

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

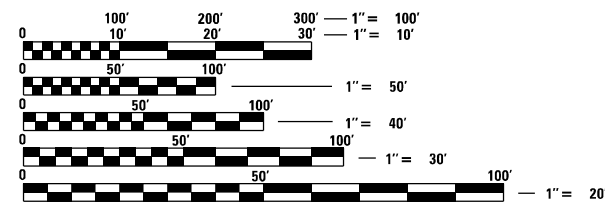
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
668	(28VBR) BP	SANGAMON	12	1
		ILLINOIS	CONTRACT NO. 72N07	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED  
HIGHWAY PLANS

FAP ROUTE 668 (IL 29 / DIRKSEN PKWY)  
SECTION (28VBR) BP  
PROJECT NHPP-C09D(642)  
BRIDGE PAINTING  
SANGAMON COUNTY

C-96-133-21

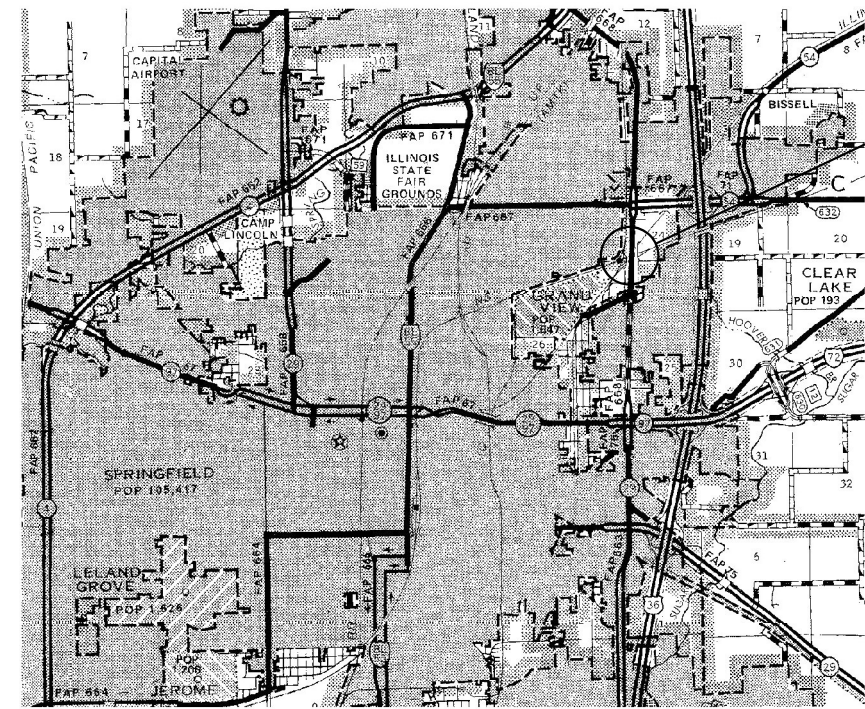


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY - (217) 785-9290

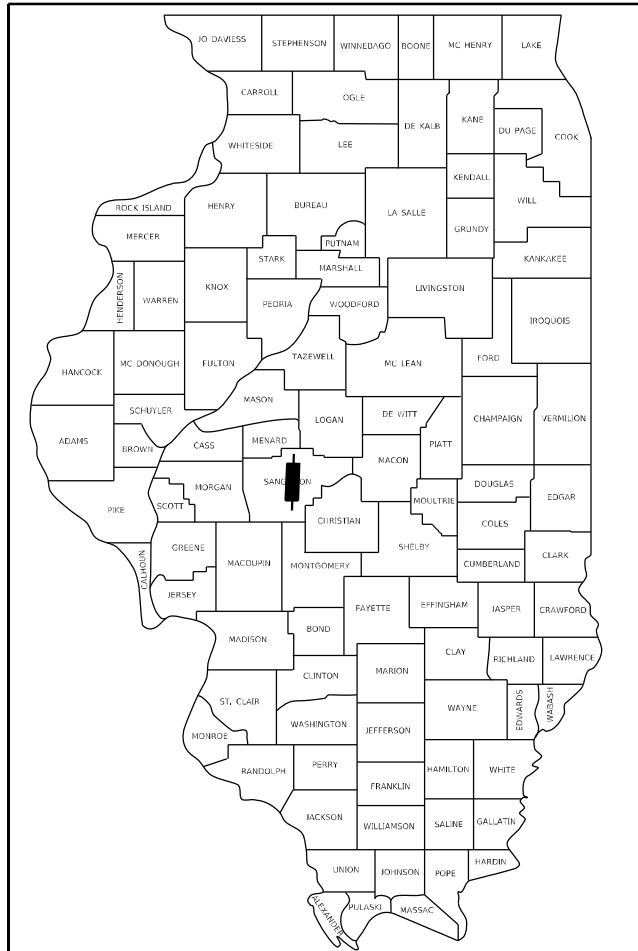
CONTRACT NO. 72N07



LOCATION #1 & #2  
SN 084-0073 (SB) & 0178 (NB)  
IL 29 (DIRKSEN PKWY.)  
OVER NSRR & ICRR  
0.4 MI S SANGAMON AVE.

GROSS LENGTH = 415 FT. = 0.08 MILE  
NET LENGTH = 415 FT. = 0.08 MILE

D-96-060-21



LOCATION OF SECTION INDICATED THIS: - [thick black bar] -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED December 15, 20 21

*John P. Myer* REGIONAL ENGINEER

February 4, 20 22  
*[Signature]* ENGINEER OF DESIGN AND ENVIRONMENT

February 4, 20 22  
*Stephen M. Lavin* DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

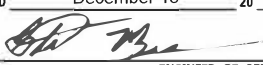
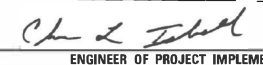
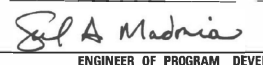
1	COVER SHEET
2	INDEX, STANDARDS, GENERAL NOTES, & SIGNATURES
3	SUMMARY OF QUANTITIES
EXISTING	BRIDGE PLANS (FOR INFORMATION ONLY)
4-12	LOCATION #1 & #2; SN 084-0073 & 0178

HIGHWAY STANDARDS

000001-08
001006
701101-05
701106-02
701423-10
701901-08
704001-08
782006-01

GENERAL NOTES:

1. WORK SHALL CONSIST OF BLASTING AND PAINTING STRUCTURAL STEEL AT LOCATIONS DESCRIBED IN THE SPECIAL PROVISIONS. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL AREAS TO BE PAINTED SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COATS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISIONS.
2. THE USE OF AIR MONITORS WILL BE REQUIRED AT LOCATIONS AS CALLED OUT IN THE SPECIAL PROVISIONS.
3. THE SSPC-QP-1 AND SSPC-QP-2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED.
4. CARE SHALL BE TAKEN NOT TO DAMAGE RUBBER BEARING OR JOINT COMPONENTS DURING BLASTING AND CLEANING OPERATIONS. ANY DAMAGE TO THESE COMPONENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. RUBBER COMPONENTS SHALL NOT BE PAINTED.
5. UPON COMPLETION OF PAINTING OPERATIONS, THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM PIER OR ABUTMENT CAPS UPON WHICH PAINTING OPERATIONS TOOK PLACE. FINAL CLEANUP SHALL BE CONSIDERED INCIDENTAL TO THE PAINT PAY ITEM FOR THE RESPECTIVE LOCATION. THE ENGINEER SHALL HAVE THE RIGHT TO WITHHOLD PAYMENT UNTIL SATISFACTORY CLEANUP IS ACHIEVED.

<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6</b>	
EXAMINED	December 13 20 21
	
ENGINEER OF OPERATIONS	
EXAMINED	December 13 20 21
	
ENGINEER OF PROJECT IMPLEMENTATION	
EXAMINED	December 6 20 21
	
ENGINEER OF PROGRAM DEVELOPMENT	

MODEL: Default  
 FILE NAME: S:\adges\bridgeplans\_CAD\72N07 - 0840073 & 0178\_paintplan-sheet.dgn

REV. - MS

USER NAME = dudleybrm DESIGNED - DRAWN - PLOT SCALE = 100.0000' / in. CHECKED - PLOT DATE = 12/13/2021 DATE -	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, STANDARDS, GENERAL NOTES, &amp; SIGNATURES</b>	F.A.P. RTE. 668	SECTION (28VBR) BP	COUNTY SANGAMON	TOTAL SHEETS 12	SHEET NO. 2	CONTRACT NO. 72N07 ILLINOIS FED. AID PROJECT
SCALE:			SHEET	OF	SHEETS	STA.	TO STA.		

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0-01375-6004	0-01375-6004
				NHPP 80/20	NHPP 80/20
				SN 084-0073 0047-URBAN SANGAMON	SN 084-0178 0047-URBAN SANGAMON
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100325	TRAFFIC CONTROL AND PROTECTION, STANDARD 701423	EACH	1	1	0
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	120	120	0
70400100	TEMPORARY CONCRETE BARRIER	FOOT	650	650	0
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1	1	0
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1	1	0
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	0
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1	0	1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1	0
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	0	1
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	0.5	0.5

MODEL: Default  
 FILE NAME: S:\Addresses\Bridges\Bridges\_CAD\72N07 - 0840033 & 0178 main\tblbrkrec.dgn

USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 12/13/2021	DATE -	REVISED -

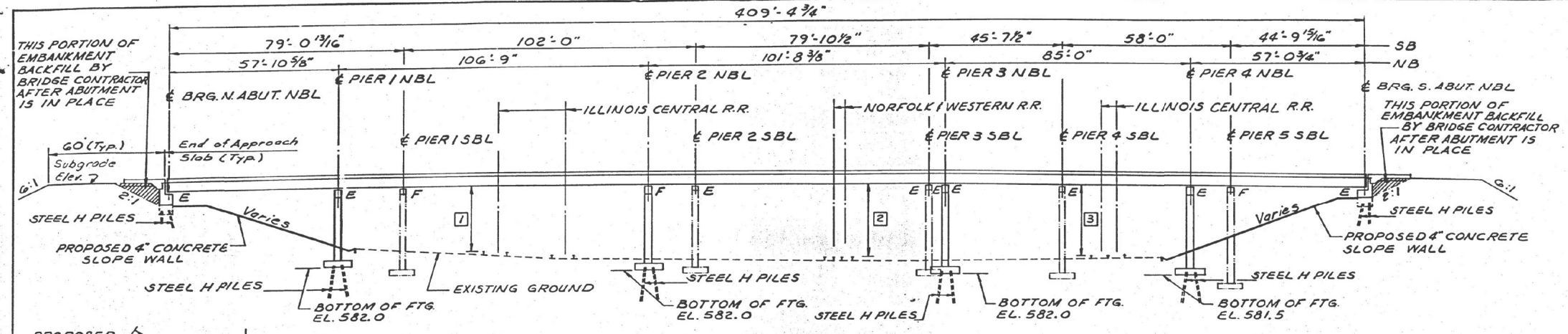
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
668	(28VBR) BP	SANGAMON	12	3
			CONTRACT NO. 72N07	
ILLINOIS FED. AID PROJECT				

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. /
FAU8041	28VBR	SANGAMON	84	29	30
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



**DESIGN STRESSES**

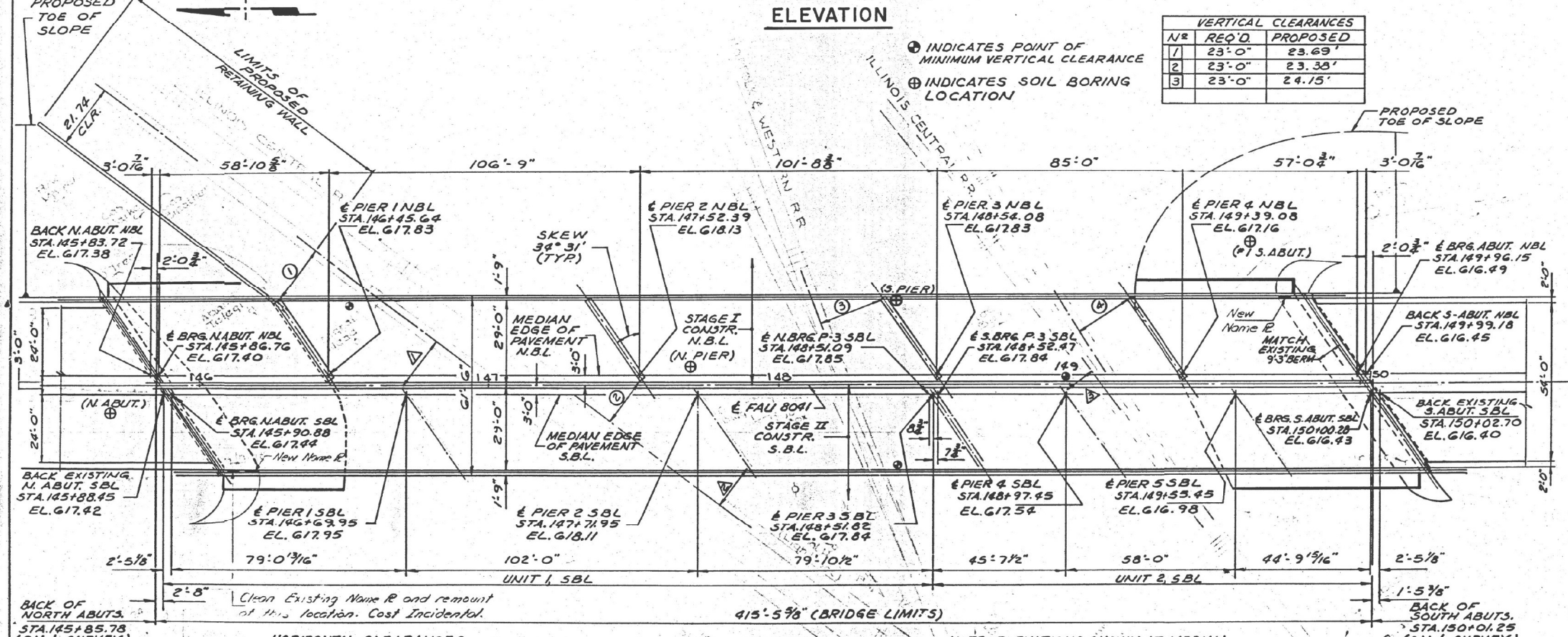
**SUPERSTRUCTURE:**  
 $F_c = 3,500$  P.S.I. - CONCRETE  
 $F_y = 60,000$  P.S.I. - REINFORCEMENT  
 $F_y = 50,000$  P.S.I. - STRUCTURAL STEEL

**SUBSTRUCTURE:**  
 $F_c = 3,500$  P.S.I. - CONCRETE  
 $F_y = 60,000$  P.S.I. - REINFORCEMENT

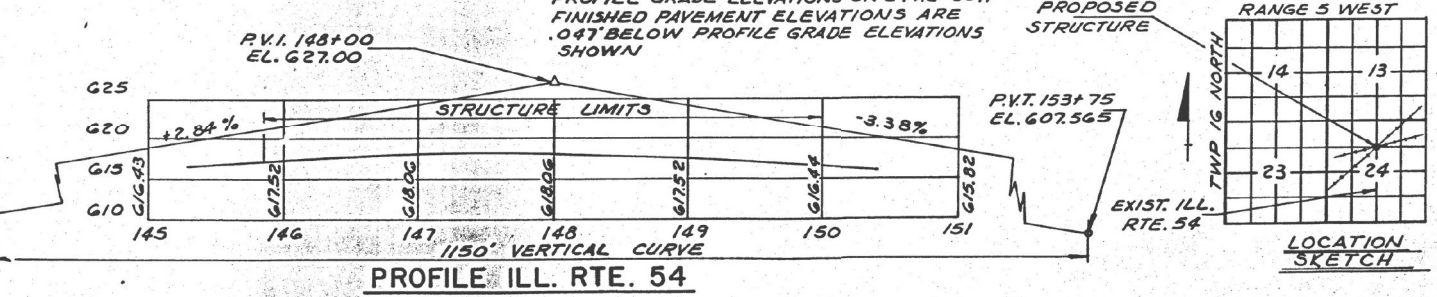
**LOADING:**  
 LIVE LOAD: HS20-44  
 FUTURE W.S.: 25 LBS./SQ. FT.

**DESIGN SPECIFICATIONS**  
 1977 AASHTO SPECIFICATION 1978, 1979, 1980,  
 1981 INTERIM SPECIFICATIONS.

VERTICAL CLEARANCES		
N <sup>o</sup>	REQ'D	PROPOSED
1	23'-0"	23.69'
2	23'-0"	23.38'
3	23'-0"	24.15'



HORIZONTAL CLEARANCES					
NB PIERS			SB PIERS (EXISTING)		
N <sup>o</sup>	REQ'D	PROPOSED	N <sup>o</sup>	REQ'D	EXISTING
1	18'-0"	20.21	1	18'-0"	19.00'
2	12'-6"	16.18	2	12'-6"	15.45'
3	18'-0"	21.16	3	12'-0"	9.75'
4	12'-0"	22.22			



**EXISTING STRUCTURE** - STA. 148+05.62, #084-0073  
 BUILT AS F.A. ROUTE 169, SEC'S. 28 VBR-F.A.G.H. AND 28 VV-F.A.G.H., IN 1939.

**SUPERSTRUCTURE:** ROLLED STEEL BEAMS AND REINFORCED CONCRETE DECK.

**SUBSTRUCTURE:** OPEN ABUTMENTS CONSTRUCTED ON REINFORCED CONCRETE PEDESTALS SUPPORTED BY REINFORCED CONCRETE FOOTINGS ON PILES. (ABUTMENT 1 ONLY, ABUTMENT 2 IS SUPPORTED ON SPREAD FOOTINGS.) REINFORCED CONCRETE FRAME PIERS ON PILES.

CONTRACTOR SHALL REMOVE THE EXISTING SUPERSTRUCTURE AND PORTIONS OF THE EXISTING SUBSTRUCTURES AS NOTED.

**STAGE CONSTRUCTION**  
 CONSTRUCT THE NEW NORTHBOUND STRUCTURE PRIOR TO REMOVING THE EXISTING BRIDGE SUPERSTRUCTURE, MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES DURING ALL STAGES OF CONSTRUCTION.

**APPROVED**  
 FOR STRUCTURAL ADEQUACY ONLY

*Carl E. Hummer*  
 Engineer of Bridges and Structures

BENCH MARK CHISELED ON EXISTING S.W. WINGWALL, STA. 150+20 ELEV. 614.87

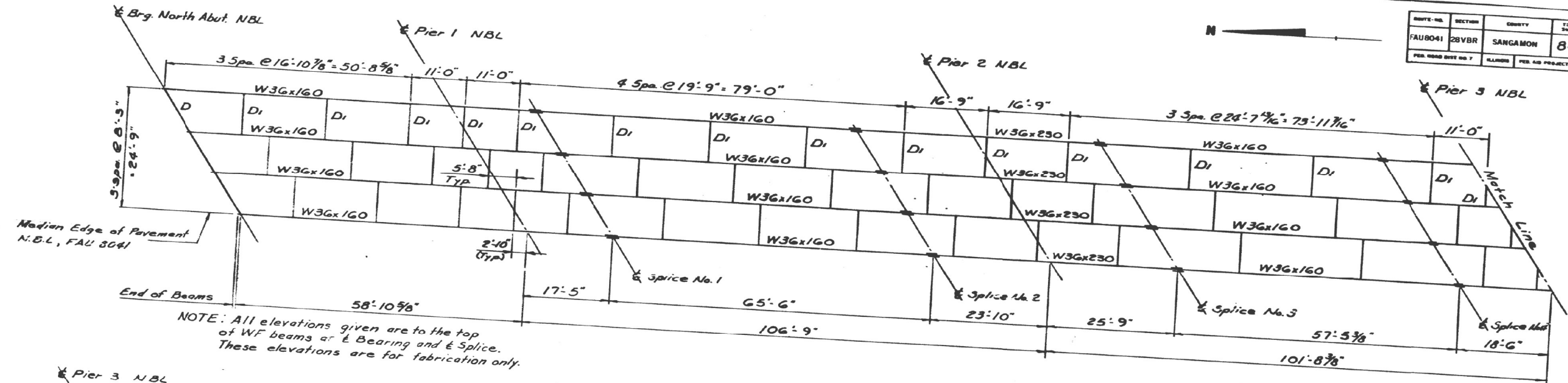


*Edward T. Sablitzky*

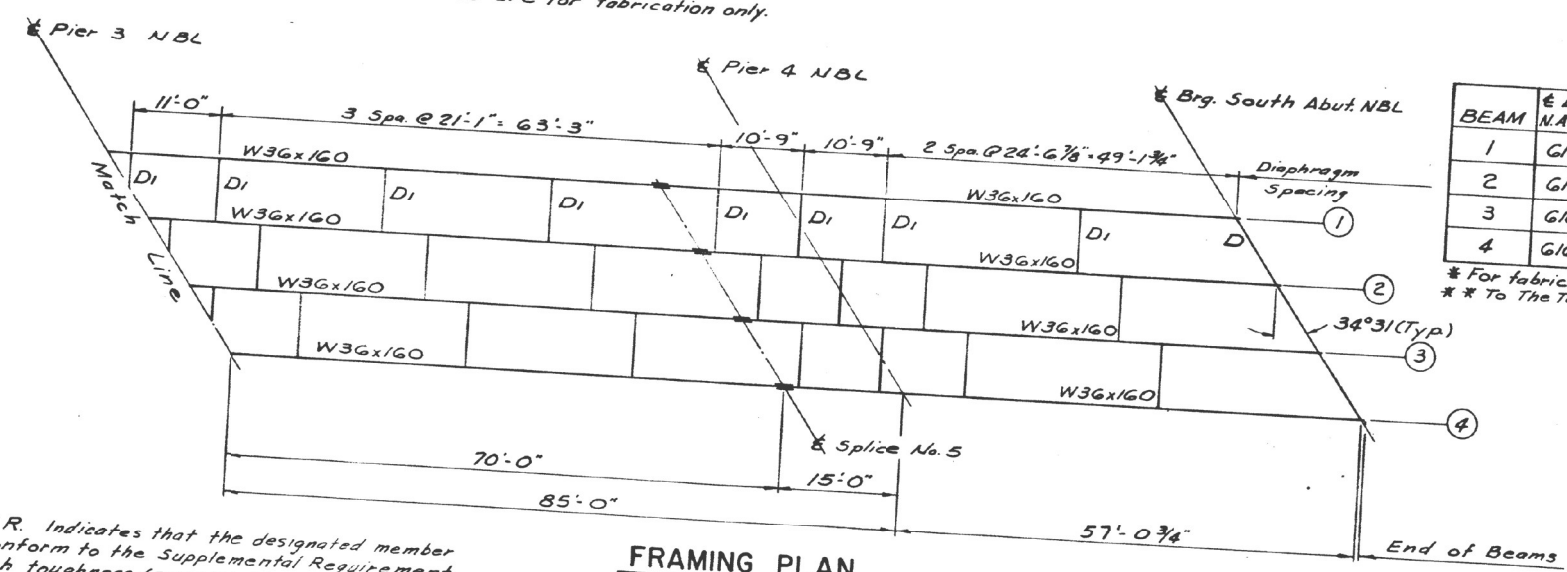
**GENERAL PLAN & ELEVATION**  
 ILL. RTE. 54 OVER  
 ILL. CENTRAL R.R. &  
 NORFOLK & WESTERN R.R.  
 FAU 8041  
 SECTION 28 VBR  
 SANGAMON COUNTY  
 STA. 147+94.62 (NB & SB)  
 DALTON-DALTON-NEWPORT  
 CONSULTING ENGINEERS - AKRON, OHIO

DESIGNED	RLF
CHECKED	ALH
DRAWN	F.F.
CHECKED	ALH

USER NAME = dudleydm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	F.A.P. RTE. = 668	SECTION = (28VBR) BP	COUNTY = SANGAMON	TOTAL SHEETS = 12	SHEET NO. = 4
PLOT SCALE = 100,000' / 1 in.	CHECKED -	REVISED -	EXISTING BRIDGE PLANS, SN 084-0073 (SB) & 0178 (NB) (FOR INFORMATION ONLY)	SCALE:	SHEET OF SHEETS	STA. TO STA.	CONTRACT NO. 72N07	ILLINOIS / FED. AID PROJECT
PLOT DATE = 12/13/2021	DATE -	REVISED -						



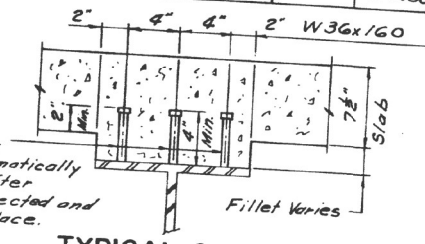
NOTE: All elevations given are to the top of WF beams at bearing and splice. These elevations are for fabrication only.



NOTE: N.T.R. Indicates that the designated member shall conform to the Supplemental Requirement for notch toughness (Zone 2). These members include all main beams and splice plates.

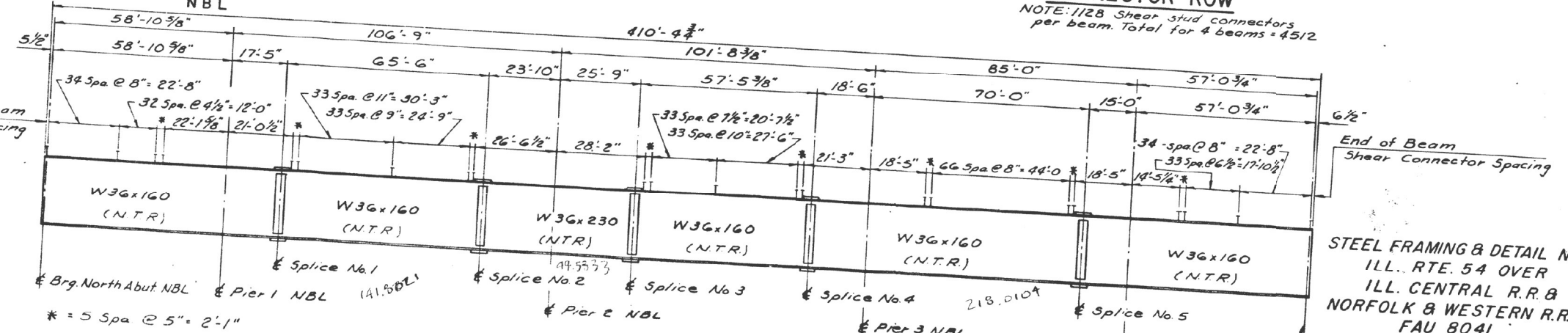
BEAM	TOP OF BEAM ELEVATIONS *										
	€ BRG. N.A. NBL	PIER N°1	SPLICE N°1	SPLICE N°2	PIER N°2	SPLICE N°3	SPLICE N°4	PIER N°3	SPLICE N°5	PIER N°4	€ BRG. S.A. NBL
1	616.14	616.62	616.74	617.00	617.01	617.00	616.91	616.80	616.34	616.19	615.60
2	616.32	616.78	616.91	617.14	617.14	617.12	617.01	616.90	616.42	616.27	615.66
3	616.50	616.95	617.06	617.28	617.28	617.25	617.12	617.00	616.50	616.34	615.71
4	616.68	617.11	617.22	617.41	617.40	617.37	617.22	617.10	616.58	616.41	615.77

\* For fabrication only  
\*\* To The Top of W36x160



3/4" Granular or solid flux filled headed studs automatically and welded to flange after the beams have been erected and the deck forms are in place. (N° Req'd: 4512)

**FRAMING PLAN**  
NBL



**BEAM ELEVATION**  
NBL

DESIGNED	HK II
CHECKED	RER
DRAWN	E.F.
CHECKED	RER

**TYPICAL SHEAR CONNECTOR ROW**  
NOTE: 1128 Shear stud connectors per beam. Total for 4 beams = 4512

STEEL FRAMING & DETAIL NBL  
ILL. RTE. 54 OVER  
ILL. CENTRAL R.R. &  
NORFOLK & WESTERN R.R.  
FAU 8041  
SECTION 28 VBR  
SANGAMON COUNTY  
STA. 147+94.62(NB & SB)  
DALTON-DALTON, NEWPORT

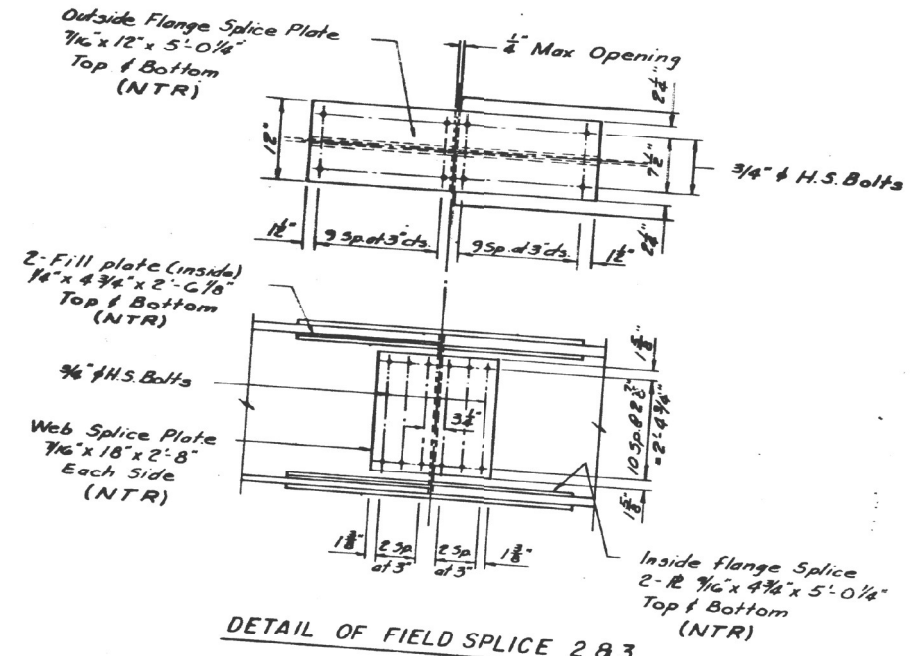
MODEL: Default  
FILE NAME: S:\Address\Bridges\SN\_084\0073 & 0178\main\brnrcr.dgn

**BEAM MOMENT TABLE N.B.L.**

		.4 SP. 1		N.B.L. PIER 1		.5 SP. 2		N.B.L. PIER 2		.5 SP. 3		N.B.L. PIER 3		.5 SP. 4		N.B.L. PIER 4		.6 SP. 5		
Is	(IN. <sup>4</sup> )	9.750	9.750	9.750	15.000	9.750	9.750	9.750	9.750	9.750	9.750	9.750	9.750	9.750	9.750	9.750	9.750	9.750	9.750	9.750
Ic	(IN. <sup>4</sup> )	23.776	-	23.776	-	23.776	-	23.776	-	23.776	-	23.776	-	23.776	-	23.776	-	23.776	-	23.776
Ss	(IN. <sup>3</sup> )	542	542	542	837	542	542	542	542	542	542	542	542	542	542	542	542	542	542	542
Sc (N=27, N=9)	(IN. <sup>3</sup> )	688/758	-	688/758	-	688/758	-	688/758	-	688/758	-	688/758	-	688/758	-	688/758	-	688/758	-	688/758
Z	(IN. <sup>3</sup> )	-	624	-	943	-	624	-	943	-	624	-	943	-	624	-	943	-	624	-
DL	(K/1)	0.98	0.98	0.98	1.05	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
MdL	(IK)	161	620	590	964	469	608	356	424	236										
MSdL	(IK)	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305
MLL	(IK)	61	169	214	272	171	173	131	116	81										
MIMP	(IK)	536	425	900	635	871	464	719	326	524										
S/3 (MLL+I)	(IK)	102	106	199	140	192	107	173	85	141										
1.3 (MDL+MSdL+S/3 (MLL+I))	(IK)	1.139	885	1.832	1.292	1.772	952	1.487	685	1.108										
FULLY PLASTIC MOMENT Cap.y	(IK)	1.769	2.176	3.427	3.286	3.136	2.253	2.566	1.593	1.853										
FS DL NON COMP	(KSI)	4.117	2.600	4.117	3.929	4.117	2.600	4.117	2.600	4.117										
FS SDL COMP	(KSI)	3.6	13.7	13.1	13.8	10.4	13.5	7.9	9.4	5.2										
FS S/3 (LL+I)	(KSI)	1.1	3.7	5.7	3.9	3.0	3.8	2.3	2.6	1.4										
FS DL+SDl+S/3 (LL+I)	(KSI)	18.0	19.6	29.0	18.5	28.1	21.1	23.5	15.2	17.5										
FS OVERLOAD CAPACITY	(KSI)	22.7	37.0	45.8	36.2	41.5	38.4	33.7	27.2	24.1										
VR	(K)	47.5	40.0	47.5	40.0	47.5	40.0	47.5	40.0	47.5										
	(K)	65.2	-	55.8	-	55.9	-	56.7	-	63.4										

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUBO41	28VBR	SANGAMON	84	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

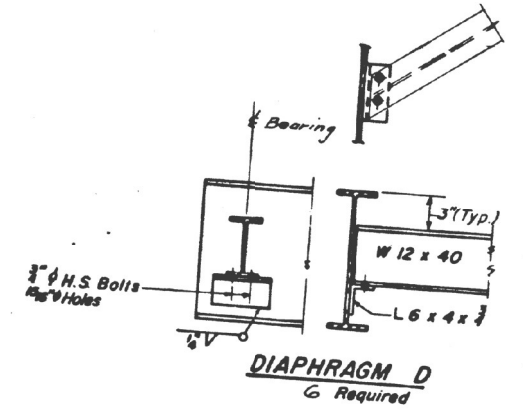
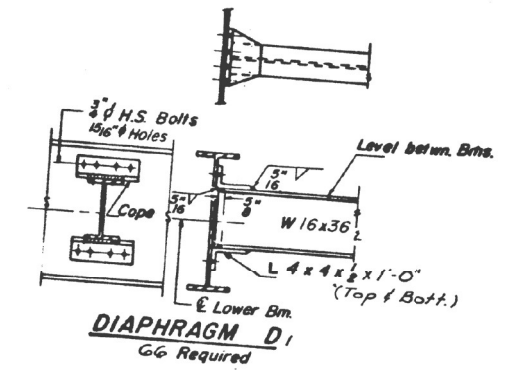
SHEET NO. 40  
SHEETS 36



**NORTHBOUND - INTERIOR BEAM REACTION TABLE**

	ABUT.	PIER #1	PIER #2	PIER #3	PIER #4	ABUT.
R <sub>D</sub> (K)	22.5	115.6	144.2	116.9	97.6	25.8
R <sub>L</sub> (K)	43.6	55.4	75.6	58.8	59.4	44.1
IMP (K)	12.8	16.3	15.6	15.8	15.5	11.9
R TOTAL (K)	78.9	197.3	236.4	201.5	172.5	81.8

5 span non-symmetrical structure composite in positive moment areas.

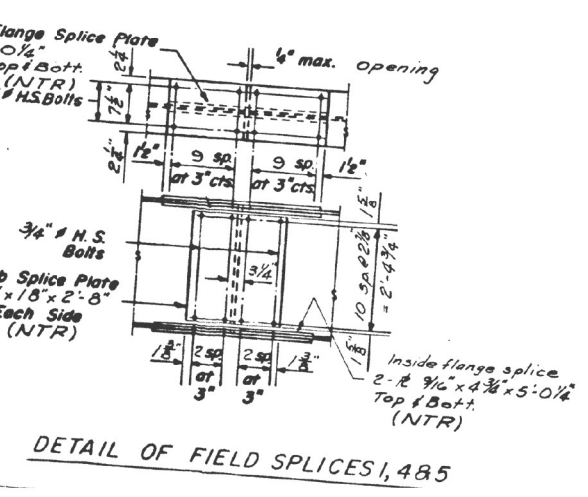


Note: Two hardened washers shall be required over all 1 1/16 inch holes. All contact surfaces of joints shall be free of paint or lacquer.

Is and Ss are the moment of inertia and section modulus of the steel section used in computing Is (overload)  
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing Is (overload)  
VR is the maximum & impact shear range in span used to determine shear connector spacing.  
The Fully Plastic Moment Capacities are computed according to AASHTO 1.7.59 (A) & 1.7.62 (A).  
1.3 (M<sub>0</sub> + S<sub>3</sub> (M<sub>0</sub> + I)).  
fs (overload) is the sum of the stresses due to M<sub>0</sub> + S<sub>3</sub> (M<sub>0</sub> + I).

DESIGNED	HKII
CHECKED	RER
DRAWN	FF
MECKED	RER

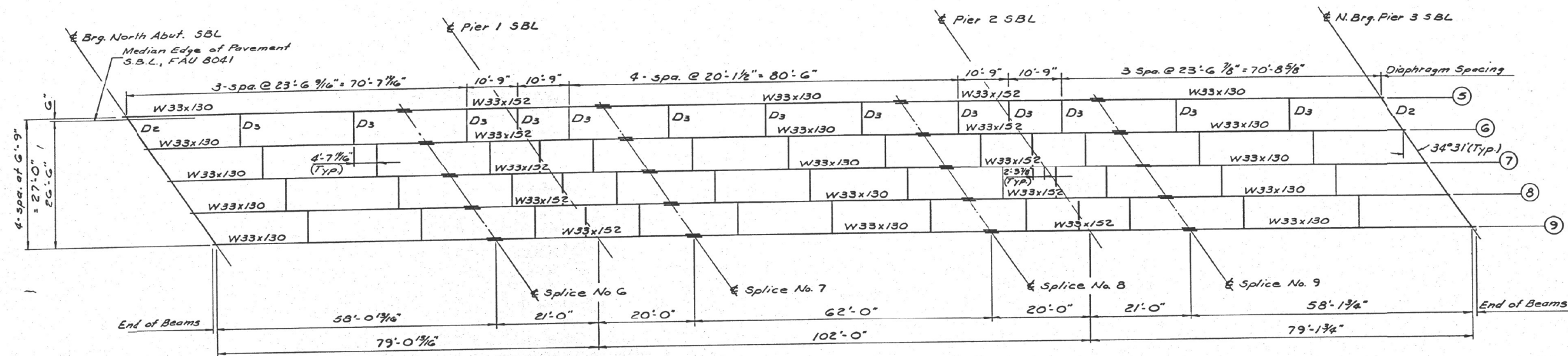
**NORTHBOUND**



**STEEL DETAILS & STRESS TABLE NBL  
ILL. RTE. 54 OVER  
ILL. CENTRAL R.R. &  
NORFOLK & WESTERN R.R.  
FAU 8041  
SECTION 28 VBR  
SANGAMON COUNTY  
STA. 147+94.62 (NB & SB)**

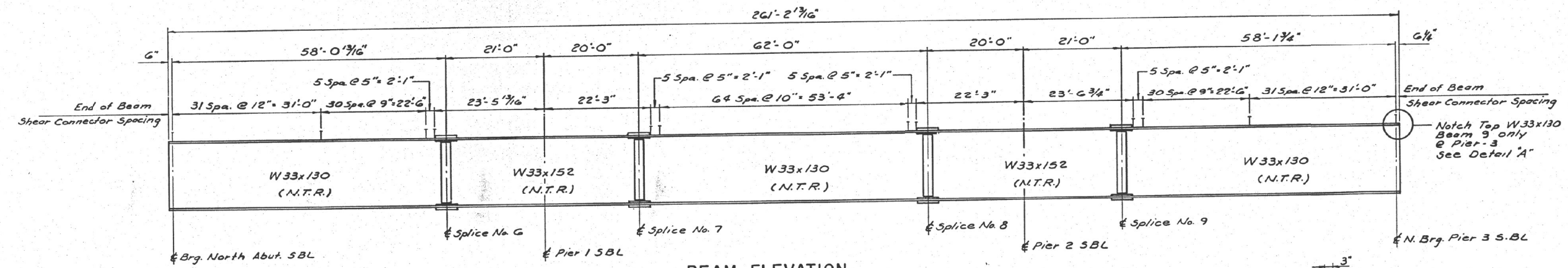
MODEL: D:\p\h\... FILE NAME: S:\Addresses\Bridges\sbas\_CAD\72N07 - 0840073 & 0178 main\brnrec.dgn

USER NAME = dudleybm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		EXISTING BRIDGE PLANS, SN 084-0073 (SB) & 0178 (NB) (FOR INFORMATION ONLY)		F.A.P. RTE. 668	SECTION (28VBR) BP	COUNTY SANGAMON	TOTAL SHEETS 12	SHEET NO. 6
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -			SCALE: SHEET OF SHEETS STA. TO STA.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 72N07		
PLOT DATE = 12/13/2021	DATE -	REVISED -									



**FRAMING PLAN**  
UNIT-1 SBL

NOTE: All elevations given are to the top of WF beams of & Bearing and & Splice. These elevations are for fabrication only.

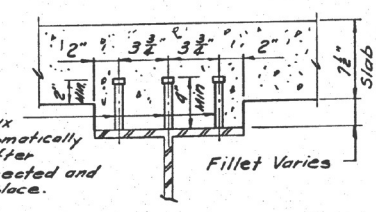


**BEAM ELEVATION**  
UNIT-1 SBL

NOTE: N.T.R. Indicates that the designated member shall conform to the Supplemental Requirement for notch toughness (zone 2). These members include all main beams and splice plates.

BEAM	TOP OF BEAM ELEVATION*							
	€ BRG. N.A. SBL	SPLICE N# 6	PIER N# 1	SPLICE N# 7	SPLICE N# 8	PIER N# 2	SPLICE N# 9	€ N. BRG. PIERN# 3
5	G16.72	G17.12	G17.24	G17.32	G17.42	G17.40	G17.35	G17.14
6	G16.66	G17.04	G17.15	G17.23	G17.31	G17.29	G17.24	G17.01
7	G16.59	G16.96	G17.06	G17.14	G17.21	G17.18	G17.12	G16.87
8	G16.52	G16.88	G16.98	G17.05	G17.10	G17.06	G17.00	G16.74
9	G16.46	G16.80	G16.89	G16.96	G17.00	G16.95	G16.89	G16.61

\* For fabrication only  
\*\* To The Top of W33x152



**DETAIL "A"**

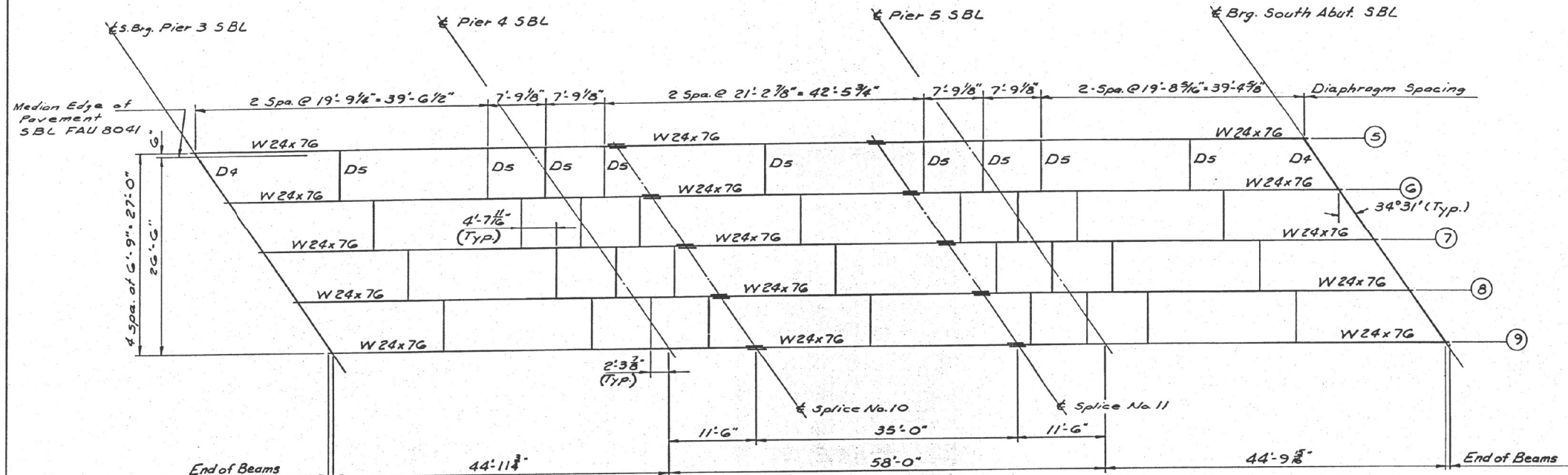
**TYPICAL SHEAR CONNECTOR ROW**

NOTE: 627 Shear stud connectors required per beam. Total for 5 beams = 3135

**STEEL FRAMING & DETAIL UNIT-1 SBL**  
ILL. RTE. 54 OVER ILL. CENTRAL R.R. & NORFOLK & WESTERN R.R. FAU 8041  
SECTION 28 VBR SANGAMON COUNTY STA. 147+94.62(NB & SB) DALTON-DALTON-NEWPORT CONSULTING ENGINEERS - AKRON, OHIO

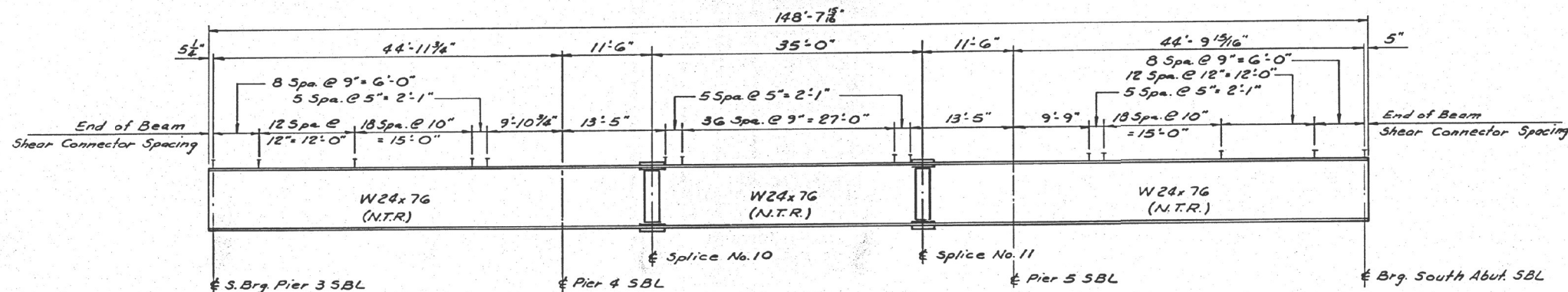
DESIGNED	KI
CHECKED	RE
DRAWN	F.F.
CHECKED	RE

MODEL: Default  
FILE NAME: S:\Addresses\Bridges\Bridges\_CAD\721807 - 0840073 & 0178 main\brn\brn.dgn



Note: All elevations given are to the top of WF beams at  $\bar{\bar{c}}$  Bearing &  $\bar{\bar{c}}$  Splice. These elevations are for fabrication only.

**FRAMING PLAN**  
UNIT-2 SBL



Note: "N.T.R." Indicates that the designated member shall conform to the Supplemental Requirement for notch toughness (zone 2). These members include all main beams and splice plates.

**BEAM ELEVATION**  
UNIT-2 SBL

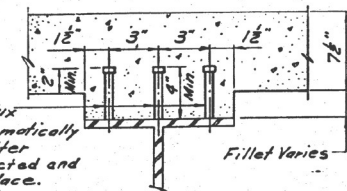
TOP OF BEAM ELEVATIONS \*

BEAM	€ S.BRG. PIER #3	PIER N#4	SPLICE N#10	SPLICE N#11	PIER N#5	€ BRG. S.A.SBL
5	617.13	616.81	616.73	616.39	616.26	615.73
6	617.00	616.67	616.58	616.24	616.10	615.56
7	616.87	616.52	616.43	616.08	615.94	615.39
8	616.74	616.38	616.28	615.93	615.78	615.22
9	616.61	616.24	616.14	615.78	615.63	615.05

\* For fabrication only

DESIGNED	HKI
CHECKED	RER
DRAWN	F.F.
CHECKED	RER

3/4"  $\phi$  Granular or solid flux filled headed studs automatically and welded to flange after the beams have been erected and the deck forms are in place. (N<sup>o</sup> Req'd = 2025)



**TYPICAL SHEAR CONNECTOR ROW**

NOTE: 405 Shear stud connectors required per beam. Total for 5 beams = 2025

**STEEL FRAMING & DETAIL**  
UNIT-2 SBL  
ILL. RTE. 54 OVER  
ILL. CENTRAL R.R. &  
NORFOLK & WESTERN R.R.  
FAU 8041  
SECTION 28 VBR  
SANGAMON COUNTY  
STA. 147+94.62 (NB & SB)  
DALTON-DALTON-NEWPORT  
CONSULTING ENGINEERS - AKRON, OHIO

USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 12/13/2021	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 084-0073 (SB) & 0178 (NB)  
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
668	(28VBR) BP	SANGAMON	12	8
CONTRACT NO. 72N07				
ILLINOIS FED. AID PROJECT				

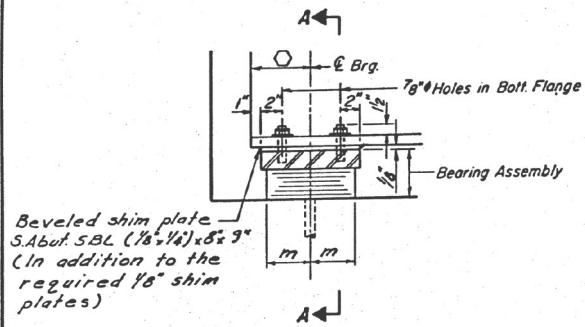




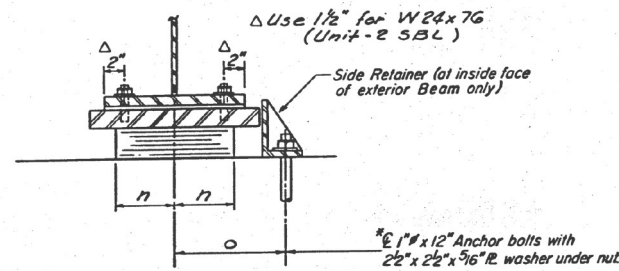
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU8041	28VBR	SANGAMON	84	44
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

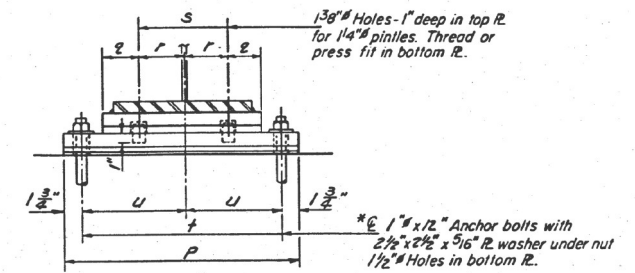
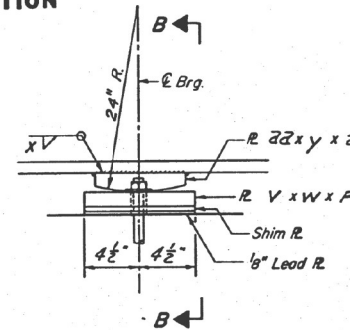
SHEET NO. 16  
SHEETS 30



SECTION AT ABUT.



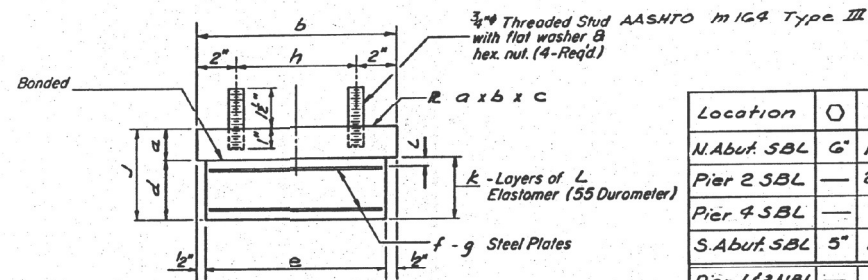
SECTION A-A



SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.

\*Note: After Beam have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



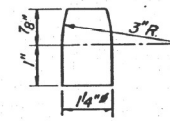
BEARING ASSEMBLY

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

BEARING DIMENSIONS

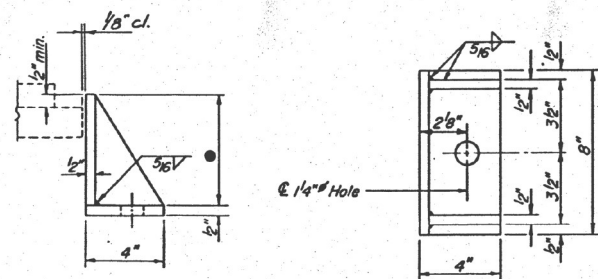
Location	O	a	b	c	d	e	f	g	h	J	k	L	m	n	o
N. Abut. SBL	6"	1 3/4"	10"	1'-2 1/2"	3 3/16"	9"	6"	3 3/32"	6"	4 9/16"	7"	3/8"	4 1/2"	6"	9 1/2"
Pier 2 SBL	—	2 3/4"	13"	1'-8"	3 9/16"	1'-0"	4"	3 1/16"	9"	6 3/16"	5"	9/16"	6"	9"	12 1/4"
Pier 4 SBL	—	2"	11"	1'-4"	2 1/16"	10"	4"	1/8"	7"	4 1/16"	5"	7/16"	5"	7"	10 1/4"
S. Abut. SBL	5"	1 3/4"	8"	1'-2"	1 3/4"	7"	3"	3/32"	4"	3 1/2"	4"	3/8"	3 1/2"	6"	9 1/4"
Pier 1 & 3 NBL	—	3"	13"	1'-10"	3 1/16"	1'-0"	3"	3/16"	9"	6 1/16"	4"	9/8"	6"	10"	13 1/4"

PINLE



BEARING DIMENSIONS

Location	p	q	r	s	t	u	v	w	x	y	z	2a
Pier 1 SBL	1'-8"	3"	3 1/4"	6 1/2"	1'-4 1/2"	8 1/4"	1 5/8"	9"	1/2"	9"	1'-0 1/2"	1 5/8"
Pier 5 SBL	1'-5 1/2"	2 1/2"	2 1/2"	5"	1'-2"	7"	1 3/8"	9"	9/16"	9"	10"	1 1/2"



SIDE RETAINER

Location	•
N. Abut. SBL	5"
Pier 2 SBL	6 3/8"
Pier 4 SBL	4 7/8"
S. Abut. SBL	3 1/2"
Pier 1 & 3 NBL	6 1/8"

DESIGNED	RLF
CHECKED	HKII
DRAWN	F.F.
CHECKED	HKII

I-2-EI - 8-30-80

BEARING DETAILS  
ILL. RTE. 54 OVER  
ILL. CENTRAL R.R. &  
NORFOLK & WESTERN R.R.  
FAU 8041  
SECTION 28 VBR  
SANGAMON COUNTY  
STA. 147+94.62 (NB & SB)  
DALTON · DALTON · NEWPORT  
CONSULTING ENGINEERS - AKRON, OHIO

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

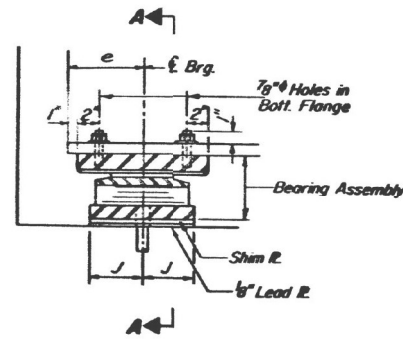
EXISTING BRIDGE PLANS, SN 084-0073 (SB) & 0178 (NB)  
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

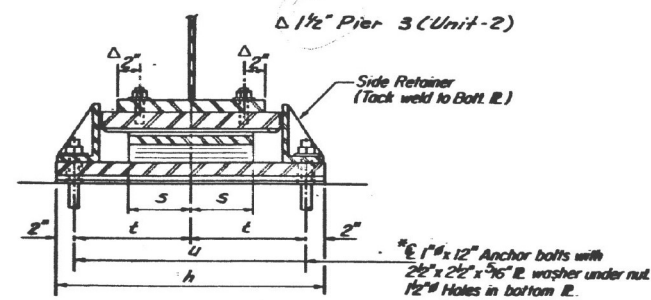
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
668	(28VBR) BP	SANGAMON	12	10
CONTRACT NO. 72N07				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAU8041	28VBR	SANGAMON	84	45
SHEET NO. 17 SHEETS 30				

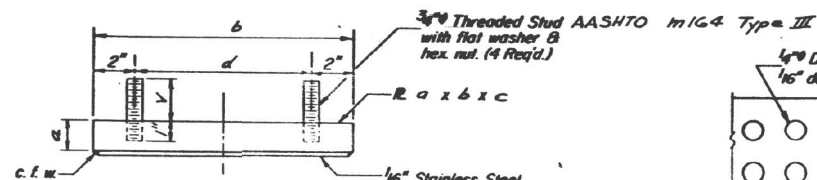


SECTION AT ABUT.

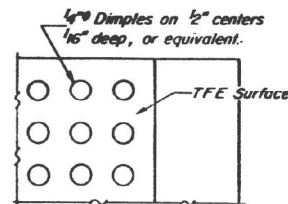


SECTION A-A

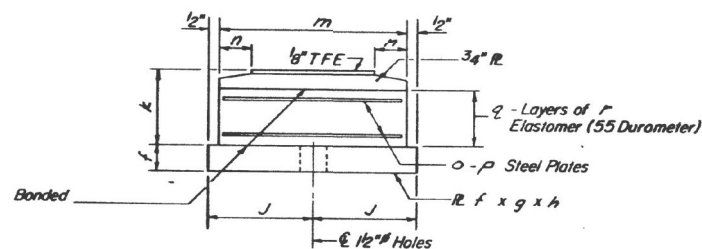
TYPE II TFE ELASTOMERIC EXP. BRG.



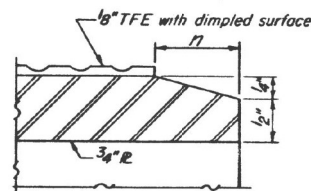
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

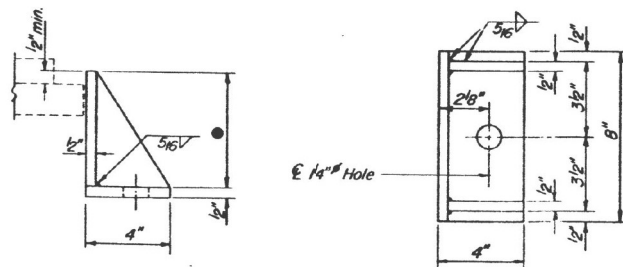
\*Note: After Beam have been erected holes of expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

BEARING DIMENSIONS

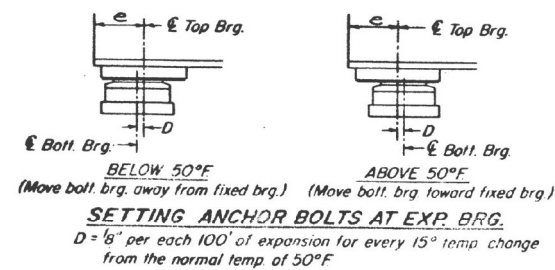
Location	a	b	c	d	e	f	g	h	J	k	m	n	o	p	q	r	s	t	u	v	•
Pier 3 Unit-1 SBL	1 3/4"	10 1/2"	1'-2 1/2"	6 1/2"	6 1/2"	1 1/4"	10"	1'-11"	5"	4 1/16"	9"	1 1/2"	6"	3/32"	7"	3/8"	6"	9 1/2"	1'-7"	1 1/8"	5 3/8"
Pier 3 Unit-2 SBL	1 3/4"	8 1/2"	1'-2"	4 1/2"	5 1/4"	1 1/4"	8"	1'-10 1/2"	4"	3 1/8"	7"	1"	4"	3/32"	5"	3/8"	6"	9 1/4"	1'-6 1/2"	1 1/16"	4 7/8"
Pier 4 NBL	2 3/4"	13 1/2"	1'-8"	9 1/2"	-	1 1/4"	13"	2'-4 1/2"	6 1/2"	4 7/16"	12"	1 1/2"	4"	3/16"	5"	9/16"	9"	12 1/4"	2'-0 1/2"	1 15/16"	7 1/4"

Note: The 1/2" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/2" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



SIDE RETAINER



DESIGNED	ALF
CHECKED	HK II
DRAWN	FF
CHECKED	HK II

I-2-E2 4-1-79

BEARING DETAILS  
ILL. RTE. 54 OVER  
ILL. CENTRAL R.R. &  
NORFOLK & WESTERN R.R.  
FAU 8041  
SECTION 28 VBR  
SANGAMON COUNTY  
STA. 147+94.62 (NB & SB)  
DALTON-DALTON-NEWPORT  
CONSULTING ENGINEERS - AKRON, OHIO

MODEL Path: \\s:\address\Bridges\plans\_CAD\72N07 - 0840073 & 0178 main\brn\brn.dgn  
FILE NAME: S:\address\Bridges\plans\_CAD\72N07 - 0840073 & 0178 main\brn\brn.dgn

USER NAME = dudleybm	DESIGNED -	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 12/13/2021	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 084-0073 (SB) & 0178 (NB)  
(FOR INFORMATION ONLY)

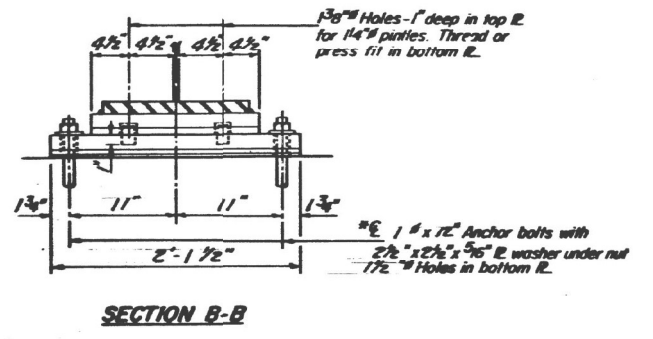
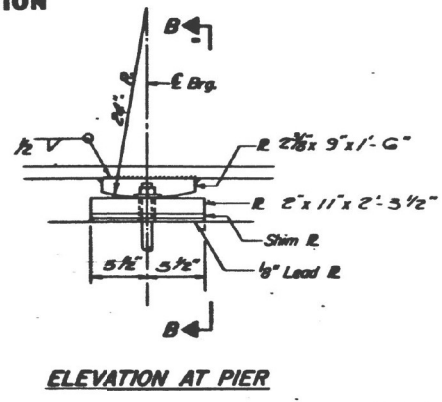
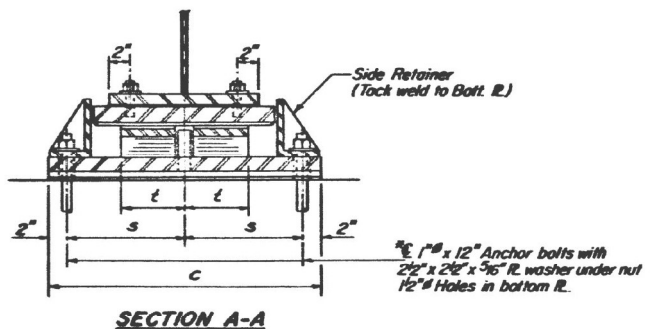
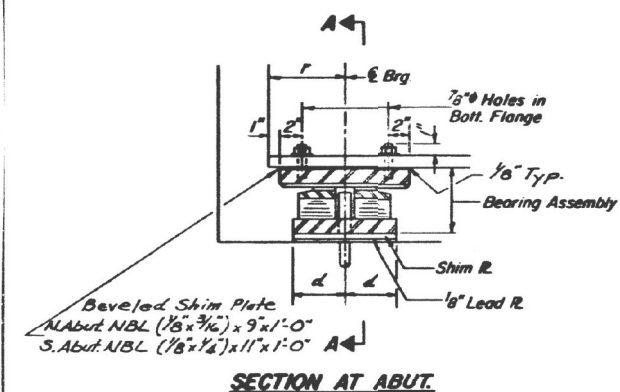
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
668	(28VBR) BP	SANGAMON	12	11
CONTRACT NO. 72N07				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

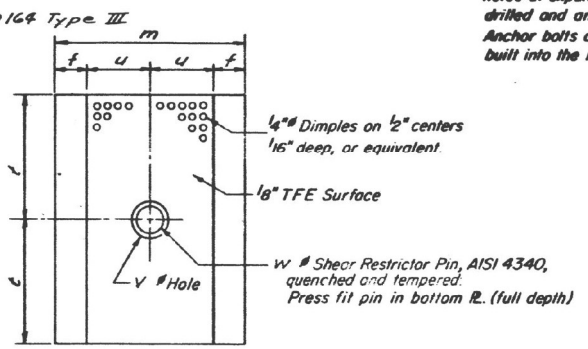
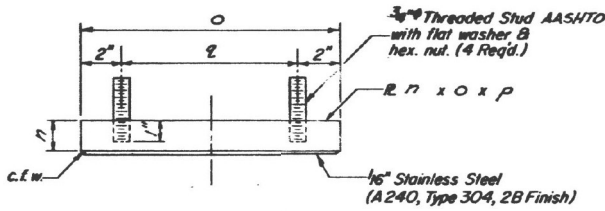
PROJECT NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
FAU8041	28VBR	SANGAMON	84	46
DESIGNED	BY AND FOR			

SHEET NO. 18  
SHEETS 30

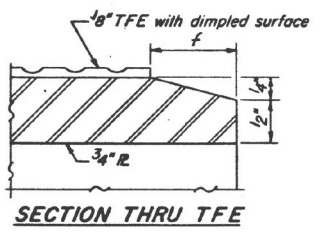
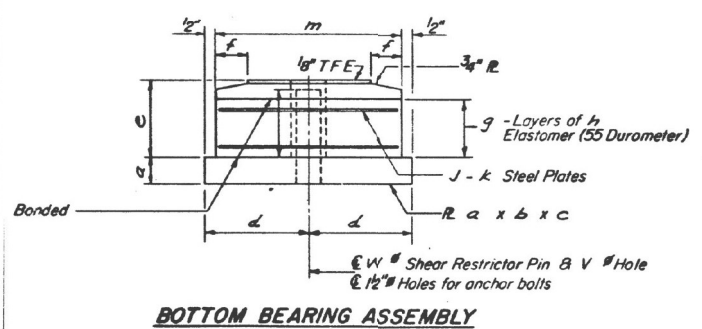
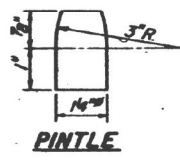


**FIXED BEARING  
PIER 2 NBL**

**TYPE III ELASTOMERIC EXP. BRG.**



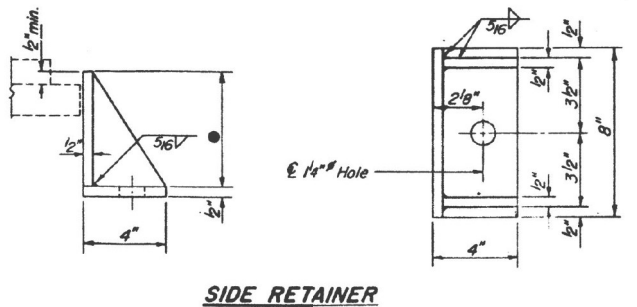
Note: After Beam have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts of fixed bearings may be built into the masonry.



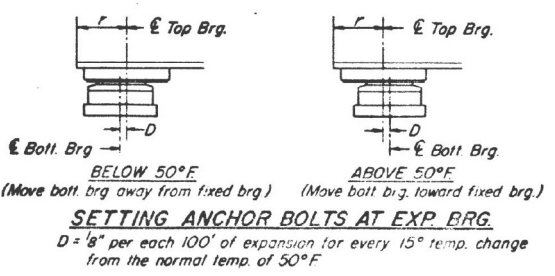
**BEARING DIMENSIONS**

Location	a	b	c	d	e	f	g	h	j	k	m	n	o	p	q	r	s	t	u	v	w
N. Abut. NBL	1 1/4"	8"	1'-11 1/2"	4"	2 3/8"	1"	3	3/8"	2	3/32"	7"	1 3/4"	9"	1'-3"	5"	5 1/2"	9 3/4"	6"	2 1/2"	1 1/2"	1"
S. Abut. NBL	1 1/4"	10"	1'-11 1/2"	5"	3 3/8"	1 1/2"	5	3/8"	4	3/32"	9"	1 3/4"	11"	1'-3"	7"	6 1/2"	9 3/4"	6"	3"	1 3/4"	1 1/4"

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



N. Abut. NBL 4"  
S. Abut. NBL 4 3/8"



DESIGNED	RLF
CHECKED	H II
DRAWN	FF
CHECKED	H II

I-2-E3 4-1-79

BEARING DETAILS  
ILL. RTE. 54 OVER  
ILL. CENTRAL R.R. &  
NORFOLK & WESTERN R.R.  
FAU 8041  
SECTION 28 VBR  
SANGAMON COUNTY  
STA. 147+94.62 (NB & SB)  
DALTON-DALTON-NEWPORT  
CONSULTING ENGINEERS - AKRON, OHIO

MODEL: D:\p\... FILE NAME: S:\address\Bridges\as\_CAD\72N07... 0840073 & 0178 main\brn\brnec.dgn

USER NAME	= dudleybm	DESIGNED	-	REVISED	-
PLOT SCALE	= 100,0000' / in.	DRAWN	-	REVISED	-
PLOT DATE	= 12/13/2021	CHECKED	-	REVISED	-
		DATE	-	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 084-0073 (SB) & 0178 (NB)  
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
668	(28VBR) BP	SANGAMON	12	12
			CONTRACT NO. 72N07	
		ILLINOIS FED. AID PROJECT		