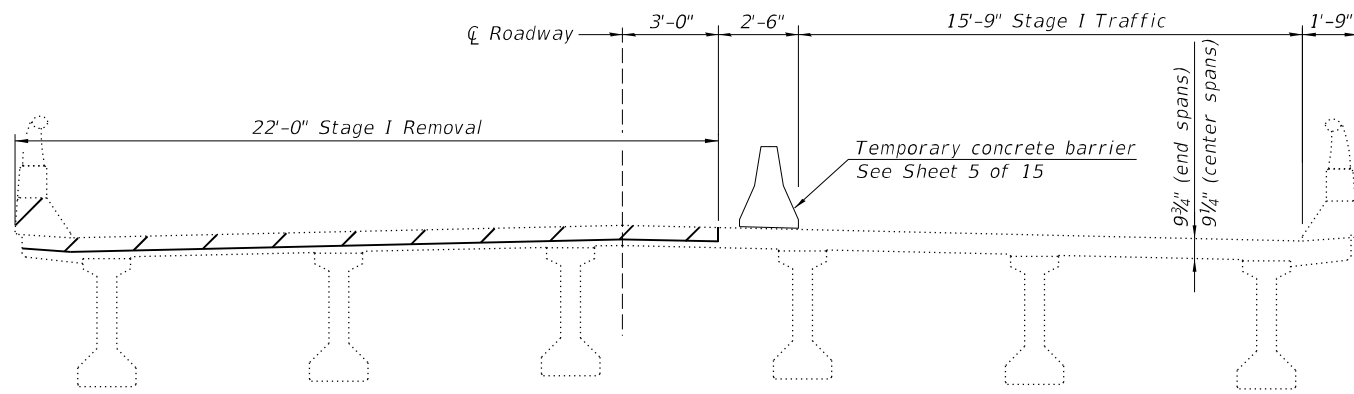
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

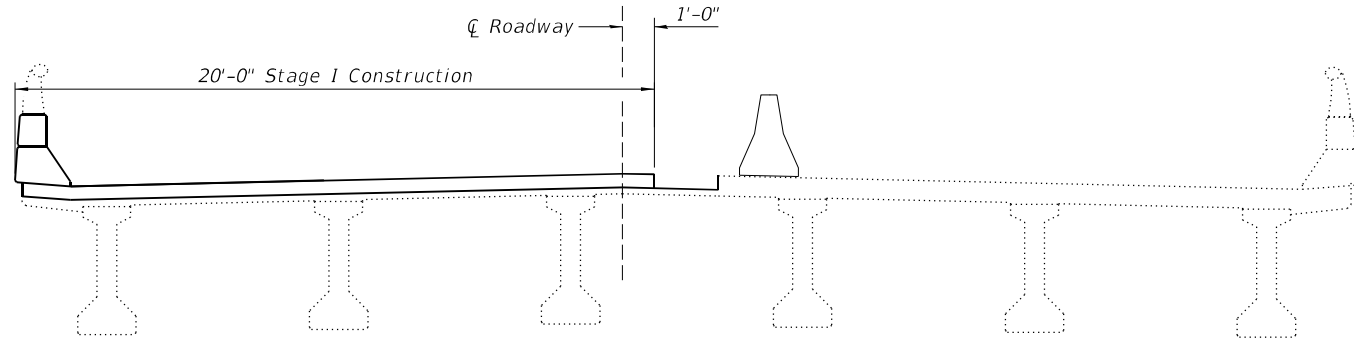
**GENERAL DATA
STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)**

SHEET 2 OF 15 SHEETS

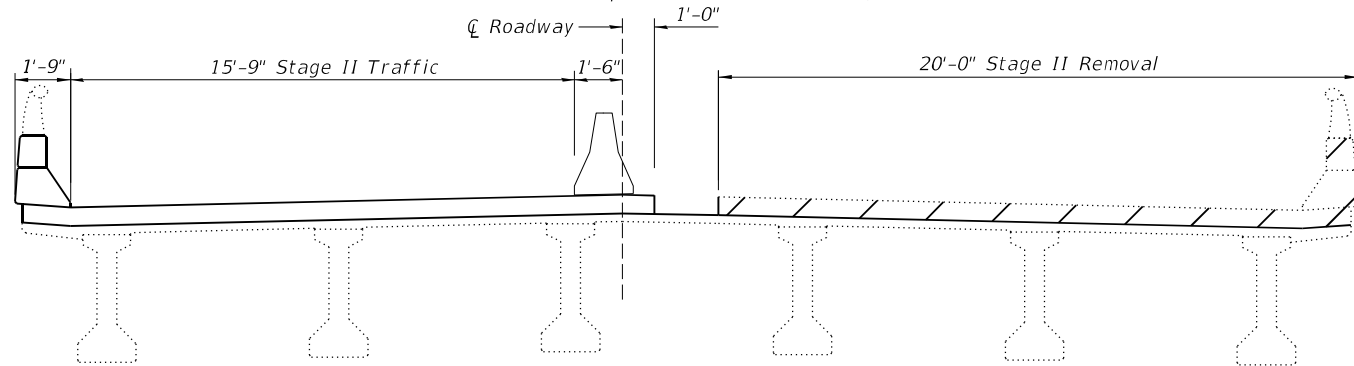
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	51
CONTRACT NO. 78849			ILLINOIS FED. AID PROJECT	



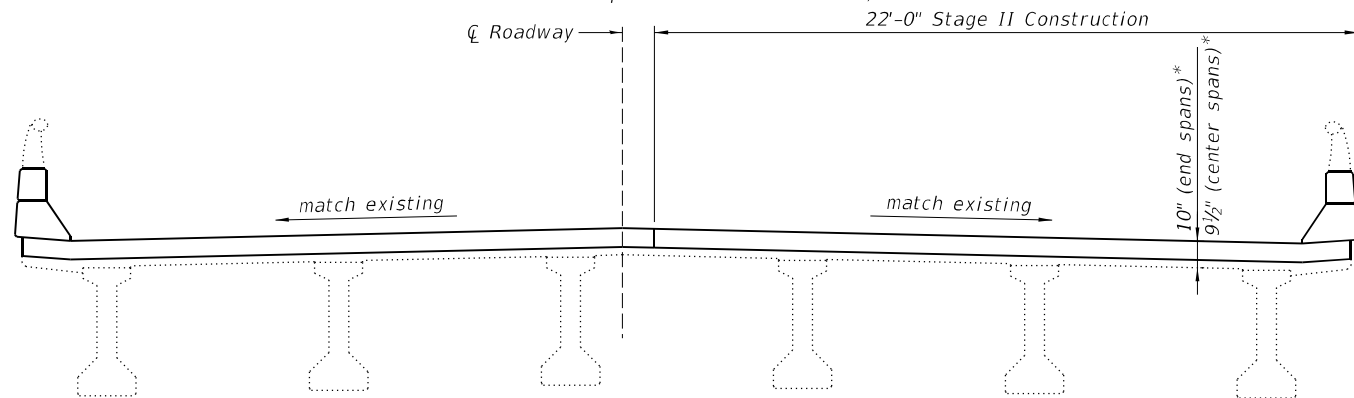
STAGE I REMOVAL
 (Looking in the direction of traffic)
 (Center span cross section shown,
 end span cross section similar)



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)

* Prior to diamond grinding

Note:
 Hatched area indicates, Concrete Removal
 at abutments.

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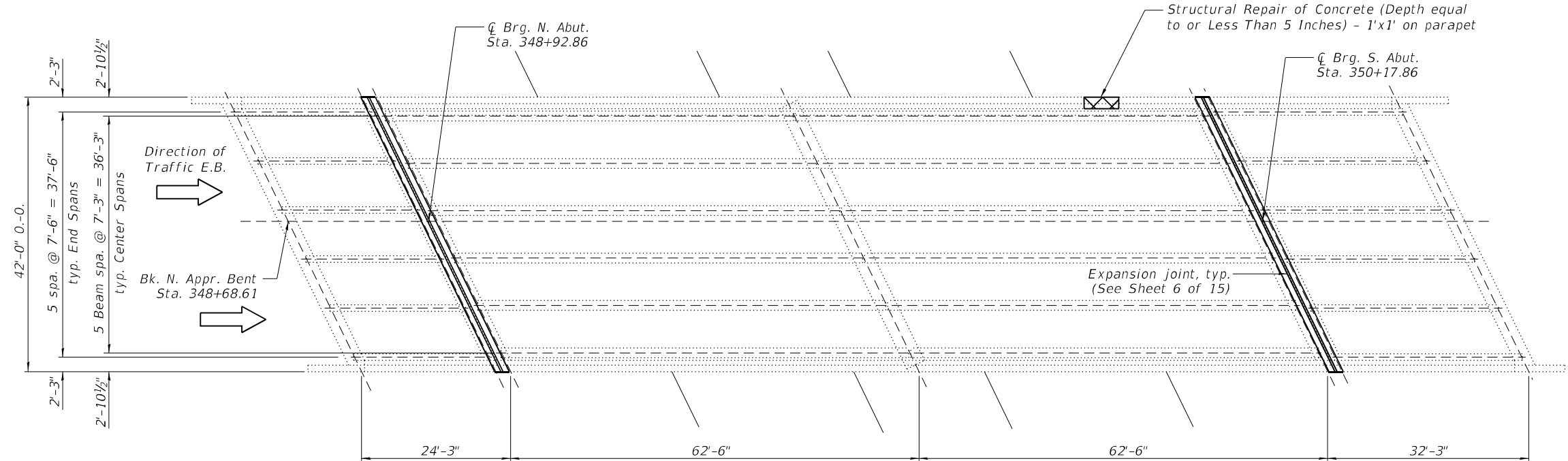
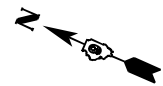
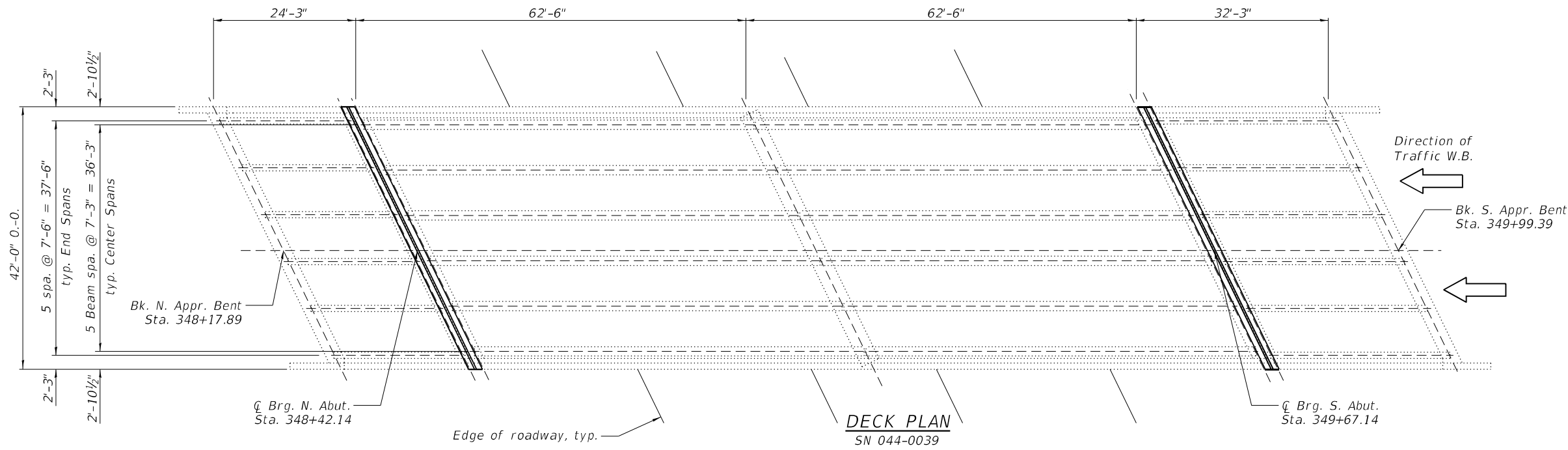
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
 STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)

SHEET 3 OF 15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	52
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				



Legend

Structural Repair of Concrete (Depth equal to or Less Than 5 Inches)

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.

DECK PLAN
SN 044-0040

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or Less Than 5 Inches)	Sq. Ft.	1

MODEL: D:\cmt\11500610\VO_g\DrawStructures\SN 0039 & 0040\04_0039-0040_Top of Deck Patch Plan.dgn



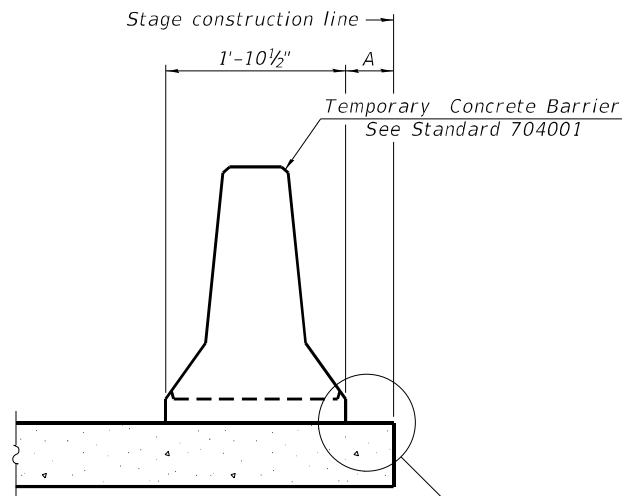
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	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PATCHING PLAN
STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)

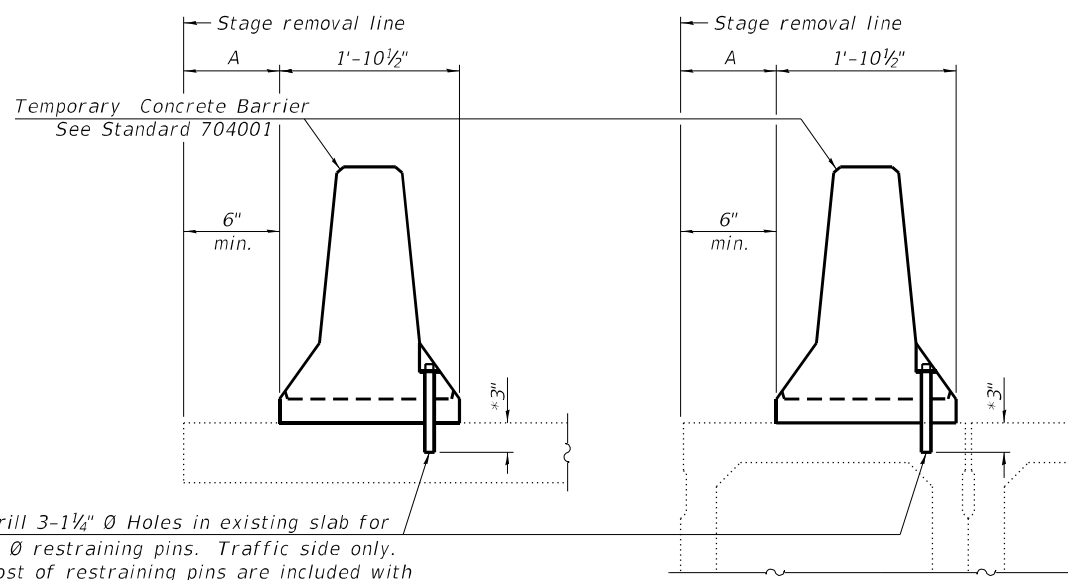
SHEET 4 OF 15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	53
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



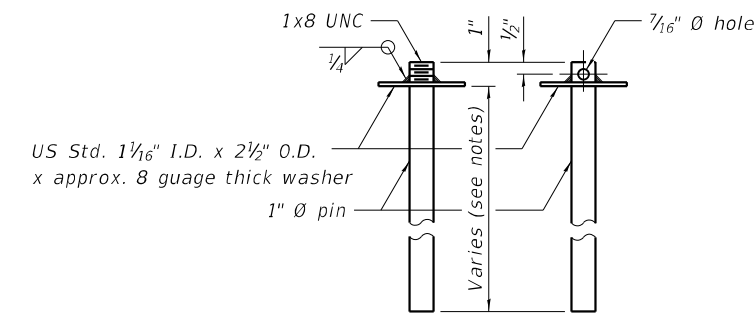
Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

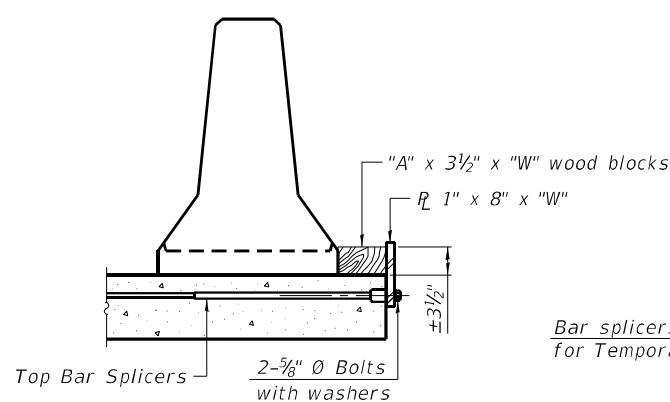
EXISTING DECK BEAM

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

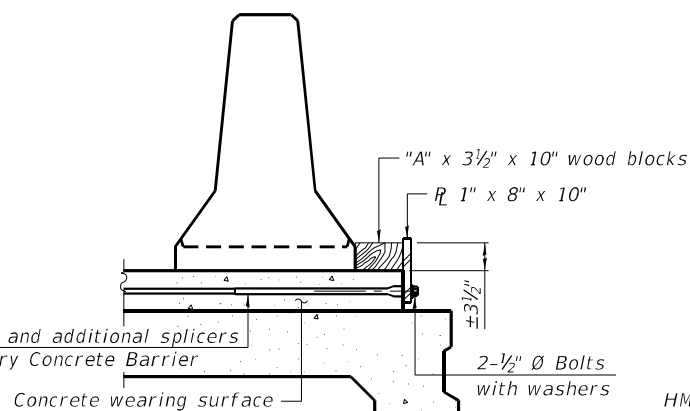
SECTIONS THRU SLAB OR DECK BEAM



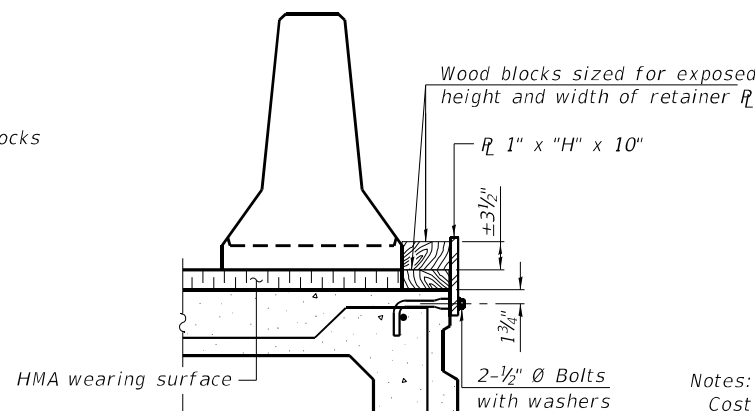
RESTRAINING PIN



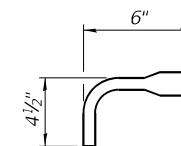
DETAIL I



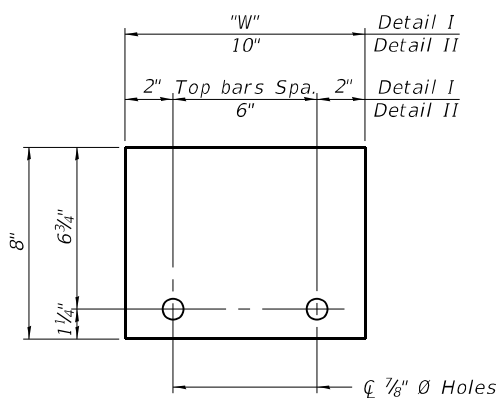
DETAIL II



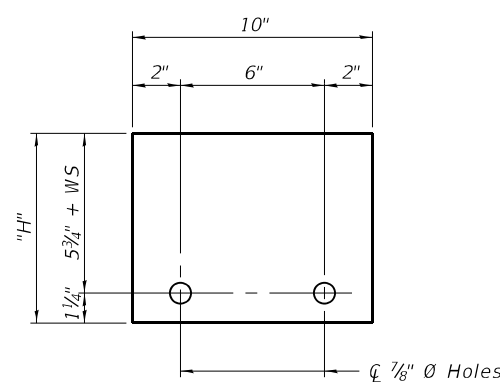
DETAIL III



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 \bar{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.

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R-27 2-17-2017

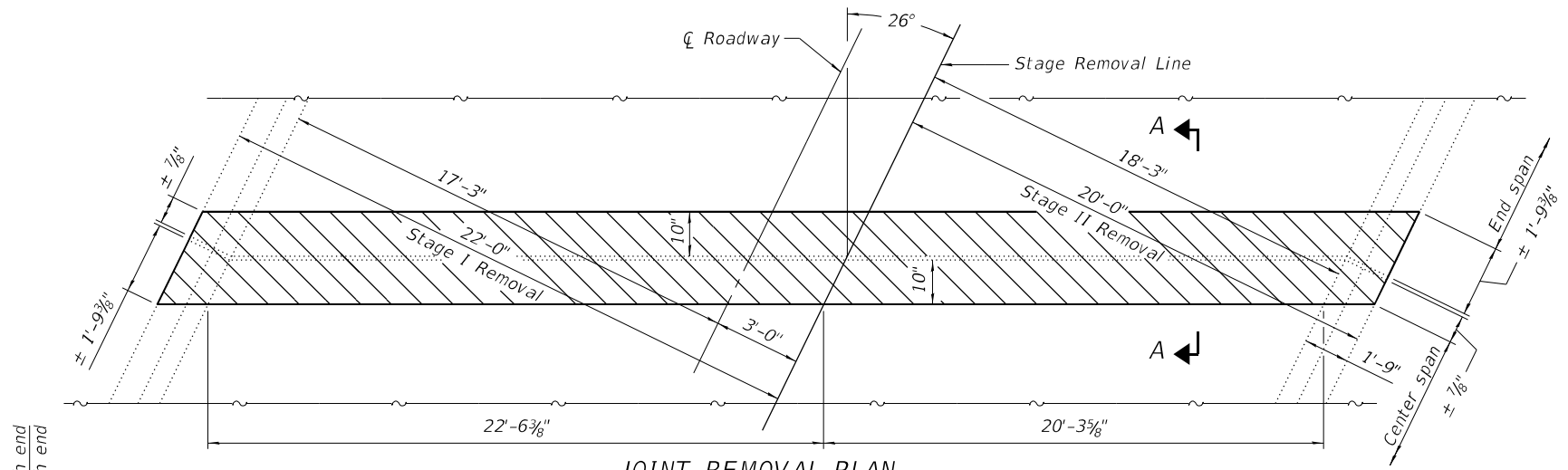
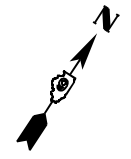
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)**

SHEET 5 OF 15 SHEETS

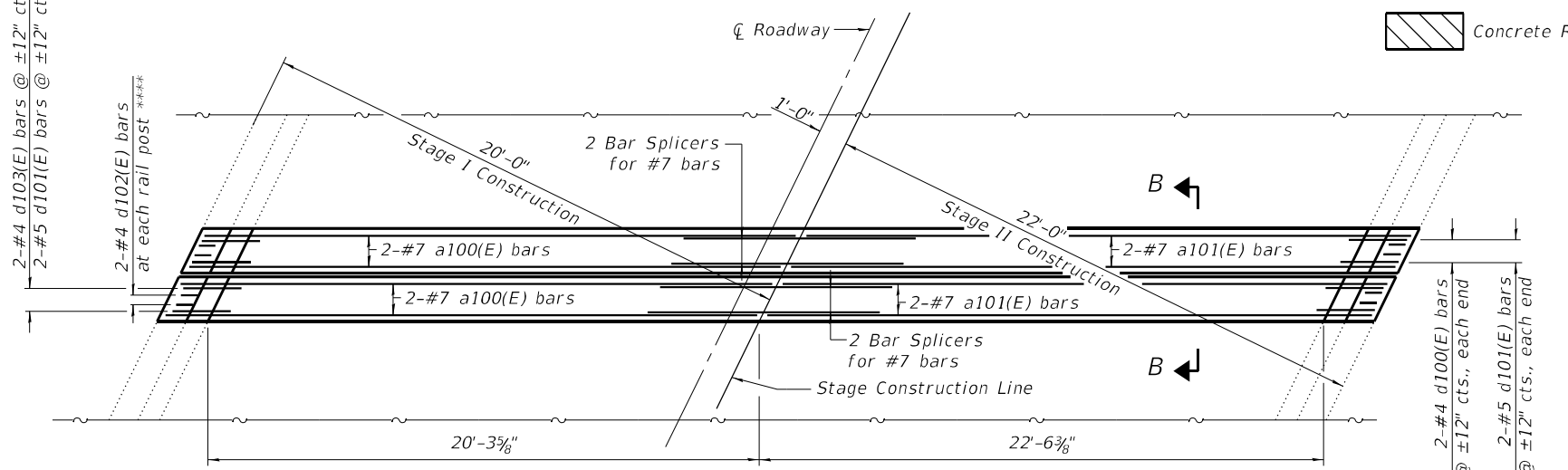
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24	BRIDGE REPAIR 2022-1	JOHNSON	184	54
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



JOINT REMOVAL PLAN

SN 044-0039 north abutment shown, SN 044-0039 south abutment similar
 SN 044-0040 south abutment shown, SN 044-0040 north abutment similar

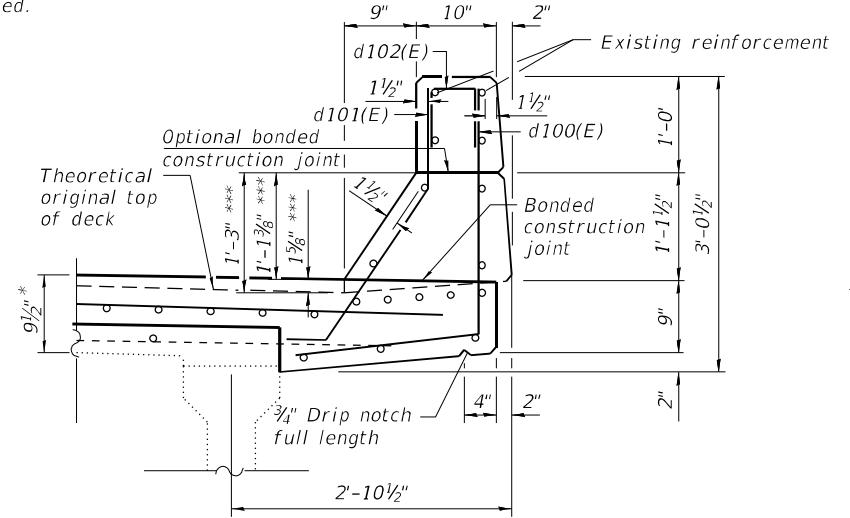
2-#4 d103(E) bars @ ±12" cts., each end
 2-#5 d101(E) bars @ ±12" cts., each end



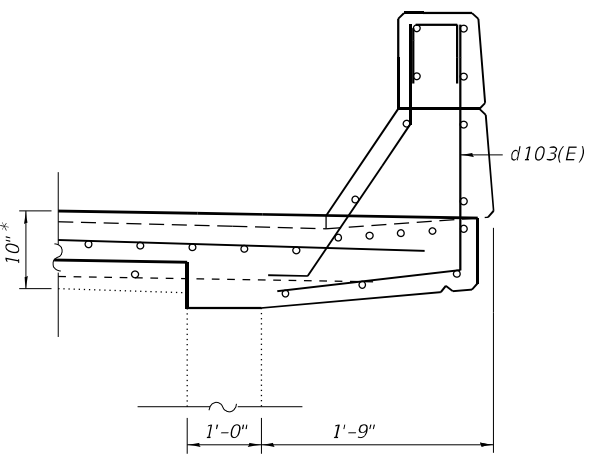
PROPOSED JOINT PLAN

SN 044-0039 north abutment shown, SN 044-0039 south abutment similar
 SN 044-0040 south abutment shown, SN 044-0040 north abutment similar

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



AT CENTER SPANS

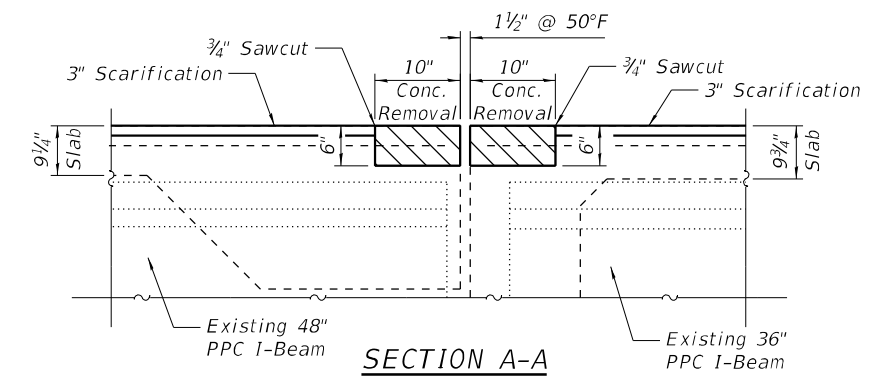


AT END SPANS

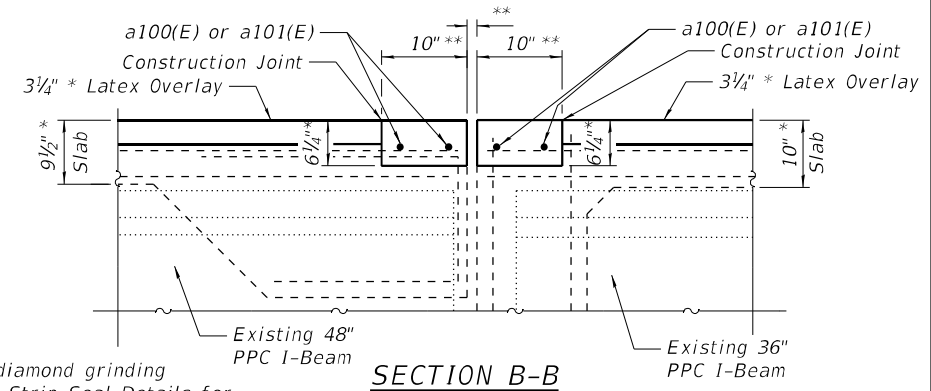
SECTIONS THRU PARAPET AT JOINT

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

LEGEND

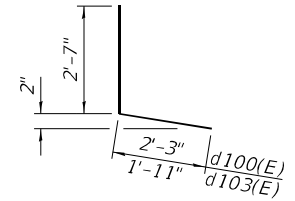


SECTION A-A

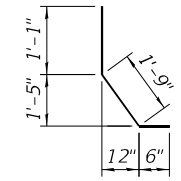


SECTION B-B

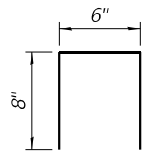
* Prior to diamond grinding
 ** See Joint Strip Seal Details for opening dimension.



BAR d100(E) & d103(E)



BAR d101(E)



BAR d102(E)

FOUR JOINTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a100(E)	16	#7	21'-10"	—
a101(E)	16	#7	24'-1"	—
d100(E)	16	#4	4'-10"	J
d101(E)	32	#5	3'-4"	J
d102(E)	16	#4	1'-10"	J
d103(E)	16	#4	4'-6"	J
Concrete Removal			Cu. Yd.	7.2
Concrete Superstructure			Cu. Yd.	7.4
Reinforcement Bars, Epoxy Coated			Pound	1340

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 shall be repaired at no additional cost to the Department.

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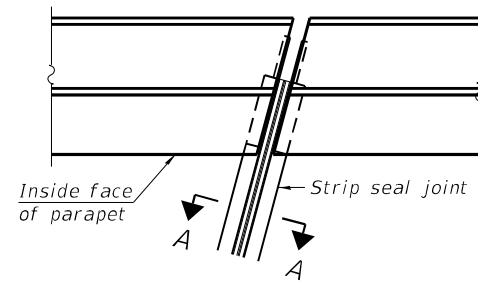
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

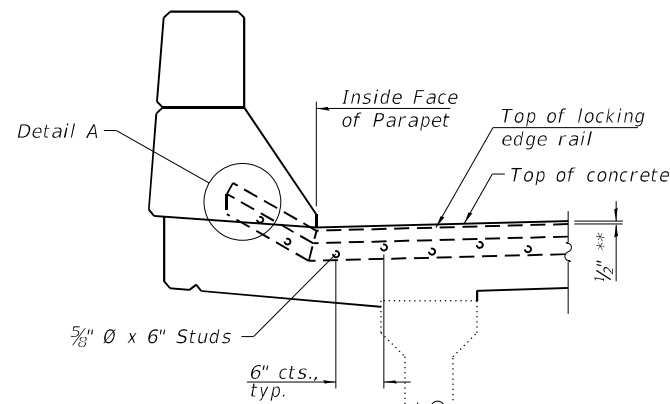
**EXPANSION JOINT REPLACEMENT DETAILS
 STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)**

SHEET 6 OF 15 SHEETS

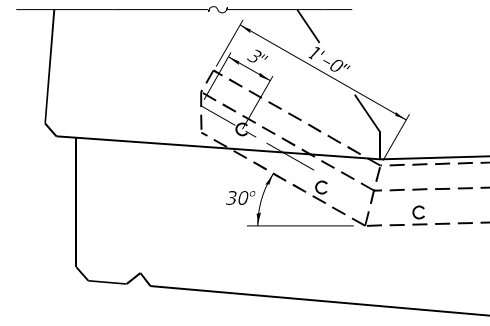
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24	BRIDGE REPAIR 2022-1	JOHNSON	184	55
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



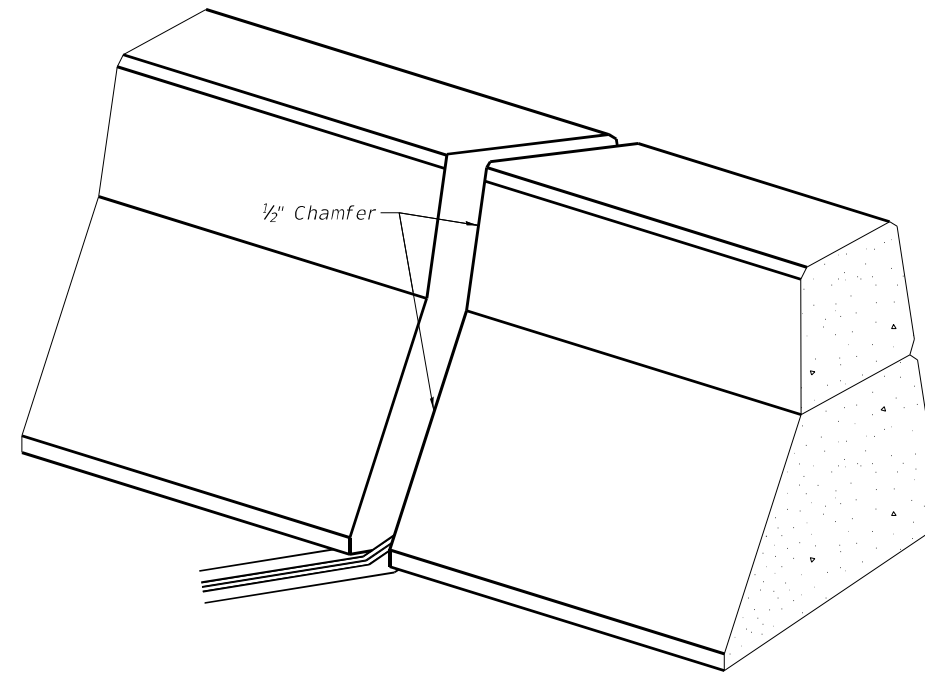
PLAN AT PARAPET



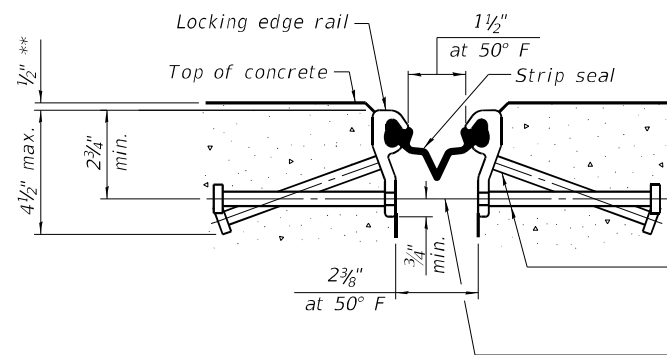
SECTION AT PARAPET



DETAIL A



TRIMETRIC VIEW



SHOWING ROLLED RAIL JOINT

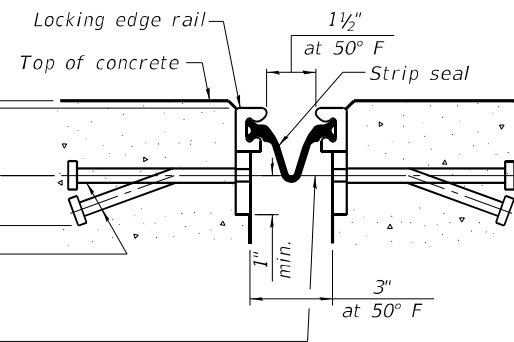
* 5/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

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.

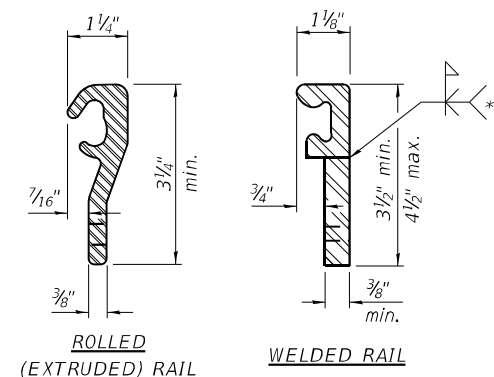
SECTION A-A

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

** Prior to diamond grinding

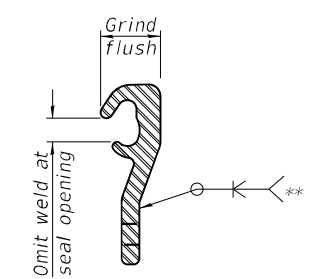


SHOWING WELDED RAIL JOINT



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	188

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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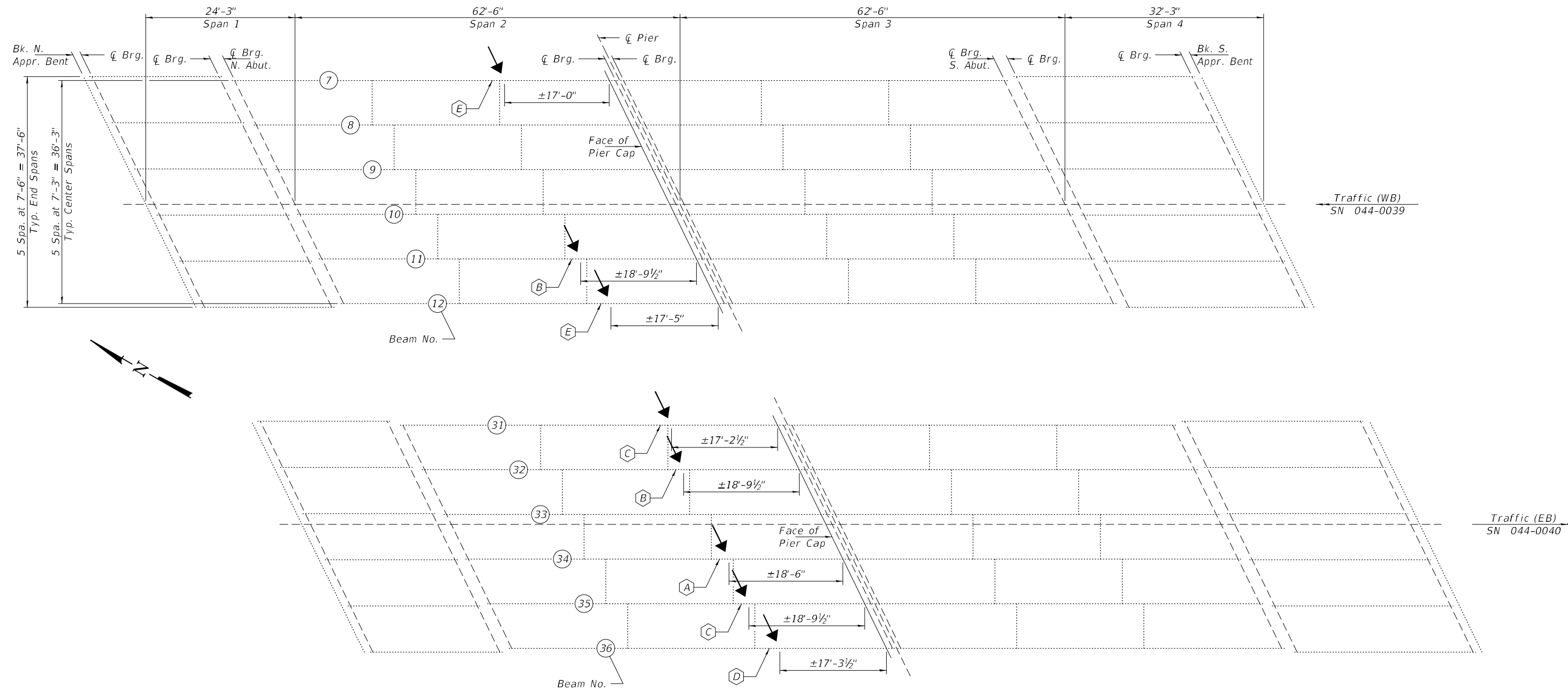
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
 STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)

SHEET 7 OF 15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	56
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



FRAMING PLAN

- (A) - Location of PPC I-Beam Repair - Repair A
- (B) - Location of PPC I-Beam Repair - Repair B
- (C) - Location of PPC I-Beam Repair - Repair C
- (D) - Location of PPC I-Beam Repair - Repair D
- (E) - Location of PPC I-Beam Repair - Repair E
- ➔ - Approximate Impact Line

GENERAL NOTES

Prior to beginning any repair work, the contractor shall be responsible for providing a preloading system on the bridge deck over the existing damaged beam at the specified locations. The preloading system should produce a total maximum service load moment as shown at the centerline of the damaged area.

Preloading shall be kept in place for at least three (3) days after completion of concrete repair or until the concrete has reached an ultimate strength of 5,000 psi.

The contractor's proposed preloading system, with computations, sealed and signed by an Illinois Structural Engineer shall be submitted to the Bureau of Bridges and Structures for approval. The preloading system shall be placed shortly after bridge closure for repairs.

The preloading system shall not be paid for separately but will be included in the unit price for PPC-I Beam Repairs.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete I-Beam Repair	Sq. Ft.	33.3
Fiber Wrap	Sq. Ft.	359.6
Acrylic Coating	Sq. Yd.	34.6

EXPIRES 11-30-2022

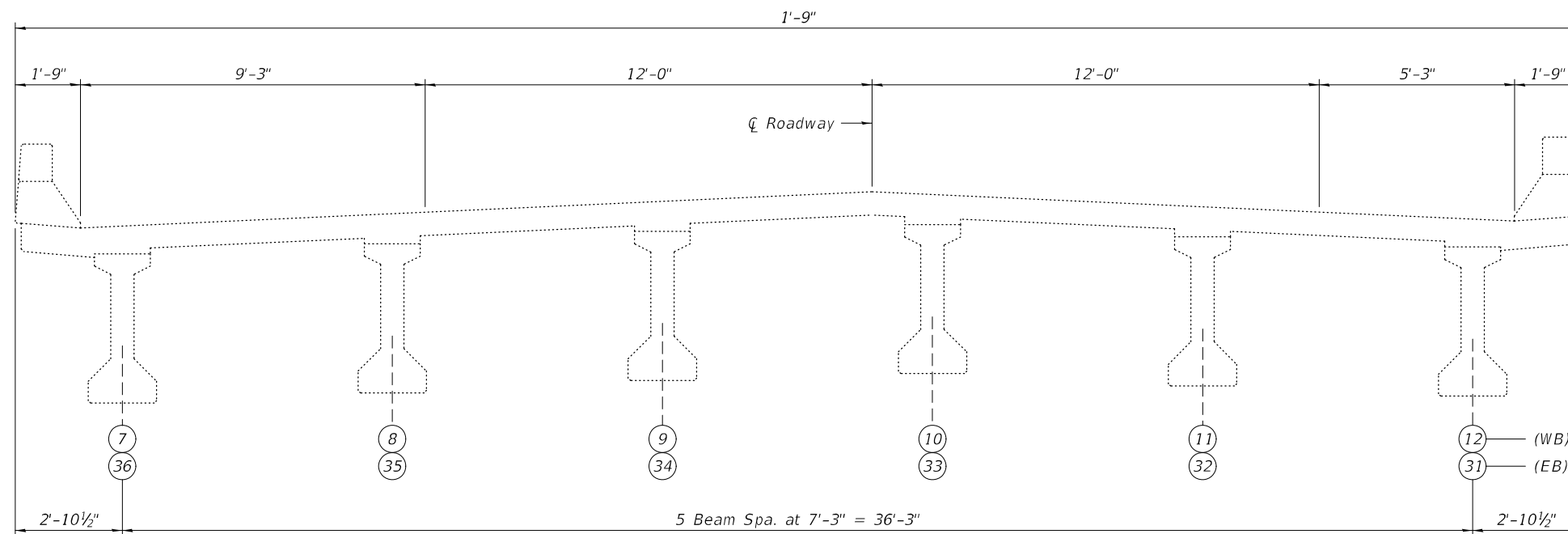
DESIGNED - Jeffrey S. Burke	EXAMINED	DATE - DECEMBER 8, 2021
CHECKED - Chi-Cheung Chau	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - daburdell	PASSED	REVISED -
CHECKED - JSB CCC	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**REPAIR PLANS
SN 044-0039 (WB) & 0040 (EB)**

SHEET NO. 8 OF 15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	57
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



CROSS SECTION
 Span 2 - Looking South (WB)
 Span 2 - Looking North (EB)

**REPAIR PROCEDURES FOR BEAM 7
 (SPAN 2)**

- The damaged area of the beam shall be cleaned of all loose and spalled concrete, and sealant. Hand tools shall be used for the removal of concrete adjacent to the prestressing strands. While a 15 pound chipping hammer may be used away from prestressing strands, extreme care shall be taken not to damage the exposed prestressing strands. Any exposed portions of the strands shall be sandblasted.
- Using the same tools, remove the existing concrete to sound concrete along the edges of the damaged area to a depth of 1" min. to 1 1/2" max. The edges shall be saw cut 3/4" deep or less.
- Power driven pins as shown in Detail A shall be placed at 9" alternate centers along damaged length of beam at locations shown in Detail A. Use wire ties in areas where the strands are exposed as shown in Detail A. Place 1" x 1" x 18 gauge welded wire fabric in repair areas and attach it to the pins or strands with wire ties. The clearance between the finished surface of the new concrete and the welded wire fabric shall be 1" minimum. All beams involved in this work shall be rebuilt to their original dimensions.
- All surfaces of the existing concrete in the areas to be repaired shall be prepared in accordance with Art. 503.09 (b) of the Standard Specs. The concrete beam to be repaired must be at a temperature of at least 50° F. or higher.
- The repair shall be made using a concrete meeting all the requirements specified in Section 1020 of the Standard Specifications for Class PS Concrete for precast prestressed concrete members, except the maximum size of the aggregate shall be 1/2". Place the lower form on the bottom of the beam and compact by vibrating (or other approved methods) the concrete mix into the voids. After accessible voids have been filled and compacted, the top vertical form shall be raised into position and the remaining voids filled and compacted. The sloping upper surface shall be finished to the configuration of the existing PPC I-Beam flange.

**PRELOADING FOR PPC I-BEAM REPAIRS
 (Service Moment)**

EAST FASCIA

Span	Location		*Moment (kip-ft)
	From	Distance	
2	N. Abut.	38'-2"	502

* The magnitude of the moments to be applied were obtained by assuming a simple span behavior between the fascia and first interior beams (AASHTO 3.23.2.3.1.2) for Live Load + Impact. The effect of the proposed preload system shall be determined using the same assumption.

DESIGNED - JSB
 CHECKED - CCC
 DRAWN - daburdell
 CHECKED - JSB CCC

EXAMINED
 PASSED
 ENGINEER OF STRUCTURAL SERVICES
 ENGINEER OF BRIDGES AND STRUCTURES

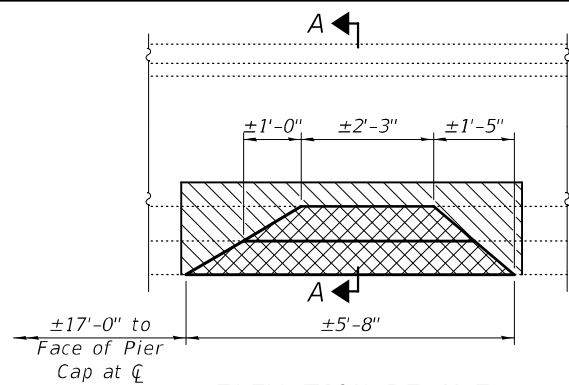
DATE - DECEMBER 8, 2021
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

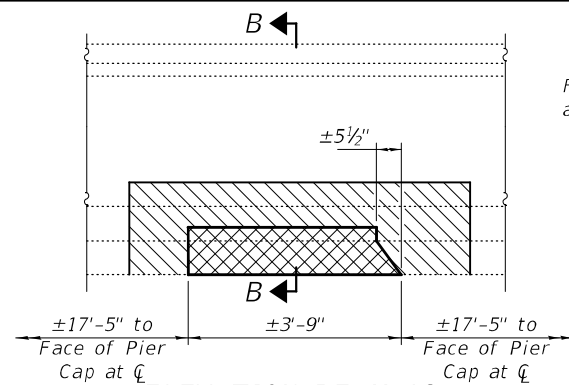
REPAIR PLANS
 SN 044-0039 (WB) & 0040 (EB)

SHEET NO. 9 OF 15 SHEETS

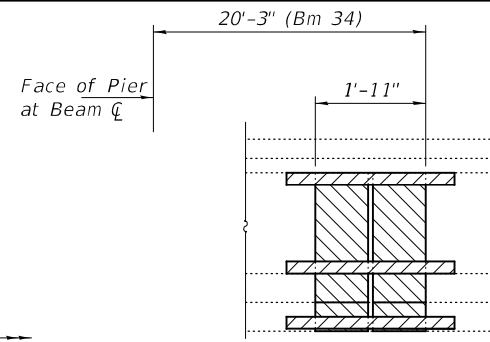
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	58
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



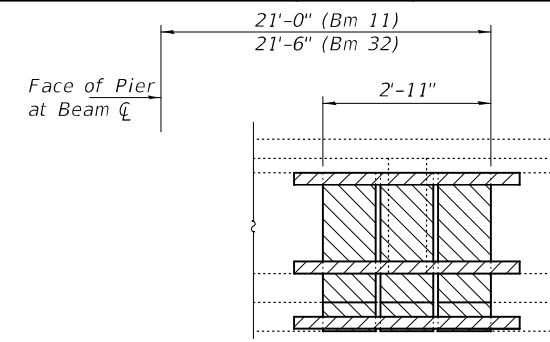
ELEVATION BEAM 7
(Looking South)



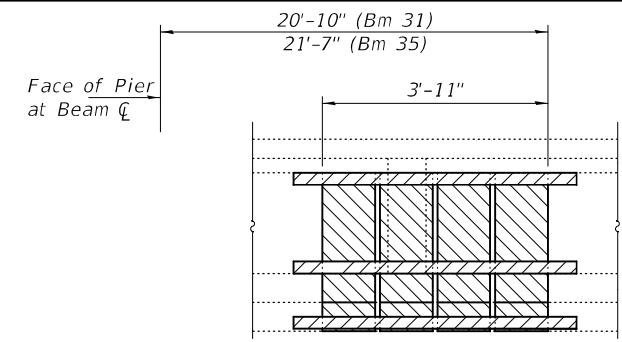
ELEVATION BEAM 12
(Looking North)



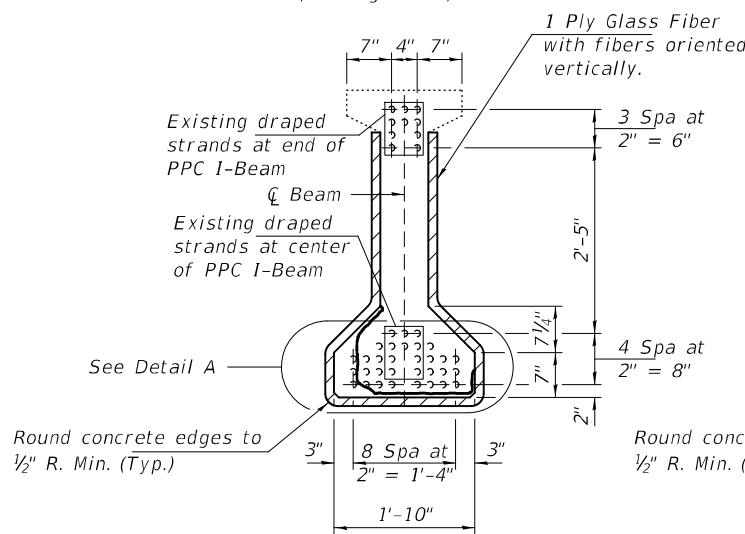
REPAIR A
(1 Location)



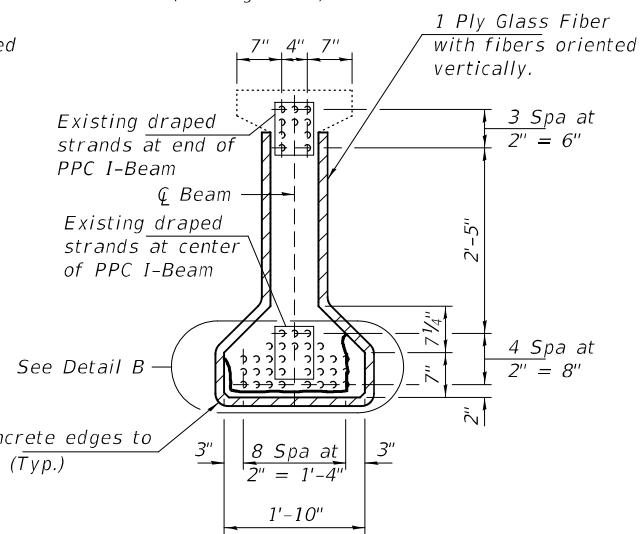
REPAIR B
(2 Locations)



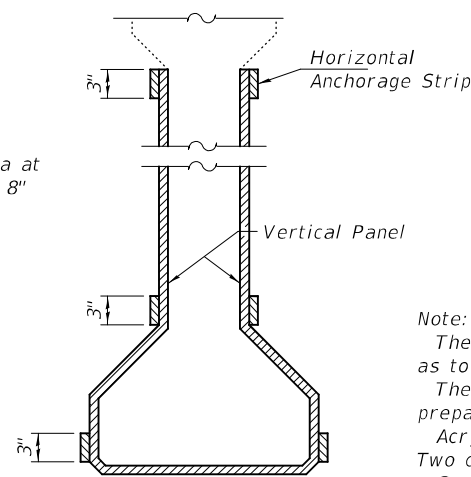
REPAIR C
(2 Locations)



SECTION A-A
PATCHING DETAIL
(Beam 7 - Looking East)

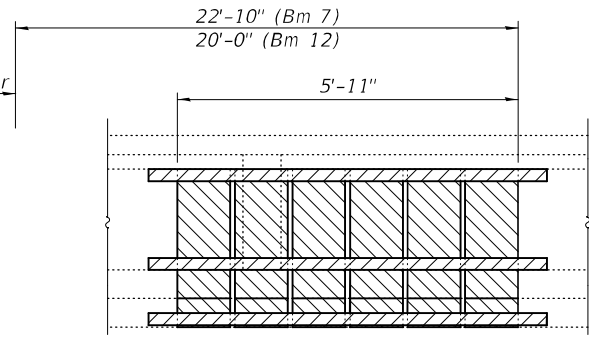


SECTION B-B
PATCHING DETAIL
(Beam 12 - Looking East)



SECTION C-C

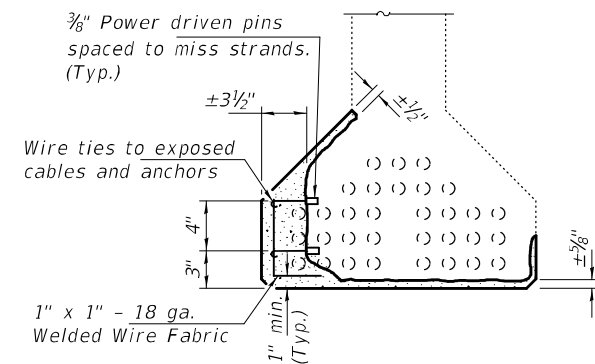
Note:
The Contractor shall use extreme care during removal so as to not damage the PPC I-Beam.
The existing concrete surface shall be cleaned and prepared in accordance with the Special Provisions.
Acrylic Coating shall be placed over the fiber wrap repairs. Two coats shall be applied.
See Special Provisions for "FRP Strengthening."
See Special Provisions for "Precast Prestressed Concrete I-Beam Repair."
Vertical FRP panels may be trimmed to fit around diaphragms. The minimum width of the trimmed legs must be 3". The FRP panel may terminate at the base of the diaphragm if the minimum width cannot be met. The horizontal anchorage strips must wrap 6" onto the diaphragm face if the strip is broken due to the diaphragm location.
The cost of concrete removal, Class PS Concrete, power driven pins, wire ties, wire mesh, epoxy bonding agent, Epoxy Crack Sealing and all other work required to perform repairs on Beam 7 in Span 2 shall be included in the cost of P.P.C. I Beam Repairs.



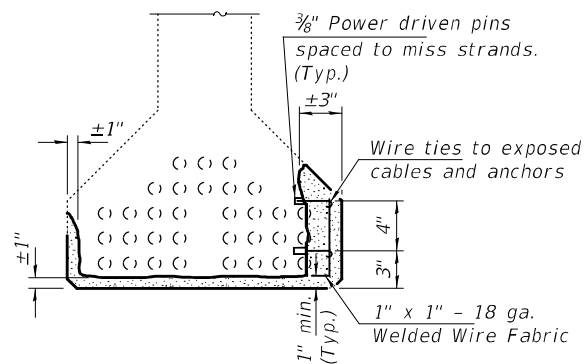
REPAIR D
(1 Location)



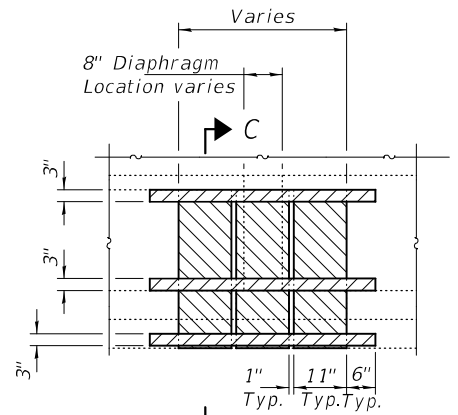
REPAIR E
(2 Locations)



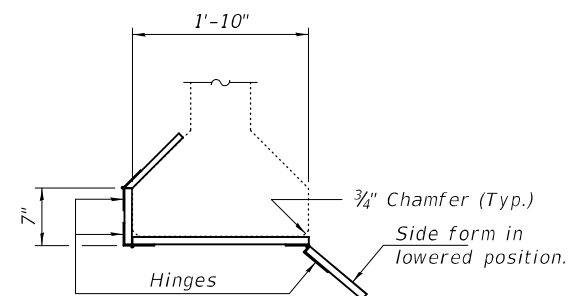
DETAIL A
(Beam 7 - Looking East)



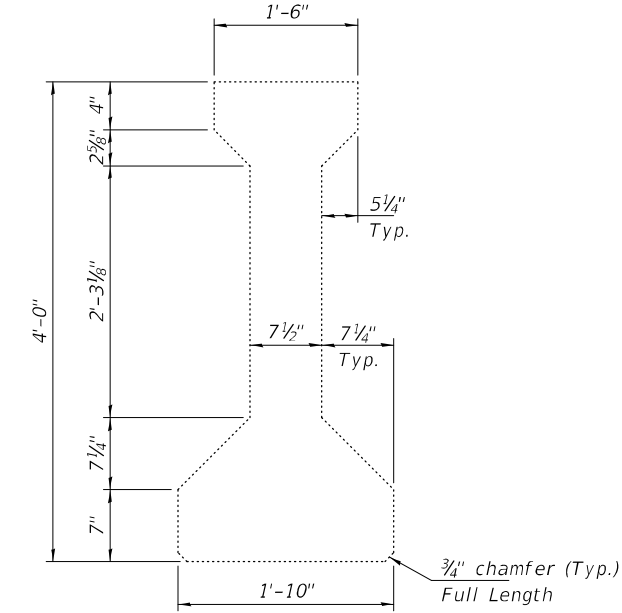
DETAIL B
(Beam 12 - Looking East)



TYPICAL BEAM ELEVATION
MID-SPAN



SUGGESTED FORM DETAIL



CROSS SECTION
(Showing Dimensions)

DESIGNED - JSB
CHECKED - CCC
DRAWN - daburdell
CHECKED - JSB CCC

EXAMINED
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

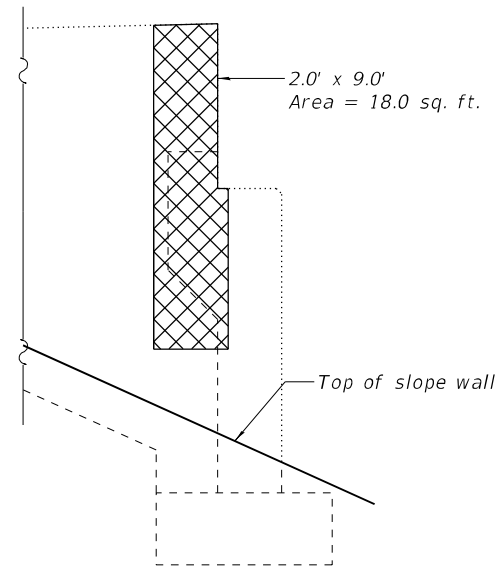
DATE - DECEMBER 8, 2021
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

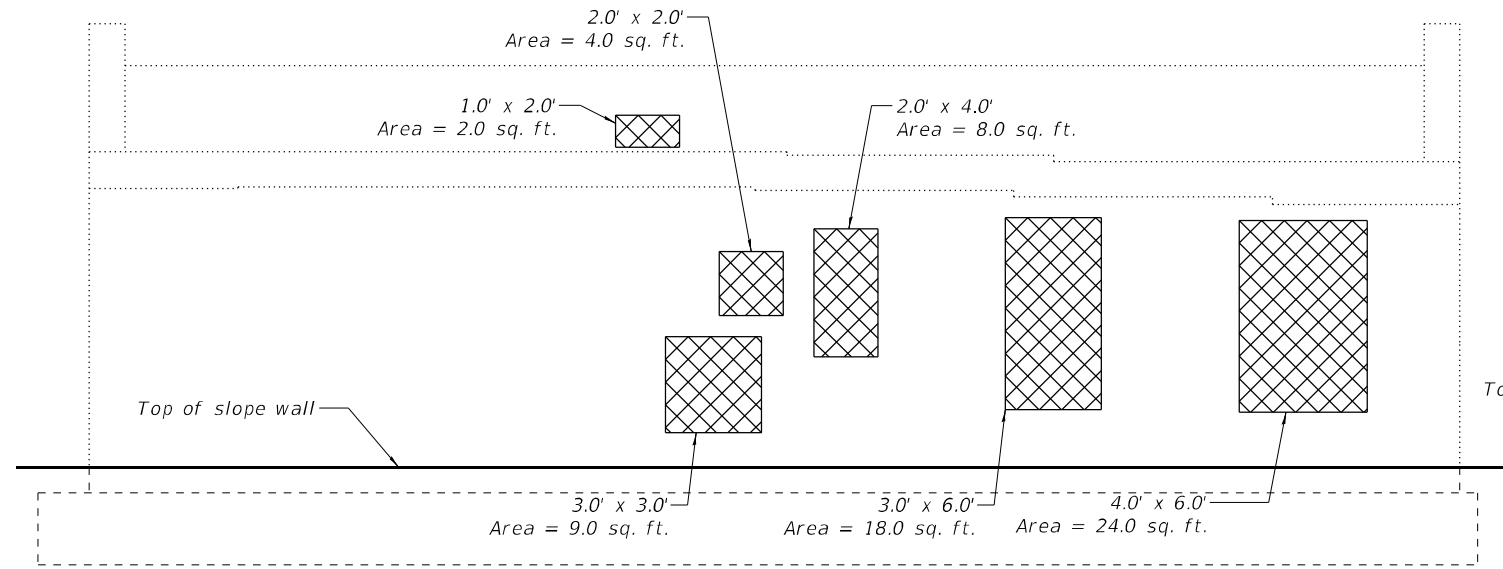
REPAIR PLANS
SN 044-0039 (WB) & 0040 (EB)

SHEET NO. 10 OF 15 SHEETS

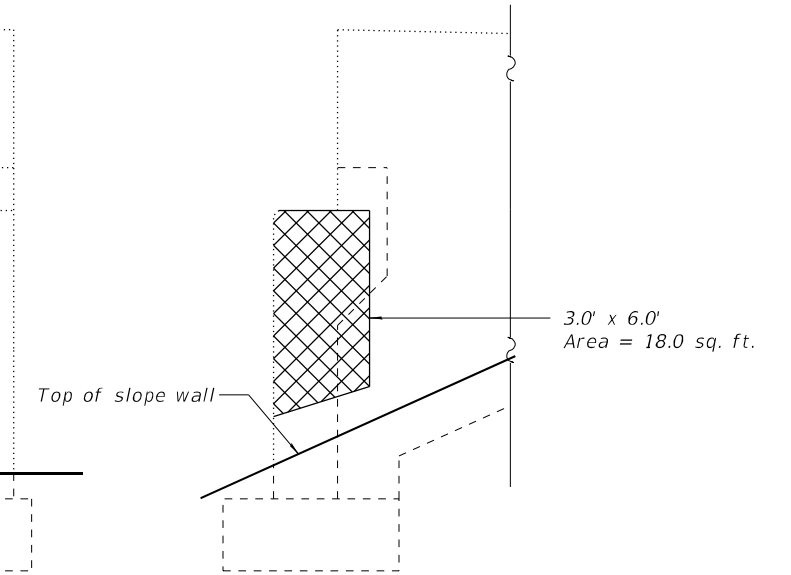
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	59
ILLINOIS			CONTRACT NO. 78849	
FED. AID PROJECT				



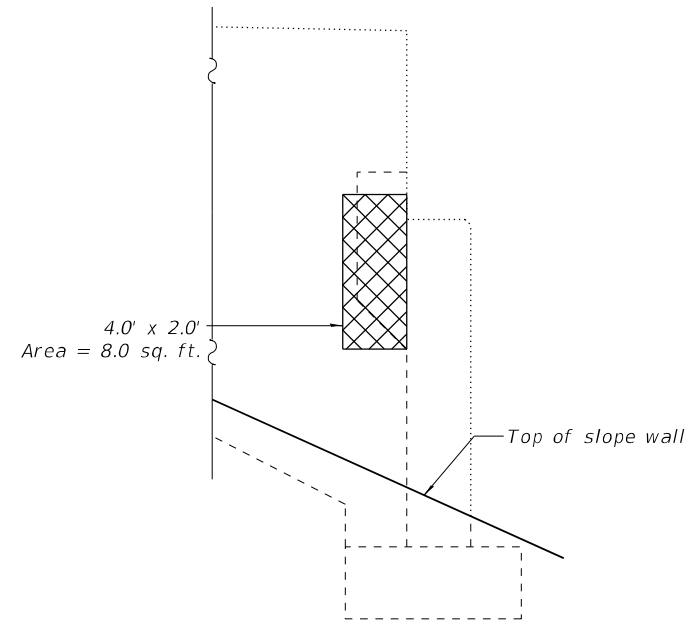
NORTHWEST CURTAIN WALL ELEVATION



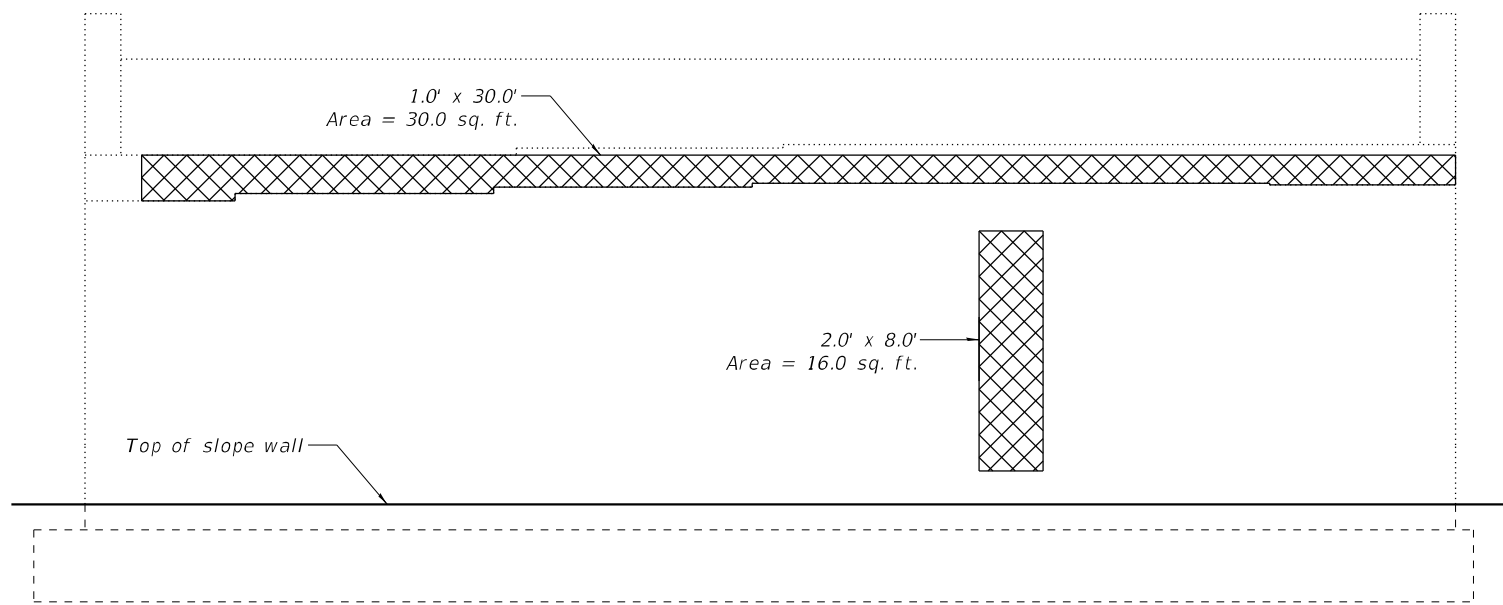
NORTH ABUTMENT ELEVATION



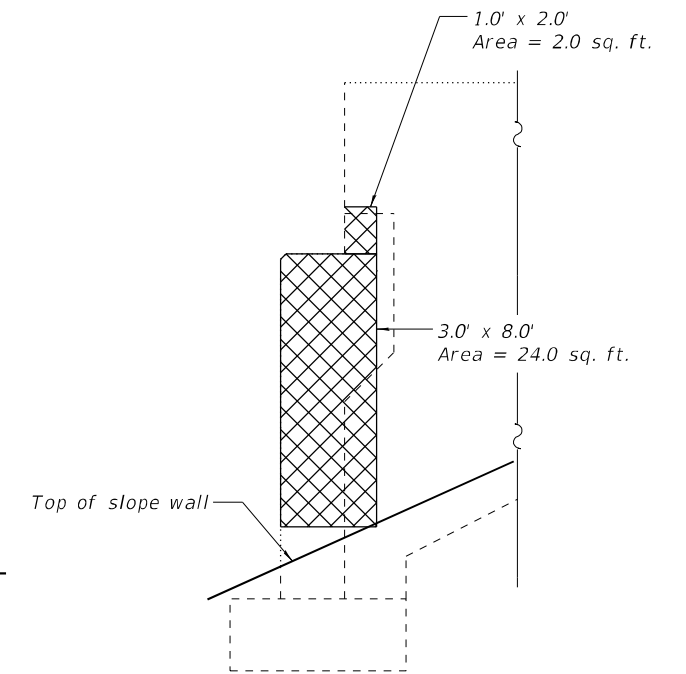
NORTHEAST CURTAIN WALL ELEVATION



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.	206

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.

MODEL: Default
FILE NAME: L:\DOT\11806910\VO_g\Draw\Structures\SN 0039 & 0040\008_0039-0040_Abutment Repair_1.dgn



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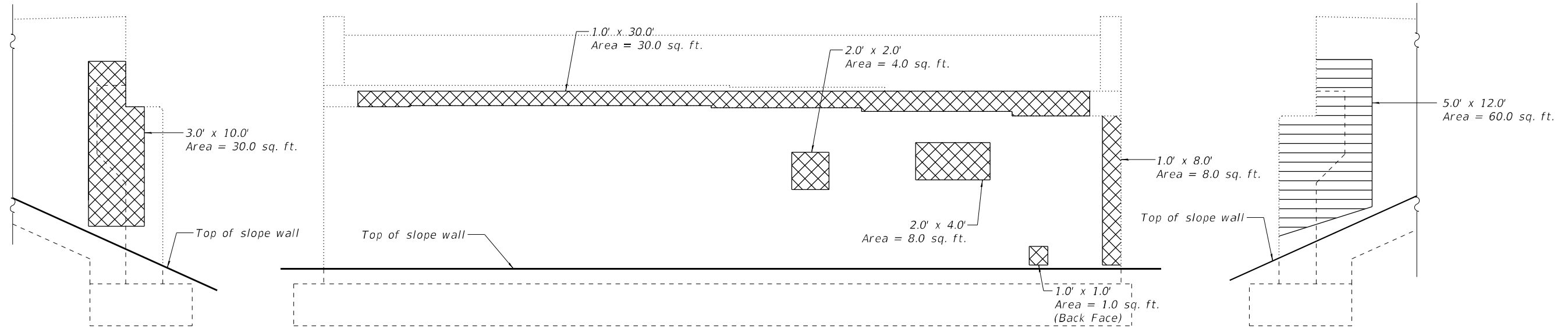
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PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (12:24:39 PM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT REPAIRS SN 044-0039
STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)

SHEET 11 OF 15 SHEETS

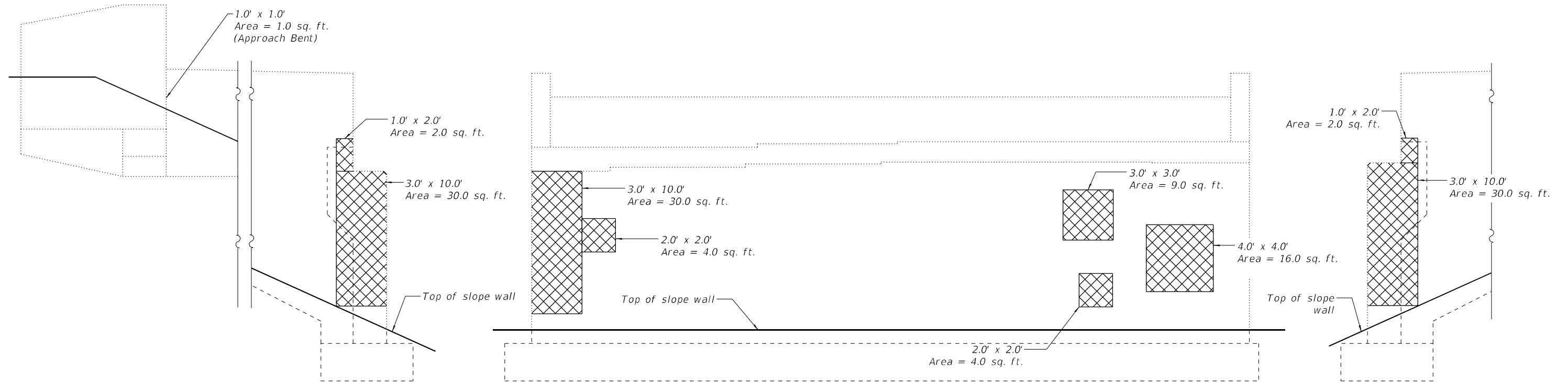
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	60
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	



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 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.	234
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq. Ft.	60

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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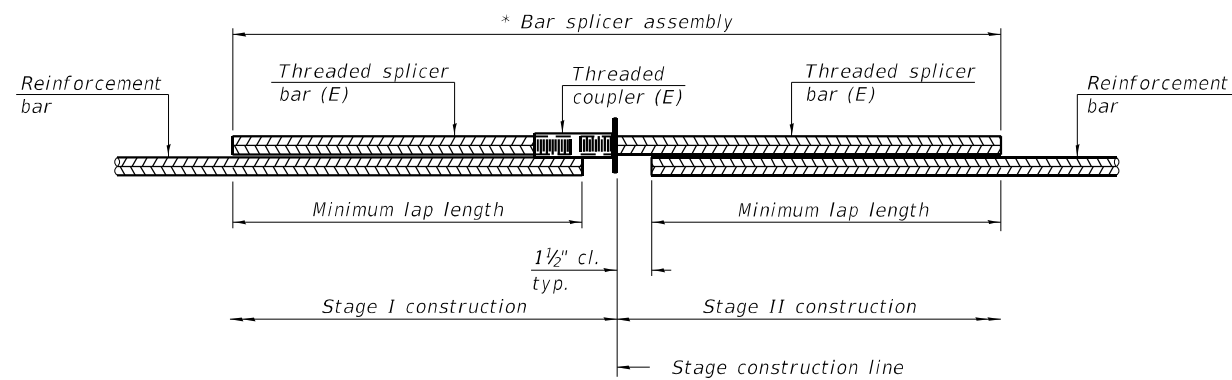
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	CHECKED - JTH	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT REPAIRS SN 044-0040
STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)**

SHEET 12 OF 15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	61
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



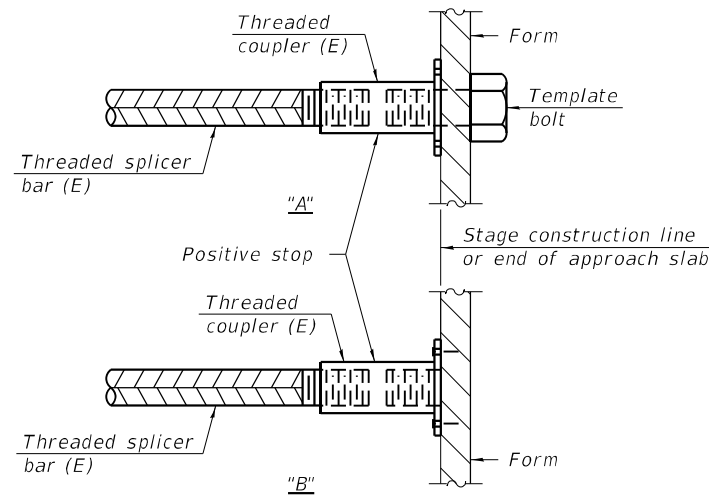
STANDARD BAR SPLICER ASSEMBLY PLAN

(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
044-0039 N. Abutment	#7	4	4'-2"
044-0039 S. Abutment	#7	4	4'-2"
044-0040 N. Abutment	#7	4	4'-2"
044-0040 S. Abutment	#7	4	4'-2"

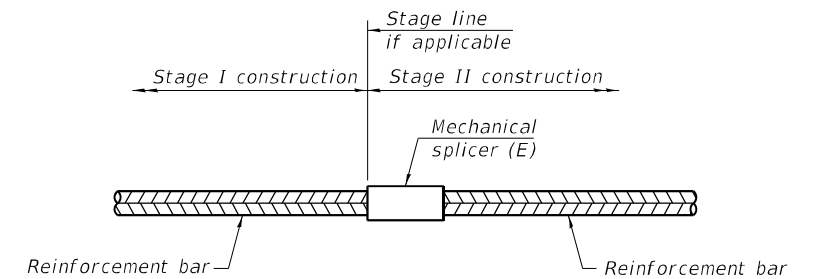


INSTALLATION AND SETTING METHODS

"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\039 & 040\010_0039-040_Bar Splicer Assembly and Mechanical Splicer Details.dgn



USER NAME = Joey Heger	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (12:24:43 PM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)

SHEET 13 OF 15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	62
ILLINOIS			FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	#	JOHNSON	150	119
STA.		TO STA.		
FILING DIST. NO.		ALPHAS	FILING PROJECT	

• BSMART 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.

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

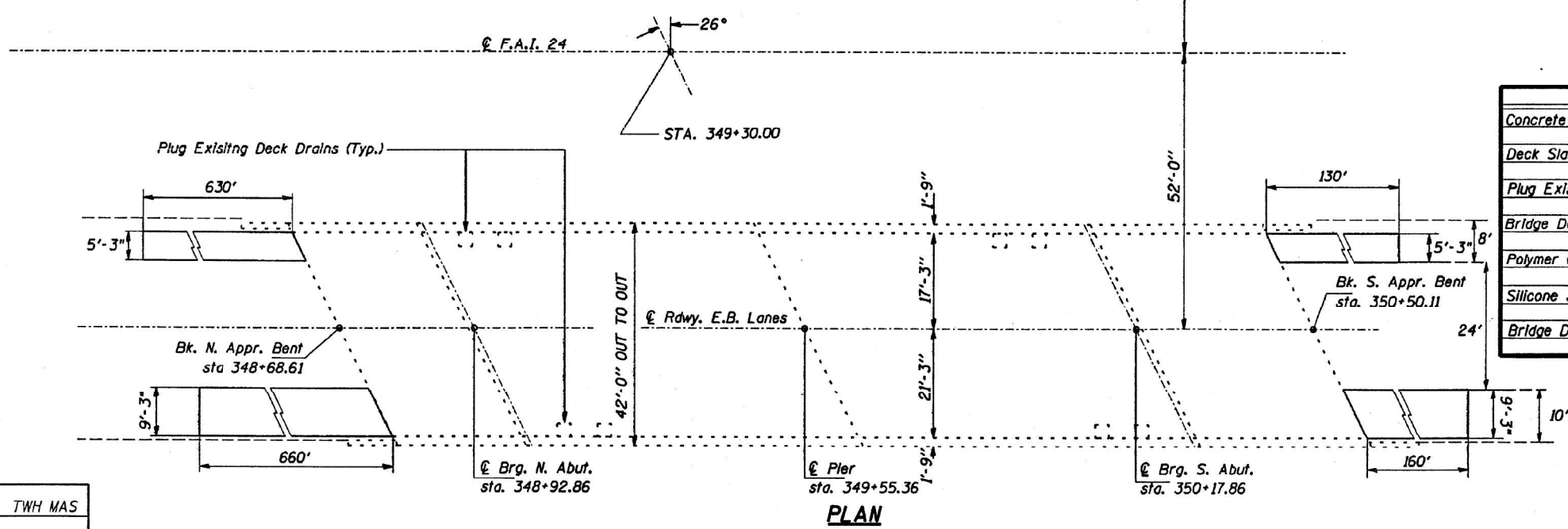
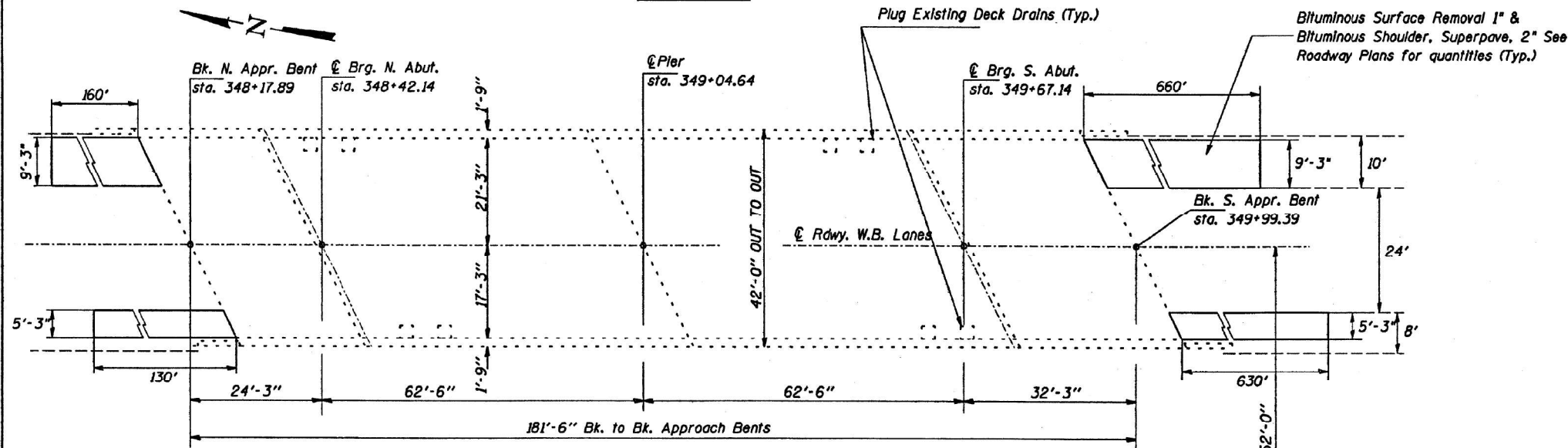
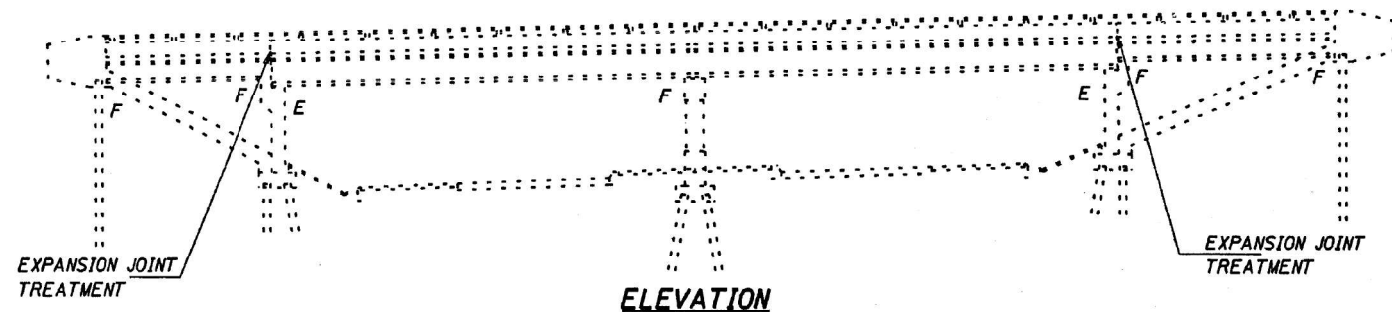
1. Scarify and Resurface Existing Shoulders
2. Remove Stage I Areas
3. Perform Stage I Repairs and Overlay
4. Remove Stage II Areas
5. Perform Stage II Repairs and Overlay

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	0039	0040
Concrete Bridge Deck Scarification (1/2 Inch)	Sq. Yd.	1528	764	764
Deck Slab Repair (Partial Depth)	Sq. Yd.	31	15.5	15.5
Plug Existing Deck Drains	Each	8	4	4
Bridge Deck Microsilica Concrete Overlay (2 1/4 Inch)	Sq. Yd.	1528	764	764
Polymer Concrete	Cu. Ft.	16.6	8.3	8.3
Silicone Joint Sealer (1/2 inch)	Foot	179	89.5	89.5
Bridge Deck Grooving	Sq. Yd.	1449	724.5	724.5



DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	TWH FEB
CHECKED	MAS

**GENERAL PLAN AND ELEVATION
FAI 24 OVER US 45
JOHNSON COUNTY
STA. 349+30.00
S.N. 044-0039 (W.B.)
S.N. 044-0040 (E.B.)**

FOR INFORMATION ONLY

MODEL: Default
FILE NAME: L:\DOT\1500610\VO_8\DrawStructures\SN 0039 & 0040\01_0039-0040_Existing Plans-12.dgn



USER NAME =	Joey Heger	DESIGNED -	DAC	REVISED -	
		CHECKED -	JTH	REVISED -	
PLOT SCALE =	N/A	DRAWN -	RAH	REVISED -	
PLOT DATE =	12/1/2021 (12:24:44 PM)	CHECKED -	JTH	REVISED -	

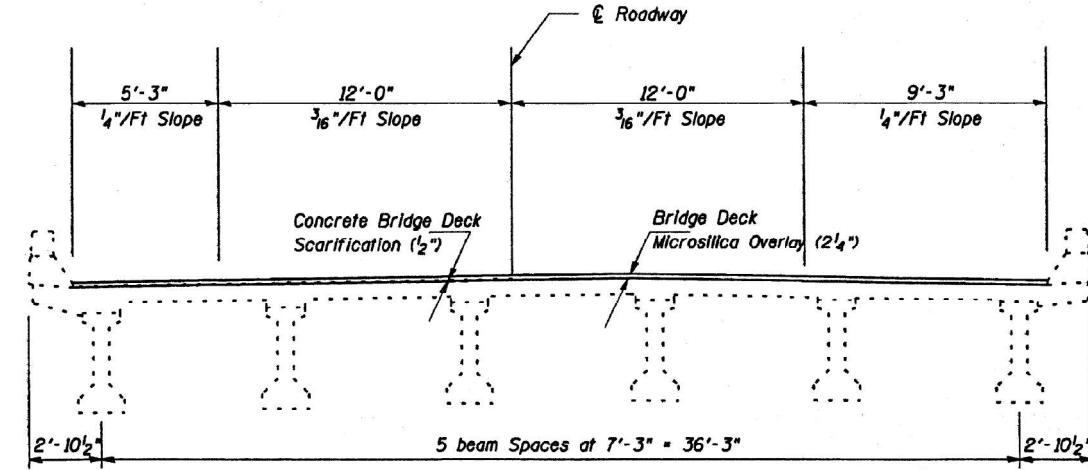
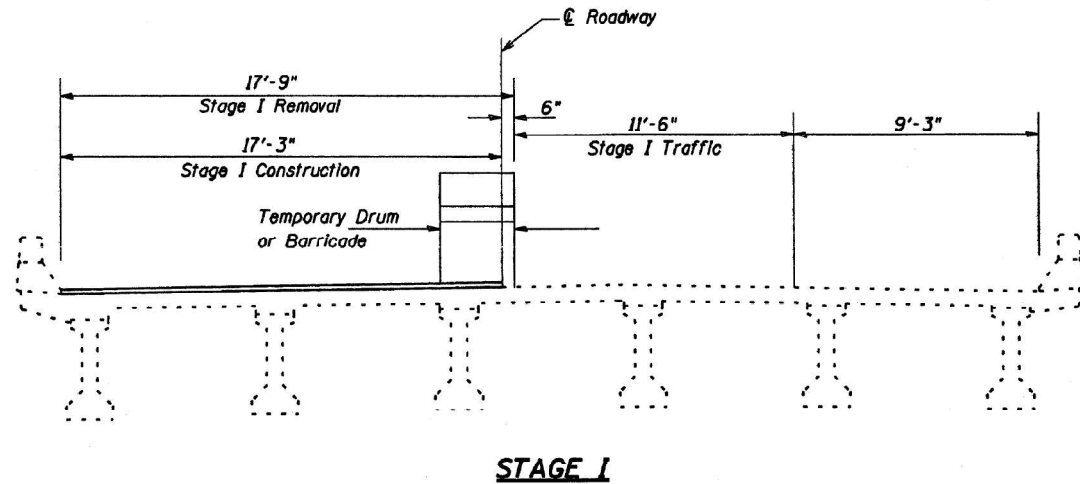
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0039 (W.B.) & 044-0040 (E.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	63
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	JOHNSON	150	120
STA. TO STA.		ILLINOIS FED. AID PROJECT	
= BSMART FY04-3 98836			

FOR INFORMATION ONLY



TYPICAL CROSS SECTION

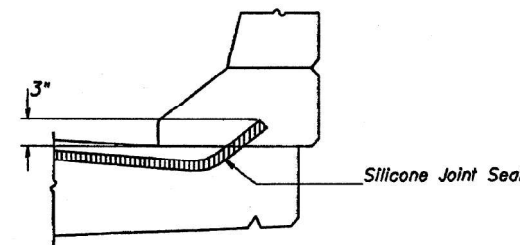
(Proposed cross slope matches the existing normal crown)

Notes: Cross sections are looking in direction of traffic

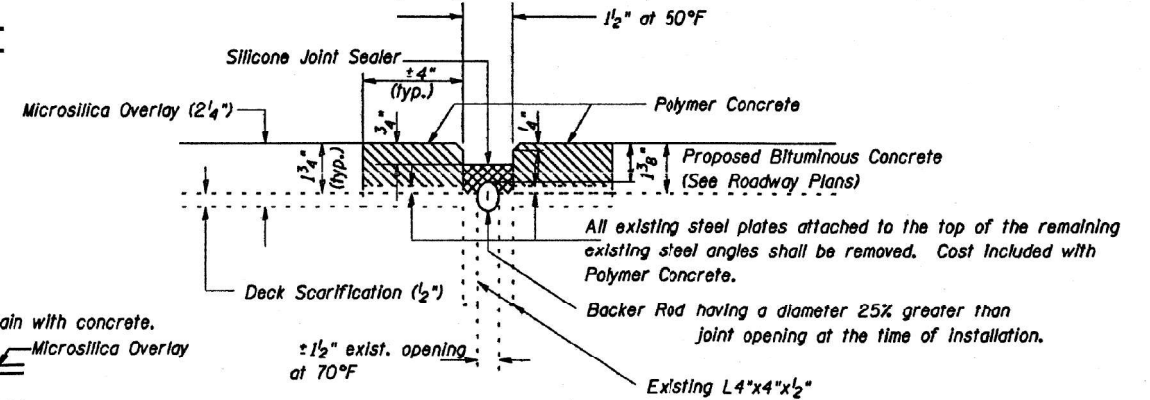
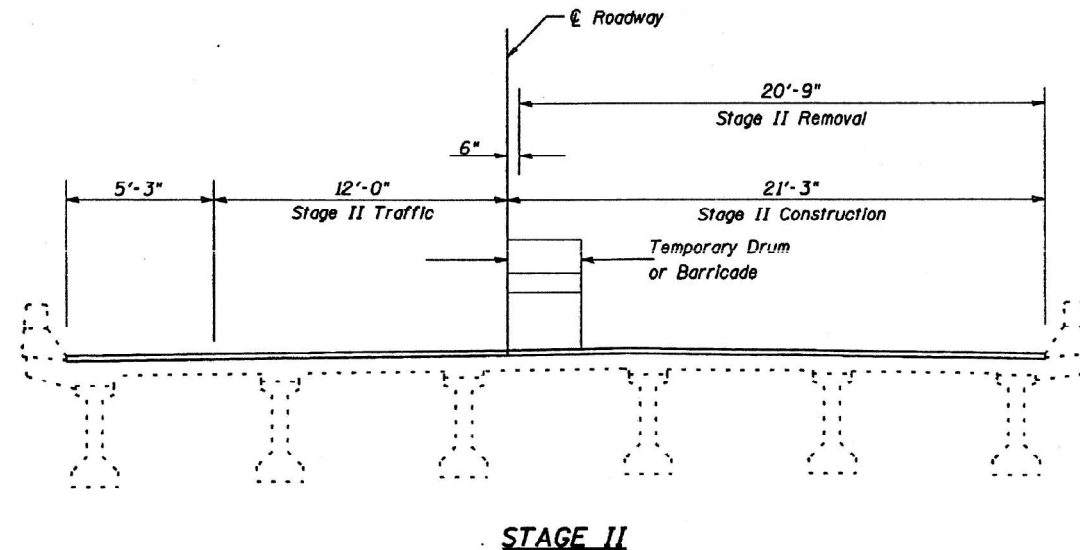
The temporary drums or barricades shall be located as shown on this sheet except when workers are present, when they may be temporarily moved over 2'-0" shifting traffic onto the existing bituminous shoulders.

All abutments typical

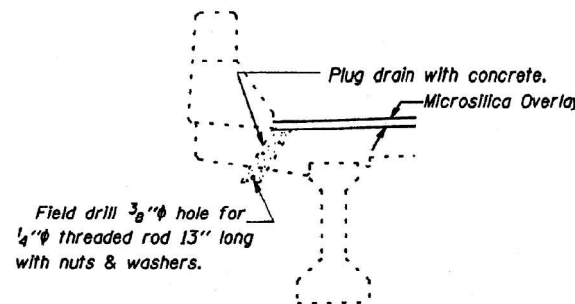
Dimensions are at right angles.



TYPICAL END OF SEAL TREATMENT AT EXPANSION JOINT



JOINT TREATMENT AT ABUTMENTS



STAGE CONSTRUCTION, JOINT TREATMENT & DRAIN ELIMINATION DETAILS

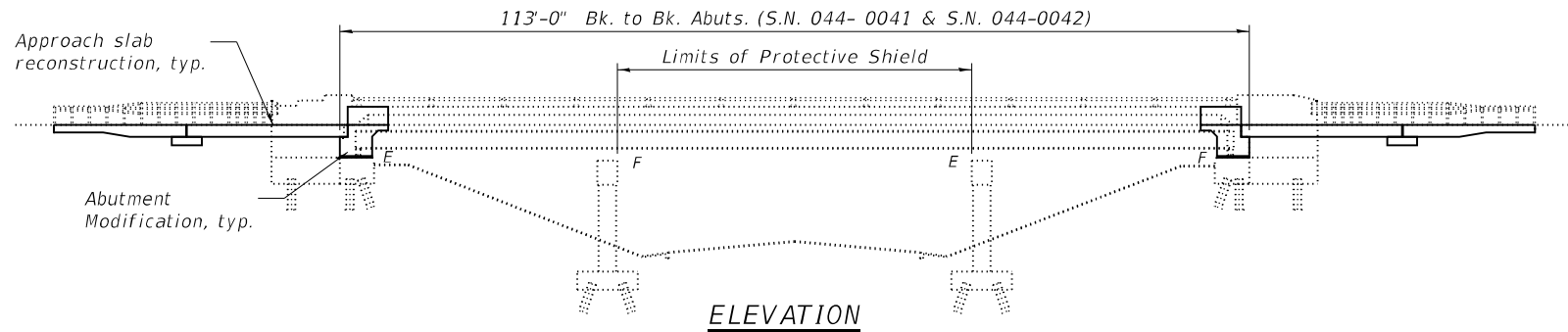
JOHNSON COUNTY
SN 044-0039 (W.B.)
SN 044-0040 (E.B.)

DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	TWH TEB
CHECKED	MAS



USER NAME = Joey Heger	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (12:24:49 PM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	64
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

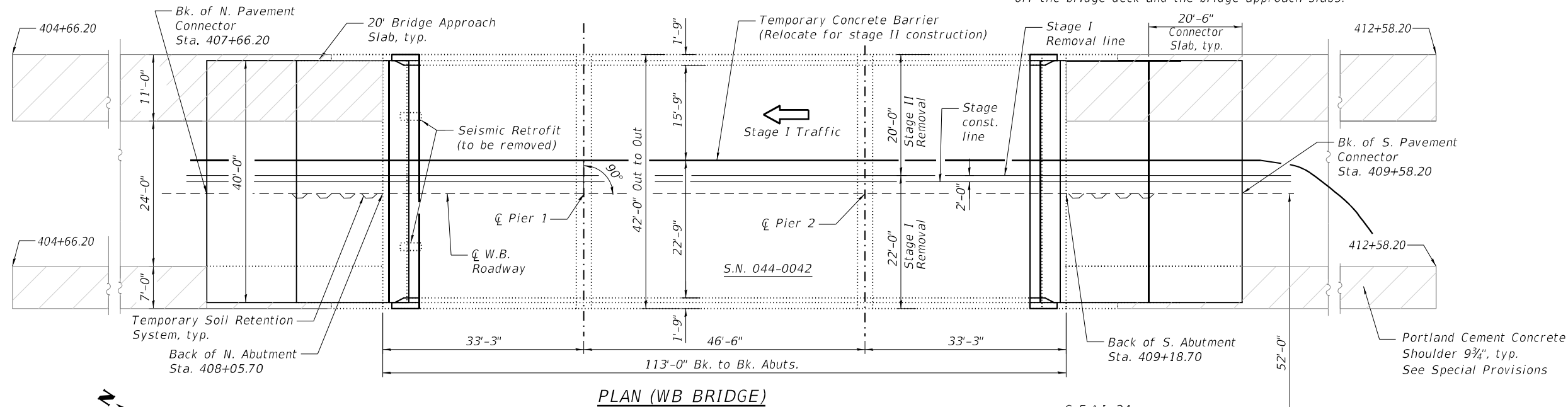
- 1 General Plan and Elevation
- 2 General Data
- 3 Stage Construction Details
- 4 Deck Patching Plan
- 5 Temporary Concrete Barrier for Stage Construction
- 6 Superstructure
- 7 Diaphragm Details
- 8-9 Approach Slab Details
- 10 Abutment Removal
- 11 Bar Splicer Assembly and Mechanical Splicer Details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

DESIGN STRESSES
FIELD UNITS

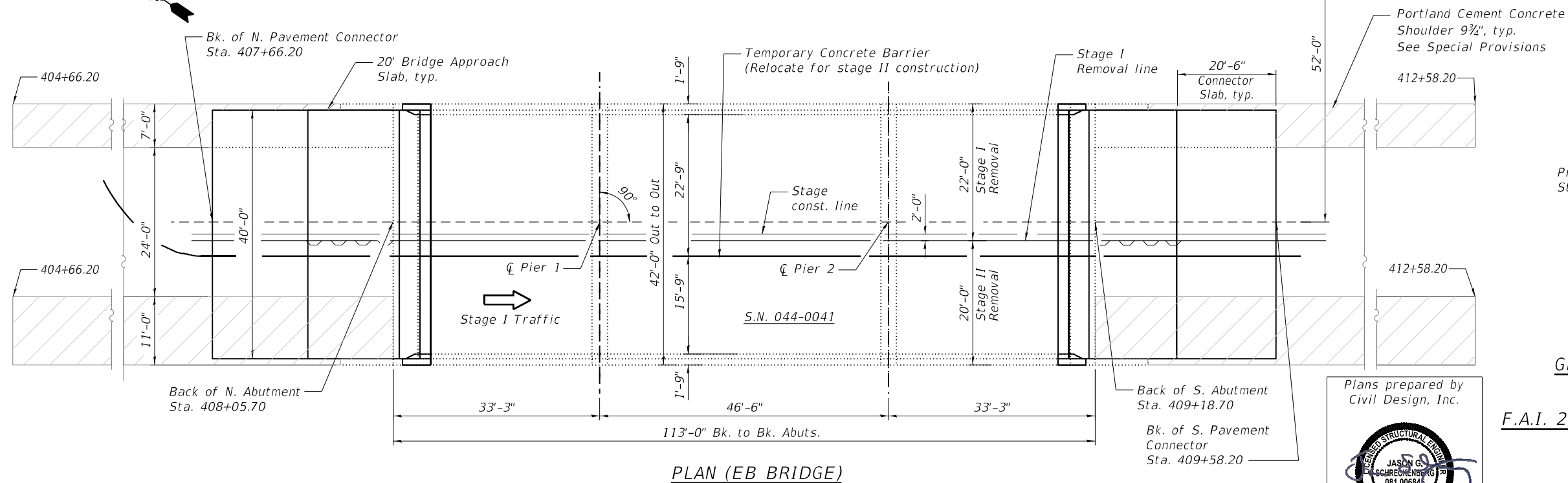
New Construction
 $f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)

Existing Structure, 2001 & 1998 Rehabilitation
 $f'_c = 1,400$ psi
 $f_s = 20,000$ psi (Reinforcement)

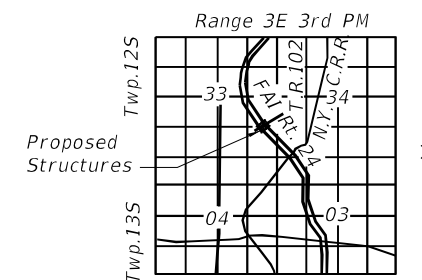
Existing Structure, 1970
 $f'_c = 1,200$ psi
 $f_s = 20,000$ psi (Reinforcement)



PLAN (WB BRIDGE)



PLAN (EB BRIDGE)



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

I-24 OVER T.R. 102
F.A.I. 24, SECTION BRIDGE REPAIR 2022-1
JOHNSON COUNTY
STA. 408+61.70
SN 044-0042 (W.B.) & 044-0041 (E.B.)

Plans prepared by
 Civil Design, Inc.



Expires: 11/30/2022

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

SHEET 1 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	65
			CONTRACT NO. 78849	

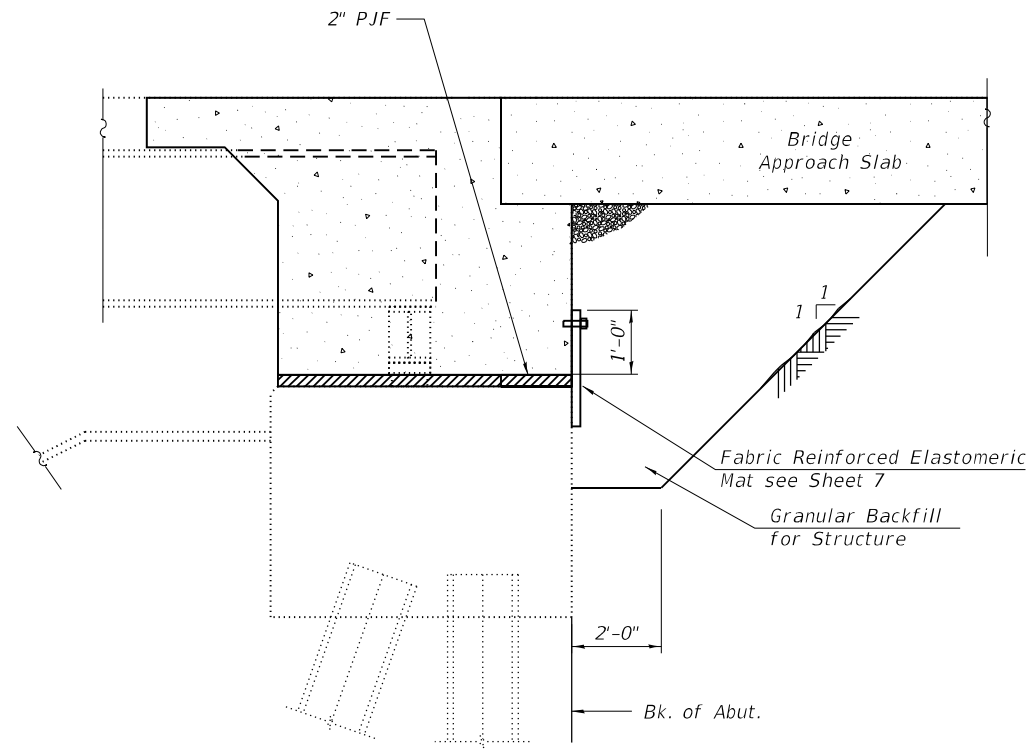
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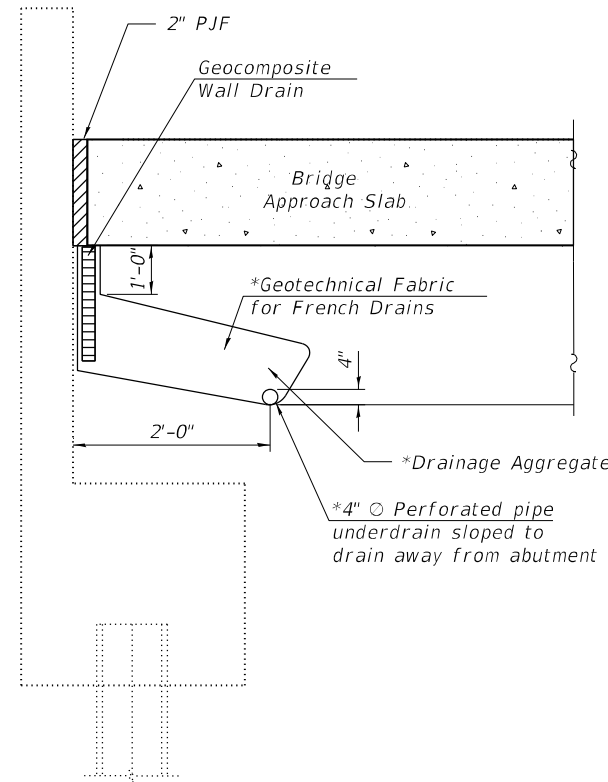
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JS	JS	REVISIONS
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KAS	KAS	REVISIONS

TOTAL BILL OF MATERIAL

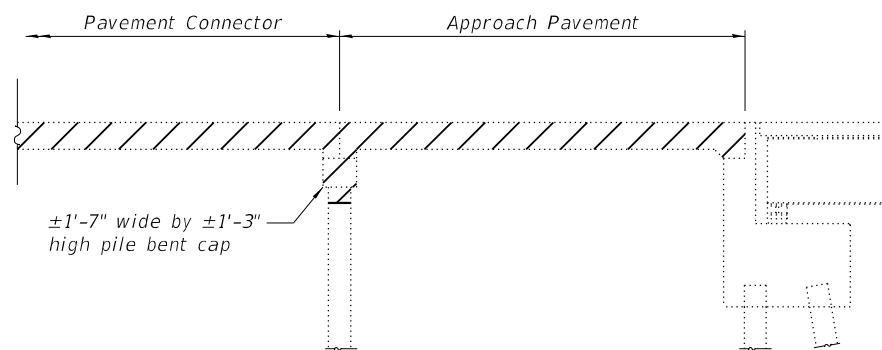
ITEM	UNIT	044-0041	044-0042	TOTAL
Paved Shoulder Removal	Sq. Yd.	1,411	1,411	2822
Portland Cement Concrete Shoulders 9 3/4"	Sq. Yd.	1,297	1,297	2594
Concrete Removal	Cu. Yd.	31	31	62
Protective Shield	Sq. Yd.	217	217	434
Structure Excavation	Cu. Yd.	101	101	202
Concrete Structures	Cu. Yd.	26	26	52
Concrete Superstructure	Cu. Yd.	58	58	116
Protective Coat	Sq. Yd.	339	339	678
Concrete Superstructure (Approach Slab)	Cu. Yd.	75	75	150
Reinforcement Bars, Epoxy Coated	Pound	38,150	38,150	76300
Bar Splicers	Each	300	300	600
Temporary Soil Retention System	Sq. Ft.	68	68	136
Granular Backfill for Structures	Cu. Yd.	122	122	244
Geocomposite Wall Drain	Sq. Yd.	13	13	26
Concrete Headwalls for Pipe Drains	Each	4	4	8
Temporary Concrete Barrier	Foot	361	361	722
Relocate Temporary Concrete Barrier	Foot	361	361	722
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.	91	91	182
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	403	403	806
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	80	160
Containment and Disposal of Lead Paint Cleaning Residues Location 1	L Sum	1	0	1
Containment and Disposal of Lead Paint Cleaning Residues Location 2	L Sum	0	1	1
Cleaning and Painting Steel Bridge Location 1	L Sum	1	0	1
Cleaning and Painting Steel Bridge Location 2	L Sum	0	1	1
Bridge Deck Scarification 3"	Sq. Yd.	475	475	950
Structural Repair of Concrete (Depth Equal to or Less than 5 inches)	Sq. Ft.	61	61	122
Deck Slab Repair (Full Depth Type II)	Sq. Yd.	5	5	10
Diamond Grinding (Bridge Section)	Sq. Yd.	653	653	1306
Polymer Concrete	Cu. Ft.	6	6	12
Pipe Underdrains for Structures 4"	Foot	140	140	280
Bridge Deck Latex Concrete Overlay 3/4 inches	Sq. Yd.	430	430	860



SECTION THROUGH INTEGRAL ABUTMENT

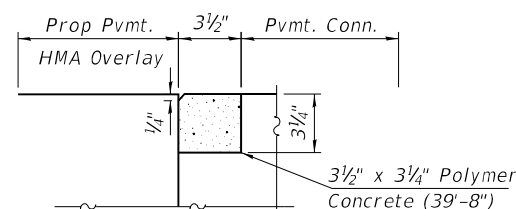


SECTION THROUGH ABUTMENT WINGWALL



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).

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 11 on Standard R-27 (Sheet 5 of 28) from Sta. 407+66.20 to Sta. 408+05.70 and Sta. 409+18.70 to Sta. 409+58.20 for SN 044-0041 and SN 044-0042 for Stage II traffic. This work shall be included in the cost of Temporary Concrete Barrier, no additional compensation shall be provided.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

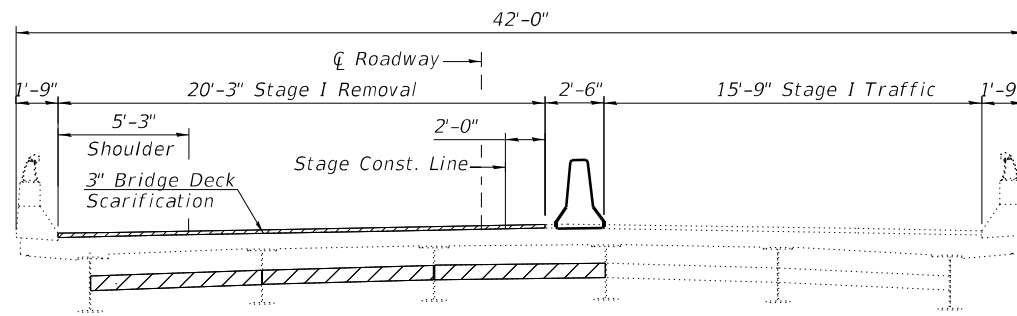
**GENERAL DATA
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	66
			CONTRACT NO. 78849	

SHEET 2 OF 28 SHEETS

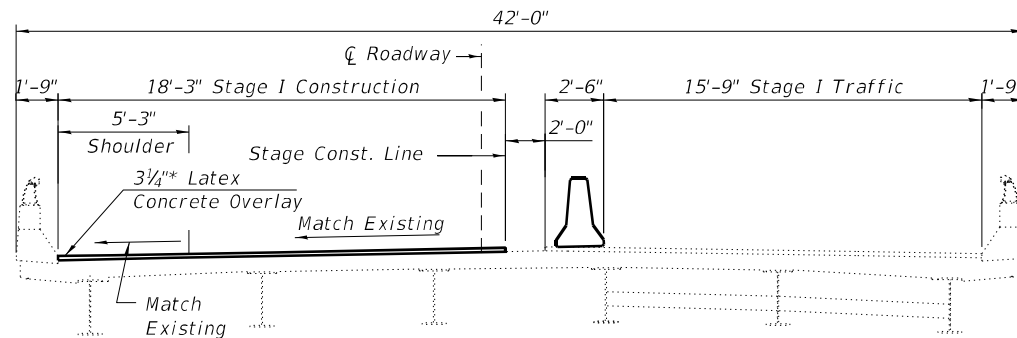
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JS	JS	
RBT	RBT	
KAS	KAS	



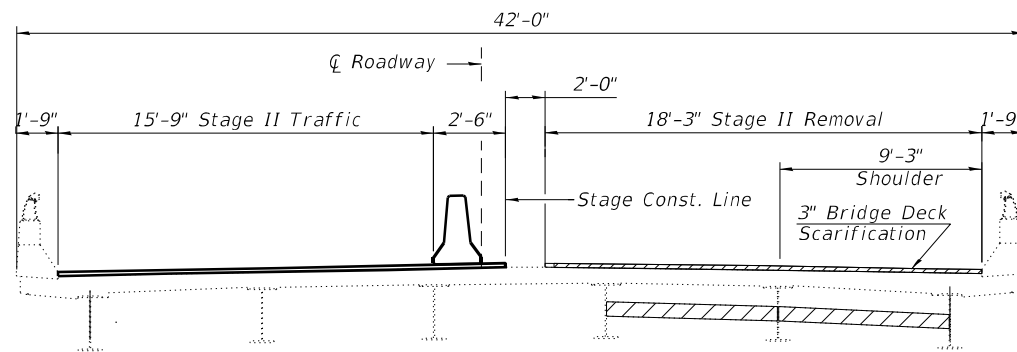
STAGE I REMOVAL DETAIL

S.N. 044-0042 Looking North
S.N. 044-0041 Looking South



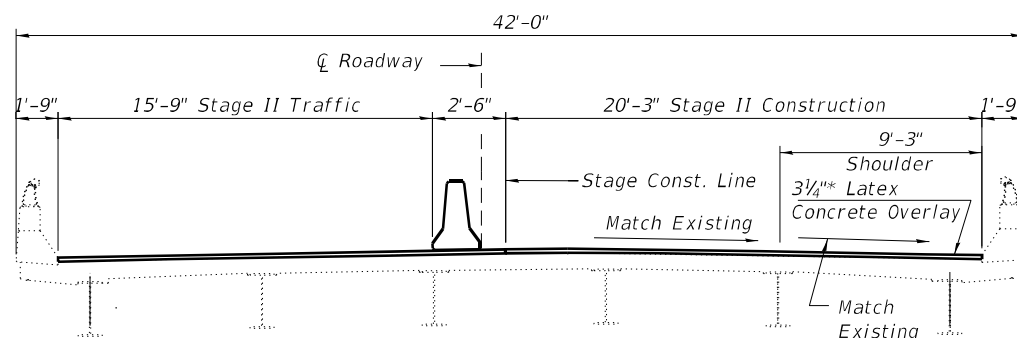
STAGE I CONSTRUCTION DETAIL

S.N. 044-0042 Looking North
S.N. 044-0041 Looking South



STAGE II REMOVAL DETAIL

S.N. 044-0042 Looking North
S.N. 044-0041 Looking South

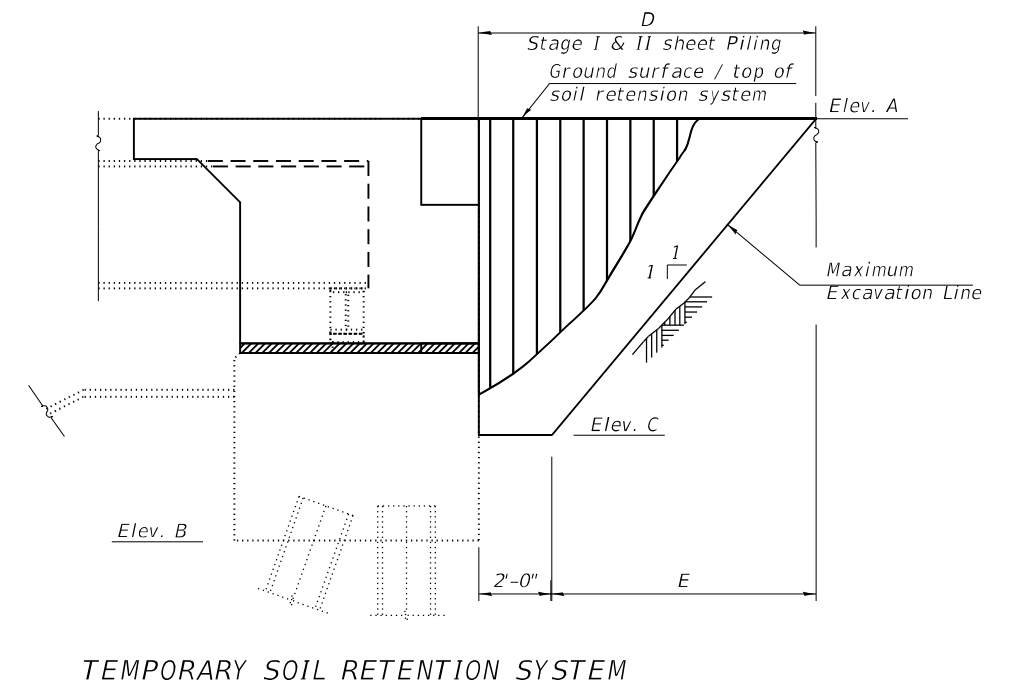


STAGE II CONSTRUCTION DETAIL

S.N. 044-0042 Looking North
S.N. 044-0041 Looking South

* Prior to diamond grinding

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



Location	Elev. A	Elev. B	Elev. C	Dim. D	Dim. E
S.N. 044-0041 W. Abutment	402.96	395.04	397.83	7'-2"	5'-2"
S.N. 044-0041 E. Abutment	403.46	395.51	398.33	7'-2"	5'-2"
S.N. 044-0042 W. Abutment	402.96	395.04	397.83	7'-2"	5'-2"
S.N. 044-0042 E. Abutment	403.46	395.59	398.42	7'-1"	5'-1"

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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LICENSE # 184.003222

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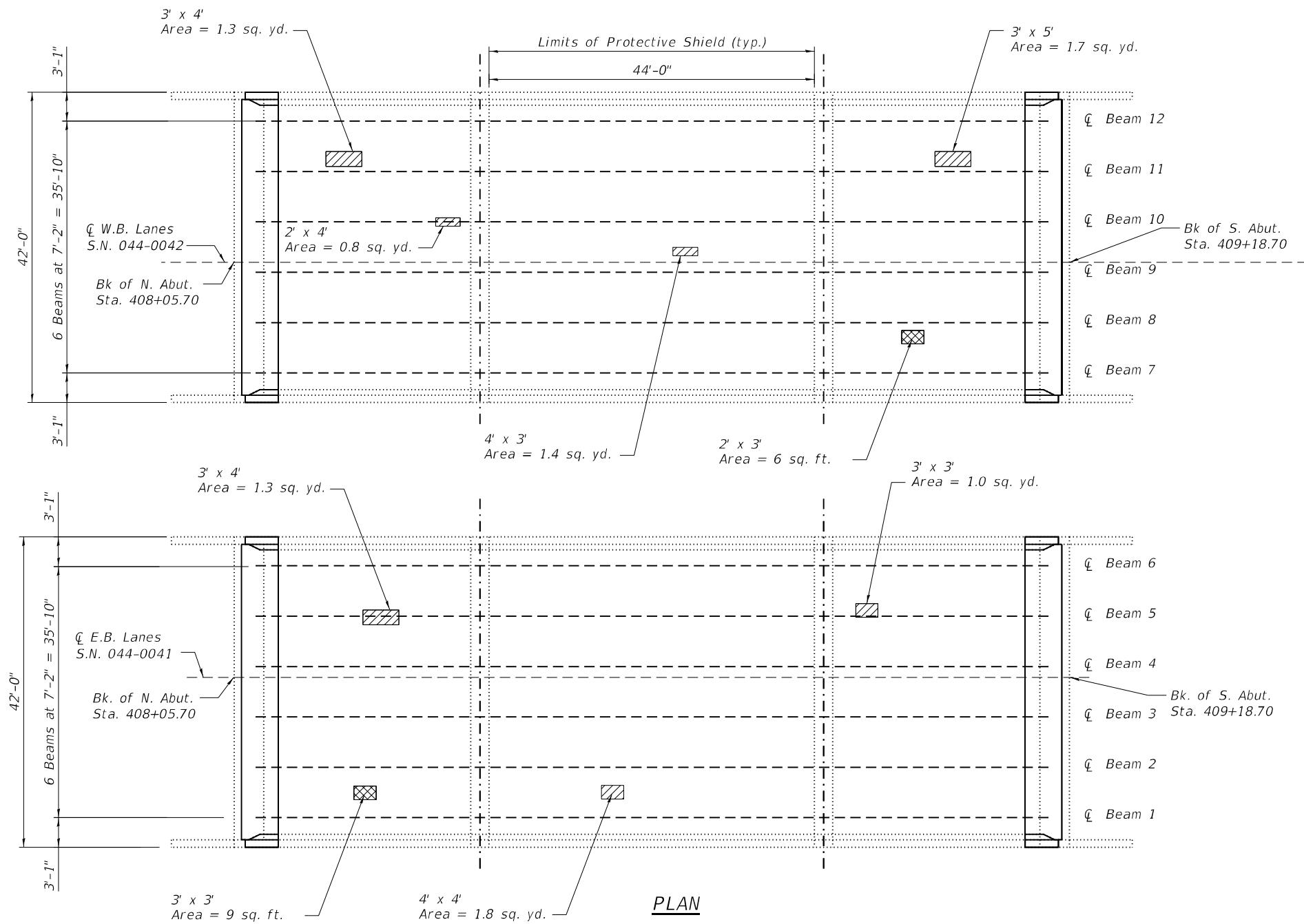
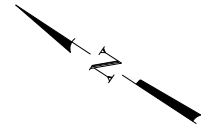
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

SHEET 3 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	67
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

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PLAN

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.

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.

- Full Depth, Type II
- Structure Repair of concrete (Depth equal to or Less Than 5 inches)

BILL OF MATERIAL
 Structure No. 044-0041 (E.B.) & 044-0042 (W.B.) Combined.

Item	Unit	Total
Protective Shield	Sq. Yd.	434
Structure Repair of concrete (Depth equal to or Less Than 5 inches)	Sq. Yd.	15
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	10.2

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 LICENSE # 184.003222

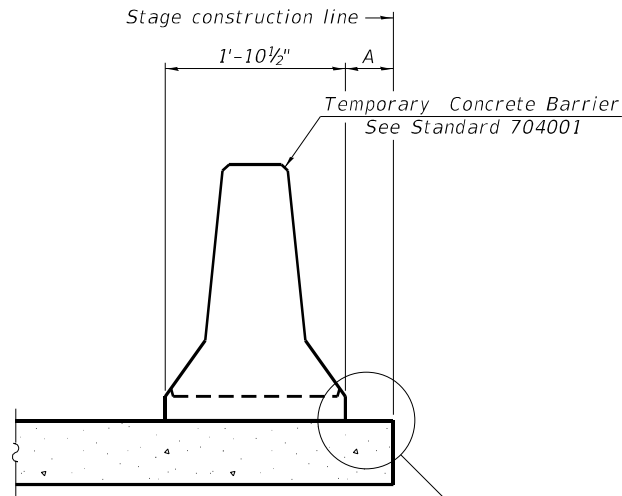
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING PLAN
 STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)**

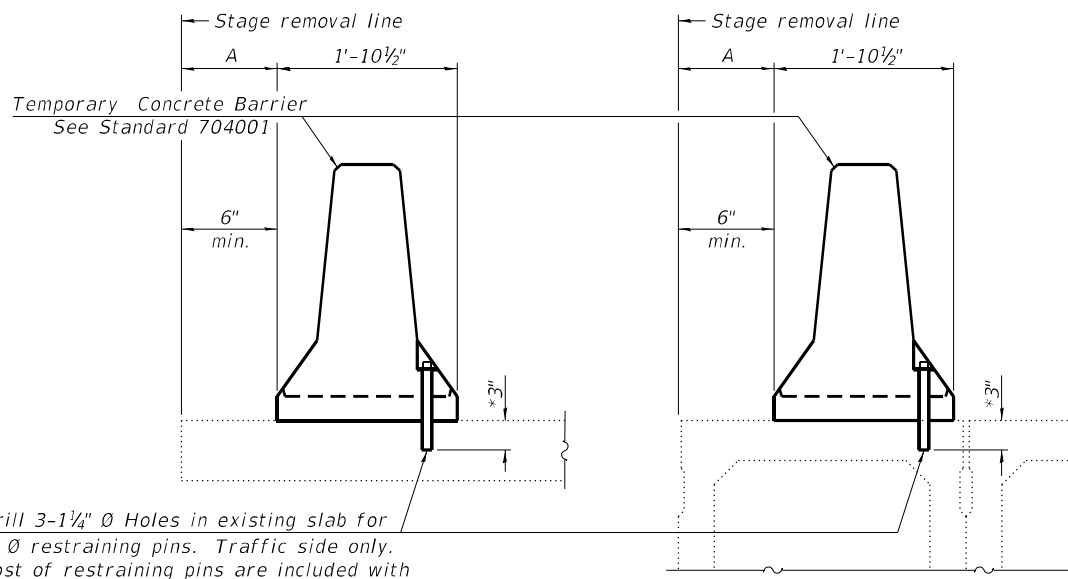
SHEET 4 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	68
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

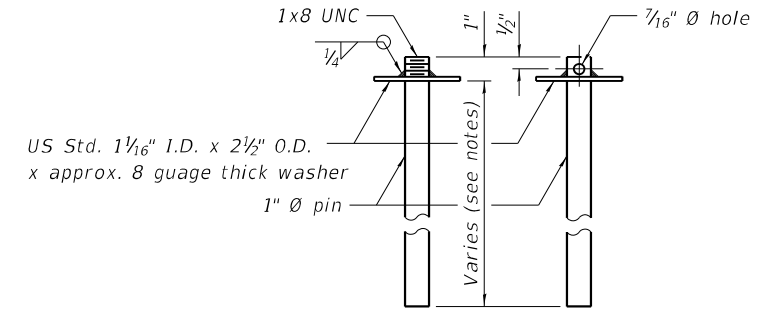


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

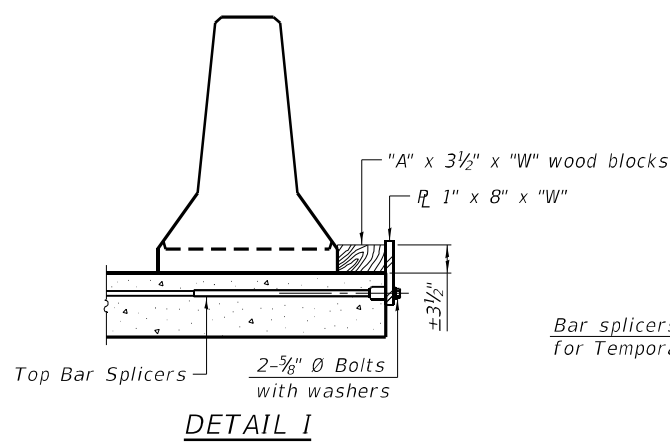
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

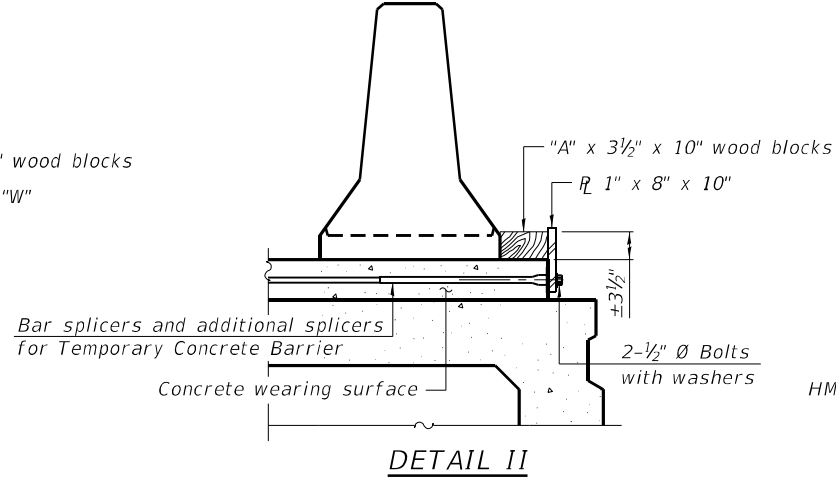


RESTRAINING PIN

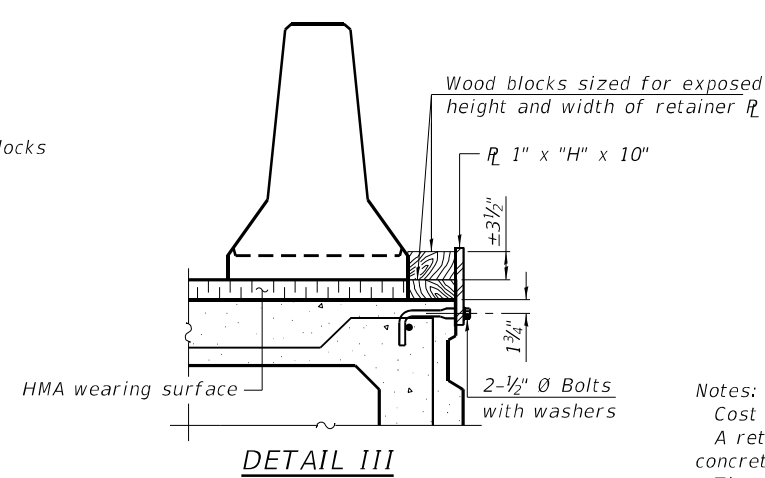
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.



DETAIL I

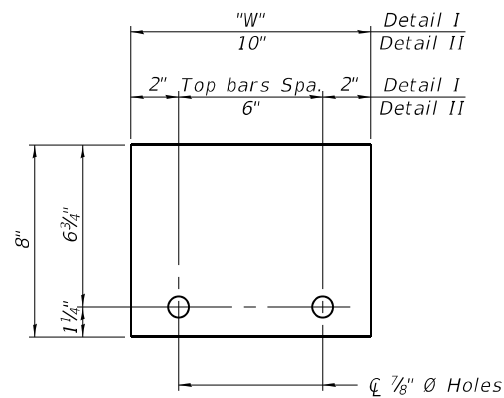


DETAIL II

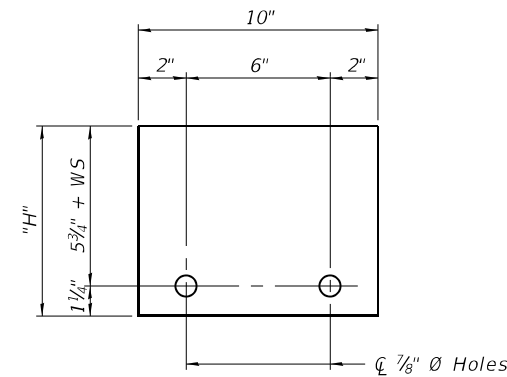


DETAIL III

BAR SPLICER FOR #4 BAR - DETAIL III



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



STEEL RETAINER 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 \bar{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

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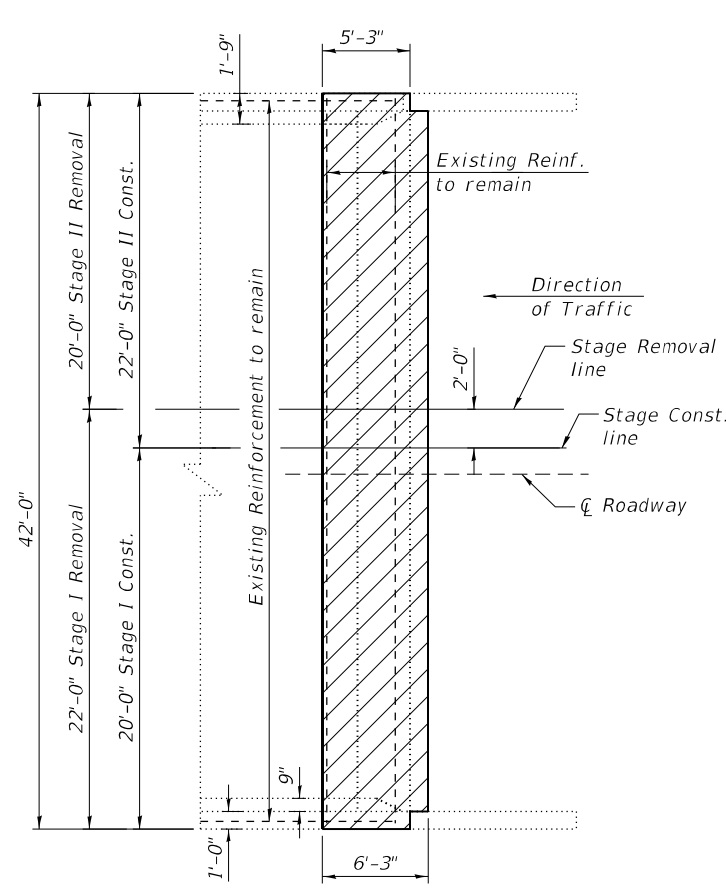
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
 STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

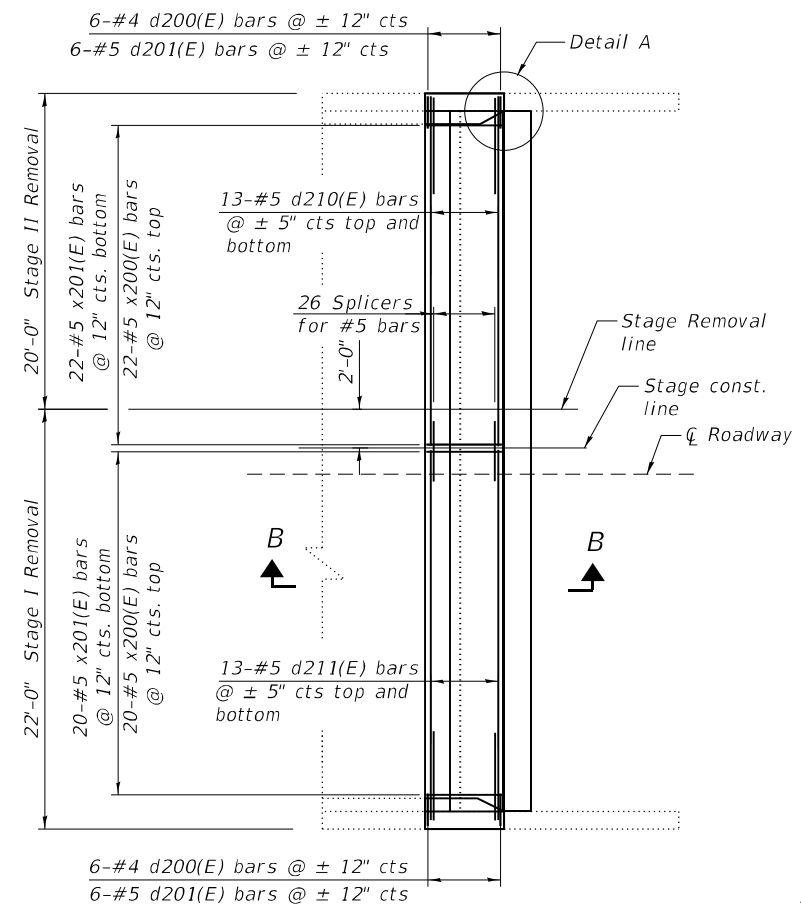
SHEET 5 OF 28 SHEETS

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

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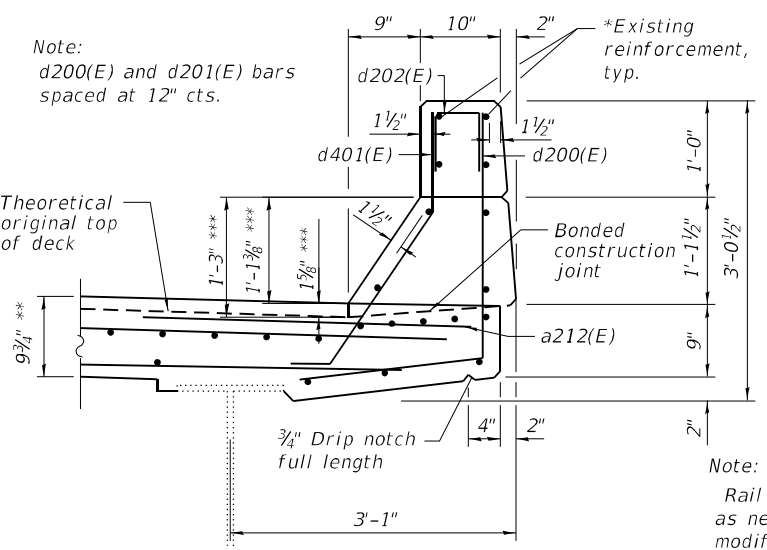


**ABUTMENT PLAN
SHOWING CONCRETE REMOVAL**



**ABUTMENT PLAN
SHOWING CONCRETE REPLACEMENT**

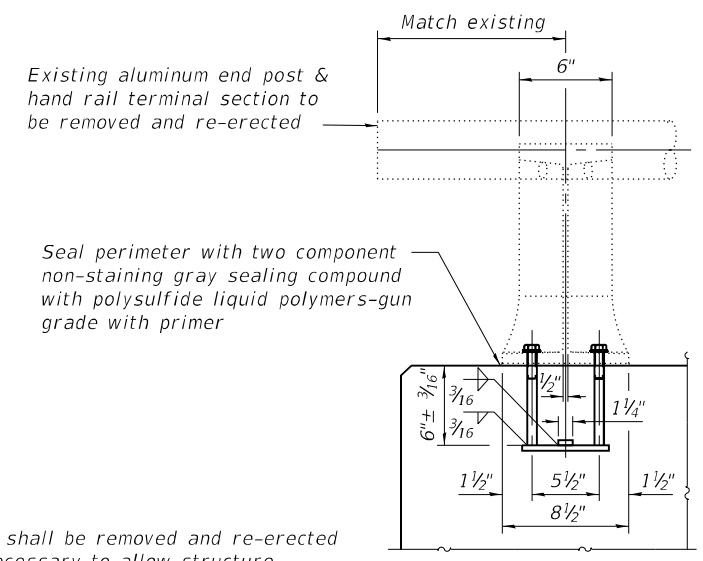
SN 044-0042 & SN 044-0041 South Abutment shown, North Abutments similar



SECTION THRU PARAPET

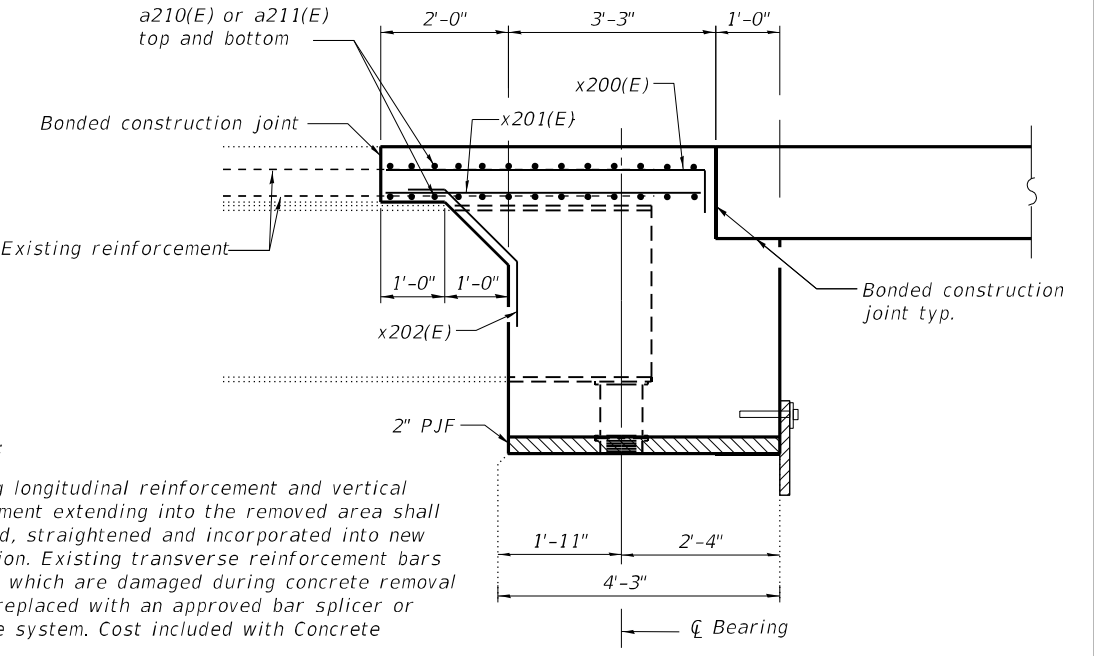
*** Dimensions based on original 8" deck. Proposed parapet section to align with existing parapet section.

** Prior to diamond grinding.



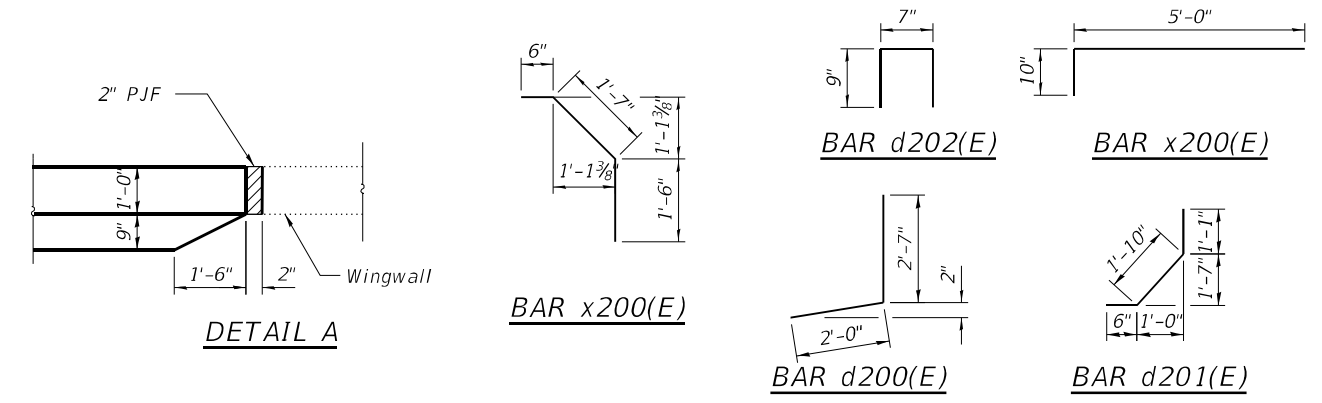
RAIL POST DETAILS

Note:
 Rail shall be removed and re-erected as necessary to allow structure modifications. Cost included in Concrete Removal.
 Seismic Retrofit shall be removed. Rust in the bearing assembly shall be removed by appropriate method acceptable to the engineer. Cost included in Cleaning and Painting Steel Bridge. See General Notes.



**SECTION B-B
TYPICAL SECTION THRU ABUTMENT**
(Dimensions measured at right angles)

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.



**FOUR SUPERSTRUCTURE ENDS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a210(E)	104	#5	19'-6"	—
a211(E)	104	#5	21'-6"	—
a212(E)	96	#6	4'-0"	—
d200(E)	48	#4	4'-7"	J
d201(E)	48	#5	3'-5"	J
d202(E)	48	#4	2'-1"	□
x200(E)	168	#5	5'-10"	—
x201(E)	168	#5	5'-0"	—
x202(E)	168	#6	3'-7"	—
Concrete Removal			Cu. Yd.	62.4
Concrete Superstructure			Cu. Yd.	116.8
Reinforcement Bars, Epoxy Coated			Pound	8220
Bar Splicers			Each	104

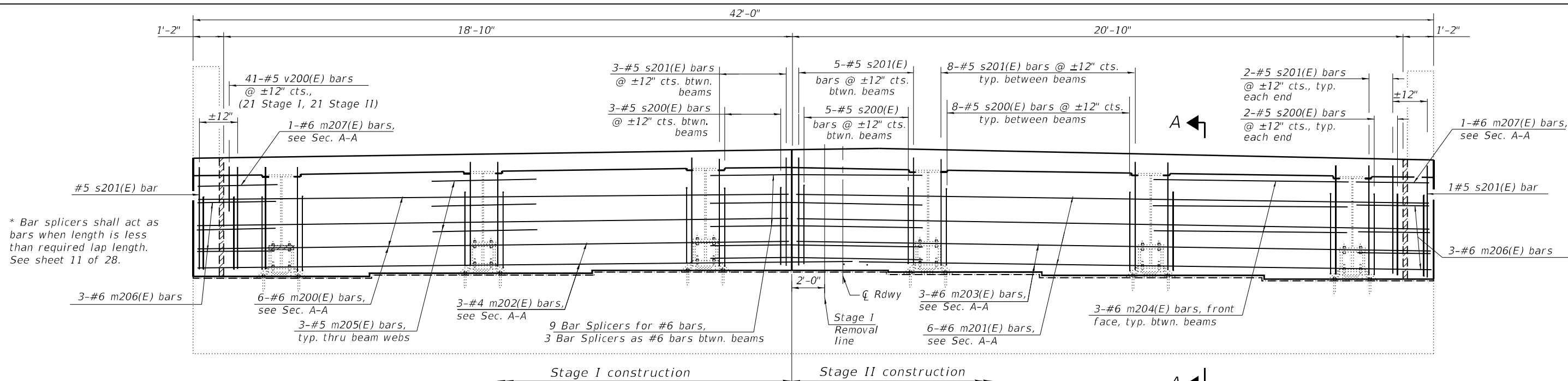


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PLOT DATE =	CHECKED - KAS	REVISIONS -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)**

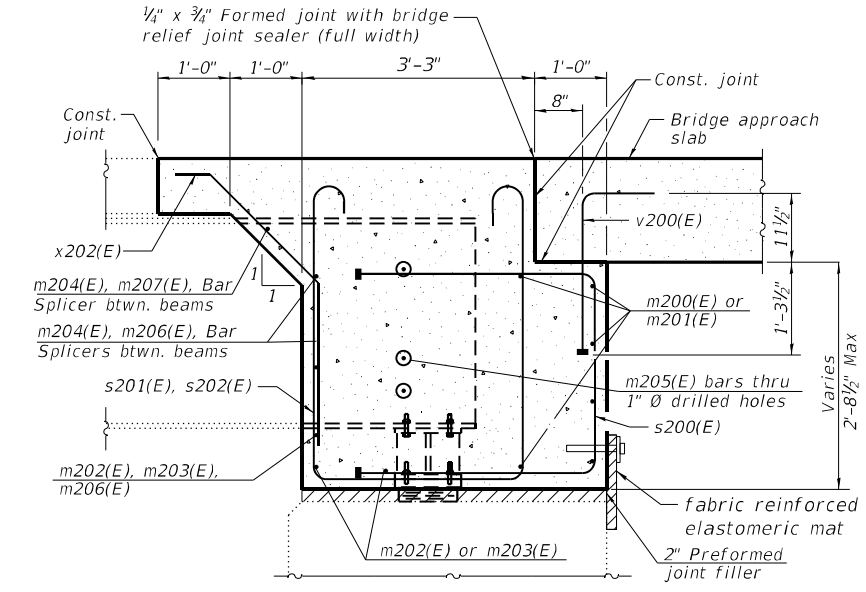
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24	BRIDGE REPAIR 2022-1	JOHNSON	184	70
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	



* Bar splicers shall act as bars when length is less than required lap length. See sheet 11 of 28.

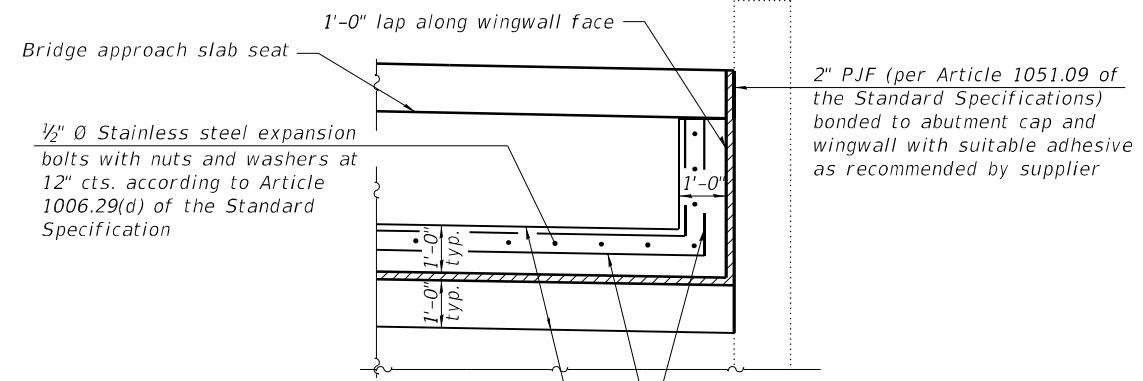
DIAPHRAGM ELEVATION AT ABUTMENT

S.N. 044-0042 North Abutment and S.N. 044-0041 South abutment shown, S.N. 044-0042 South Abutment and S.N. 044-0041 North abutment similar



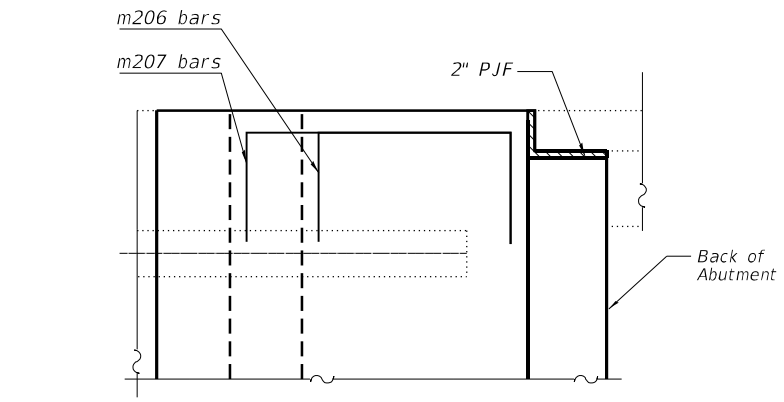
SECTION A-A

(Dimensions measured at right angles)

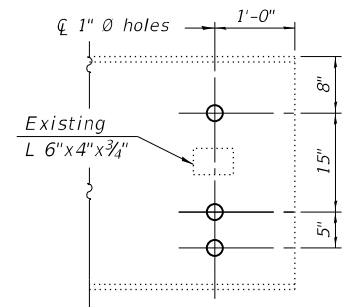


ELEVATION

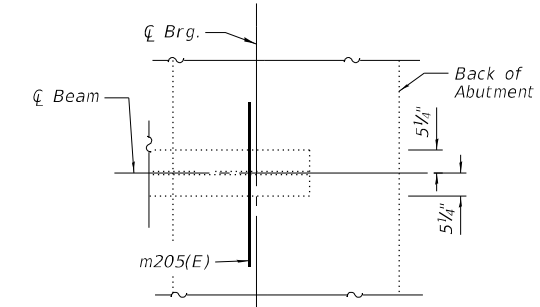
(Looking at back of abutment)



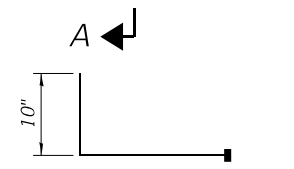
PARTIAL PLAN



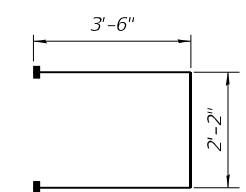
STEEL BEAM END ELEVATION



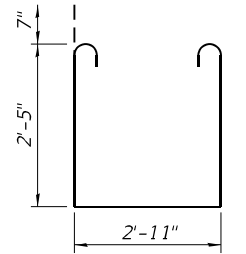
PARTIAL PLAN AT BEAMS



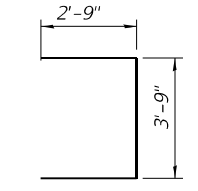
Bar v200(E)



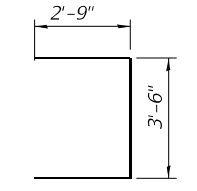
Bar s200(E)



Bar s201(E)



Bar m206(E)



Bar m207(E)

FOUR DIAPHRAGMS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
m200(E)	24	#6	19'-6"	—
m201(E)	24	#6	21'-6"	—
m202(E)	12	#6	19'-6"	—
m203(E)	12	#6	21'-6"	—
m204(E)	48	#6	6'-11"	—
m205(E)	72	#6	4'-0"	—
m206(E)	24	#6	9'-3"	U
m207(E)	8	#6	9'-0"	U
s200(E)	184	#5	9'-2"	U
s201(E)	184	#5	8'-11"	U
v200(E)	164	#5	3'-1"	Γ
Reinforcement Bars, Epoxy Coated			Pound	7620
Bar Splicers			Each	48

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 s200(E), s201(E), s202(E), s203(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 28.

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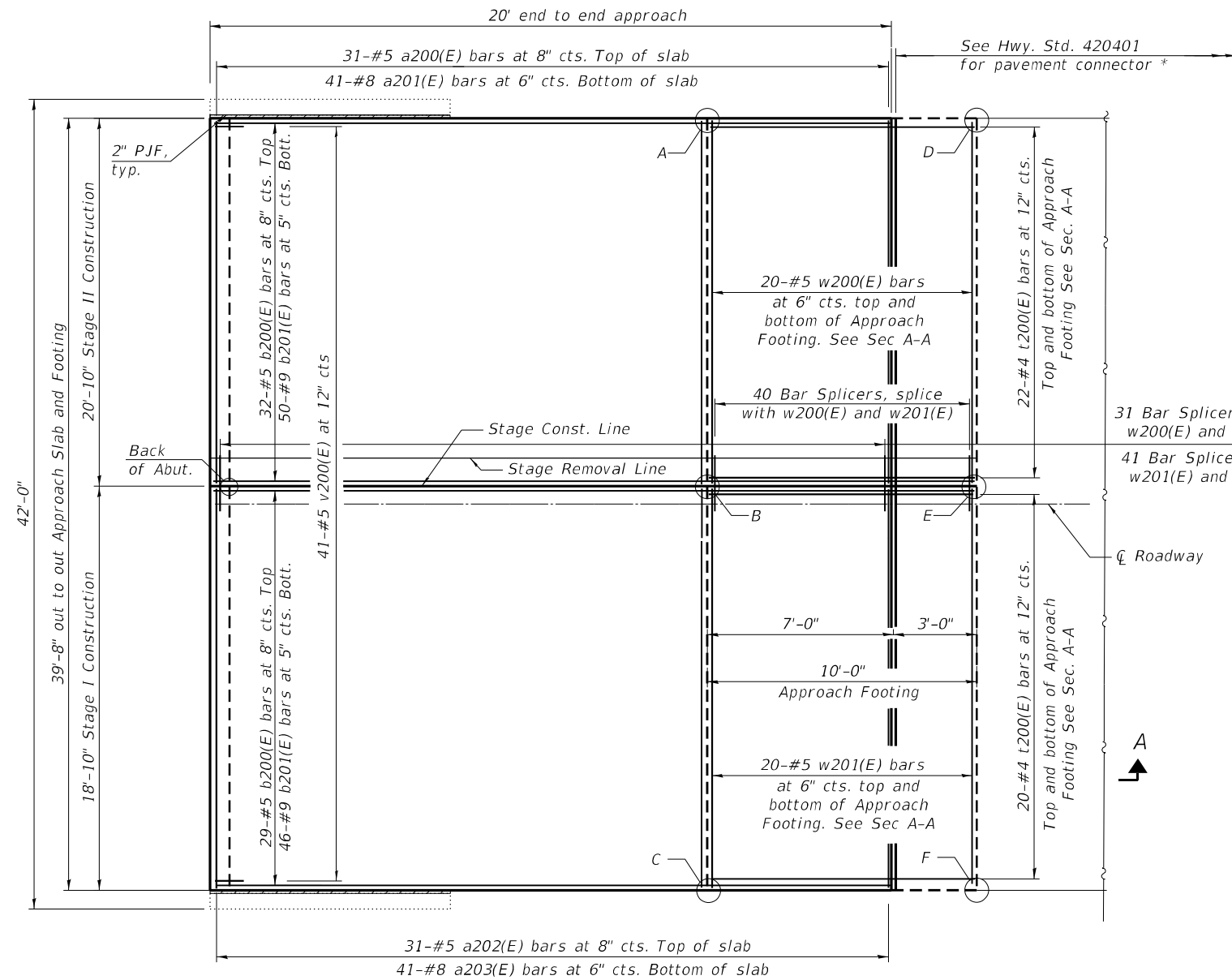
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)
 SHEET 7 OF 28 SHEETS

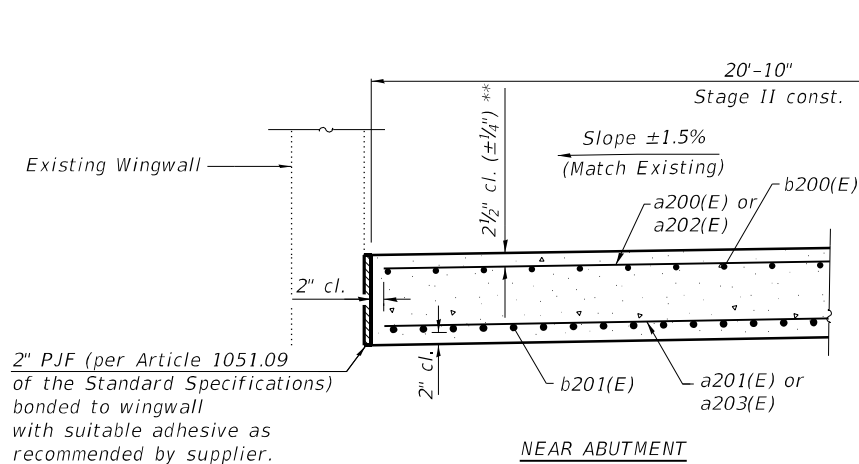
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 78849	

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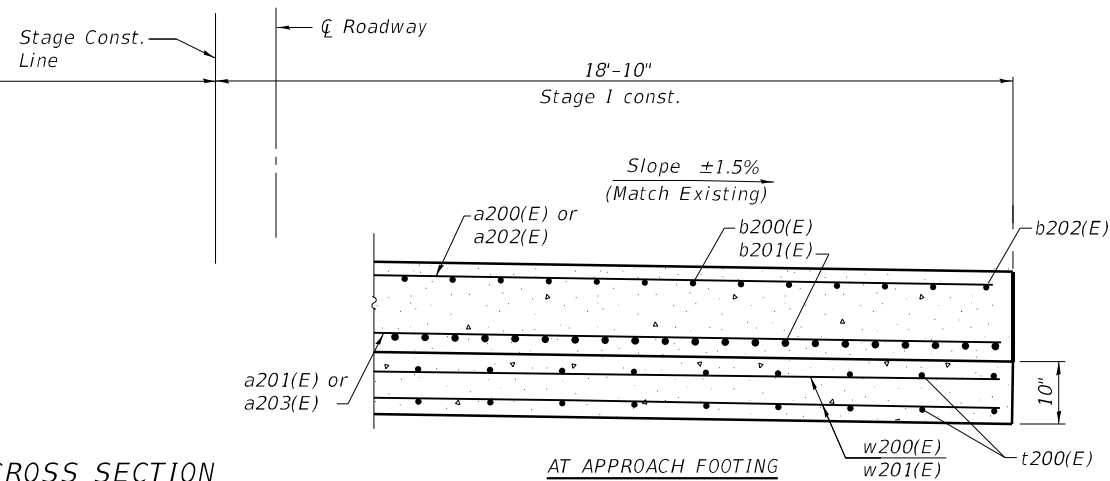


PLAN

S.N. 044-0042 South and S.N. 044-0041 North approach slab shown.



NEAR ABUTMENT



CROSS SECTION

S.N. 044-0042 Looking South
 S.N. 044-0041 Looking North

* 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.

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

S.N. 044-0042				
Point	South Approach		North Approach	
	Top	Bottom	Top	Bottom
A				
B				
C				
D				
E				
F				

S.N. 044-0041				
Point	South Approach		North 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. Blank tables included for field notation.

** Prior to diamond grinding.

Sheet 1 of 2



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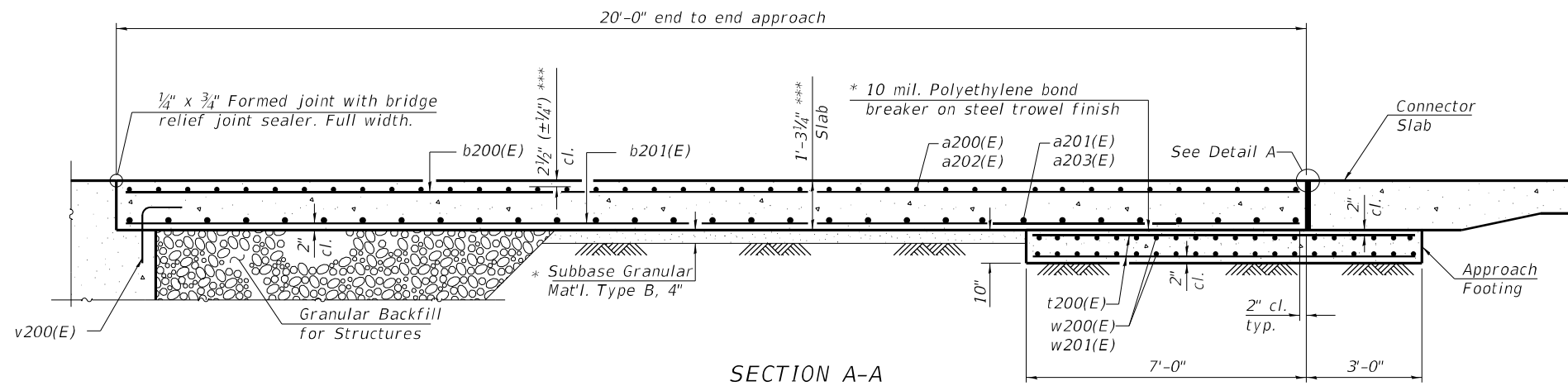
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APPROACH SLAB DETAILS
 STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

SHEET 8 OF 28 SHEETS

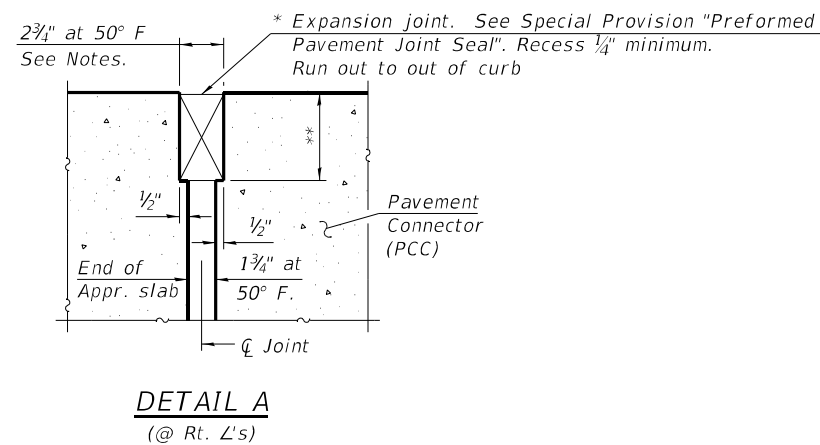
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	72
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



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 (Omax) = 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.

**FOUR APPROACHES
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a200(E)	124	#5	18'-6"	————
a201(E)	164	#8	18'-6"	————
a202(E)	124	#5	20'-6"	————
a203(E)	164	#8	20'-6"	————
b200(E)	244	#5	19'-8"	————
b201(E)	384	#9	19'-8"	————
w200(E)	160	#5	18'-6"	————
w201(E)	160	#5	20'-6"	————
t200(E)	168	#4	9'-8"	————
Concrete Superstructure (Approach Slab)			Cu. Yd.	150.8
Concrete Structures			Cu. Yd.	51.8
Reinforcement Bars, Epoxy Coated			Pound	60,460
Bar Splicers			Each	448



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

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 DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
 STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

SHEET 9 OF 28 SHEETS

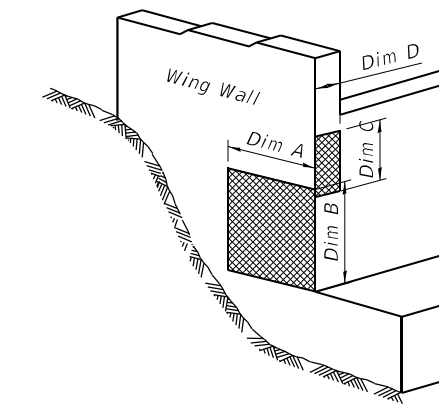
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24	BRIDGE REPAIR 2022-1	JOHNSON	184	73
			CONTRACT NO. 78849	
		ILLINOIS FED. AID PROJECT		

**S.N. 044-0041
TABLE FOR STRUCTURAL
REPAIR OF CONCRETE**

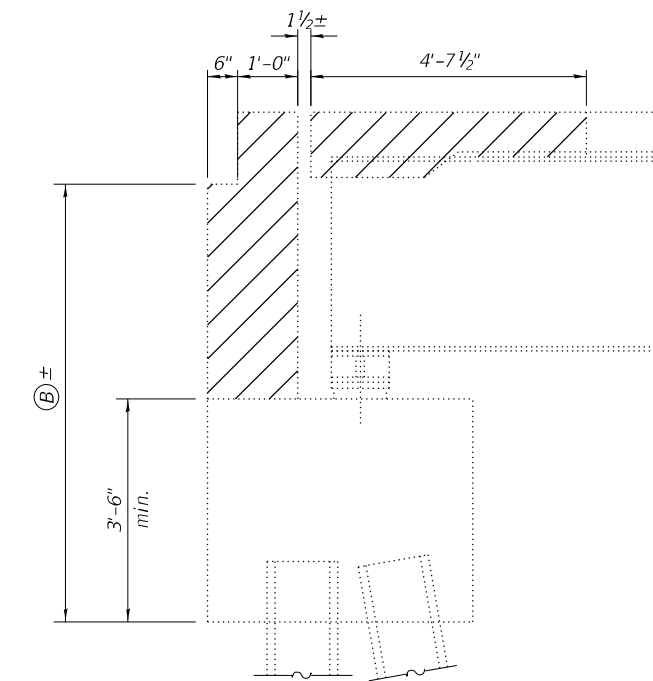
ABUTMENT CORNER	Repair Area Dimensions				Repair Area Sq. Ft.
	Wingwall		Wingwall		
	A (ft)	B (ft)	C (ft)	D (ft)	
Northeast	2	3	1	1	7
Southeast	3	2	2	1	8
Northwest	2	2	1	1	5
Southwest	3	3	1	1	10

**S.N. 044-0042
TABLE FOR STRUCTURAL
REPAIR OF CONCRETE**

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



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



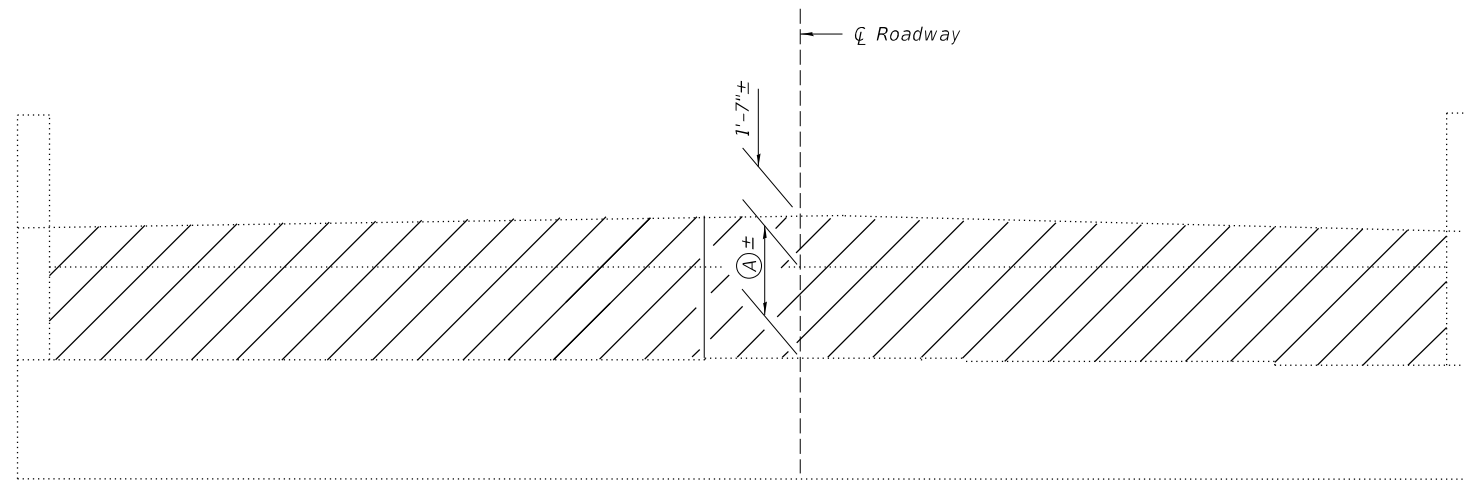
SECTION THRU ABUTMENT

Location	Dim. A	Dim. B
044-0042 - South Abutment	2'-6 3/8"	6'-3 1/2"
044-0042 - North Abutment	2'-6 1/4"	6'-4 1/8"
044-0041 - South Abutment	2'-6 3/8"	6'-3 1/2"
044-0041 - North Abutment	2'-6 1/4"	6'-4 1/8"

**BILL OF MATERIAL
FOUR ABUTMENTS COMBINED**

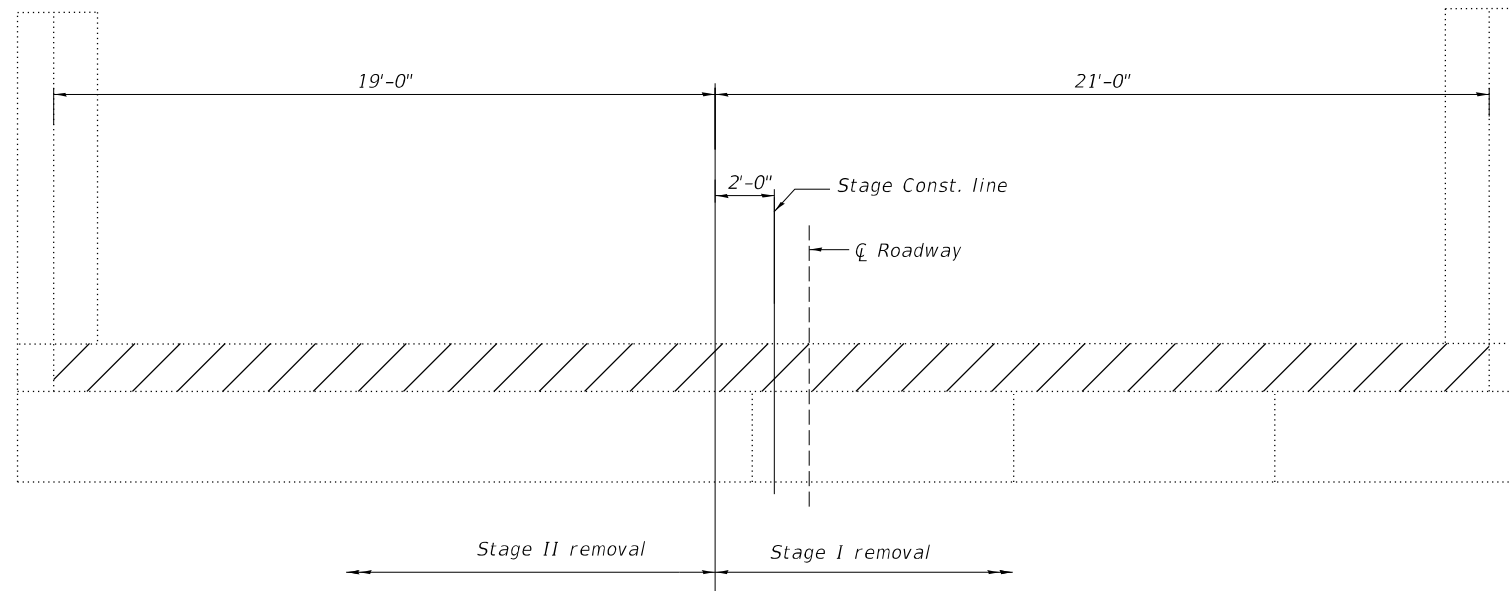
ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	62
Structural Repair of Concrete, (Depth Equal to or Less than 5")	Sq. Ft.	61

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



ELEVATION

S.N. 044-0042 and S.N. 044-0041 South Abutment shown,
S.N. 044-0042 and S.N. 044-0041 North Abutment similar



PLAN

S.N. 044-0042 and S.N. 044-0041 South Abutment shown,
S.N. 044-0042 and S.N. 044-0041 North Abutment similar

LEGEND

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

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT REMOVAL
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)**

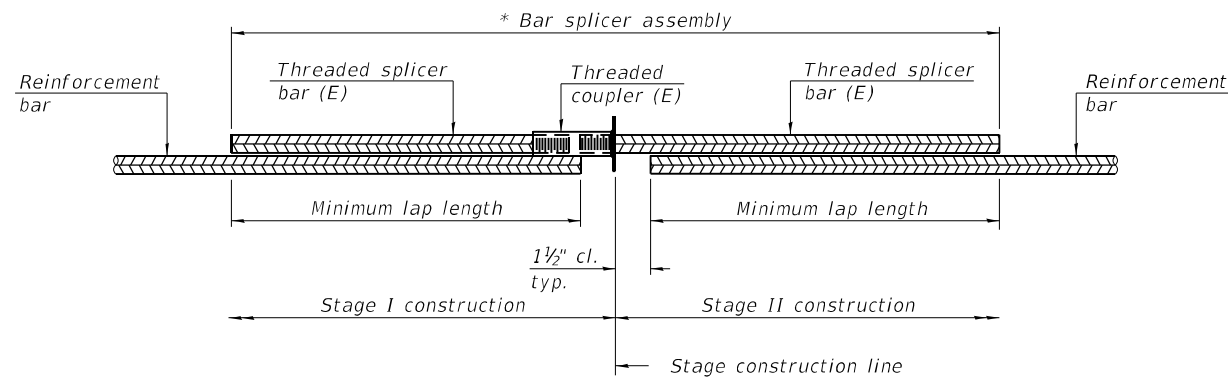
SHEET 10 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	74
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

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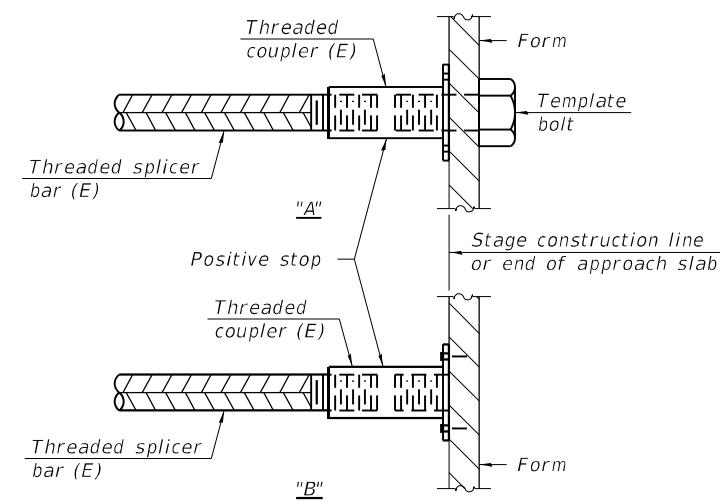
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STANDARD BAR SPLICER ASSEMBLY PLAN
(All components shall be provided from one supplier)

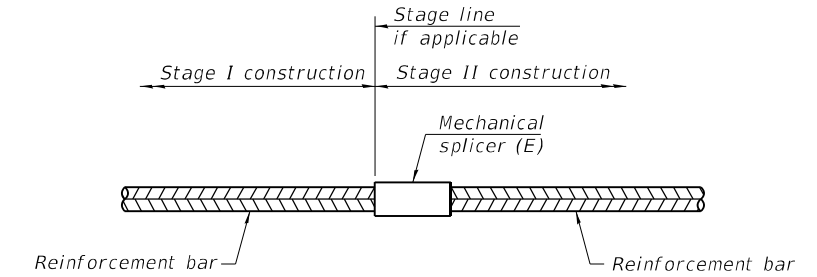
Threaded splicer bar length = min. lap length + 1 1/2" + thread length

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



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar 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
044-0041 S. Abutment Superstructure	#5	26	3'-6"
044-0041 S. Abutment Diaphragm	#6	9	4'-0
044-0041 S. Abutment Diaphragm	#6	3	**
044-0041 S. Abutment Approach slab	#5	31	3'-6"
044-0041 S. Abutment Approach slab	#8	41	6'-9"
044-0041 S. Abutment Approach slab Footing	#5	40	3'-6"
044-0041 N. Abutment Superstructure	#5	26	3'-6"
044-0041 N. Abutment Diaphragm	#6	9	4'-0
044-0041 N. Abutment Diaphragm	#6	3	**
044-0041 N. Abutment Approach slab	#5	31	3'-6"
044-0041 N. Abutment Approach slab	#8	41	6'-9"
044-0041 N. Abutment Approach slab Footing	#5	40	3'-6"
044-0042 S. Abutment Superstructure	#5	26	3'-6"
044-0042 S. Abutment Diaphragm	#6	9	4'-0
044-0042 S. Abutment Diaphragm	#6	3	**
044-0042 S. Abutment Approach slab	#5	31	3'-6"
044-0042 S. Abutment Approach slab	#8	41	6'-9"
044-0042 S. Abutment Approach slab Footing	#5	40	3'-6"
044-0042 N. Abutment Superstructure	#5	26	3'-6"
044-0042 N. Abutment Diaphragm	#6	9	4'-0
044-0042 N. Abutment Diaphragm	#6	3	**
044-0042 N. Abutment Approach slab	#5	31	3'-6"
044-0042 N. Abutment Approach slab	#8	41	6'-9"
044-0042 N. Abutment Approach slab Footing	#5	40	3'-6"

** 5'-5" minimum lap on Stage II side, 1'-6" bar on Stage I side.

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
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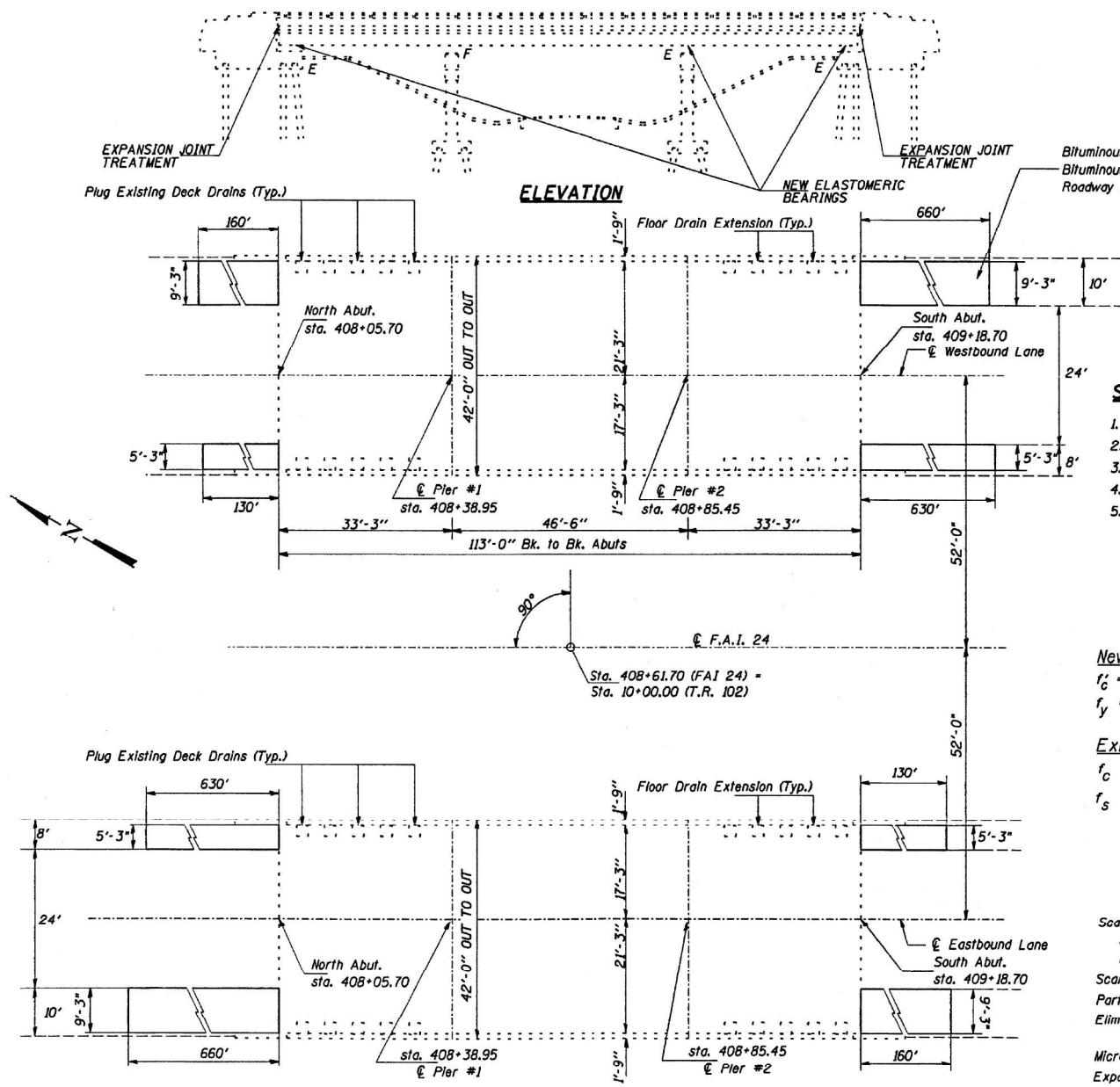
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

SHEET 11 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	75
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
24		JOHNSON	150	122
STA.	TO STA.			
REL. ROAD DIST. NO.				
# BSMART 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/B. 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 Overlay

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)
 $f_s = 20,000$ psi (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 abutments and Pier 2

Extend drains

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL	0041	0042
Concrete Bridge Deck Scarification (1/2 inch)	Sq. Yd.	933	466.5	466.5
Deck Slab Repair (Partial Depth)	Sq. Yd.	20	10	10
Plug Existing Deck Drains	Each	24	12	12
Bridge Deck Microsilica Concrete Overlay 2 1/4"	Sq. Yd.	933	466.5	466.5
Jack and Remove Existing Bearings	Each	36	18	18
Furnishing and Erecting Structural Steel	Pound	6370	3185	3185
Elastomeric Bearing Assembly, Type I	Each	36	18	18
Concrete Removal	Cu. Yd.	8.3	4.15	4.15
Reinforcement Bars, Epoxy Coated	Pound	950	475	475
Bar Splicers	Each	16	8	8
Concrete Superstructure	Cu. Yd.	9.2	4.6	4.6
Polymer Concrete	Cu. Ft.	15.5	7.75	7.75
Silicone Joint Sealer 1 1/2"	Foot	160	80	80
Bridge Deck Grooving	Sq. Yd.	884	442	442
Floor Drain Extension	Each	16	8	8

**GENERAL PLAN AND ELEVATION
FAI 24 OVER I.R. 102**

JOHNSON COUNTY
STA. 408+61.70
S.N. 044-0041 (E.B.)
S.N. 044-0042 (W.B.)

DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	JH TEB
CHECKED	MAS

PLAN

BRIDGE REPAIRS FOR SN 044-0041 AND 0044-0042

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

SHEET 12 OF 28 SHEETS

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

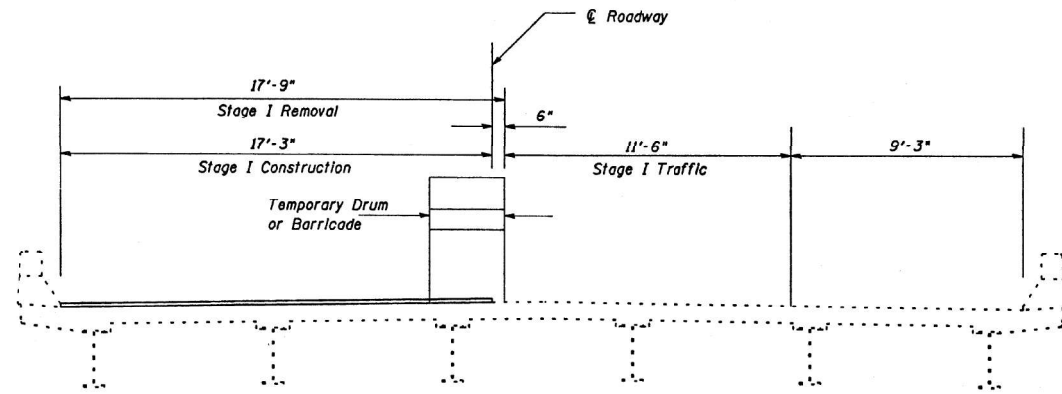
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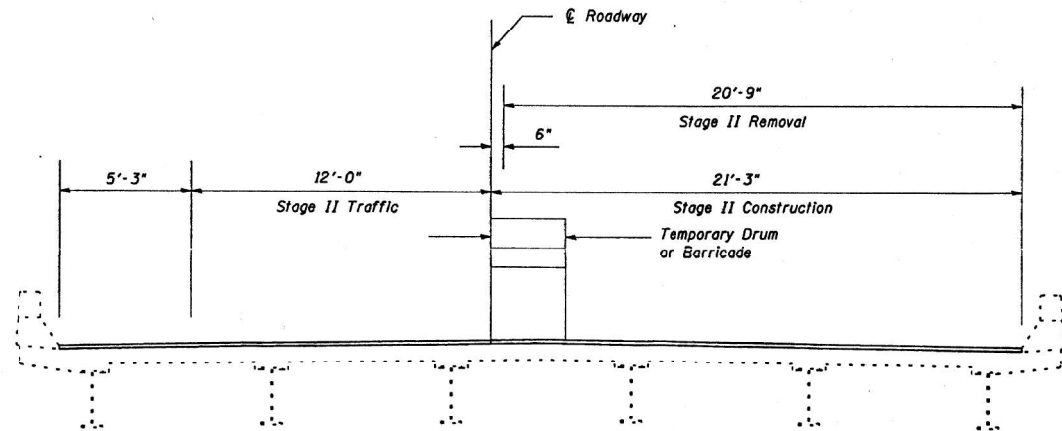
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

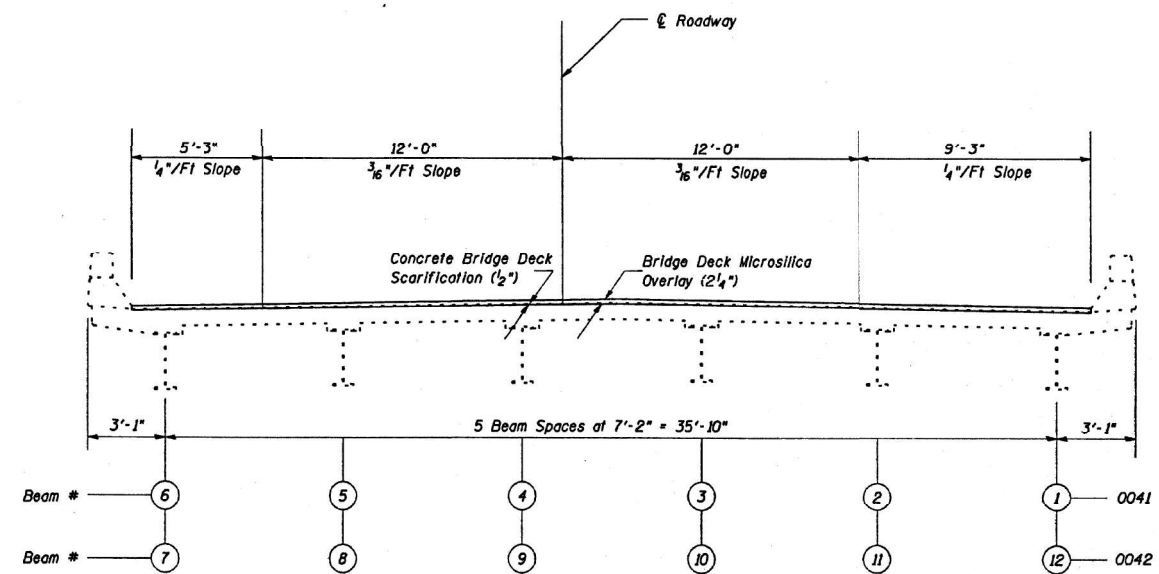
SECTION	COUNTY	SHEET	SHEET NO.
24	JOHNSON	150	123
STA. TO STA.			
= DSMART FY04-3			
98836			



STAGE I



STAGE II



TYPICAL CROSS SECTION
(PROPOSED CROSS SLOPE MATCHES THE EXISTING NORMAL CROWN)

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.

STAGE CONSTRUCTION DETAILS
JOHNSON COUNTY
SN 044-0041 (EB)
SN 044-0042 (WB)

BRIDGE REPAIRS FOR SN 044-0041 AND 0044-0042

DESIGNED	TWH MAS
CHECKED	MAS
DRAWN	JH TEB
CHECKED	TWH MAS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	77
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

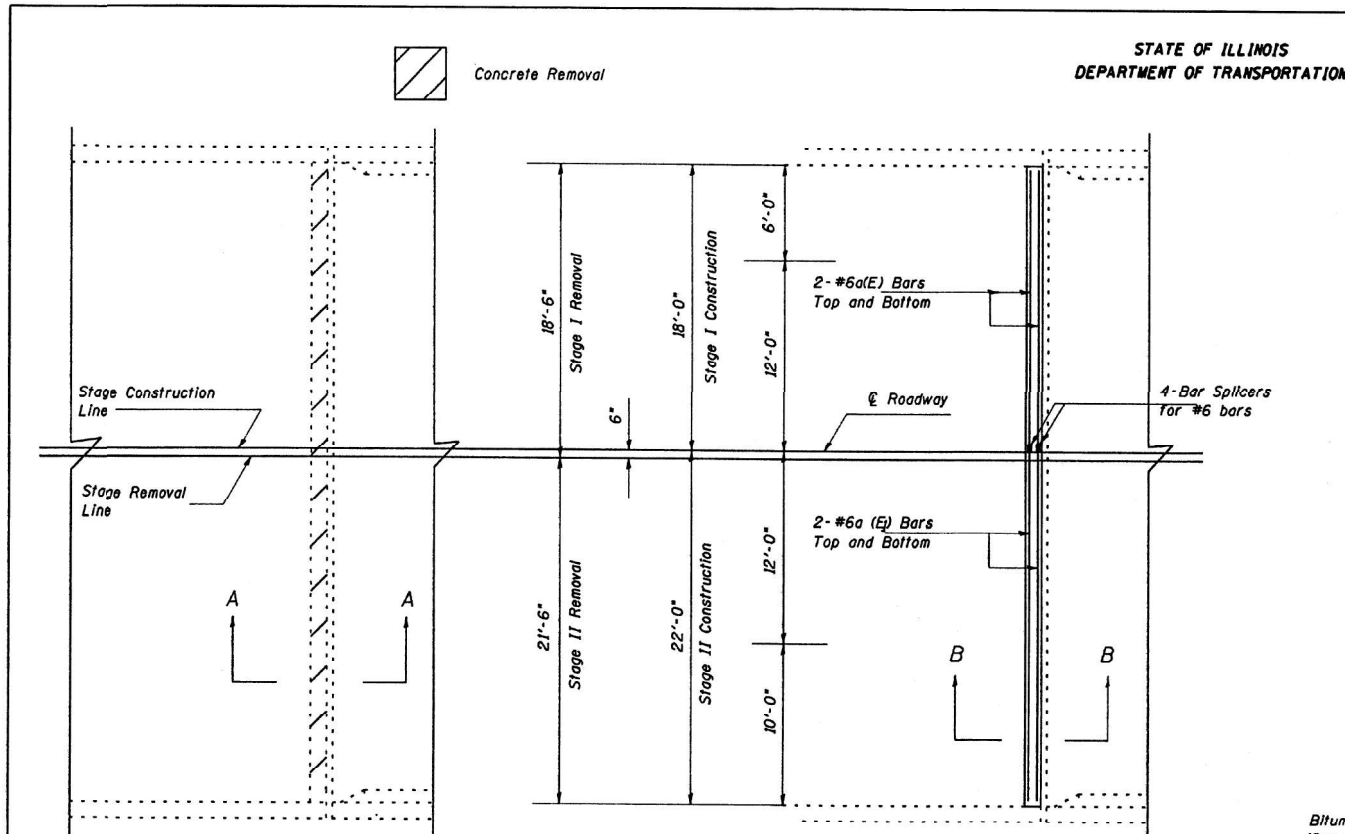
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12/2/2021 2:50:12 PM



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

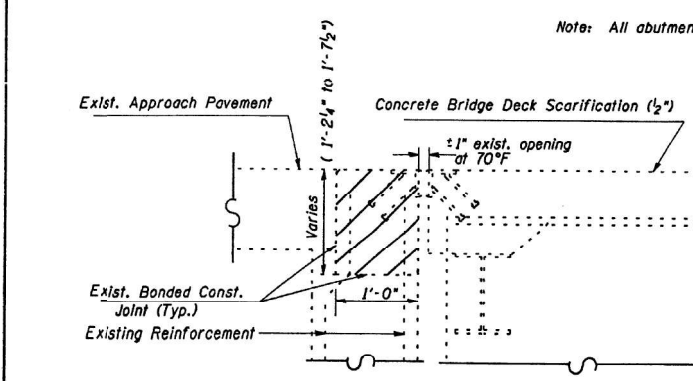
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	CHECKED - JS	REVISION -
PLOT SCALE =	DRAWN - RBT	REVISION -
PLOT DATE =	CHECKED - KAS	REVISION -

MODEL: Default
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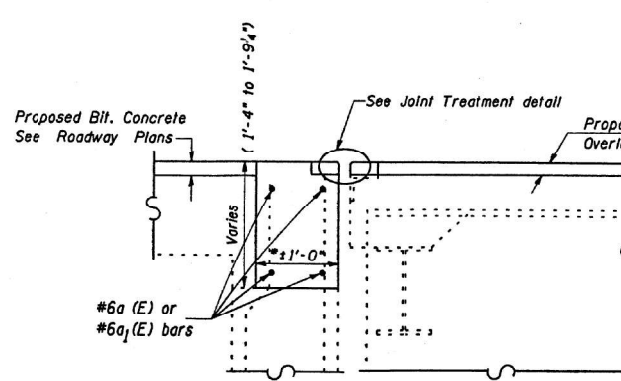


NORTH ABUTMENT PLAN - EB
 SHOWING CONCRETE REMOVAL

NORTH ABUTMENT PLAN - EB
 SHOWING CONCRETE SUPERSTRUCTURE



SECTION A-A
 Dimensions are at right angles.



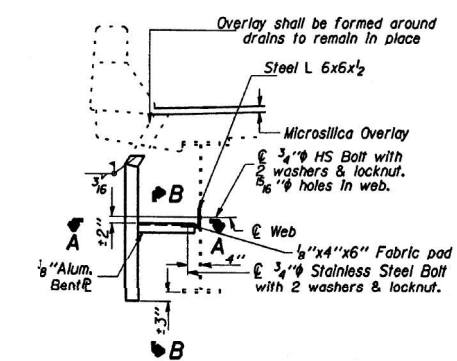
SECTION B-B
 Dimensions are at right angles.

* Adjust width in field to provide the specified joint opening

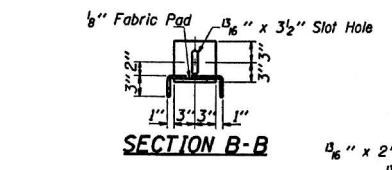
DESIGNED	MAS
CHECKED	MAS
DRAWN	TEB
CHECKED	MAS

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

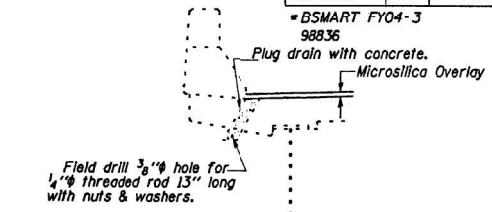
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	JOHNSON	150	125



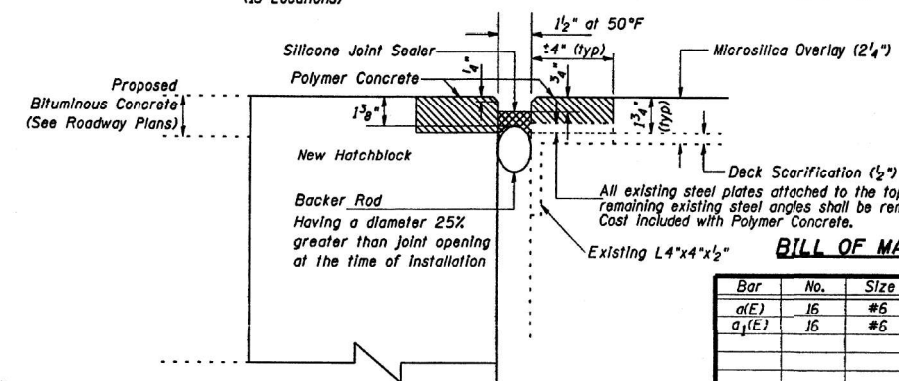
SECTION AT DRAIN
 DRAIN ELIMINATION DETAIL
 (24 Locations)



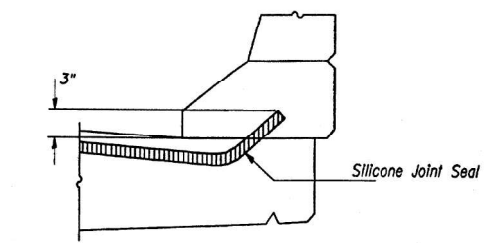
SECTION B-B
 DRAIN EXTENSION DETAIL
 (16 Locations)



SECTION A-A
 DRAIN ELIMINATION DETAIL
 (24 Locations)



JOINT TREATMENT



TYPICAL END OF SEAL TREATMENT AT EXPANSION JOINT

3/8" Aluminum sheets welded
 ASTM B209 alloy 6061-T6
 or Aluminum Extrusions
 ASTM B221 alloy 6061-T6.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	16	#6	17'-8"	
a1(E)	16	#6	21'-8"	
Concrete Removal				
			CU YD	8.3
Concrete Superstructure				
			CU YD	9.2
Reinf Bars, Epoxy Ctd.				
			LBS	950
Bar Splicers				
			EACH	16
Polymer Concrete				
			CU FT	15.5
Silicone Joint Sealer, 1 1/2"				
			FOOT	160

JOINT & DRAIN TREATMENT DETAILS
 JOHNSON COUNTY
 SN 044-0041 (EB)
 SN 044-0042 (WB)

BRIDGE REPAIRS FOR SN 044-0041 AND 0044-0042



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

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

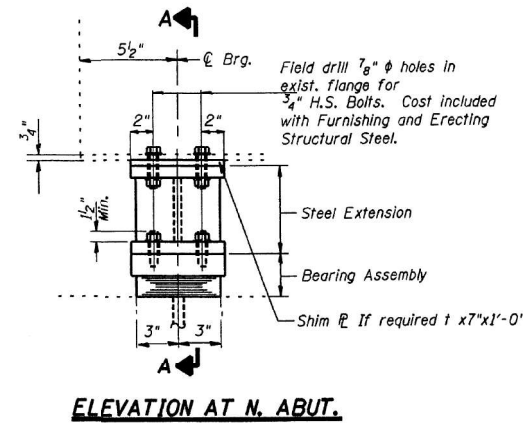
EXISTING PLANS
 STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

SHEET 14 OF 28 SHEETS

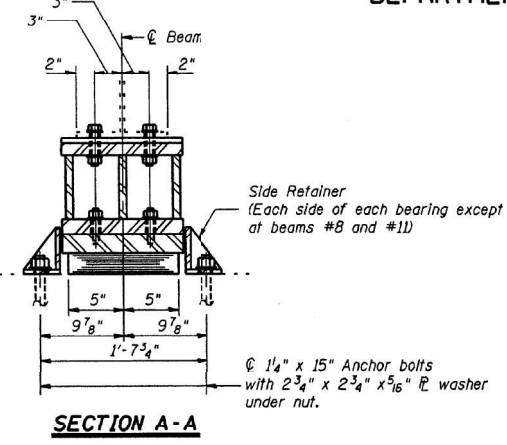
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	78
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.
F.A.I. 24	#	JOHNSON	150 128
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	
* BISHART EY 04-3 98836			



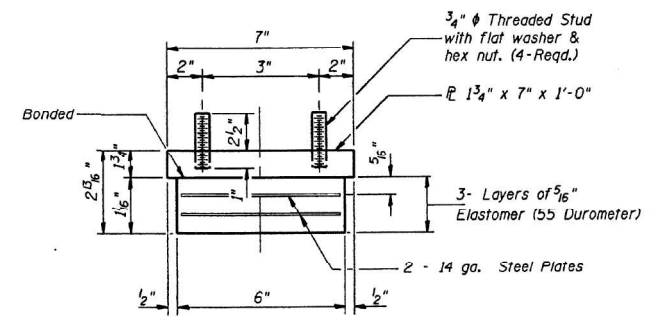
ELEVATION AT N. ABUT.



SECTION A-A

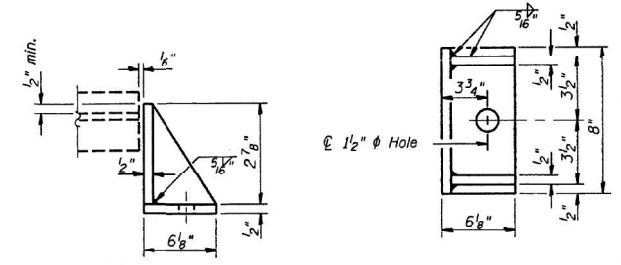
TYPE I ELASTOMERIC EXP. BRG.

Notes: See sheet 132 for Anchor Bolt installation.



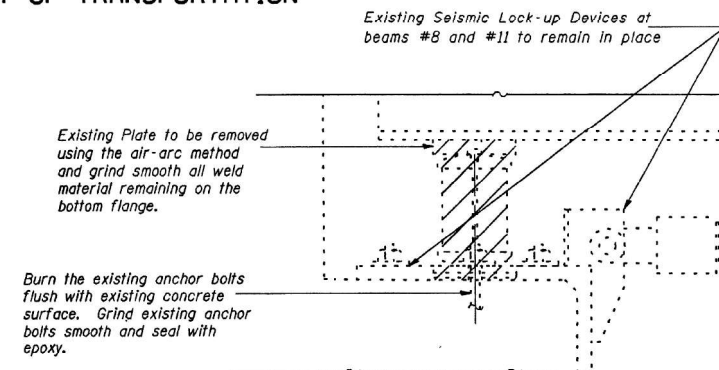
BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly.



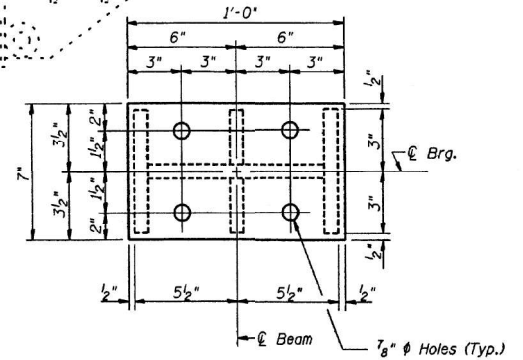
SIDE RETAINER

DESIGNED:	MAS
CHECKED:	MAS
DRAWN:	JB
CHECKED:	MAS



EXISTING BEARING REMOVAL DETAILS

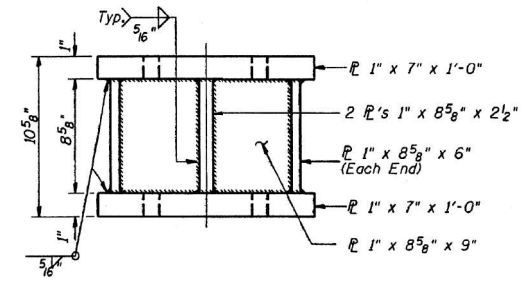
Cost is included with Jack and Remove Existing Bearings



PLAN-TOP & BOTTOM PLATE

GIRDER REACTIONS

R _L	(K)	11.8
R _R	(K)	31.0
Imp.	(K)	9.3
R (Total)	(K)	52.1



STEEL EXTENSION AT NORTH ABUT.

BILL OF MATERIAL

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

Notes: Side retainers shall not be used with the new bearings at beams #8 and #11. 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. New steel extensions, side retainers, connection bolts, anchor bolts, and shim plates are included in "Furnishing and Erecting Structural Steel". Hatched areas indicate Jack and Remove Existing Bearings. Existing diaphragm removal may be required to provide clearance for the drill during drilling holes in the bottom flange for new bearing attachment. Cost shall be included in the cost of "Furnishing and Erecting Structural Steel".

NORTH ABUTMENT
TYPE I ELASTOMERIC BEARING
JOHNSON COUNTY
S.N. 044-0042 (W.B.)

BRIDGE PLANS AND DETAILS FOR S.N. 044-0042

MODEL: Default
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12/2/2021 2:50:37 PM



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

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

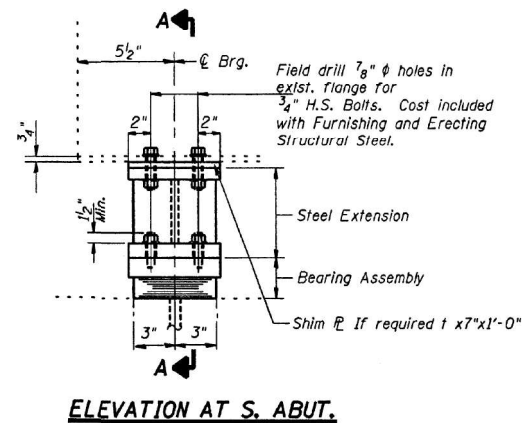
SHEET 16 OF 28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	80
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

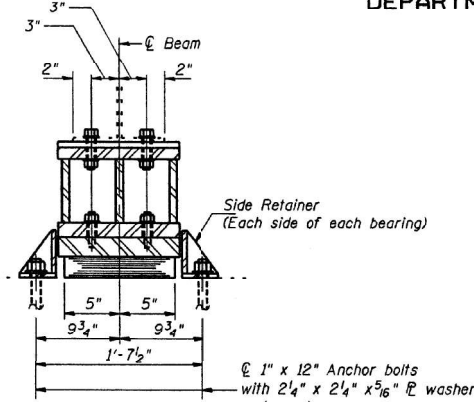
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

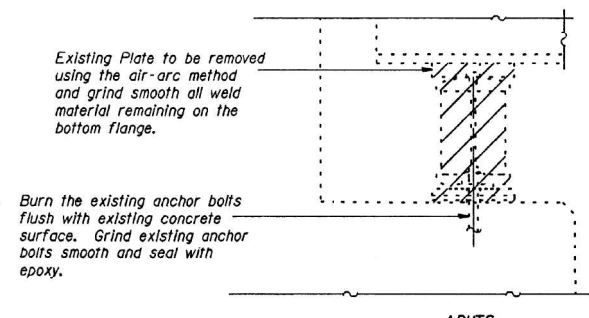
ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
F.A.I. 24	*	JOHNSON	150	130
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
* BSMART FY 04-3 98836				



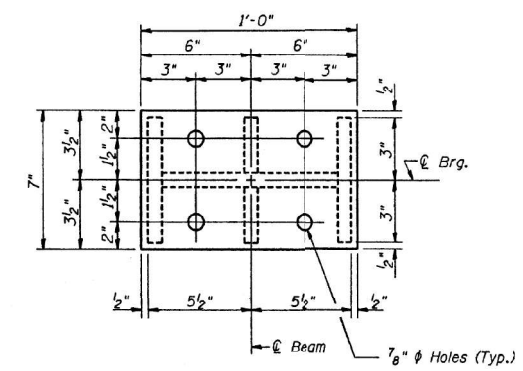
ELEVATION AT S. ABUT.



SECTION A-A



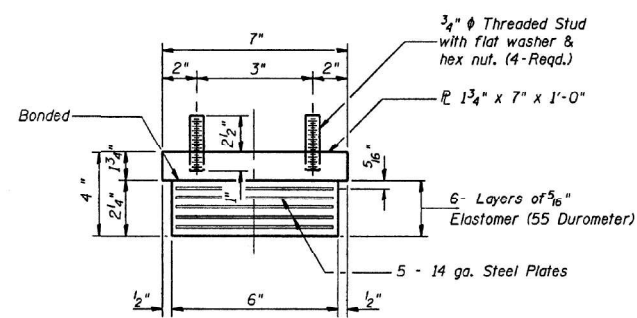
EXISTING BEARING REMOVAL DETAILS
 Cost is Included with Jack and Remove Existing Bearings



PLAN-TOP & BOTTOM PLATE

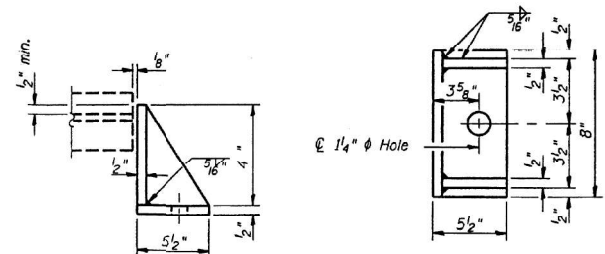
TYPE I ELASTOMERIC EXP. BRG.

Notes: See sheet 132 for Anchor Bolt Installation.



BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

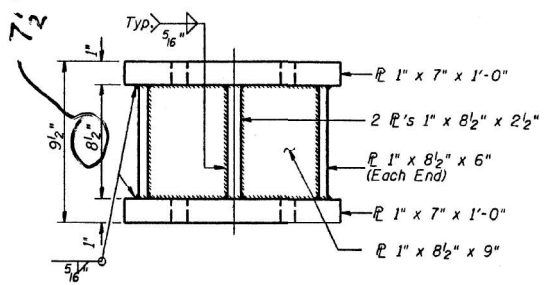
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight Included with Furnishing and Erecting Structural Steel.

DESIGNED:	MAS
CHECKED:	MAS
DRAWN:	JB
CHECKED:	MAS

GIRDER REACTIONS

R _D	(K)	11.8
R _L	(K)	31.0
Imp.	(K)	9.3
R (Total)	(K)	52.1

Notes: 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. New steel extensions, side retainers, connection bolts, anchor bolts, and shim plates are included in "Furnishing and Erecting Structural Steel". Hatched areas indicate Jack and Remove Existing Bearings. Existing diaphragm removal may be required to provide clearance for the drill during drilling holes in the bottom flange for new bearing attachment. Cost shall be included in the cost of "Furnishing and Erecting Structural Steel".



STEEL EXTENSION AT SOUTH ABUT.

BILL OF MATERIAL

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

SOUTH ABUTMENT
 TYPE I ELASTOMERIC BEARING
 JOHNSON COUNTY
 S.N. 044-0041 (E.B.)

BRIDGE PLAN AND DETAILS FOR S.N. 044-0041



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

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

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

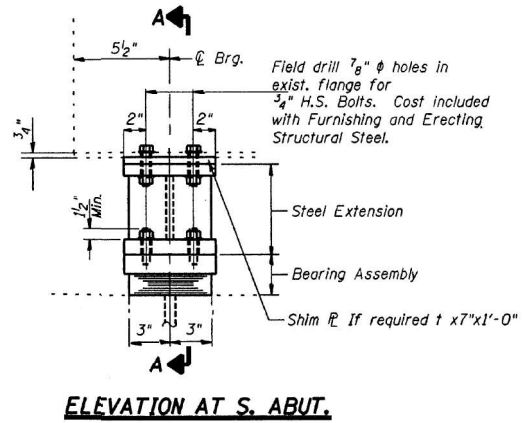
EXISTING PLANS
 STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

SHEET 18 OF 28 SHEETS

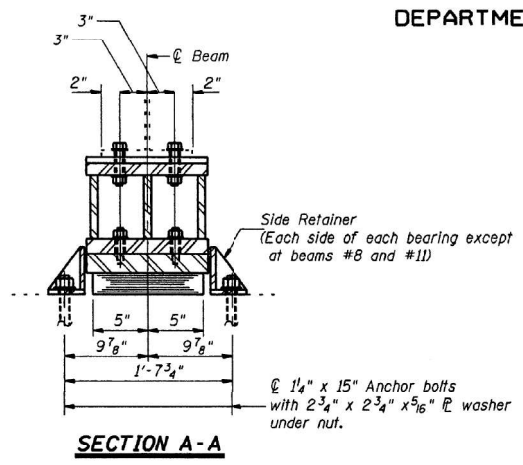
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	82
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SPIN	SHEET
F.A.J. 24	#	JOHNSON	150	131
FED. AID DIST. NO. 7	SUBDIVISION	FED. AID PROJECT		
DEPARTMENT F.Y. 04-3 98635				



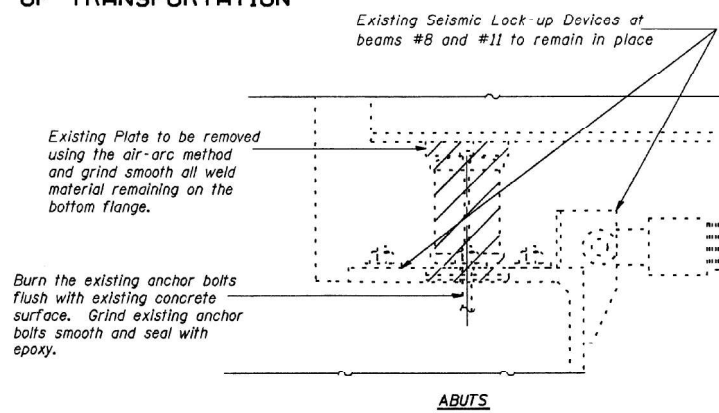
ELEVATION AT S. ABUT.



SECTION A-A

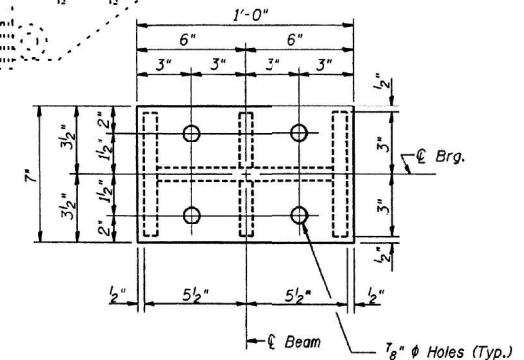
TYPE I ELASTOMERIC EXP. BRG.

Notes: See sheet 132 for Anchor Bolt Installation.

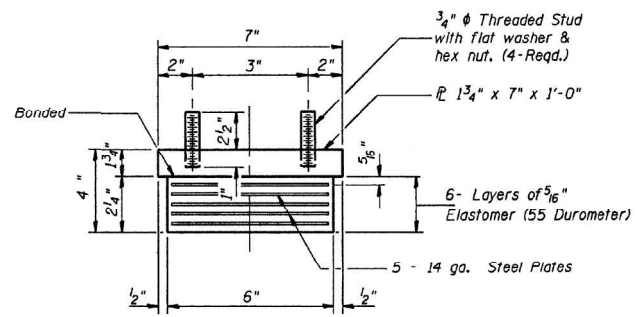


EXISTING BEARING REMOVAL DETAILS

Cost is included with Jack and Remove Existing Bearings



PLAN-TOP & BOTTOM PLATE

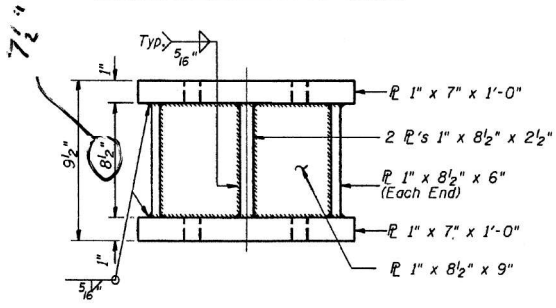


BEARING ASSEMBLY

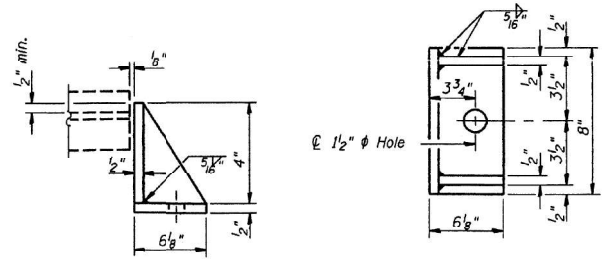
Note: Shim plates shall not be placed under Bearing Assembly.

GIRDER REACTIONS

RR	(K)	11.8
Rt	(K)	31.0
Imp.	(K)	9.3
R (Total)	(K)	52.1



STEEL EXTENSION AT SOUTH ABUT.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Furnishing and Erecting Structural Steel.

Notes: Side retainers shall not be used with the new bearings at beams #8 and #11. 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. New steel extensions, side retainers, connection bolts, anchor bolts, and shim plates are included in "Furnishing and Erecting Structural Steel". Hatched areas indicate Jack and Remove Existing Bearings. Existing diaphragm removal may be required to provide clearance for the drill during drilling holes in the bottom flange for new bearing attachment. Cost shall be included in the cost of "Furnishing and Erecting Structural Steel".

BILL OF MATERIAL

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

DESIGNED:	MAS
CHECKED:	MAS
DRAWN:	JB
CHECKED:	MAS

SOUTH ABUTMENT
TYPE I ELASTOMERIC BEARING
JOHNSON COUNTY
S.N. 044-0042 (W.B.)

BRIDGE PLANS AND DETAILS FOR S.N. 044-0042

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

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

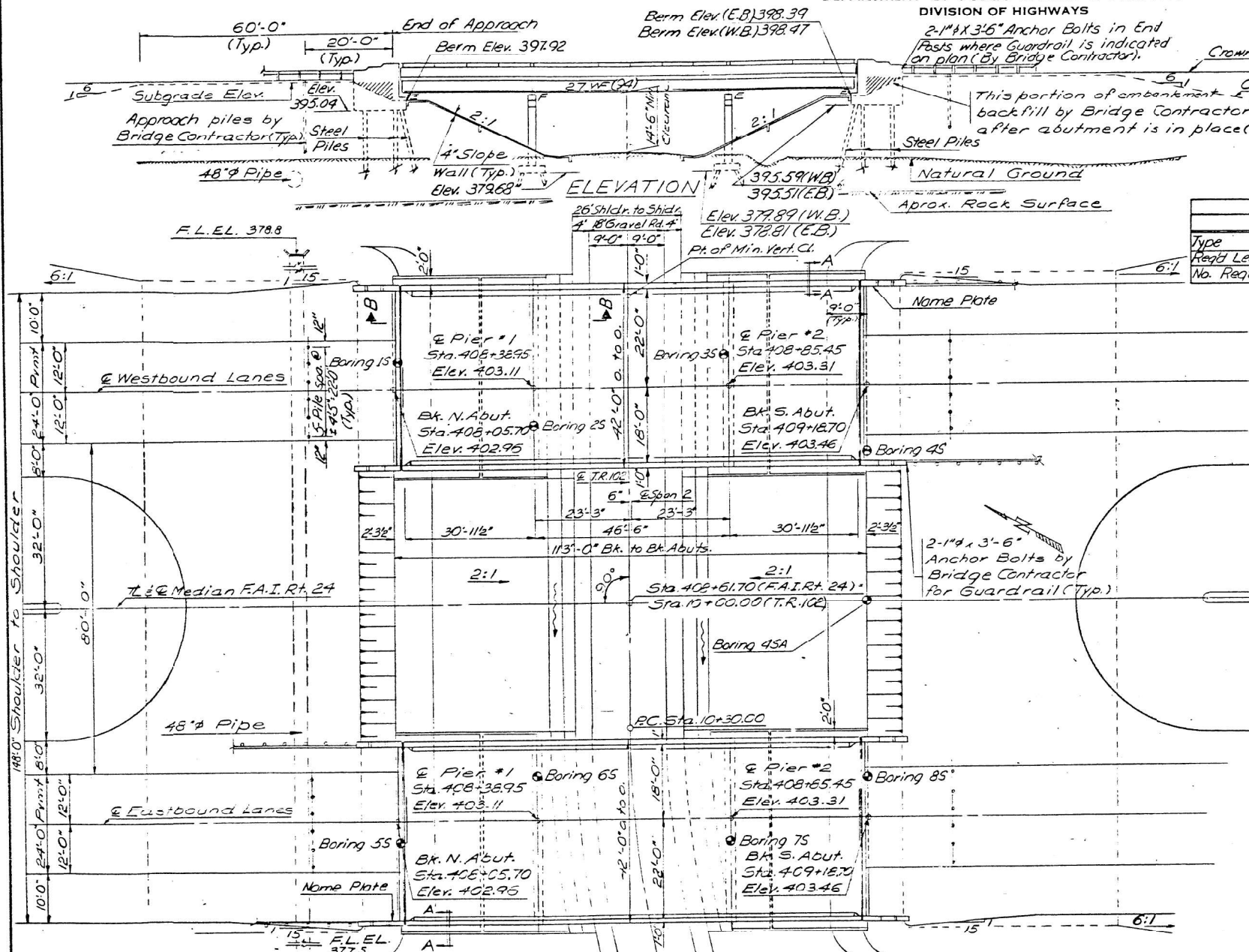
SHEET 19 OF 28 SHEETS

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	83
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

B.M.: Spike in 30" Oak 249' Rt. Sta. 408+00
& Med. F.A.I. - 24 Elev. 381.12

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	44-5HB-2	Johnson	123	88
17 SHEETS				

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

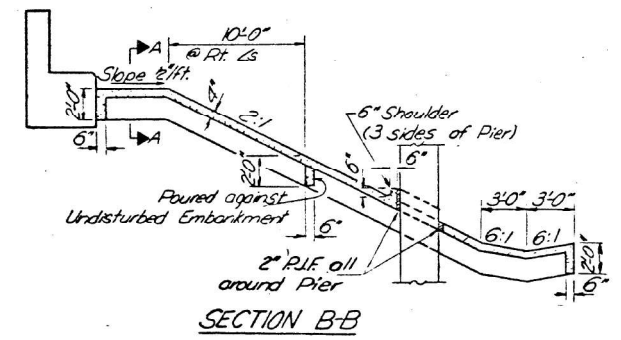


APPROACH PILE DATA

Type	West Bd. Lanes		East Bd. Lanes	
	N. Abut.	S. Abut.	N. Abut.	S. Abut.
Creosoted	11 Feet	18 Feet	22 Feet	19 Feet
No. Req'd	6	6	6	6

CURVE DATA (TR-102)

$\Delta = 90^{\circ}-00'-00''$
 $D = 22^{\circ}-55'-06''$
 $R = 250.00$
 $L = 392.70$
 $T = 250.00$
 $E = 103.55$
 $S.E. = 0.061\%/ft$
 $S.E. \text{ ATTAINED: STA. } 9+58.00 \text{ TO STA. } 10+56.00$
 $\text{STA. } 13+86.70 \text{ TO STA. } 14+94.70$



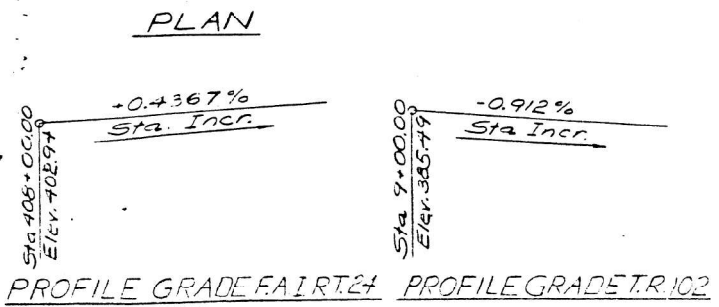
STATION 408+61.70
BUILT 19 BY
STATE OF ILLINOIS
F.A.I. RT. 24 SEC. 44-5HB-2
F.A. PROJ. IG-21-(18)
LOADING HS 20# ALT.
See Sta. 213-1
NAME PLATE
(2 Required)

TOTAL BILL OF MATERIALS

Item	Super	Sub.	Total
Protective Coat	Sq. Yds. 1152		1152
Structure Excavation	Cu. Yds. 153		153
Class X Concrete	Cu. Yds. 281.8	399.0	680.8
Structural Steel	Lump Sum	L.S.	L.S.
Aluminum Railing	Lin. Ft. 439		439
Reinforcement Bars	Lbs. 32,600	32,860	65,460
Creosoted Piles (Up to 20') Lin. Ft.		288	288
Creosoted Piles (20.1' to 38') Lin. Ft.		132	132
Test Piles Steel (8 BP 36)	Ea.	2	2
Steel Piles (8 BP 36) Lin. Ft.		1912	1912
Slope Wall 4"	Sq. Yd.	1030	1030
Name Plates	Ea.	2	2
Preformed Joint Sealer	Lin. Ft.	168	168

CURVE DATA (F.A.I. RT. 24)

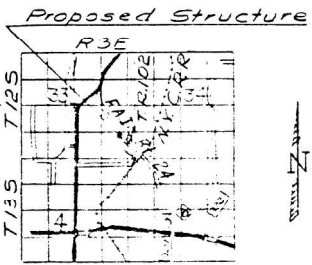
$P.I. \text{ Sta. } 429+99.45$ $T = 2020.00'$
 $\Delta = 19^{\circ}-59'-40''$ $L = 3998.92'$
 $D = 0^{\circ}-30'-00''$ $E = 176.68'$
 $R = 11459.16'$ $S.E. = 0.015\%/ft$
 $S.E. \text{ Attained}$
 $\text{Sta. } 408+46.12 \text{ To Sta. } 410+46.12$
 $\text{Sta. } 451+11.70 \text{ To Sta. } 449+11.70$
 August 21, 1970



Note: For Stress Table see sheet #3.

DESIGN STRESSES

$f_c = 1,200 \text{ psi Slab}$
 $f_c = 1,400 \text{ psi Parapet, Sidewalk \& Substructure}$
 $f_s = 20,000 \text{ psi Structural Steel}$
 $f_s = 29,000 \text{ psi Reinforcement}$
 $n = 10$
 Loading HS 20# ALT.
 Note: Allow 25 #/sq ft for fut. wearing surf.



GENERAL PLAN & ELEVATION
PROJECT IG-24-1(18)/5
F.A.I. RT. 24 SECTION 44-5HB-2
JOHNSON CO.
STA. 408+61.70 (F.A.I. RT. 24)
STA. 10+00.00 (T.R. 102)

044-0041-11-0

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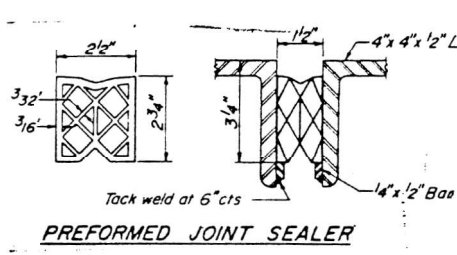
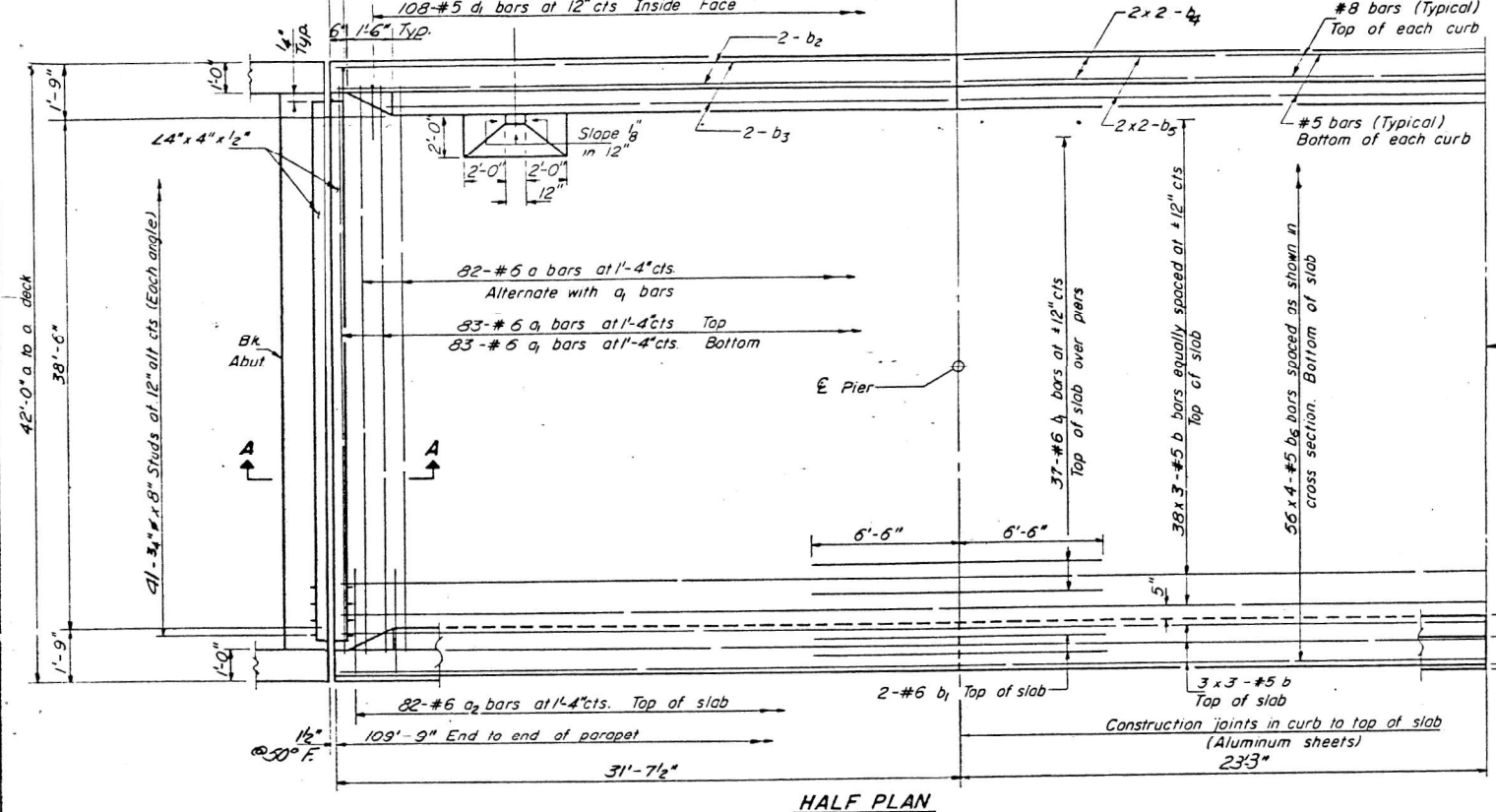
PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
RT 24	*	Johnson	123	91

17 SHEETS

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

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

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

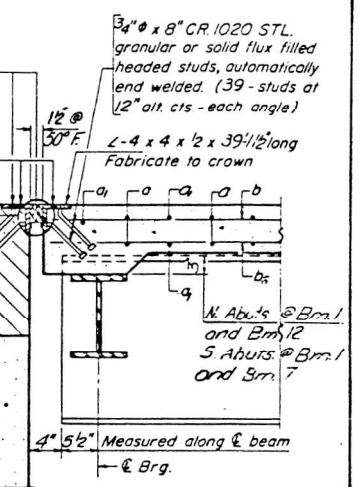


7/16" holes at 12" cts for 3/8" bolts set on 2 1/2" gage line. All bolts shall be banded, sawed or clipped off flush with back of angles after forms are removed.

7/16" vent holes at 12" cts set on 1 3/8" gage line.

See Detail of Preformed Jt Sealer

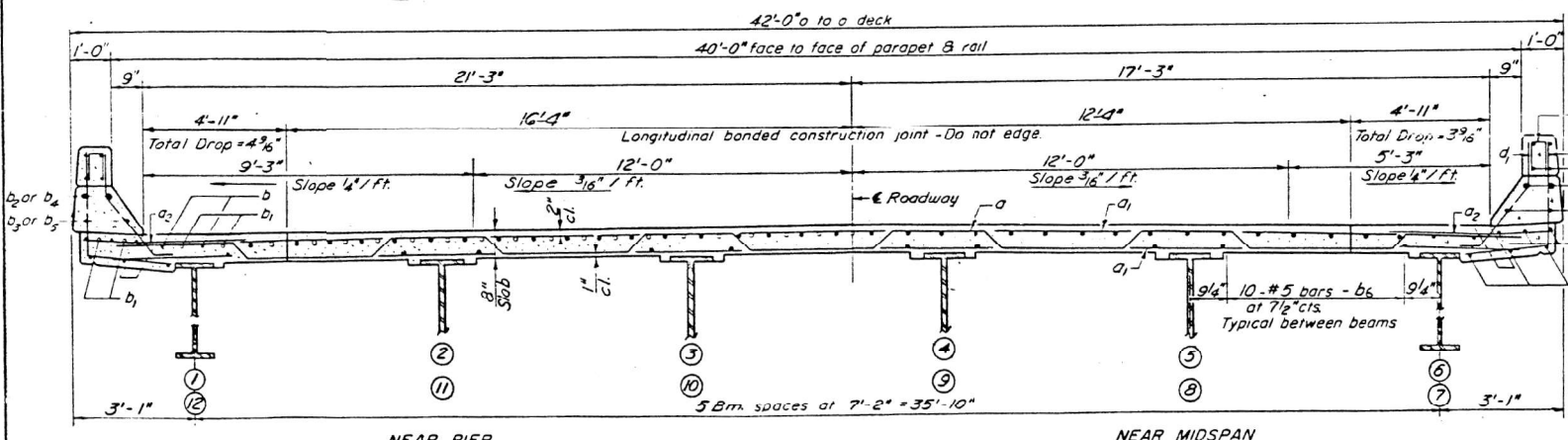
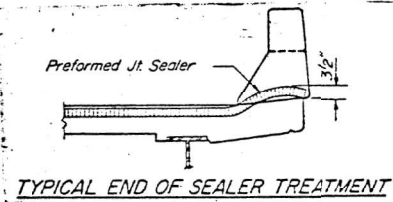
Hatched area to be poured after superstructure forms have been removed. Quantity of Class X Concrete included with superstructure.



SECTION A-A

TWO SUPERSTRUCTURES
 BILL OF MATERIAL

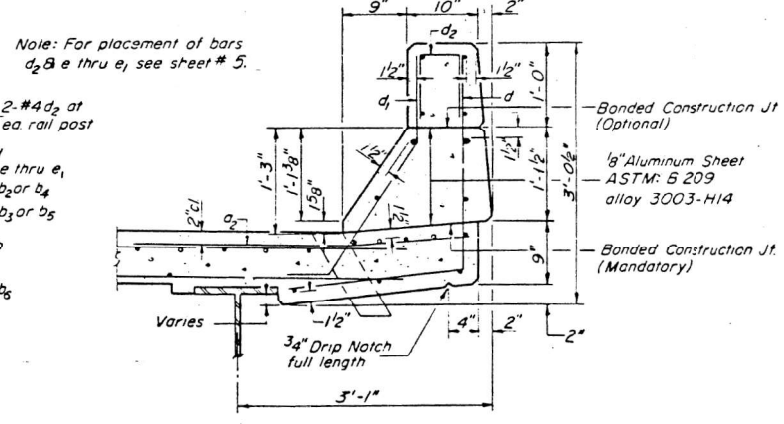
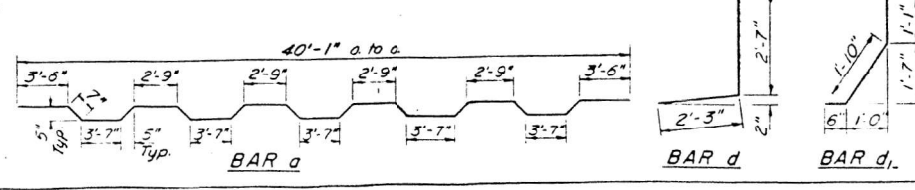
Bar	No	Size	Length	Shape
a	164	#6	41'-9"	
a ₁	332	#6	40'-0"	
a ₂	328	#6	4'-0"	
b	264	#5	37'-6"	
b ₁	164	#6	13'-0"	
b ₂	16	#8	31'-3"	
b ₃	16	#5	31'-3"	
b ₄	16	#8	24'-3"	
b ₅	16	#5	24'-0"	
b ₆	448	#5	28'-6"	
d	440	#4	4'-10"	
d ₁	432	#5	3'-5"	
Reinforcement Bars				Lbs 65,300
Structural Steel				Lbs L.S.
Class X Concrete				Cu Yds 267.6



CROSS SECTION
 (E. Bd. LANES LOOKING NORTH - Bms. 1 thru 5)
 (W. Bd. LANES LOOKING SOUTH - Bms. 7 thru 12)

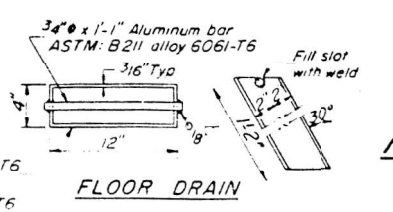
(Cross section typical from Sta. 408+07.33 to Sta. 408+46.12)
 (Super-elevation transition as shown) on Curve Data sheet #1.

DESIGNED	J.M. Patel
CHECKED	Richard K. Chandrasekhar
DRAWN	R. Doty
CHECKED	R.K.C.



CURB SECTION

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



FLOOR DRAIN

Reinforcement and Class X Concrete in parapets are not included in above quantities. See sheet #6.

SUPERSTRUCTURE
 F.A.I. RT. 24 - SEC. 44-5HB-2
 JOHNSON COUNTY
 STA. 408+61.70



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

USER NAME	DESIGNED	REVISIONS
RBT	RBT	
J.S.	J.S.	
RBT	RBT	
KAS	KAS	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

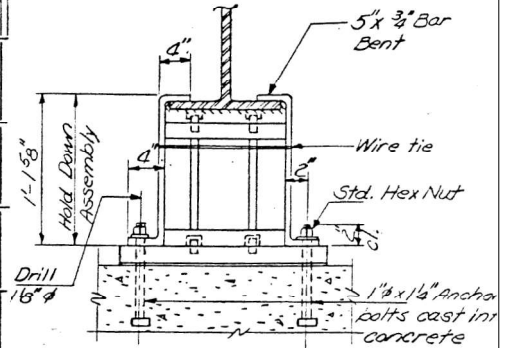
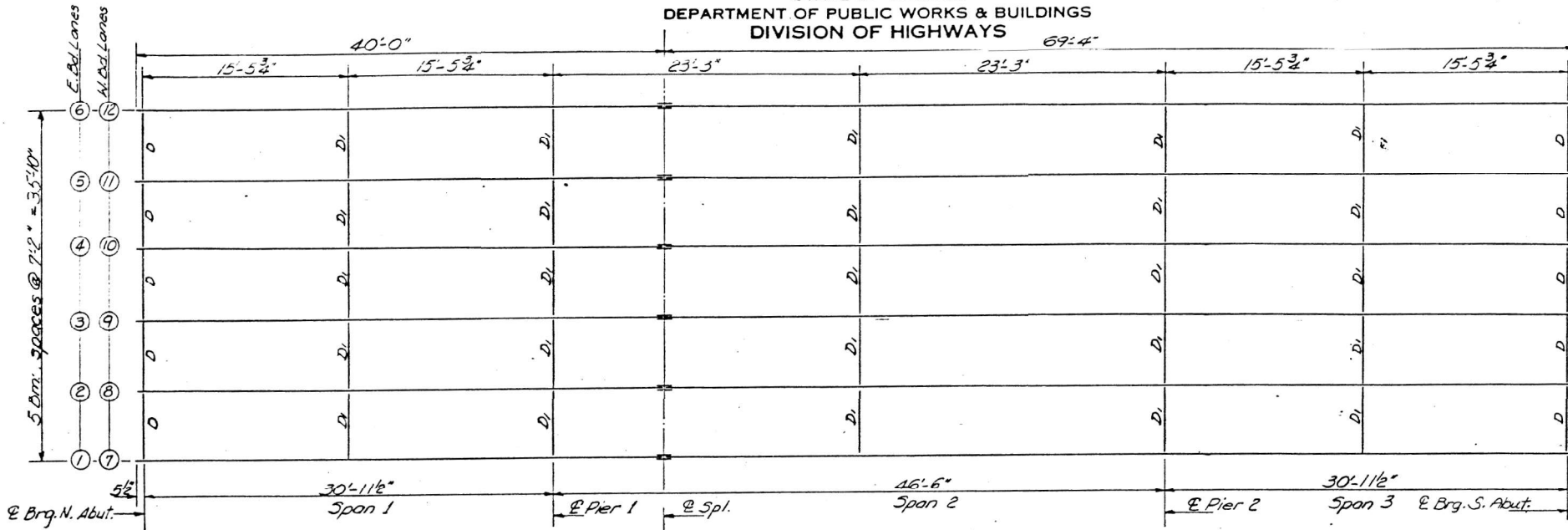
EXISTING PLANS
 STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	85

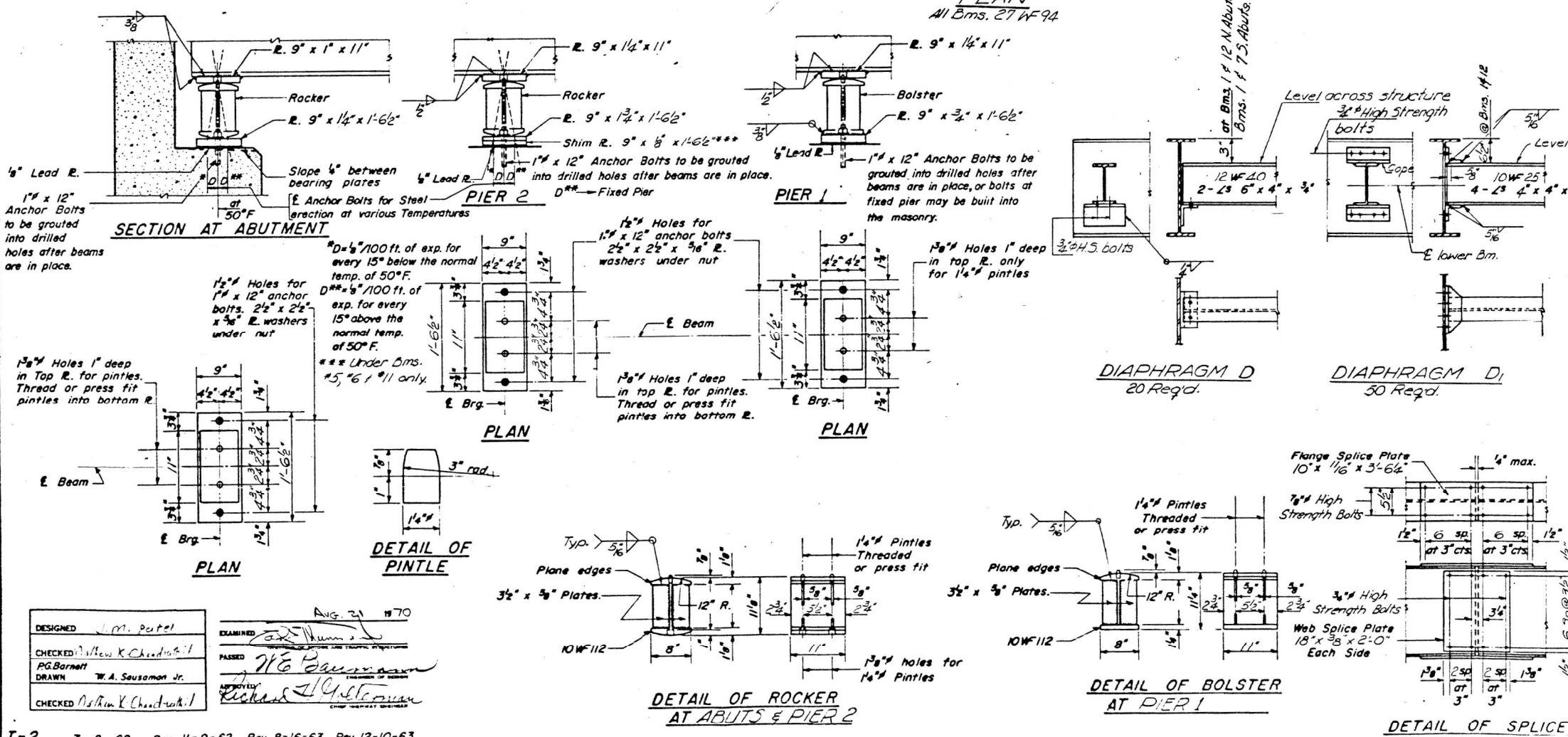
CONTRACT NO. 78849
 ILLINOIS FED. AID PROJECT

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

DATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
8.1.24	*	Johnson	123	92
SHEET NO. 17 SHEETS				



BEAM HOLD DOWN DETAIL
Note:
Beams shall be held down at the Abutment on the opposite end of Bridge from which deck pour is commenced. After pouring complete the Hold Down Assembly shall be removed and Nuts placed on Anchor Bolt. Cast of Hold Down Assembly, incidental, Class X Concrete.



ELEVATION TOP OF 27WF94 (E.B.)

Beam No.	Brig. N. Abut.	Brig. Pier 1	Splice	Brig. Pier 2	Brig. S. Abut.
1	401.91	402.04	402.08	402.24	402.28
2	402.06	402.19	402.23	402.39	402.43
3	402.17	402.30	402.34	402.50	402.54
4	402.23	402.36	402.40	402.56	402.60
5	402.12	402.25	402.29	402.51	402.55
6	401.99	402.12	402.16	402.45	402.49

ELEVATION TOP OF 27WF94 (W.B.L.)

Beam No.	Brig. N. Abut.	Brig. Pier 1	Splice	Brig. Pier 2	Brig. S. Abut.
7	401.99	402.12	402.16	402.32	402.36
8	402.12	402.25	402.29	402.45	402.49
9	402.23	402.36	402.40	402.56	402.60
10	402.17	402.30	402.34	402.50	402.54
11	402.06	402.19	402.23	402.45	402.49
12	401.91	402.04	402.08	402.38	402.42

FRAMING PLAN
F.A.I. RT 24 SEC. 44-5HB-2
JOHNSON COUNTY
STA. 108+51.70

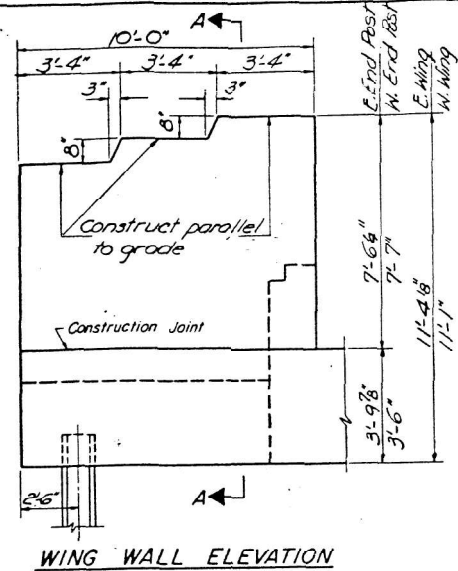
DESIGNED: M. Patel
CHECKED: J. K. Choudhary
DRAWN: W. A. Sausamon Jr.
EXAMINED: [Signature]
PASSED: [Signature]
APPROVED: [Signature]

I-2 7-2-62 Rev 11-9-62 Rev. 8-16-63 Rev. 12-10-63

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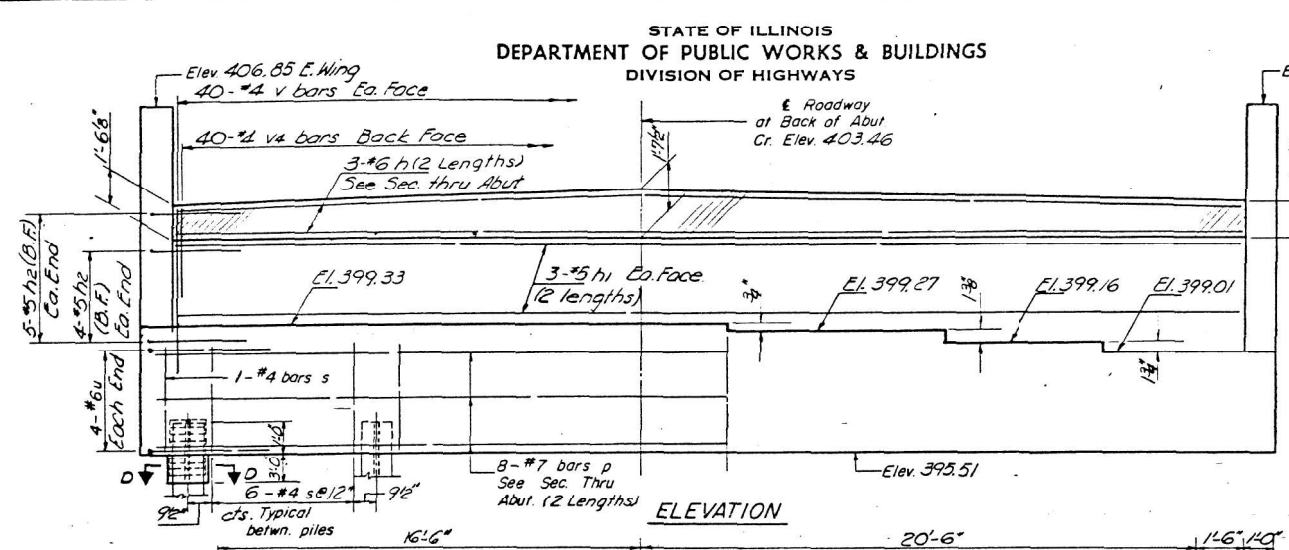
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	Johnson	123	95
SHEET NO. 8				
17 SHEETS				



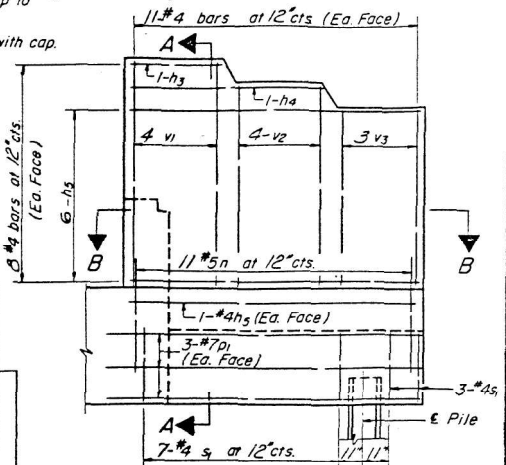
WING WALL ELEVATION

Note:
See sheet #6 for
Electrical Conduit Location.



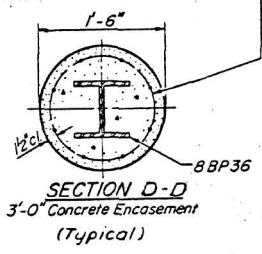
ELEVATION

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

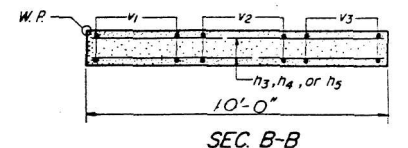


WING WALL ELEVATION
Reinforcement

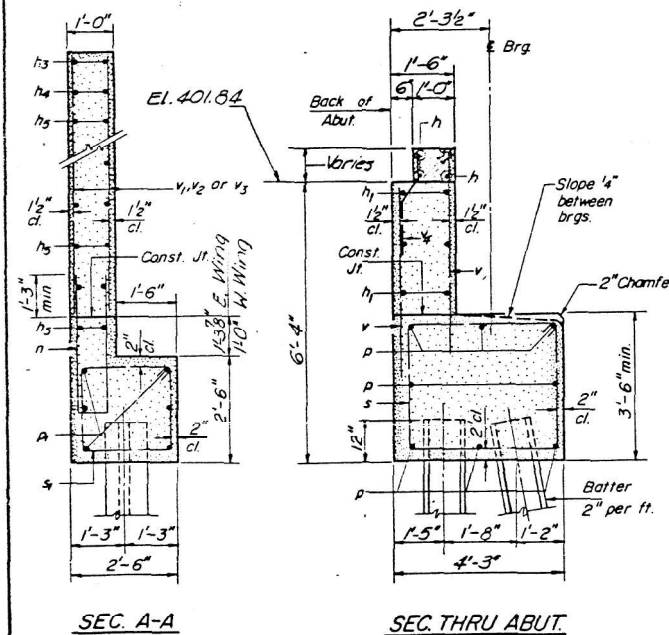
Welded wire fabric 6" x 6 mesh #4
wire weighing 58#/100 sq. ft.
The cost of Class X Concrete Encase-
ment and Reinforcement is incidental to
the cost of furnishing piles.
Forms for encasement may be omitted
when soil conditions will permit.



SECTION D-D
3'-0" Concrete Encasement
(Typical)

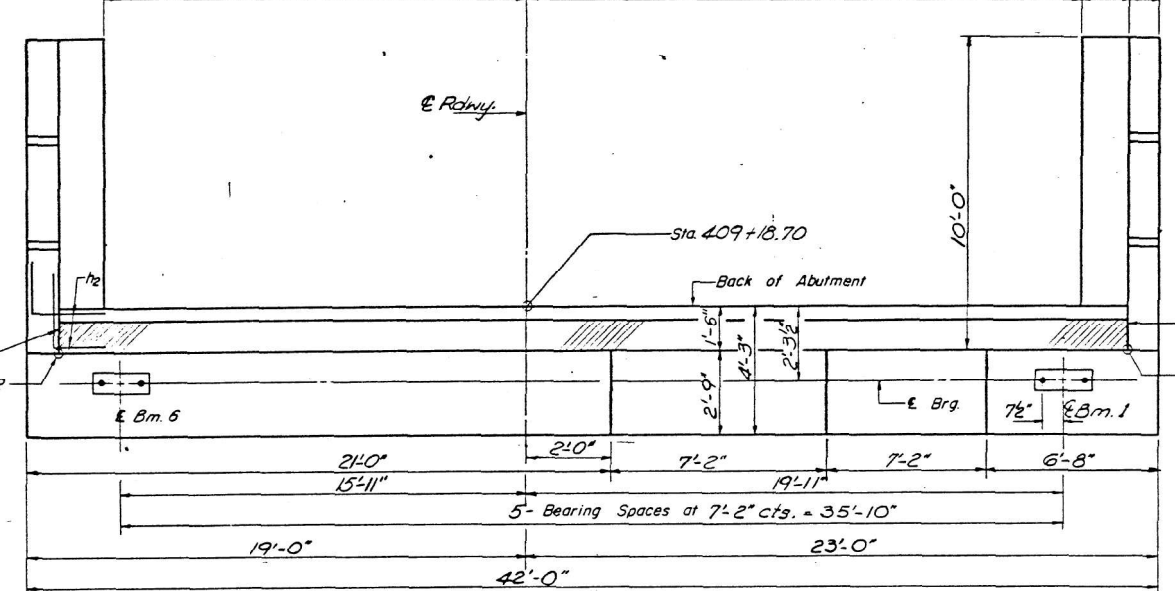


SEC. B-B



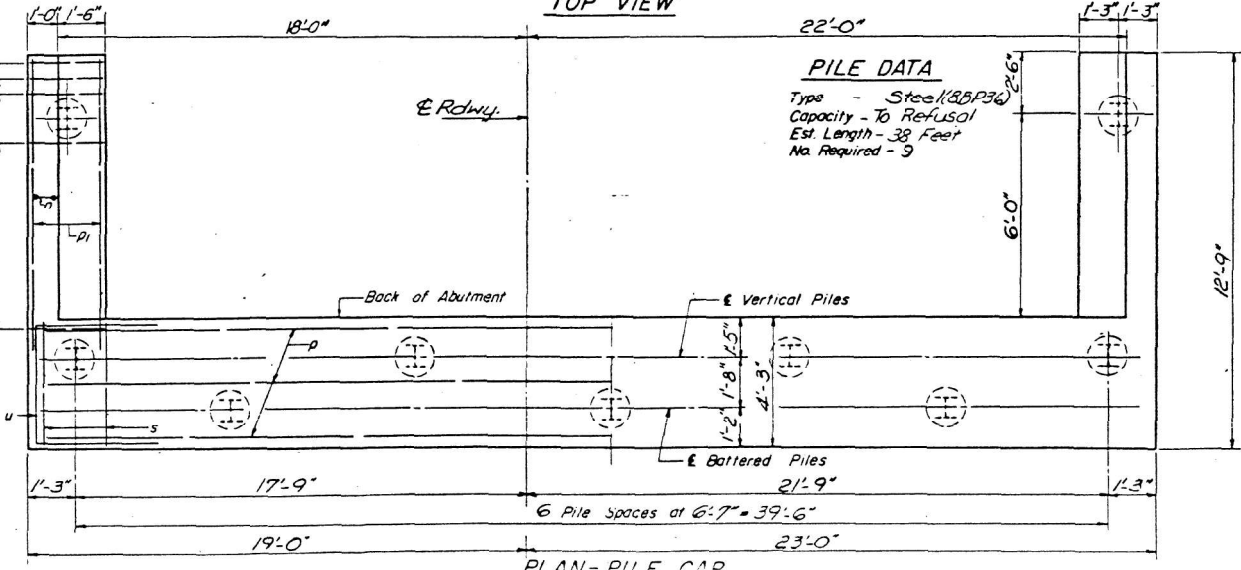
SEC. A-A

SEC. THRU ABUT.

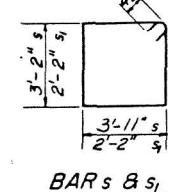


TOP VIEW

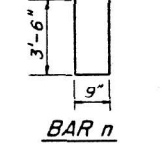
PILE DATA
Type - Steel (88P36)
Capacity - To Refusal
Est. Length - 38 Feet
No. Required - 3



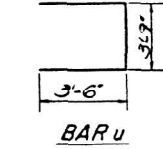
PLAN - PILE CAP



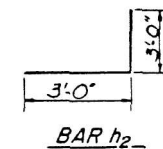
BAR s & s1



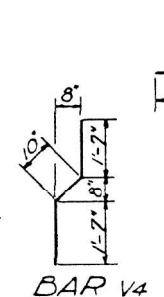
BAR n



BAR u



BAR h2



BAR v4

BILL OF MATERIAL

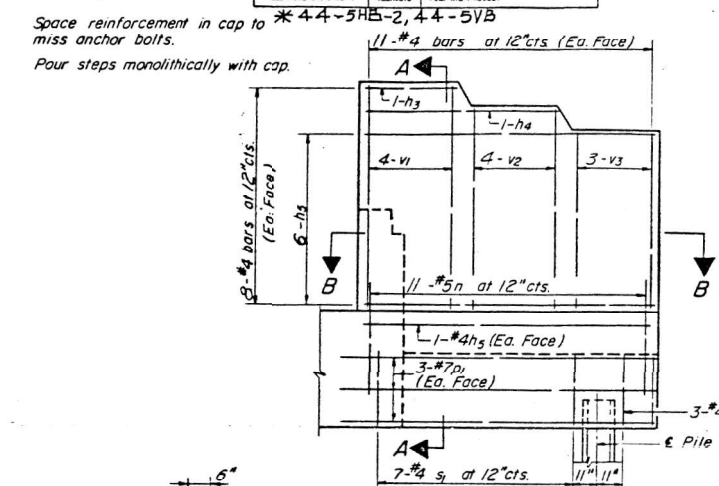
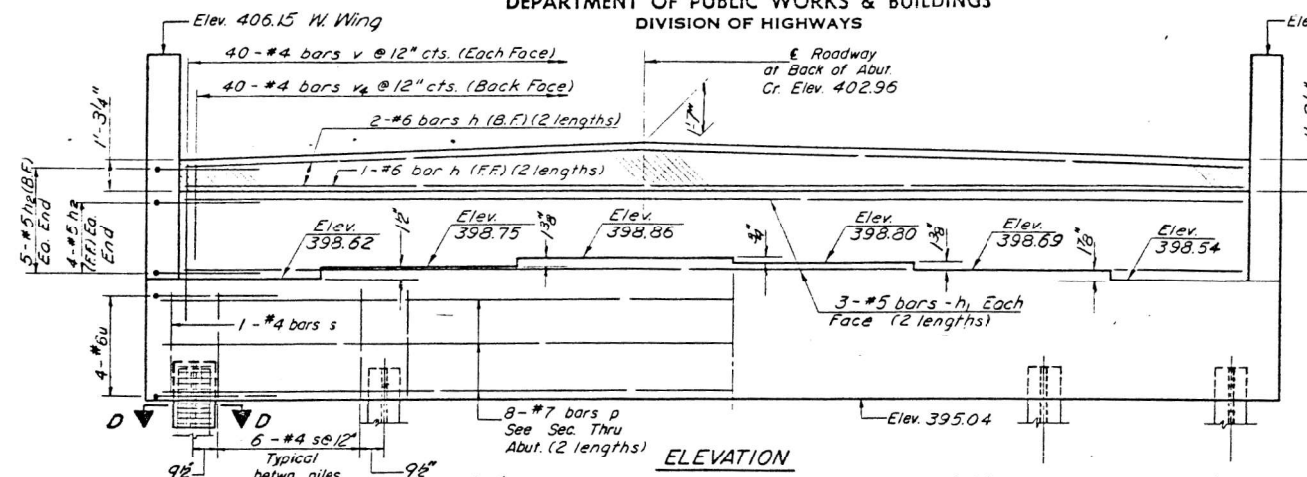
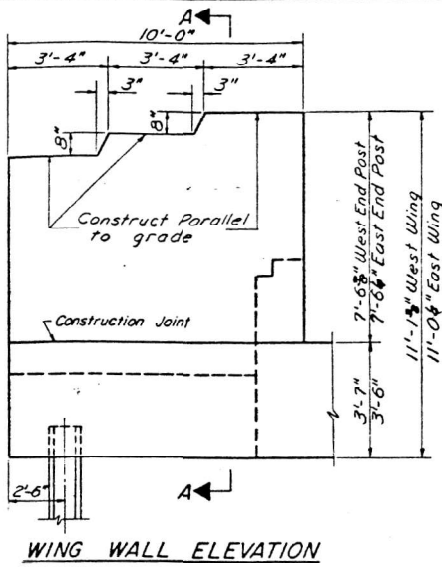
Bar	No	Size	Length	Shape
h	5	#6	20'-9"	—
h1	12	#5	20'-6"	—
h2	18	#5	6'-0"	—
h3	4	#4	3'-0"	—
h4	4	#4	6'-6"	—
h5	28	#4	9'-9"	—
n	22	#5	7'-9"	U
p	16	#7	22'-0"	—
p1	12	#7	12'-0"	—
s	38	#4	14'-11"	□
s1	20	#4	9'-5"	□
u	8	#6	10'-9"	—
v	80	#4	5'-6"	—
v1	16	#4	7'-3"	—
v2	16	#4	6'-6"	—
v3	12	#4	6'-0"	—
v4	40	#4	1'-0"	—
Class X Concrete		Cu. Yds	397	
Reinforcement Bars		Lbs	3190	
Steel Piles 88P36		Lin. Ft	342	

SOUTH ABUTMENT
E. B.D. LANES
F.A.I. RT. 24 SEC. 44-5HB-2
JOHNSON COUNTY
STA. 408+61.70

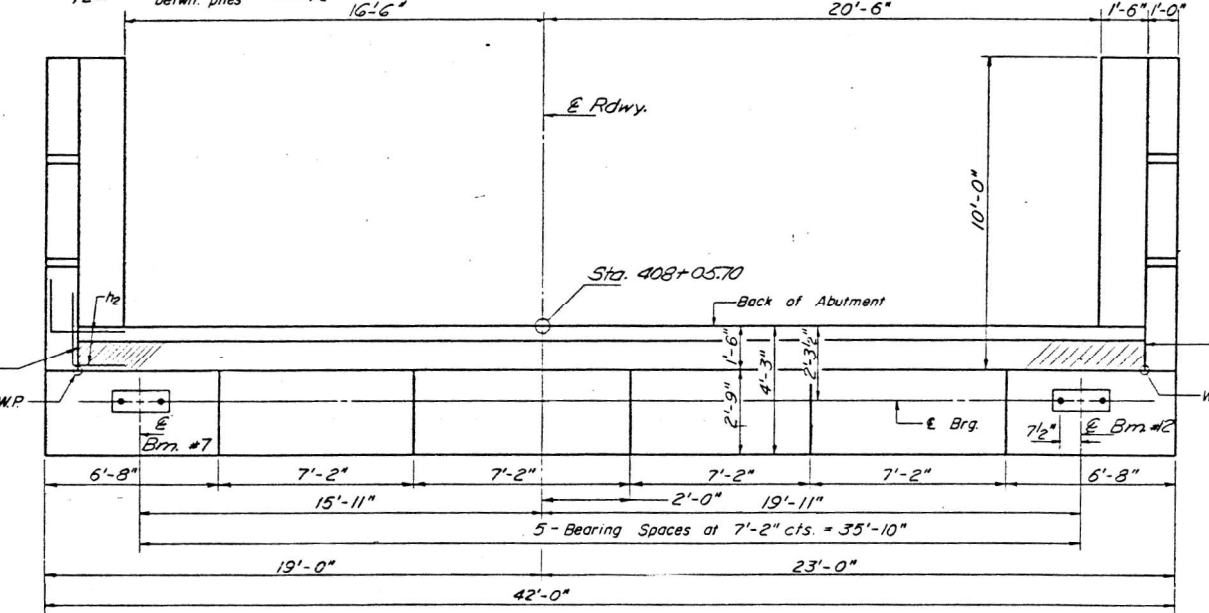
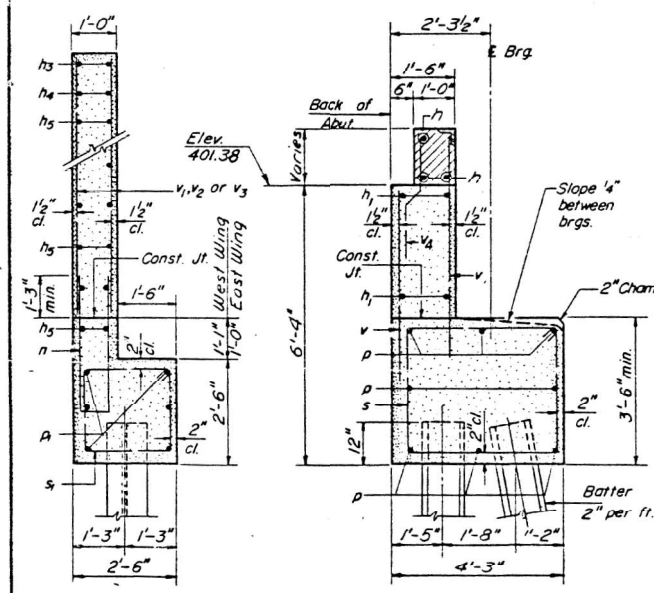
DESIGNED	J.M. Patel	EXAMINED	[Signature]
CHECKED	[Signature]	PASSED	[Signature]
DRAWN	S.G. Fercho	APPROVED	[Signature]
CHECKED	A. K. C.		

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

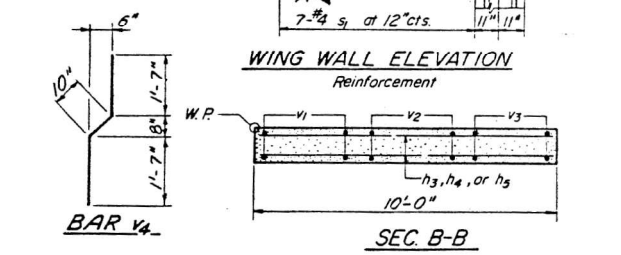
PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	*	Johnson	123	96
SHEET NO. 9				
17 SHEETS				



Note:
See sheet #6 for
Electrical Conduit Location.



PILE DATA
Type-Steel (8 BP 36)
Capacity - 10, Refusal
Est. Length - 27 Feet
* No Required - 9
* Includes 1 test pile
in a permanent
location.



BILL OF MATERIAL

Bar	No	Size	Length	Shape
h	6	#6	20'-9"	—
h ₁	12	#5	20'-5"	—
h ₂	18	#5	6'-0"	—
h ₃	4	#4	3'-0"	—
h ₄	4	#4	6'-6"	—
h ₅	28	#4	9'-9"	—
n	22	#5	7'-9"	U
p	16	#7	22'-6"	—
p ₁	12	#7	12'-0"	—
s	33	#4	14'-11"	□
s ₁	20	#4	9'-5"	□
u	8	#6	10'-9"	□
v	80	#4	5'-5"	—
v ₁	16	#4	7'-3"	—
v ₂	16	#4	6'-5"	—
v ₃	12	#4	6'-0"	—
v ₄	40	#4	4'-0"	—
Class X Concrete		Cu Yds	372	
Reinforcement Bars		LCS	31.07	
Steel Piles (8 BP 36)		Lin Ft	216	
Test Piles Steel (8 BP 36)		Ea	1	

SECTION D-D
3'-0" Concrete Encasement

DESIGNED J. M. Patel
CHECKED [Signature]
DRAWN G.M.R.

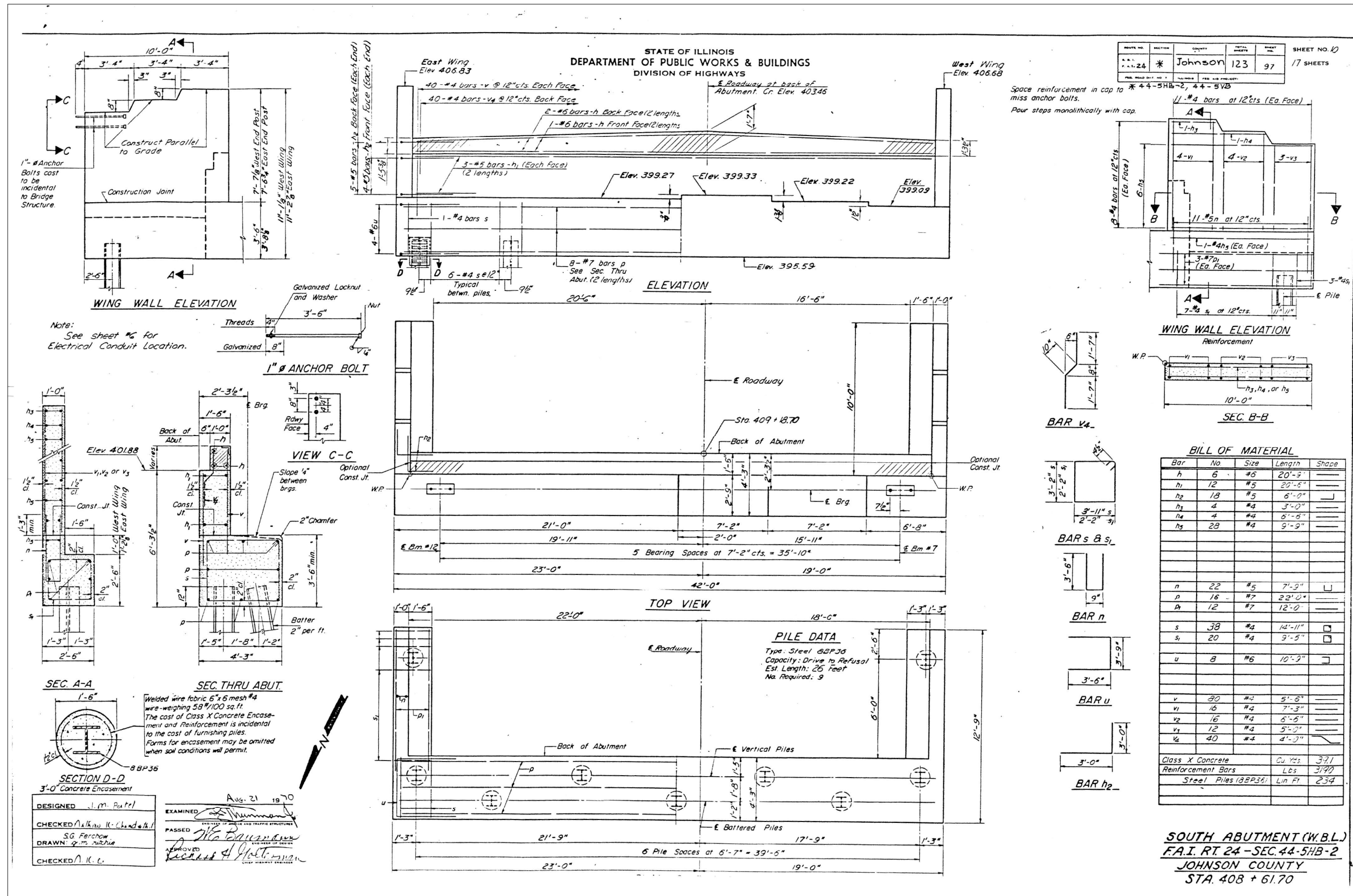
EXAMINED [Signature]
PASSED [Signature]
APPROVED [Signature]

Aug. 21, 1970

**NORTH ABUTMENT
WEST BD. LANES
F.A.I. RT. 24-SEC. 44-5HB-2
JOHNSON COUNTY**

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	* 44-5HB-2	Johnson	123	97

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

BILL OF MATERIAL

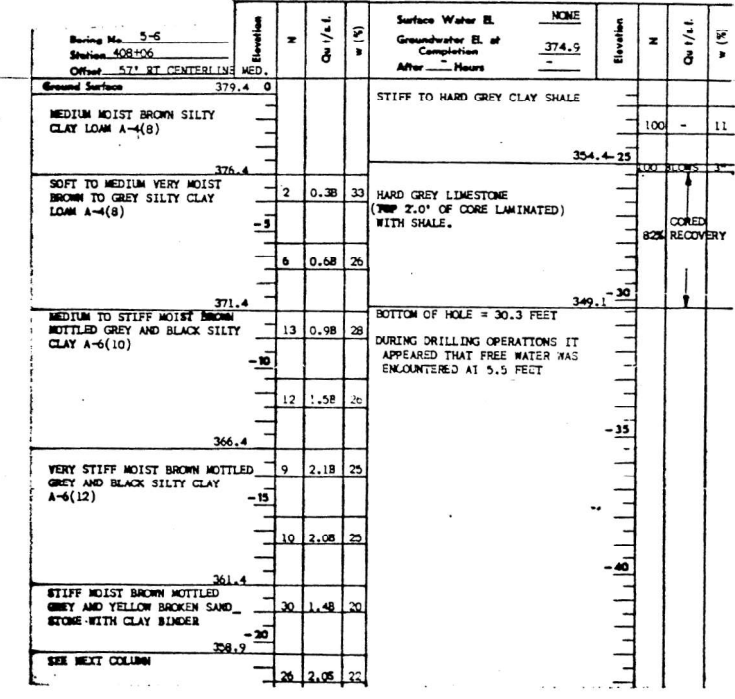
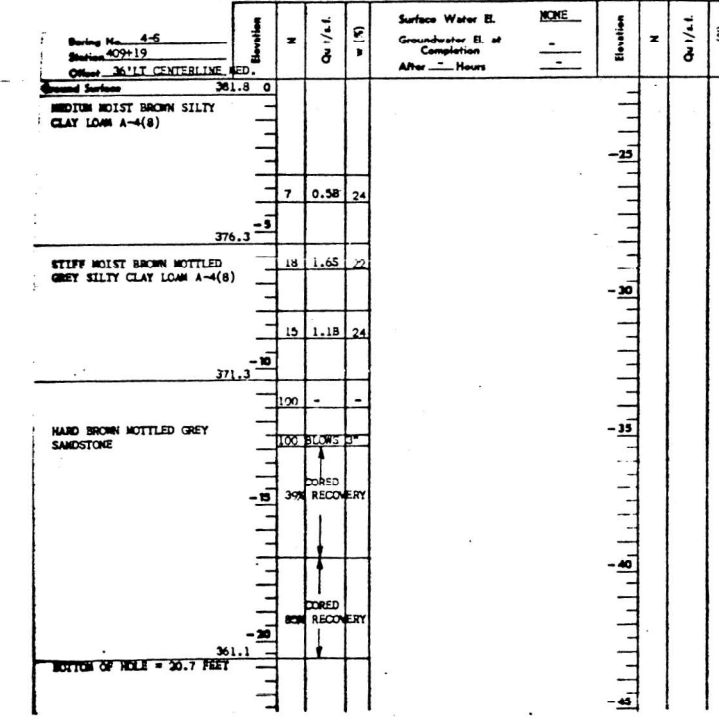
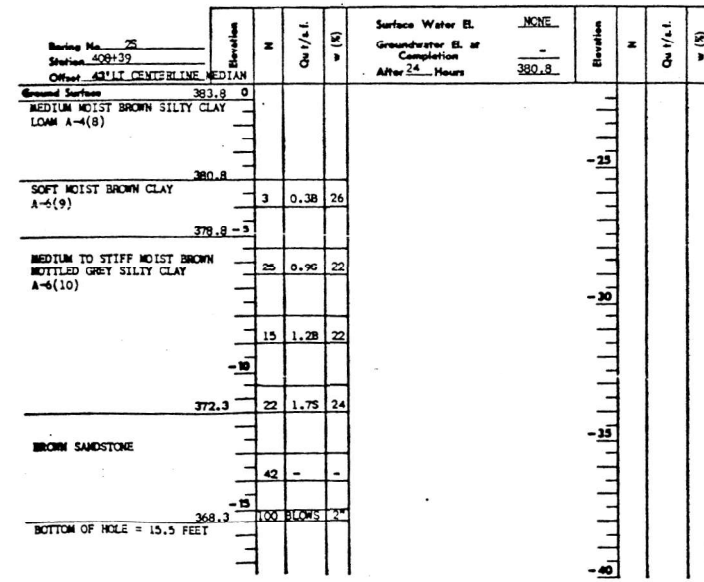
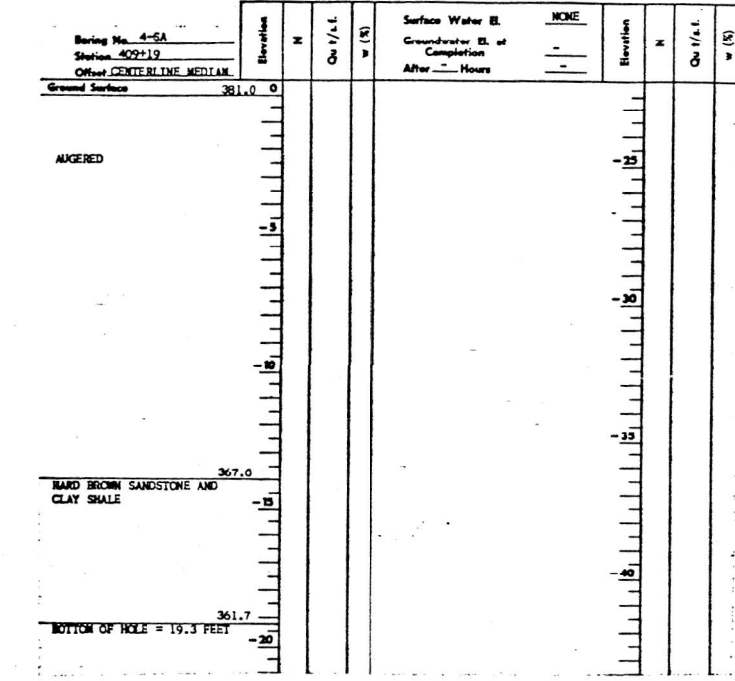
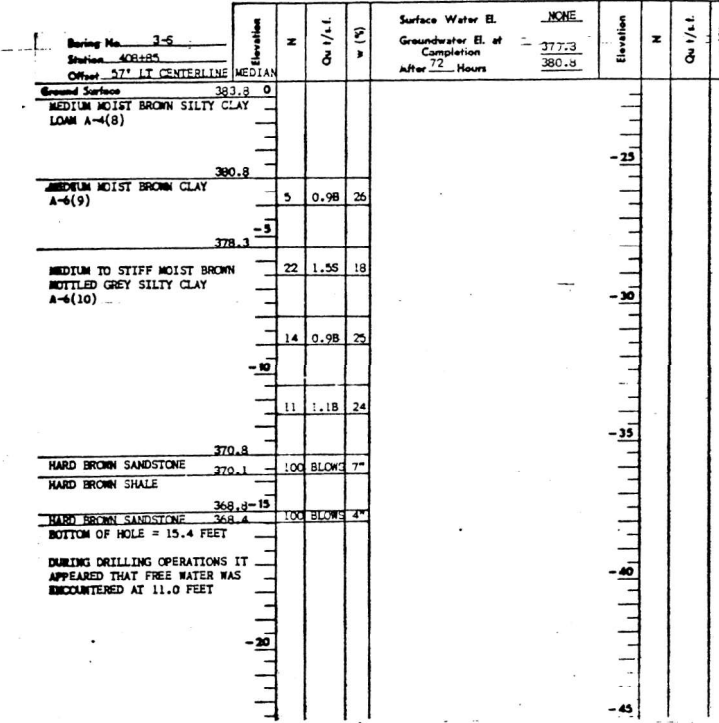
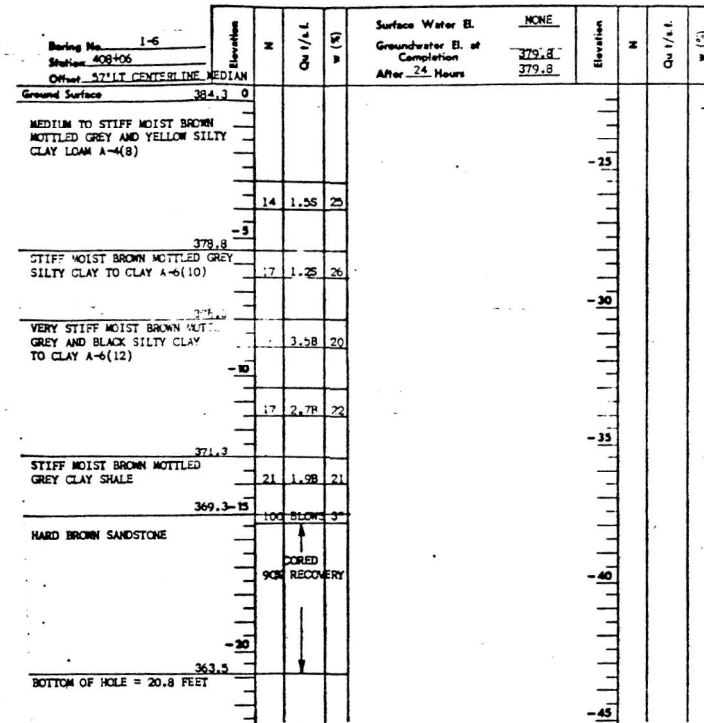
Bar	No	Size	Length	Shape
h	6	#6	20'-5"	—
h1	12	#5	20'-5"	—
h2	18	#5	6'-0"	—
h3	4	#4	3'-0"	—
h4	4	#4	6'-6"	—
h5	28	#4	9'-9"	—
n	22	#5	7'-9"	U
p	16	#7	22'-0"	—
p1	12	#7	12'-0"	—
s	38	#4	14'-11"	□
s1	20	#4	9'-5"	□
u	8	#6	10'-9"	□
v	80	#4	5'-6"	—
v1	16	#4	7'-3"	—
v2	16	#4	6'-6"	—
v3	12	#4	5'-0"	—
v4	40	#4	4'-0"	—
Class X Concrete		Cu 145	3.71	
Reinforcement Bars		Lbs	3197	
Steel Piles (8BP36)		Lin Ft	234	

**SOUTH ABUTMENT (W.B.L.)
 F.A.I. RT. 24 - SEC. 44-5HB-2
 JOHNSON COUNTY
 STA. 408 + 61.70**

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15
RT. 24		Johnson	123	102	17 SHEETS

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



DESIGNED J.M. Patel
CHECKED Nathan K. Charvalat
DRAWN R.A. DOTY
CHECKED A.K.C.

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

Aug. 21 1970

N-Standard Penetration Test - Blows per foot to drive 2" C.D. Split Spoon Sampler 12" with 140# hammer falling 30".
Qu-Unconfined Compressive Strength - 1/31
w-Water Content - percentage of oven dry weight-%.
Type failure B-Bulge Failure S-Shear Failure E-Estimated Value P-Penetrometer

BORING DATA
F.A.I. RT. 24 SEC 44-5HB-2
JOHNSON COUNTY
STA. 408+06.70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 044-0041 (E.B.) & 044-0042 (W.B.)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	91
			CONTRACT NO. 78849	

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12/2/2021 2:52:09 PM



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.

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

INDEX OF SHEETS

- 1 - General Plan and Elevation
- 2 - General Data
- 3 - Stage Construction Details
- 4 - Deck Patching 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 - Abutment Removal
- 13 - Bar Splicer Assembly and Mechanical Splicer Details
- 14-24 - Existing Plans

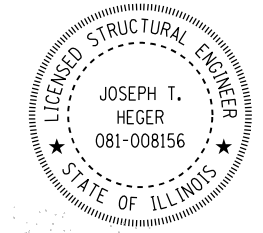
DESIGN STRESSES

FIELD UNITS

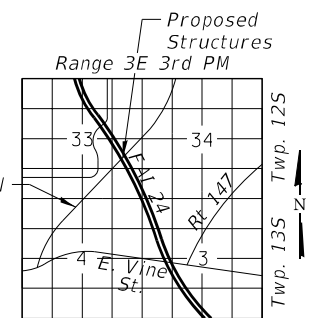
New Construction
 f'c = 4,000 psi
 fy = 60,000 psi (Reinforcement)

Existing Structure, 2005 Rehabilitation
 f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)

Existing Structure, 1971
 f'c = 1,200 psi (Superstructure)
 f'c = 1,400 psi (Substructure)
 fs = 20,000 psi (Reinforcement)

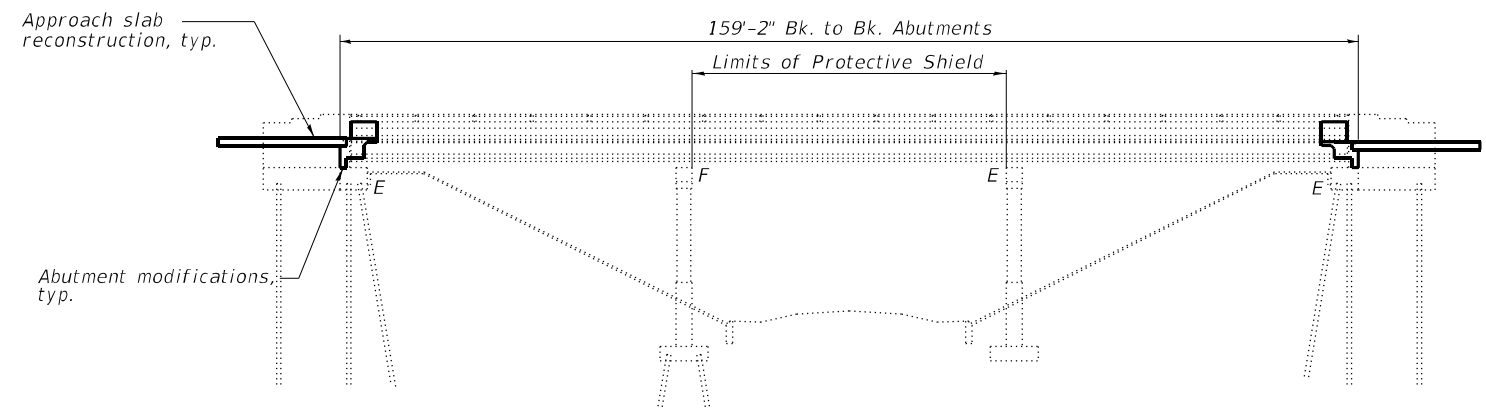


J.T. Heger
 Exp. Date 11/30/2022

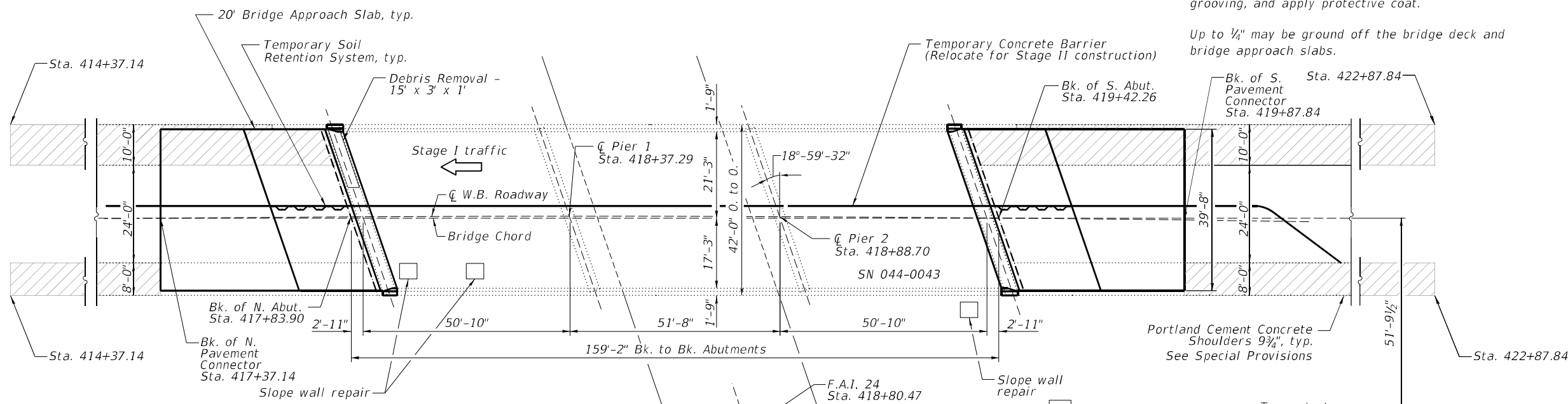


LOCATION SKETCH

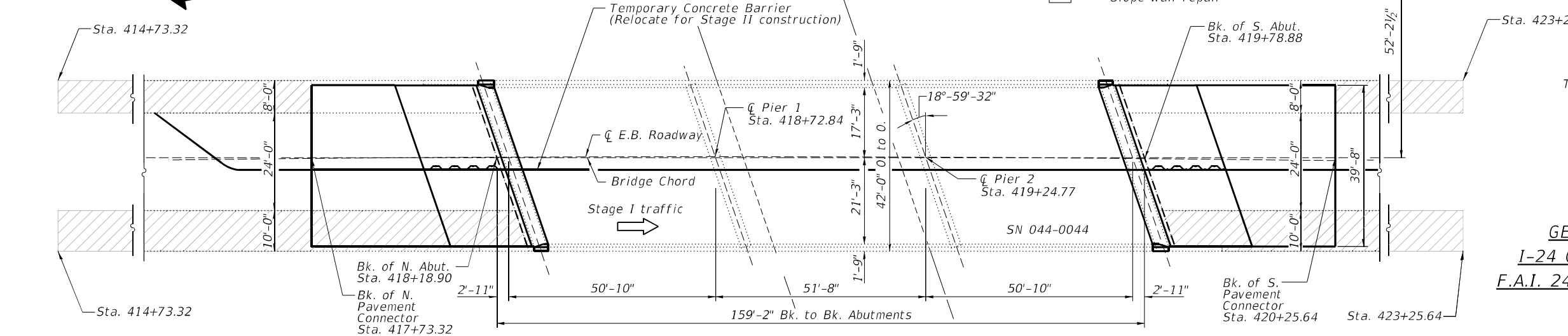
**GENERAL PLAN AND ELEVATION
 I-24 OVER TUNNEL HILL STATE TRAIL
 F.A.I. 24, SECTION BRIDGE REPAIR 2022-1
 JOHNSON COUNTY
 STA. 418+80.47
 SN 044-0043 & 044-0044**



ELEVATION



PLAN



MODEL: Default
 FILE NAME: L:\DOT\1500610\WO_8\DrawStructures\SN 0043 & 0044\001_0043-0044_GPE.dgn
 License No. 184-000613 © copyright CMT, Inc.



USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
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PLOT DATE = 12/1/2021 (9:28:24 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
 STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)**

SHEET 1 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	93
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				

TOTAL BILL OF MATERIAL				
ITEM	UNIT	SN 044-0043	SN 044-0044	TOTAL
Paved Shoulder Removal	Sq. Yd.	1496	1496	2992
Portland Cement Concrete Shoulders 9 3/4"	Sq. Yd.	1306	1306	2612
Concrete Removal	Cu. Yd.	44.9	45.2	90.1
Protective Shield	Sq. Yd.	0	230	230
Structure Excavation	Cu. Yd.	73	73	146
Concrete Structures	Cu. Yd.	26.2	26.2	52.4
Concrete Superstructure	Cu. Yd.	50.1	50.9	101.0
Protective Coat	Sq. Yd.	991	991	1982
Concrete Superstructure (Approach Slab)	Cu. Yd.	74.7	74.7	149.4
Reinforcement Bars, Epoxy Coated	Pound	39570	39570	79140
Bar Splicers	Each	300	300	600
Elastomeric Bearing Assembly, Type I	Each	12	12	24
Temporary Soil Retention System	Sq. Ft.	55	55	110
Granular Backfill for Structures	Cu. Yd.	82	83	165
Geocomposite Wall Drain	Sq. Yd.	11	11	22
Concrete Headwalls for Pipe Drains	Each	4	4	8
Temporary Concrete Barrier	Foot	544	544	1088
Relocate Temporary Concrete Barrier	Foot	544	544	1088
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.	241	241	482
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	526	526	1052
Pinning Temporary Concrete Barrier	Each	8	8	16
Raised Reflective Pavement Marker, Reflector Removal	Each	4	4	8
Approach Slab Removal	Sq. Yd.	235	235	470
Bridge Deck Scarification 3"	Sq. Yd.	628	628	1256
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	27	20	47
Debris Removal	Cu. Yd.	2	0	2
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0	1	1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	0	3	3
Diamond Grinding (Bridge Section)	Sq. Yd.	1089	1089	2179
Polymer Concrete	Cu. Ft.	6.3	6.3	12.6
Precast Prestressed Concrete I-Beam Repair	Sq. Ft.	5	11	16
Pipe Underdrains for Structures 4"	Foot	86	86	171
Slope Wall Slurry Pumping	Cu. Yd.	12.5	0.0	12.5
Bridge Deck Latex Concrete Overlay, 3/4 Inches	Sq. Yd.	628	628	1256

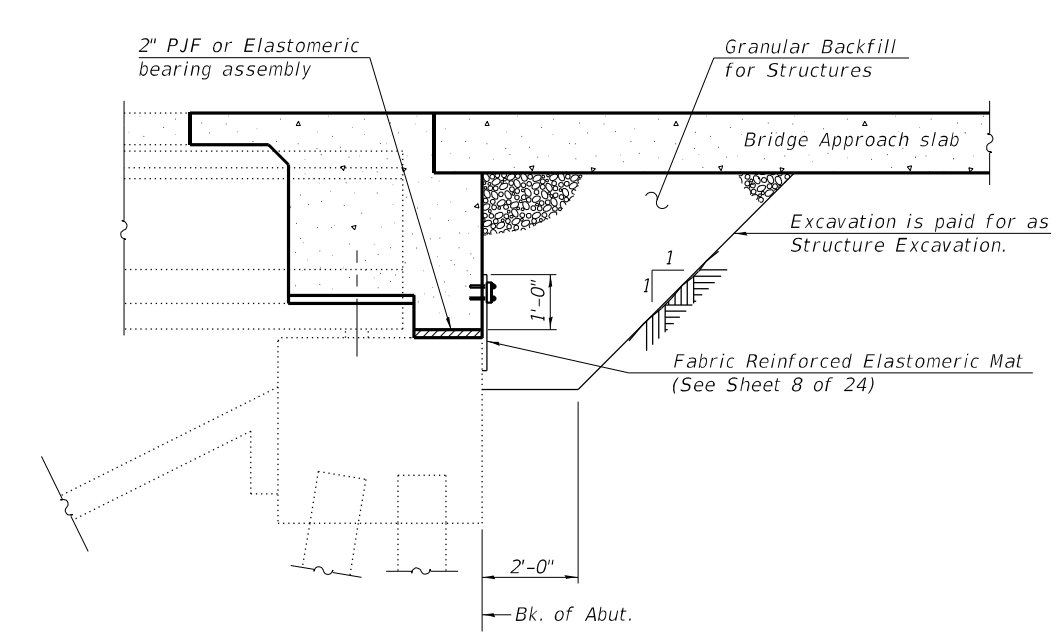
*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

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).

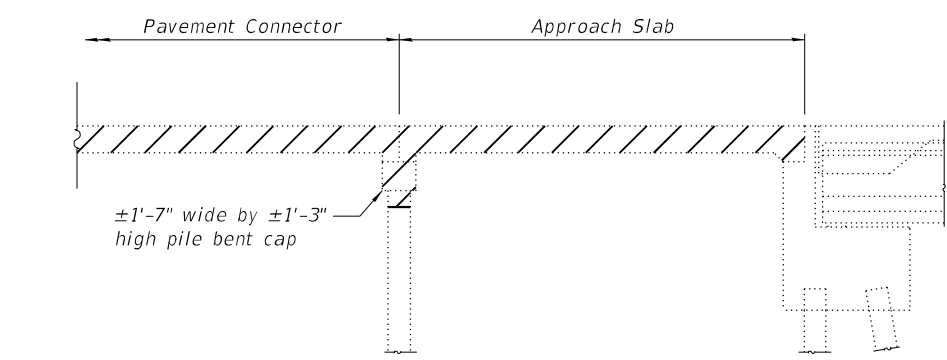
GENERAL NOTES

- 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 24) from Sta. 417+37.14 to Sta. 417+83.90 and Sta. 419+42.26 to Sta. 419+87.84 for SN 044-0043 and Sta. 417+73.32 to Sta. 418+18.90 and Sta. 419+78.88 to 420+25.64 for SN 044-0044 for Stage II traffic. This work shall be included in the cost of Temporary Concrete Barrier, no additional compensation shall be provided.
- Before Concrete Removal of the backwall, Debris Removal shall be completed between Beam 4 and Beam 5 and also between Beam 5 and Beam 6 on the SN 044-0043 North Abutment. The debris shall be removed down to exposure of the abutment cap.
- The Contractor shall use extreme care during concrete removal so as not to damage the PPC I-Beams.

GENERAL DATA				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	94
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)			CONTRACT NO. 78849	
SHEET 2 OF 24 SHEETS				
ILLINOIS FED. AID PROJECT				



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



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.

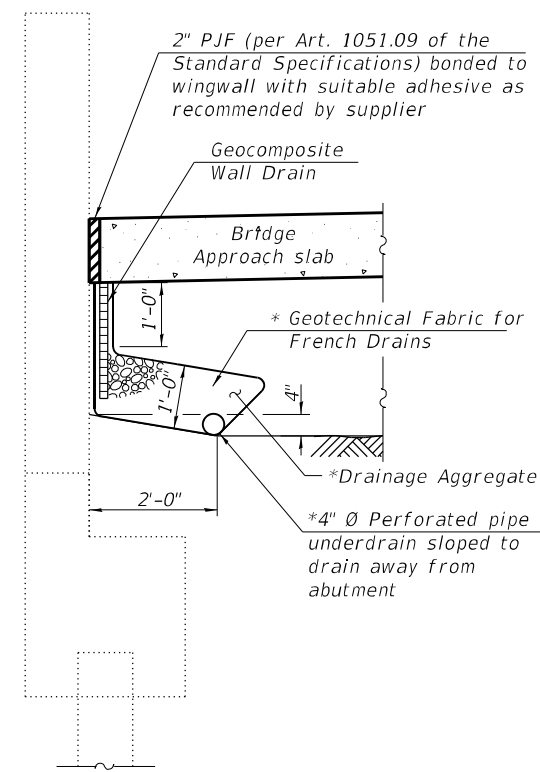
SLOPE WALL REPAIRS

On the north slope wall there are two openings with voided areas. One is located near the west edge of the north abutment of SN 044-0043 and is approximately 16" deep. The other is located about 15' south of the first and is approximately 9" deep.

On the south slope wall there are two openings with voided areas. One is located near the west end of the south abutment of SN 044-0043 and is approximately 16" deep. The other is located at the ridge of the slope wall between the two bridges and is approximately 15" deep.

The voided areas 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.

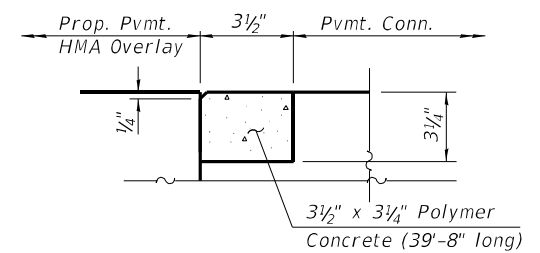
Small areas of slope wall may need to be removed to access the voids in the slope walls. Any removals shall be repaired. Cost of removal and repairs shall be included with Slope Wall Slurry Pumping.



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

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

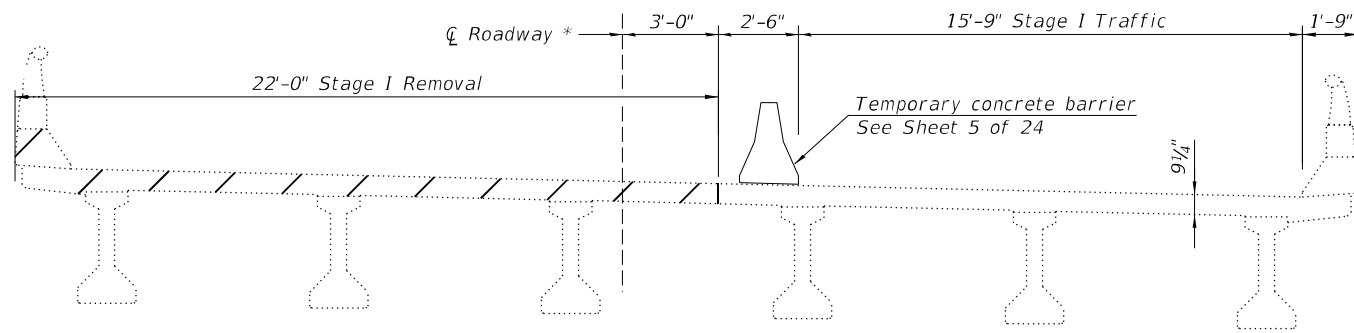
Note:
All drainage system components shall extend 2'-0" from the end of each wingwall except an outlet pipe shall wrap around and extend until intersecting with the side slope. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



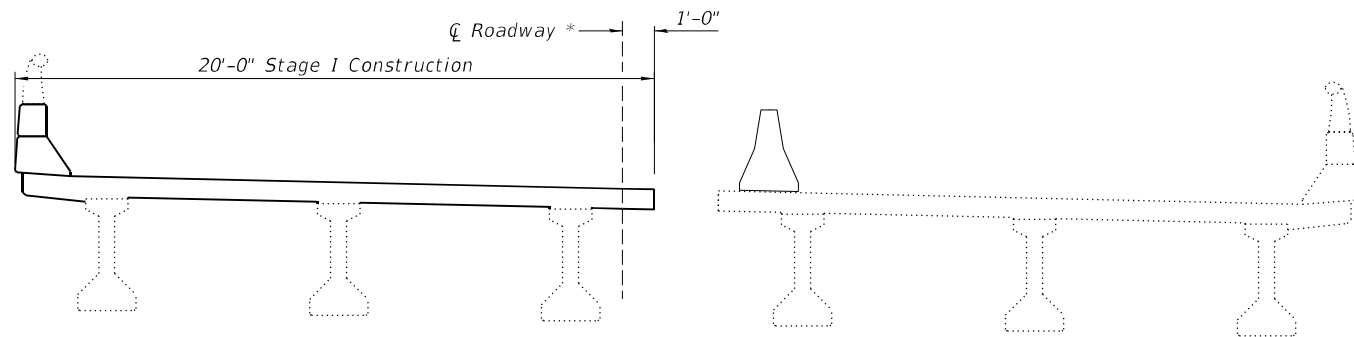
POLYMER CONCRETE NOSING DETAIL
(Typ. Ea. Approach)

CMT			
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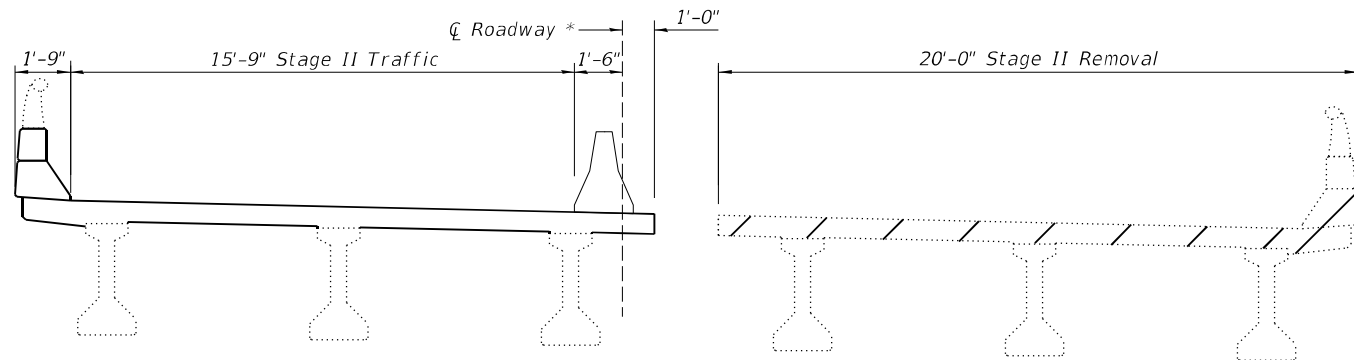
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



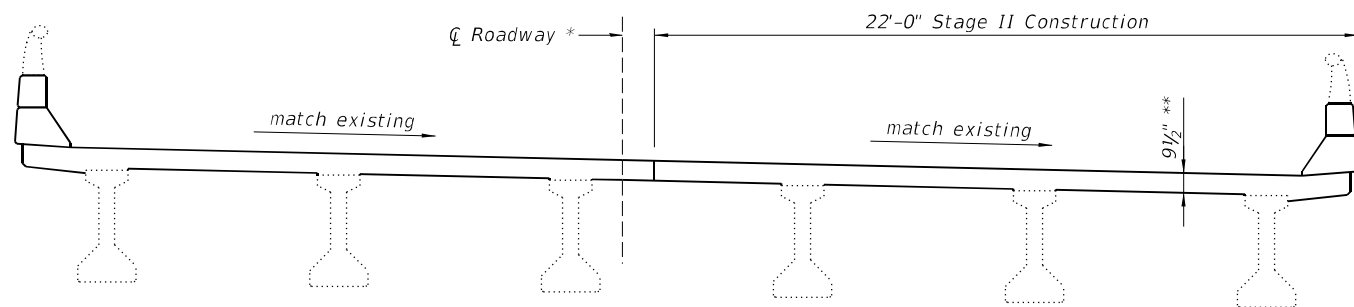
STAGE I REMOVAL
(Looking in the direction of traffic)



STAGE I CONSTRUCTION
(Looking in the direction of traffic)



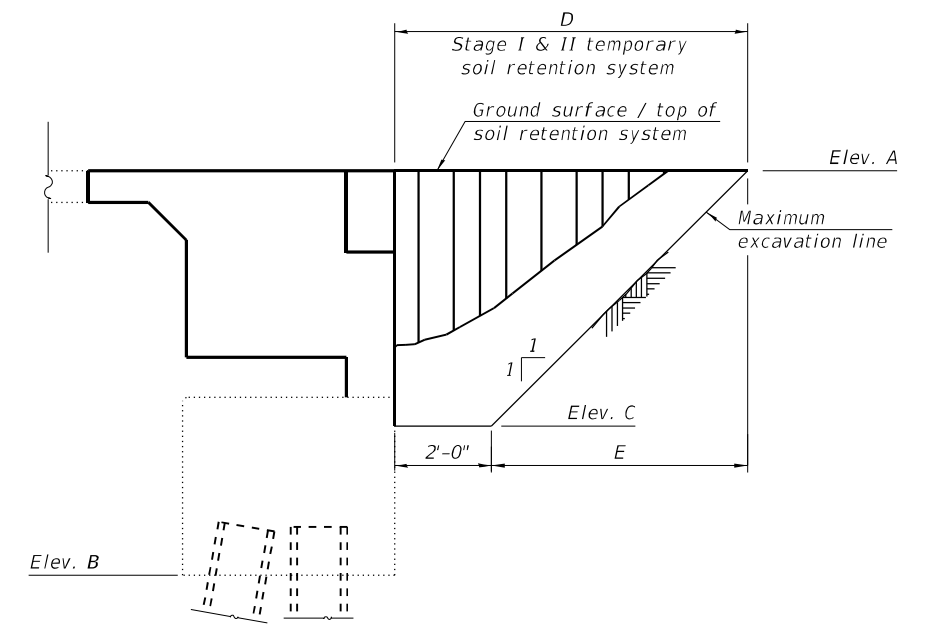
STAGE II REMOVAL
(Looking in the direction of traffic)



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



TEMPORARY SOIL RETENTION SYSTEM

Location	Elev. A	Elev. B	Elev. C	Dim. D	Dim. E
SN 044-0043 N. Abut.	407.42	399.06	401.76	7'-8"	5'-8"
SN 064-0043 S. Abut.	407.67	399.27	401.97	7'-9"	5'-9"
SN 064-0044 N. Abut.	407.46	399.07	401.77	7'-9"	5'-9"
SN 064-0044 S. Abut.	407.63	399.22	401.92	7'-9"	5'-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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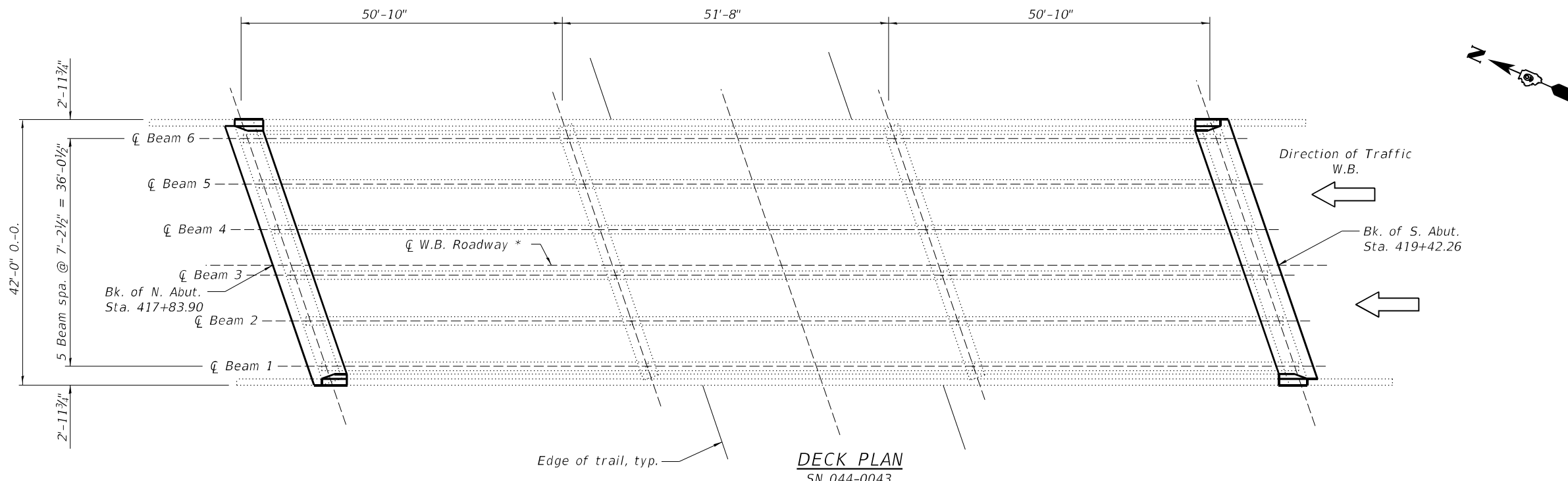
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)**

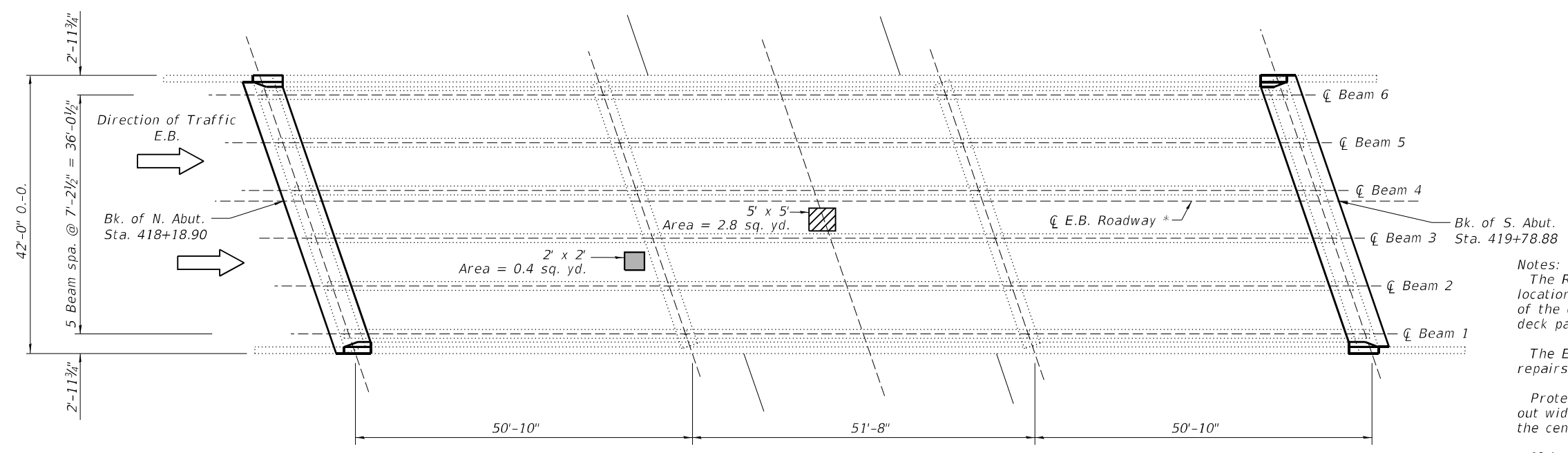
SHEET 3 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	95
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



Legend

- Full Depth, Type I
- Full Depth, Type II



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.

Protective Shield shall be placed the full out to out width of SN 044-0044 for the full length of the center span over Tunnel Hill State Trail.

If it is determined in the field that full depth patches shall be performed within the center span of SN 044-0043, Protective Shield shall be placed the full out to out width of the span. The Contractor shall be paid for actual quantity of Protective Shield placed.

BILL OF MATERIAL

ITEM	UNIT	Total
Protective Shield	Sq. Yd.	230
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	3

PPC I-BEAM REPAIRS S.N. 044-0043		PPC I-BEAM REPAIRS S.N. 044-0044	
Location	Quantity	Location	Quantity
Beam 1 @ N. Abutment	2 Sq. Ft.	Beam 5 @ S. Abutment	2 Sq. Ft.
Beam 5 @ S. Abutment	1 Sq. Ft.	Beam 4 @ S. Abutment	4 Sq. Ft.
Beam 3 @ S. Abutment	1 Sq. Ft.	Beam 3 @ S. Abutment	2 Sq. Ft.
Beam 1 @ S. Abutment	1 Sq. Ft.	Beam 2 @ S. Abutment	2 Sq. Ft.
		Beam 1 @ S. Abutment	1 Sq. Ft.

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.

* Due to roadway curvature, approximate location shown.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PATCHING AND BEAM REPAIR PLAN
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

SHEET 4 OF 24 SHEETS

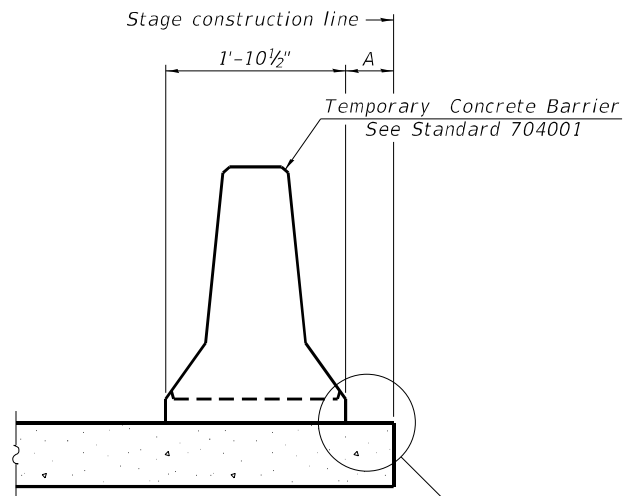
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	96
CONTRACT NO. 78849				

ILLINOIS FED. AID PROJECT

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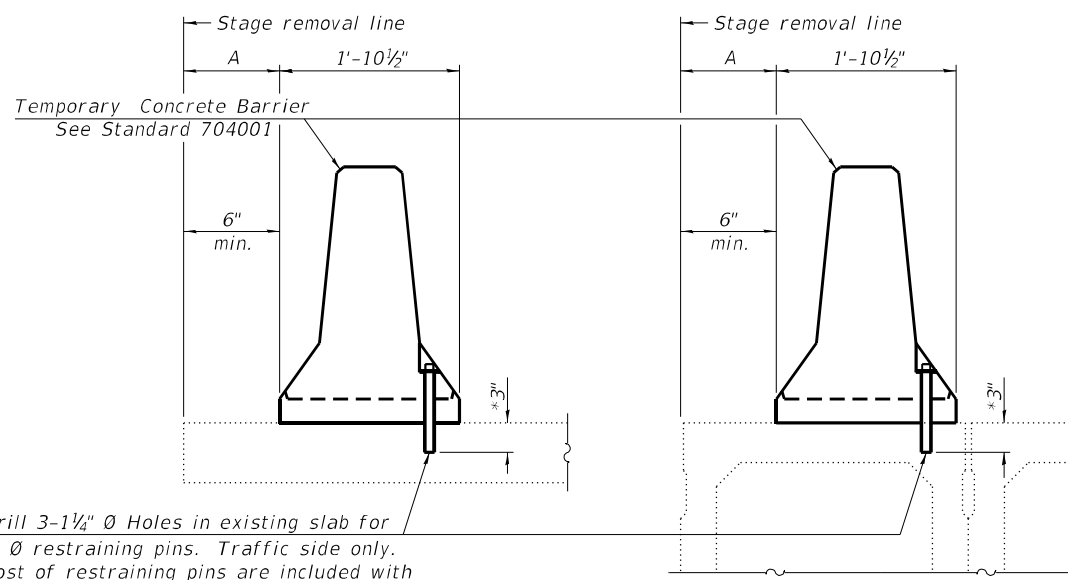


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When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

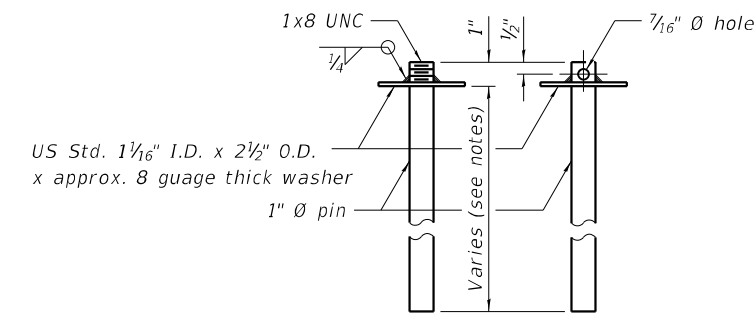


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

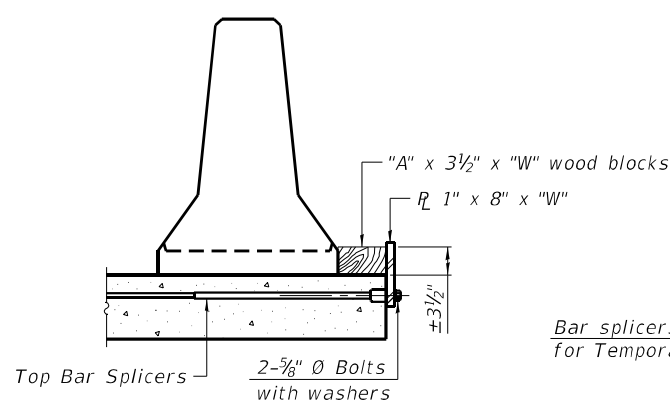
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

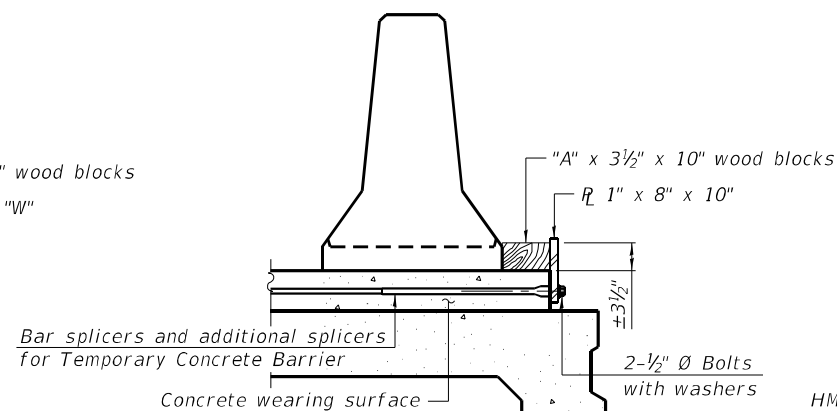


RESTRAINING PIN

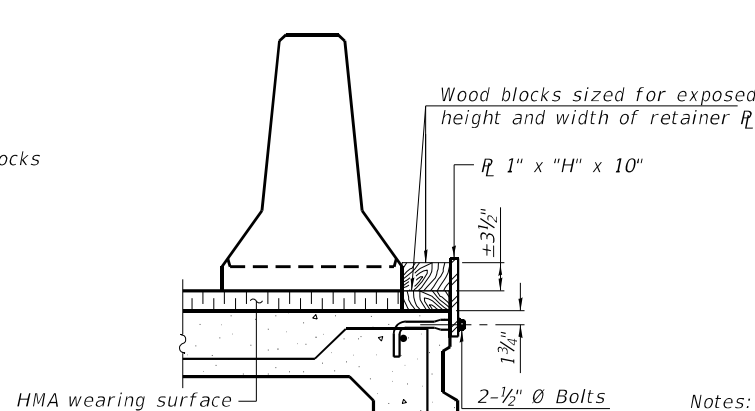
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.



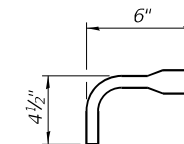
DETAIL I



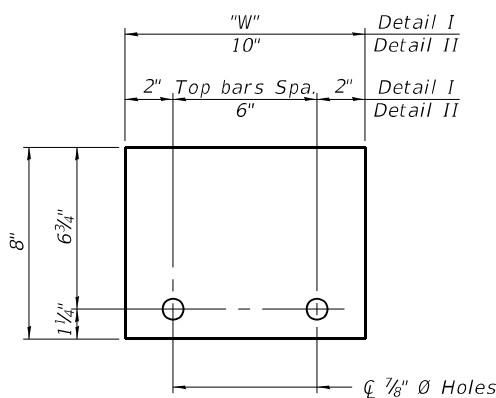
DETAIL II



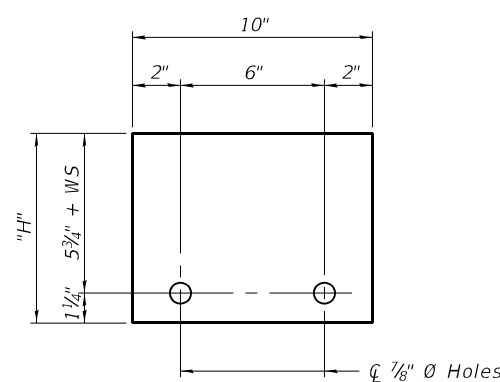
DETAIL III



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 \bar{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.

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R-27 2-17-2017

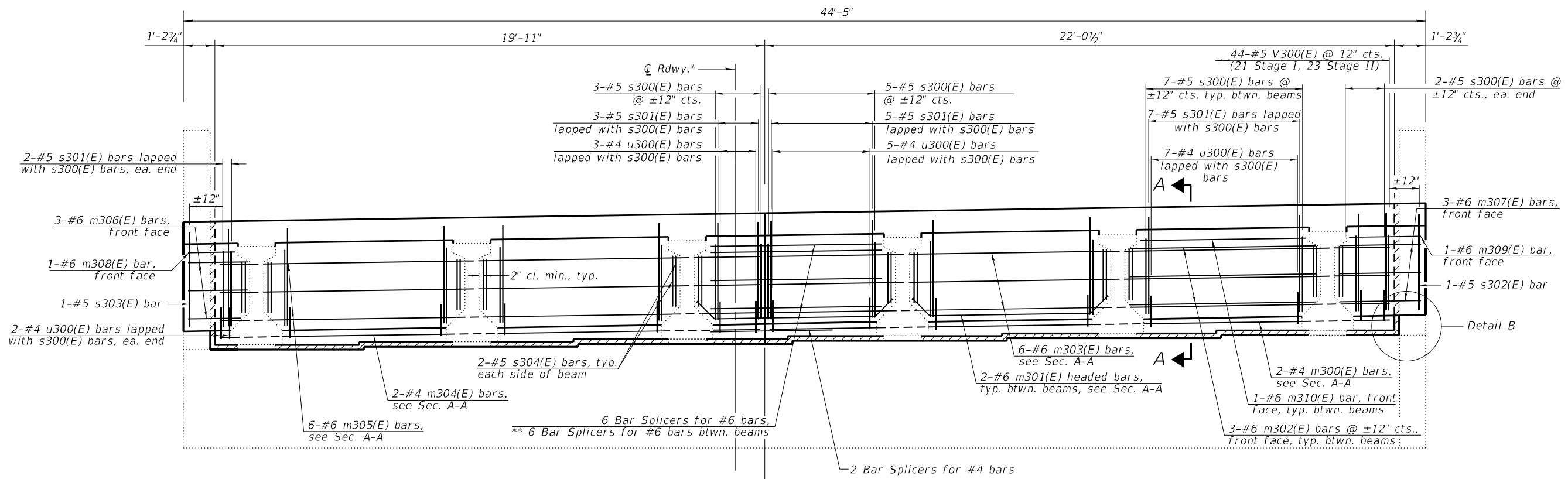
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)

SHEET 5 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	97
CONTRACT NO. 78849				
ILLINOIS FED. AID PROJECT				



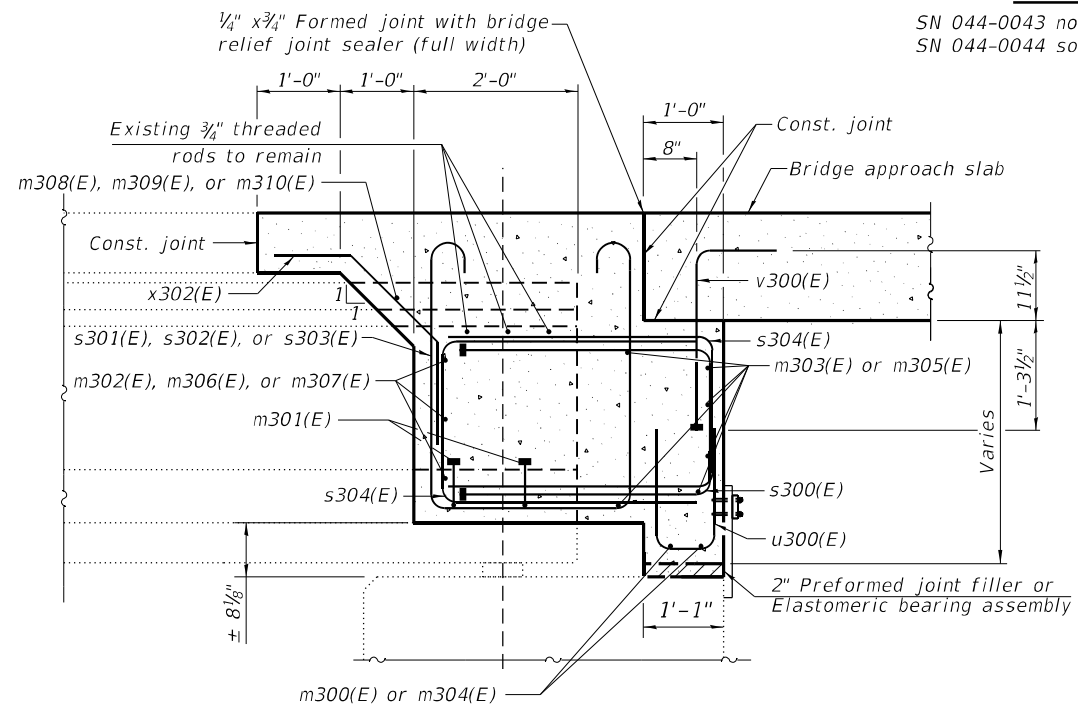
* Due to roadway curvature, approximate location shown.

** Bar Splicers shall act as bars when length is less than required lap length. See Sheet 13 of 24.



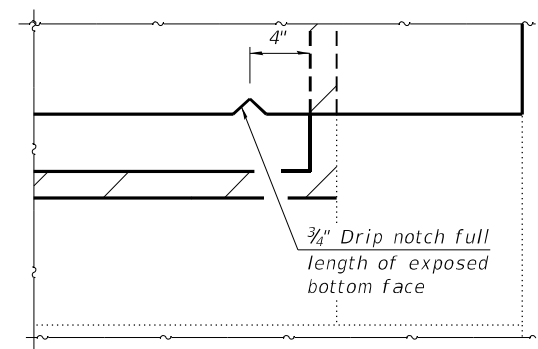
DIAPHRAGM ELEVATION AT ABUTMENT

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



SECTION A-A

(Dimensions measured at right angles)



DETAIL B

Note:
 See Sheet 8 of 24 for additional diaphragm details and Bill of Material.

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

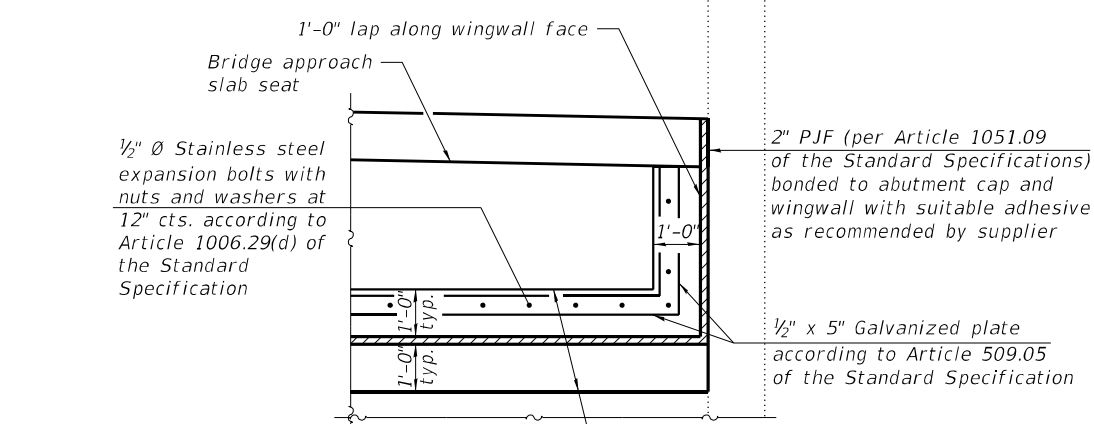
**DIAPHRAGMS
 STRUCTURE NO. 044-0043 (W.B.) & 044-0044 (E.B.)**

SHEET 7 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	99
CONTRACT NO. 78849				

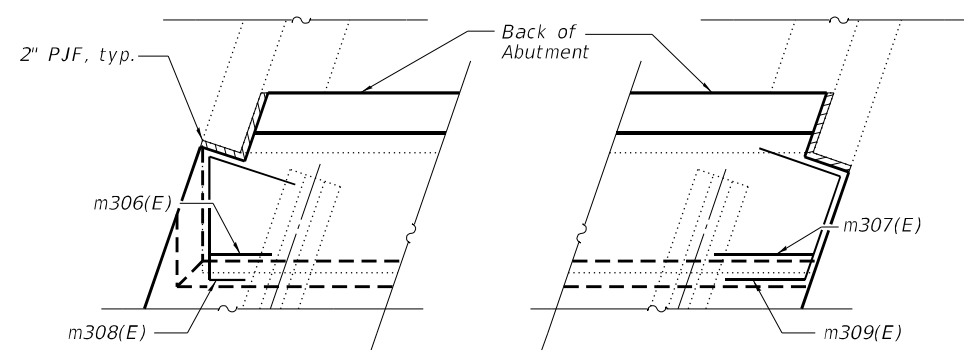
ILLINOIS FED. AID PROJECT

**FOUR DIAPHRAGMS
BILL OF MATERIAL**

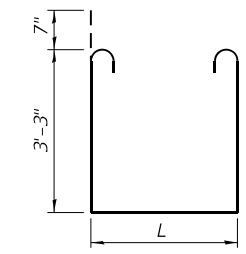


Limits of fabric reinforced elastomeric mat according to Section 1028 of the Standard Specifications and installed according to applicable requirements of Article 520.09 of the Standard Specifications

ELEVATION
(Looking at back of abutment)

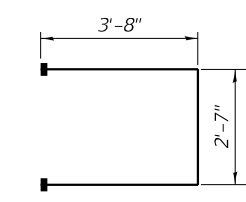


PARTIAL PLAN

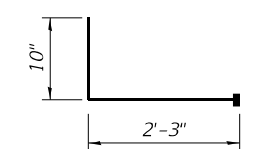


Bar	L
s301(E)	2'-6"
s302(E)	1'-7"
s303(E)	2'-0"

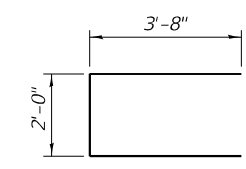
Bar s301(E), s302(E), & s303(E)



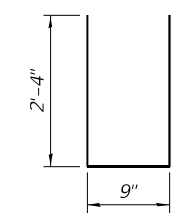
Bar s300(E)



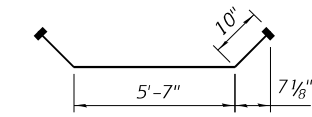
Bar v300(E)



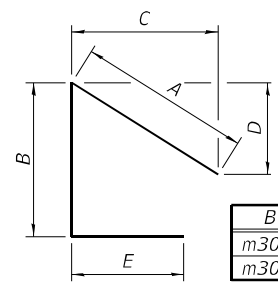
Bar s304(E)



Bar u300(E)

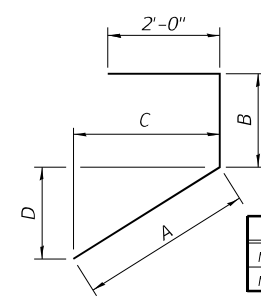


Bar m301(E)



Bar	A	B	C	D	E
m306(E)	2'-0"	2'-1"	1'-10 3/4"	7 3/4"	1'-8"
m308(E)	1'-10"	3'-0"	1'-8 3/4"	7 1/8"	10"

Bar m306(E) & m308(E)



Bar	A	B	C	D
m307(E)	2'-6"	1'-8"	2'-4 3/8"	9 3/4"
m309(E)	2'-1"	2'-8"	1'-11 5/8"	8 1/8"

Bar m307(E) & m309(E)

Bar	No.	Size	Length	Shape	
m300(E)	8	#4	21'-10"	—	
m301(E)	32	#6	7'-3"	—	
m302(E)	48	#6	6'-9"	—	
m303(E)	24	#6	21'-10"	—	
m304(E)	8	#4	19'-9"	—	
m305(E)	24	#6	19'-9"	—	
m306(E)	12	#6	5'-9"	—	
m307(E)	12	#6	6'-2"	—	
m308(E)	4	#6	5'-8"	—	
m309(E)	4	#6	6'-9"	—	
m310(E)	16	#6	5'-10"	—	
s300(E)	160	#5	9'-11"	—	
s301(E)	160	#5	10'-2"	—	
s302(E)	4	#5	9'-3"	—	
s303(E)	4	#5	9'-8"	—	
s304(E)	96	#5	9'-4"	—	
u300(E)	160	#4	5'-5"	—	
v300(E)	176	#5	3'-1"	—	
Reinforcement Bars, Epoxy Coated				Pound	8500
Bar Splicers				Each	56

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 s300(E), s301(E), s302(E), s303(E), s304(E), u300(E), and v300(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 24.

MODEL: Detail
FILE NAME: L:\DOT\1500610\VO_g\DrawStructures\SN 0043 & 0044\08_0043-0044_Diaphragm_Details.rvt



USER NAME = Derek Cochran	DESIGNED - DAC	REVISED -
PLOT SCALE = N/A	CHECKED - JTH	REVISED -
PLOT DATE = 12/1/2021 (9:28:37 AM)	DRAWN - RAH	REVISED -
	CHECKED - JTH	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

SHEET 8 OF 24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	BRIDGE REPAIR 2022-1	JOHNSON	184	100
			CONTRACT NO. 78849	
ILLINOIS FED. AID PROJECT				