NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR STORING THE TOLLWAY SIGNS PANELS FROM STATIONS: 120+90 RT & 126+72 RT UNTIL SUCH TIME THAT SIGN STRUCTURES HAVE BEEN CONSTRUCTED AND THE SIGN PANELS CAN BE REINSTALLED ON THE NEW STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STORING THE TOLLWAY SIGN STRUCTURE FROM STATION 147+40 RT UNTIL SUCH TIME THAT THE FOUNDATIONS HAVE BEEN CONSTRUCTED AND THE STRUCTURE CAN BE RELOCATED. THE TOLLWAY SIGN PANEL FROM STATION 147+40 RT SHALL BE TEMPORARILY MOUNTED TO THE ROCKTON ROAD BRIDGE.

NOTE:
RESIDENT ENGINEER SHALL CONDUCT A SIGN INVENTORY PRIOR TO BEGINNING OF CONSTRUCTION

N

EXIT RAMP TO ROCKTON ROAD

MATCHLINE I-90 STA. 144+00

WB I-90

EB I-90

145+00

150+00

155+00

WEST 90 MILE 2 3/4
STA: 145+20 RT
90-TS-121
18"X60"
R&R SIGN PANEL
& SUPPORT

WEST 90 MILE 2 3/4
STA: 145+20 LT
EXISTING
SIGN PANEL
& SUPPORT
TO REMAIN

LEFT LANE ENDS
500 FEET
STA: 146+00 LT
90-TS-123-(R)
48"X48"
30"X24"
90-TS-124-(R)
48"X48"
30"X24"
REMOVE
SIGN PANELS
& SUPPORTS

ILLINOIS TOLLWAY
THANK YOU
FOR USING THE
ILLINOIS TOLLWAY
STA: 148+33 LT
EXISTING
SIGN PANEL
& SUPPORT
TO REMAIN

LEFT LANE ENDS
1000 FEET
STA: 151+70 LT
90-TS-126-(R)
48"X48"
30"X24"
90-TS-127-(R)
48"X48"
30"X24"
REMOVE
SIGN PANELS
& SUPPORTS

EXIT
STA: 156+15 LT
EXISTING
SIGN PANEL
& SUPPORT
TO REMAIN

WEST 90 MILE 3
STA: 158+40 LT
EXISTING
SIGN PANELS
& SUPPORTS
TO REMAIN

EAST 90 MILE 2 3/4
STA: 145+20 RT
EXISTING
SIGN PANEL
& SUPPORT
TO REMAIN

EAST 90 MILE 2 3/4
STA: 145+20 RT
90-TS-122
18"X60"
R&R SIGN PANEL
& SUPPORT

EMERGENCY STOPPING ONLY
2 HOUR LIMIT
STA: 144+27 RT
EXISTING
SIGN PANEL
& SUPPORT
TO REMAIN

PAY TOLL AHEAD
I-PASS
I-PASS
$
1/2 MILE
STA: 147+40 RT
90-TR-125
REMOVE & STORE SUPPORT.
SIGN PANEL TO BE TEMPORARILY
MOUNTED TO ROCKTON RD BRIDGE.
RELOCATE SIGN PANEL & SUPPORT
TO NEW FOUNDATIONS.

ENTRANCE RAMP FROM ROCKTON ROAD

STA: 152+80 RT
EXISTING
SIGN PANEL
& SUPPORT
TO REMAIN

EAST 90 MILE 3
STA: 158+40 RT
EXISTING
SIGN PANELS
& SUPPORTS
TO REMAIN

50 0 50 100
SCALE: 1" = 50'-0"

McClure Engineering Associates, Inc. | LOCHNER (FORMERLY KNOWN AS THE LOCHNER, INC., CHICAGO, ILLINOIS) | RWA Regina Webster & Associates, Inc. | QUIGG ENGINEERING INC

USER NAME = .USERNAME.	DESIGNED -	REVISED -
	DRAWN - JDH	REVISED -
PLOT SCALE = 50.0000 ' / IN.	CHECKED - DW	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING AND PROPOSED SIGNING PLAN
I-90 FROM WISCONSIN STATE LINE TO ROCKTON ROAD

SCALE: 1"=50'-0" | SHEET NO. 9 OF 9 SHEETS | STA. 144+00 TO STA. 159+49

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	301
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

* INDICATES ISTHA PAY ITEM ** INDICATES WISDOT

								SIGN PANELS										TELESCOPING STEEL SIGN SUPPORT					WOOD SIGN SUPPORT				STRUCTURAL STEEL SIGN SUPPORT - BREAKAWAY									OVERHEAD SIGNS											
								LED DYNAMIC MESSAGE SIGN, SPECIAL	REMOVE SIGN PANEL ASSEMBLY - TYPE A	REMOVE SIGN PANEL ASSEMBLY - TYPE B	REMOVE SIGN PANEL - TYPE 2	REMOVE SIGN PANEL - TYPE 3	REMOVE EXISTING SIGN PANEL	RELOCATE EXISTING ILLUMINATED SIGN	SIGN PANEL - TYPE 1	SIGN PANEL - TYPE 2	SIGN PANEL - TYPE 3	SIGN INSTALLATION, TYPE 3	MILEPOST MARKER INSTALLATION	MILEPOST MARKER ASSEMBLY, BARRIER WALL MOUNTED	MILE POST MARKER ASSEMBLY	METAL POST-TYPE B	POST 1	POST 2	PAY LENGTH	BASE	POST 1	POST 2	PAY LENGTH	REMOVE GROUND MOUNTED SIGN SUPPORT	REMOVE CONCRETE FOUNDATION - GROUND MOUNT	POST SIZE	POST 1	POST 2	PAY WEIGHT	CONCRETE FOUNDATIONS	REINFORCEMENT BARS, EPOXY COATED	DISTANCE FROM EXP TO EDGE OF SIGN	REMOVE OVERHEAD SIGN STRUCTURE SPAN	REMOVE OVERHEAD SIGN STRUCTURE - CANTILEVER	REMOVE CONCRETE FOUNDATION - OVERHEAD	REMOVE EXISTING OVERHEAD SIGN STRUCTURE AND FOUNDATION	OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE III-C-A (36' X 7'-0")	RELOCATE OVERHEAD SIGN STRUCTURE, SPAN	OVERHEAD SIGN STRUCTURE SPAN TYPE, ALUMINUM 90 FT	OVERHEAD SIGN STRUCTURE SPAN TYPE, ALUMINUM 150 FT	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	OVERHEAD SIGN STRUCTURE WALKWAY, CANTILEVER, TYPE A	DRILLED SHAFT CONCRETE FOUNDATIONS	FOUNDATION FOR OVERHEAD SIGN STRUCTURE, SPAN TYPE	REINFORCEMENT BARS, EPOXY COATED
								X0323803	72490100	72490200	72805220	72493300	X7240195	88500300	72000100	72000200	72000300	J7J20120	J7J20250	J7J20620	72800100	72900200			72900300	73700100							73600100	73606200	73700300	J7J36001	73300206	73300306	73302210	73501100	J5733090	J5733195	73301010	73301840	73400200	J5734A10	50800205
STA.	LT/RT	SIGN NO.	SIGN	HEIGHT	WIDTH	AREA		[EACH]	[EACH]	[EACH]	[SQ FT]	[SQ FT]	[EACH]	[EACH]	[SQ FT]	[SQ FT]	[SQ FT]	[SQ FT]	[SQ FT]	[SQ FT]	[EACH]	[EACH]	[FOOT]	[FOOT]	[FOOT]	[EACH]	[FOOT]	[FOOT]	[FOOT]	[EACH]	[EACH]		[FOOT]	[FOOT]	[POUNDS]	[CU YD]	[POUNDS]	(FOOT)	[EACH]	[EACH]	[EACH]	[EACH]	[FOOT]	[FOOT]	[EACH]	[CU YD]	[POUNDS]
988+78	RT	90-TS-1	NO U-TURN	4	3	12									12								16		16	1																				
989+16	LT	90-TS-2	NO U-TURN	4	3	12			1						12								16		16	1																				
995+81	LT	90-WP-115	SLOWER TRAFFIC KEEP RIGHT	5	4	20				1						20										16		16																		
999+16	RT	90-WP-116	STATELINE ROAD	1.5	8	12				1						12										13	13	26																		
999+29	LT	90-WP-117	STATELINE ROAD	1.5	8	12				1						12										13	13	26																		
999+50	LT	90-WP-118	ROCK CO.	1.5	5.5	8.25									8.25											13		13																		
0+00	LT	90-TS-4	WEST I-90 MILE 0	4.5	1.5	6.75			1												1																								
0+00	RT	90-TS-5	EAST I-90 MILE 0	4.5	1.5	6.75			1												1																								
1+99	LT	90-WP-6	MERGE	4	4	16				1						16										16		16																		
2+44	RT	90-CL-7	EXIT 1, SOUTH BELOIT	13.5	20	270						270					270																												
5+71	RT	90-WP-8	RAMP 40 MPH	5	4	20				1						20										18		18																		
6+63	RT	90-WP-9	EXIT 1 ARROW	5	6	30						30					30									18	18	36	2																	
10+00	LT	90-WP-10	LANE DROP	4	4	16				1						16										19		19																		
		90-TS-11	LANE DROP	4	4	16				1						16						12		12	1																					
9+00	RT	90-WP-12	SPEED LIMIT 55	5	4	20				1						20										22		22																		
		90-WP-13	MINIMUM 45	3	4	12										12																													
11+55	RT	90-BS-14	WELCOME TO IL	7.5	14	105						105					105												2	2	W8x18	19.9	18.6	693	1.4	156	35										
13+20	LT	90-TS-15	WEST I-90 MILE 1/4	4.5	1.5	6.75			1												1																								
13+20	RT	90-TS-16	EAST I-90 MILE 1/4	4.5	1.5	6.75			1												1																								
15+00	LT	90-WP-17	LEFT LANE ENDS	4	4	16				1						16										21		21																		
		90-WP-18	500 FEET	2	2.5	5									5																														
		90-TS-19	LEFT LANE ENDS	4	4	16				1						16						14		14	1																					
		90-TS-20	500 FEET	2	2.5	5									5																														
20+00	LT	90-WP-21	LEFT LANE ENDS	4	4	16				1						16										21		21																		
		90-WP-22	1000 FEET	2	2.5	5									5																														
		90-TS-23	LEFT LANE ENDS	4	4	16				1						16						14		14	1																					
		90-TS-24	1000 FEET	2	2.5	5									5																														
21+28	RT	90-BS-25	IL WELCOME CENTER	12	17	204						204		1			204												2	2	W14X38	24.5	25.6	1904	4.18	244	35										
24+62	RT	90-WP-26	MERGE	4	4	16				1						16										19		19																		
26+40	LT	90-TS-27	WEST I-90 MILE 1/2	4.5	1.5	6.75			1												1																								
26+40	RT	90-TS-28	EAST I-90 MILE 1/2	4.5	1.5	6.75			1												1																								
30+29	LT	90-WP-29	EXIT 1 ARROW	5	6	30						30					30									18	18	36	2																	
31+14	LT	90-TS-30	RAMP 40 MPH	5	4	20				1						20										18		18																		
32+50	RT	90-BS-31	CLICK IT OR TICKET	7.5	11.5	86.25						86.25					86.25												2	2	W8X18	21.5	21.1	767	1.4	156	35										
34+18	LT	90-TR-32	I-39 I-90 MADISON	11	15	165						165					165																					1		2		120			67		36.3		4920
		90-TR-33	REST AREA 1 1/4 MILES	5	11	55						55					55																													
		90-TR-34	EXIT 1 EXIT ONLY	13.5	20	270						270					270																													
39+57	RT	90-BS-35	MOVE OVER SLOW DOWN	9	16.5	148.5						148.5					148.5												2	2	W14X30	22.9	24.6	1425	3.61	226	35										
39+60	LT	90-TS-36	WEST I-90 MILE 3/4	4.5	1.5	6.75			1												1																								
39+60	RT	90-TS-37	EAST I-90 MILE 3/4	4.5	1.5	6.75			1												1																								
45+50	LT	90-CL-38	EXIT 1 1/4 MILE EXIT ONLY	15	20	300						300					300																													
45+95	RT	90-CL-39	IL WELCOME CENTER	8.5	18.5	157.25						157.25					157.25																					1				35			22				
		90-TS-40	RAMP 30 MPH	5	4	20				1						20																													
47+29	RT	90-TS-41	SURVEILLANCE CAMERAS	4	3	12				1						12						19	19	38	2																					
49+91	RT	90-TS-42	RIGHT ARROW	2.5	5	12.5				1						12.5						17	17	34	2																					
		90-TS-43	30 MPH	2	2	4			1						4																													
52+65	RT	90-BS-44	EJ GIORGI HIGHWAY	5	19.5	97.5						97.5					97.5												2	2	W8X18	17.6	19.5	668	1.4	156	35										
52+80	LT	90-TS-45	WEST I-90 MILE 1	4.5	1.5	6.75			1												1																								
52+80	RT	90-TS-46	EAST I-90 MILE 1	4.5	1.5	6.75			1												1																								
55+00	RT	90-WP-47	SPEED LIMIT 65	5	4	20				1						20										22		22																		
		90-WP-48	MINIMUM 45	3	4	12										12																													
55+40	RT	90-TS-49	NO U-TURN	3	3	9			1						9							12		12	1																					
		90-TS-50	EXCEPT AUTHORIZED VEHICLES	2	3	6									6																														
55+83	LT/RT																													W8x31	24.1	24.2	435	1.4	156										
59+00	LT	90-BS-51	BELOIT WI EXIT 1	5	12.5	62.5						62.5					62.5												2	2	W8X15	18.3	18.4	551	1.4	156	35										
63+75	LT	90-BS-52	OTB EXIT 1	6.5	16	104						104					104												2	2	W10X22	19.5	20.7	834	2.36	184	35										
63+89	RT	90-WP-53	MERGE	4	4	16				1						16										17		17																		
66+00	LT	90-TS-54	WEST I-90 MILE 1 1/4	5	1.5	7.5			1												1																								
66+00	RT	90-TS-55	EAST I-90 MILE 1 1/4	5	1.5	7.5			1												1																								
70+39	LT	90-BS-56	EXIT 1 3/4 MILE	13.5	20	270						270					270												2	2	W16X45	29	30.4	2626	4.46	260	35										
79+20	LT	90-TS-57	WEST I-90 MILE 1 1/2	5	1.5	7.5			1												1																								
79+20	RT	90-TS-58	EAST I-90 MILE 1 1/2	5	1.5	7.5			1												1																								
80+64	LT	90-BS-59	GAS EXIT 1	10	19	190						190					190												2	2	W14X38	24.5	25.8	1949	4.18	244	35										
80+91	RT	90-BS-60	EXIT 3 1 MILE	13.5	19.5	263.25						263.25					263.25												2	2	W16X45	27.1	28.1	2484	4.46	260	35										
82+30	RT	90-WP-61	ALCOHOL LIMIT	5	4	20				1						20										19		19																		
83+65	RT	90-BS-62	MOVE OVER SLOW DOWN	8	17	136						136					136												2	2	W10X22	21	20.6	915	2.36	184	35										
87+42	RT	90-BS-63	EXIT 3 NEXT RIGHT	9.5	10.5	99.75						99.75					99.75												2	2	W8x18	19.7	19.6	709	1.4	156	35										
92+40	LT	90-TS-64	WEST I-90 MILE 1 3/4	5	1.5	7.5			1												1																								
92+40	RT	90-TS-65	EAST I-90 MILE 1 3/4	5	1.5	7.5			1												1																								
** 93+50	LT	90-TR-126	WISDOT DMS	7.83	24.88	194.81	1																																	100			20		34.2		5550
94+62	RT	90-BS-66	FOOD EXIT 3	10	19	190						190					190												2	2	W14X30	23.1	25	1443	3.8	226	35										
94+94	LT	90-BS-67	BELOIT EXITS	10	14	140						140					140												2	2	W10X26	23.8	24.8	1264	2.54	196	35										
100+84	RT	90-BS-68	EXIT 3 1/2 MILE	10	19.6	196						196					196												2	2	W12X26	22.8	20	1113	2.82	214	35										
103+33	LT	90-BS-69	FOOD EXIT 1	10	19	190						190					190												2	2	W12X26	23	22	1170	2.82	214	35										

McClure Engineering Associates, Inc. | LOCHNER RPW, LOCHNER, INC., CHICAGO, ILLINOIS | RWA Engle Weiner & Associates, Inc. | QUIGG ENGINEERING INC.

USER NAME = _USERNAME_
PLOT SCALE = 1.0000 ' / IN.
PLOT DATE = 10/20/2011

DESIGNED -
DRAWN - JDH
CHECKED - DW
DATE - 10-21-2011

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING SCHEDULE
I-90 FROM WISCONSIN STATE LINE TO ROCKTON ROAD

SCALE: NONE | SHEET NO. 1 OF 2 SHEETS | STA. N/A | TO STA. N/A

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	302
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

* INDICATES ISTHA PAY ITEM ** INDICATES WISDOT

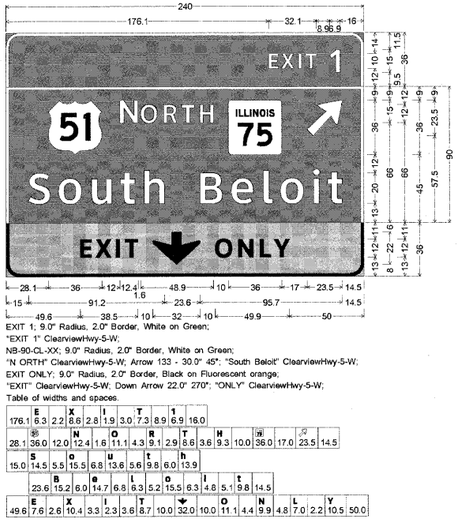
							SIGN PANELS											TELESCOPING STEEL SIGN SUPPORT					WOOD SIGN SUPPORT				STRUCTURAL STEEL SIGN SUPPORT - BREAKAWAY									OVERHEAD SIGNS												
							LED DYNAMIC MESSAGE SIGN, SPECIAL	REMOVE SIGN PANEL ASSEMBLY - TYPE A	REMOVE SIGN PANEL ASSEMBLY - TYPE B	REMOVE SIGN PANEL - TYPE 2	REMOVE SIGN PANEL - TYPE 3	REMOVE EXISTING SIGN PANEL	RELOCATE EXISTING ILLUMINATED SIGN	SIGN PANEL - TYPE 1	SIGN PANEL - TYPE 2	SIGN PANEL - TYPE 3	SIGN INSTALLATION, TYPE 3	MILEPOST MARKER INSTALLATION	MILEPOST MARKER ASSEMBLY, BARRIER WALL MOUNTED	MILE POST MARKER ASSEMBLY	METAL POST-TYPE B	POST 1	POST 2	PAY LENGTH	BASE	POST 1	POST 2	PAY LENGTH	REMOVE GROUND MOUNTED SIGN SUPPORT	REMOVE CONCRETE FOUNDATION - GROUND MOUNT	POST SIZE	POST 1	POST 2	PAY WEIGHT	CONCRETE FOUNDATIONS	REINFORCEMENT BARS, EPOXY COATED	DISTANCE FROM EOP TO EDGE OF SIGN	REMOVE OVERHEAD SIGN STRUCTURE SPAN	REMOVE OVERHEAD SIGN STRUCTURE CANTILEVER	REMOVE CONCRETE FOUNDATION - OVERHEAD	REMOVE EXISTING OVERHEAD SIGN STRUCTURE AND FOUNDATION	OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE III-C-A (36' X 7'-0")	RELOCATE OVERHEAD SIGN STRUCTURE, SPAN	OVERHEAD SIGN STRUCTURE SPAN TYPE, ALUMINUM 90 FT.	OVERHEAD SIGN STRUCTURE SPAN TYPE, ALUMINUM 105 FT.	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	OVERHEAD SIGN STRUCTURE WALKWAY, CANTILEVER, TYPE A	DRILLED SHAFT CONCRETE FOUNDATIONS	FOUNDATION FOR OVERHEAD SIGN STRUCTURE, SPAN TYPE	REINFORCEMENT BARS, EPOXY COATED
							X8331803	72400100	72400200	72400320	72400330	X7240196	89600300	72000100	73000200	73000300	J1720126	J1726693	J1726920	72500100	72900200			72900300	73000100	73700100	73700200										73600100	73600200	73700300	J1726001	73300200	73300300	73002100	73500100	J8733990	J8731105	73301910	73301940	73402020	J8734A10	60900205
STA.	LT/RT	SIGN NO.	SIGN	HEIGHT	WIDTH	AREA	[EACH]	[EACH]	[EACH]	[SQ FT]	[SQ FT]	[EACH]	[EACH]	[SQ FT]	[SQ FT]	[SQ FT]	[SQ FT]	[SQ FT]	[EACH]	[EACH]	[FOOT]	[FOOT]	[FOOT]	[FOOT]	[EACH]	[FOOT]	[FOOT]	[FOOT]	[EACH]	[EACH]								[EACH]	[EACH]	[EACH]	[EACH]	[FOOT]	[FOOT]	[FOOT]	[EACH]	[FOOT]	[FOOT]	[FOOT]	[FOOT]	[CU YD]	[CU YD]	[POUNDS]
105+60	LT	90-TS-70	WEST I-90 MILE 2	4.5	1.5	6.75		1												1																												
105+60	RT	90-TS-71	EAST I-90 MILE 2	4.5	1.5	6.75		1												1																												
108+84	RT	90-BS-72	GAS EXIT 3	10	19	190					190					193											2	2	W12X26	23	21.9	1167	2.82	214	35																
110+64	LT	90-BS-73	LODGING EXIT 1	10	19	190					190					193											2	2	W12X26	23	22.2	1175	2.82	214	35																
112+65	LT	90-WP-74	SPEED LIMIT 65	5	4	20			1					20							22		22																								
		90-WP-75	MINIMUM 45	3	4	12								12																																		
118+80	LT	90-TS-76	WEST I-90 MILE 2 1/4	5	1.5	7.5		1												1																												
118+80	RT	90-TS-77	EAST I-90 MILE 2 1/4	5	1.5	7.5		1												1																												
119+00	LT	90-BS-78	CAMPING EXIT 1, ATTRACTIONS EXIT 1	12	19	228					228					229											2	2	W14X38	25.6	26.7	1987	4.18	244	35																
* 120+90	RT	90-TR-79	PAY TOLL AHEAD	10	27	270						1					270																							1				90					48.8	4180
125+50	LT	90-WP-80	NORTH	1.5	3	4.5			1					4.5							19		19																								
		90-WP-81	I-39	3	3	9								9																																		
		90-WP-82	WEST	1.5	3	4.5								4.5																																	
		90-WP-83	I-90	3	3	9								9																																		
		90-TS-84	NORTH	1.5	3	4.5			1					4.5							19																												
		90-TS-85	US-51	3	3	9								9																																		
* 126+72	RT	90-TR-86	IL 173 6 MILES	10	22.5	225						1					225																							1						32.5	25.5	7830
		90-TR-87	EXIT 3 ROCKTON RD	13	22.5	292.5						1					292.5																														
130+63	RT	90-WP-88	RAMP 40 MPH	5	4	20			1					20							18		18																								
132+00	LT	90-TS-89	WEST I-90 MILE 2 1/2	5	1.5	7.5		1												1																												
132+00	RT	90-TS-90	EAST I-90 MILE 2 1/2	5	1.5	7.5		1												1																												
132+67	RT	90-WP-91	EXIT 3 ARROW	5	6	30					30					30									17	17	34	2																				
134+95	LT	90-WP-92	MERGE	4	4	16			1					16							18		18																								
140+38	LT	90-TS-119-(R)	LANE DROP	4	4	16			1																																							
		90-TS-120-(R)	LANE DROP	4	4	16			1																																					
* 145+20	RT	90-TS-121	WEST I-90 MILE 2 3/4	5	1.5	7.5						1						7.5	1																												
		90-TS-122	EAST I-90 MILE 2 3/4	5	1.5	7.5						1						7.5	1																												
* 146+00	LT	90-TS-123-(R)	LEFT LANE ENDS	4	4	16						1																																			
			500 FEET	2	2.5	5						1																																			
		90-TS-124-(R)	LEFT LANE ENDS	4	4	16						1																																			
			500 FEET	2	2.5	5						1																																			
* 147+40	RT	90-TR-125	PAY TOLL AHEAD	10	27	270						1					270																							2				1			28.7	23.1	6480
* 151+70	LT	90-TS-126-(R)	LEFT LANE ENDS	4	4	16						1																																			
			1600 FEET	2	2.5	5						1																																			
		90-TS-127-(R)	LEFT LANE ENDS	4	4	16						1																																			
			1600 FEET	2	2.5	5						1																																			
302+00	RT	RR-WP-93	USE PROHIBITED	5	4	20			1					20							18		18																								
412+54	LT	RR-TS-94-(R)	STOP AHEAD	3	3	9		1																																							
414+00	RT	RR-BS-96	FOOD RIGHT ARROW	8	13.5	108					108					109											2	2	W10X26	22	24	1196	2.54	196	20																
415+84	RT	RR-BS-96	ROSCOE, ROCKTON RIGHT	2.5	6.5	16.25				16.25					16.25												2	2	W8X15	16	17	495	1.4	156	20																
418+18	RT	RR-BS-97	GAS RIGHT ARROW	8	13.5	108					108					108											2	2	W10X26	22.3	23.9	1201	2.54	196	20																
418+50	LT	RR-TS-98	WRONG WAY	2	3	6		1						6							18		18																								
418+50	RT	RR-TS-99	WRONG WAY	2	3	6		1						6							18		18																								
419+52	LT	RR-WP-100	DO NOT ENTER	3	3	9								9							18		18																								
420+01	RT	RR-TS-101-(R)	STOP	3	3	9		1																																						
420+07	LT	RR-TS-102-(R)	STOP	3	3	9			1																																				
			ONE WAY LEFT	1	3	3																																								
420+12	LT	RR-TS-103	DO NOT ENTER	3	3	9								9								15																										
5000+67	RT	RR-WP-104-(R)	WEST	1	2	2			1																																						
			I-90	2	2	4																																									
			ARROW AHEAD	1.25	1.75	2.1875																																									
			NORTH	1	2	2																																									
			US-51	2	2	4																																									
			ARROW AHEAD	1.25	1.75	2.1875																																									
5000+69	RT	RR-BS-105	CHICAGO ROCKFORD RIGHT, MADISON AHEAD	17	11	187					187					187											2	2	W14X38	29.8	31.1	2314	4.18	244	16																
5002+20	LT	RR-BS-106	CHICAGO ROCKFORD LEFT	9	11	99					99					99											2	2	W8X18	19.7	20.8	729	1.4	156	12																
5002+28	RT	RR-MA-107	ROCKTON RD	1.5	6	9								9																																		
5010+73	RT	RR-BS-108	MADISON LEFT	7.5	11	82.5					82.5					82.5											2	2	W8X15	18.9	19.6	678	1.4	156	20																
5010+77	LT	RR-MA-109	ROCKTON RD	1.5	6	9								9																																		
5011+52	RT	RR-TS-110-(R)	STOP	3	3	9		1																																						
5011+82	LT	RR-MA-111	ROCKTON RD	1.5	6	9								9																																		
5011+83	RT	RR-TS-112-(R)	STOP	3	3	9		1																																						
5012+22	LT	RR-BS-113	MADISON RIGHT, CHICAGO ROCKFORD AHEAD	16.5	11	181.5					181.5					181.5											2	2	W16X45	31.6	34.9	2993	4.46	260	12																
5012+22	LT	RR-WP-114-(R)	SOUTH	1	2	2			1																																						
			US-51	2	2	4																																									
			ARROW AHEAD	1.25	1.75	2.1875																																									
			EAST	1	2	2																																									
			I-90	2	2	4																																									
			ARROW AHEAD	1.25	1.75	2.1875																																									
		TOTAL IDOT					0	32	31	16	5163	0	1	169	461	5163	0	0	0	22	34	120	36	156	10	469	79	548	68	52		613.2	632	34840	73.9	5430	785	1	1	2	0	120	0	35	0	0	0	67	22	30.3	0	4928
*		TOTAL ISTHA					0	0	0	0	0	0	0	0	0	0	1058	15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	50	105	0	0	61.2	95.4	18470
**		TOTAL WISDOT					1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		TOTAL					1	32	31	16	5163	14	1	169	461	5163	1058	15	2	22	34	120	36	156	10	469	79	548	68	52		613.2	632	34840	73.9	5430	785	1	1	4	2	120	100	35	1	50	105	67	22	125.7	95.4	28940

McClure Engineering Associates, Inc. — LOCHNER R.W. LOCHNER, INC. CHICAGO, ILLINOIS — RWA Rogers Weimer & Associates, Inc. — QUIGG ENGINEERING INC.	USER NAME = _USERNAME_	DESIGNED -	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
	PLOT SCALE = 1.0000 ' / IN.	DRAWN - JDH	REVISED -	
	PLOT DATE = 10/20/2011	CHECKED - DW	REVISED -	
		DATE - 10-21-2011	REVISED -	

SIGNING SCHEDULE
I-90 FROM WISCONSIN STATE LINE TO ROCKTON ROAD

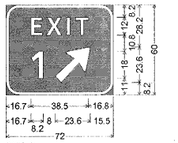
SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. N/A | TO STA. N/A

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	303
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



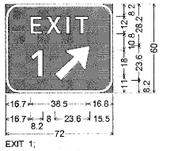
EXIT 1; 9.0" Radius, 2.0" Border, White on Green;
"EXIT 1" ClearviewHwy-5-W;
NB-90-CL-XX; 9.0" Radius, 2.0" Border, White on Green;
"N ORTH" ClearviewHwy-5-W; Arrow 133 - 30.0° 45°; "South Beloit" ClearviewHwy-5-W;
EXIT ONLY; 9.0" Radius, 2.0" Border, Black on Fluorescent orange;
"EXIT" ClearviewHwy-5-W; Down Arrow 22.0° 270°; "ONLY" ClearviewHwy-5-W;
Table of widths and spaces.

STA: 2 + 44 RT
90–CL–7



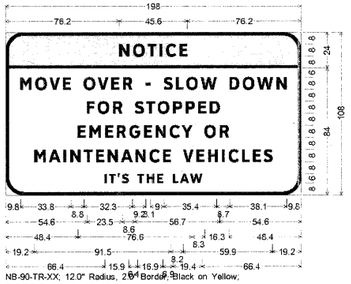
EXIT 1;
9.0" Radius, 2.0" Border, White on Green;
"EXIT 1" ClearviewHwy-5-W;
"1" ClearviewHwy-5-W;
Arrow 133 - 30.0° 45°;
Table of widths and spaces.

STA: 6 + 63 RT
90–WP–9



EXIT 1;
9.0" Radius, 2.0" Border, White on Green;
"EXIT 1" ClearviewHwy-5-W;
"1" ClearviewHwy-5-W;
Arrow 133 - 30.0° 45°;
Table of widths and spaces.

STA: 30 + 29 LT
90–WP–29



NB-90-TR-XX; 12.0" Radius, 2.0" Border, Black on Yellow;
"NOTICE" ClearviewHwy-5-W;
12.0" Radius, 2.0" Border, Black on White;
"MOVE OVER - SLOW DOWN" ClearviewHwy-5-W;
"FOR STOPPED" ClearviewHwy-5-W;
"EMERGENCY OR" ClearviewHwy-5-W;
"MAINTENANCE VEHICLES" ClearviewHwy-5-W;
"IT'S THE LAW" ClearviewHwy-5-W;
Table of widths and spaces.

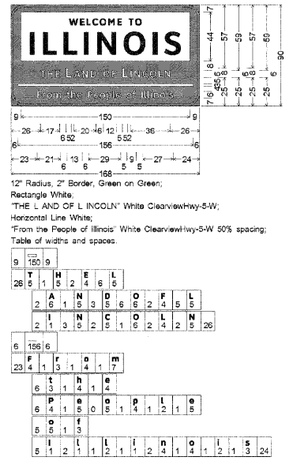
STA: 38 + 57 RT
90–BS–35

NB-90-TR-XX; 12.0" Radius, 2.0" Border, White on Blue;
"ILLINOIS" ClearviewHwy-5-W; "WELCOME CENTER" ClearviewHwy-5-W;
"NEXT RIGHT" ClearviewHwy-5-W;
12.0" Radius, 2.0" Border, White on Blue;
"VENDING MACHINES" ClearviewHwy-5-W;
12.0" Radius, 2.0" Border, Black on White;
"NO SEMIS / TRUCKS" ClearviewHwy-5-W;
"OVER 8 TON" ClearviewHwy-5-W;
Table of widths and spaces.

STA: 21 + 28 RT
90–BS–25

12" Radius, 2" Border, Black on None;
"A Law You Can Live With" ClearviewHwy-5-W 60% spacing;
Table of widths and spaces.

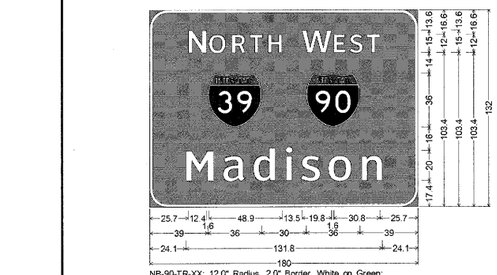
STA: 32 + 50 RT
90–BS–31



12" Radius, 2" Border, Green on Green;
Rectangle White;
"THE L AND OF L INCOLN" White ClearviewHwy-5-W;
Horizontal Line White;
"From the People of Illinois" White ClearviewHwy-5-W 50% spacing;
Table of widths and spaces.

STA: 11 + 55 RT
90–BS–14

NB-90-TR-XX; 12.0" Radius, 2.0" Border, White on Blue;
"ILLINOIS" ClearviewHwy-5-W; "WELCOME CENTER" ClearviewHwy-5-W;
Arrow 80 - 25.0° 45°;
12.0" Radius, 2.0" Border, Black on White;
"NO SEMIS / TRUCKS" ClearviewHwy-5-W; "OVER 8 TON" ClearviewHwy-5-W;
Table of widths and spaces.

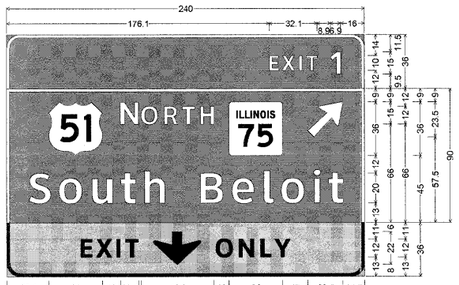


NB-90-TR-XX; 12.0" Radius, 2.0" Border, White on Green;
"N ORTH W EST" ClearviewHwy-5-W;
"Madison" ClearviewHwy-5-W;
Table of widths and spaces.

STA: 34 + 18 LT
90–TR–32

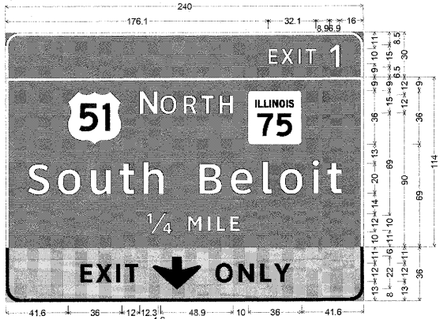
NB-90-TR-XX;
6.0" Radius, 1.3" Border, White on Blue;
"REST AREA" ClearviewHwy-5-W;
"1¼ MILES" ClearviewHwy-5-W;
Table of widths and spaces.

STA: 34 + 18 LT
90–TR–33



EXIT 1; 9.0" Radius, 2.0" Border, White on Green;
"EXIT 1" ClearviewHwy-5-W;
NB-90-CL-XX; 9.0" Radius, 2.0" Border, White on Green;
"N ORTH" ClearviewHwy-5-W; Arrow 133 - 30.0° 45°; "South Beloit" ClearviewHwy-5-W;
EXIT ONLY; 9.0" Radius, 2.0" Border, Black on Fluorescent orange;
"EXIT" ClearviewHwy-5-W; Down Arrow 22.0° 270°; "ONLY" ClearviewHwy-5-W;
Table of widths and spaces.

STA: 34 + 18 LT
90–TR–34



EXIT 1; 9.0" Radius, 2.0" Border, White on Green;
"EXIT 1" ClearviewHwy-5-W;
NB-90-CL-XX; 9.0" Radius, 2.0" Border, White on Green;
"N ORTH" ClearviewHwy-5-W; "South Beloit" ClearviewHwy-5-W;
" ¼ MILE" ClearviewHwy-5-W;
EXIT ONLY; 9.0" Radius, 2.0" Border, Black on Fluorescent orange;
"EXIT" ClearviewHwy-5-W; Down Arrow 22.0° 270°; "ONLY" ClearviewHwy-5-W;
Table of widths and spaces.

STA: 45 + 50 LT
90–CL–38

OH 54-35W;
6.0" Radius, 1.3" Border, White on Green;
"E.J. "Zeke" Giorgi" ClearviewHwy-5-W; "Highway" ClearviewHwy-5-W;
Table of widths and spaces.

STA: 52 + 65 RT
90–BS–44

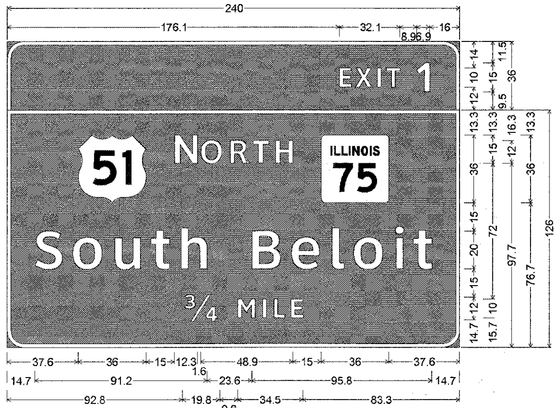
McClure Engineering Associates, Inc. — LOCHNER H.W. LOCHNER, INC. CHICAGO, ILLINOIS
RWA Regina McVeety & Associates, Inc. — OEI QUIGG ENGINEERING INC

USER NAME = _USERNAME_	DESIGNED -	REVISED -
	DRAWN - JDH	REVISED -
PLOT SCALE = 1.0000 ' / IN.	CHECKED - DW	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGN DETAILS
I–90 FROM WISCONSIN STATE LINE TO ROCKTON ROAD
SCALE: NONE | SHEET NO. 1 OF 3 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	304
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



EXIT 1; 9.0" Radius, 2.0" Border, White on Green;
"EXIT 1" ClearviewHwy-5-W;
NB-90-CL-XX; 9.0" Radius, 2.0" Border, White on Green;
"N ORTH" ClearviewHwy-5-W; "South Beloit" ClearviewHwy-5-W;
" ¾ MILE" ClearviewHwy-5-W;
Table of widths and spaces.

176.1	E 6.3	2.2	X 8.6	2.8	I 1.9	3.0	T 7.3	8.9	1 6.9	16.0

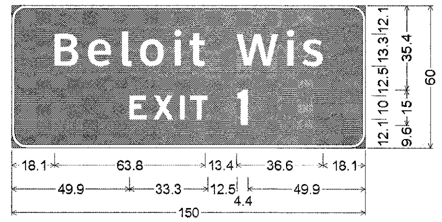
37.6	(51) 36.0	15.0	N 12.3	1.6	O 11.2	4.3	R 9.0	2.9	T 8.7	3.6	H 9.2	15.0	(75) 36.0	37.6

14.7	S 14.5	5.5	o 15.5	6.8	u 13.7	5.5	t 9.8	6.0	h 13.9

23.6	B 15.3	6.0	e 14.7	6.8	l 6.3	5.2	o 15.5	6.3	i 4.7	5.1	t 9.9	14.7

92.8	¾ 19.8	9.6	M 9.2	3.9	I 2.0	4.0	L 5.8	3.3	E 6.3	83.3

STA: 70 + 39 LT
90–BS–56



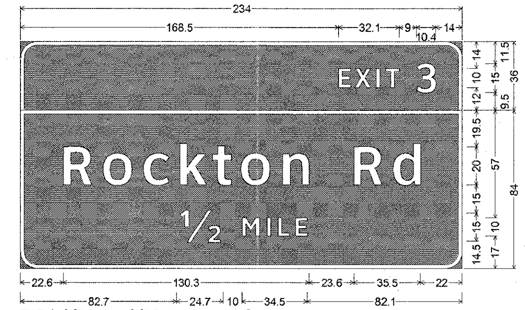
OH 54-35W;
6.0" Radius, 1.3" Border, White on Green;
"Beloit Wis" ClearviewHwy-5-W; "EXIT 1" E Mod;
Table of widths and spaces.

18.1	B 10.2	4.0	e 9.8	4.5	l 4.2	3.5	o 10.3	4.2	i 3.1	3.4	t 6.6

13.4	W 17.6	3.6	i 3.2	3.7	s 8.5	18.1

49.9	E 7.4	2.6	X 8.7	2.6	I 2.0	2.5	T 7.5	12.5	1 4.4	49.9

STA: 59 + 00 LT
90–BS–51



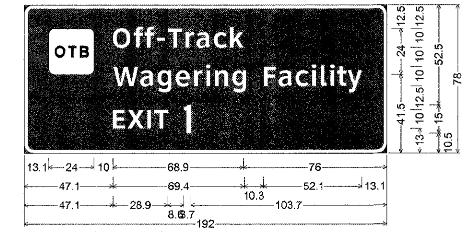
EXIT 1; 9.0" Radius, 2.0" Border, White on Green;
"EXIT 3" ClearviewHwy-5-W;
NB-90-CL-XX; 9.0" Radius, 2.0" Border, White on Green;
"Rockton Rd" ClearviewHwy-5-W; "½ MILE" ClearviewHwy-5-W;
Table of widths and spaces.

168.5	E 6.3	2.2	X 8.7	2.7	I 2.0	3.0	T 7.2	9.0	3 10.4	14.0

22.6	R 15.0	6.0	o 15.5	6.0	c 13.6	5.6	k 14.3	3.1	t 9.8	5.2	o 15.5	6.8	n 13.9	23.6	R 15.0	6.0	d 14.5	22.0

82.7	½ 24.7	10.0	M 9.2	3.9	I 2.0	4.0	L 5.8	3.3	E 6.3	82.1

STA: 100 + 84 RT
90–BS–68



D7-1_VAR; 5.0" Radius, 2.0" Border, White on Brown;
Rounded Rectangle 3.0" Radius;
"Off-Track" ClearviewHwy-5-W 60% spacing;
"Wagering Facility" ClearviewHwy-5-W 60% spacing;
"EXIT " ClearviewHwy-5-W "1" D 2K 60% spacing;
Table of widths and spaces.

13.1	□ 24.0

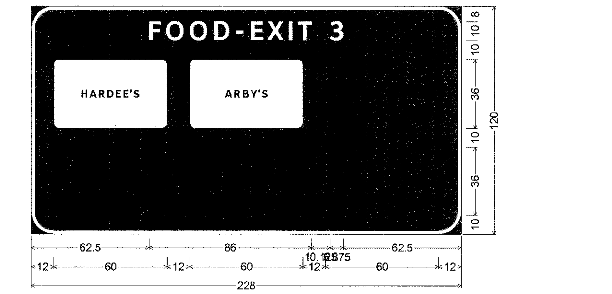
10.0	O 9.2	1.7	f 4.8	1.2	f 4.9	1.8	- 3.9	1.8	T 7.2	1.8	r 4.5	1.4	a 7.5	1.6	c 6.8	1.7	k 7.1	76.0

47.1	W 13.2	1.4	a 7.4	1.7	g 7.3	2.0	e 7.4	2.0	r 4.6	1.6	i 2.4	2.1	n 7.0	2.0	g 7.3

10.3	F 6.1	1.5	a 7.5	1.7	c 6.7	1.6	i 2.4	2.1	l 3.2	1.7	i 2.3	1.6	t 4.9	1.0	y 7.8	13.1

47.1	E 6.3	1.3	X 8.7	1.6	I 1.9	1.8	T 7.3	8.6	1 3.7	103.7

STA: 63 + 75 LT
90–BS–52



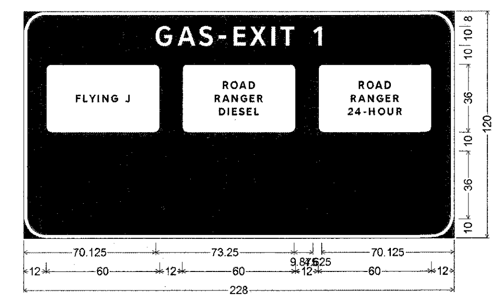
Specific Service Sign; 12.000" Radius, 2.000" Border, White on Blue;
"FOOD-EXIT 3" ClearviewHwy-5-W; Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius Blue; Rounded Rectangle 3.000" Radius Blue;
Rounded Rectangle 3.000" Radius Blue; Rounded Rectangle 3.000" Radius Blue;
Table of widths and spaces.

62.500	F 6.125	2.875	O 9.250	3.250	O 9.250	3.625	D 8.000	3.625	- 3.875	4.000	E 6.375	2.250	X 8.625	2.750	I 1.875	3.000	T 7.250

10.125	3 6.875	62.500

12.000	□ 60.000	12.000	□ 60.000	12.000	■ 60.000	12.000
12.000	■ 60.000	12.000	■ 60.000	12.000	■ 60.000	12.000

STA: 94 + 62 RT
90–BS–66



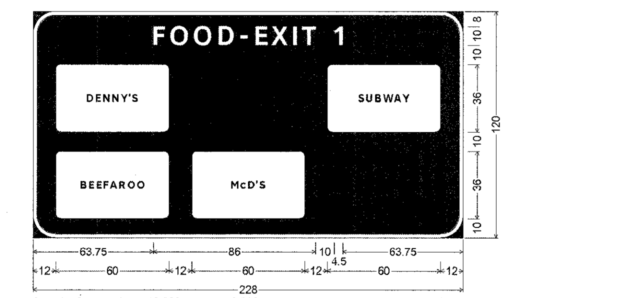
Specific Service Sign; 12.000" Radius, 2.000" Border, White on Blue;
"GAS-EXIT 1" ClearviewHwy-5-W; Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius Blue; Rounded Rectangle 3.000" Radius Blue;
Rounded Rectangle 3.000" Radius Blue;
Table of widths and spaces.

70.125	G 8.625	2.625	A 9.375	2.125	S 7.250	3.250	- 3.875	4.000	E 6.375	2.125	X 8.625	2.875	I 1.875	3.000	T 7.250

9.875	1 4.625	70.125

12.000	□ 60.000	12.000	□ 60.000	12.000	□ 60.000	12.000
12.000	■ 60.000	12.000	■ 60.000	12.000	■ 60.000	12.000

STA: 80 + 64 LT
90–BS–59



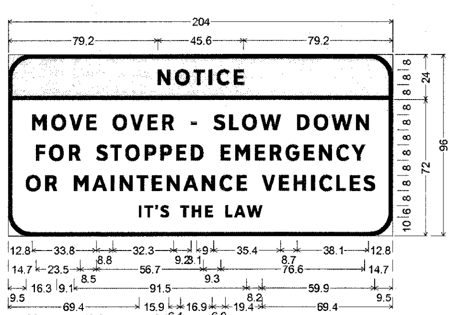
Specific Service Sign; 12.000" Radius, 2.000" Border, White on Blue;
"FOOD-EXIT 1" ClearviewHwy-5-W; Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius Blue; Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius Blue;
Table of widths and spaces.

63.750	F 6.125	2.875	O 9.250	3.125	O 9.375	3.625	D 8.000	3.625	- 3.875	4.000	E 6.375	2.250	X 8.625	2.750	I 1.875	3.000	T 7.250

10.000	1 4.500	63.750

12.000	□ 60.000	12.000	■ 60.000	12.000	□ 60.000	12.000
12.000	□ 60.000	12.000	□ 60.000	12.000	■ 60.000	12.000

STA: 103 + 33 LT
90–BS–69



NB-90-TR-XX; 12.0" Radius, 2.0" Border, Black on Yellow;
"NOTICE" ClearviewHwy-5-W;
12.0" Radius, 2.0" Border, Black on White;
"MOVE OVER - SLOW DOWN" ClearviewHwy-5-W;
"FOR STOPPED EMERGENCY" ClearviewHwy-5-W;
"OR MAINTENANCE VEHICLES" ClearviewHwy-5-W;
"IT'S THE LAW" ClearviewHwy-5-W;
Table of widths and spaces.

79.2	N 6.6	2.8	O 7.4	2.1	T 5.8	2.4	I 1.5	2.9	C 6.5	2.5	E 5.1	79.2

12.8	M 7.3	2.9	O 7.4	2.0	V 6.8	2.3	E 5.1	8.8	O 7.4	2.0	V 6.8	2.4	E 5.0	2.7	R 6.0

9.2	- 3.1	9.0	S 5.8	2.6	L 4.6	2.3	O 7.4	2.1	W 10.6

8.7	D 6.5	2.5	O 7.4	2.2	W 10.5	2.4	N 6.6	12.8

14.7	F 4.9	2.3	O 7.4	2.9	R 6.0

8.5	S 5.8	1.8	T 5.8	2.0	O 7.4	2.9	P 5.8	2.6	P 5.8	2.6	E 5.1	2.7	D 6.4

9.3	E 5.1	2.7	M 7.4	3.2	E 5.0	2.7	R 6.0	2.5	G 6.9	2.9	E 5.1	2.7	N 6.6	2.9	C 6.5	1.4	Y 7.0	14.7

9.5	O 7.4	2.9	R 6.0

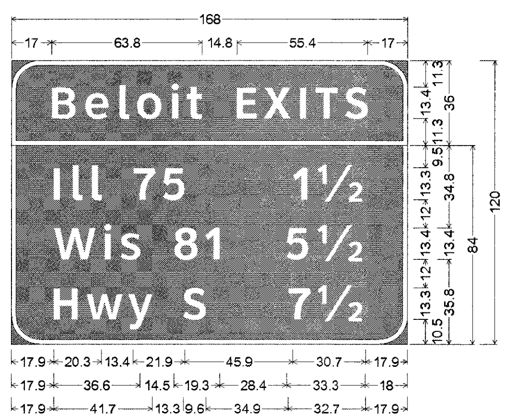
9.1	M 7.4	2.3	A 7.5	2.3	I 1.6	3.2	N 6.6	2.3	T 5.8	2.5	E 5.0	2.7	N 6.6	2.3	A 7.5	2.3	N 6.6	2.9	C 6.5	2.5	E 5.1

8.2	V 6.8	2.3	E 5.1	2.7	H 6.2	3.1	I 1.6	2.9	C 6.5	2.5	L 4.6	2.6	E 5.1	2.1	S 5.8	9.5

69.4	I 1.1	1.8	T 4.4	1.4	' 1.3	1.5	S 4.4	6.1	T 4.3	1.8	H 4.6	2.4	E 3.8

6.9	L 3.5	1.2	A 5.6	1.2	W 7.9	69.4

STA: 83 + 65 RT
90–BS–62



12.0" Radius, 2.0" Border, White on Green;
"Beloit EXITS" ClearviewHwy-5-W;
12.0" Radius, 2.0" Border, White on Green;
"Ill 75 1½" ClearviewHwy-5-W;
"Wis 81" ClearviewHwy-5-W; "5½" ClearviewHwy-5-W;
"Hwy S" ClearviewHwy-5-W; "7½" ClearviewHwy-5-W;
Table of widths and spaces.

17.0	B 10.2	4.0	e 9.7	4.6	l 4.2	3.5	o 10.3	4.2	i 3.2	3.3	t 6.6

14.8	E 8.4	2.9	X 11.6	3.7	I 2.5	4.0	T 9.7	3.0	S 9.6	17.0

17.9	I 2.6	5.2	l 4.3	4.0	l 4.2	13.4	7 9.4	3.3	5 9.2

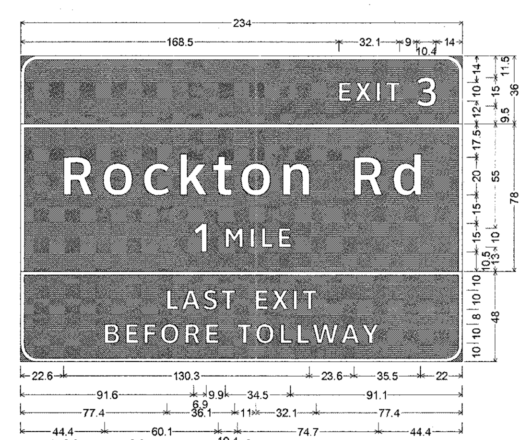
45.9	1 6.1	2.6	½ 22.0	17.9

17.9	W 17.6	3.7	i 3.1	3.7	s 8.5	14.5	8 9.8	3.4	1 6.1

28.4	5 9.2	2.1	½ 22.0	18.0

17.9	H 10.3	3.6	w 15.4	2.0	y 10.4	13.3	S 9.6	34.9	7 9.4	1.3	½ 22.0	17.9

STA: 94 + 94 LT
90–BS–67



EXIT 1; 9.0" Radius, 2.0" Border, White on Green;
"EXIT 3" ClearviewHwy-5-W;
NB-90-CL-XX; 9.0" Radius, 2.0" Border, White on Green;
"Rockton Rd" ClearviewHwy-5-W; "1 MILE" ClearviewHwy-5-W;
EXIT ONLY; 9.0" Radius, 2.0" Border, White on Green;
"LAST EXIT" ClearviewHwy-5-W; "BEFORE TOLLWAY" ClearviewHwy-5-W;
Table of widths and spaces.

168.5	E 6.3	2.2	X 8.7	2.7	I 2.0	3.0	T 7.2	9.0	3 10.4	14.0

22.6	R 15.0	6.0	o 15.5	6.0	c 13.6	5.6	k 14.3	3.1	t 9.8	5.2	o 15.5	6.8	n 13.9	23.6	R 15.0	6.0	d 14.5	22.0

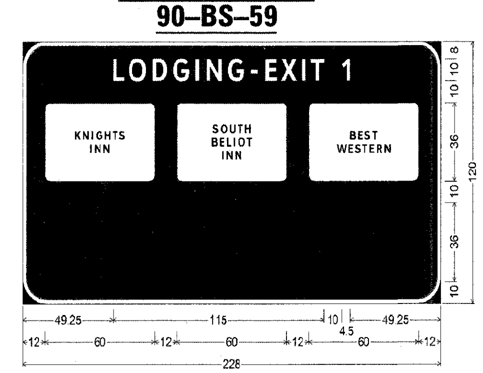
91.6	1 6.9	9.9	M 9.2	4.0	I 1.9	4.1	L 5.8	3.2	E 6.3	91.1

77.4	L 5.8	2.1	A 9.4	2.1	S 7.3	2.2	T 7.2	11.0	E 6.3	2.2	X 8.7	2.8	I 1.9	3.0	T 7.2	77.4

44.4	B 7.7	3.5	E 6.3	3.4	F 6.1	2.9	O 9.3	3.6	R 7.5	3.5	E 6.3

10.4	T 7.2	2.6	O 9.3	3.6	L 5.9	3.2	L 5.8	2.2	W 13.2	2.0	A 9.3	1.6	Y 8.8	44.4

STA: 80 + 91 RT
90–BS–60



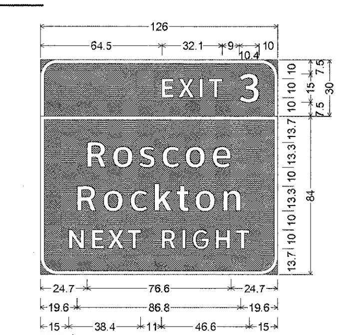
Specific Service Sign; 12.000" Radius, 2.000" Border, White on Blue;
"LODGING-EXIT 1" ClearviewHwy-5-W; Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius Blue; Rounded Rectangle 3.000" Radius Blue;
Rounded Rectangle 3.000" Radius Blue;
Table of widths and spaces.

49.250	L 5.750	2.875	O 9.250	3.625	D 8.000	3.250	G 8.625	3.625	I 1.875	4.000	N 8.250	3.625	G 8.625	3.625	- 3.875	4.000	E 6.375	2.250	X 8.625	2.750	I 1.875	3.000	T 7.250

10.000	1 4.500	49.250

12.000	□ 60.000	12.000	□ 60.000	12.000	□ 60.000	12.000
12.000	■ 60.000	12.000	■ 60.000	12.000	■ 60.000	12.000

STA: 110 + 54 LT
90–BS–73



EXIT 1;
9.0" Radius, 2.0" Border, White on Green;
"EXIT 3" ClearviewHwy-5-W;
NB-90-CL-XX;
9.0" Radius, 2.0" Border, White on Green;
"Roscoe" ClearviewHwy-5-W;
"Rockton" ClearviewHwy-5-W;
"NEXT RIGHT" ClearviewHwy-5-W;
Table of widths and spaces.

64.5	E 6.3	2.2	X 8.7	2.7	I 2.0	3.0	T 7.2	9.0	3 10.4	10.0

24.7	R 10.1	3.9	o 10.4	3.4	s 8.5	3.8	c 9.0	3.4	o 10.3	4.0	e 9.8	24.7

19.6	R 10.0	4.0	o 10.3	4.0	c 9.0	3.8	k 9.5	2.1	t 6.6	3.4	o 10.3	4.6	n 9.2	19.6

15.0	N 8.3	4.0	E 6.3	2.2	X 8.6	1.8	T 7.2

11.0	R 7.5	3.4	I 2.0	3.6	G 8.6	3.6	H 7.7	3.0	T 7.2	15.0

STA: 87 + 42 RT
90–BS–63

McClure Engineering Associates, Inc. | LOCHNER H.W. LOCHNER, INC., CHICAGO, ILLINOIS | CIVIL ENGINEERING CONSULTANTS RWA Regina Webster & Associates, Inc. | QUIGG ENGINEERING INC

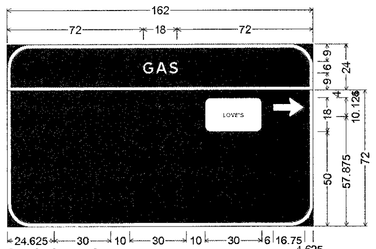
USER NAME = _USERNAME_	DESIGNED -	REVISED -
	DRAWN - JDH	REVISED -
PLOT SCALE = 1.0000 ' / IN.	CHECKED - DW	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGN DETAILS
I–90 FROM WISCONSIN STATE LINE TO ROCKTON ROAD

SCALE: NONE | SHEET NO. 2 OF 3 SHEETS | STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	305
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



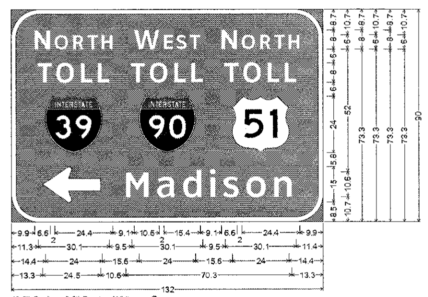
Specific Service Sign;
12.000" Radius, 2.000" Border, White on Blue;
"GAS" ClearviewHwy-5-W;
Specific Service Sign;
12.000" Radius, 2.000" Border, White on Blue;
Rounded Rectangle 3.000" Radius Blue;
Rounded Rectangle 3.000" Radius Blue;
Rounded Rectangle 3.000" Radius;
Standard Arrow Custom 16.750" X 10.125" 0°;
Table of widths and spaces.

	G		A		S	
72.000	5.250	1.500	5.625	1.250	4.375	72.000

	[filled rectangle]		[filled rectangle]		[empty rectangle]
24.625	30.000	10.000	30.000	10.000	30.000

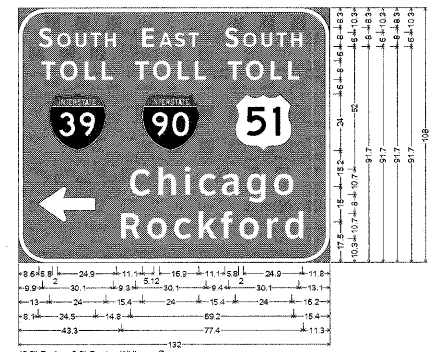
	[arrow]	
6.000	16.750	4.625

STA: 418 + 18 RT
RR–BS–97



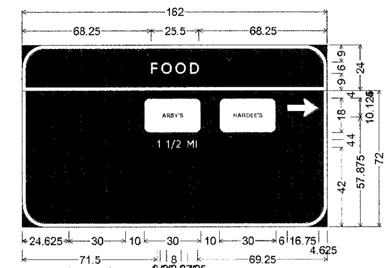
12.0" Radius, 2.0" Border, White on Green;
"N ORTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"W EST" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"N ORTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
Standard Arrow Custom 24.5" X 15.0" 180°; "Madison" ClearviewHwy-5-W;

STA: 5010 + 73 RT
RR–BS–108



12.0" Radius, 2.0" Border, White on Green;
"S OUTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"E AST" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"S OUTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
Standard Arrow Custom 24.5" X 15.0" 180°; "Chicago" ClearviewHwy-5-W;
"Rockford" ClearviewHwy-5-W;

STA: 5002 + 20 LT
RR–BS–106



Specific Service Sign;
12.000" Radius, 2.000" Border, White on Blue;
"FOOD" ClearviewHwy-5-W;
Specific Service Sign;
12.000" Radius, 2.000" Border, White on Blue;
Rounded Rectangle 3.000" Radius Blue;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
" 1 1/2 MI" ClearviewHwy-3-W;
Standard Arrow Custom 16.750" X 10.125" 0°;
Table of widths and spaces.

	F		O		O		D	
68.250	3.625	1.750	5.625	1.875	5.625	2.125	4.875	68.250

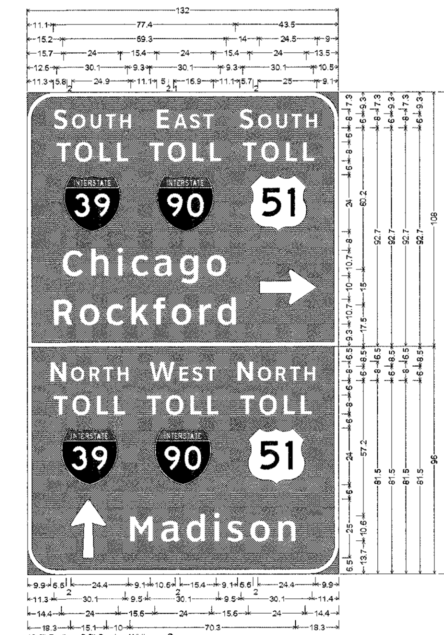
	[filled rectangle]		[empty rectangle]		[empty rectangle]
24.625	30.000	10.000	30.000	10.000	30.000

	[arrow]	
6.000	16.750	4.625

	1		1		/		2
71.500	1.500	3.250	1.625	0.875	2.500	0.500	2.500

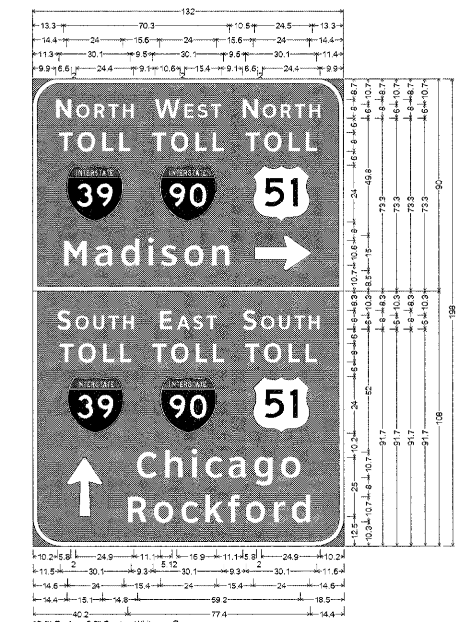
	M		I	
3.375	3.250	1.250	0.625	69.250

STA: 414 + 00 RT
RR–BS–95



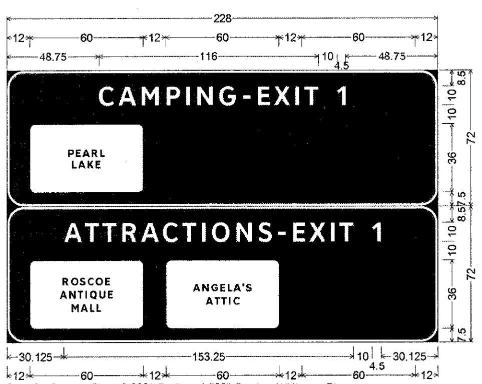
12.0" Radius, 2.0" Border, White on Green;
"S OUTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"E AST" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"S OUTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"Chicago" ClearviewHwy-5-W; "Rockford" ClearviewHwy-5-W;
Standard Arrow Custom 24.5" X 15.0" 0°;
12.0" Radius, 2.0" Border, White on Green;
"N ORTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"W EST" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"N ORTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W; Arrow 80 - 25.0" 90°;
"Madison" ClearviewHwy-5-W;

STA: 5000 + 69 RT
RR–BS–105



12.0" Radius, 2.0" Border, White on Green;
"N ORTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"W EST" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"N ORTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"Madison" ClearviewHwy-5-W; Standard Arrow Custom 24.5" X 15.0" 0°;
12.0" Radius, 2.0" Border, White on Green;
"S OUTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W;
"E AST" ClearviewHwy-5-W, "TOLL" ClearviewHwy-5-W;
"S OUTH" ClearviewHwy-5-W; "TOLL" ClearviewHwy-5-W; Arrow 80 - 25.0" 90°;
"Chicago" ClearviewHwy-5-W; "Rockford" ClearviewHwy-5-W;

STA: 5012 + 22 LT
RR–BS–113



Specific Service Sign; 9.000" Radius, 1.500" Border, White on Blue;
"CAMPING-EXIT 1" ClearviewHwy-5-W; Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius Blue; Rounded Rectangle 3.000" Radius Blue;
Specific Service Sign; 9.000" Radius, 1.500" Border, White on Blue;
"ATTRACTIONS-EXIT 1" ClearviewHwy-5-W; Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius Blue;
Table of widths and spaces.

	C		A		M		P		I		N		G		-		E		X		I		T	
48.750	8.125	2.000	9.375	2.875	9.250	3.875	7.250	3.250	1.875	4.000	8.250	3.625	8.625	3.625	4.000	4.000	6.250	2.250	8.625	2.750	2.000	2.875	7.250	

	1	
10.000	4.500	48.750

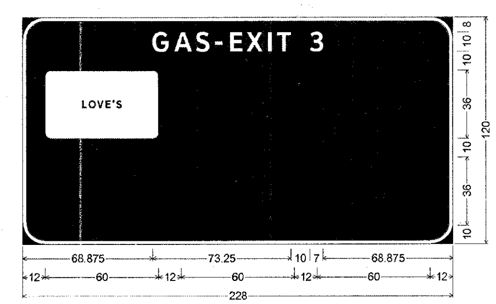
	[empty rectangle]		[filled rectangle]		[filled rectangle]	
12.000	60.000	12.000	60.000	12.000	60.000	12.000

	A		T		T		R		A		C		T		I		O		N		S		-		E		X		I		T					
30.125	9.375	1.875	7.250	1.875	7.250	3.000	7.500	2.375	9.375	2.500	8.125	2.125	7.250	3.000	1.875	3.625	9.250	3.625	8.250	3.250	7.250	3.250	3.875	4.000	6.375	2.250	8.625	2.750	1.875	3.000	7.250					

	1	
10.000	4.500	30.125

	[empty rectangle]		[empty rectangle]		[filled rectangle]	
12.000	60.000	12.000	60.000	12.000	60.000	12.000

STA: 119 + 00 LT
90–BS–78



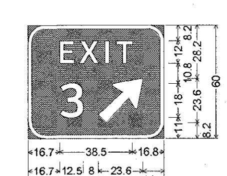
Specific Service Sign; 12.000" Radius, 2.000" Border, White on Blue;
"GAS-EXIT 3" ClearviewHwy-5-W; Rounded Rectangle 3.000" Radius;
Rounded Rectangle 3.000" Radius Blue; Rounded Rectangle 3.000" Radius Blue;
Rounded Rectangle 3.000" Radius Blue; Rounded Rectangle 3.000" Radius Blue;
Rounded Rectangle 3.000" Radius Blue;
Table of widths and spaces.

	G		A		S		-		E		X		I		T	
68.875	8.625	2.625	9.375	2.125	7.250	3.250	3.875	4.000	6.375	2.125	8.750	2.750	1.875	3.000	7.250	

	3	
10.000	7.000	68.875

	[empty rectangle]		[filled rectangle]		[filled rectangle]	
12.000	60.000	12.000	60.000	12.000	60.000	12.000
	[filled rectangle]		[filled rectangle]		[filled rectangle]	
12.000	60.000	12.000	60.000	12.000	60.000	12.000

STA: 108 + 84 RT
90–BS–72

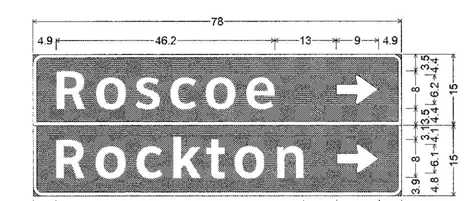


EXIT 1;
9.0" Radius, 2.0" Border, White on Green;
"EXIT " ClearviewHwy-5-W;
"3" ClearviewHwy-5-W;
Arrow 133 - 30.0" 45°;
Table of widths and spaces.

	E		X		I		T	
16.7	7.6	2.6	10.4	3.3	2.3	3.6	8.7	16.8

	3		[arrow]	
16.7	12.5	8.0	23.6	11.2

STA: 132 + 67 RT
90–WP–91



D1-2_VAR; 1.9" Radius, 0.8" Border, White on Green;
"Roscoe" ClearviewHwy-5-W; Standard Arrow Custom 9.0" X 6.1" 0°;
D1-2_VAR; 1.9" Radius, 0.8" Border, White on Green;
"Rockton" ClearviewHwy-5-W; Standard Arrow Custom 9.0" X 6.1" 0°;
Table of widths and spaces.

	R		o		s		c		o		e		[arrow]						
4.9	6.1	2.3	6.3	2.0	5.3	2.1	5.6	1.9	6.3	2.3	6.0	13.0	9.0	4.9					
	R		o		c		k		t		o		n		[arrow]				
4.8	6.1	2.3	6.3	2.3	5.6	2.2	5.8	1.1	4.2	1.9	6.3	2.6	5.7	7.1	8.9	4.8			

STA: 415 + 84 RT
RR–BS–96

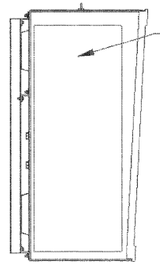
McClure Engineering Associates, Inc. | LOCHNER H.W. LOCHNER, INC., CHICAGO, ILLINOIS | RWA Regina Webster & Associates, Inc. | QUIGG ENGINEERING INC

USER NAME = _USERNAME_	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - JDH	REVISED -	
PLOT SCALE = 1.0000 ' / IN.	CHECKED - DW	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

SIGN DETAILS
I-90 FROM WISCONSIN STATE LINE TO ROCKTON ROAD

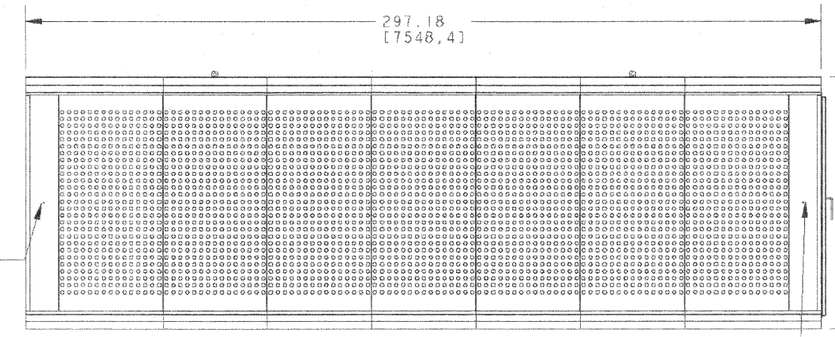
SCALE: NONE | SHEET NO. 3 OF 3 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	306
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

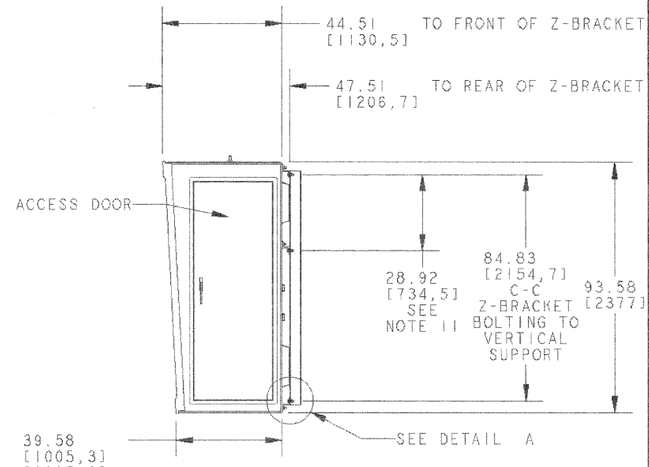


SECOND ACCESS DOOR OPTIONAL
BASED ON PROJECT REQUIREMENTS

LEFT SIDE



FRONT VIEW



RIGHT SIDE

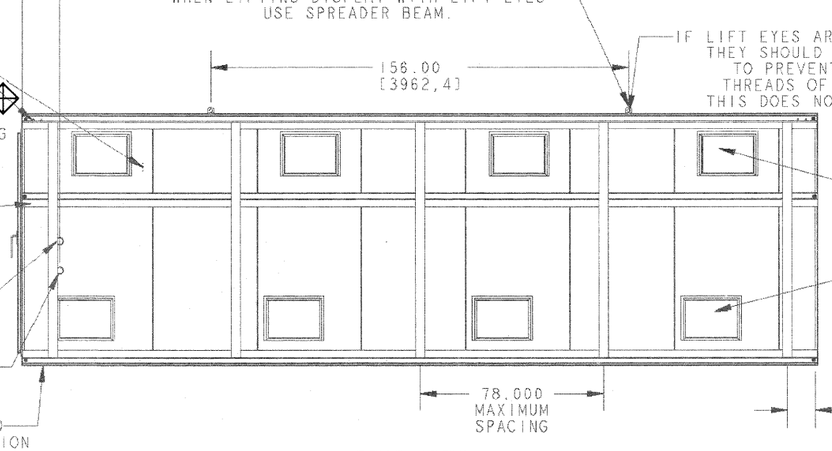
13.875
[352,43]
FROM EDGE OF DIPSLAY TO THE CENTER OF THE ELECRICAL HUBS.

REAR LIGHT SENSOR LOCATION

FALL ARREST ANCHORAGE IS LOCATED INSIDE DISPLAY IN FRONT OF Z-BRACKET BY EACH ACCESS DOOR. FALL ARREST MUST BE CONNECTED TO STRUCTURE IN A MANNER CAPABLE OF WITHSTANDING A 5000# FALL ARREST LOAD.

WHEN LIFTING DISPLAY WITH LIFT EYES USE SPREADER BEAM.

IF LIFT EYES ARE REMOVED AFTER INSTALLATION THEY SHOULD BE REPLACED WITH SS BOLTS TO PREVENT DEBRIS BUILDUP IN THE THREADS OF THE PERMANENT HARDWARE. THIS DOES NOT EFFECT WATER TIGHTNESS.



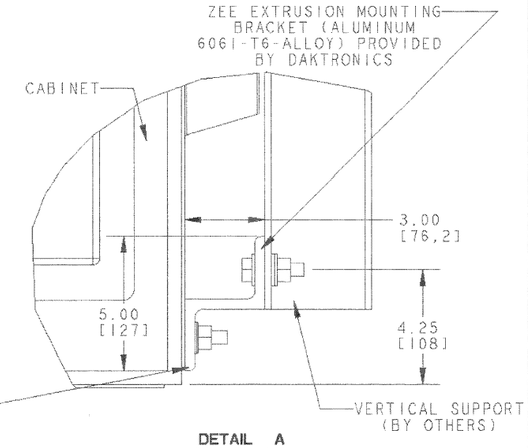
3RD Z-BRACKET
BASED ON PROJECT REQUIREMENTS & SITE WINDLOADING REQUIREMENTS SEE NOTE 11.

1 1/2" CONDUIT HUB (POWER)

1 1/2" CONDUIT HUB (SIGNAL)

AMBIENT TEMP AND LIGHT SENSOR LOCATION

REAR VIEW



DETAIL A
SCALE 1/5

NOTE
NUMBER OF SUPPORTS SHOWN MAY NOT BE ACTUAL NUMBER OF SUPPORTS REQUIRED

Z-BRACKETS ARE BOLTED TO THE REAR OF THE DISPLAY BY DAKTRONICS. THE VERTICAL SUPPORTS SHOWN ARE PROVIDED BY OTHERS. EACH Z-BRACKET IS ATTACHED TO THE CABINET USING Ø1/2" A325 MECHANICALLY GALVANIZED STRUCTURAL GRADE HARDWARE. FINAL REVIEW OF MOUNTING DETAIL IS THE RESPONSIBILITY OF THE CUSTOMER AND THE CUSTOMER'S ENGINEERS. THE VERTICAL SUPPORTS MUST BE ATTACHED AS SHOWN WITHIN THE STATED TOLERANCE.

NOTES:

1.) MATRIX SIZE 27X105, 18" NOMINAL CHARACTER
2.) DISPLAY WILL BE A SINGLE FACE CONFIGURATION.
3.) SEE ILLUSTRATIONS FOR POWER AND SIGNAL CONDUIT ENTRANCES.
4.) ALL DIMENSIONS ARE IN INCHES [mm].
5.) FULL PROTECTIVE MASKED FACE PANEL.
6.) MAINTENANCE OF DISPLAY IS INTERNAL VIA WALK IN CABINET.
7.) ALL ALUMINUM CONSTRUCTION
8.) POSITIVE PRESSURE VENTILATION SYSTEM
9.) WEIGHT OF THE DISPLAY IS APPROXIMATELY 3400 LBS (1543 KG).
10.) VERTICAL SUPPORTS DESIGNED AND SUPPLIED BY OTHERS.
11.) MOUNTING CALCULATIONS DONE TO "AASHTO STANDARD SPEC. FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS. AASHTO 5TH EDITION 2009;"
2 Z-BRACKETS: UP TO 120 MPH WIND ZONE
3 Z-BRACKETS: UP TO 150 MPH WIND ZONE
12.) IF VERTICAL SUPPORTS NEED TO BE MOVED OUTSIDE OF STATED MAXIMUM SPACING OR IF SPECIFICATIONS EXCEED NOTE #10 THEN CONTACT DAKTRONICS ENGINEERING.

REV	DATE:	DESCRIPTION	BY:
02	22 JUNE 11	MOVED ELECTRICAL HUBS AND FALL ARREST LOCATIONS	DJR
01	17 JAN 11	ADJUSTED Z-BRACKETS & UPDATED TITLE BLOCK	DJR

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ: VANGUARD
TITLE: SHOP DRAWING, VF-20**-27X105-66-*
DESIGN: JHALIBU | DRAWN: DREITZ | DATE: 16-JUN-11
SCALE: 1=50

SHEET:	REV	JOB NO:	FUNC-TYPE-SIZE	
1 OF 1	02	P 1589	F-10-B	968977

FOR REFERENCE ONLY, DMS SHALL BE PROVIDED BY WISDOT FOR CONTRACTOR TO INSTALL

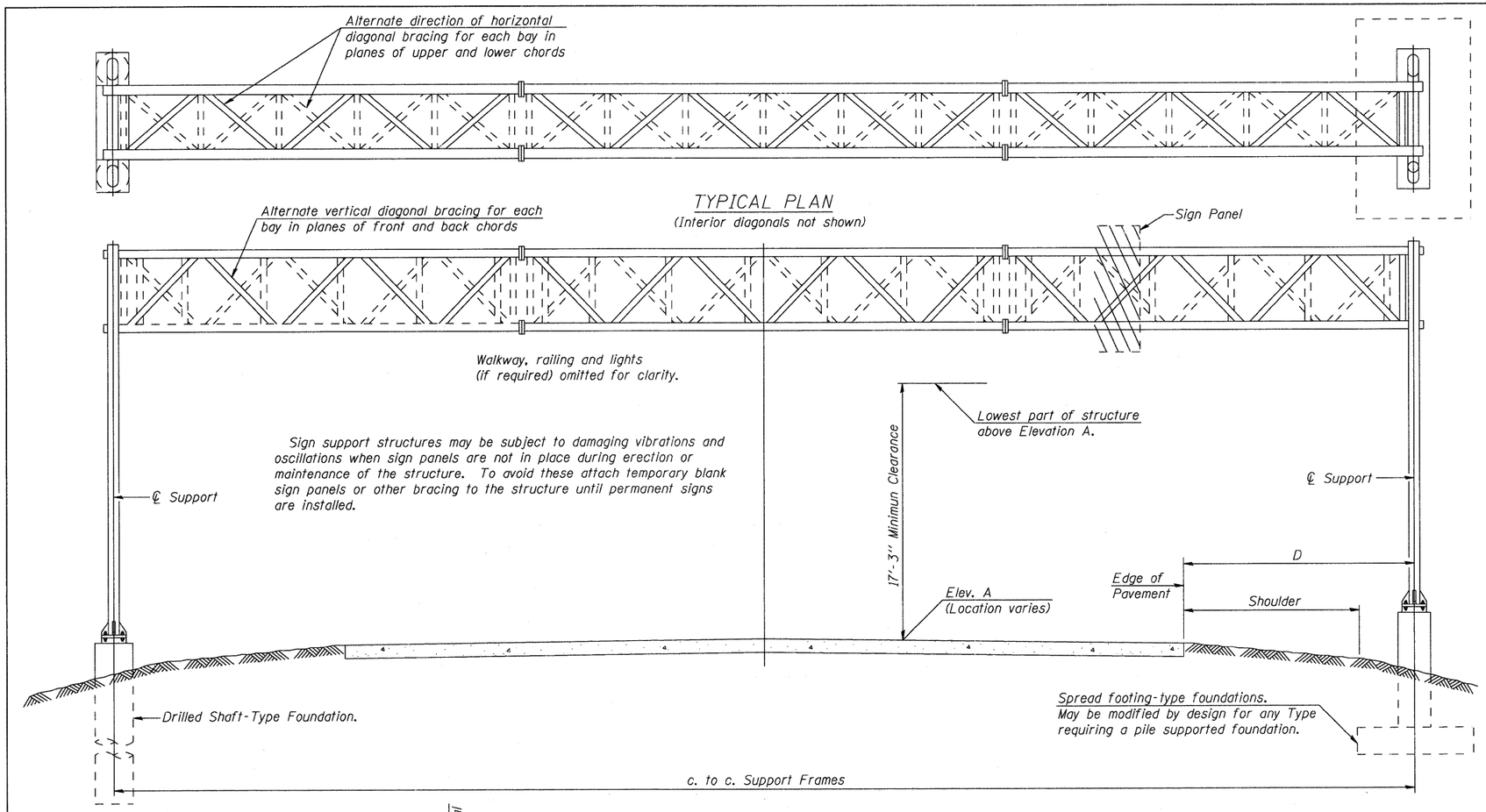
McClure Engineering Associates, Inc. | LOCHNER H.W. LOCHNER, INC. CHICAGO, ILLINOIS | RWA Regina Weickert & Associates, Inc. | QUIGG ENGINEERING INC.

USER NAME = _USERNAME_	DESIGNED -		REVISED -
	DRAWN - JDH		REVISED -
PLOT SCALE = 1.0000 ' / IN.	CHECKED - DW		REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011		REVISED -

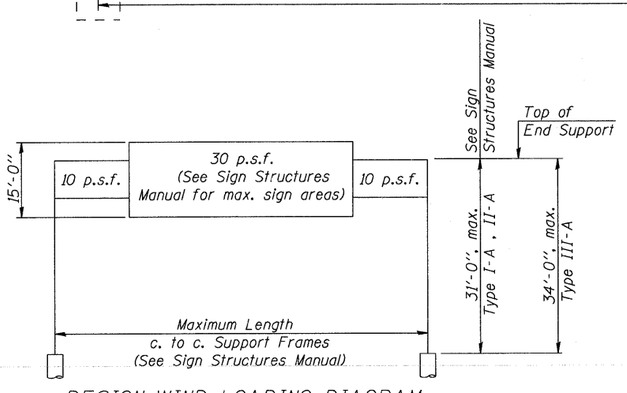
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WISDOT DMS SIGN DETAILS
I-90 FROM WISCONSIN STATE LINE TO ROCKTON ROAD
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	307
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



TYPICAL PLAN
(Interior diagonals not shown)



DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

TYPICAL ELEVATION
(Looking at Face of Signs**)

Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
2S1011090L00.65	34+18 LT	II-A	120'	784.54	42.3'	13.5'	490 SF
2S1011090L01.77	93+50 LT	III-A	100'	778.62	48.5'	7.83'	195 SF

**Looking upstation for structures with signs both sides.

* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

GENERAL NOTES

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:
Field Units
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specificiations.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53. All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.
The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seat Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

FOUNDATIONS: The contract unit price for Concrete Foundations and Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL	
OVERHEAD SIGN STRUCTURE SPAN TYPE I-A	Foot		
OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	Foot	120	
OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	Foot	100	
OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	87	
CONCRETE FOUNDATIONS	Cu. Yds.		
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	64.5	***
REINFORCEMENT BARS - EPOXY COATED	Pounds	10470	***

***FOUNDATION DESIGN NEEDS TO BE CHECKED AGAINST SOIL BORINGS

OS-A-1 1-20-11

McClure Engineering Associates, Inc. LOCHNER H.W. LOCHNER, INC., CHICAGO, ILLINOIS
RWA Rogers Webster & Associates, Inc.
QUIGG ENGINEERING INC.

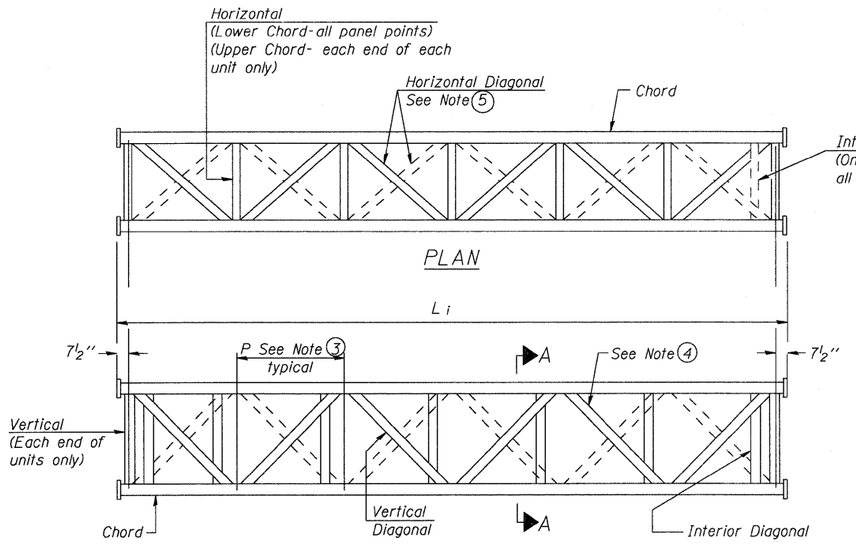
USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES – GENERAL PLAN & ELEVATION – ALUMINUM TRUSS & STEEL SUPPORTS

SHEET NO. 1 OF 20 SHEETS

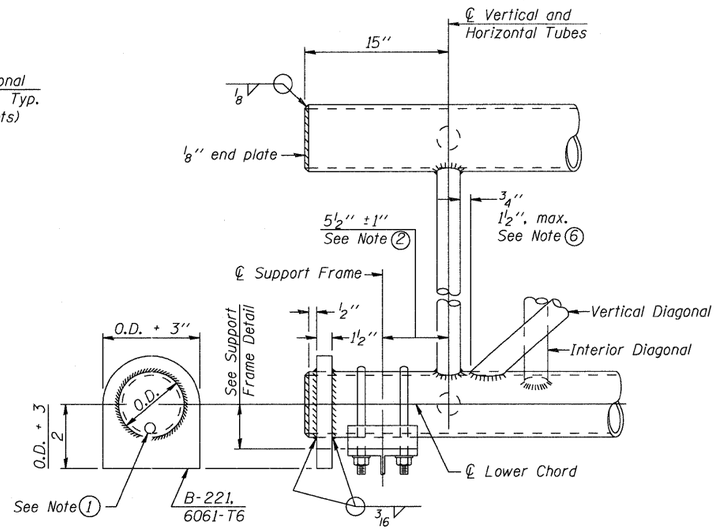
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	308
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



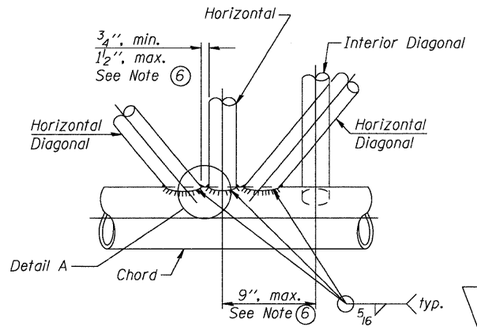
ELEVATION

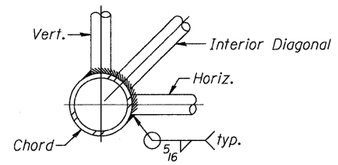
TYPICAL INTERIOR UNIT

Even number of panels/interior unit required.

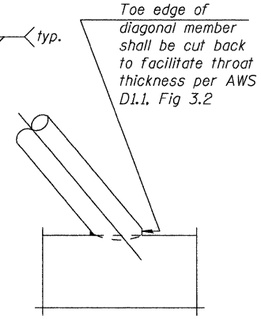


SUPPORT END DETAIL FOR EXTERIOR UNIT

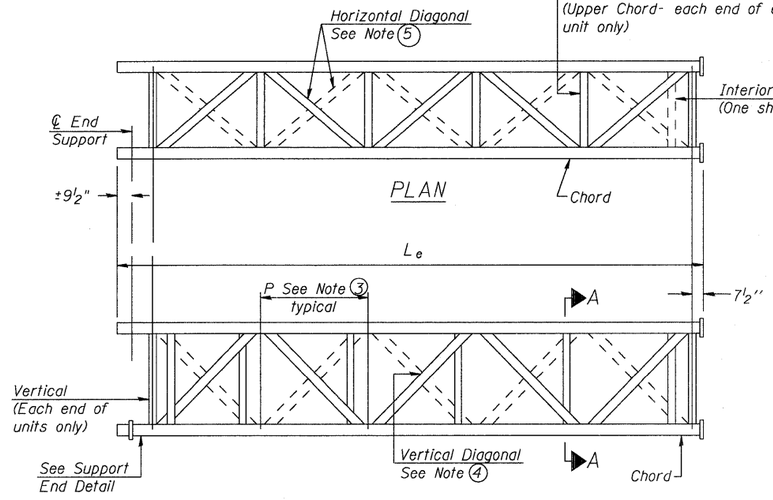




TYPICAL JOINT DETAILS



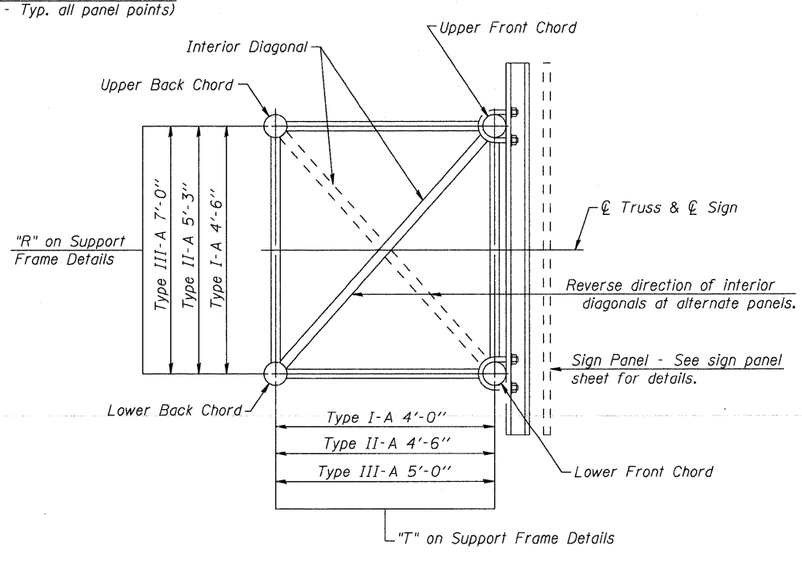
DETAIL A



ELEVATION

TYPICAL EXTERIOR UNIT

Even or odd number of panels/exterior units allowed.



SECTION A-A

1. Contractor may alternatively use standard aluminum drive-fit cap to close end. ½" ϕ drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
2. 5½" end dimension may vary by ±1" to provide uniform panel spacing (P).
3. Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
4. Vertical Diagonals in front and back face shall alternate.
5. Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
6. All diagonals shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a ¾" minimum to 1½" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.

OS-A-2 1-20-11

USER NAME =	DESIGNED -		REVISED -
	CHECKED - DW		REVISED -
PLOT SCALE =	DRAWN - JDH		REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011		REVISED -

McClure Engineering Association, Inc. LOCHNER PW, CHENNAI, INC. CHICAGO, ILLINOIS
RWA Hagen, Wagner & Associates, Inc.
QUIGG ENGINEERING INC.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

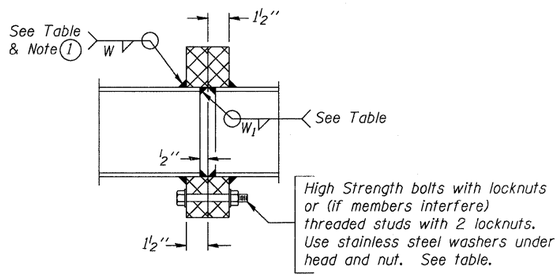
OVERHEAD SIGN STRUCTURES – ALUMINUM TRUSS
DETAILS FOR TRUSS TYPES I-A, II-A AND III-A

SHEET NO. 2 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	309
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

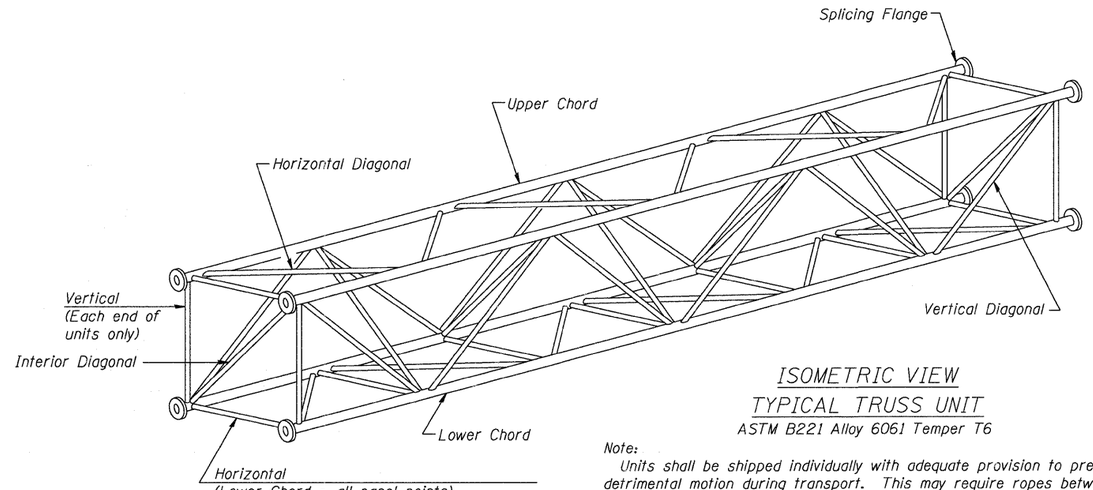
TRUSS UNIT TABLE

Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange					
			No. Panels per Unit	Unit Lgth.(L_e)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(L_i)	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall		Bolts		Weld Sizes		A	B
															No./Splice	Dia.	W	W_1		
2S1011090L00.65	34+18 LT	II-A	6	30'-9"	4'-9 3/4"	2	6	30'-1 1/2"	4'-9 3/4"	7"	5/16"	3"	5/16"	4 1/5"	6	1"	3/8"	1/4"	11 1/2"	15"
2S1011090L01.77	93+50 LT	III-A	6	34'-1 1/2"	5'-4 1/2"	1	6	33'-6"	5'-4 1/2"	7"	5/16"	3 1/4"	5/16"	2 3/10"	6	1"	7/16"	5/16"	11 1/2"	15"



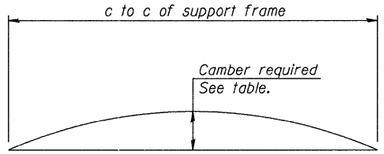
SECTION B-B

(1) Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.



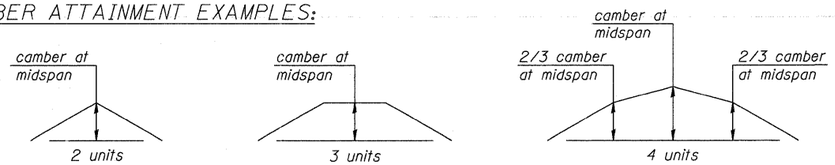
ISOMETRIC VIEW
TYPICAL TRUSS UNIT
ASTM B221 Alloy 6061 Temper T6

Note:
Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection of the units.

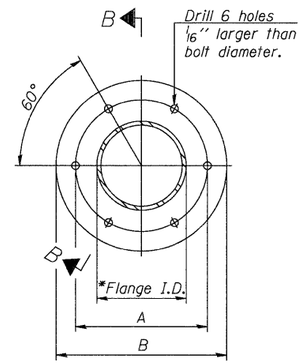


CAMBER DIAGRAM
Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

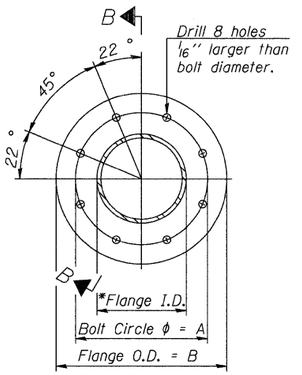
CAMBER ATTAINMENT EXAMPLES:



Camber shown is for fabrication only, measured with truss fully supported. (No-load condition)



TRUSS TYPES I-A, II-A, & III-A



TRUSS TYPES II-A & III-A

SPLICING FLANGES
ASTM B221. Alloy 6061-T6
or ASTM B209. Alloy 6061-T651
*To fit O.D. of Chord with maximum gap of 1/16".

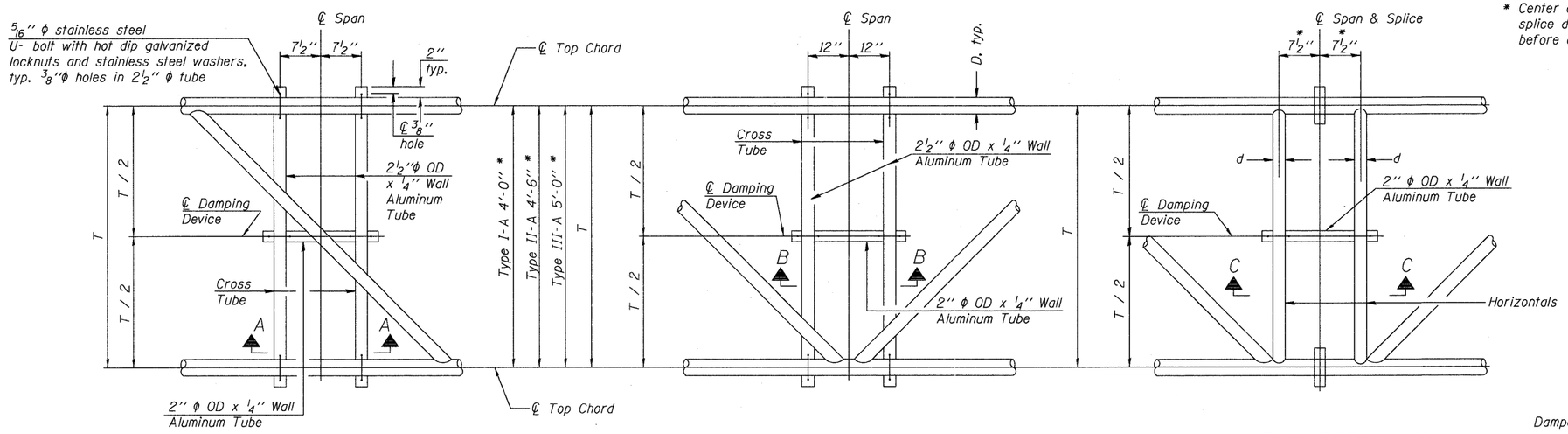
OS4-A-2 1-20-11

USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

OVERHEAD SIGN STRUCTURES – ALUMINUM TRUSS DETAILS FOR TRUSS TYPES I-A, II-A AND III-A

SHEET NO. 3 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	310
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



* Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.

PLAN DETAIL "A"
℄ Span between Panel Points

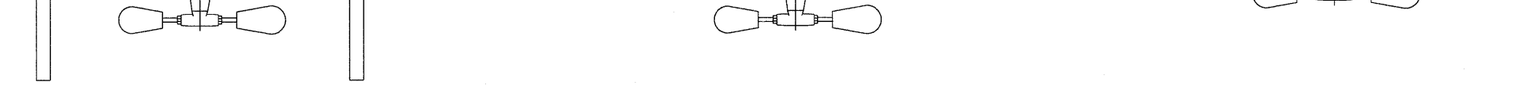
PLAN DETAIL "B"
℄ Span at Panel Point

PLAN DETAIL "C"
℄ Span at ℄ Chord Splice

NOTES

Damper: One damper per truss. (31 lbs. minimum Stockbridge-Type Aluminum - 29" minimum between ends of weights) Cost included in Overhead Sign Structure...

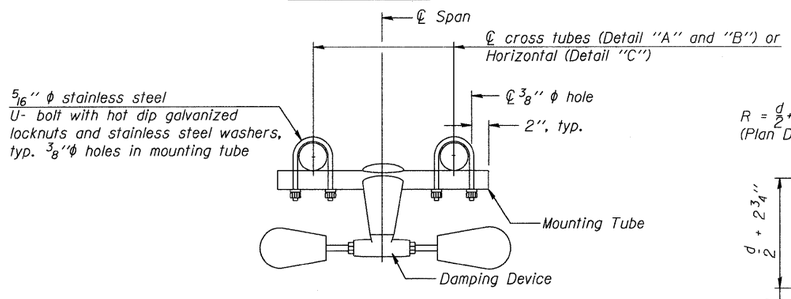
Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...



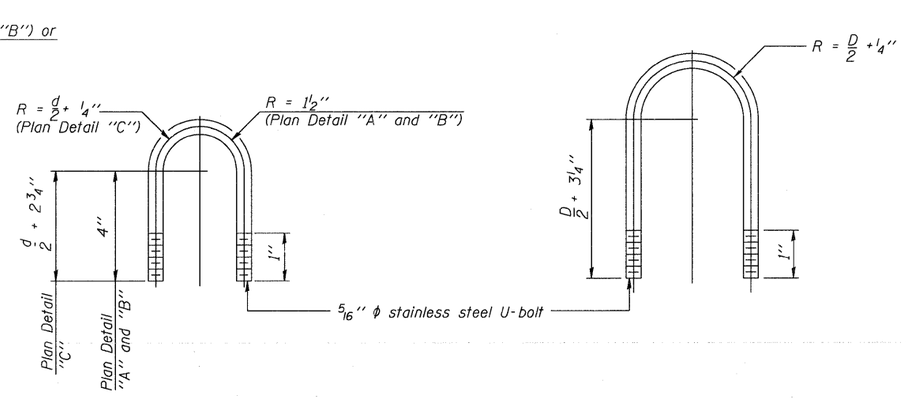
SECTION A-A

SECTION B-B

SECTION C-C

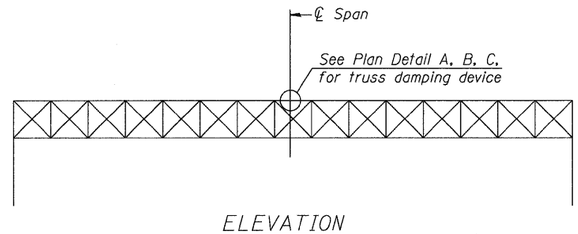


TRUSS DAMPING DEVICE CONNECTION DETAIL
(Typical)



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL
(Typical)

TOP CHORD TO CROSS TUBE U-BOLT DETAIL
(Typical - Detail "A" and "B")

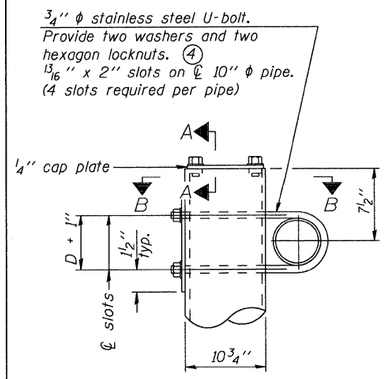


ELEVATION
Aluminum Overhead Sign Truss

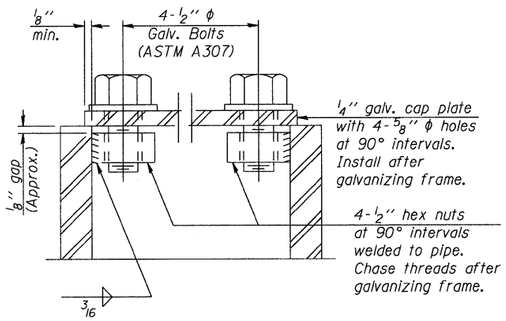
OS-A-D 1-20-11

McClure Engineering Associates, Inc. / LOCHNER R.W. LOCHNER, INC. CHICAGO, ILLINOIS	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURE DAMPING DEVICE
CIVIL ENGINEERING CONSULTANTS RWA Rogina Weimer & Associates, Inc.		CHECKED - DW	REVISED -		SHEET NO. 4 OF 20 SHEETS
QUIGG ENGINEERING INC	PLOT SCALE =	DRAWN - JDH	REVISED -		
	PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	311
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

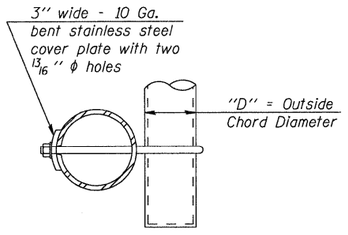


DETAIL A

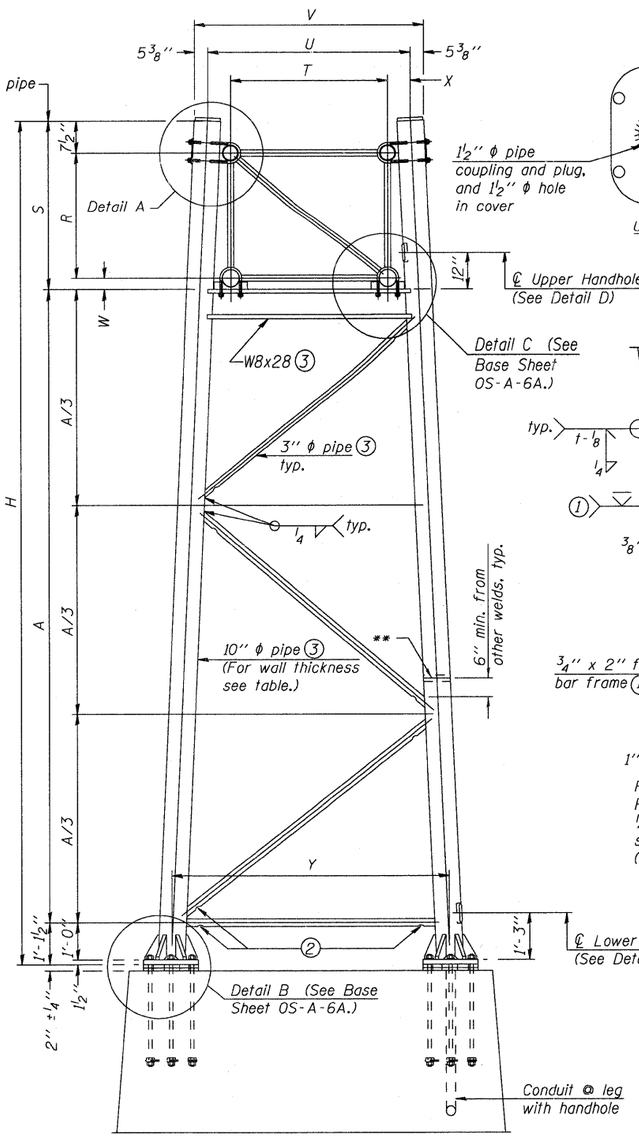


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.

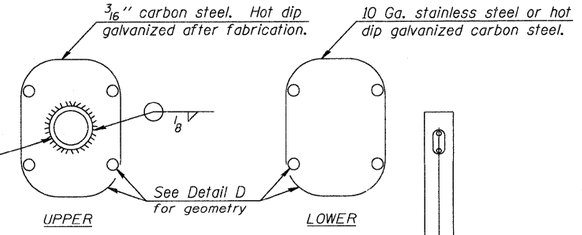


SECTION B-B

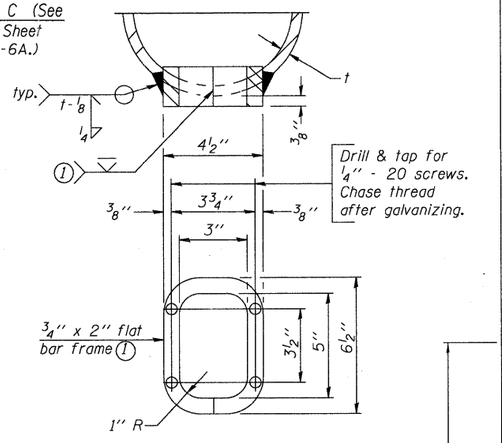


SIDE ELEVATION

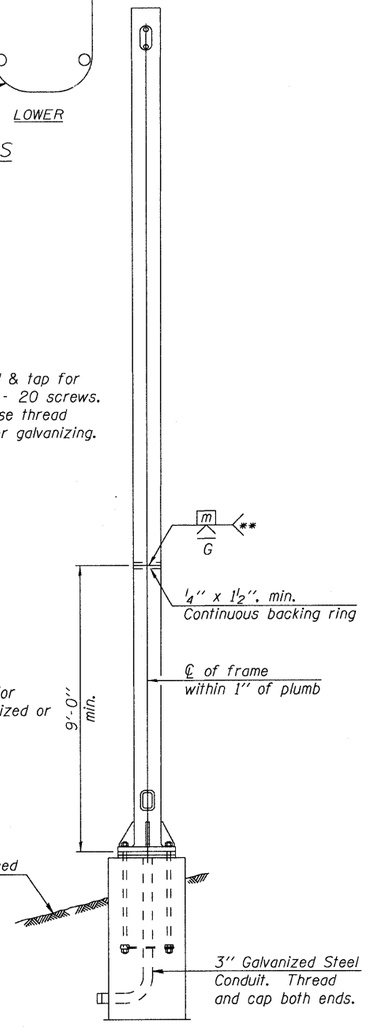
For Foundation Details, see base sheet OS-F3 (Spread Footing) or OS4-F3 (Drilled Shaft).



HANDHOLE COVERS



DETAIL D



END ELEVATION

Support Design Loads: See Base Sheet OS-A-1 for design and loading criteria.

Load combinations checked include deadload plus:

a) 100% wind normal to sign, 20% parallel to sign

b) 60% wind normal to sign, 30% parallel to sign

(1) *In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 min or less.*

(2) *Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.*

(3) *Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-A-1.*

(4) *See General Notes for fasteners.*

(5) *Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.*

(6) *"H" based on 15'-0" or actual sign height, whichever is greater.*

Truss Type	Dimensions							
	R	S	T	U	V	W	X	Y
I-A	4'-6"	5'-5 1/2"	4'-0"	5'-6"	6'-4 3/4"	4"	9"	8'-3"
II-A (5)	5'-3"	6'-3 1/4"	4'-6"	6'-1"	6'-11 3/4"	4 3/4"	9 1/2"	8'-3"

Structure Number	Station	Support		Truss Type	Pipe Wall Thickness	H (6)	A
		Left	Right				
2S1011090L00.65	34+18 LT	X		II-A	0.365"	30.32'	22.93'
2S1011090L00.65	34+18 LT		X	II-A	0.365"	26.04'	18.65'

10" ϕ PIPE TRUSS SUPPORT FRAME

** *One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.*

OS-A-6 1-20-11

McClure Engineering Associates, Inc. LOCHNER FKW LOCHNER, INC., CHICAGO, ILLINOIS

CIVIL ENGINEERING CONSULTANTS Rapp, Wagner & Associates, Inc. RWA

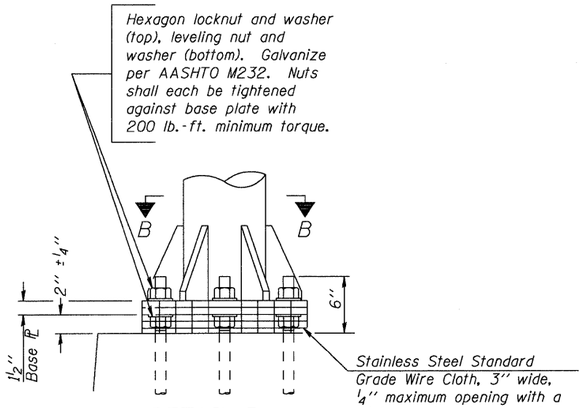
QUIGG ENGINEERING INC

USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

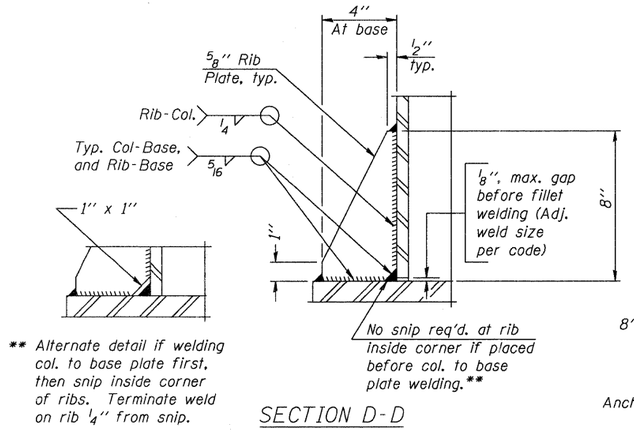
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR ALUMINUM TRUSS
SHEET NO. 5 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	312
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



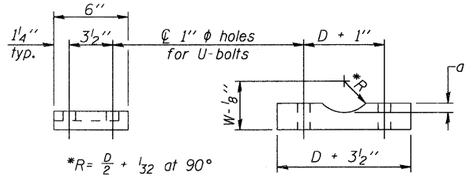
DETAIL B

Ribs shall be cut to fit slope of pipe.



** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

SECTION D-D



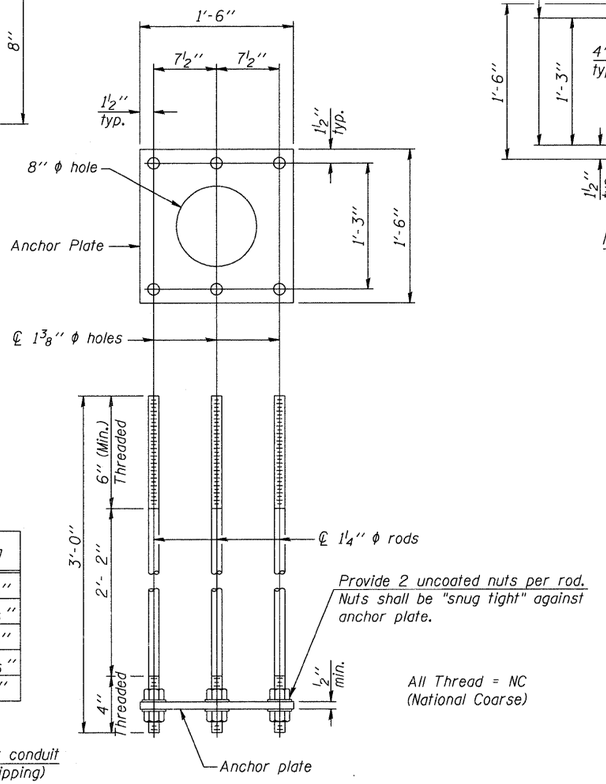
*R = D/2 + 1/32 at 90°

D = Outside Diameter of Chord.
For W, see Base Sheet OS-A-6.

SADDLE SHIM DETAIL

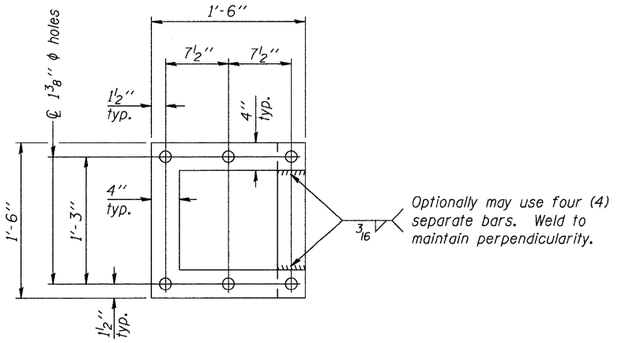
ASTM B26 Alloy 356-F
or
ASTM B209 Alloy 6061-T651
(4 required per sign truss)

Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	13/16"
6"	7/8"
6 1/2"	15/16"
7"	1"

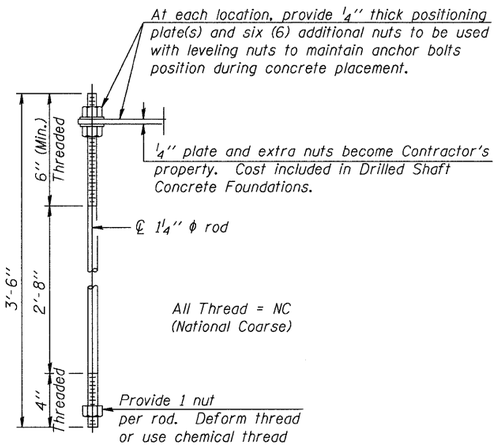


ANCHOR ROD DETAIL
Spread Footing Foundation

All Thread = NC
(National Coarse)

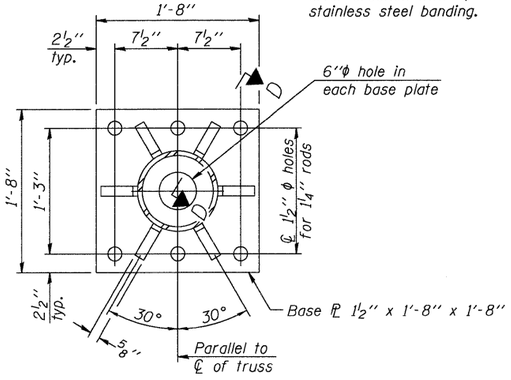


POSITIONING PLATE(S)

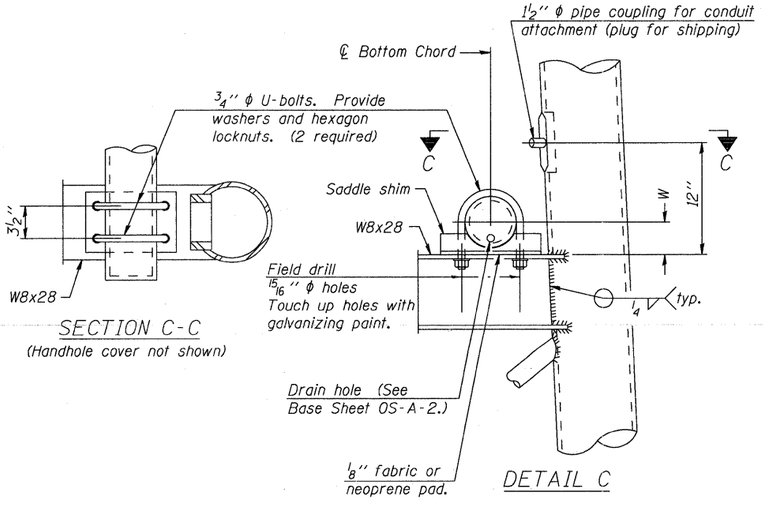


All Thread = NC
(National Coarse)

ANCHOR ROD DETAIL
Drilled Shaft Foundation



SECTION B-B



SECTION C-C
(Handhole cover not shown)

DETAIL C

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

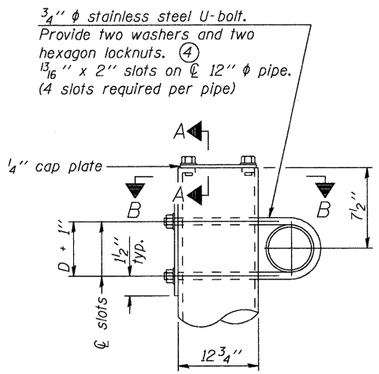
10" ϕ PIPE SUPPORT FRAME DETAILS

OS-A-6A 1-20-11

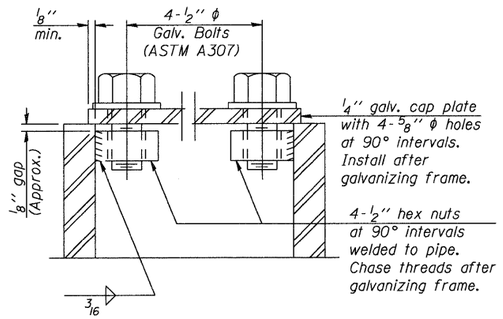
USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME DETAILS – ALUMINUM TRUSS
SHEET NO. 6 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	313
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

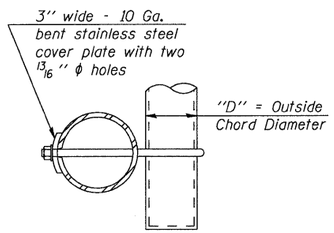


DETAIL A

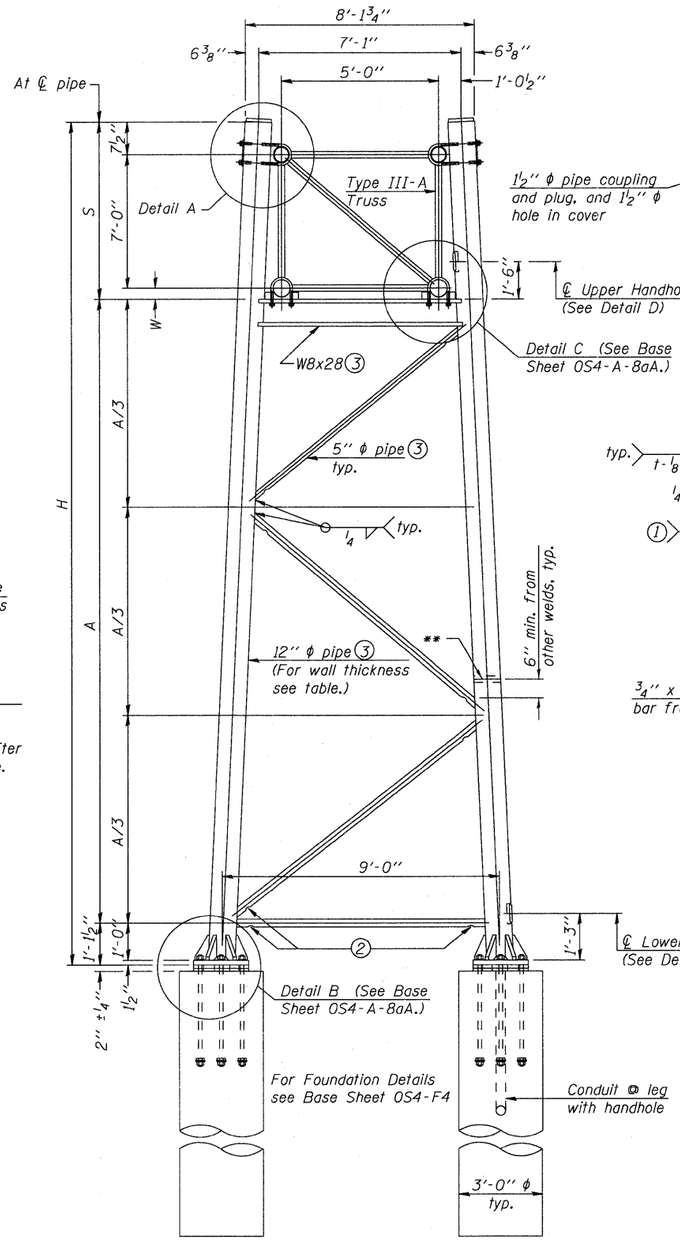


SECTION A-A

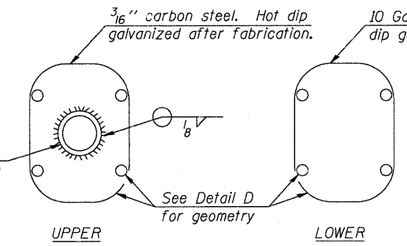
As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.



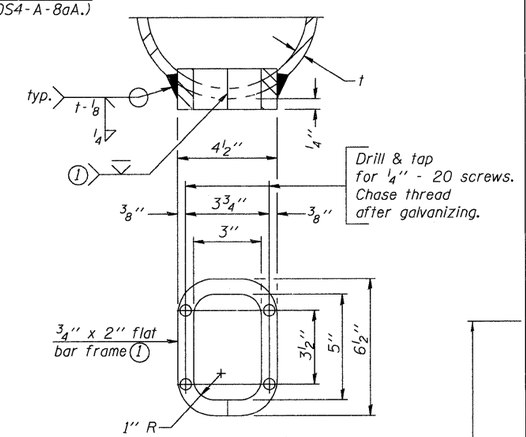
SECTION B-B



SIDE ELEVATION

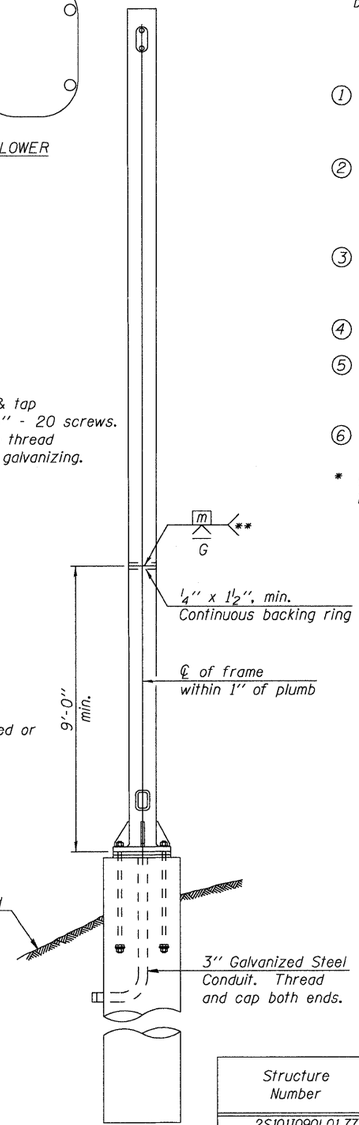


HANDHOLE COVERS



Provide $6\frac{1}{2}$" x $4\frac{1}{2}$" cover.
Provide $4-\frac{5}{16}$" ϕ holes in cover for $\frac{1}{4}$"-20 round head hot dip galvanized or stainless steel machine screws.
(See cover details)

DETAIL D



END ELEVATION

Support Design Loads: See Base Sheet OS-A-1 for design and loading criteria.
Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

(1) In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 min or less.

(2) Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.

(3) Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-A-1.

(4) See General Notes for fasteners.

(5) Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.

(6) "H" based on 15'-0" or actual sign height, whichever is greater.

* For dynamic message sign installations, provide upper and lower handholes in both legs of each support frame.

Dimensions		
Truss Chord Nominal Dia.	W	S
7"	$4\frac{3}{4}$"	8'-0 1/4"
$8\frac{1}{2}$"	$5\frac{1}{2}$"	8'-1"
9"	$5\frac{3}{4}$"	8'-1 1/4"

Structure Number	Station	Support		Pipe Wall Thickness	H (6)	A
		Left	Right			
2S1011090L01.77	93+50 LT	X		0.33"	29.70'	20.56'
2S1011090L01.77	93+50 LT		X	0.33"	26.76'	17.62'

TRUSS SUPPORT DETAILS

(12" ϕ Pipe-Type III-A Truss

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

OS4-A-8a 1-20-11

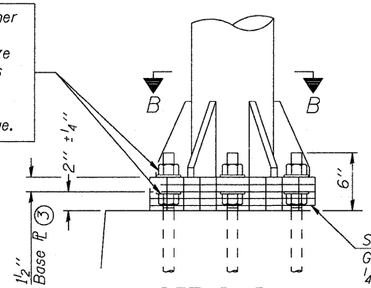
USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

OVERHEAD SIGN STRUCTURES – SUPPORT FRAME FOR TYPE III-A ALUMINUM TRUSS

SHEET NO. 7 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	314
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

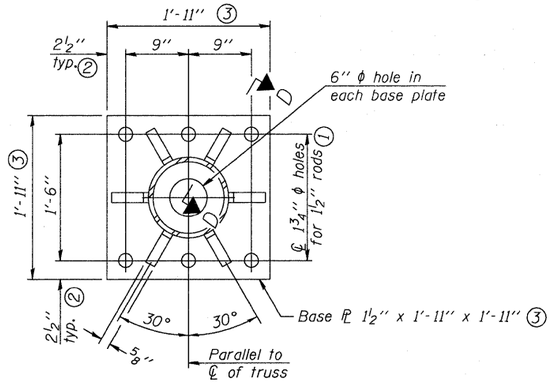
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.



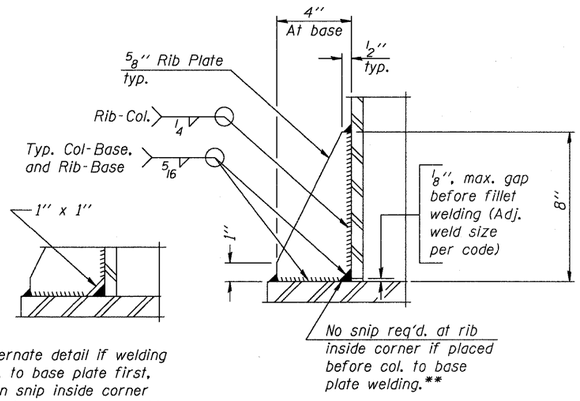
DETAIL B

Ribs shall be cut to fit slope of pipe.

Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.

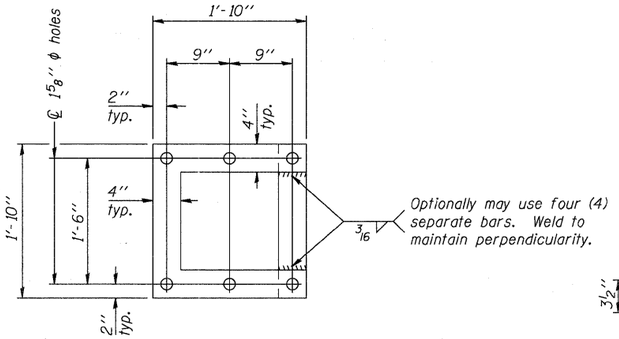


SECTION B-B

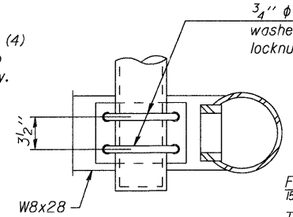


** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

SECTION D-D

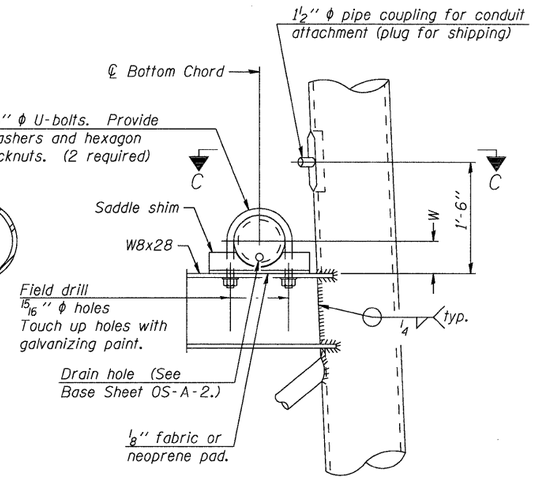


POSITIONING PLATE(S)

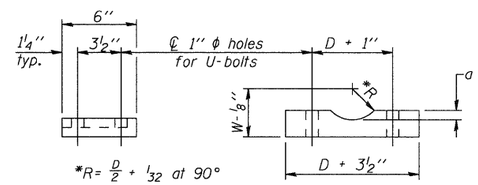


SECTION C-C

(Handhole cover not shown)



DETAIL C



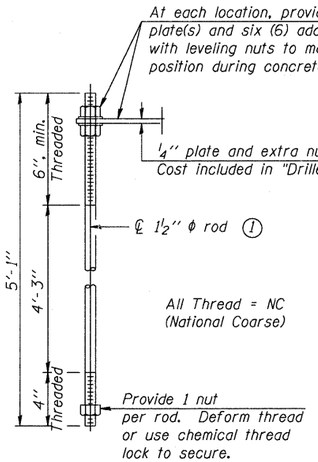
*R = D/2 + 1/32 at 90°

D = Outside Diameter of Chord.
For W, see Base Sheet OS-A-6.

Truss Chord Nominal Dia.	a
7"	1"
8 1/2"	1 1/4"
9"	1 3/8"

SADDLE SHIM DETAIL

ASTM B26 Alloy 356-F
or
ASTM B209 Alloy 6061-T651
(4 required per sign truss)



ANCHOR ROD DETAIL

Anchor rods shall conform to ASTM F1554 Grade 105 Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

TYPE III-A TRUSS
12" ϕ PIPE SUPPORT FRAME DETAILS

Notes:
For Type III-A Truss spans greater than 150 ft. and up to 160 ft.:

① 1 3/4" ϕ rod, 2" ϕ holes

② 2 3/4" edge distance

③ Base ℄ 1 5/8" x 1'-11 1/2" x 1'-11 1/2"

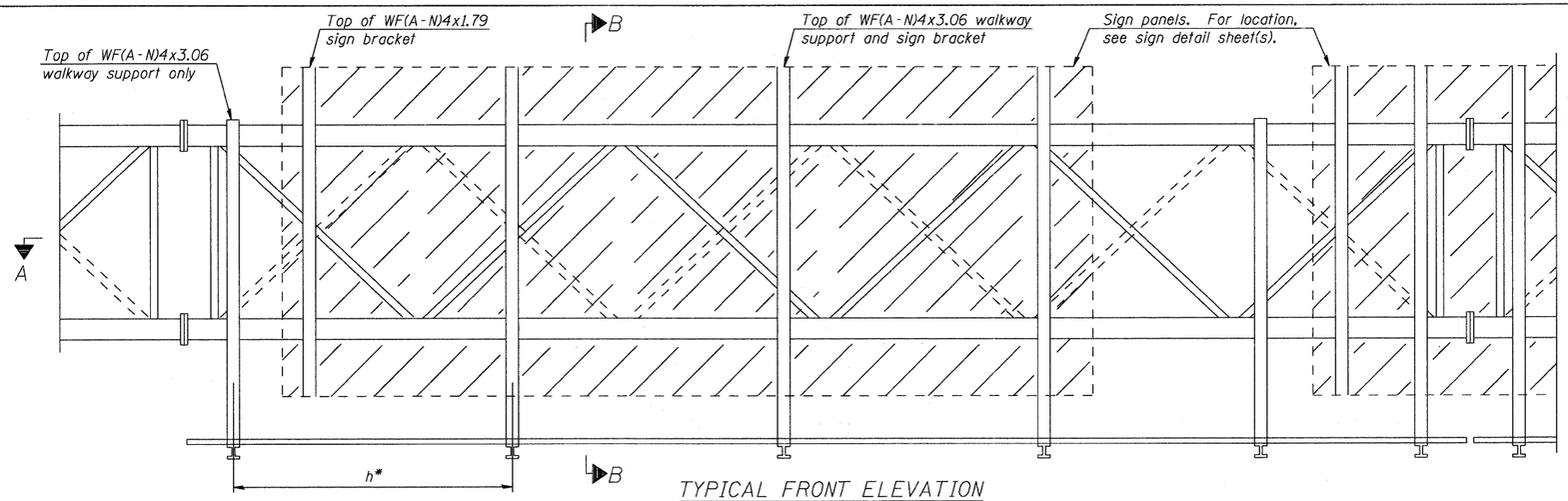
OS4-A-8aA 1-20-11

McClure Engineering Associates, Inc. / LOCHNER HNTB LOCHNER, INC., CHICAGO, ILLINOIS / RWA Rapin, Webster & Associates, Inc. / QUIGG ENGINEERING INC.	USER NAME =	DESIGNED -	REVISED -
		CHECKED - DW	REVISED -
	PLOT SCALE =	DRAWN - JDH	REVISED -
	PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

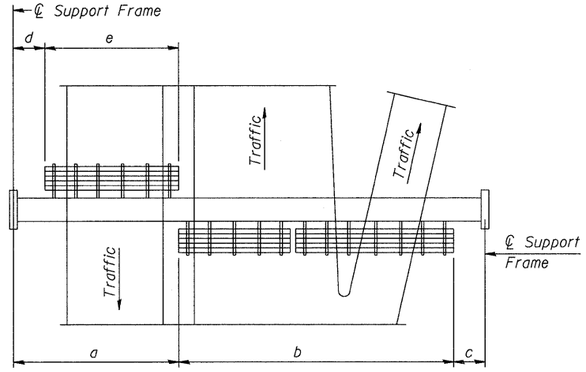
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR TYPE III-A ALUMINUM TRUSS
SHEET NO. 8 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	315
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



TYPICAL FRONT ELEVATION

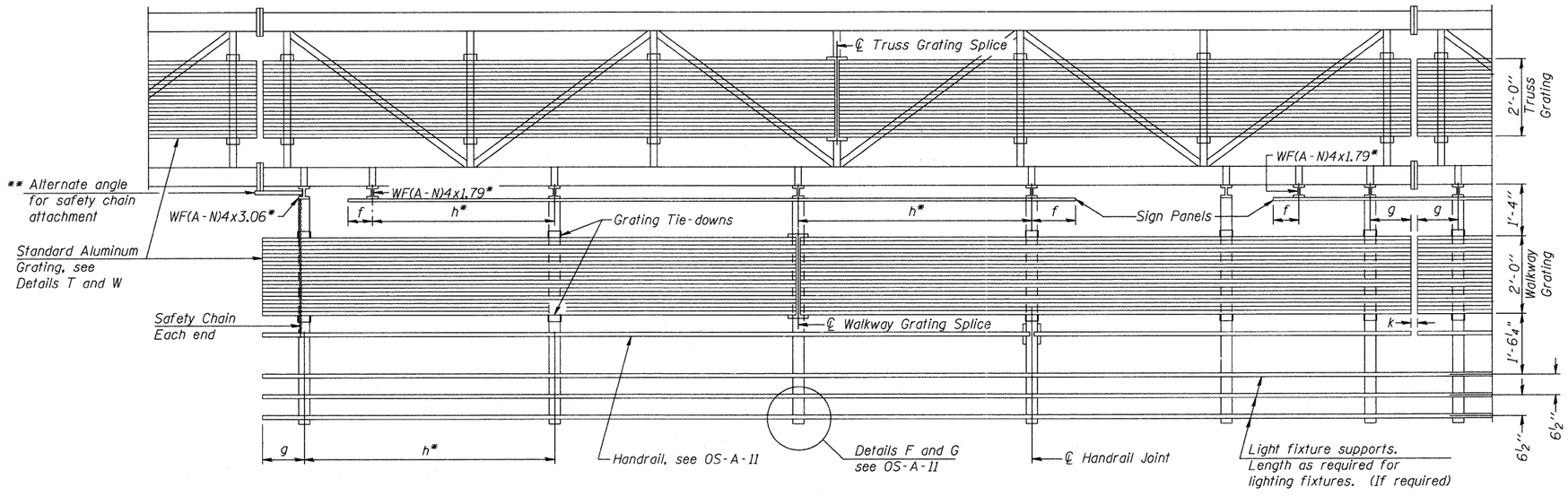
With lights and handrail omitted for clarity.
For Section B-B, see Base Sheet OS-A-10.



PLAN

WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)



SECTION A-A

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints.
Place all sign and walkway brackets as close to panel points as practical.
Handrail joints, grating, and light support splices placed as needed.

BRACKET TABLE

WF(A-N)4x1.79 or WF(A-N)4x3.06 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

Notes:

* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to ℄ of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway grating to ℄ of nearest support bracket)
h = 6'-0" maximum (℄ to ℄ sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
k = 2" maximum gap between adjacent walkway grating sections and handrail ends

** If walkway bracket at safety chain location is behind sign, add angle to bracket, see Alternate Safety Chain Attachment on Base Sheet OS-A-11.

For Details T and W, Section B-B and Grating Splice Details see Base Sheet OS-A-10.
For Handrail Details see Base Sheet OS-A-11.

Structure Number	Station	a	b	c	d	e	Walkway Grating and Handrail Lengths
2S101I090L00.65	34+18 LT	9'	67'	44'	-	-	67'

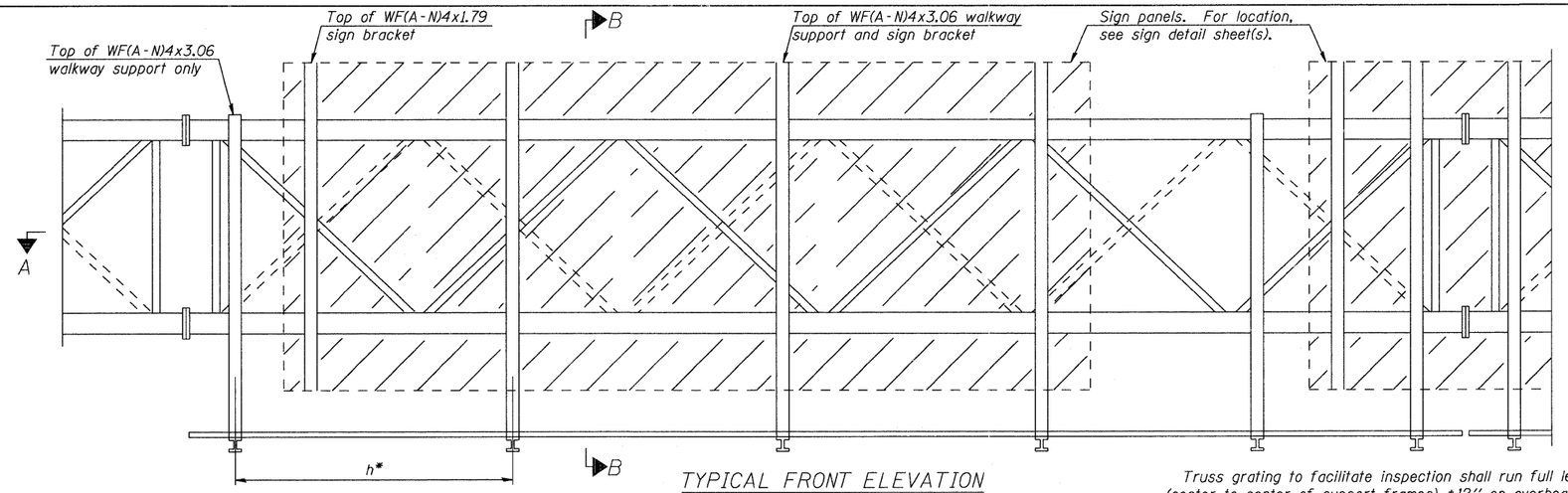
Truss grating to facilitate inspection shall run full length (center to center of support frames) ±12" on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".

Walkway and Truss Grating width dimensions are nominal and may vary ±½" based on available standard widths.

OS-A-9 1-20-11

USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - DW	REVISED -	OVERHEAD SIGN STRUCTURES ALUMINUM WALKWAY DETAILS
PLOT SCALE =	DRAWN - JDH	REVISED -	SHEET NO. 9 OF 20 SHEETS
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

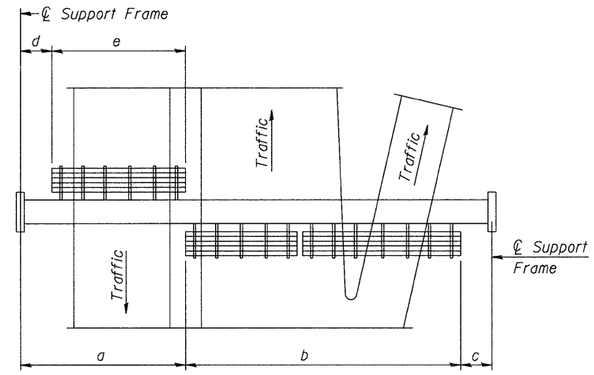
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	316
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



TYPICAL FRONT ELEVATION

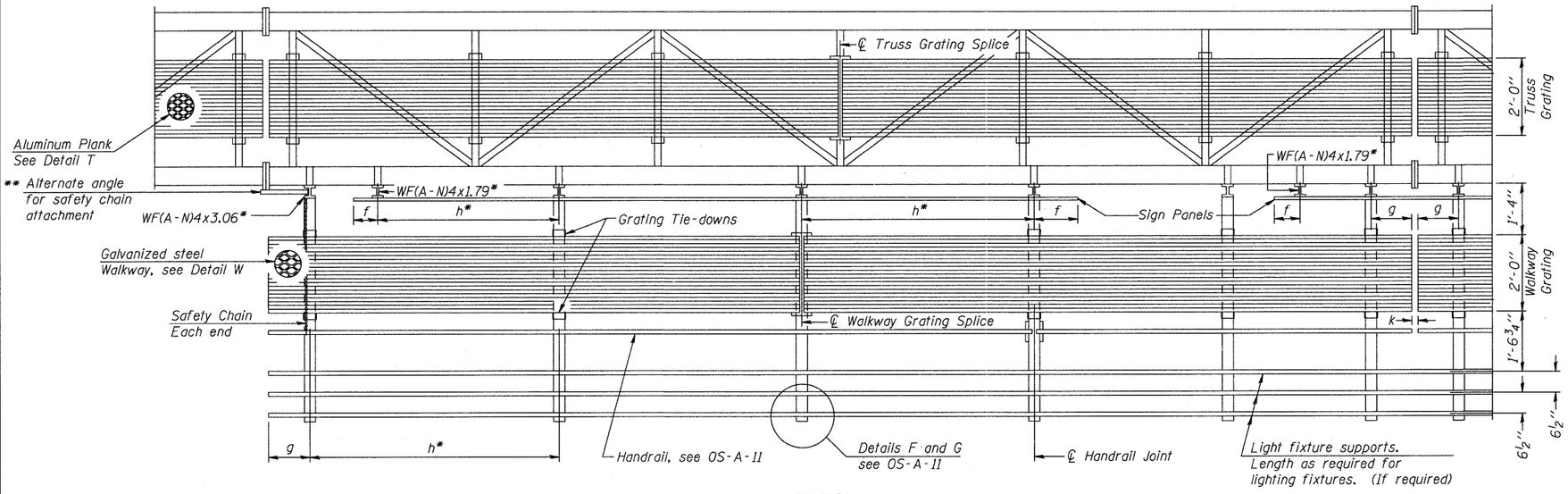
With lights and handrail omitted for clarity.
For Section B-B, see Base Sheet OS-A-10.

Truss grating to facilitate inspection shall run full length (center to center of support frames) ±12" on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".



PLAN
WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)



SECTION A-A

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints.
Place all sign and walkway brackets as close to panel points as practical.
Handrail joints, grating, and light support splices placed as needed.

BRACKET TABLE

WF(A-N)4x1.79 or WF(A-N)4x3.06 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

Note:
Details shown are considered equal alternatives to the Aluminum Walkway on Base Sheet OS-A-9, and may be substituted by Contractor at no change in contract cost.

Walkway and Truss Grating width dimensions are nominal and may vary ±½" based on available standard widths.

Structure Number	Station	a	b	c	d	e	Walkway Grating and Handrail Lengths
2S1011090L00.65	34+18 LT	9'	67'	44'	-	-	67'

Notes:
* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to ℄ of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway grating to ℄ of nearest support bracket)
h = 6'-0" maximum (℄ to ℄ sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
k = 2" maximum gap between adjacent walkway grating sections and handrail ends

** If walkway bracket at safety chain location is behind sign, add angle to bracket, see Alternate Safety Chain Attachment on Base Sheet OS-A-11.

For Details T and W, Section B-B and Grating Splice Details see Base Sheet OS-A-10.
For handrail details see base sheet OS-A-11.

OS-A-9S 1-20-11

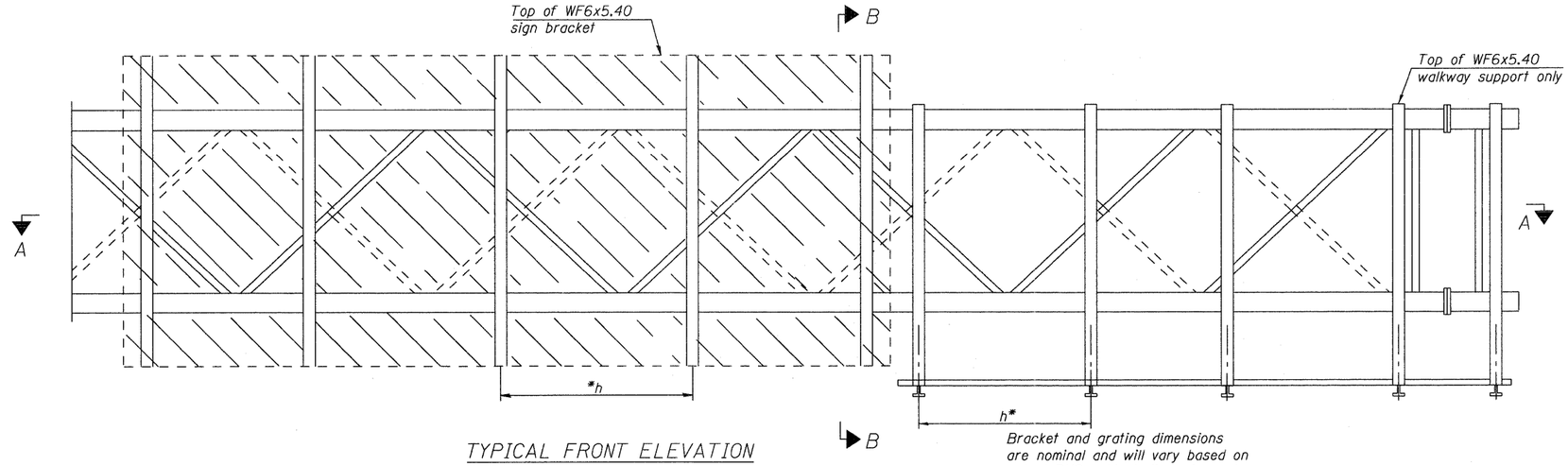
McClure Engineering Associates, Inc. LOCHNER HNTB LOCHNER, INC., CHICAGO, ILLINOIS
CIVIL ENGINEERING CONSULTANTS RWA Rogers Werner & Associates, Inc. QUIGG ENGINEERING INC

USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALTERNATE WALKWAY DETAILS
SHEET NO. 10 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	317
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

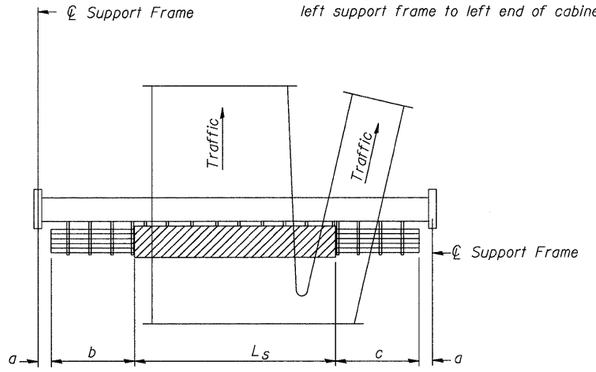


TYPICAL FRONT ELEVATION

With handrail omitted for clarity.

Bracket and grating dimensions are nominal and will vary based on actual DMS cabinet dimensions plus manufacturer's mounting devices.

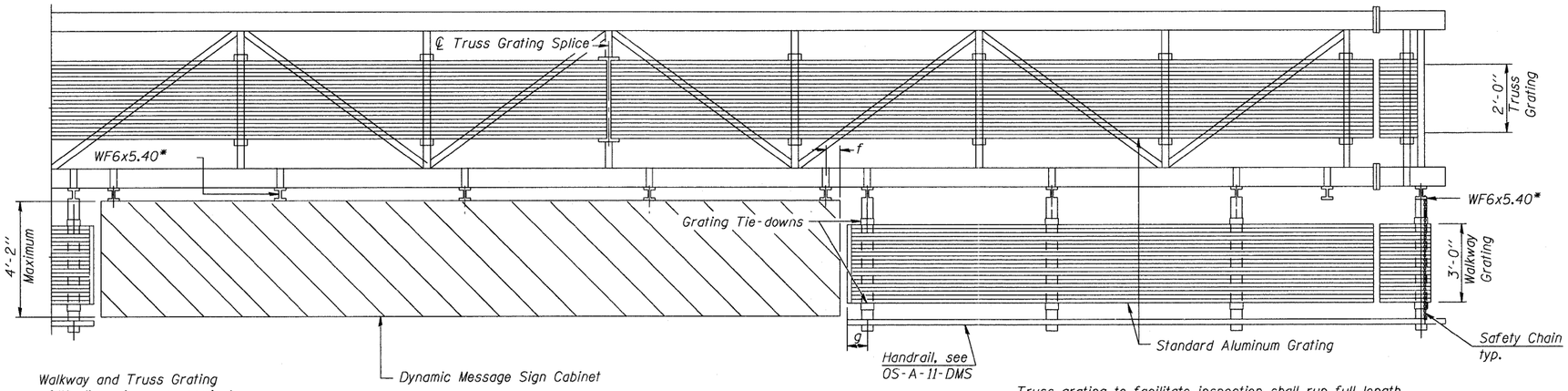
① If walkway is required left of the DMS cabinet, a=1'-6" and b=walkway lengths. If walkway is not required left of the DMS cabinet, b=0 and "a" is dimension from left support frame to left end of cabinet.



PLAN

WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)



Walkway and Truss Grating width dimensions are nominal and may vary ±½" based on available standard widths.

Truss grating to facilitate inspection shall run full length (center to center of support frames) ±12" on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".

SECTION A-A

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints.
Place all sign and walkway brackets as close to panel points as practical.
Grating and handrail splices placed as needed.

BRACKET TABLE

WF6x5.40 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

Structure Number	Station	a	b	c	L_s	Walkway Grating and Handrail Lengths
2S1011090L01.77	93+50 LT	9'-L 46"-R	10'	10'	25'	20'

Notes:
* Space walkway brackets WF6x5.40 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to ℄ of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway grating to ℄ of nearest support bracket)
h = 6'-0" maximum (℄ to ℄ sign and/or walkway support brackets, WF6x5.40

Maximum DMS weight = 5000 lbs. 4'-2" maximum cabinet depth includes depth of cabinet plus connection to WF6x5.40.
For Section B-B and Grating Splice Details, see Base Sheet OS-A-10-DMS.
For Handrail Splice Details, see Base Sheet OS-A-11-DMS.

OS-A-9-DMS 1-20-11

McClure Engineering Associates, Inc. LOCHNER FOR: LOCHNER, INC., CHICAGO, ILLINOIS
RWA Rapp Wexler & Associates, Inc. OFI QUIGG ENGINEERING INC

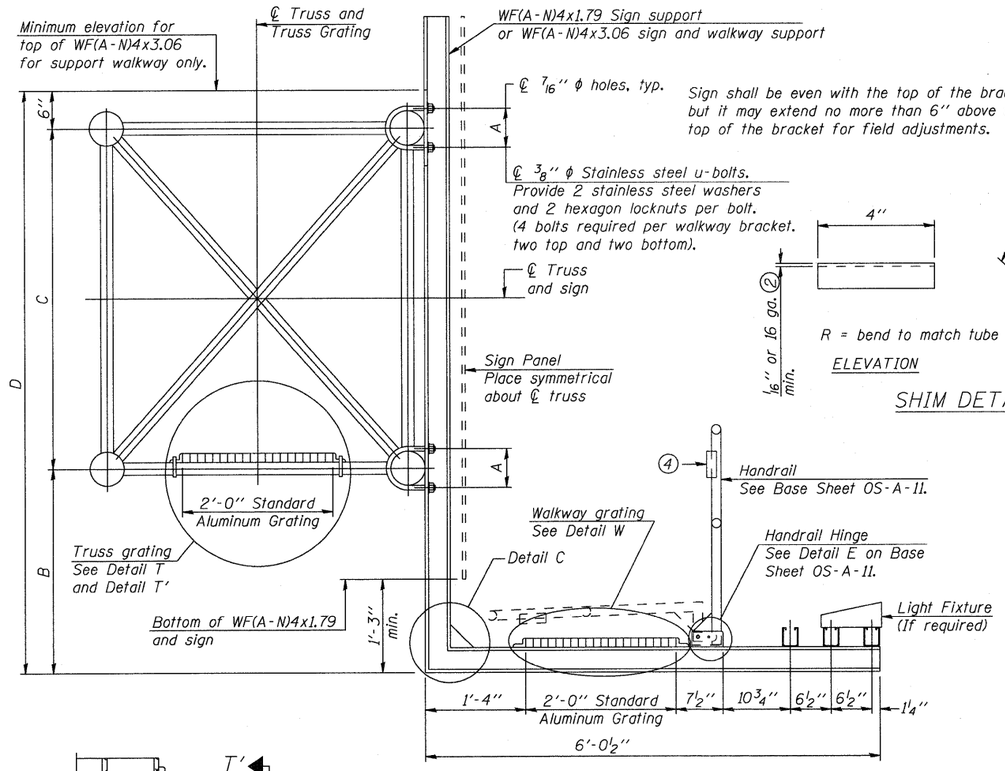
USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

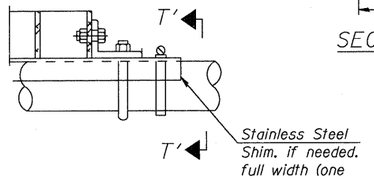
OVERHEAD SIGN STRUCTURES
ALTERNATE ALUMINUM WALKWAY DETAILS FOR DMS

SHEET NO. 11 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	318
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



SECTION B-B

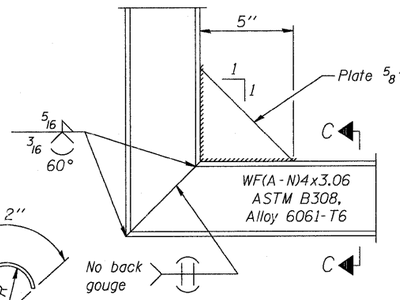


DETAIL T'

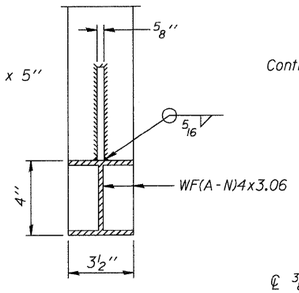
(Truss grating splice)

Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.

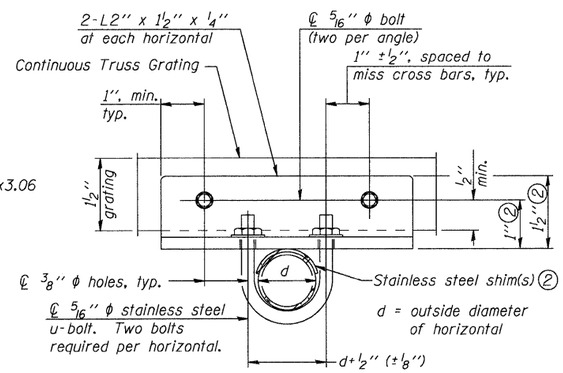
SHIM DETAIL



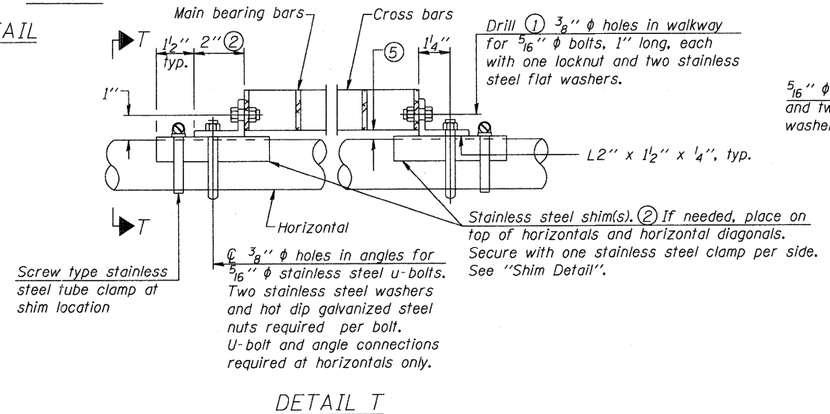
DETAIL C



SECTION C-C

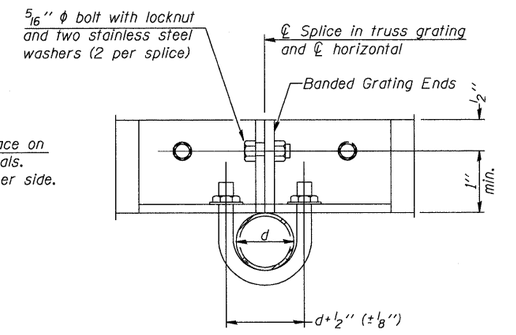


SECTION T-T

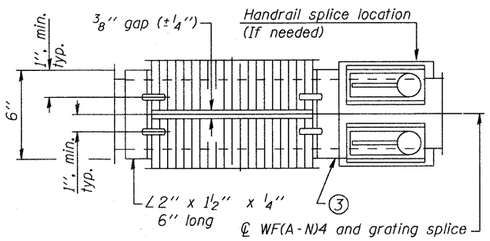


DETAIL T

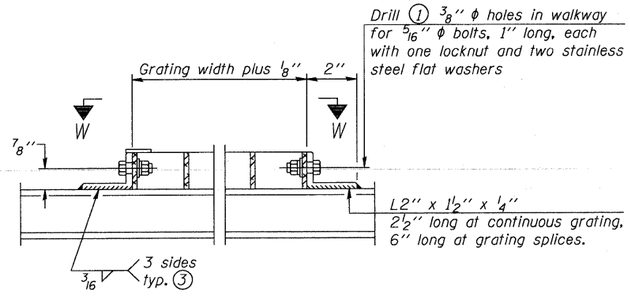
(Continuous Truss grating)



SECTION T'-T'

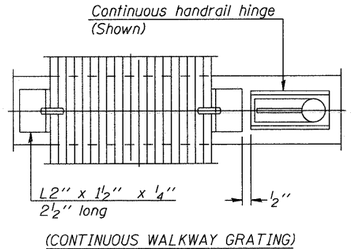


(AT WALKWAY GRATING SPLICE)



DETAIL W

(Walkway grating)



(CONTINUOUS WALKWAY GRATING)

SECTION W-W

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.

Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:

Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.^{3} per bar, a depth of 1 1/2", spaced on 1 3/16" centers.

Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Structure Number	Station	A	⑥ B	C	⑥ D
2S1011090L00.65	34+18 LT	7 1/2"	5'-4 1/2"	5'-3"	11'-1 1/2"

(1) Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.

(2) Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.

(3) If Handrail Joint present, weld angle to WF(A-N)4 and 1/4" extension bars. (See Base Sheet OS-A-11.)

(4) ℄ 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.

(5) Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.

(6) Based on actual height of tallest sign given on OS-A-1.

OS-A-10 1-20-11

McClure Engineering Associates, Inc. | LOCHNER H.W. LOCHNER, INC., CHICAGO, ILLINOIS | RWA Rogers Wheeler & Associates, P.C. | QUIGG ENGINEERING INC.

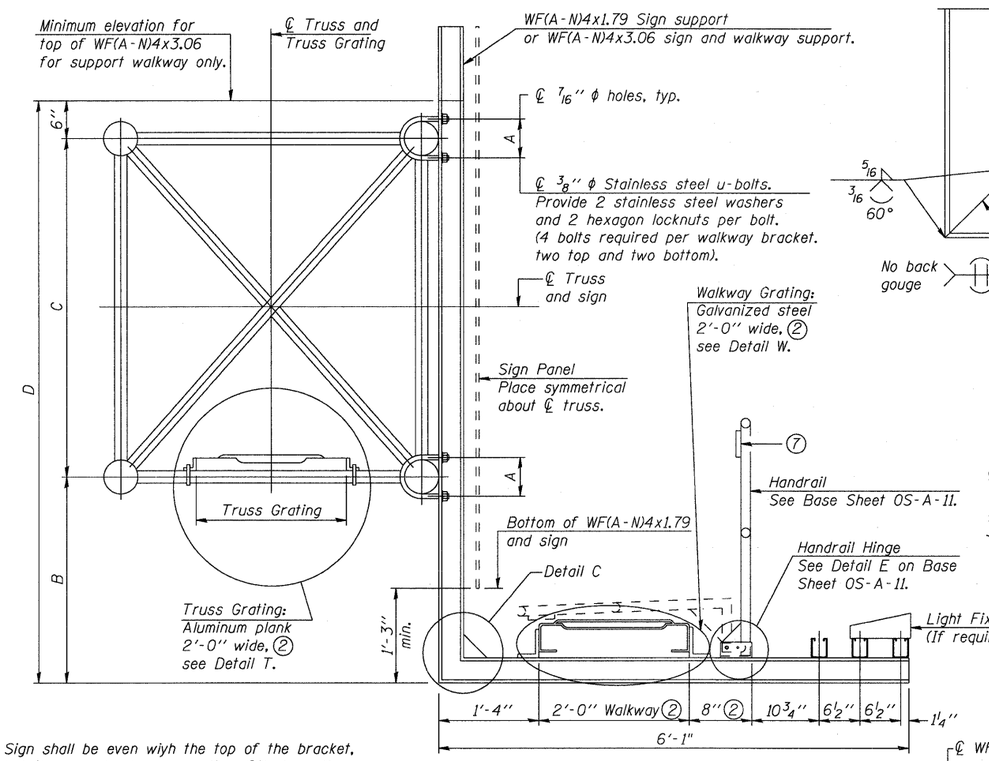
USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

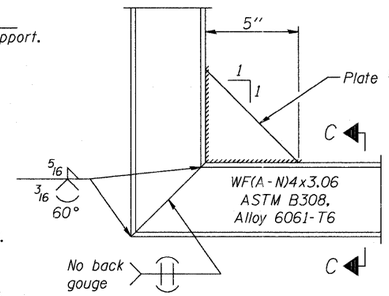
SHEET NO. 12 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	319
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

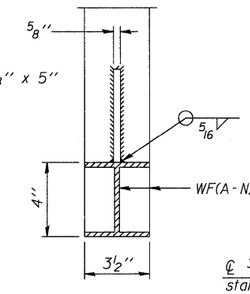


Sign shall be even wiyh the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.

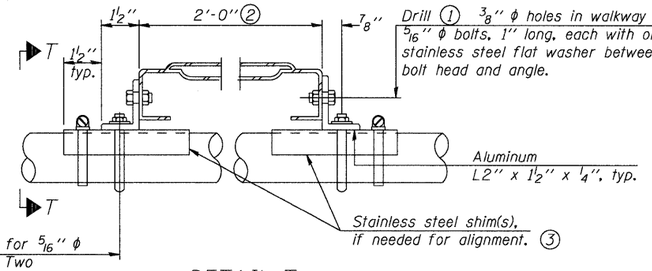
SECTION B-B



DETAIL C

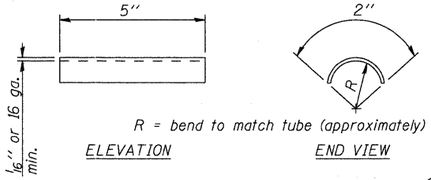


SECTION C-C

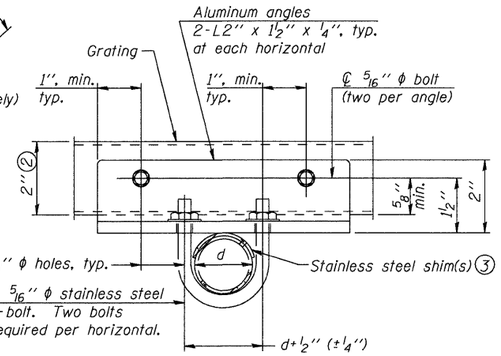


℄ 3/8" ϕ holes in angles for 5/16" ϕ stainless steel u-bolts. Two stainless steel washers and hot dip galvanized steel nuts required per bolt. U-bolt and angle connections required at horizontals only.

DETAIL T
(Truss grating at horizontal)

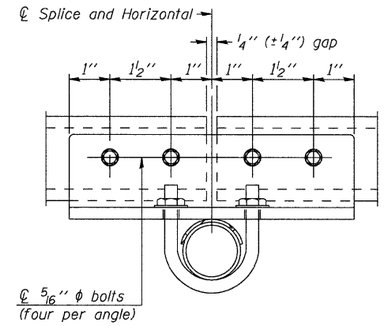


SHIM DETAIL



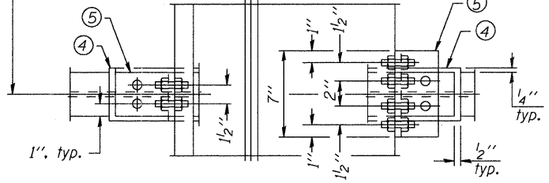
SECTION T-T
(Truss Grating Continuous)

d = outside diameter of horizontal



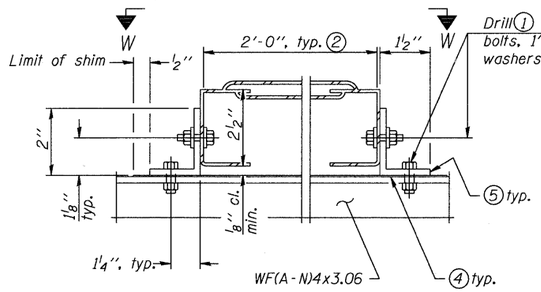
SECTION T-T
(Truss Grating Splice)

Alternate splice details and locations may be used subject to the Engineer's review and approval.



WALKWAY GRATING CONTINUOUS AT WALKWAY GRATING SPLICE

SECTION W-W



DETAIL W
GALVANIZED STEEL WALKWAY GRATING

ALUMINUM TRUSS GRATING

(1) Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.

(2) Perforated or expanded metal grating providing a skid resistant (non-serrated) surface and capable of supporting a 500 pound concentrated load with a 6'-0" clear span. Walkway and truss grating dimensions are nominal and may vary (width ±1/2", depth ±1/2") based on available standard sizes. Cut ends of grating shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

(3) Stainless steel shims shall be placed under angles at horizontals and horizontal diagonals if needed to compensate for alignment variations and differences in horizontal diagonal pipe sizes beyond adjustment provided by angles. Secure with one stainless steel clamp per location, see "Shim Detail". Thicker shim plates may be used when needed subject to shims performing properly.

(4) 1/16" (or 16 ga.) x 2 1/2" x 4" stainless steel shim adhered to top of WF(A-N)4x3.06 beneath each galvanized angle. Adhesives for shims shall be suitable for materials joined and full exposure conditions.

(5) Galvanized steel L2" x 2" x 1/4", 3 1/2" long with continuous grating, 7" long at grating splice.

(6) Details shown are considered equal alternatives to the Aluminum Walkway on Base Sheet OS-A-10 and may be substituted by Contractor at no change in contract cost.

(7) PL 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.

(8) Based on actual height of tallest sign given on OS-A-1.

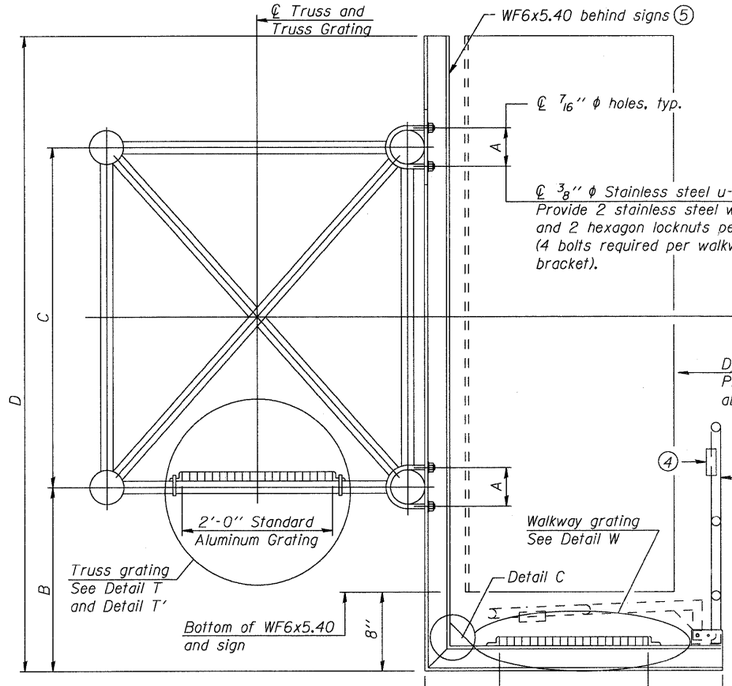
Structure Number	Station	A	(8) B	C	(8) D
2S1011090L00.65	34+18 LT	7 1/2"	5'-4 1/2"	5'-3"	11'-1 1/2"

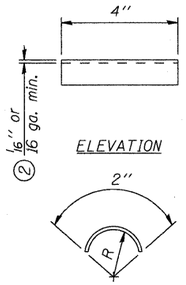
OS-A-10S 1-20-11

USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

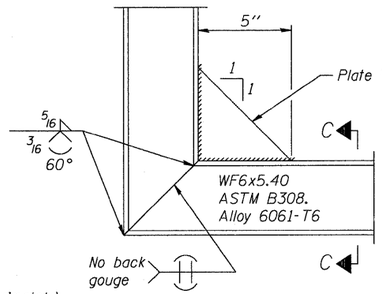
OVERHEAD SIGN STRUCTURES
ALTERNATE WALKWAY DETAILS
SHEET NO. 13 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	320
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		

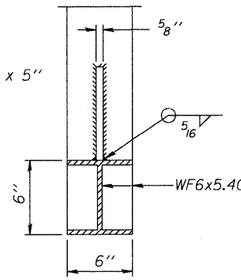




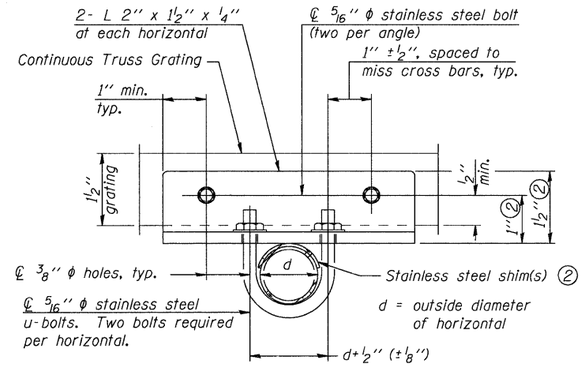
SHIM DETAIL



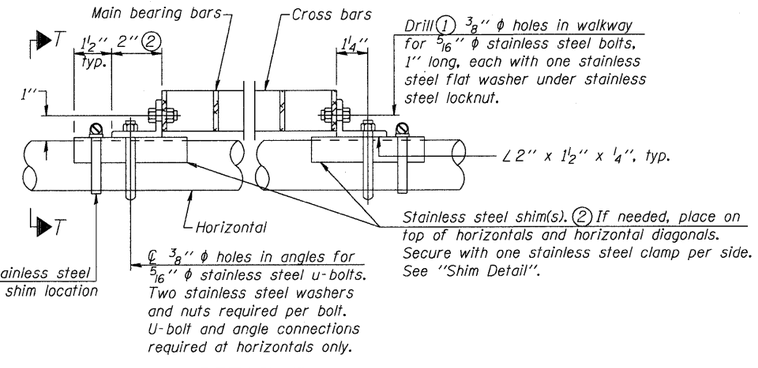
DETAIL C



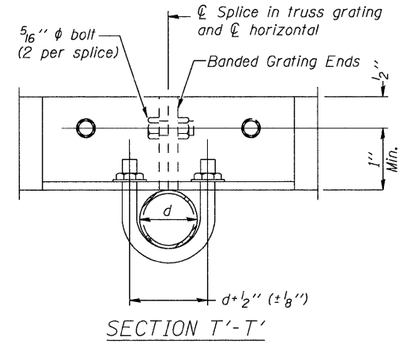
SECTION C-C



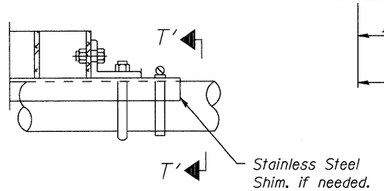
SECTION T-T



DETAIL T
(Continuous Truss grating)



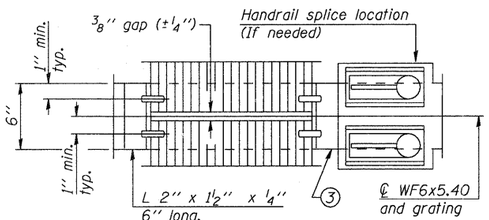
SECTION T'-T'



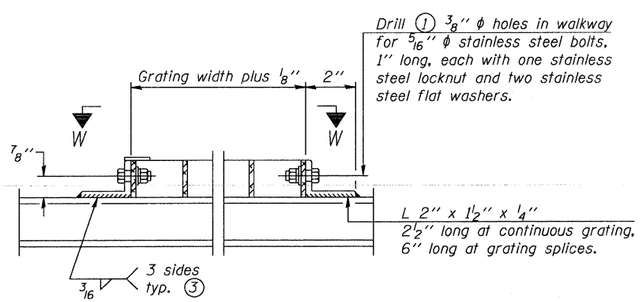
DETAIL T'
(Truss grating splice)
Details not shown same as Detail T.
Alternate materials may be used subject to the Engineer's review and approval.

SECTION B-B

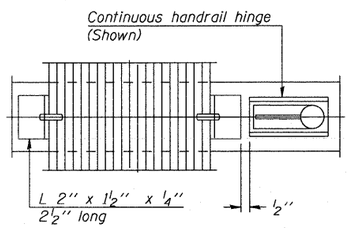
* Bracket and grating dimensions are nominal and will vary based on actual DMS cabinet dimensions plus manufacturer's mounting devices.



(AT WALKWAY GRATING SPLICE)



DETAIL W
(Walkway grating)



(CONTINUOUS WALKWAY GRATING)

SECTION W-W

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1½" on 1 3/16" centers and conform to ASTM B211 Alloy 6061-T6.

Cross bars shall be 3/16" x 1½" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "T" sections for main bearing bars shall meet the following requirements:

Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in. per bar, a depth of 1½", spaced on 1 3/16" centers.

Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Structure Number	Station	A	(6) B	C	(6) D
2S101I090L01.77	93+50 LT	7 1/2"	1'-1"	7'	8'-6"

(1) Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.

(2) Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.

(3) If Handrail Joint present, weld angle to WF(A-N)4 and ¼" extension bars. (See Base Sheet OS-A-11.)

(4) PL ⅛" x ½" x 2" welded to handrail posts to protect locations that contact grating.

(5) Cabinet manufacturer must design and supply hardware for connection of cabinet to WF6's. Bolts must be stainless steel or hot dip galvanized high strength per IDOT specifications.

(6) Based on actual height of tallest sign given on OS-A-1.

OS-A-10-DMS 1-20-11

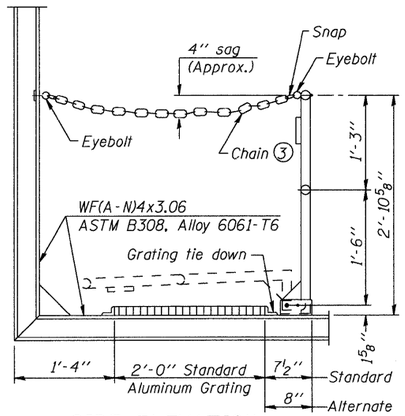
McClure Engineering Associates, Inc. | LOCHNER H.W. LOCHNER, INC. CHICAGO, ILLINOIS | RWA Hyland Wickner & Associates, Inc. | QUIGG ENGINEERING INC.

USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

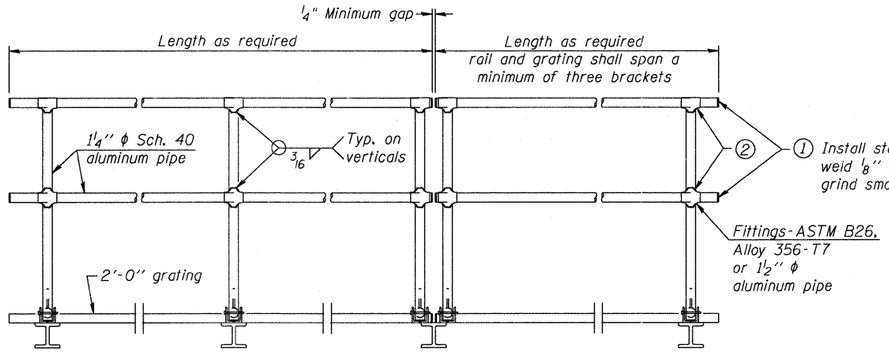
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALTERNATE ALUMINUM WALKWAY DETAILS FOR DMS
SHEET NO. 14 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	321
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



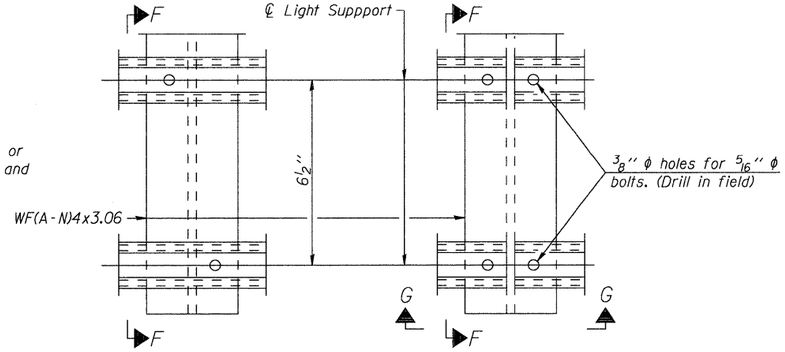
SIDE ELEVATION
(Showing safety chain w/o sign)



FRONT ELEVATION

① Install standard force-fit end caps or weld ⅛" end plates with ⅛" c.f.w. and grind smooth. (All rail ends)

② Horizontal handrail member shall be continuous thru fitting. Provide 7/16" ϕ hole in fitting for ⅜" ϕ bolt. Field drill 7/16" ϕ hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16"ϕ holes on top rail at ends only.)

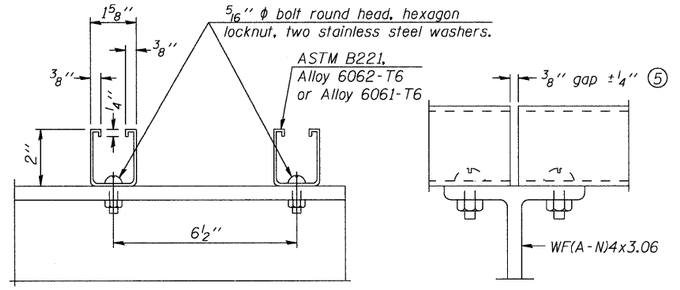


DETAIL F

DETAIL G

HANDRAIL DETAILS

Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

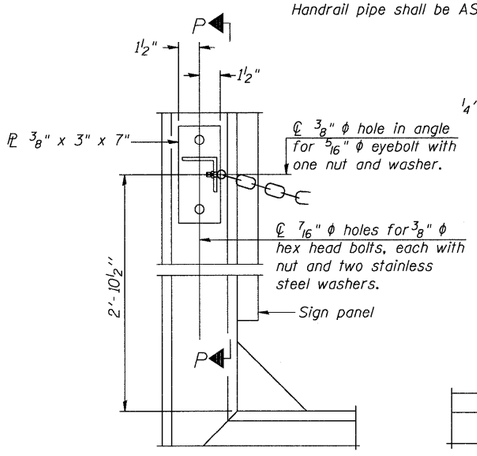


SECTION F-F

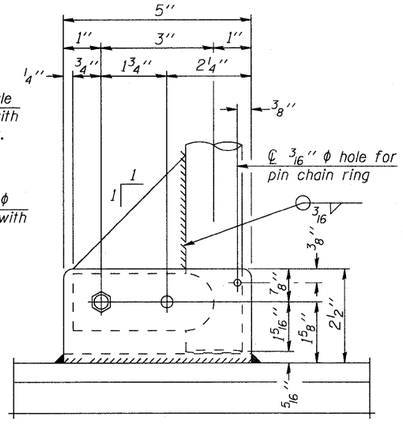
SECTION G-G

LIGHTING FIXTURE MOUNTS (IF REQUIRED)

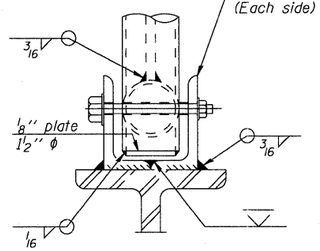
(5) Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



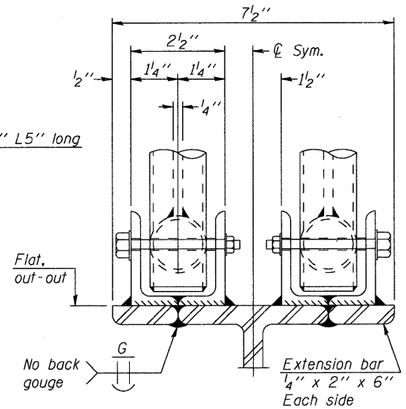
ALTERNATE SAFETY CHAIN ATTACHMENT
(With Sign Present)
Items not shown same as "Side Elevation" of "Handrail Details"



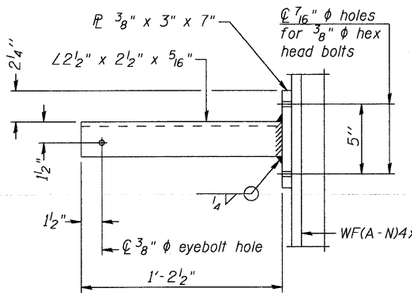
SIDE ELEVATION



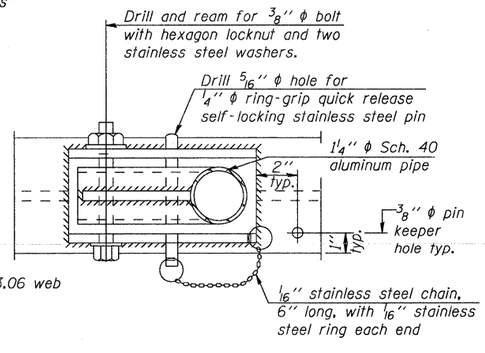
FRONT ELEVATION
See "Elevation" at right for dimensions.



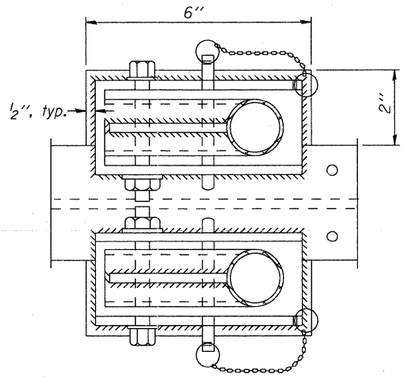
ELEVATION AT HANDRAIL JOINT (4)



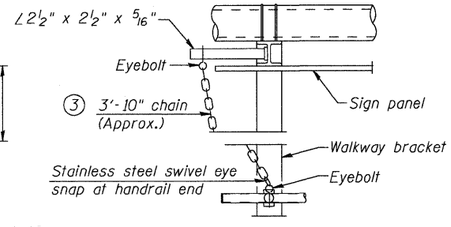
SECTION P-P



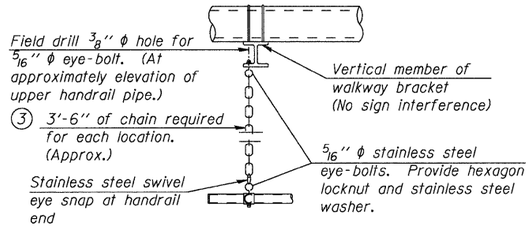
PLAN
DETAIL E HANDRAIL HINGE



PLAN AT HANDRAIL JOINT
Details not shown same as "PLAN"



ALTERNATE SAFETY CHAIN ATTACHMENT
Details not shown similar to "Safety Chain" Details
(Walkway omitted for clarity)



SAFETY CHAIN
One required for each end of each walkway.

(3) 3/16" Type 304L stainless steel chain, approximately 12 links per foot.

(4) Extrusions may be used in lieu of the details shown, with approval of the Engineer.

OS-A-11 1-20-11

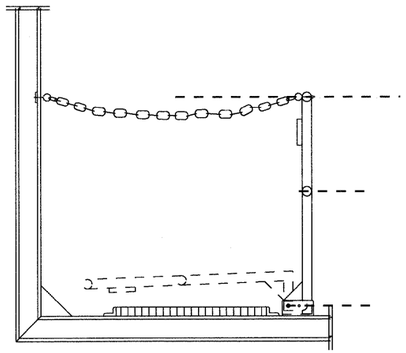
USER NAME =	DESIGNED -	REVISED -	
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

McClure Engineering Associates, Inc. — LOCHNER H.W. LOCHNER, INC. CHICAGO, ILLINOIS — RWA Rogers Webster & Associates, Inc. — QUIGG ENGINEERING, INC.

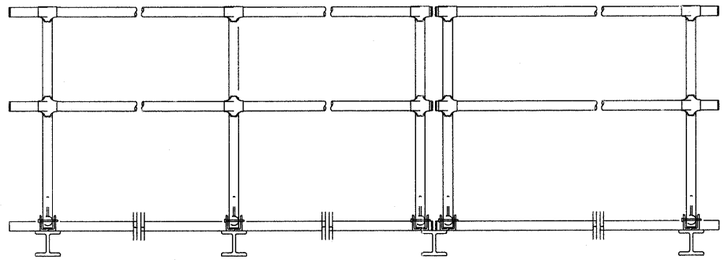
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALUMINUM HANDRAIL DETAILS
SHEET NO. 15 OF 20 SHEETS

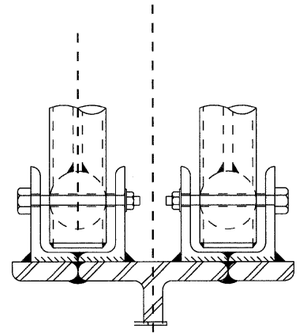
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	322
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



SIDE ELEVATION

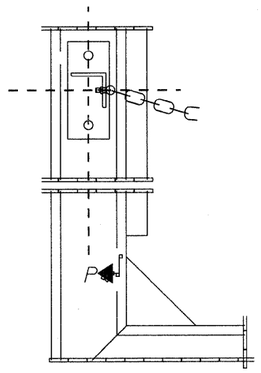


FRONT ELEVATION

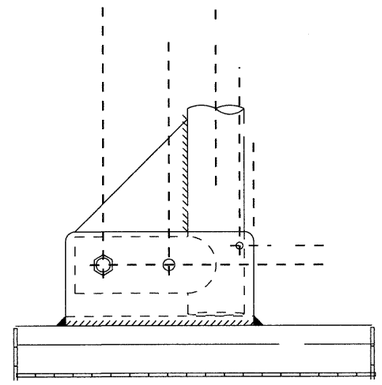


ELEVATION AT HANDRAIL JOINT (4)

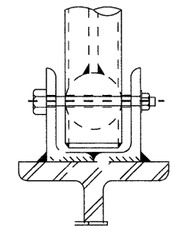
HANDRAIL DETAILS



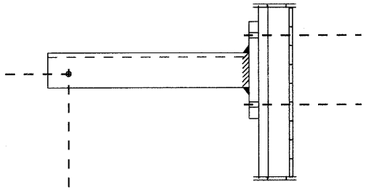
ALTERNATE SAFETY CHAIN ATTACHMENT



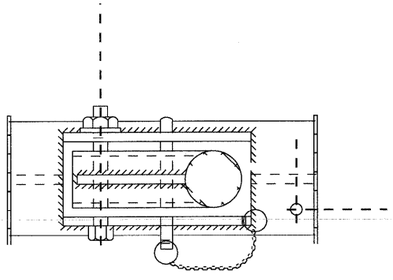
SIDE ELEVATION



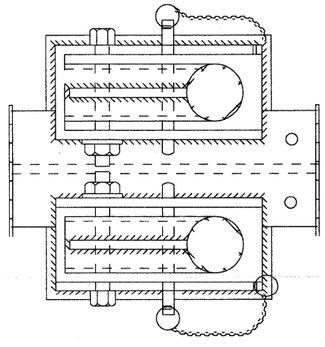
FRONT ELEVATION



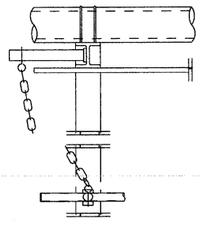
SECTION P-P



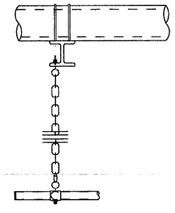
PLAN
DETAIL E HANDRAIL HINGE



PLAN AT HANDRAIL JOINT



ALTERNATE SAFETY CHAIN ATTACHMENT

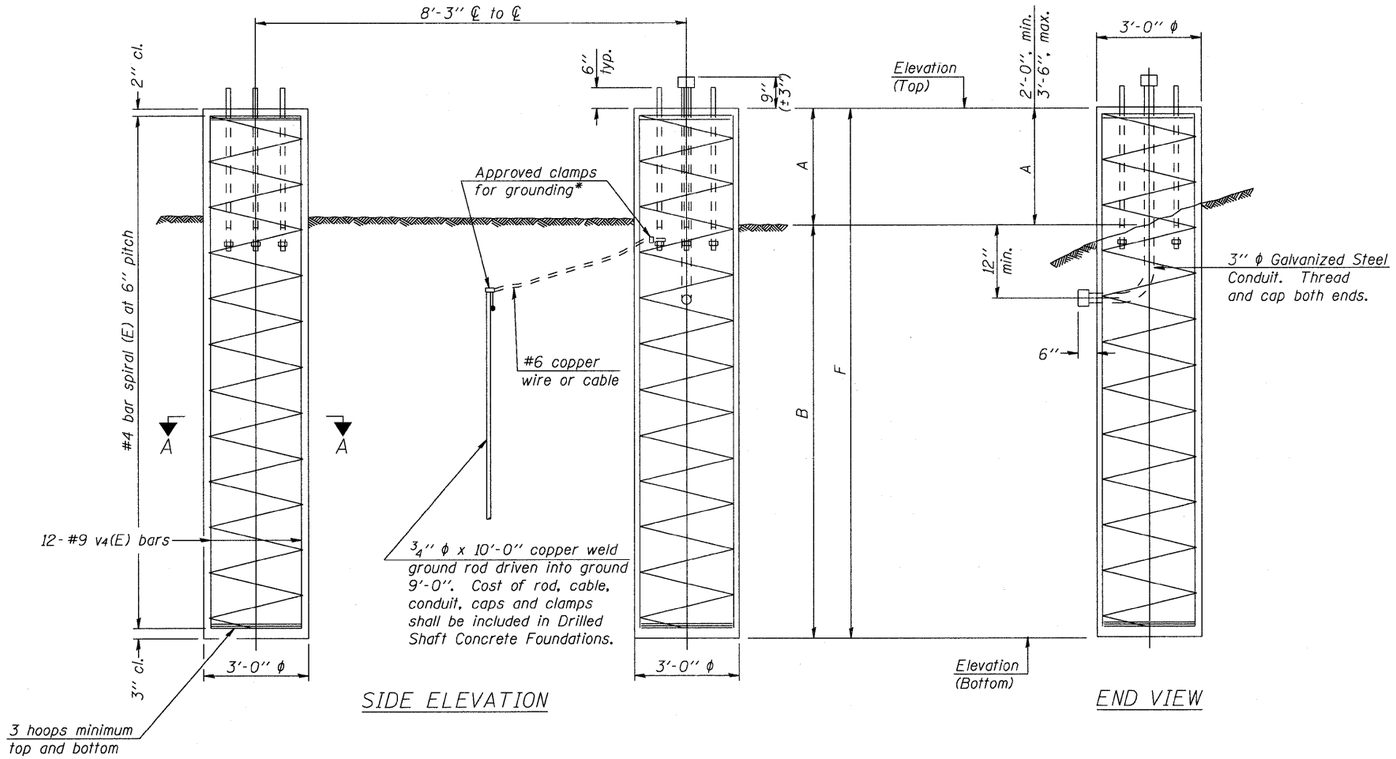


SAFETY CHAIN

OS-A-11-DMS

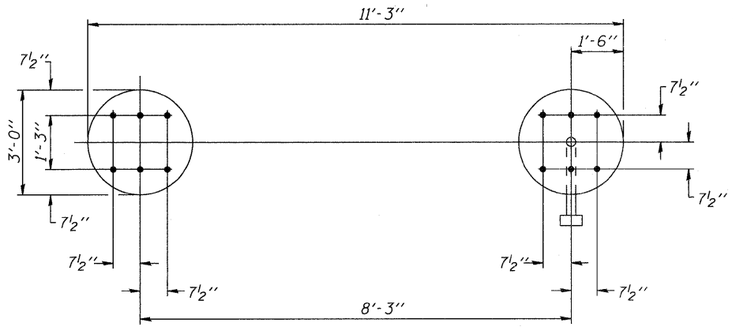
McClure Engineering Associates, Inc. / LOCHNER PHILLIPS, INC., CHICAGO, ILLINOIS	USER NAME =	DESIGNED -	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**OVERHEAD SIGN STRUCTURES ALTERNATE ALUMINUM HANDRAIL DETAILS FOR DMS**
CIVIL, HIGHWAY, STRUCTURAL RWA Regina Webster & Associates, Inc.		CHECKED - DW	REVISED -		SHEET NO. 16 OF 20 SHEETS
QUIGG ENGINEERING INC	PLOT SCALE =	DRAWN - JDH	REVISED -		
	PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	323
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



SIDE ELEVATION

END VIEW



PLAN

For anchor rod size and placement, see Support Frame Detail Sheet.

* Anchor rod shall be ground or filed to bright metal at clamp and cable connection location.

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	24	#9	F less 5"	———
#4 bar spiral (E) - see Side Elevation				

NOTES:

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

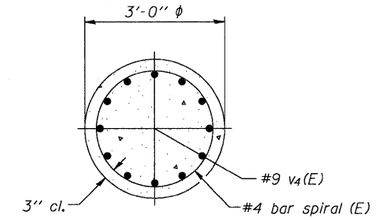
No sonotubes or decomposable forms shall be used below the lower conduit entrance.

Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.

Concrete shall be placed monolithically, without construction joints.

Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

A normal surface finish followed by a Bridge Seat Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.



SECTION A-A

DETAILS FOR 10" ϕ SUPPORT FRAME TYPE I-A or II-A TRUSS

Structure Number	Station	Left Foundation					Right Foundation					Class DS Concrete (Cu. Yds.)
		Elevation Top	Elevation Bottom	A	B	F	Elevation Top	Elevation Bottom	A	B	F	
2S1011090L00.65	34+18 LT	783.3	759.3 **	3.5'	20.5' **	24.0' **						12.6 **

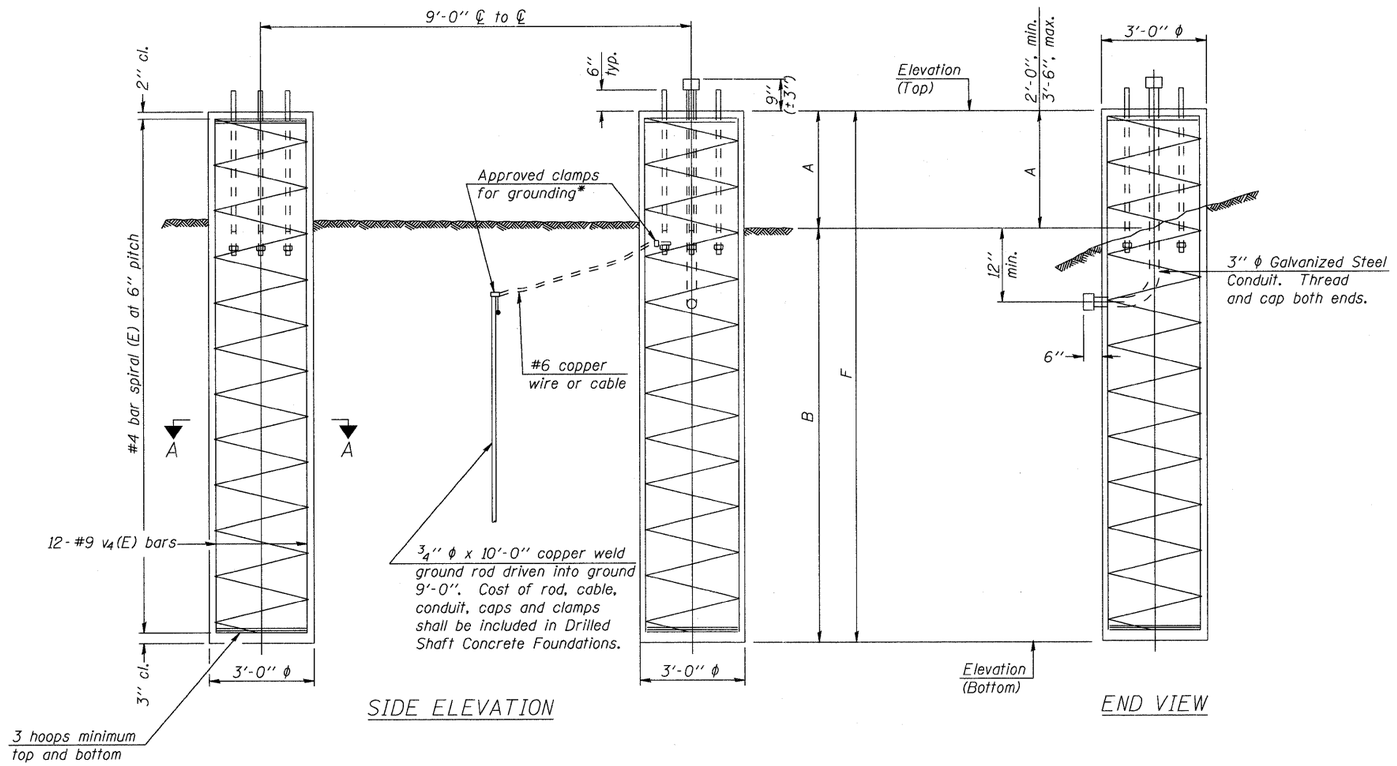
**FOUNDATION DESIGN NEEDS TO BE CHECKED AGAINST SOIL BORINGS

OS4-F3 1-20-11

USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

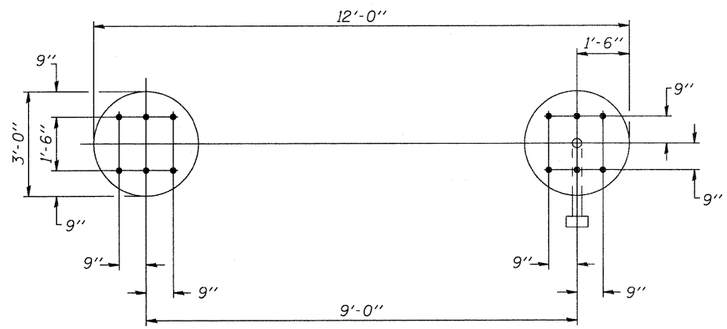
OVERHEAD SIGN STRUCTURES
DRILLED SHAFT DETAILS
SHEET NO. 17 OF 20 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	324
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



SIDE ELEVATION

END VIEW



PLAN

For anchor rod size and placement, see Support Frame Detail Sheet.

* Anchor rod shall be ground or filed to bright metal at clamp and cable connection location.

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	24	#9	F less 5"	——
#4 bar spiral (E) - see Side Elevation				

NOTES:

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

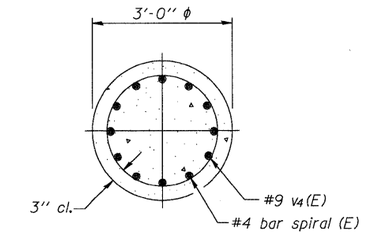
No sonotubes or decomposable forms shall be used below the lower conduit entrance.

Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.

Concrete shall be placed monolithically, without construction joints.

Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

A normal surface finish followed by a Bridge Seat Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.



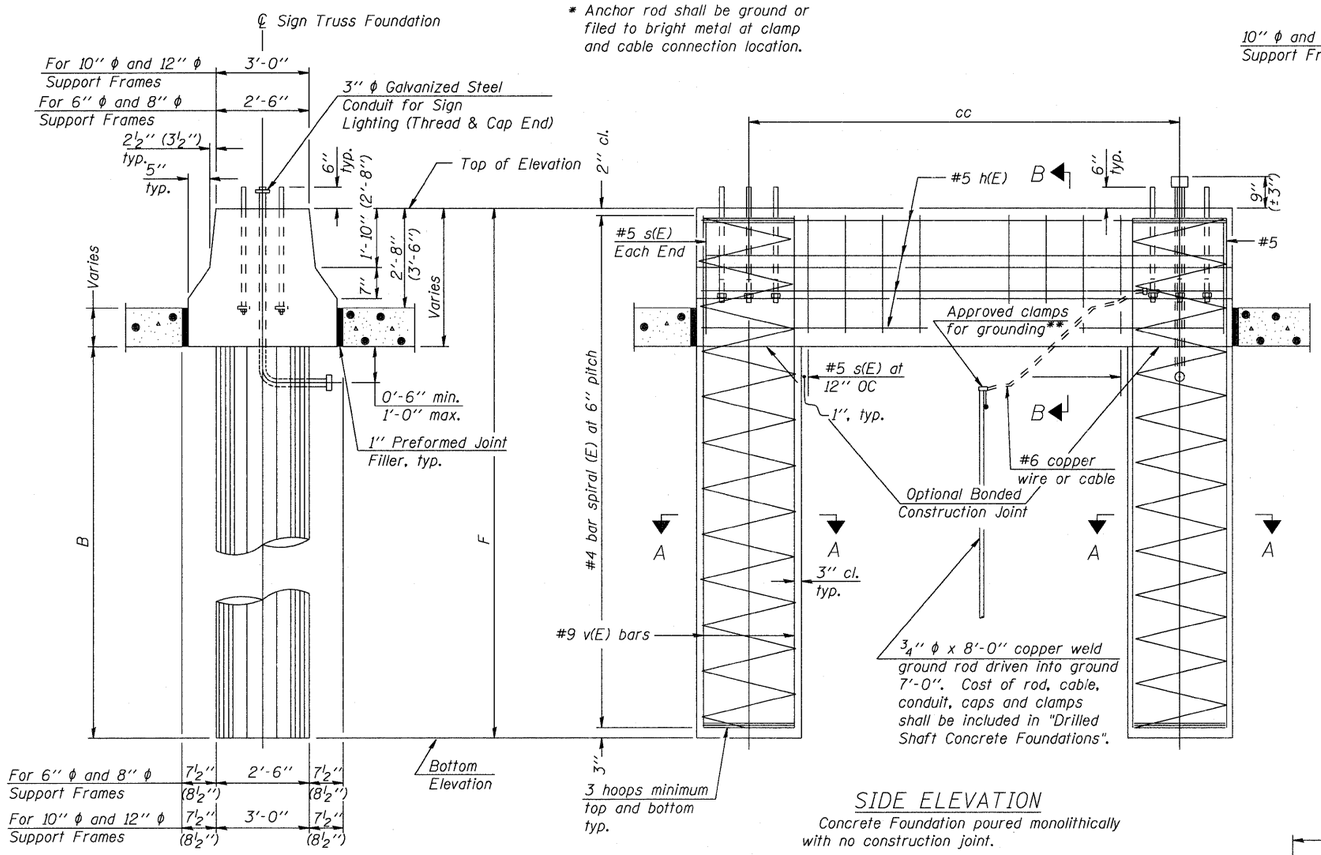
SECTION A-A

DETAILS FOR 12" ϕ SUPPORT FRAME TYPE III-A TRUSS

Structure Number	Station	Left Foundation					Right Foundation					Class DS Concrete (Cu. Yds.)
		Elevation Top	Elevation Bottom	A	B	F	Elevation Top	Elevation Bottom	A	B	F	
2S101I090L01.77	93+50 LT	778.3	751.3	3'	24.0'	27.0'						14.1

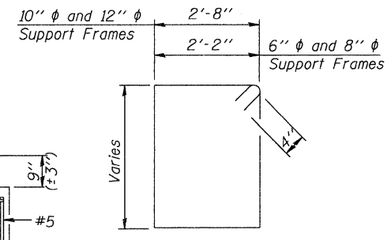
OS4-F4 1-20-11

McClure Engineering Associates, Inc. / LOCHNER PW, LOCHNER, INC. CHICAGO, ILLINOIS / RWA / QUIGG ENGINEERING INC.	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES DRILLED SHAFT DETAILS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - DW	REVISED -			90	(X2-1) R	WINNEBAGO	510	325
	PLOT SCALE =	DRAWN - JDH	REVISED -					CONTRACT NO. 64C29		
	PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -		SHEET NO. 18 OF 20 SHEETS			ILLINOIS FED. AID PROJECT		



SIDE ELEVATION

Concrete Foundation poured monolithically with no construction joint.



BAR s(E)

NOTES:

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

No sonotubes or decomposable forms shall be used below the lower conduit entrance.

Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.

Concrete shall be placed monolithically, without construction joints.

Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

A normal surface finish followed by a Bridge Seat Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.

Pipe Support Frames	cc	M	a	a/2
6"ϕ	7'-0"	9'-6"	0'-11"	5½"
8"ϕ	7'-6"	10'-0"	1'-1½"	6¾"
10"ϕ	8'-3"	11'-3"	1'-3"	7½"
12"ϕ	9'-0"	12'-0"	1'-6"	9"

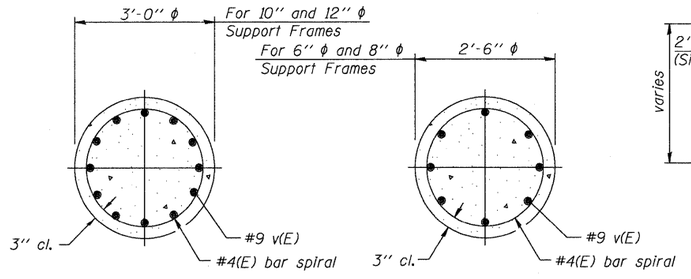
BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
h(E)	10	#5	M less 4"	——
s(E)	Varies	#5	Varies	□
v(E)	16	#9	F less 0'-5"	——
v(E)	24	#9	F less 0'-5"	——
#4(E) bar spiral _ see Side Elevation				

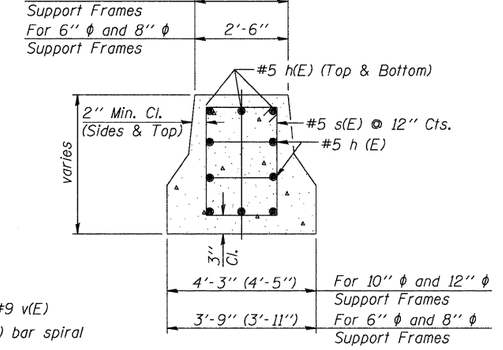
6" ϕ and 8" ϕ Support Frame

10" ϕ and 12" ϕ Support Frame

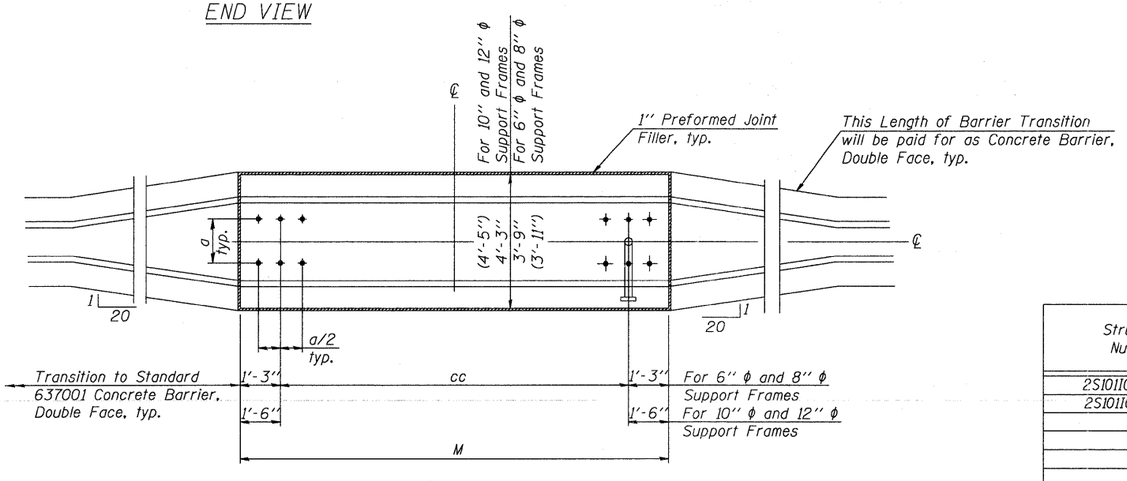
All dimensions in parenthesis are for 42" high barrier.



SECTION A-A



SECTION B-B



PLAN

Structure Number	Station	Left Foundation				Right Foundation				Class DS Concrete (Cu. Yds.)
		Elevation Top	Elevation Bottom	B	F	Elevation Top	Elevation Bottom	B	F	
2S1011090L00.65	34+18 LT					787.58	762.52 **	20.5' **	25.06' **	17.7 **
2S1011090L01.77	93+50 LT					781.24	752.68	24.0'	28.56'	20.1

**FOUNDATION DESIGN NEEDS TO BE CHECKED AGAINST SOIL BORINGS

OS4-MED 1-20-11

USER NAME =	DESIGNED -		REVISED -
	CHECKED - DW		REVISED -
PLOT SCALE =	DRAWN - JDH		REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011		REVISED -

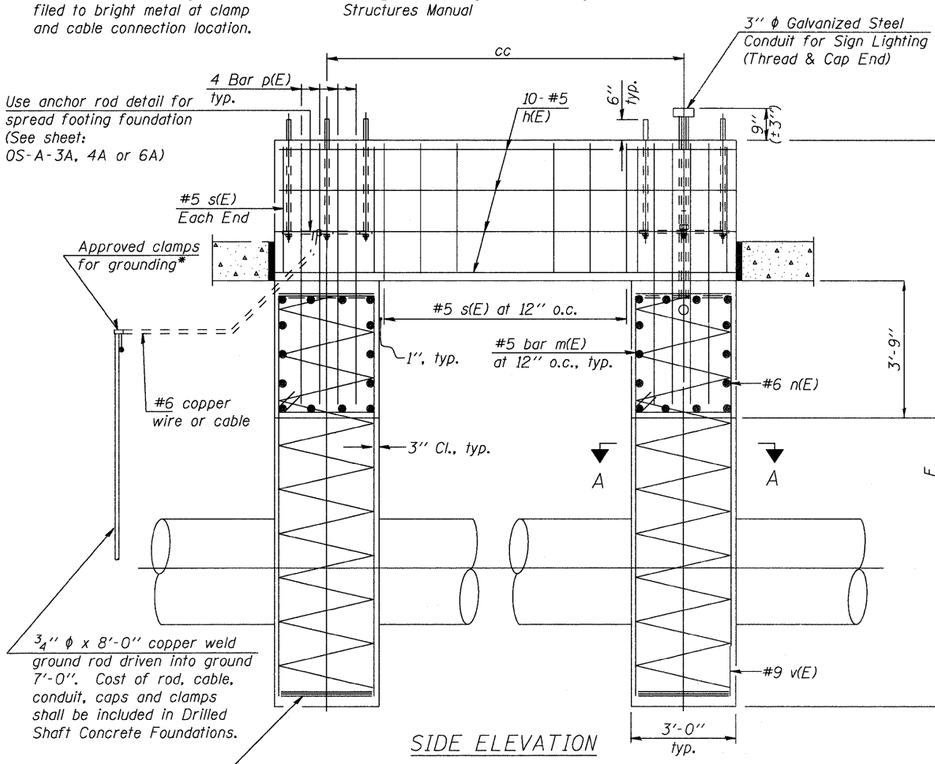
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
MEDIAN SUPPORT FOUNDATION DETAILS
SHEET NO. 19 OF 20 SHEETS

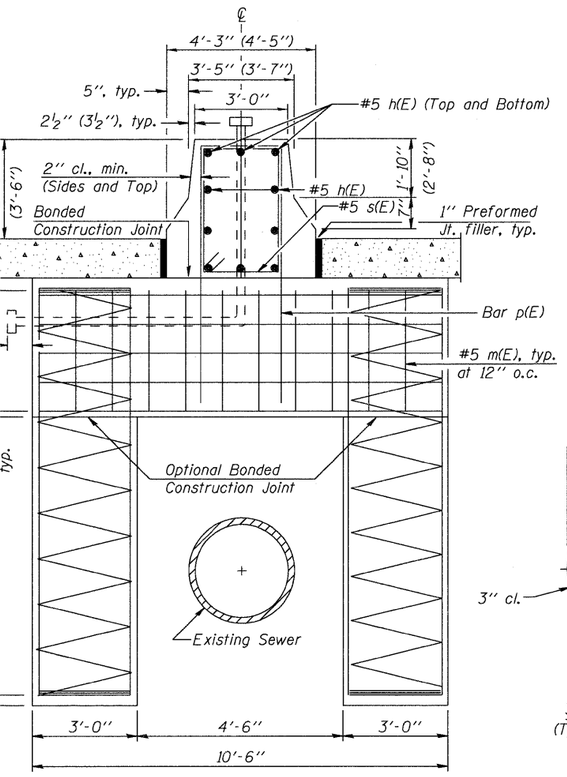
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	326
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

* Anchor rod shall be ground or filed to bright metal at clamp and cable connection location.

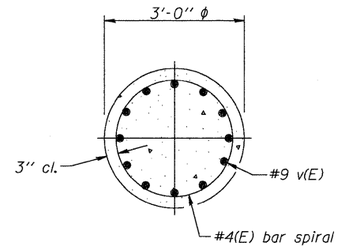
** B = ½ the depth given in the Sign Structures Manual



SIDE ELEVATION



END VIEW
(Anchor rods not shown)



SECTION A-A
(Typical for 4 Shafts)

NOTES:

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

No sonotubes or decomposable forms shall be used below the lower conduit entrance.

Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.

Concrete shall be placed monolithically, without construction joints.

Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

A normal surface finish followed by a Bridge Seat Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.

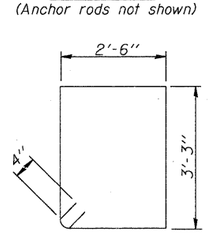
BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
h(E)	10	#5	M less 4"	——
s(E)	Varies	#5	Varies	□
v(E)	48	#9	B less 0'-5"	——
m(E)	22	#5	12'-0"	□
n(E)	28	#6	10'-0"	——
p(E)	8	#5	Varies	⊓
#4 Bar Spiral - See Side Elevation				

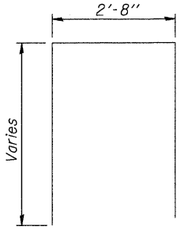
Pipe Support Frames	cc	M	a	a/2
6"ϕ	7'-0"	9'-6"	0'-11"	5½"
8"ϕ	7'-6"	10'-0"	1'-1½"	6¾"
10"ϕ	8'-3"	11'-3"	1'-3"	7½"
12"ϕ	9'-0"	12'-0"	1'-6"	9"

NOTE: ANCHOR BOLT CIRCLE SHALL BE FOR ISTHA SIGN STRUCTURE SEE SHEETS F1-00 & F3-00 FOR DETAILS.

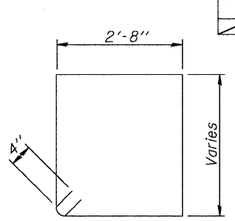
**** ISTHA TRUSS NO.	cc	M	a	a/2
T-90	5'-11 1/2"	8'-11 1/2"	1'-7"	7 3/4 "
T-105	6'-11"	9'-11"	1'-7"	7 3/4 "



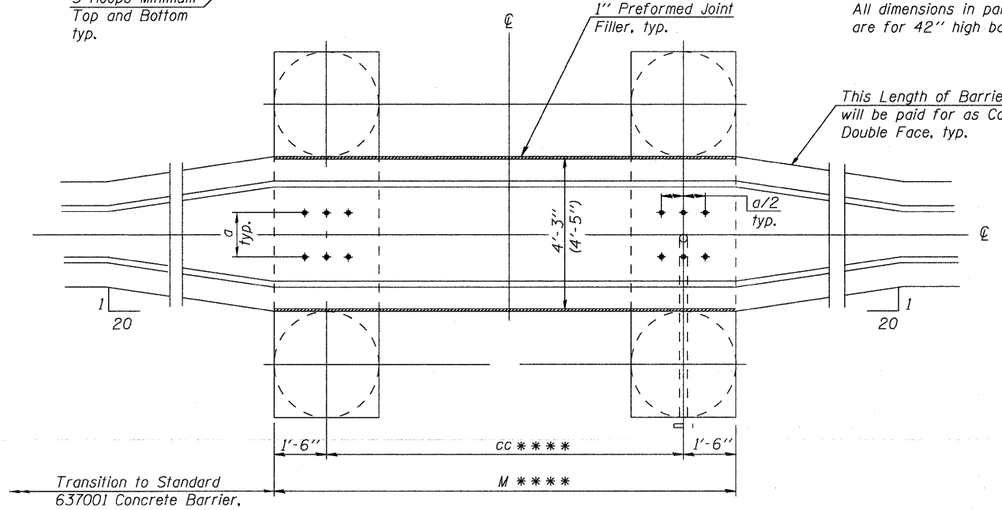
BAR m(E)



BAR p(E)



BAR s(E)



PLAN

All dimensions in parenthesis are for 42" high barrier.

**** NOTE: FOUNDATION DIMENSION MODIFIED FOR ISTHA SIGN STRUCTURE, SEE SHEETS F1-00 & F3-00 FOR DETAILS.

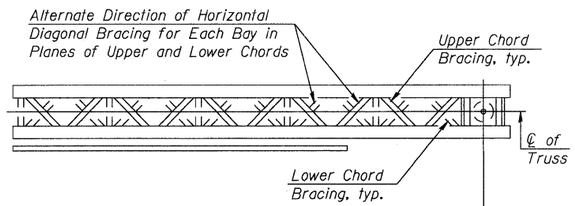
Structure Number	Station	Left Foundation				Right Foundation				Class DS Concrete (Cu. Yds.)
		Elevation Top	Elevation Bottom	B	F	Elevation Top	Elevation Bottom	B	F	
ISTHA - 90-TR-86&87	126+72 RT	787.60	762.54 ***	20.5' ***	25.06' ***					32.5 ***
ISTHA - 90-TR-125	147+40 RT	781.10	759.04 ***	17.5' ***	22.06' ***					28.7 ***

***FOUNDATION DESIGN NEEDS TO BE CHECKED AGAINST SOIL BORINGS

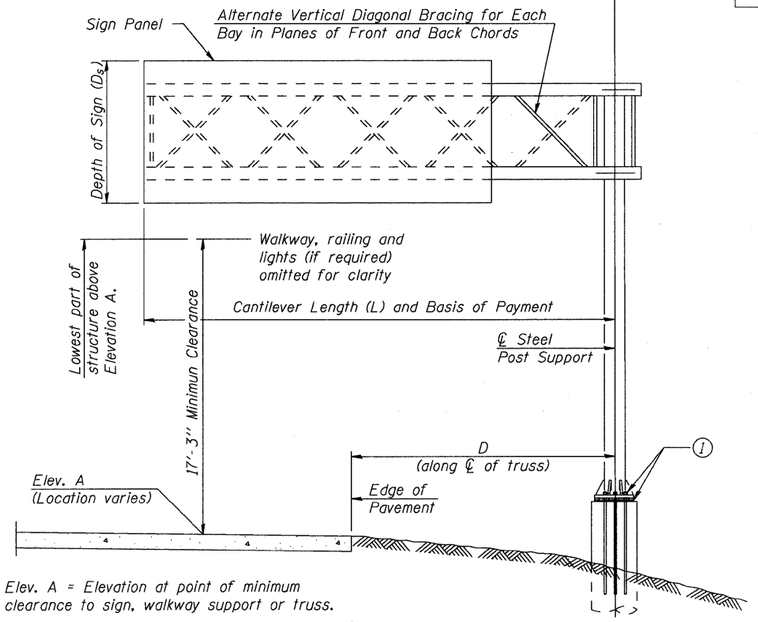
OS4-MED2 1-20-11

USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - DW	REVISED -	OVERHEAD SIGN STRUCTURES MEDIAN SUPPORT FOUNDATION DETAILS II
PLOT SCALE =	DRAWN - JDH	REVISED -	SHEET NO. 20 OF 20 SHEETS
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	327
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



TYPICAL PLAN
(Walkway not shown)



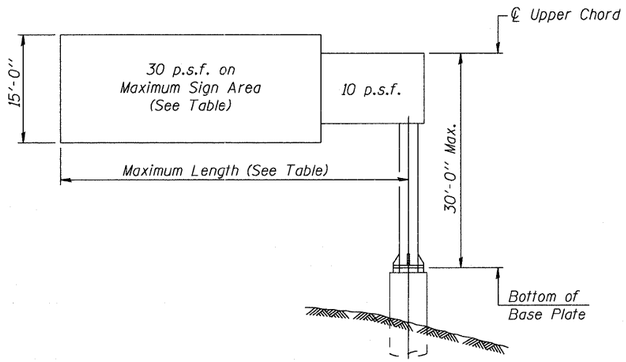
Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

TYPICAL ELEVATION
Looking in Direction of Traffic

Sign support structures may be subject to damaging vibrations and oscillations when sign panels are not in place during erection or maintenance of the structure. To avoid these vibrations and oscillations, consideration should be given to attaching temporary blank sign panels to the structure.

Structure Number	Station	Design Truss Type	Cantilever Length (L)	Elev. A	Dim. D	D_s	Total Sign Area
2C101I090R00.87	45+95 RT	III-C-A	35'	781.41	13.4'	8.5'	157.25 SQ. FT.

Truss Type	Maximum Sign Area	Maximum Length
I-C-A	170 Sq. Ft.	25 Ft.
II-C-A	340 Sq. Ft.	30 Ft.
III-C-A	400 Sq. Ft.	40 Ft.



DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards Installations not within dimensional limits shown require special analysis for all components.

Note:
Trusses shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The contractor is responsible for maintaining the configuration and protection of the trusses.

(1) After adjustments to level truss and insure adequate vertical clearance, all top and leveling nuts shall be tightened against the base plate with a minimum torque of 200 lb.-ft. Stainless steel mesh shall then be placed around the perimeter of the base plate. Secure to base plate with stainless steel banding.

* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

GENERAL NOTES

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:
Field Units
f'_c = 3,500 p.s.i.
fy = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specificiations.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.
All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.
The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seat Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

FOUNDATIONS: The contract unit price for Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE I-C-A	Foot	
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE II-C-A	Foot	
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE III-C-A	Foot	35
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	Foot	22
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	

OSC-A-1 1-20-11

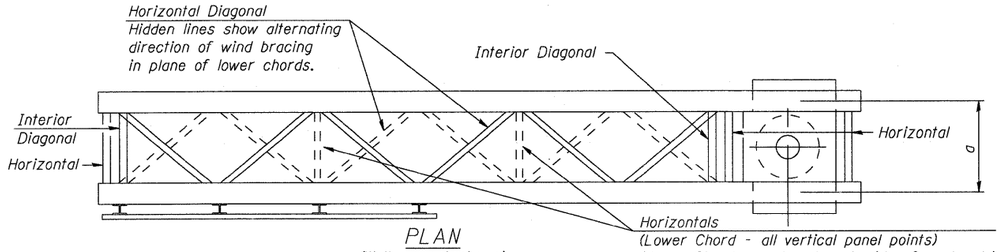
McClure Engineering Associates, Inc. | LOCHNER H.W. LOCHNER, INC. CHICAGO, ILLINOIS | RWA Rogers Walcher & Associates, Inc. | QUIGG ENGINEERING, INC.

USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

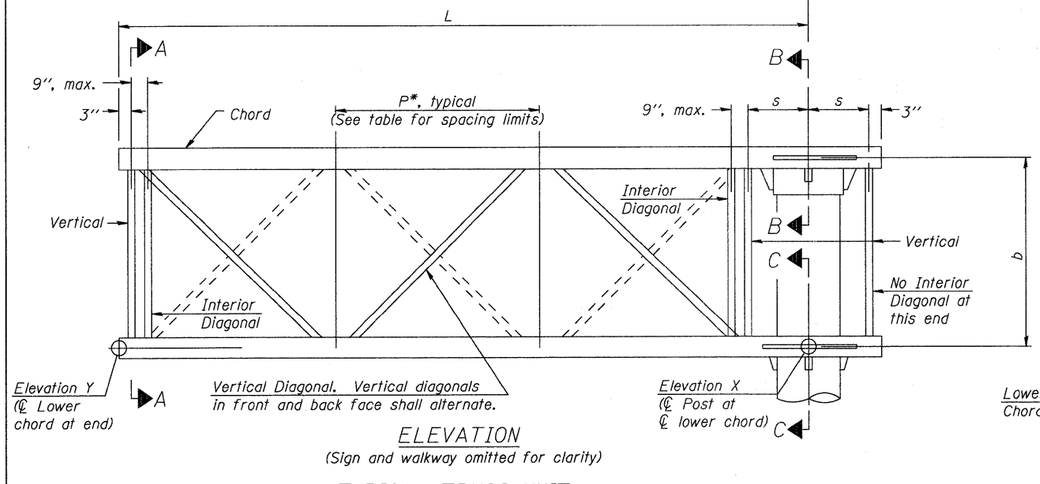
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – GENERAL PLAN & ELEVATION
ALUMINUM TRUSS & STEEL POST
SHEET NO. 1 OF 10 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	328
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



PLAN
(Walkway not shown)

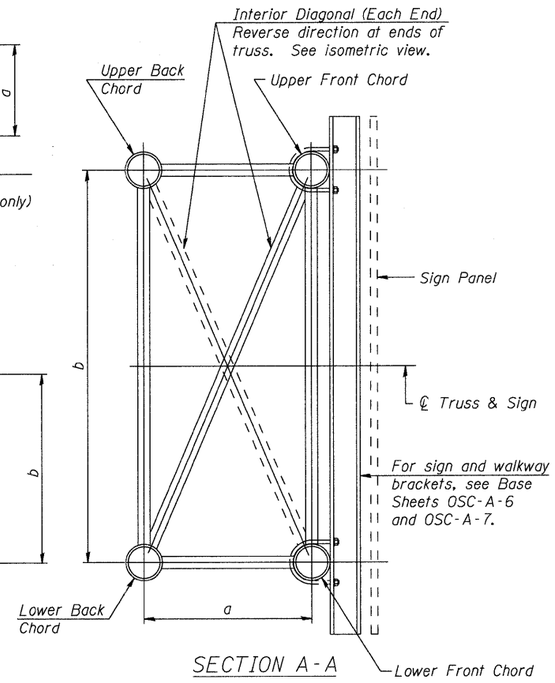


ELEVATION
(Sign and walkway omitted for clarity)

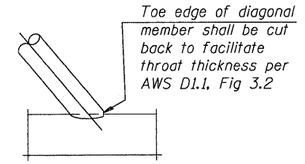
TYPICAL TRUSS UNIT

For Section B-B and Section C-C, see Base Sheet OSC-A-3.

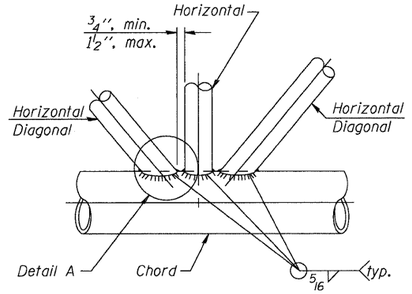
Note:
There are twice as many horizontal diagonals as there are vertical diagonals.



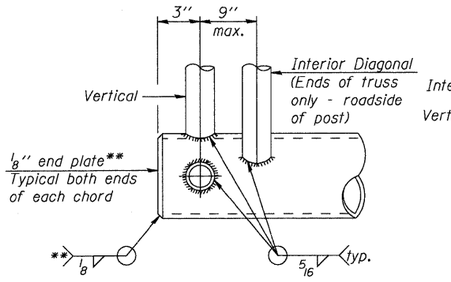
SECTION A-A



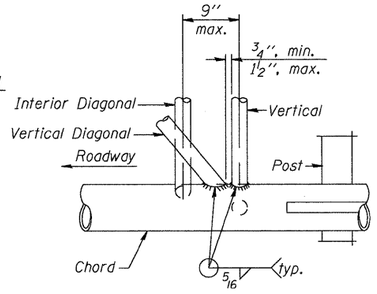
DETAIL A



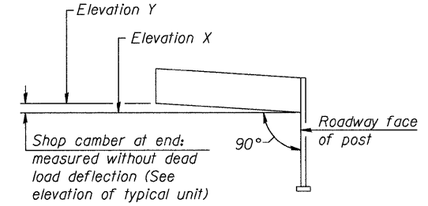
TRUSS INTERIOR JOIN DETAIL



CANTILEVER END JOINT DETAIL
** Contractor may alternatively use standard aluminum drive-fit cap to close ends.



POST END JOINT DETAIL



CAMBER DIAGRAM
(For Fabrication Only)

ISOMETRIC VIEW
TYPICAL TRUSS UNIT
ASTM B221 Alloy 6061 Temper T6

TRUSS UNIT TABLE

Truss Type	Dimension "a"	Dimension "b"	Dimension "s"	Limits for Panel Spacing (P)*	Up. & Low. Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals	
					O.D.	Wall	O.D.	Wall
I-C-A	24"	54"	16"	36" min. to 48" max.	5"	5/16"	2 1/2"	5/16"
II-C-A	36"	66"	21"	42" min. to 54" max.	6 1/2"	5/16"	3 1/4"	5/16"
III-C-A (35' Max.)	36"	84"	21"	48" min. to 66" max.	7"	3/8"	3 1/2"	3/8"
III-C-A (>35' to 40')	36"	84"	21"	48" min. to 66" max.	8"	3/8"	3 1/2"	3/8"

$*P = \frac{L - s - 3''}{\#\ Panels}$

Structure Number	Station	Truss Type	Design Length (L)	Number of Panels Per Unit	Panel Length (P)*
2C1011090R00.87	45+95 RT	III-C-A	35'	6	66"

SHOP CAMBER TABLE

Unit Length (L)	Shop Camber at End
15'	1 1/2"
16'-17'	1 3/4"
18'-20'	2"
21'-22'	2 1/4"
23'-25'	2 1/2"
26'-27'	2 3/4"
28'-30'	3"
31'-32'	3 1/4"
33'-35'	3 1/2"
36'-37'	4"
38'-40'	4 1/2"

OSC-A-2 1-20-11

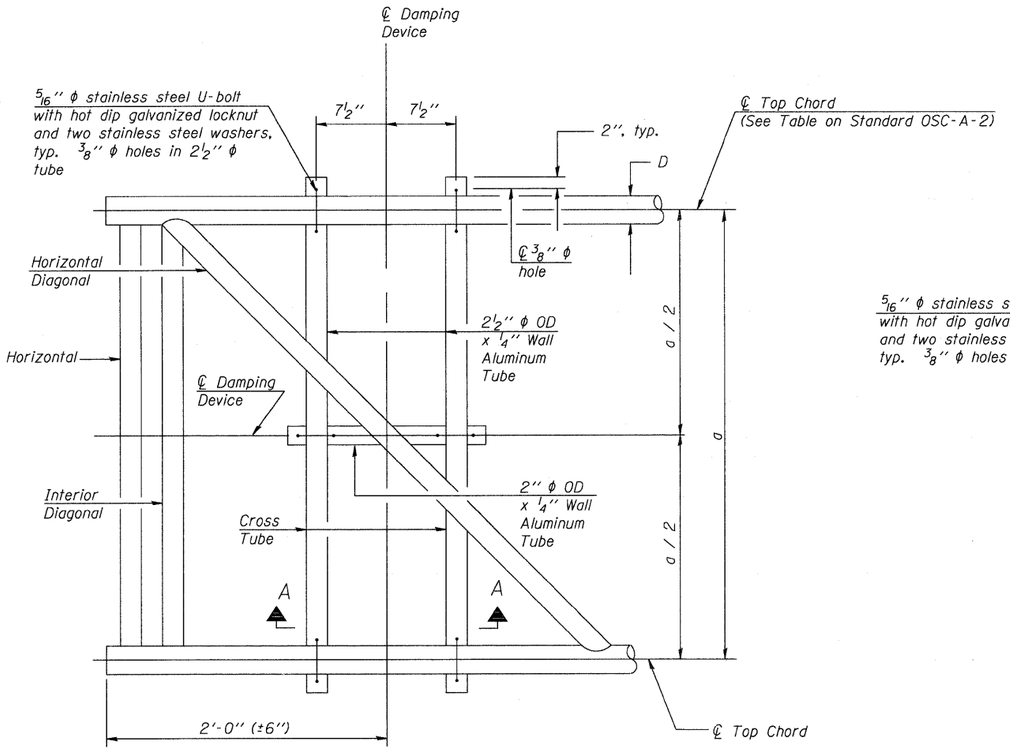
McClure Engineering Associates, Inc. | LOCHNER H.W. LOCHNER, INC. CHICAGO, ILLINOIS | RWA Hegna Weber & Associates, Inc. | QUIGG ENGINEERING INC

USER NAME =	DESIGNED -		REVISED -
	CHECKED - DW		REVISED -
PLOT SCALE =	DRAWN - JDH		REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011		REVISED -

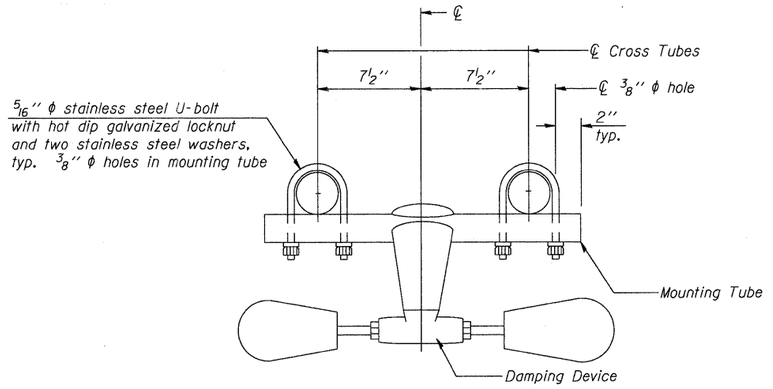
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – TRUSS DETAILS
ALUMINUM TRUSS & STEEL POST
SHEET NO. 2 OF 10 SHEETS

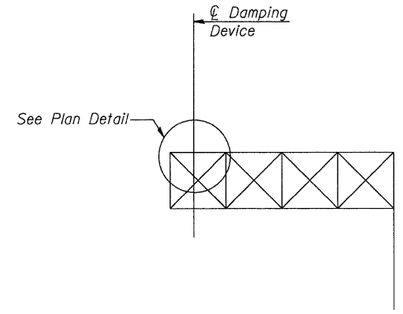
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	329
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



PLAN DETAIL



TRUSS DAMPING DEVICE CONNECTION DETAIL



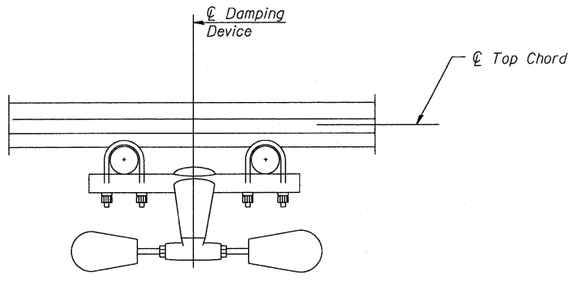
ELEVATION

Aluminum Cantilever Sign Structure

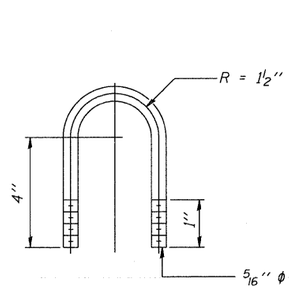
GENERAL NOTES

Damper: One damper per truss. (31 lbs. Stockbridge-Type Aluminum-29" minimum between ends of weights)

Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6

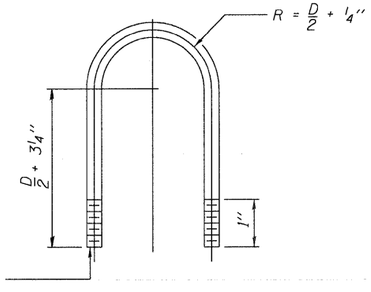


SECTION A-A



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL

(Typical)



TOP CHORD TO CROSS TUBE U-BOLT DETAIL

(Typical)

OSC-A-D 1-20-11

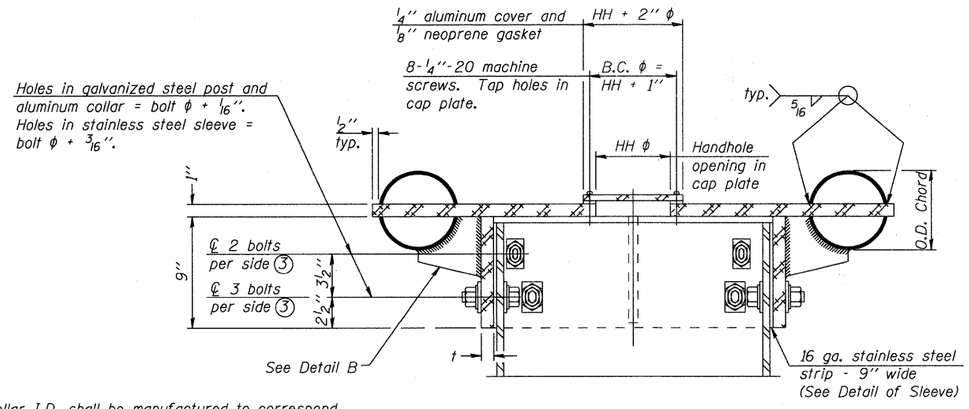
McClure Engineering Associates, Inc. LOCHNER PSK, LOCHNER, INC. CHICAGO, ILLINOIS	USER NAME =	DESIGNED -	REVISED -
CHAMPAIGN, ILLINOIS RWA Rogers Werner & Associates, Inc.		CHECKED - DW	REVISED -
QUIGG ENGINEERING INC.	PLOT SCALE =	DRAWN - JDH	REVISED -
	PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURE
DAMPING DEVICE

SHEET NO. 3 OF 10 SHEETS

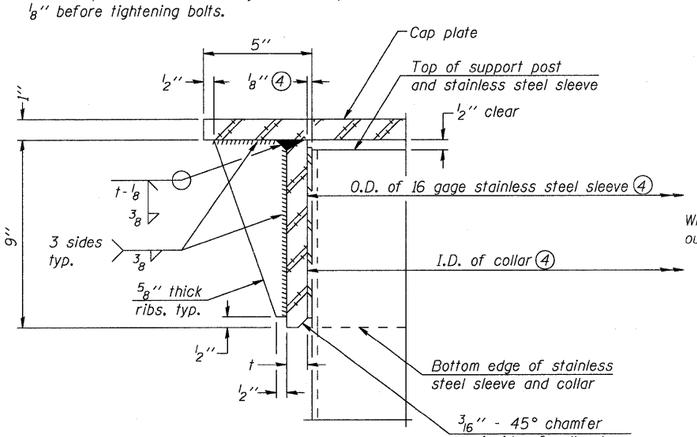
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	330
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



SECTION B-B

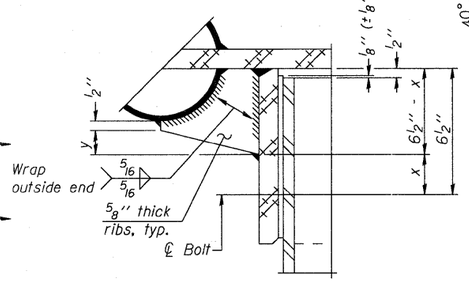
Bolts, washers (including contoured washers), and locknuts shall be stainless steel.

(4) Collar I.D. shall be manufactured to correspond to O.D. of actual galvanized post and stainless steel sleeve plus 1/8" (±1/16"). Maximum gap between post and collar at any location equals 1/8" before tightening bolts.



DETAIL A

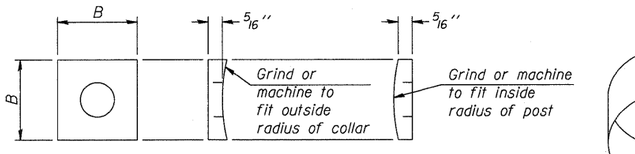
(Two locations)



DETAIL B

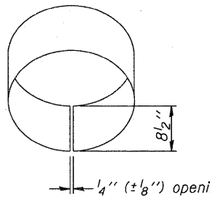
Two locations

(For details not shown, see Detail C)



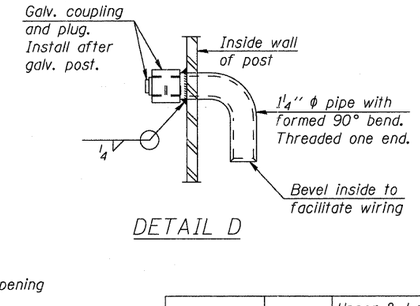
CONTOURED WASHERS

Bolt Size	Contoured Washers	
	Hole Dia.	B
7/8"	1"	2 1/2"
1"	1 1/8"	3"
1 1/4"	1 3/8"	3 1/4"

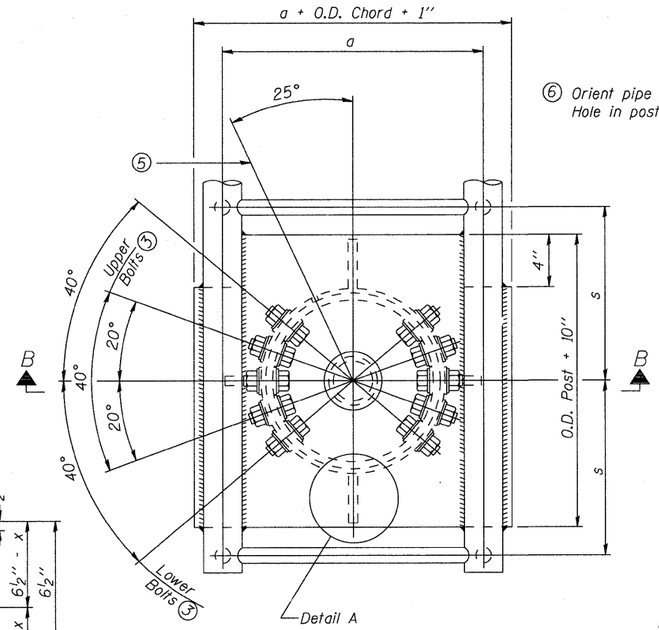


DETAIL OF STAINLESS STEEL SLEEVE

Weld to post after galvanizing. (Prepare post surface to insure tight, uniform fit and allow welding.) Welds to be 1 1/2" long at 6" cts. along top edge and at 1/4" opening.

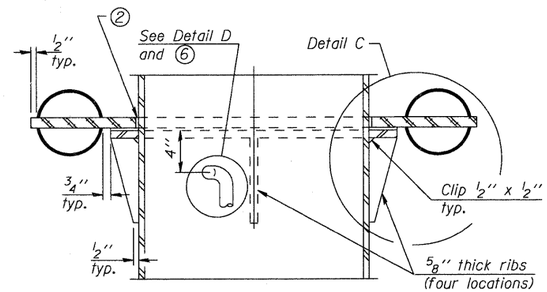


DETAIL D



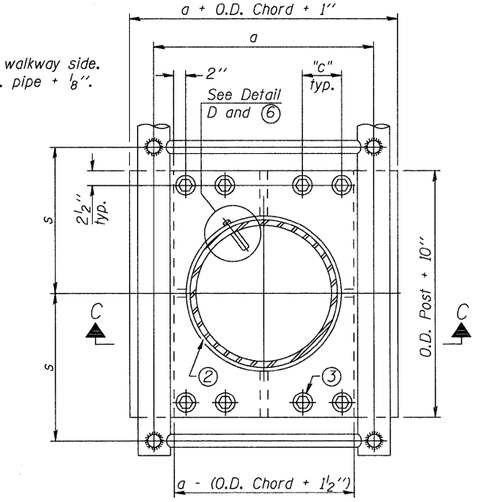
PLAN VIEW - TOP OF COLUMN

(5) Optional full penetration weld in collar. (Two locations maximum....(180° apart)....X-ray or UT 100%)

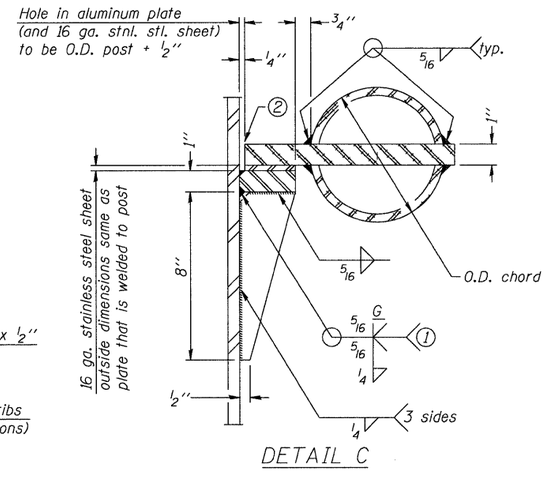


SECTION C-C

(6) Orient pipe toward walkway side. Hole in post = O.D. pipe + 1/8".



SECTION THRU POST ABOVE LOWER CHORDS



DETAIL C

Truss Type	Post Size	Upper & Lower Connection Bolt Diameter (3)	Lower Juncture Bolt Spacing Dimension "c" (3)	Opening in Cap Plate "HH"	Collar Thickness (t)	Side Ribs	
						x	y
I-C-A	16" ϕ (83#/')	7/8"	3 1/4"	8"	5/8"	1 3/4"	2 1/4"
II-C-A	24" ϕ (125#/')	1"	3 1/2"	12"	7/8"	2"	1 1/4"
III-C-A (35' max.)	24" ϕ (125#/')	1 1/4"	3 1/2"	12"	7/8"	2"	1"
III-C-A (>35' to 40')	24" ϕ (171#/')	1 1/4"	3 1/2"	12"	7/8"	2"	1"

(1) Grind top if required to fully seat aluminum plate and stainless steel sheet.

(2) After tightening lower connection bolts, fill gap with non-hardening, silicone caulk suitable for exterior exposure and acceptable to the Engineer. Cost is included in Overhead Sign Structure Cantilever.

(3) Upper and lower connection bolts in collar and bolts at lower chord connection shall be high strength with matching locknuts. Connection bolts shall have 2 stainless steel flat washers each.

OSC-A-3 1-20-11

McClure Engineering Associates, Inc. LOCHNER PHILADELPHIA, INC. CHICAGO, ILLINOIS
RWA Rogers Walter & Associates, Inc. QUIGG ENGINEERING INC

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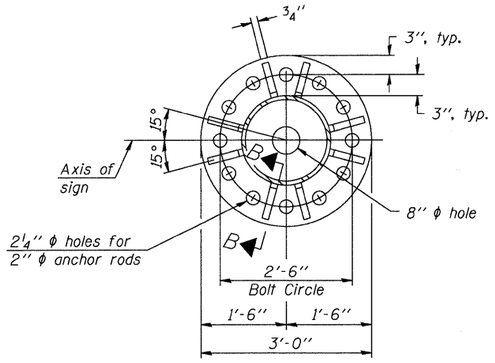
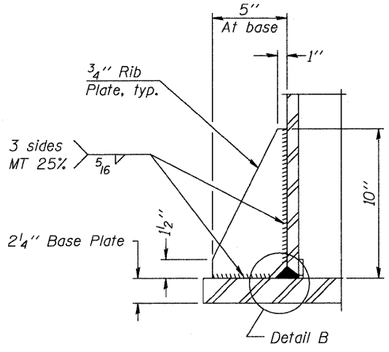
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – JUNCTURE DETAILS
ALUMINUM TRUSS & STEEL POST
SHEET NO. 4 OF 10 SHEETS

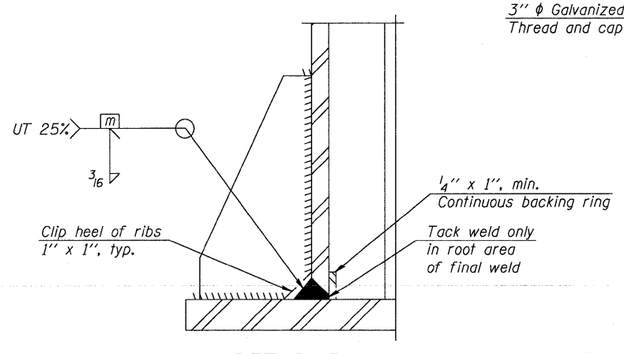
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	331
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



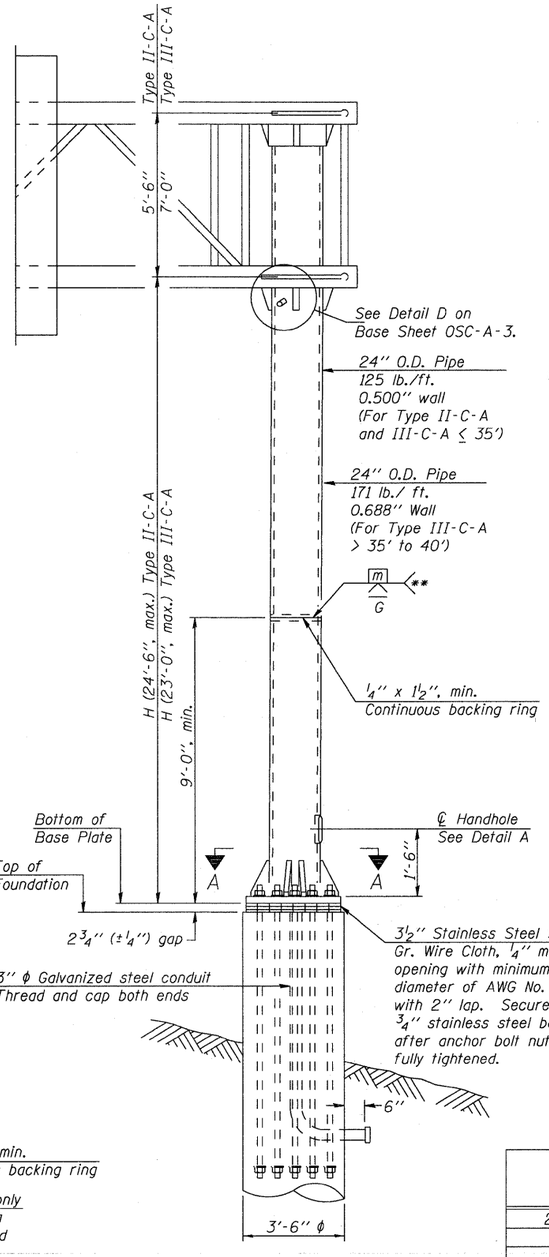
SECTION A-A



SECTION B-B

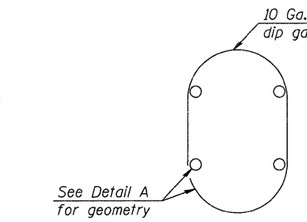


DETAIL B
(Typical rib)

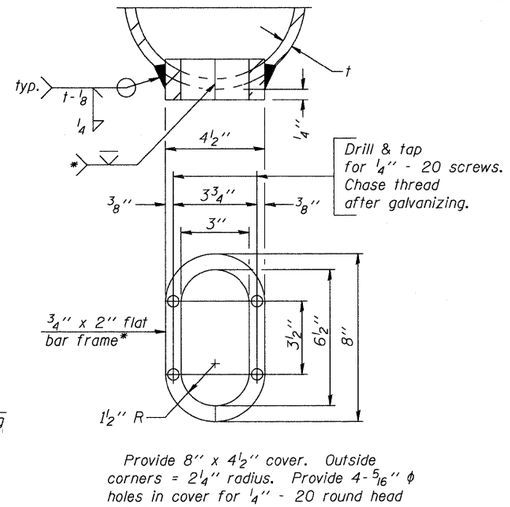


FRONT ELEVATION

For Foundation Details see Base Sheet OSC-A-9.



HANDHOLE COVER



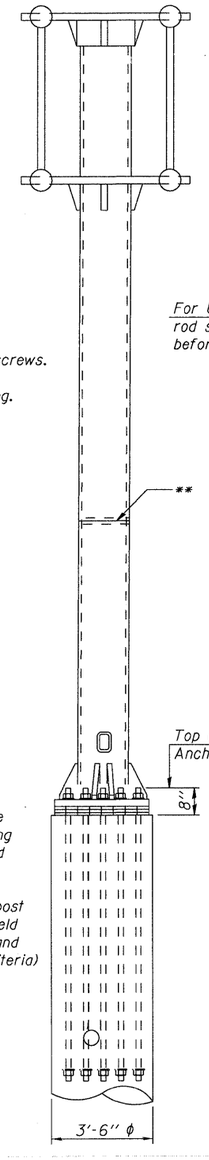
Provide 8" x 4 1/2" cover. Outside corners = 2 1/4" radius. Provide 4-5/16" ϕ holes in cover for 1/4" - 20 round head hot dip galvanized or stainless steel machine screws. (See cover details.)

DETAIL A

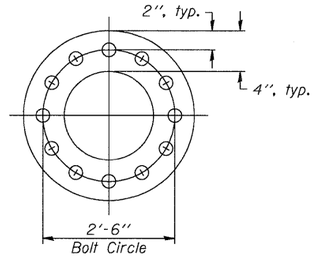
* Bent bars may be butt welded top and bottom or bottom only. In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 min or less.

** Butt welded joint in post is only allowed for post heights (H) over 20 ft. in length. If used, weld procedure must be preapproved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

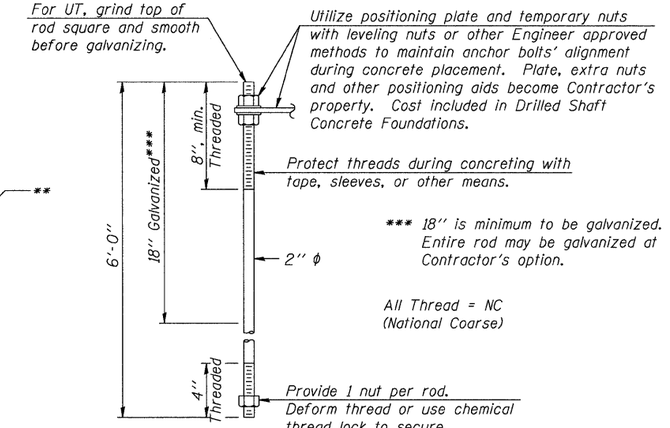
Structure Number	Station	H
2C1011090R00.87	45+95 RT	21'-1"



SIDE ELEVATION



SUGGESTED POSITIONING PLATE



ANCHOR ROD DETAIL

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize the upper 18" (minimum***) and associated AASHTO M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide a nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be tightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, using a straight beam, 1/2" ϕ 3.5 mhz. transducer, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

Note: "H" based on 15'-0" or actual sign height, whichever is greater.

OSC-A-5 1-20-11

McClure Engineering Associates, Inc. LOCHNER H.W. LOCHNER, INC., CHICAGO, ILLINOIS
RWA Regina Weber & Associates, Inc. www.RWAgroup.net
QUIGG ENGINEERING INC.

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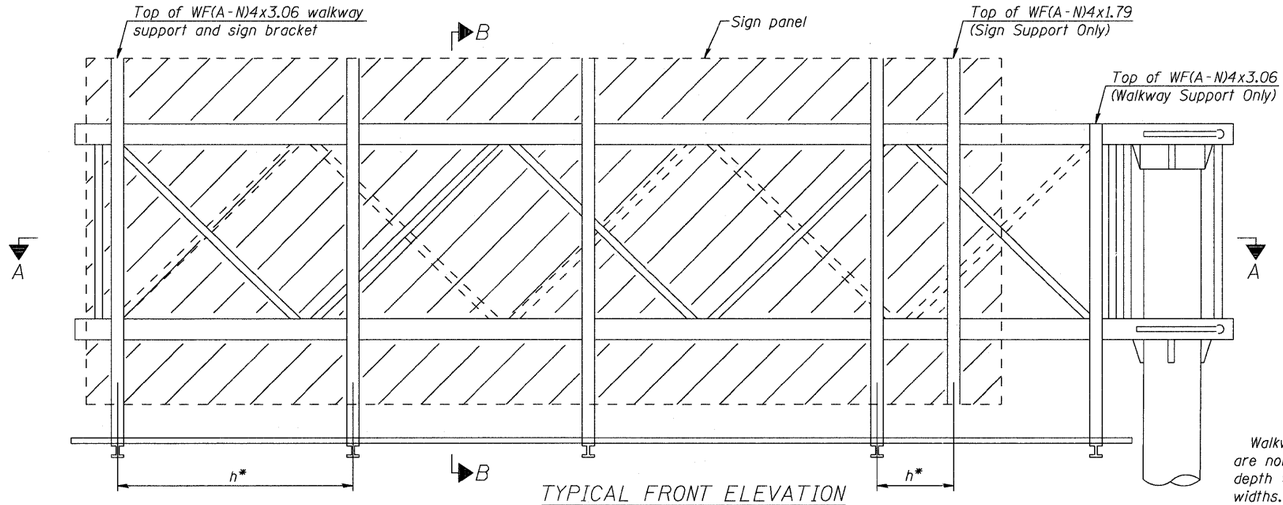
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – TYPE II-C-A & III-C-A
TRUSS SUPPORT POST – ALUMINUM TRUSS & STEEL POST

SHEET NO. 5 OF 10 SHEETS

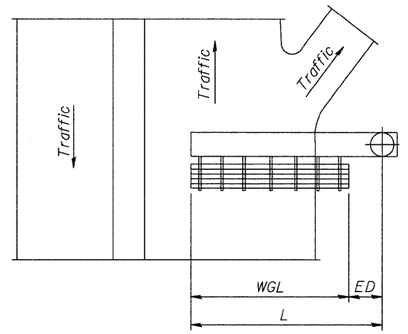
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	332
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



TYPICAL FRONT ELEVATION

With lights and handrail omitted for clarity.

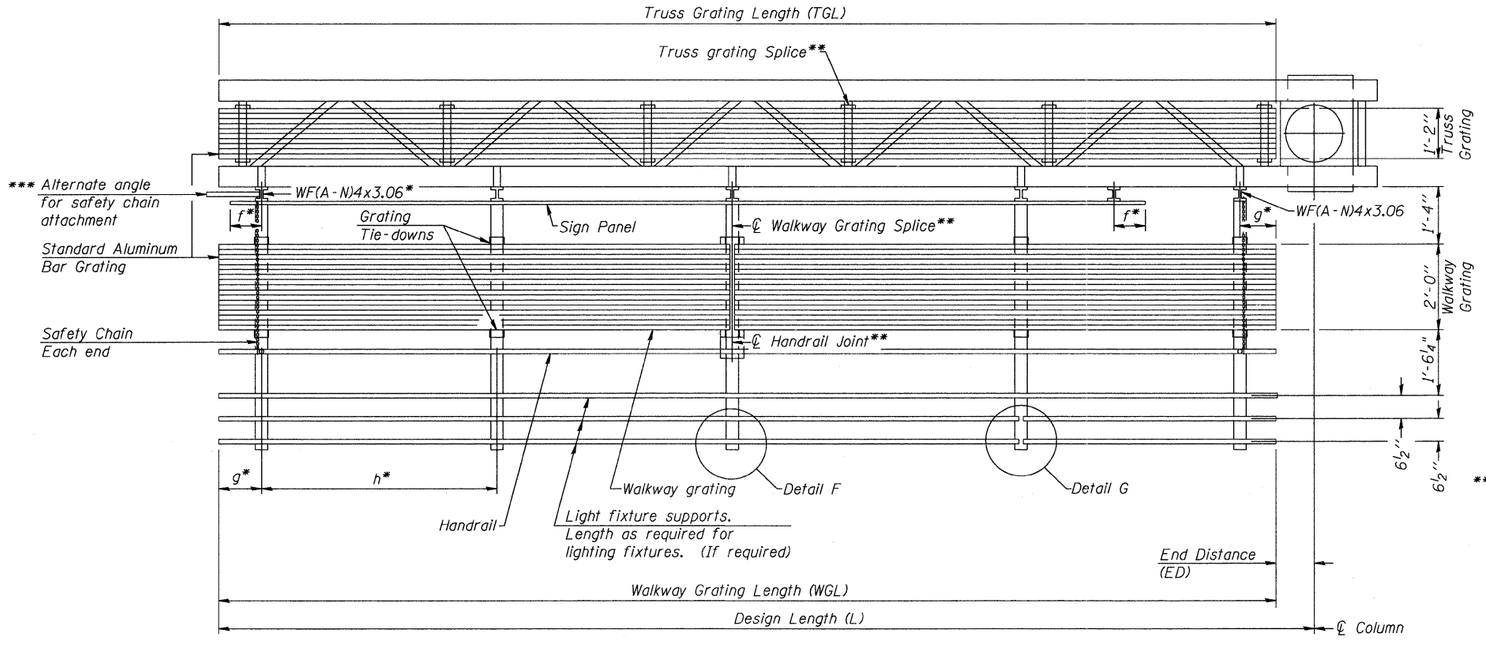
Walkway and truss grating dimensions are nominal and may vary (width ±½", depth ±½") based on available standard widths.



PLAN

WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)



SECTION A-A

Truss grating to facilitate inspection shall run full length of cantilevers. Cost of truss grating is included in Overhead Sign Structure Cantilever.

Handrail and walkway grating shall span a minimum of three brackets between splices.

** Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.

$$TGL = L - \left(\frac{\text{Post O.D.}}{2} + 6''\right)$$

Structure Number	Station	WGL	ED	TGL
2C1011090R00.87	45+95 RT	22'	13'	33.5'

Notes:

* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to ℄ of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway to ℄ of nearest bracket)
h = 6'-0" maximum (℄ to ℄ sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)

*** If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet OSC-A-8

For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet OSC-A-7.

For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet OSC-A-8.

BRACKET TABLE

WF(A-N)4x1.79 or WF(A-N)4x3.06 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

OSC-A-6 1-20-11

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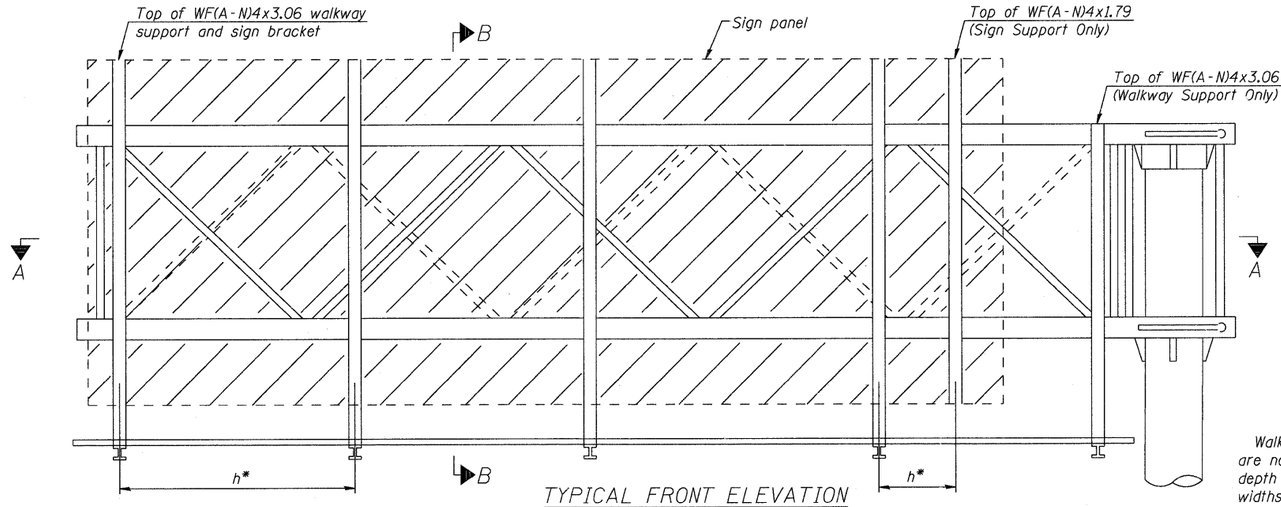
	CHECKED - DW		REVISED -
PLOT SCALE =	DRAWN - JDH		REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011		REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – ALUMINUM WALKWAY
DETAILS – ALUMINUM TRUSS & STEEL POST

SHEET NO. 6 OF 10 SHEETS

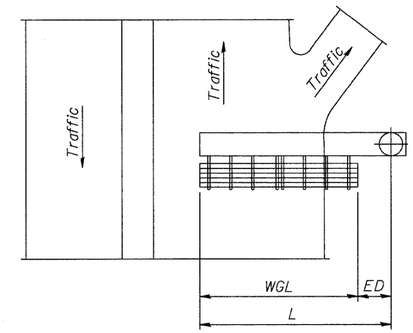
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	333
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



TYPICAL FRONT ELEVATION

With lights and handrail omitted for clarity.

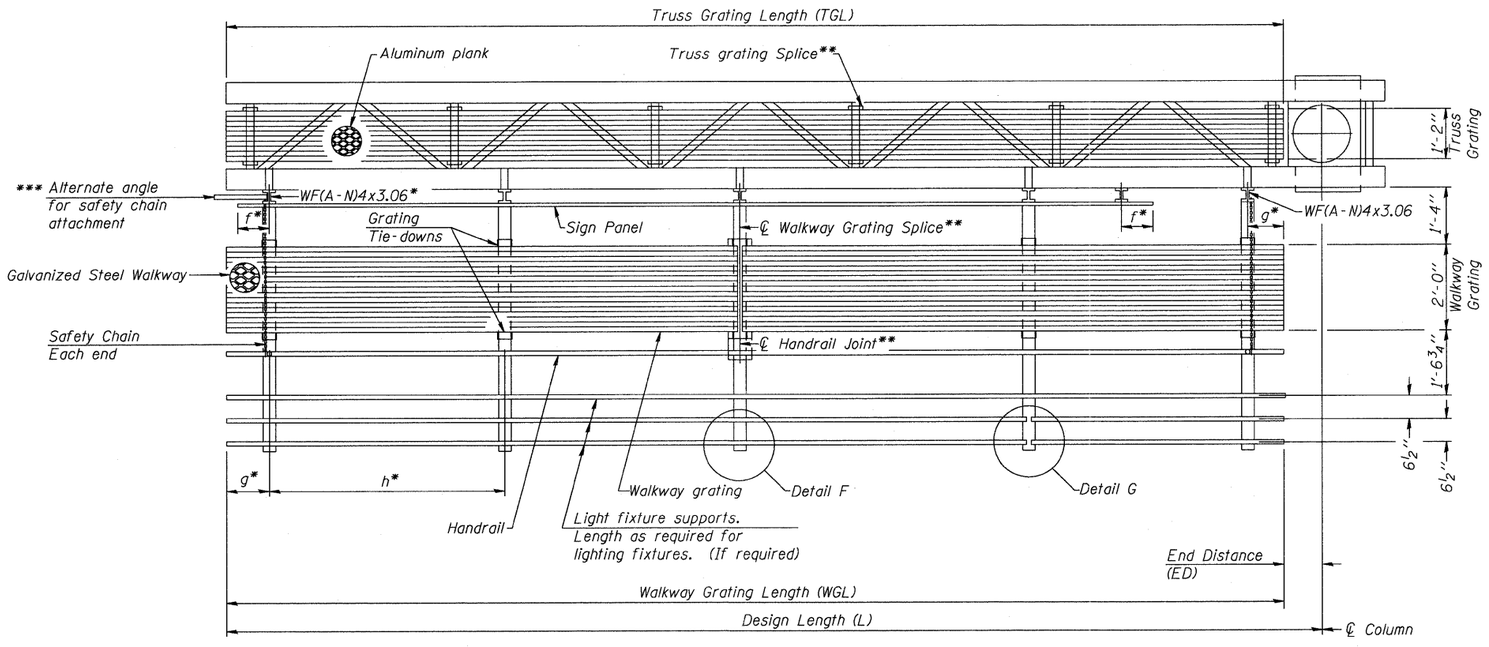
Walkway and truss grating dimensions are nominal and may vary (width ±½", depth ±½") based on available standard widths.



PLAN

WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)



SECTION A-A

Truss grating to facilitate inspection shall run full length of cantilevers. Cost of truss grating is included in Overhead Sign Structure Cantilever.

Handrail and walkway grating shall span a minimum of three brackets between splices.

** Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.

$$TGL = L - \left(\frac{\text{Post O.D.}}{2} + 6''\right)$$

Structure Number	Station	WGL	ED	TGL
2C101109OR00.87	45+95 RT	22'	13'	33.5'

Notes:

* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to ℄ of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway to ℄ of nearest bracket)
h = 6'-0" maximum (℄ to ℄ sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)

*** If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet OSC-A-8.

For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet OSC-A-7S.

For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet OSC-A-8.

BRACKET TABLE

WF(A-N)4x1.79 or WF(A-N)4x3.06 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

OSC-A-6S 1-20-11

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PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

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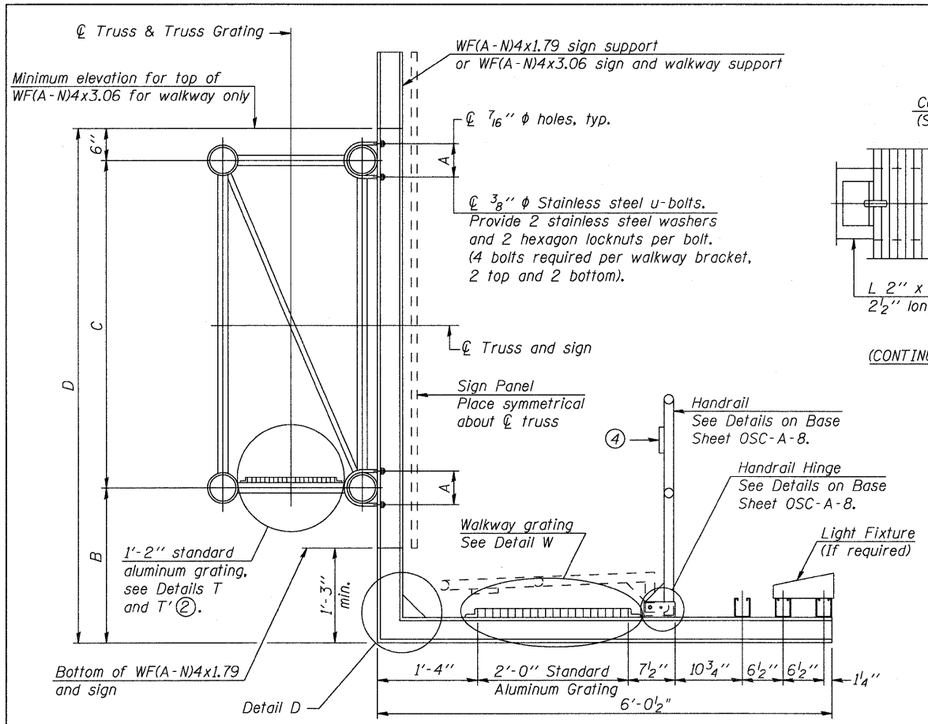
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – ALTERNATE STEEL WALKWAY DETAILS – ALUMINUM TRUSS & STEEL POST

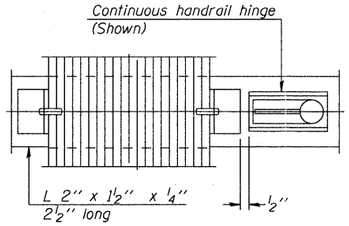
SHEET NO. 7 OF 10 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	334
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

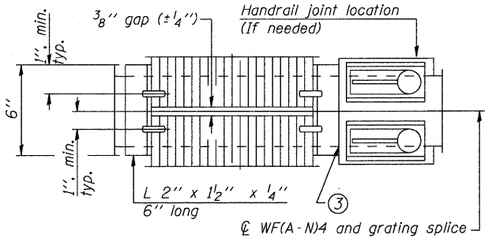


SECTION B-B

Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.



(CONTINUOUS WALKWAY GRATING)



(AT WALKWAY GRATING SPLICE)

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars (MBB) shall be 3/16" x 1½" on 1 3/16" centers and conform to ASTM B211 Alloy 6061-T6.

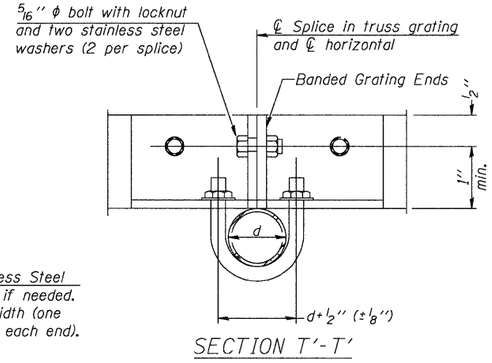
Cross bars (CB) shall be 3/16" x 1½" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:

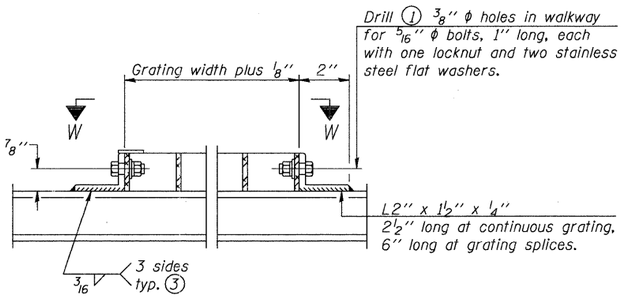
Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1½", spaced on 1 3/16" centers.

Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.



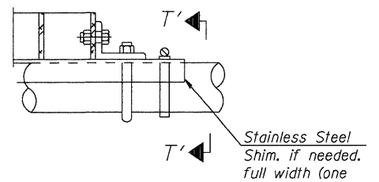
SECTION T'-T'

SECTION W-W



DETAIL W

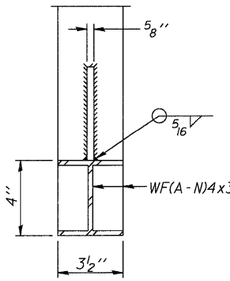
(Walkway grating)



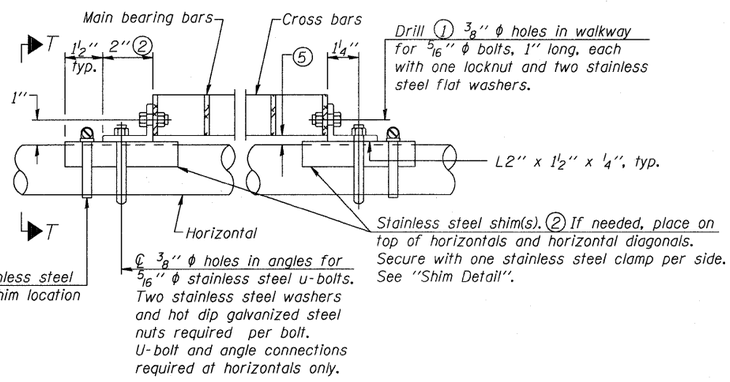
DETAIL T'

(Truss grating splice)

Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.

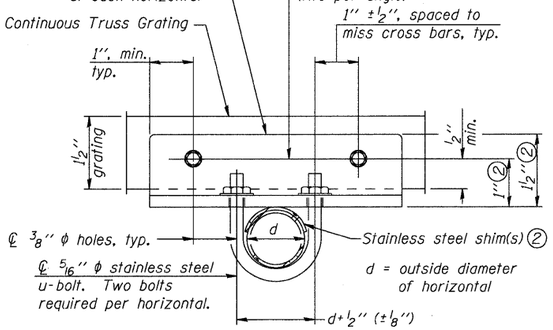


SECTION D-D

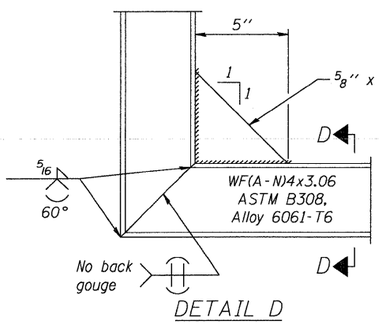


DETAIL T

(Continuous Truss grating)

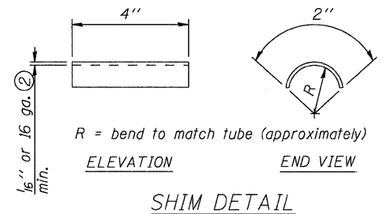


SECTION T-T



DETAIL D

Structure Number	Station	A	(6) B	C	(6) D
2C101I1090R00.87	45+95 RT	7 1/2"	2'	7'	9'-6"



SHIM DETAIL

(1) Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.

(2) Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.

(3) If Handrail Joint present, weld angle to WF(A-N)4 and ¼" extension bars. (See Base Sheet OSC-A-8.)

(4) ℄ ⅛" x ½" x 2" welded to handrail posts to protect locations that contact grating.

(5) Tube to grating gap may vary from 0 to ½", max. to align walkway, allow for camber, etc.

(6) Based on actual sign height, D_S, given on OSC-A-1.

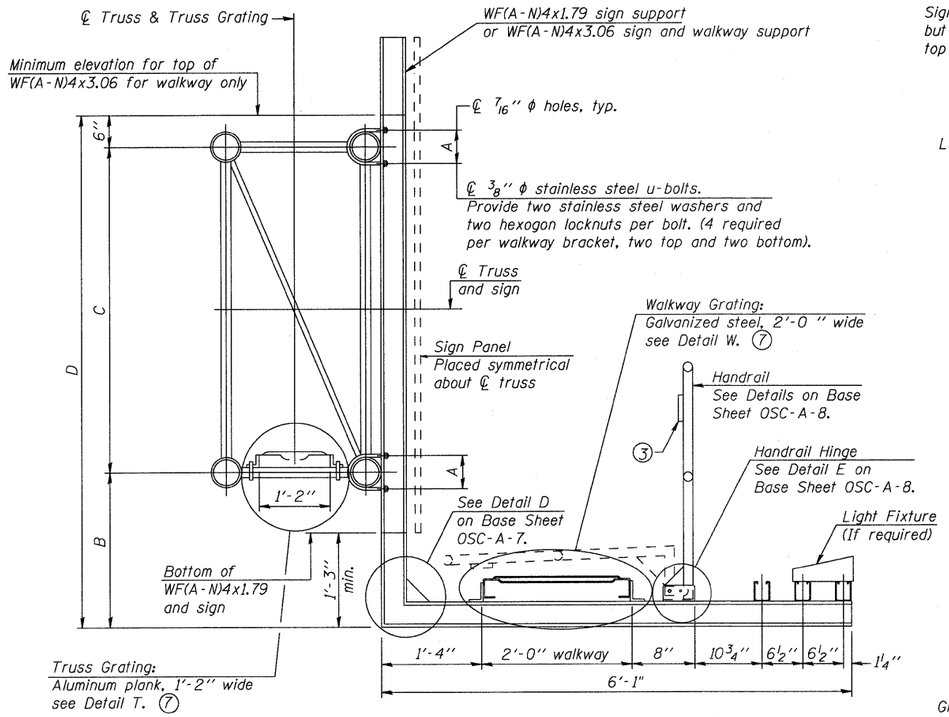
OSC-A-7 1-20-11

USER NAME =	DESIGNED -	REVISED -	
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

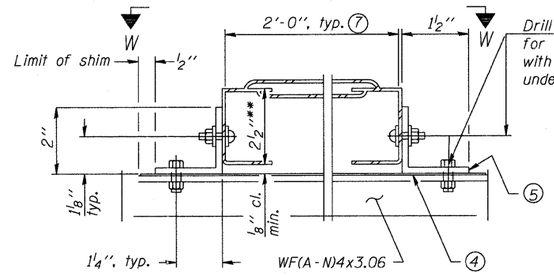
CANTILEVER SIGN STRUCTURES – WALKWAY DETAILS
ALUMINUM TRUSS & STEEL POST
SHEET NO. 8 OF 10 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	335
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

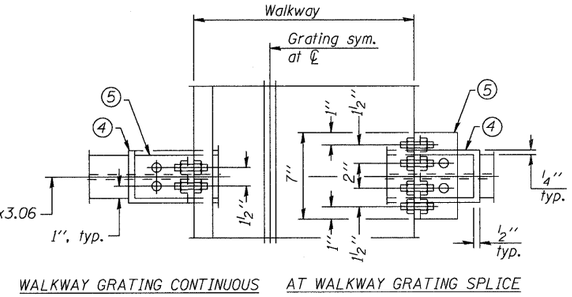


SECTION B-B

Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.

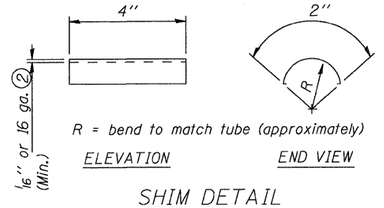


DETAIL W
GALVANIZED STEEL WALKWAY GRATING

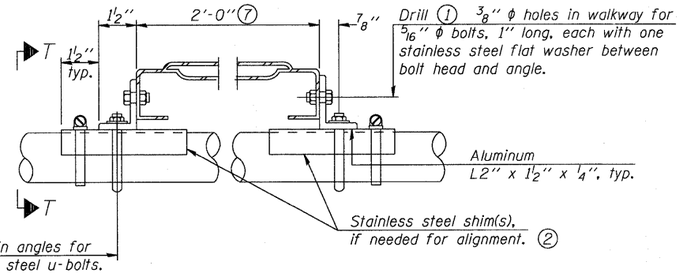


WALKWAY GRATING CONTINUOUS AT WALKWAY GRATING SPLICE

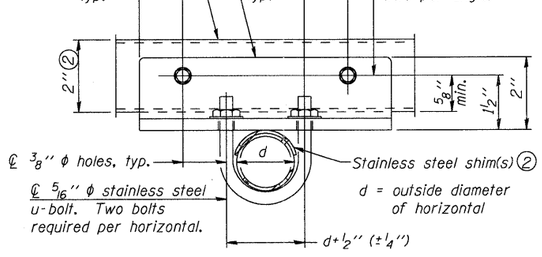
SECTION W-W



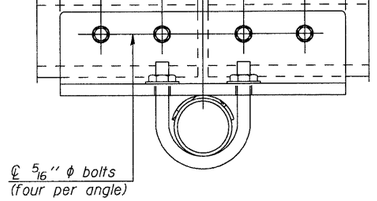
SHIM DETAIL



DETAIL T
(Truss grating at horizontal)



SECTION T-T
(Truss Grating Continuous)



SECTION T-T
(Truss Grating Splice)
Alternate splice details and locations may be used subject to the Engineer's review and approval.

ALUMINUM TRUSS GRATING

Structure Number	Station	A	(8) B	C	(8) D
2C1011090R00.87	45+95 RT	7 1/2"	2'	7'	9'-6"

(1) Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.

(2) Stainless steel shims shall be placed under angles at horizontals and horizonal diagonals if needed to compensate for alignment variations and differences in horizontal diagonal pipe sizes beyond adjustment provided by angles. Secure with one stainless steel clamp per location, se "Shim Detail". Thicker shim plates may be used when needed subject to shims performing properly.

(3) ℄ 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.

(4) 1/16" (or 16 ga.) x 2 1/2" x 4" stainless steel shim adhered to top of WF(A-N)4x3.06 beneath each galvanized angle, typ. Adhesives for shims shall be suitable for materials joined and full exposure conditions.

(5) Galvanized steel L2" x 2" x 1/4", 3 1/2" long with continuous grating 7" long at grating splice.

(6) Details shown are considered equal alternatives to Aluminum Walkway Details and may be substituted by Contractor at no charge in contract cost.

(7) Perforated or expanded metal grating providing a skid resistant (non-serrated) surface and capable of supporting a 500 pound concentrated load with a 6'-0" clear span. Walkway and truss grating dimensions are nominal and may vary (width ±1/2", depth 1/2") based on available standard sizes. Cut ends of grating shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

(8) Based on actual sign height, Ds, given on OSC-A-1.

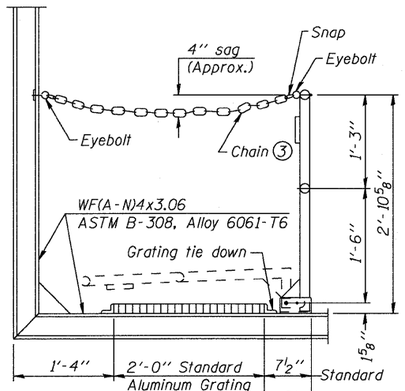
OSC-A-7S 1-20-11

USER NAME =	DESIGNED -	REVISED -	
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

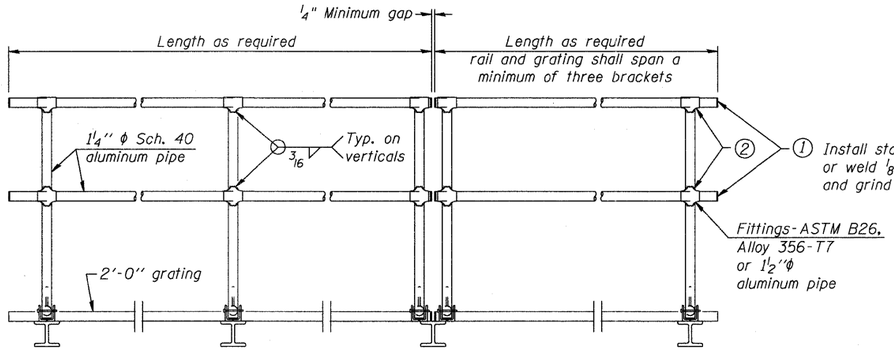
CANTILEVER SIGN STRUCTURES
ALTERNATE WALKWAY DETAILS
SHEET NO. 9 OF 10 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	336
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



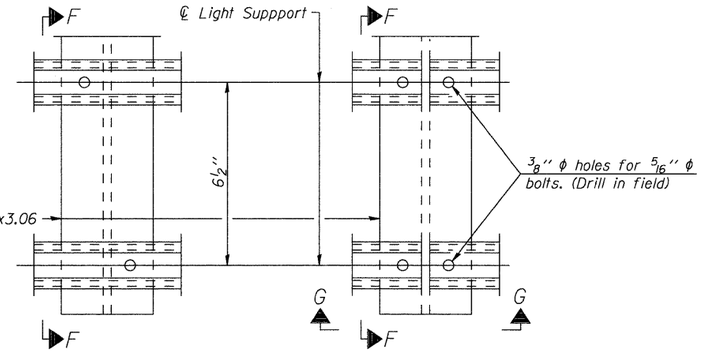
SIDE ELEVATION

(Showing Safety Chain W/O Sign)



FRONT ELEVATION

① Install standard force-fit end caps or weld ⅛" end plates with ⅛" c.f.w. and grind smooth. (All rail ends)

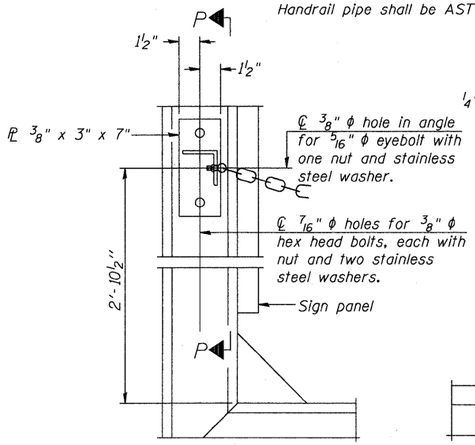


DETAIL F

DETAIL G

HANDRAIL DETAILS

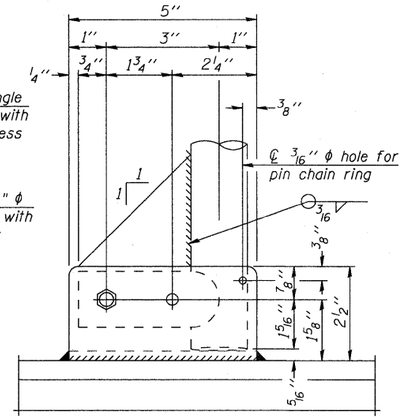
Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.



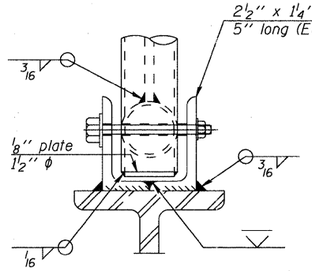
ALTERNATE SAFETY CHAIN ATTACHMENT

(With Sign Present)

Items not shown same as "Side Elevation" of "Handrail Details"

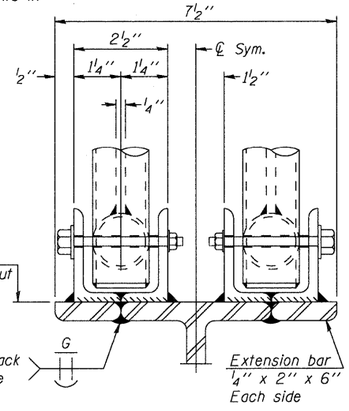


SIDE ELEVATION



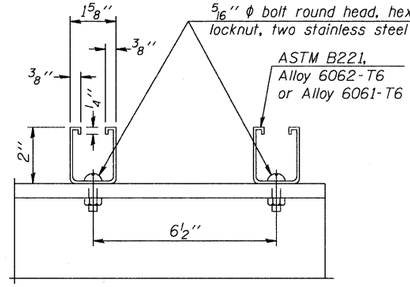
FRONT ELEVATION

Details not shown same as "ELEVATION" at right.

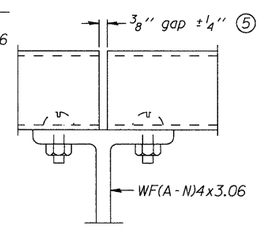


ELEVATION AT HANDRAIL JOINT ④

Details not shown same as "FRONT ELEVATION"



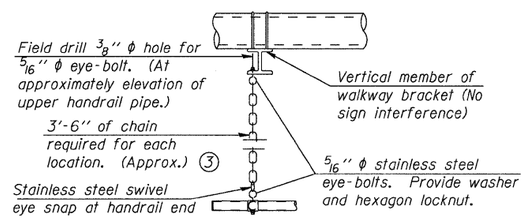
SECTION F-F



SECTION G-G

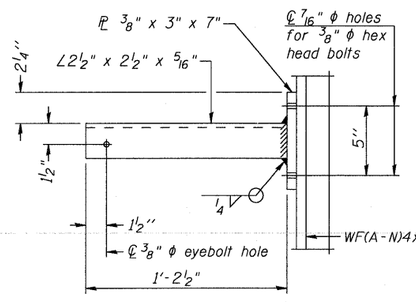
LIGHTING FIXTURE MOUNTS (IF REQUIRED)

⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

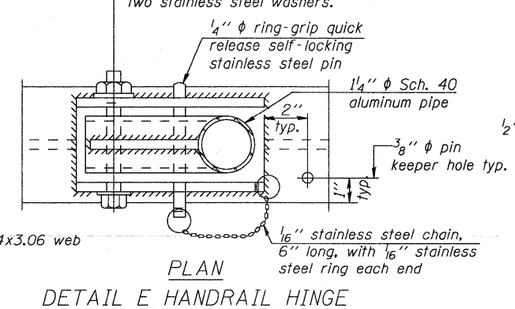


SAFETY CHAIN

One required for each end of each walkway.

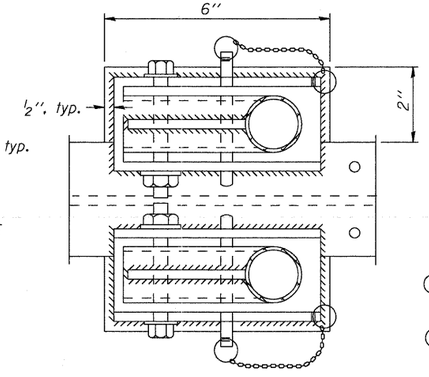


SECTION P-P



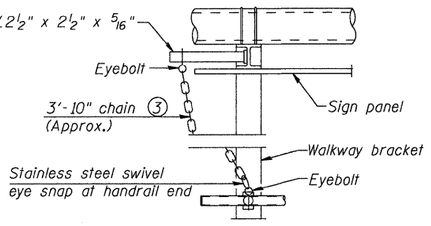
PLAN

DETAIL E HANDRAIL HINGE



PLAN AT HANDRAIL JOINT

Details not shown same as "PLAN"



ALTERNATE SAFETY CHAIN ATTACHMENT

Details not shown similar to "Safety Chain" Details

(Walkway omitted for clarity)

③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.

④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.

OSC-A-8 1-20-11

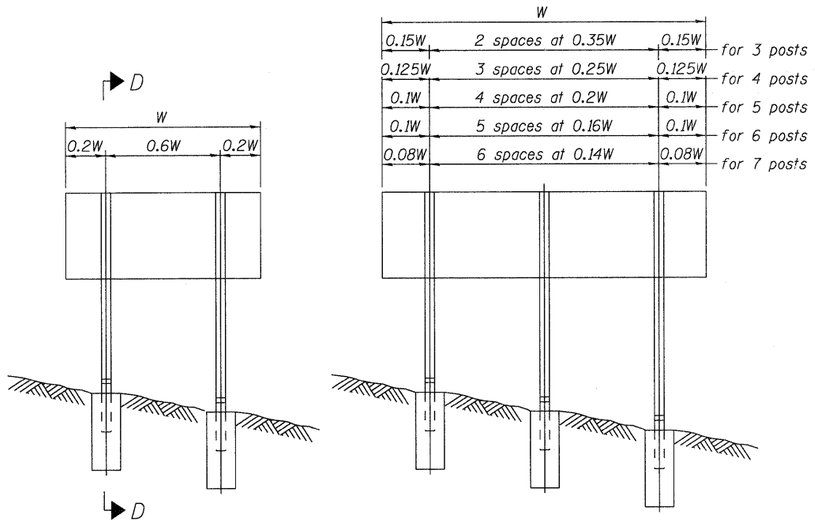
USER NAME =	DESIGNED -		REVISED -
	CHECKED - DW		REVISED -
PLOT SCALE =	DRAWN - JDH		REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011		REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

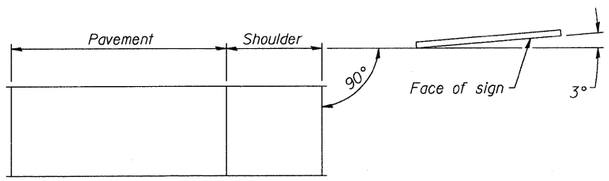
CANTILEVER SIGN STRUCTURES – HANDRAIL DETAILS
ALUMINUM TRUSS & STEEL POST

SHEET NO. 10 OF 10 SHEETS

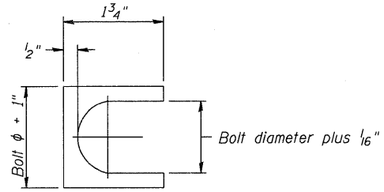
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	337
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



ELEVATION

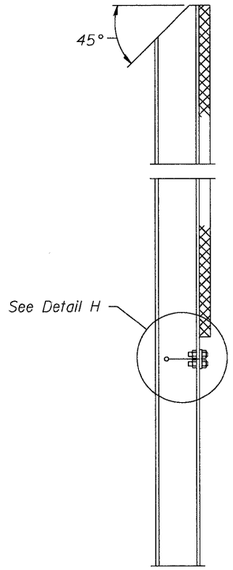


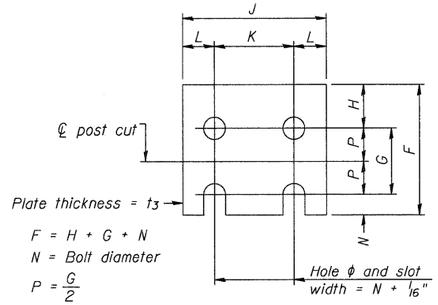
LOCATION SKETCH



SHIM DETAIL

Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.

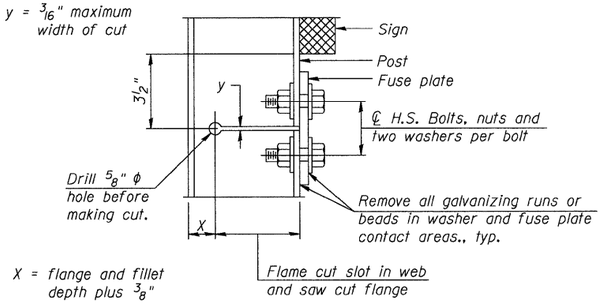




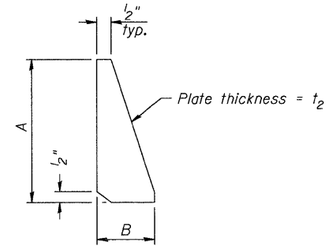
FUSE PLATE DETAIL

(Install with notches down.)

FUSE PLATE DATA		
N = Bolt Diameter	G	H
1/2"	2"	1 1/8"
5/8"	2 1/4"	1 1/4"
3/4"	2 1/2"	1 3/8"
7/8"	2 3/4"	1 1/2"
1"	3"	1 5/8"
1 1/8"	3 1/4"	1 3/4"
1 1/4"	3 1/2"	1 7/8"

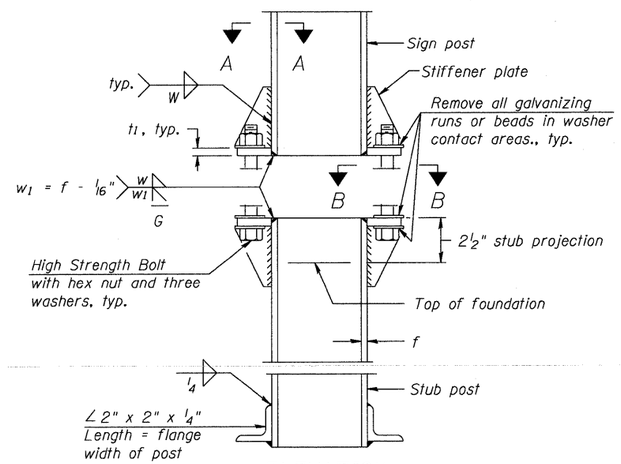


DETAIL H



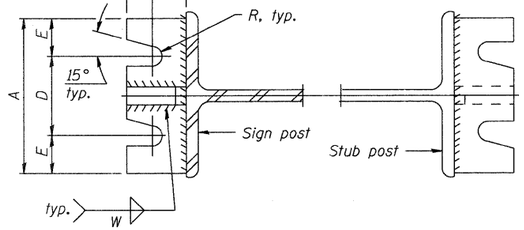
STIFFENER PLATE DETAIL

Diameter



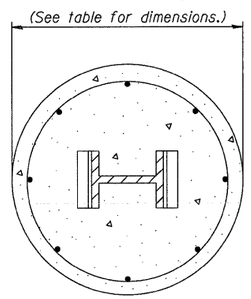
ELEVATION

SIGN POST & STUB POST

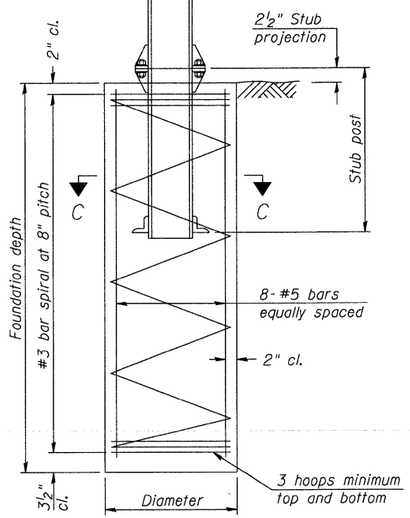


SECTION A-A

SECTION B-B



SECTION C-C



SECTION D-D

GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:
Structural steel - 20,000 p.s.i.
Reinforcing steel - 20,000 p.s.i.
Concrete - 1,400 p.s.i.
Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.

BAW-A-1 1-20-11

(Sheet 1 of 2)

McClure Engineering Association, Inc. LOCHNER HNTB LOCHNER, INC. CHICAGO, ILLINOIS
RWA Hanson, Walker & Associates, Inc. OLI QUIGG ENGINEERING INC.

USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BREAK-AWAY WIDE FLANGE STEEL SIGN POST DETAILS

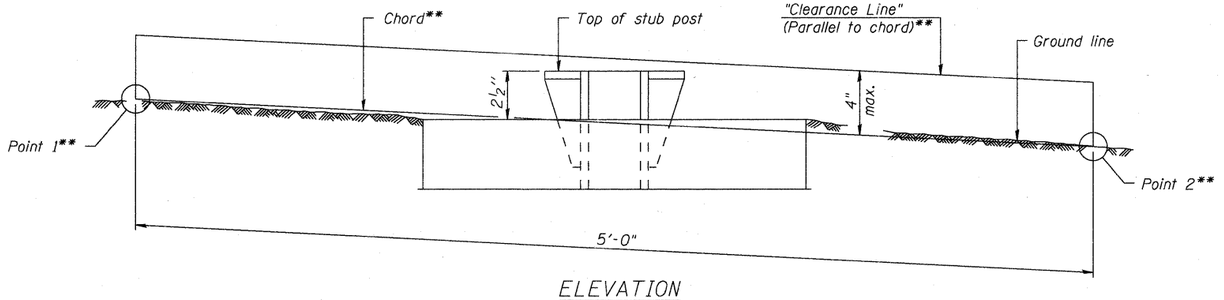
SHEET NO. 1 OF 2 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	338
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

POST	CONCRETE FOUNDATION TABLE							POST TO STUB POST CONNECTION DATA										FUSE PLATE DATA			
	Foundation			Reinforcement																	
	Diameter	* Minimum Depth	Concrete (1) cu. yds.)	Vertical Bars Length	Bar Spirals Diameter	Bar Spirals Length	lbs. (2)	Stub Post Length	Bolt Size	A	B	C	D	E	t_1	t_2	R	W	J	K	L	t_3
W6x9	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-3"	5/8" x 3 1/4"	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	11/32"	1/4"	4"	2 1/4"	7/8"	1/4"
W6x15	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	5/8" x 3 1/4"	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	11/32"	1/4"	6"	3 1/2"	1 1/4"	3/8"
W8x18	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	3/4" x 3 3/4"	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	13/32"	5/16"	5 1/4"	2 3/4"	1 1/4"	3/8"
W10x22	2'-6"	6'-6"	1.18	6'-3"	2'-2 1/2"	105'-0"	92	3'-0"	3/4" x 3 3/4"	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	13/32"	5/16"	5 3/4"	2 3/4"	1 1/2"	1/2"
W10x26	2'-6"	7'-0"	1.27	6'-9"	2'-2 1/2"	112'-0"	98	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	15/32"	3/8"	5 3/4"	2 3/4"	1 1/2"	5/8"
W12x26	2'-6"	7'-9"	1.41	7'-6"	2'-2 1/2"	119'-0"	107	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	15/32"	3/8"	6 1/2"	3 1/2"	1 1/2"	5/8"
W14x30	3'-0"	7'-3"	1.90	7'-0"	2'-8 1/2"	145'-0"	113	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	15/32"	3/8"	6 3/4"	3 1/2"	1 5/8"	1/2"
W14x38	3'-0"	8'-0"	2.09	7'-9"	2'-8 1/2"	153'-0"	122	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	17/32"	3/8"	6 3/4"	3 1/2"	1 5/8"	1/2"
W16x45	3'-0"	8'-6"	2.23	8'-3"	2'-8 1/2"	162'-0"	130	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	17/32"	3/8"	7"	3 1/2"	1 3/4"	1/2"

*Dimensional changes required for varying site conditions shall be approved by the Engineer.

POST	FUSE PLATE BOLT SIZE																			
	Sign Height																			
	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"
W6x9	1/2" x 1 1/2"	1/2" x 1 1/2"	1/2" x 1 1/2"	1/2" x 1 1/2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W6x15	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"	5/8" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	—	—	—	—	—	—	—	—	—	—	—	—
W8x18	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"	5/8" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	—	—	—	—	—	—	—	—	—	—	—
W10x22	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"	5/8" x 2"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	—	—	—	—	—	—	—	—
W10x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	—	—	—	—	—	—	—
W12x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	—	—	—	—	—	—
W14x30	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"	5/8" x 2"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	—	—	—	—
W14x38	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"
W16x45	—	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"



ELEVATION
GROUND LINE & STUB POST

** For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

(1) Quantity includes all concrete necessary for one foundation.

(2) Includes reinforcement bars and spiral hooping for one foundation.

BAW-A-2 1-20-11

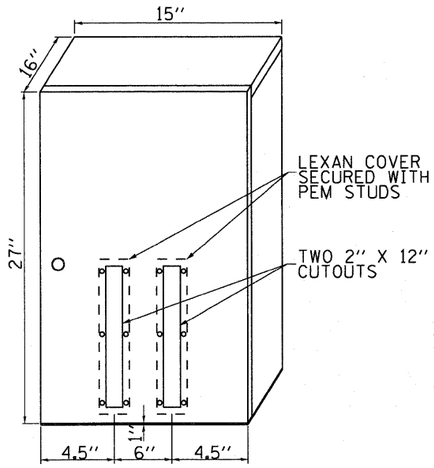
(Sheet 2 of 2)

USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - DW	REVISED -	
PLOT SCALE =	DRAWN - JDH	REVISED -	
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -	

BREAK-AWAY WIDE FLANGE STEEL SIGN POST TABLES

SHEET NO. 2 OF 2 SHEETS

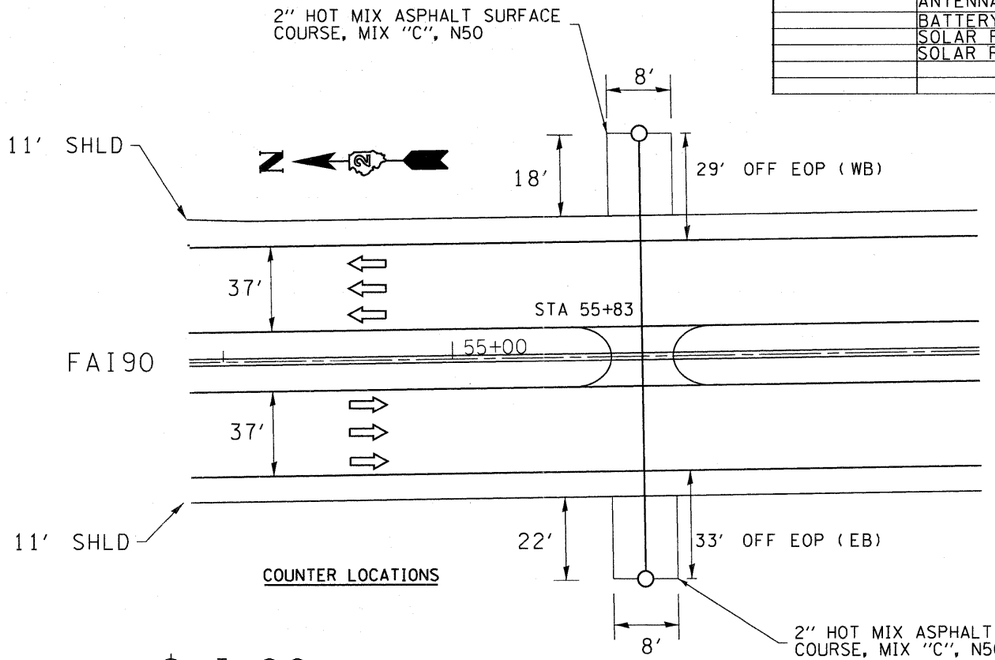
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	339
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



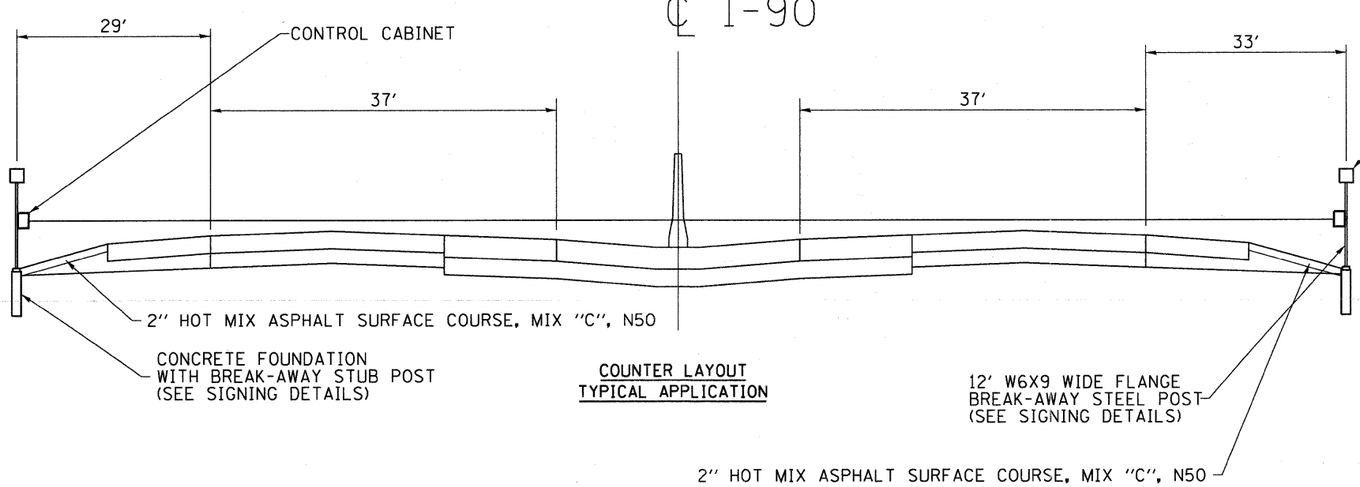
CABINET DETAIL

TRAFFIC COUNTER
SCHEDULE OF QUANTITIES
(FOR INFORMATION ONLY)

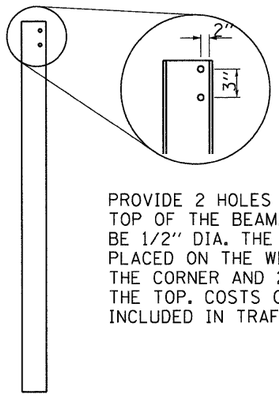
	ITEM	UNIT	QUANTITY
	LOCATION 1		
	DATA COLLECTION SYSTEM	EACH	1
	WIRELESS MODEM	EACH	1
	DUALBAND CELLULAR/PCS ANTENNA	EACH	1
	CABINETS	EACH	2
	ANTENNA AND MODEM CABLES	EACH	1
	BATTERY CABINET	EACH	1
	SOLAR PANEL 40W	EACH	1
	SOLAR PANEL 20W	EACH	1



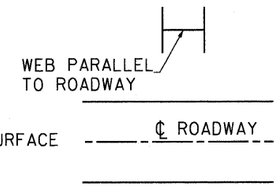
COUNTER LOCATIONS



COUNTER LAYOUT
TYPICAL APPLICATION



PROVIDE 2 HOLES DRILLED IN THE TOP OF THE BEAM. THE HOLES SHOULD BE 1/2" DIA. THE HOLES SHOULD BE PLACED ON THE WEB 2" IN FROM THE CORNER AND 2" DOWN FROM THE TOP. COSTS OF DRILLING HOLES INCLUDED IN TRAFFIC COUNTER.



STANDARD 6" I-BEAM 12' TALL

NOTES:

1. SYSTEM CONSISTS OF TWO STANDARD 6" I-BEAM SIGNPOSTS WITH CONCRETE FOUNDATION AND A FLANGE WITH BREAKAWAY BOLTS.
2. THE I-BEAMS ARE 12' LONG AND DRILLED ACCORDING TO THE DRAWING TO ACCOMMODATE A PIPE TO ALLOW THE MOUNTING OF A SOLAR PANEL.
3. THE WEB OF THE I-BEAM IS PLACED PARALLEL TO THE LANES.
4. THE POST MUST BE PLACED DIRECTLY ACROSS FROM EACH OTHER PERPENDICULAR TO THE LANES.
5. TWO POSTS ARE REQUIRED FOR EACH LOCATION.
6. THE CABINETS ARE ATTACHED TO THE I-BEAMS USING GALVANIZED J-BOLTS.
7. IDEALLY THE CABINET HEIGHT SHOULD BE APPROX. 5' AND BE ABLE TO VIEW THE OTHER CABINET WITH THE LINE OF SIGHT BEING ABOUT 4" ABOVE THE SURFACE OF THE ROAD.
8. THE IDOT OFFICE OF PLANNING AND PROGRAMMING DATA MANAGEMENT LAB (ATTN: RAMON TAYLOR 217-782-2065) SHALL BE NOTIFIED TWO WEEKS PRIOR TO THE LAYOUT AND PLACEMENT OF THE POST FOUNDATIONS.

McClure Engineering Associates, Inc. — LOCHNER — RWA — QUIGG ENGINEERING INC.

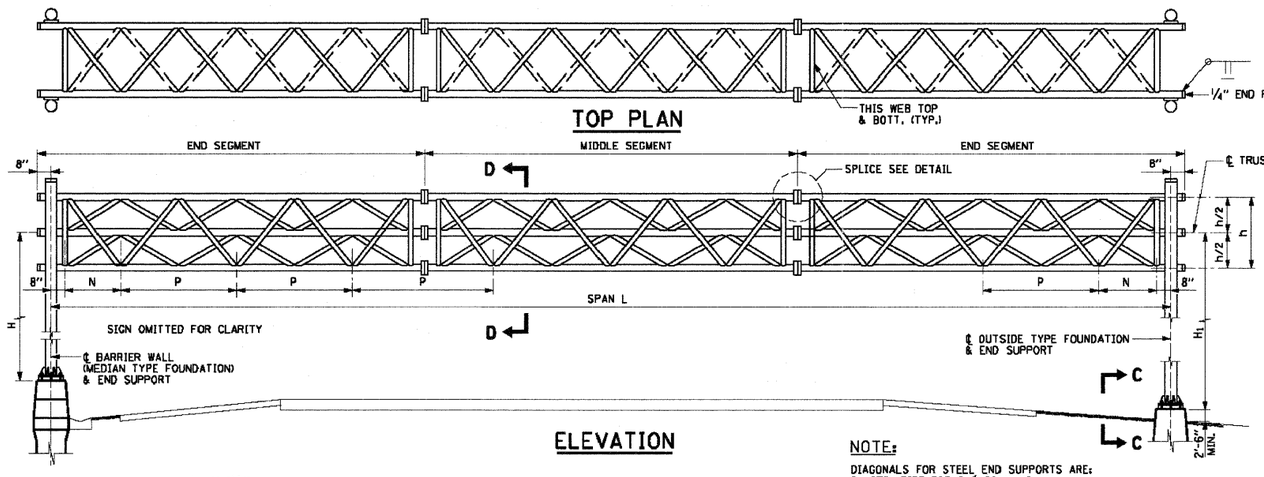
USER NAME = _USERNAME_	DESIGNED - JWS	REVISED -	
FILE NAME = #FILE#	DRAWN - PDB	REVISED -	
PLOT SCALE = 500.0000 ' / IN.	CHECKED - BRM	REVISED -	
PLOT DATE = 10/19/2011	DATE - 02-05-09	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC COUNTER DETAIL I-90

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	340
		CONTRACT NO. 64C29		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

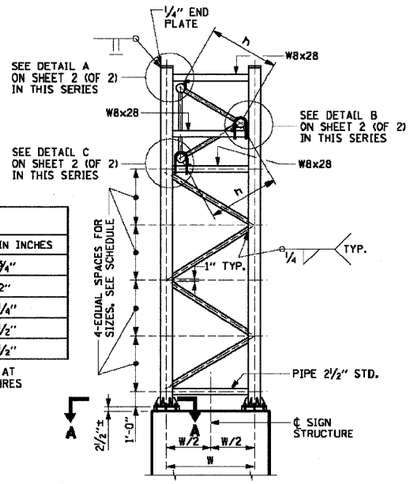


ELEVATION

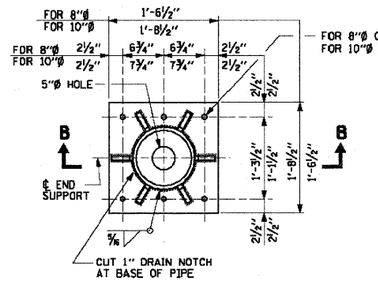
CAMBER	
SPAN IN FEET	CAMBER IN INCHES
60 THRU 70	1¾"
71 THRU 80	2"
81 THRU 100	2¼"
101 THRU 110	2½"
111 THRU 120	2¾"

PROVIDE THE ABOVE CAMBER AT MIDDLE OF SPAN OF STRUCTURES

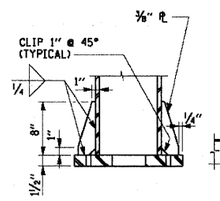
NOTE:
DIAGONALS FOR STEEL END SUPPORTS ARE:
2" STD. PIPE FOR 8"ø COLUMNS
2½" STD. PIPE FOR 10"ø COLUMNS



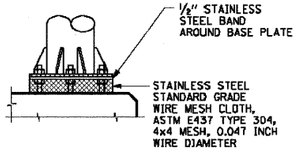
TYPICAL END SUPPORT ELEVATION



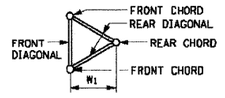
SECTION A-A



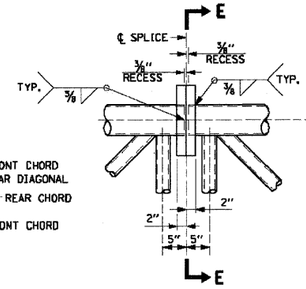
SECTION B-B



VIEW C-C



SECTION D-D



SPLICE DETAIL

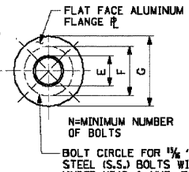


TABLE A			
CHORD SIZE E	F	G	N
3½"ø & 3¾"ø	8½"	11½"	6
4¼"ø, 4¾"ø, 5"ø	9¼"	12¼"	8
6"ø & 6½"ø	11"	14"	10

BOLT CIRCLE FOR 1⅜"ø HOLES AND ⅞"ø STAINLESS STEEL (S.S.) BOLTS WITH HEX LOCKNUTS & S.S WASHERS UNDER HEAD & NUT. FOR E, F, G & N, SEE TABLE A. REQUIRED MIN. BOLT TENSION IS 12,500#. ⅞"ø STUDS SHALL BE SUBSTITUTED WHEN DIAGONALS INTERFERE WITH BOLT LOCATION.

SECTION E-E

SIGN STRUCTURE SCHEDULE

TRUSS NO.	DIMENSIONS						ALUMINUM TRUSS					STEEL END SUPPORT			FOUNDATION TYPE
								MIDDLE SEGMENT OR END SEGMENT				PIPE COLUMN (NOMINAL DIAMETER)			
								CHORD (O.D.)		DIAGONAL (O.D.)		H OR H_1	H OR H_1	H OR H_1	
	TRUSS SPAN L	P	N	h	W_1	W	DL (TRUSS) DEFLECTION	FRONT	REAR	FRONT	REAR	22'-0" TO 24'-0" (MAX.)	25'-0" TO 27'-0" (MAX.)	28'-0" TO 29'-0" (MAX.)	
T-60	60'-0"	6'-8"	2'-8"	3'-4"	2'-10⅝"	4'-4½"	1 1/16"	3½"ø x¼"	3¾"ø x¼"	2"ø x⅜"	2"ø x⅜"	8" STD. (28.55#/FT.)	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	80
T-65	65'-0"	7'-4"	2'-6"	3'-8"	3'-2⅛"	4'-8"	1⅝"	3½"ø x¼"	3¾"ø x¼"	2"ø x⅜"	2"ø x⅜"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	80
T-70	70'-0"	8'-0"	2'-4"	4'-0"	3'-5⅝"	5'-0"	1 9/16"	3¾"ø x¼"	3¾"ø x¼"	2"ø x⅜"	2"ø x⅜"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	80
T-75	75'-0"	8'-6"	2'-10"	4'-3"	3'-8¼"	5'-3"	1⅞"	4¼"ø x¼"	4¾"ø x⅜"	2"ø x⅜"	2"ø x⅜"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	80
T-80	80'-0"	9'-0"	3'-4"	4'-6"	3'-10¾"	5'-6"	2"	4¾"ø x⅜"	5"ø x¼"	2¼"ø x⅜"	2"ø x⅜"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	80
T-85	85'-0"	9'-6"	3'-10"	4'-9"	4'-1⅜"	5'-9"	2 1/16"	5"ø x¼"	5"ø x⅜"	2¼"ø x⅜"	2¼"ø x⅜"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	100
T-90	90'-0"	10'-0"	4'-4"	5'-0"	4'-4"	5'-11½"	2⅛"	5"ø x⅝"	5"ø x⅝"	2½"ø x⅜"	2¼"ø x⅜"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	100
T-95	95'-0"	10'-6"	4'-10"	5'-3"	4'-6⅝"	6'-2"	2 3/16"	5"ø x⅝"	5"ø x⅝"	2½"ø x⅜"	2½"ø x⅜"	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	100
T-100	100'-0"	11'-4"	4'-0"	5'-8"	4'-10⅞"	6'-7½"	2¼"	6"ø x¼"	6"ø x¼"	2¾"ø x⅜"	2½"ø x⅜"	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	100
T-105	105'-0"	12'-0"	3'-10"	6'-0"	5'-2⅜"	6'-11"	2 5/16"	6"ø x⅝"	6"ø x⅝"	3"ø x⅜"	2¾"ø x⅜"	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	120
T-110	110'-0"	12'-6"	4'-4"	6'-3"	5'-5"	7'-1½"	2 7/16"	6"ø x⅝"	6"ø x⅝"	3"ø x⅜"	2¾"ø x⅜"	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	120
T-115	115'-0"	13'-0"	4'-10"	6'-6"	5'-7⅝"	7'-4½"	2½"	6½"ø x⅜"	6"ø x⅝"	3¼"ø x¼"	3"ø x⅜"	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	10" X.X.S. (104.13#/FT.)	120
T-120	120'-0"	13'-8"	4'-8"	6'-10"	5'-11"	7'-8"	2 9/16"	6½"ø x⅜"	6½"ø x⅜"	3½"ø x 5/16"	3"ø x⅜"	10" X.S. (54.74#/FT.)	10" X.X.S. (104.13#/FT.)	10" X.X.S. (104.13#/FT.)	120

SIGN LOCATION	TRUSS NO.	H	H_1
STA: 120+90 RT	T-90	22'	27'-4 1/3"
STA: 126+72 RT	T-105	23'-1 1/2"	28'-11 1/6"
* STA: 147+40 RT	T-90	22'-6 3/4"	22'-10"

* RELOCATED EXISTING SIGN STRUCTURE FROM STA: 147+54 RT

BILL OF MATERIALS

ITEM	UNIT	TOTAL	
REMOVE CONCRETE FOUNDATION OVERHEAD	EACH	6	
REINFORCEMENT BARS, EPOXY COATED	POUNDS	18,470	**
STRUCTURAL STEEL SUPPORT FOR OVERHEAD SIGN STRUCTURE, SPAN	EACH	4	
REMOVE OVERHEAD SIGN STRUCTURE END SUPPORT	EACH	4	
ANCHOR BOLTS, 1 1/2"	EACH	72	
RELOCATE OVERHEAD SIGN STRUCTURE SPAN TYPE (ALUMINUM 90 FT)	EACH	1	
OVERHEAD SIGN STRUCTURE SPAN TYPE (ALUMINUM 90 FT)	FOOT	90	
OVERHEAD SIGN STRUCTURE SPAN TYPE (ALUMINUM 105 FT)	FOOT	105	
FOUNDATION FOR OVERHEAD SIGN STRUCTURE, SPAN TYPE	CU.YD.	156.6	**

**FOUNDATION DESIGN NEEDS TO BE CHECKED AGAINST SOIL BORINGS

NOTES:

DESIGN SPECIFICATIONS:

THESE STRUCTURES ARE DESIGNED TO SATISFY THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION WITH 2002 AND 2003 INTERIMS. TRUSSES ARE DESIGNED FOR A NINE FOOT DEEP SIGN PANEL OVER 75% OF SPAN LENGTH, BOTH END SUPPORTS ARE DESIGNED FOR 60% OF THE TOTAL LOAD.

LOADING:

ORIGINAL DESIGN LOADING WAS 35 PSF ON SIGN PANELS AND 10 PSF ON CROSS AREAS DEFINED BY THE PERIMETER OF TRUSS MEMBERS NOT COVERED BY SIGN PANEL AREAS. THE AASHTO GROUP II ALLOWABLE OVERSTRESS WAS 140% (ALLOWABLE STRESS DESIGN).

CONSTRUCTION SPECIFICATIONS:

ALL MATERIALS, EXCEPT AS SHOWN, FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 733 OF THE IDOT STANDARD SPECIFICATIONS.

SHEET 1 OF 2

APPROVED ..... CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway — Open Roads for a Faster Future

DATE	REVISIONS

OVERHEAD SIGN STRUCTURE SPAN TYPE, ALUMINUM

STANDARD F1-00

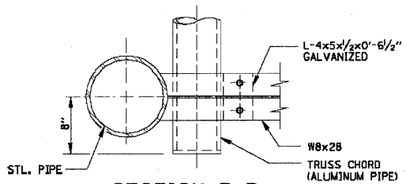
McClure Engineering Associates, Inc. | LOCHNER H.W. LOCHNER, INC. CHICAGO, ILLINOIS | RWA Rogers Walker & Associates, Inc. | QUIGG ENGINEERING INC.

USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

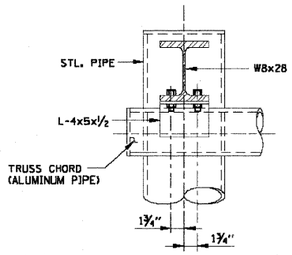
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURE
SPAN TYPE, ALUMINUM
SHEET NO. 1 OF 2 SHEETS

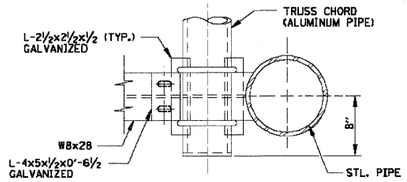
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	341
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



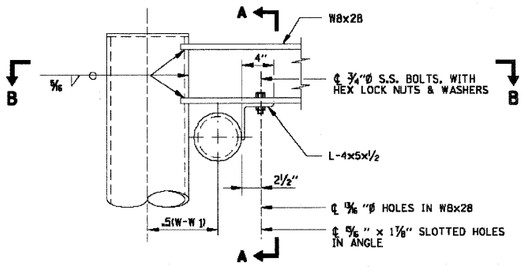
SECTION B-B



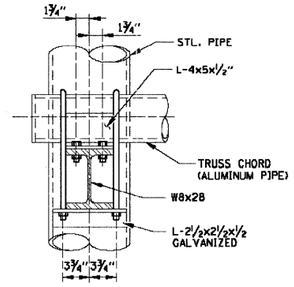
SECTION A-A



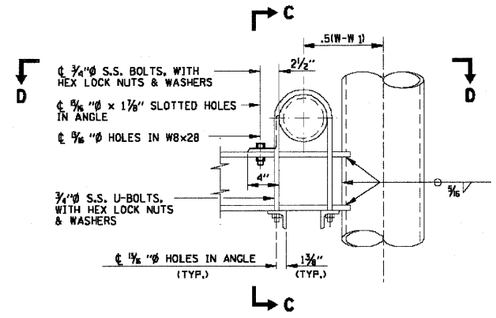
SECTION D-D



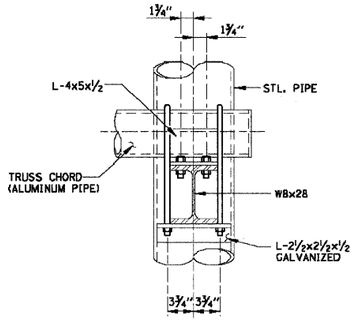
DETAIL A



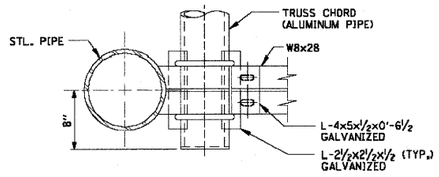
SECTION F-F



DETAIL B



SECTION C-C



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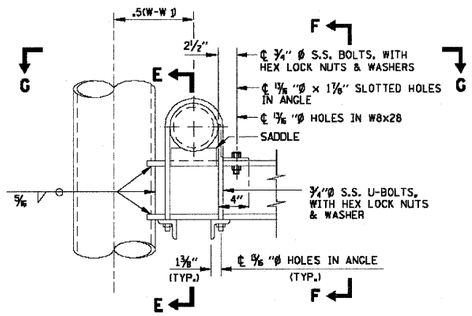

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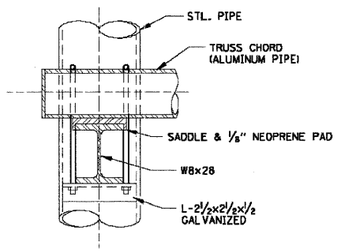

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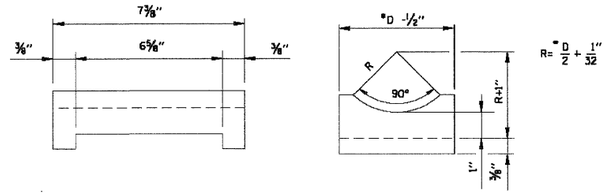


SADDLE (SHIM) DETAIL
(ALUMINUM)

NOTES:

1. FOR LOCATION OF DETAILS A, B, & C, SEE SHEET 1 (OF 2) IN THIS SERIES.
2. *D=OUTSIDE DIAMETER OF CHORD

SHEET 2 OF 2

APPROVED Jeff Daly CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

DATE	REVISIONS

OVERHEAD SIGN STRUCTURE
SPAN TYPE, ALUMINUM, DETAILS

STANDARD F1-00

McClure Engineering Associates, Inc. | LOCHNER R.W. LOCHNER, INC., CHICAGO, ILLINOIS | RWA Regina Wenger & Associates, Inc. | QUIGG ENGINEERING INC.

USER NAME =	DESIGNED -	REVISED -
	CHECKED - DW	REVISED -
PLOT SCALE =	DRAWN - JDH	REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011	REVISED -

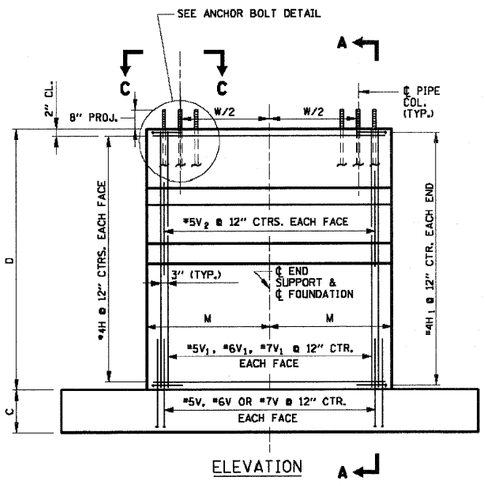
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURE
SPAN TYPE, ALUMINUM
SHEET NO. 2 OF 2 SHEETS

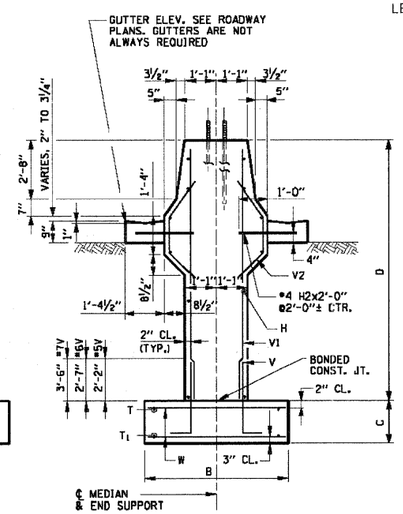
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	342
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

NOTE: SEE IDOT DETAIL SHEET OS4-MED2 FOR DETAILS ON LEFT FOUNDATIONS AT STATIONS 126+72 RT & 147+40 RT.

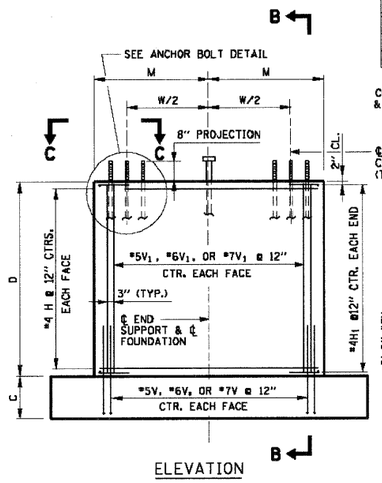
SIGN LOCATION	TRUSS NO.	LEFT FOUNDATION			RIGHT FOUNDATION		
		TYPE	ELEVATION TOP	ELEVATION BOTTOM	TYPE	ELEVATION TOP	ELEVATION BOTTOM
STA. 120+90 RT	T-90	100F	789.36	780.36	100S	784.0	774.0
STA. 126+72 RT	T-105				120S	781.8	771.8
STA. 147+40 RT	T-90				100S	780.83	770.83



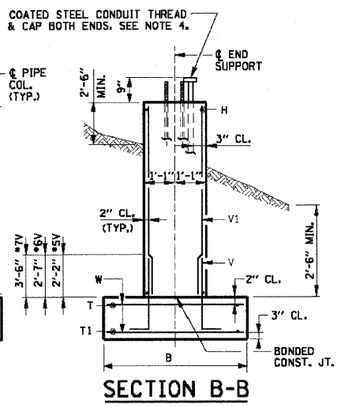
ELEVATION



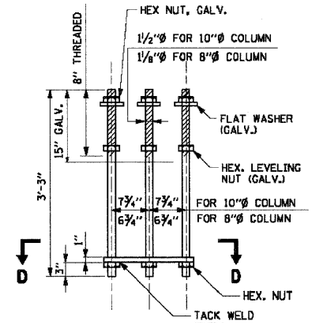
SECTION A-A



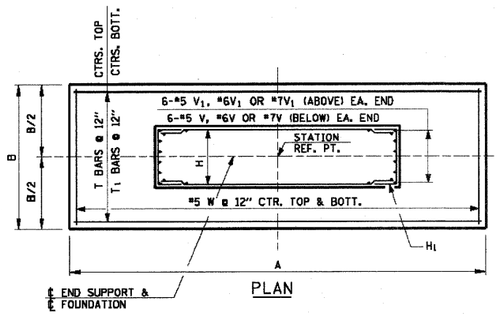
ELEVATION



SECTION B-B

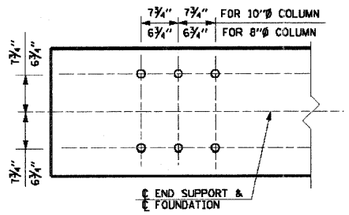


ANCHOR BOLT DETAIL

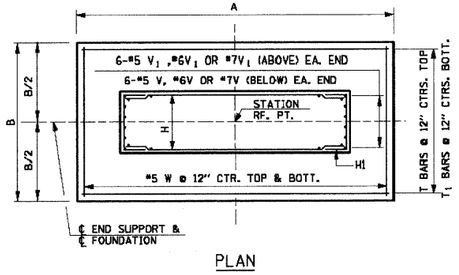


PLAN

MEDIAN FOUNDATION

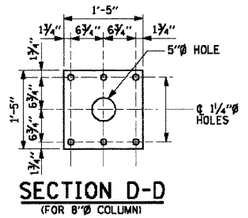


VIEW C-C

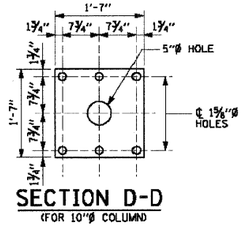


PLAN

OUTSIDE FOUNDATION



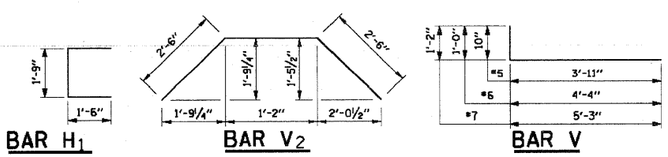
SECTION D-D
(FOR 8"ø COLUMN)



SECTION D-D
(FOR 10"ø COLUMN)

FOUNDATION SCHEDULE

FOUNDATION TYPE	LOCATION	DIMENSIONS					REINFORCEMENT																										CONCRETE IN CU. YDS.	REINF. BARS IN LBS.
							BAR T OR T1					BAR W				BAR V				BAR V1				BAR V2				BAR H				BAR H1				BAR H2		
		A	B	C	D	M	NO.	SIZE T	SIZE T1	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.		
80F	MEDIAN	20'-0"	8'-9"	2'-0"	7'-0"	4'-0"	9	*6	*7	19'-8"	——	40	*5	8'-5"	——	28	*5	4'-9"	⌐	28	*5	6'-10"	——	16	*5	6'-2"	⌐	14	*4	7'-8"	——	14	*4	4'-9"	⌐	10	18.6	1550
80S	OUTSIDE	20'-0"	8'-9"	2'-0"	8'-0"	4'-0"	9	*6	*7	19'-8"	——	40	*5	8'-5"	——	28	*5	4'-9"	⌐	28	*5	7'-10"	——					16	*4	7'-8"	——	16	*4	4'-9"	⌐		18.1	1480
100F	MEDIAN	22'-0"	10'-0"	2'-0"	7'-0"	5'-3"	10	*6	*7	21'-8"	——	44	*5	9'-8"	——	34	*6	5'-4"	⌐	34	*6	6'-10"	——	22	*5	6'-2"	⌐	14	*4	10'-2"	——	14	*4	4'-9"	⌐	12	23.7	2130
100S	OUTSIDE	22'-0"	10'-0"	2'-0"	8'-0"	5'-3"	10	*6	*7	21'-8"	——	44	*5	9'-8"	——	34	*6	5'-4"	⌐	34	*6	7'-10"	——					16	*4	10'-2"	——	16	*4	4'-9"	⌐		23.1	2050
120F	MEDIAN	24'-0"	10'-0"	2'-0"	7'-0"	6'-0"	10	*7	*8	23'-8"	——	48	*5	9'-8"	——	36	*7	6'-5"	⌐	36	*7	6'-10"	——	24	*5	6'-2"	⌐	14	*4	11'-8"	——	14	*4	4'-9"	⌐	14	26.2	2910
120S	OUTSIDE	24'-0"	10'-0"	2'-0"	8'-0"	6'-0"	10	*7	*8	23'-8"	——	48	*5	9'-8"	——	36	*7	6'-5"	⌐	36	*7	7'-10"	——					16	*4	11'-8"	——	16	*4	4'-9"	⌐		25.5	2830



BAR H_1 BAR V_2 BAR V

NOTES:

1. MINIMUM ALLOWABLE SOIL BEARING PRESSURE NOT TO BE LESS THAN 3000 P.S.F.
2. ALL MATERIAL, FABRICATION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 734 OF THE IDOT STANDARD SPECIFICATIONS.
3. ALL REBARS SHALL BE EPOXY COATED.
4. FOR SIZE AND NUMBER OF COATED STEEL CONDUITS, SEE CONSTRUCTION ELECTRICAL DRAWINGS.

APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway — Open Roads for a Faster Future

DATE	REVISIONS

OVERHEAD SIGN STRUCTURE SPAN TYPE, "F" BARRIER FOUNDATION

STANDARD F3-00

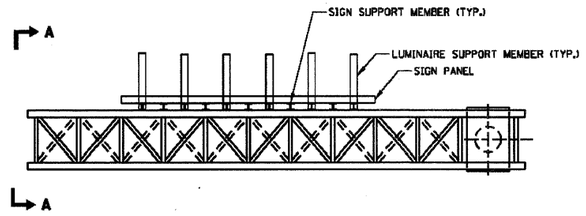
McClure Engineering Associates, Inc. | LOCHNER | RWA | QUIGG ENGINEERING INC

USER NAME =	DESIGNED -		REVISED -
	CHECKED - DW		REVISED -
PLOT SCALE =	DRAWN - JDH		REVISED -
PLOT DATE = 10/19/2011	DATE - 10-21-2011		REVISED -

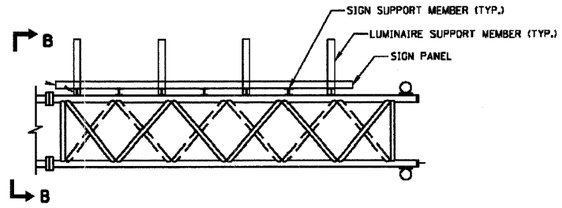
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURE
SPAN TYPE, "f" BARRIER FOUNDATION
SHEET NO. 1 OF 1 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1) R	WINNEBAGO	510	343
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



PLAN



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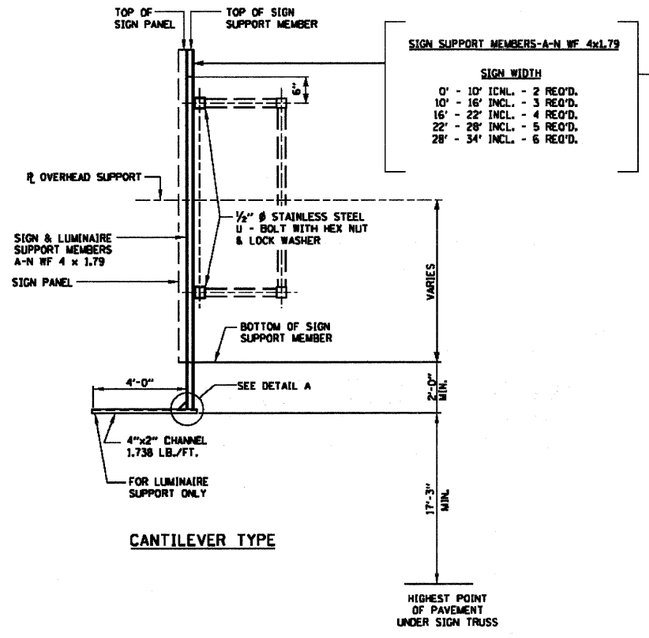
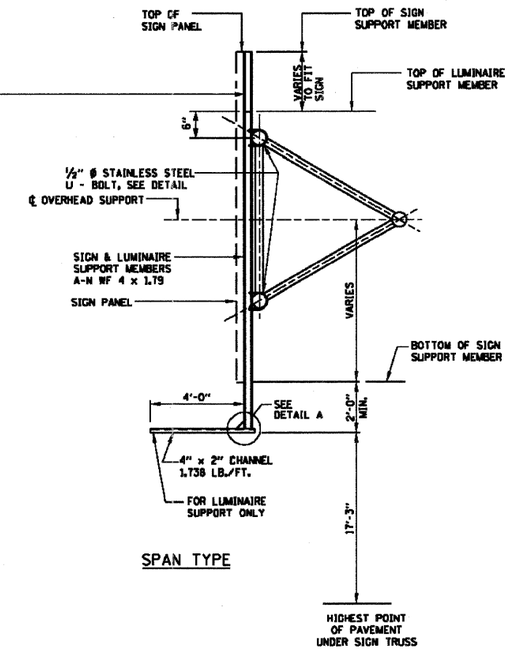


CANTILEVER TYPE

SECTION A-A



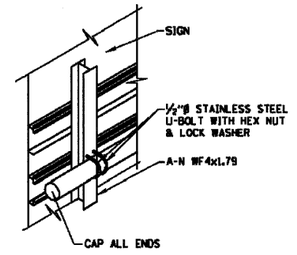
SPAN TYPE

SECTION B-B

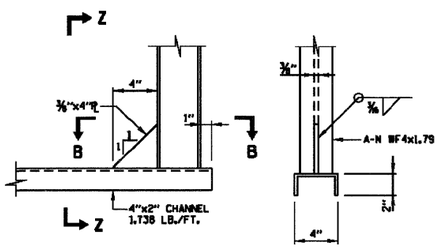
SIGN AND LUMINAIRE SUPPORT DETAIL

NOTE:

1. SIGN PANEL SHALL BE ATTACHED TO TRUSS AS CLOSE TO PANEL JOINTS AS POSSIBLE.
2. LUMINAIRE SUPPORT MEMBERS TO BE INSTALLED ONLY WHEN SIGN STRUCTURE IS TO BE ILLUMINATED. DESIGNER TO DETERMINE REQUIREMENTS BASED ON ROADWAY GEOMETRY.

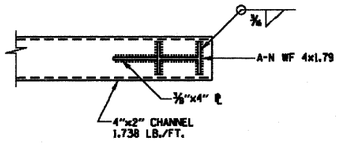


STAINLESS STEEL U-BOLT DETAIL



DETAIL A

SECTION Z-Z



SECTION B-B

NOTES:

ALL MATERIAL IS ALUMINUM UNLESS OTHERWISE NOTED.

APPROVED ..... CHIEF ENGINEER ..... DATE 1-1-2007

DATE	REVISIONS
1-1-2009	ADDED PLAN VIEWS FOR SIGN STRUCTURES

Illinois Tollway
Open Roads for a Faster Future

OVERHEAD SIGN STRUCTURE SIGN AND LUMINAIRE SUPPORTS

STANDARD F8-01

McClure Engineering Associates, Inc. | LOCHNER HNK, LOCHNER, INC., CHICAGO, ILLINOIS | RWA Engrs. Weber & Associates, Inc. | QUIGG ENGINEERING INC

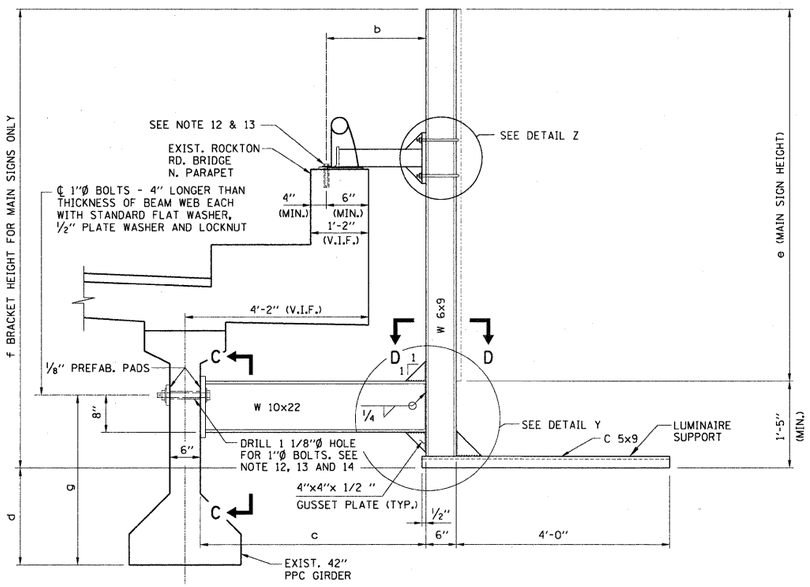
USER NAME = _USERNAME_	DESIGNED - ECS	REVISED -
	DRAWN - ECS	REVISED -
PLOT SCALE = 12.5000 ' / IN.	CHECKED - AM	REVISED -
PLOT DATE = 10/19/2011	DATE - 10/14/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

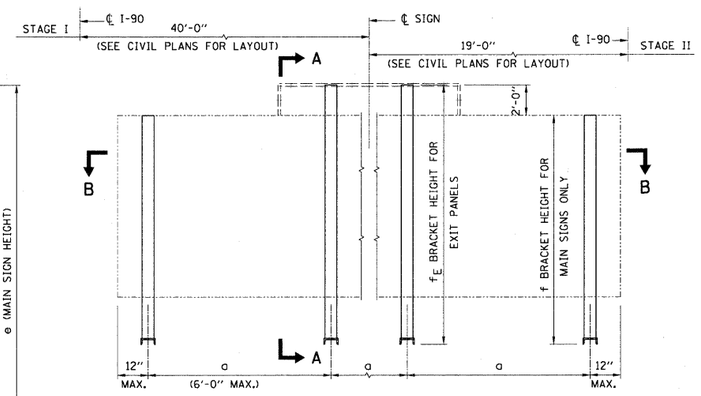
OVERHEAD SIGN STRUCTURE
SIGN AND LUMINAIRE SUPPORTS

SCALE: NTS | SHEET NO. OF SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	344
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

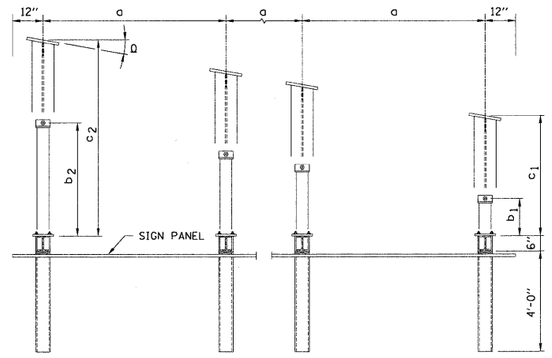


SECTION A-A



TYPICAL FRONT ELEVATION

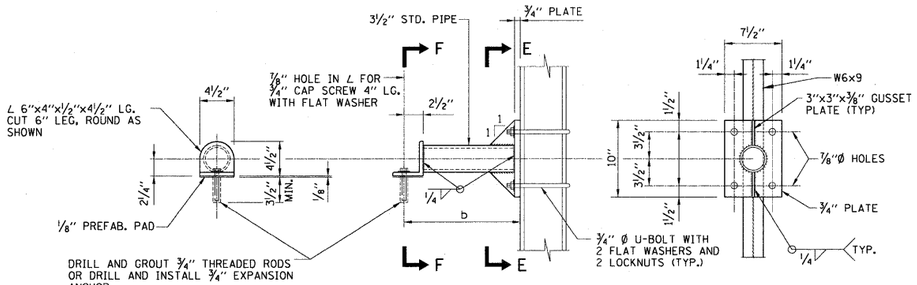
(LOOKING SOUTH)



SECTION B-B

NOTES:

1. ALL STRUCTURE STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-270 GRADE 36.
2. ALL STRUCTURAL STEEL PIPE SHALL BE ASTM A53 GRADE B OR C WITH A MINIMUM YIELD OF 46,000 PSI. IF A500 PIPE IS SUBSTITUTED FOR A53 THEN THE OUTSIDE DIAMETER SHALL BE AS DETAILED AND THE WALL THICKNESS GREATER THAN OR EQUAL TO A53.
3. ALL CAP SCREWS, BOLTS, U-BOLTS, WASHERS AND LOCKNUTS SHALL BE IN ACCORDANCE WITH SUBSECTION 733.02 OF THE IDOT STANDARD SPECIFICATIONS AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.
4. ALL WELDS TO BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING TO BE DONE IN ACCORDANCE WITH THE CURRENT AWS D1.1 STRUCTURAL WELDING CODE (STEEL) AND THE IDOT STANDARD SPECIFICATIONS.
5. ALL FABRICATION SHALL BE COMPLETE AND READY FOR ASSEMBLY BEFORE GALVANIZING. NO PUNCHING, DRILLING, CUTTING, NOR WELDING SHALL BE PERMITTED AFTER GALVANIZING.
6. ALL STRUCTURAL STEEL PLATES AND SHAPES SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M111.
7. CONTRACTOR SHALL FIELD CHECK ALL BRIDGE DIMENSIONS SHOWN ON PLANS BEFORE SUBMITTING SHOP DRAWINGS.
8. THE COST OF FURNISHING AND INSTALLING THE BEARING PADS AS HEREIN SPECIFIED SHALL BE INCLUDED WITH THE COST OF BRIDGE (CONCRETE) MOUNTED SIGN SUPPORT.
9. PRE-FAB BEARING PADS: FABRIC BEARING PADS SHALL CONSIST OF A FABRIC AND RUBBER BODY MADE WITH NEW, UNVULCANIZED RUBBER AND UNUSED FABRIC FIBERS.
10. METHOD OF MEASUREMENT SHALL BE IN ACCORDANCE WITH SUBSECTION 733.10 (b) OF THE IDOT STANDARD SPECIFICATIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF BRIDGE (CONCRETE) MOUNTED SIGN SUPPORT.
11. SIGN STRUCTURE WIRING SHALL BE IN ACCORDANCE WITH THE SUPPLEMENTAL SPECIFICATIONS.
12. CENTER LINE OF EXPANSION ANCHOR INTO PARAPET SHALL BE AT LEAST 12" TO CENTERLINE OF OPEN/EXP. JOINT IN PARAPET. CONTRACTOR SHALL VERIFY THE MINIMUM DISTANCES BETWEEN EXPANSION ANCHORS & PARAPET OPEN/EXP. JOINT PRIOR TO ERECTION OF SIGN SUPPORT.
13. BRACKET SPACING MUST BE COORDINATED WITH RAILING SPACING AND THE CONTRCTOR MUST TEMPORARILY REMOVE SECTIONS OF RAILING TO FACILITATE UPPER BRACKET INSTALLATION. RAILING MUST BE RESTORED TO ORIGINAL CONDITION AFTER UPPER BRACKET IS INSTALLED. IF IT IS DETERMINED THAT EXISTING RAILING CAN NOT BE REMOVED, THE EXPANSION ANCHOR SHALL BE INSTALLED PER MIN. EDGE DISTANCE REQUIREMENT AS SHOWN IN SECTION A-A.
14. NON-DESTRUCTIVE PACHOMETER TESTING MUST BE PERFORMED TO LOCATE PRESTRESSING STRAND AND PRIMARY TENSION AND SHEAR REINFORCEMENT IN EXISTING EXTERIOR PPC GIRDER PRIOR TO FIELD DRILLING OF EXISTING PPC GIRDER. SPACE HOLES TO MISS STRAND AND PRIMARY REINFORCEMENT BY 2" MIN. MINIMIZE SPALLING DURING FIELD DRILLING OF EXISTING PPC GIRDER.
15. V.I.F. DENOTES VERIFY IN FIELD.



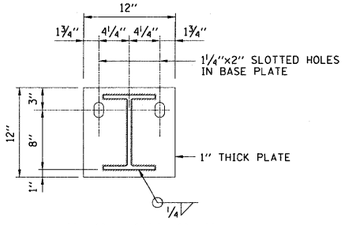
SECTION F-F

DETAIL Z

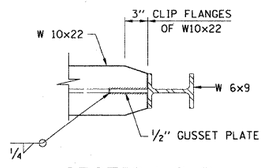
SECTION E-E

SIGN NO.	ROUTE	STATION	BRIDGE NAME	NO. BR'K'TS f	NO. BR'K'TS f_E	a	b_1	b_2	c_1	c_2	d	e	f	f_E	g	MAIN SIGN SIZE	EXIT PANEL WIDTH
	I-90	142+60***	ROCKTON ROAD	6	0	5'-0"±*	1'-8"**	1'-8"**	4'-9"	4'-9"	9"	10'-0"	11'-6"**	N/A	2'-4"	10' X 27'	N/A

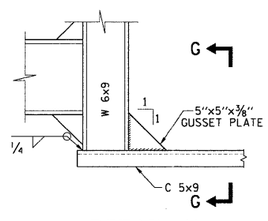
- BRACKET SPACING MUST BE DETERMINED PER CRITERIA INDICATED IN NOTES 12, 13 AND 14. MAXIMUM BRACKET SPACING IS 6'-0".
- ** DIMENSIONS AS INDICATED SATISFY THE SPECIFIED MINIMUM REQUIRMENT AND INCLUDE LIMITED AMOUNT OF CONSTRUCTION TOLERANCE.
- *** SIGN PANEL TO BE RELOCATED FROM EXISTING SIGN TRUSS AT STA. 147+54.



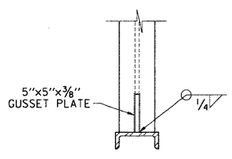
SECTION C-C



SECTION D-D



DETAIL Y



SECTION G-G

DATE	REVISIONS
6-1-2009	CHANGED ANGLE SIZE FOR DETAIL "Z"

Illinois Tollway
Open Roads for a Faster Future

BRIDGE (CONCRETE) MOUNTED SIGN SUPPORT

DATE
1-1-2007

McClure Engineering Associates, Inc. | LOCHNER HDR, LOCHNER, INC. CHICAGO, ILLINOIS | RWA Regna, Widner & Associates, Inc. | QUIGG ENGINEERING INC

USER NAME = _USERNAME_	DESIGNED - RH	REVISED -
	DRAWN - RH	REVISED -
PLOT SCALE = 1:2 11/16 '=' / IN.	CHECKED - CMM	REVISED -
PLOT DATE = 10/19/2011	DATE - 10/14/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE (CONCRETE) MOUNTED SIGN SUPPORT

SCALE: NTS | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	345
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

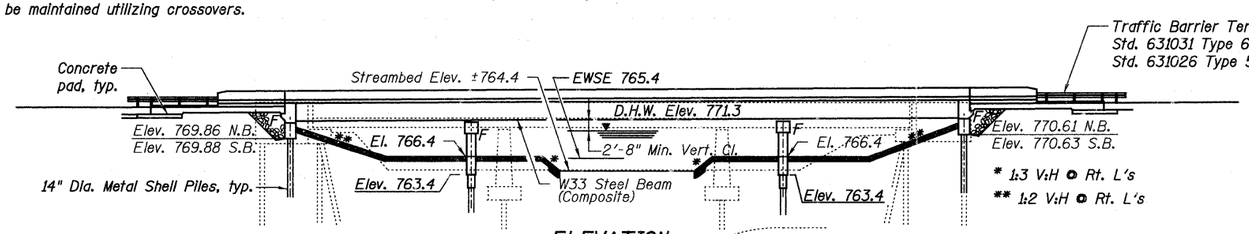
Benchmark: Cut square at N.W. corner of bridge in S.B. lane of FAI-90 Elev. 778.39.

Existing Structures: S.N. 101-0001 S.B. S.N. 101-0002 N.B. and Built in 1959 as F.A.I. Rte. 1 Sec X2-1B at Sta. 73+19.20. Existing dual structures each consist of a 3-span reinforced concrete deck on continuous steel WF beams supported by spill-thru abutments and solid wall piers. 136'-9½" Bk. to Bk. abutments. S.B. structure width varies 51'-7¼" to 54'-3⅜" out-to-out deck. N.B. structure is 44'-5" out-to-out deck. Structures to be removed and replaced in stages. Traffic to be maintained utilizing crossovers.

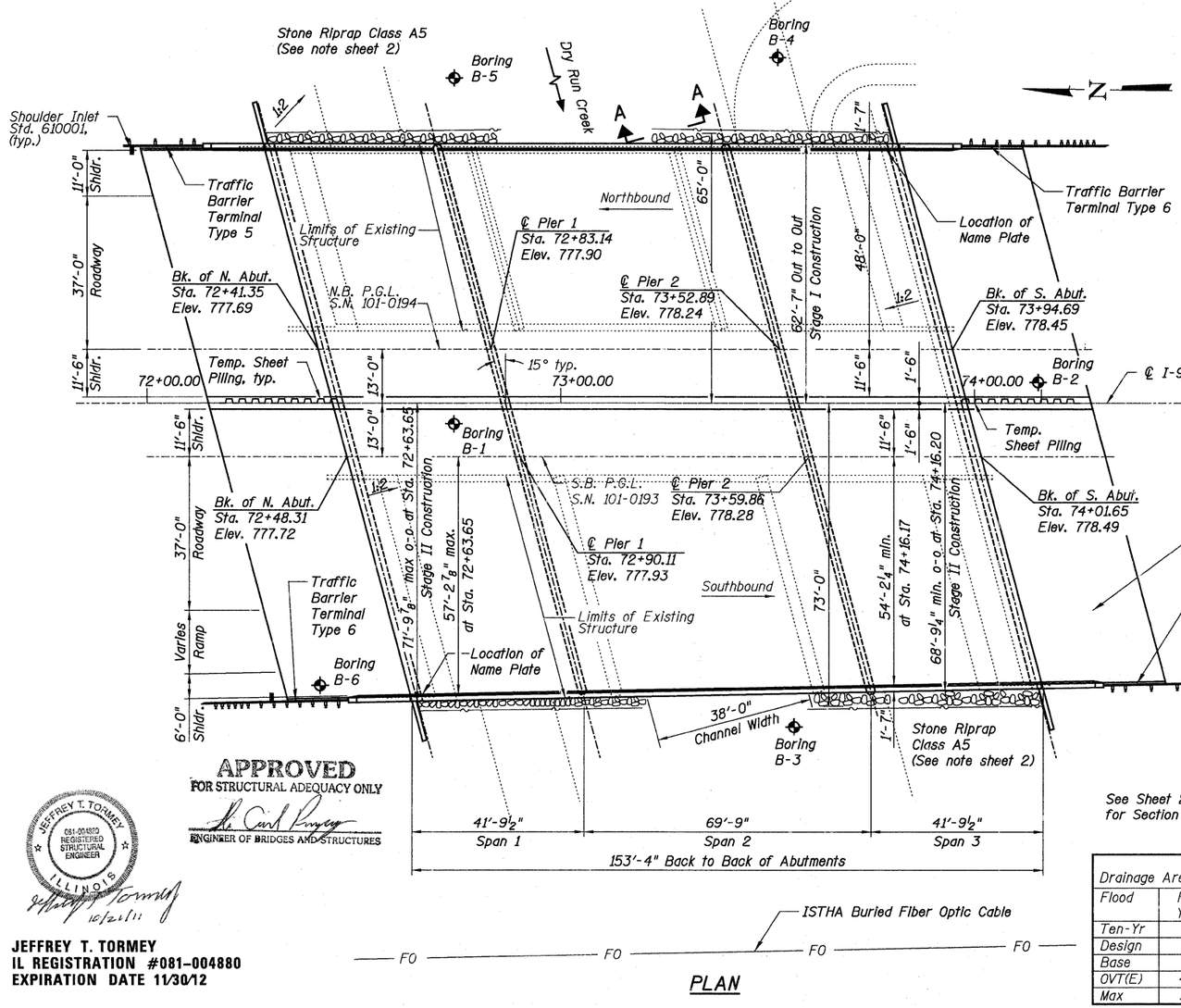
No Salvage.

DESIGN SCOUR ELEVATION TABLE

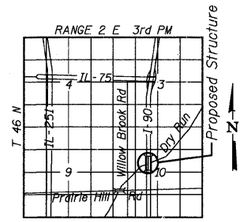
Design Scour Elevation (ft.)	Structure No.	N. Abut.	Pier 1	Pier 2	S. Abut.
	S.N. 101-0193	769.84	752.40	755.40	770.60
	S.N. 101-0194	769.82	752.40	755.40	770.58



ELEVATION



PLAN



LOCATION SKETCH

STATION 73+21.50
BUILT BY
STATE OF ILLINOIS
F.A.I. RTE 90 SEC (X2-1)R
LOADING HL-93
STRUCTURE NO. 101-0193

STATION 73+21.50
BUILT BY
STATE OF ILLINOIS
F.A.I. RTE 90 SEC (X2-1)R
LOADING HL-93
STRUCTURE NO. 101-0194

NAME PLATES

See Std. 515001

PROPOSED I-90 PROFILE GRADE

N.B. & S.B.

INDEX OF BRIDGE SHEETS

LOADING HL-93

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

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications 5th Edition

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.074g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.121g
Soil Site Class = D

See Sheet 2 of 48 for Section A-A.

WATERWAY INFORMATION

Drainage Area = 27.5 sq. mi. Proposed Low Grade Elevation: 775.35 ft. @ Sta. 66+44.25

Flood	Freq Yr	Q C.F.S	Opening (sq ft) Exist.	Opening (sq ft) Prop.	Natural H.W.E.	Head (ft) Exist.	Head (ft) Prop.	Headwater Elev. (ft) Exist.	Headwater Elev. (ft) Prop.
Ten-Yr	10	2520	439	514	770.4	0.8	0.4	771.2	770.8
Design	50	4030	538	620	771.3	1.4	0.8	772.7	772.1
Base	100	4720	573	657	771.6	2.2	1.1	773.8	772.7
OVT(E)	422	6211	648	--	772.2	2.4	--	774.6	--
Max	500	6430	660	742	772.3	2.5	2.0	774.8	774.3

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

JEFFREY T. TORMEY
081-004880
REGISTERED STRUCTURAL ENGINEER
ILLINOIS
10/24/11

JEFFREY T. TORMEY
IL REGISTRATION #081-004880
EXPIRATION DATE 11/30/12

GENERAL PLAN AND ELEVATION
I-90 OVER DRY RUN CREEK
F.A.I. ROUTE 90 (I-90)
SECTION (X2-1)R
WINNEBAGO COUNTY
STATION 73+21.50
STRUCTURE NO. 101-0193 S.B.
STRUCTURE NO. 101-0194 N.B.

McClure Engineering Associates, Inc.
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Design Firm License: Illinois 184-000816

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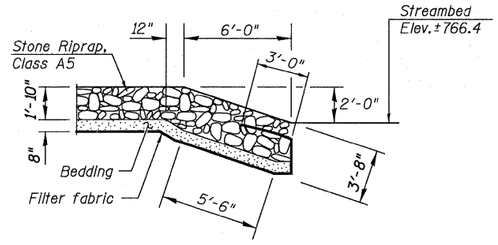
PLOT SCALE =	DRAWN - JBB	REVISED -
PLOT DATE =	CHECKED - JTT	REVISED -

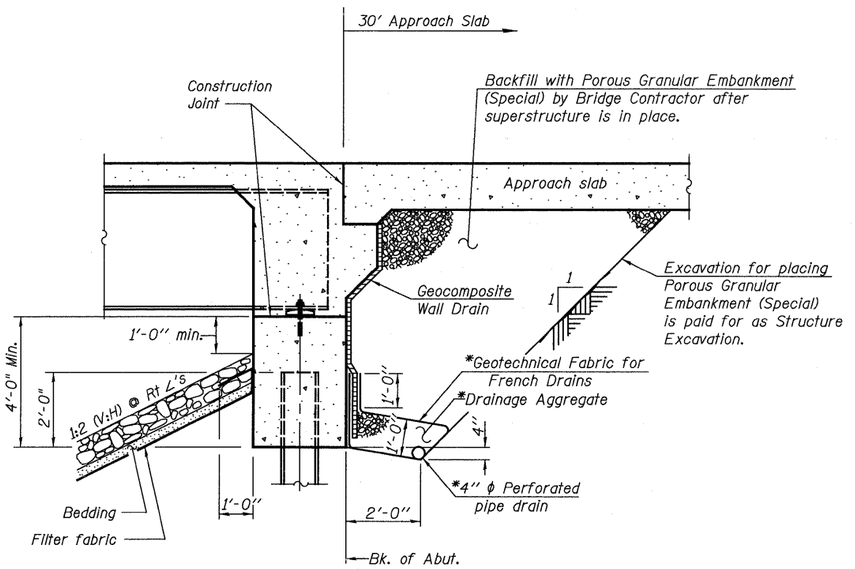
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 101-0193 S.B. & 101-0194 N.B.
BRIDGE SHEET NO. 1 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	346
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



SECTION A-A



SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures.

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		393	393
Stone Riprap, Class A5	Sq. Yd.		1750	1750
Filter Fabric	Sq. Yd.		1903	1903
Removal of Existing Structures	Each	2		2
Structure Excavation	Cu. Yd.		360	360
Concrete Structures	Cu. Yd.	80.1	385.9	466
Concrete Superstructure	Cu. Yd.	1111.8		1111.8
Bridge Deck Grooving	Sq. Yd.	2159		2159
Concrete Encasement	Cu. Yd.		25.6	25.6
Protective Coat	Sq. Yd.	2446		2446
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	12597		12597
Reinforcement Bars, Epoxy Coated	Pound	284860	30345	315205
Bar Splicers	Each	282		282
Furnishing Metal Pile Shells 14" x 0.25"	Foot		6490	6490
Driving Piles	Foot		6490	6490
Test Pile Metal Shells	Each		4	4
Name Plates	Each	2		2
Anchor Bolts 1"	Each	136		136
Geocomposite Wall Drain	Sq. Yd.		225	225
Pipe Underdrains for Structures, 4"	Foot		462	462
Temporary Sheet Piling	Sq. Ft.		635	635

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $^{7}/_{8}$"in. ϕ, holes $^{15}/_{16}$"in. ϕ, unless otherwise noted.

Calculated weight of Structural Steel (Grade 50) = 325,080 Lbs
(Grade 36) = 24,200 Lbs

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $^{1}/_{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

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

Slipforming of the parapets is not allowed.

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 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 blue, Munsell No. 10B 3/6.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Stone riprap quantity for bridges is from out to out of bridge width. Stone riprap beyond those limits is quantified as roadway pay item.

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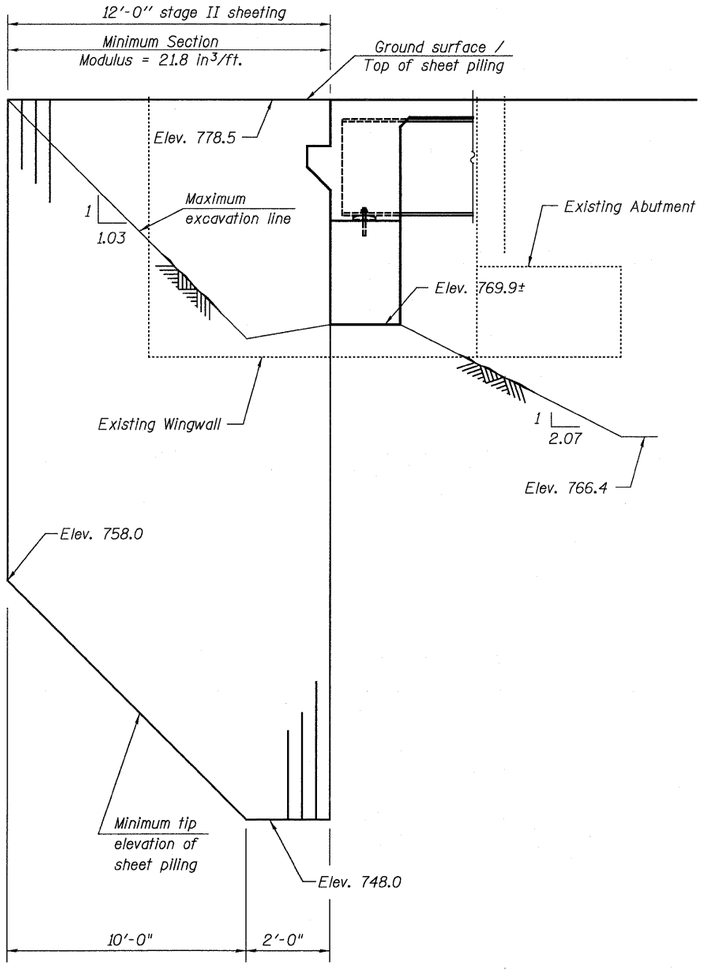
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES & BILL OF MATERIAL
STRUCTURE NO. 101-0193 S.B. & 101-0194 N.B.
BRIDGE SHEET NO. 2 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	347
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

Notes:

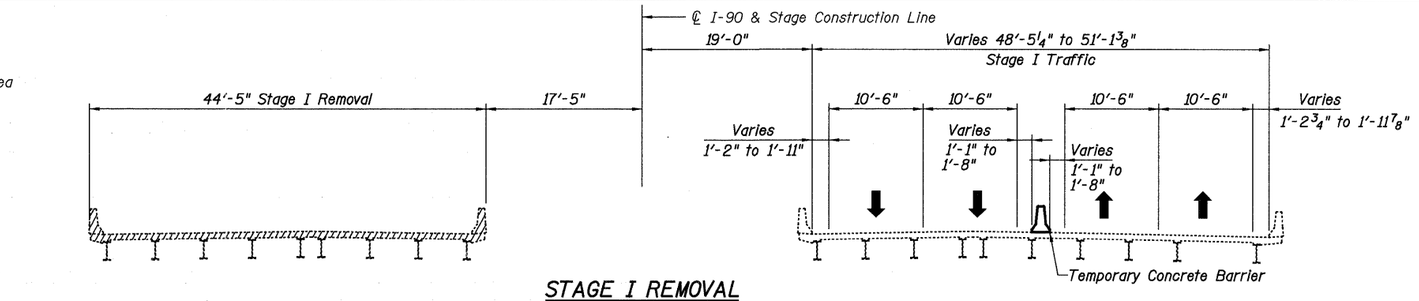
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.



TEMPORARY SHEET PILING

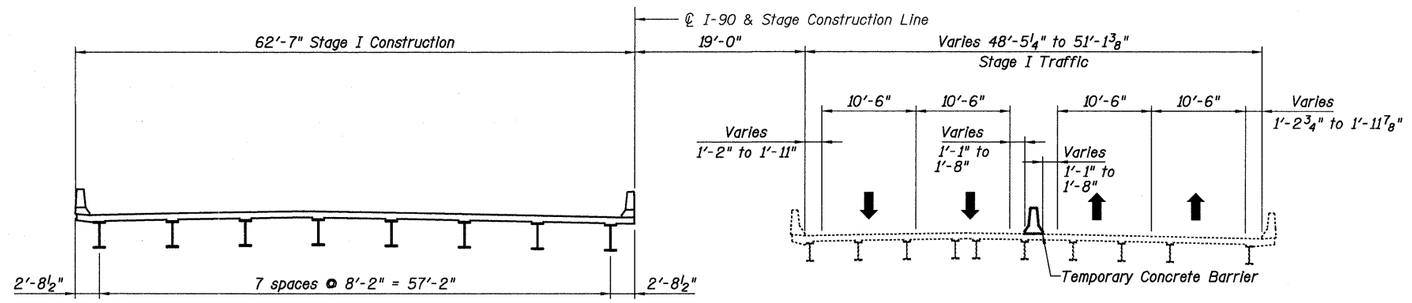
LEGEND

Removal Area



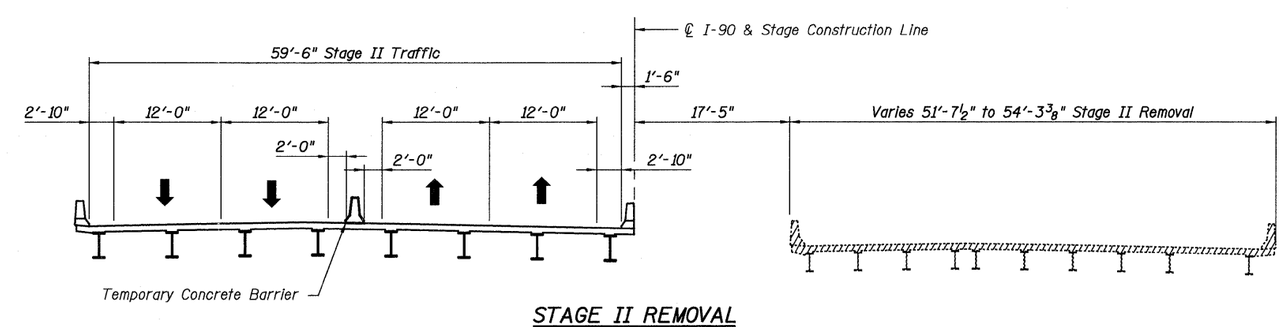
STAGE I REMOVAL

(LOOKING SOUTH)



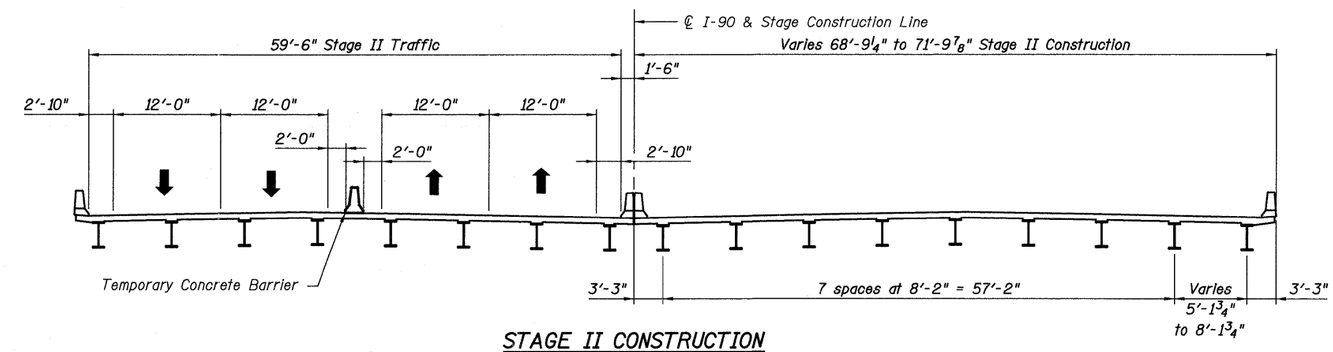
STAGE I CONSTRUCTION

(LOOKING SOUTH)



STAGE II REMOVAL

(LOOKING SOUTH)



STAGE II CONSTRUCTION

(LOOKING SOUTH)

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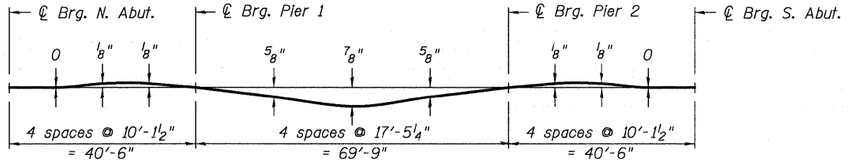
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 101-0193 S.B. & 101-0194 N.B.
BRIDGE SHEET NO. 3 OF 48 SHEETS

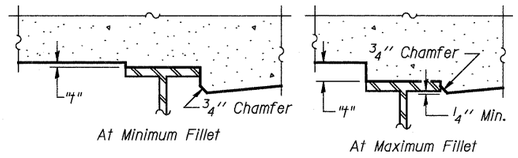
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(2X-1)R	WINNEBAGO	510	348
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



DEAD LOAD DEFLECTION DIAGRAM

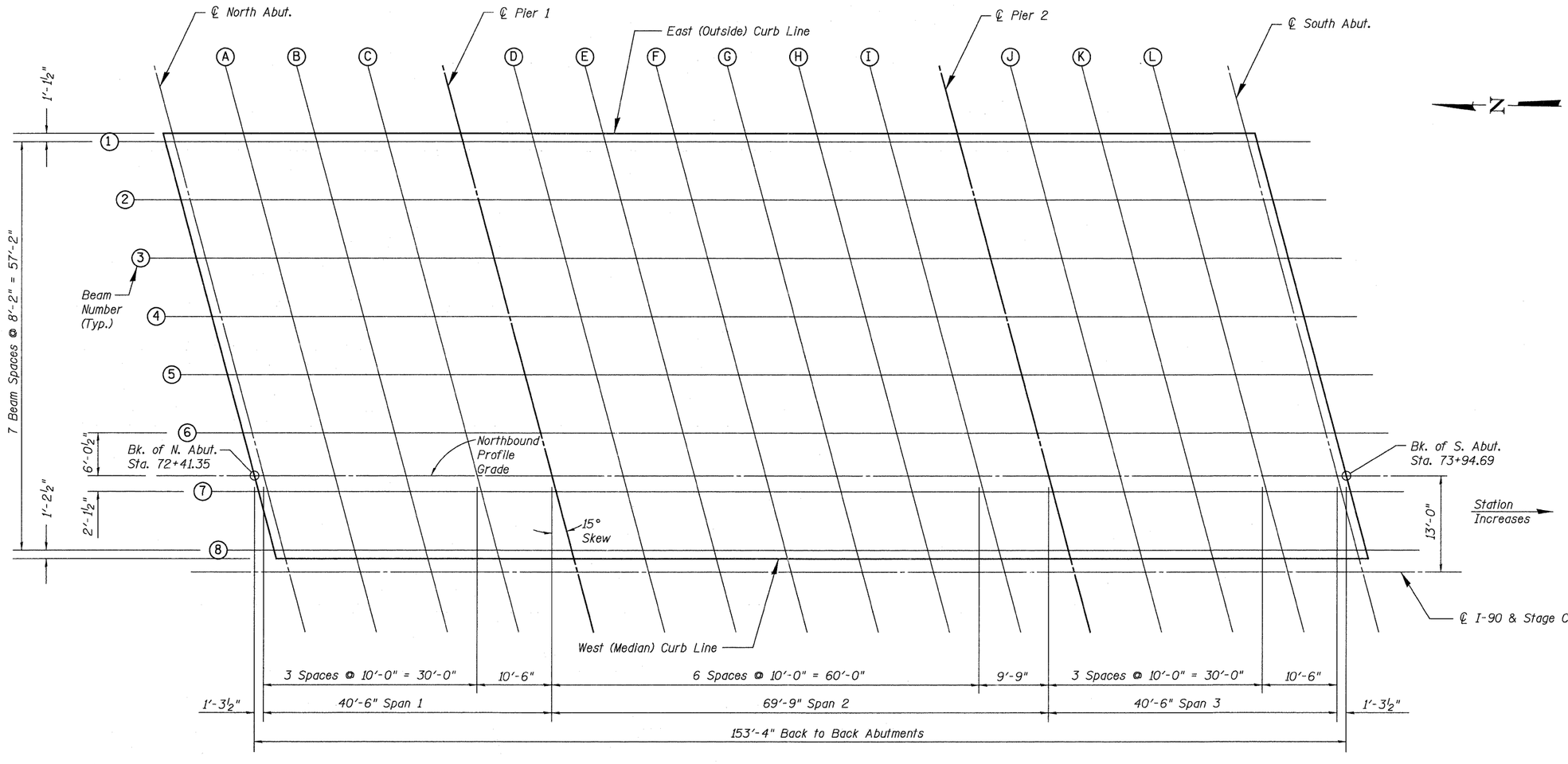
(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on the following sheet.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on the following sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 5 and 6 of 48, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

See Sheets 5 & 6 of 48 for Elevation Tables.

McClure Engineering Associates, Inc.
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Design Firm Licensee: Illinois 184-000815

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PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATION PLAN N.B.
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 4 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	349
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

PROFILE GRADE LINE NORTH BOUND ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+41.35	0.00	777.69	777.69
℄ N. Abut.	72+42.64	0.00	777.69	777.69
A	72+52.64	0.00	777.74	777.74
B	72+62.64	0.00	777.79	777.79
C	72+72.64	0.00	777.84	777.84
℄ Pier 1	72+83.14	0.00	777.90	777.90
D	72+93.14	0.00	777.95	777.97
E	73+03.14	0.00	778.00	778.05
F	73+13.14	0.00	778.05	778.11
G	73+23.14	0.00	778.10	778.16
H	73+33.14	0.00	778.15	778.20
I	73+43.14	0.00	778.20	778.22
℄ Pier 2	73+52.89	0.00	778.24	778.24
J	73+62.89	0.00	778.29	778.29
K	73+72.89	0.00	778.34	778.34
L	73+82.89	0.00	778.39	778.39
℄ S. Abut.	73+93.39	0.00	778.45	778.45
Back S. Abut.	73+94.69	0.00	778.45	778.45

WEST (MEDIAN) CURB LINE (11'-6" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+44.43	11.50	777.46	777.46
℄ N. Abut.	72+45.72	11.50	777.47	777.47
A	72+55.72	11.50	777.52	777.52
B	72+65.72	11.50	777.57	777.57
C	72+75.72	11.50	777.62	777.61
℄ Pier 1	72+86.22	11.50	777.67	777.67
D	72+96.22	11.50	777.72	777.74
E	73+06.22	11.50	777.77	777.82
F	73+16.22	11.50	777.82	777.89
G	73+26.22	11.50	777.87	777.94
H	73+36.22	11.50	777.92	777.97
I	73+46.22	11.50	777.97	777.99
℄ Pier 2	73+55.97	11.50	778.02	778.02
J	73+65.97	11.50	778.07	778.06
K	73+75.97	11.50	778.12	778.12
L	73+85.97	11.50	778.17	778.17
℄ S. Abut.	73+96.47	11.50	778.22	778.22
Back S. Abut.	73+97.77	11.50	778.23	778.23

EAST (OUTSIDE) CURB LINE (48'-0" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+28.49	-48.00	777.63	777.63
℄ N. Abut.	72+29.78	-48.00	777.63	777.63
A	72+39.78	-48.00	777.68	777.68
B	72+49.78	-48.00	777.73	777.73
C	72+59.78	-48.00	777.78	777.78
℄ Pier 1	72+70.28	-48.00	777.84	777.84
D	72+80.28	-48.00	777.89	777.91
E	72+90.28	-48.00	777.94	777.99
F	73+00.28	-48.00	777.99	778.06
G	73+10.28	-48.00	778.04	778.11
H	73+20.28	-48.00	778.09	778.14
I	73+30.28	-48.00	778.14	778.16
℄ Pier 2	73+40.03	-48.00	778.19	778.19
J	73+50.03	-48.00	778.24	778.23
K	73+60.03	-48.00	778.29	778.28
L	73+70.03	-48.00	778.34	778.34
℄ S. Abut.	73+80.53	-48.00	778.39	778.39
Back S. Abut.	73+81.83	-48.00	778.39	778.39

BEAM 1 (46'-10⅝" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+28.79	-46.88	777.65	777.65
℄ N. Abut.	72+30.08	-46.88	777.66	777.66
A	72+40.08	-46.88	777.71	777.71
B	72+50.08	-46.88	777.76	777.76
C	72+60.08	-46.88	777.81	777.80
℄ Pier 1	72+70.58	-46.88	777.86	777.86
D	72+80.58	-46.88	777.91	777.94
E	72+90.58	-46.88	777.96	778.01
F	73+00.58	-46.88	778.01	778.08
G	73+10.58	-46.88	778.06	778.13
H	73+20.58	-46.88	778.11	778.16
I	73+30.58	-46.88	778.16	778.18
℄ Pier 2	73+40.33	-46.88	778.21	778.21
J	73+50.33	-46.88	778.26	778.25
K	73+60.33	-46.88	778.31	778.31
L	73+70.33	-46.88	778.36	778.36
℄ S. Abut.	73+80.83	-46.88	778.41	778.41
Back S. Abut.	73+82.13	-46.88	778.42	778.42

BEAM 2 (38'-8½" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+30.98	-38.71	777.83	777.83
℄ N. Abut.	72+32.27	-38.71	777.84	777.84
A	72+42.37	-38.71	777.89	777.89
B	72+52.37	-38.71	777.94	777.94
C	72+62.37	-38.71	777.99	777.98
℄ Pier 1	72+72.77	-38.71	778.04	778.04
D	72+82.77	-38.71	778.09	778.12
E	72+92.77	-38.71	778.14	778.19
F	73+02.77	-38.71	778.19	778.26
G	73+12.77	-38.71	778.24	778.31
H	73+22.77	-38.71	778.29	778.34
I	73+32.77	-38.71	778.34	778.37
℄ Pier 2	73+42.52	-38.71	778.39	778.39
J	73+52.52	-38.71	778.44	778.44
K	73+62.52	-38.71	778.49	778.49
L	73+72.52	-38.71	778.54	778.54
℄ S. Abut.	73+83.02	-38.71	778.59	778.59
Back S. Abut.	73+84.32	-38.71	778.60	778.60

BEAM 3 (30'-6½" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+33.17	-30.54	777.98	777.98
℄ N. Abut.	72+34.46	-30.54	777.99	777.99
A	72+44.46	-30.54	778.04	778.04
B	72+54.46	-30.54	778.09	778.09
C	72+64.46	-30.54	778.14	778.13
℄ Pier 1	72+74.96	-30.54	778.19	778.19
D	72+84.96	-30.54	778.24	778.26
E	72+94.96	-30.54	778.29	778.34
F	73+04.96	-30.54	778.34	778.41
G	73+14.96	-30.54	778.39	778.46
H	73+24.96	-30.54	778.44	778.49
I	73+34.96	-30.54	778.49	778.51
℄ Pier 2	73+44.71	-30.54	778.54	778.54
J	73+54.71	-30.54	778.59	778.58
K	73+64.71	-30.54	778.64	778.64
L	73+74.71	-30.54	778.69	778.69
℄ S. Abut.	73+85.21	-30.54	778.74	778.74
Back S. Abut.	73+86.51	-30.54	778.75	778.75

BEAM 4 (22'-4½" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+35.35	-22.38	778.07	778.07
℄ N. Abut.	72+36.64	-22.38	778.08	778.08
A	72+46.64	-22.38	778.13	778.13
B	72+56.64	-22.38	778.18	778.17
C	72+66.64	-22.38	778.23	778.22
℄ Pier 1	72+77.14	-22.38	778.28	778.28
D	72+87.14	-22.38	778.33	778.35
E	72+97.14	-22.38	778.38	778.43
F	73+07.14	-22.38	778.43	778.50
G	73+17.14	-22.38	778.48	778.55
H	73+27.14	-22.38	778.53	778.58
I	73+37.14	-22.38	778.58	778.60
℄ Pier 2	73+46.89	-22.38	778.63	778.63
J	73+56.89	-22.38	778.68	778.67
K	73+66.89	-22.38	778.73	778.72
L	73+76.89	-22.38	778.78	778.78
℄ S. Abut.	73+87.39	-22.38	778.83	778.83
Back S. Abut.	73+88.69	-22.38	778.84	778.84

BEAM 5 (14'-2½" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+37.54	-14.21	777.95	777.95
℄ N. Abut.	72+38.83	-14.21	777.96	777.96
A	72+48.83	-14.21	778.01	778.01
B	72+58.83	-14.21	778.06	778.06
C	72+68.83	-14.21	778.11	778.10
℄ Pier 1	72+79.33	-14.21	778.16	778.16
D	72+89.33	-14.21	778.21	778.24
E	72+99.33	-14.21	778.26	778.31
F	73+09.33	-14.21	778.31	778.38
G	73+19.33	-14.21	778.36	778.43
H	73+29.33	-14.21	778.41	778.46
I	73+39.33	-14.21	778.46	778.48
℄ Pier 2	73+49.08	-14.21	778.51	778.51
J	73+59.08	-14.21	778.56	778.55
K	73+69.08	-14.21	778.61	778.61
L	73+79.08	-14.21	778.66	778.66
℄ S. Abut.	73+89.58	-14.21	778.71	778.71
Back S. Abut.	73+90.88	-14.21	778.72	778.72

TOP OF DECK ELEVATIONS N.B. BEAMS 1-5

Note:
Positive offset means right of profile grade line.
Negative offset means left of profile grade line.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS N.B. BEAMS 1-5
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 5 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	350
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		

BEAM 6 (6'-0½" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+39.73	-6.04	777.81	777.81
℄ N. Abut.	72+41.02	-6.04	777.81	777.81
A	72+51.02	-6.04	777.86	777.86
B	72+61.02	-6.04	777.91	777.91
C	72+71.02	-6.04	777.96	777.96
℄ Pier 1	72+81.52	-6.04	778.01	778.01
D	72+91.52	-6.04	778.06	778.09
E	73+01.52	-6.04	778.11	778.17
F	73+11.52	-6.04	778.16	778.23
G	73+21.52	-6.04	778.21	778.28
H	73+31.52	-6.04	778.26	778.31
I	73+41.52	-6.04	778.31	778.34
℄ Pier 2	73+51.27	-6.04	778.36	778.36
J	73+61.27	-6.04	778.41	778.41
K	73+71.27	-6.04	778.46	778.46
L	73+81.27	-6.04	778.51	778.51
℄ S. Abut.	73+91.77	-6.04	778.57	778.57
Back S. Abut.	73+93.07	-6.04	778.57	778.57

BEAM 7 (2'-1½" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+41.92	2.13	777.65	777.65
℄ N. Abut.	72+43.21	2.13	777.65	777.65
A	72+53.21	2.13	777.70	777.70
B	72+63.21	2.13	777.75	777.75
C	72+73.21	2.13	777.80	777.80
℄ Pier 1	72+83.71	2.13	777.85	777.85
D	72+93.71	2.13	777.90	777.93
E	73+03.71	2.13	777.95	778.01
F	73+13.71	2.13	778.00	778.07
G	73+23.71	2.13	778.05	778.12
H	73+33.71	2.13	778.10	778.16
I	73+43.71	2.13	778.15	778.18
℄ Pier 2	73+53.46	2.13	778.20	778.20
J	73+63.46	2.13	778.25	778.25
K	73+73.46	2.13	778.30	778.30
L	73+83.46	2.13	778.35	778.35
℄ S. Abut.	73+93.96	2.13	778.41	778.41
Back S. Abut.	73+95.26	2.13	778.41	778.41

BEAM 8 (10'-3½" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+44.11	10.29	777.49	777.49
℄ N. Abut.	72+45.40	10.29	777.49	777.49
A	72+55.40	10.29	777.54	777.54
B	72+65.40	10.29	777.59	777.59
C	72+75.40	10.29	777.64	777.64
℄ Pier 1	72+85.90	10.29	777.70	777.70
D	72+95.90	10.29	777.75	777.77
E	73+05.90	10.29	777.80	777.85
F	73+15.90	10.29	777.85	777.91
G	73+25.90	10.29	777.90	777.96
H	73+35.90	10.29	777.95	778.00
I	73+45.90	10.29	778.00	778.02
℄ Pier 2	73+55.65	10.29	778.04	778.04
J	73+65.65	10.29	778.09	778.09
K	73+75.65	10.29	778.14	778.14
L	73+85.65	10.29	778.19	778.19
℄ S. Abut.	73+96.15	10.29	778.25	778.25
Back S. Abut.	73+97.45	10.29	778.25	778.25

TOP OF DECK ELEVATIONS N.B. BEAMS 6-8

Note:
Positive offset means right of profile grade line.
Negative offset means left of profile grade line.

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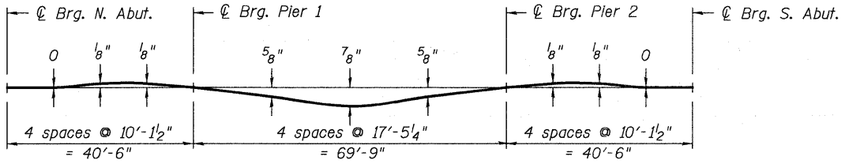
TOP OF DECK ELEVATIONS N.B. BEAMS 6-8
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 6 OF 48 SHEETS

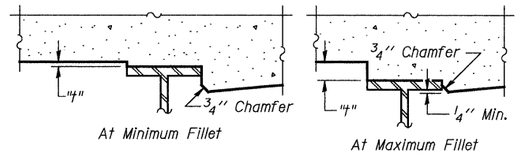
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	351
		CONTRACT NO. 64C29		
ILLINOIS	FED. AID PROJECT			



DEAD LOAD DEFLECTION DIAGRAM

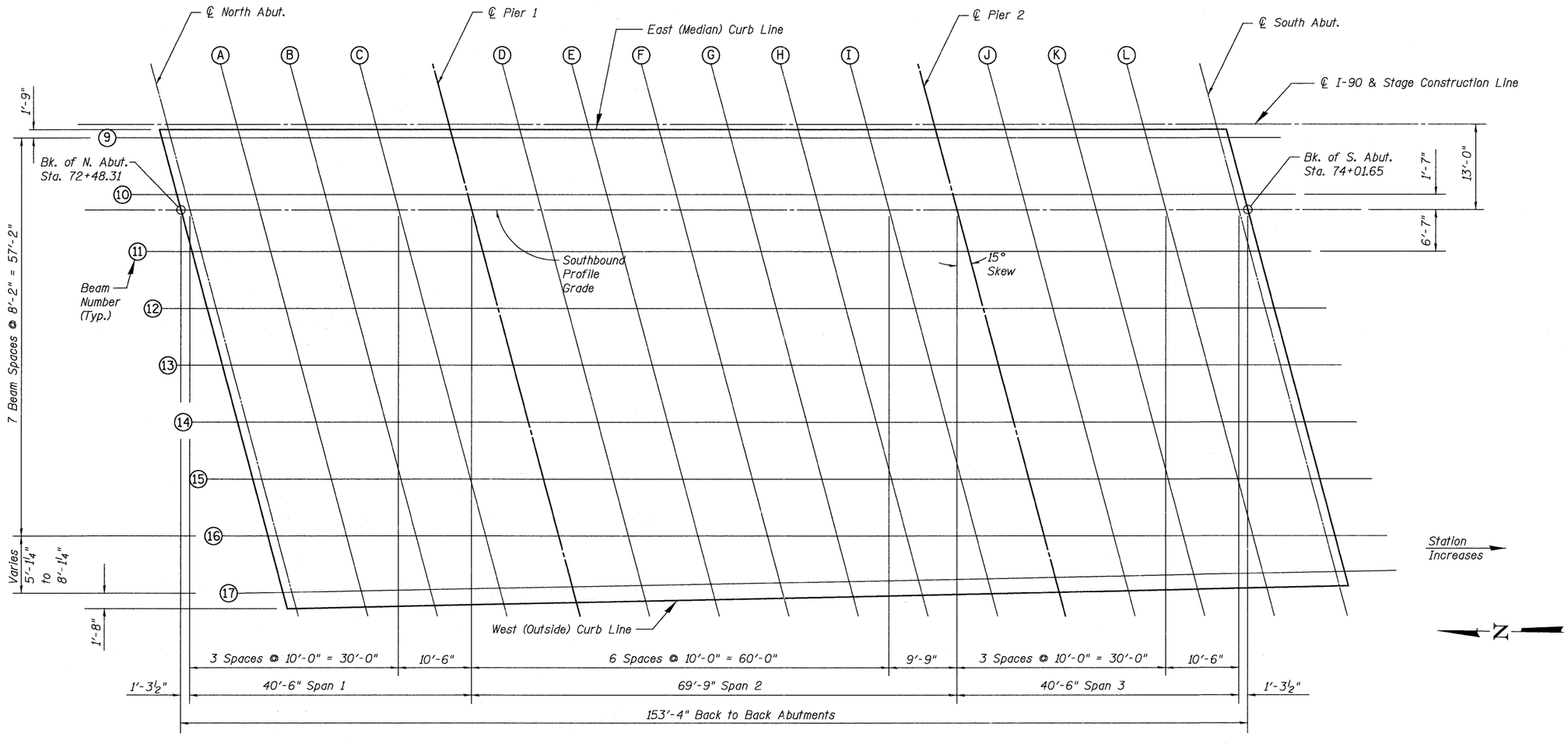
(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on the following sheet.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on the following sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 8 and 9 of 48, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

See Sheets 8 & 9 of 48 for Elevation Tables.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATION PLAN S.B.
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 7 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	352
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

PROFILE GRADE LINE SOUTH BOUND ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+48.31	0.00	777.72	777.72
℄ N. Abut.	72+49.61	0.00	777.73	777.73
A	72+59.61	0.00	777.78	777.78
B	72+69.61	0.00	777.83	777.83
C	72+79.61	0.00	777.88	777.87
℄ Pier 1	72+90.11	0.00	777.93	777.93
D	73+00.11	0.00	777.98	778.00
E	73+10.11	0.00	778.03	778.08
F	73+20.11	0.00	778.08	778.15
G	73+30.11	0.00	778.13	778.20
H	73+40.11	0.00	778.18	778.23
I	73+50.11	0.00	778.23	778.25
℄ Pier 2	73+59.86	0.00	778.28	778.28
J	73+69.86	0.00	778.33	778.32
K	73+79.86	0.00	778.38	778.38
L	73+89.86	0.00	778.43	778.43
℄ S. Abut.	74+00.36	0.00	778.48	778.48
Back S. Abut.	74+01.65	0.00	778.49	778.49

EAST (MEDIAN) CURB LINE (11'-6" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+45.23	-11.50	777.47	777.47
℄ N. Abut.	72+46.53	-11.50	777.47	777.47
A	72+56.53	-11.50	777.52	777.52
B	72+66.53	-11.50	777.57	777.57
C	72+76.53	-11.50	777.62	777.62
℄ Pier 1	72+87.03	-11.50	777.68	777.68
D	72+97.03	-11.50	777.73	777.75
E	73+07.03	-11.50	777.78	777.83
F	73+17.03	-11.50	777.83	777.89
G	73+27.03	-11.50	777.88	777.94
H	73+37.03	-11.50	777.93	777.98
I	73+47.03	-11.50	777.98	778.00
℄ Pier 2	73+56.78	-11.50	778.02	778.02
J	73+66.78	-11.50	778.07	778.07
K	73+76.78	-11.50	778.12	778.12
L	73+86.78	-11.50	778.17	778.17
℄ S. Abut.	73+97.27	-11.50	778.23	778.23
Back S. Abut.	73+98.57	-11.50	778.23	778.23

WEST (OUTSIDE) CURB LINE (OFFSET VARIES)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+63.65	57.24	777.61	777.61
℄ N. Abut.	72+64.94	57.21	777.62	777.62
A	72+74.89	57.01	777.67	777.67
B	72+84.83	56.82	777.73	777.72
C	72+94.78	56.62	777.78	777.77
℄ Pier 1	73+05.22	56.41	777.84	777.84
D	73+15.17	56.21	777.89	777.91
E	73+25.11	56.01	777.94	778.00
F	73+35.06	55.81	778.00	778.07
G	73+45.01	55.61	778.05	778.12
H	73+54.96	55.41	778.11	778.16
I	73+64.90	55.21	778.16	778.18
℄ Pier 2	73+74.60	55.02	778.21	778.21
J	73+84.55	54.82	778.27	778.26
K	73+94.49	54.62	778.32	778.32
L	74+04.44	54.42	778.37	778.37
℄ S. Abut.	74+14.89	54.21	778.43	778.43
Back S. Abut.	74+16.17	54.19	778.44	778.44

BEAM 9 (9'-9" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+45.70	-9.75	777.51	777.51
℄ N. Abut.	72+47.00	-9.75	777.51	777.51
A	72+57.00	-9.75	777.56	777.56
B	72+67.00	-9.75	777.61	777.61
C	72+77.00	-9.75	777.66	777.66
℄ Pier 1	72+87.50	-9.75	777.71	777.71
D	72+97.50	-9.75	777.76	777.79
E	73+07.50	-9.75	777.81	777.87
F	73+17.50	-9.75	777.86	777.93
G	73+27.50	-9.75	777.91	777.98
H	73+37.50	-9.75	777.96	778.02
I	73+47.50	-9.75	778.01	778.04
℄ Pier 2	73+57.25	-9.75	778.06	778.06
J	73+67.25	-9.75	778.11	778.11
K	73+77.25	-9.75	778.16	778.16
L	73+87.25	-9.75	778.21	778.21
℄ S. Abut.	73+97.74	-9.75	778.27	778.27
Back S. Abut.	73+99.04	-9.75	778.27	778.27

BEAM 10 (1'-7" LT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+47.89	-1.58	777.69	777.69
℄ N. Abut.	72+49.19	-1.58	777.69	777.69
A	72+59.19	-1.58	777.74	777.74
B	72+69.19	-1.58	777.79	777.79
C	72+79.19	-1.58	777.84	777.84
℄ Pier 1	72+89.69	-1.58	777.90	777.90
D	72+99.69	-1.58	777.95	777.97
E	73+09.69	-1.58	778.00	778.05
F	73+19.69	-1.58	778.05	778.11
G	73+29.69	-1.58	778.10	778.16
H	73+39.69	-1.58	778.15	778.20
I	73+49.69	-1.58	778.20	778.22
℄ Pier 2	73+59.44	-1.58	778.24	778.24
J	73+69.44	-1.58	778.29	778.29
K	73+79.44	-1.58	778.34	778.34
L	73+89.44	-1.58	778.39	778.39
℄ S. Abut.	73+99.93	-1.58	778.45	778.45
Back S. Abut.	74+01.23	-1.58	778.45	778.45

BEAM 11 (6'-7" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+50.07	6.58	777.87	777.87
℄ N. Abut.	72+51.37	6.58	777.87	777.87
A	72+61.37	6.58	777.92	777.92
B	72+71.37	6.58	777.97	777.97
C	72+81.37	6.58	778.02	778.02
℄ Pier 1	72+91.87	6.58	778.08	778.08
D	73+01.87	6.58	778.13	778.15
E	73+11.87	6.58	778.18	778.23
F	73+21.87	6.58	778.23	778.30
G	73+31.87	6.58	778.28	778.35
H	73+41.87	6.58	778.33	778.38
I	73+51.87	6.58	778.38	778.40
℄ Pier 2	73+61.62	6.58	778.43	778.43
J	73+71.62	6.58	778.48	778.47
K	73+81.62	6.58	778.53	778.52
L	73+91.62	6.58	778.58	778.58
℄ S. Abut.	74+02.12	6.58	778.63	778.63
Back S. Abut.	74+03.41	6.58	778.63	778.63

BEAM 12 (14'-9" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+52.26	14.75	778.03	778.03
℄ N. Abut.	72+53.56	14.75	778.04	778.04
A	72+63.56	14.75	778.09	778.09
B	72+73.56	14.75	778.14	778.14
C	72+83.56	14.75	778.19	778.19
℄ Pier 1	72+94.06	14.75	778.24	778.24
D	73+04.06	14.75	778.29	778.32
E	73+14.06	14.75	778.34	778.40
F	73+24.06	14.75	778.39	778.46
G	73+34.06	14.75	778.44	778.51
H	73+44.06	14.75	778.49	778.54
I	73+54.06	14.75	778.54	778.57
℄ Pier 2	73+63.81	14.75	778.59	778.59
J	73+73.81	14.75	778.64	778.64
K	73+83.81	14.75	778.69	778.69
L	73+93.81	14.75	778.74	778.74
℄ S. Abut.	74+04.31	14.75	778.80	778.80
Back S. Abut.	74+05.60	14.75	778.80	778.80

BEAM 13 (22'-11" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+54.45	22.92	778.17	778.17
℄ N. Abut.	72+55.74	22.92	778.18	778.18
A	72+65.74	22.92	778.23	778.23
B	72+75.74	22.92	778.28	778.28
C	72+85.74	22.92	778.33	778.32
℄ Pier 1	72+96.25	22.92	778.38	778.38
D	73+06.25	22.92	778.43	778.46
E	73+16.25	22.92	778.48	778.53
F	73+26.25	22.92	778.53	778.60
G	73+36.25	22.92	778.58	778.65
H	73+46.25	22.92	778.63	778.68
I	73+56.25	22.92	778.68	778.70
℄ Pier 2	73+66.00	22.92	778.73	778.73
J	73+76.00	22.92	778.78	778.78
K	73+86.00	22.92	778.83	778.83
L	73+96.00	22.92	778.88	778.88
℄ S. Abut.	74+06.50	22.92	778.93	778.93
Back S. Abut.	74+07.79	22.92	778.94	778.94

TOP OF DECK ELEVATIONS S.B. BEAMS 9-13

Note:
Positive offset means right of profile grade line.
Negative offset means left of profile grade line.

McClure Engineering Associates, Inc.
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS S.B. BEAMS 9-13
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 8 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	353
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		

BEAM 14 31'-1" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+56.64	31.08	778.09	778.09
℄ N. Abut.	72+57.94	31.08	778.10	778.10
A	72+67.94	31.08	778.15	778.15
B	72+77.94	31.08	778.20	778.19
C	72+87.94	31.08	778.25	778.24
℄ Pier 1	72+98.44	31.08	778.30	778.30
D	73+08.44	31.08	778.35	778.37
E	73+18.44	31.08	778.40	778.45
F	73+28.44	31.08	778.45	778.52
G	73+38.44	31.08	778.50	778.57
H	73+48.44	31.08	778.55	778.60
I	73+58.44	31.08	778.60	778.62
℄ Pier 2	73+68.19	31.08	778.65	778.65
J	73+78.19	31.08	778.70	778.69
K	73+88.19	31.08	778.75	778.75
L	73+98.19	31.08	778.80	778.80
℄ S. Abut.	74+08.68	31.08	778.85	778.85
Back S. Abut.	74+09.98	31.08	778.86	778.86

BEAM 15 (39'-3" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+58.83	39.25	777.96	777.96
℄ N. Abut.	72+60.13	39.25	777.97	777.97
A	72+70.13	39.25	778.02	778.02
B	72+80.13	39.25	778.07	778.07
C	72+90.13	39.25	778.12	778.11
℄ Pier 1	73+00.63	39.25	778.17	778.17
D	73+10.63	39.25	778.22	778.24
E	73+20.63	39.25	778.27	778.32
F	73+30.63	39.25	778.32	778.39
G	73+40.63	39.25	778.37	778.44
H	73+50.63	39.25	778.42	778.47
I	73+60.63	39.25	778.47	778.49
℄ Pier 2	73+70.38	39.25	778.52	778.52
J	73+80.38	39.25	778.57	778.56
K	73+90.38	39.25	778.62	778.62
L	74+00.38	39.25	778.67	778.67
℄ S. Abut.	74+10.87	39.25	778.72	778.72
Back S. Abut.	74+12.17	39.25	778.73	778.73

BEAM 16 (47'-5" RT)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+61.02	47.42	777.80	777.80
℄ N. Abut.	72+62.32	47.42	777.81	777.81
A	72+72.32	47.42	777.86	777.86
B	72+82.32	47.42	777.91	777.91
C	72+92.32	47.42	777.96	777.95
℄ Pier 1	73+02.82	47.42	778.01	778.01
D	73+12.82	47.42	778.06	778.09
E	73+22.82	47.42	778.11	778.16
F	73+32.82	47.42	778.16	778.23
G	73+42.82	47.42	778.21	778.28
H	73+52.82	47.42	778.26	778.31
I	73+62.82	47.42	778.31	778.33
℄ Pier 2	73+72.57	47.42	778.36	778.36
J	73+82.57	47.42	778.41	778.40
K	73+92.57	47.42	778.46	778.46
L	74+02.57	47.42	778.51	778.51
℄ S. Abut.	74+13.06	47.42	778.56	778.56
Back S. Abut.	74+14.36	47.42	778.57	778.57

BEAM 17 (OFFSET VARIES)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Back N. Abut.	72+63.21	55.58	777.64	777.64
℄ N. Abut.	72+64.49	55.55	777.65	777.65
A	72+74.44	55.35	777.70	777.70
B	72+84.39	55.15	777.76	777.76
C	72+94.33	54.95	777.81	777.81
℄ Pier 1	73+04.78	54.75	777.87	777.87
D	73+14.73	54.55	777.92	777.95
E	73+24.67	54.35	777.98	778.03
F	73+34.62	54.15	778.03	778.10
G	73+44.57	53.95	778.08	778.15
H	73+54.51	53.75	778.14	778.19
I	73+64.46	53.55	778.19	778.21
℄ Pier 2	73+74.16	53.36	778.24	778.24
J	73+84.10	53.16	778.30	778.29
K	73+94.05	52.96	778.35	778.35
L	74+04.00	52.76	778.41	778.41
℄ S. Abut.	74+14.44	52.55	778.46	778.46
Back S. Abut.	74+15.73	52.53	778.47	778.47

TOP OF DECK ELEVATIONS S.B. BEAMS 14-17

Note:
Positive offset means right of profile grade line.
Negative offset means left of profile grade line.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS S.B. BEAMS 14-17
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 9 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	354
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

EAST CURB LINE (48'-0" LT)

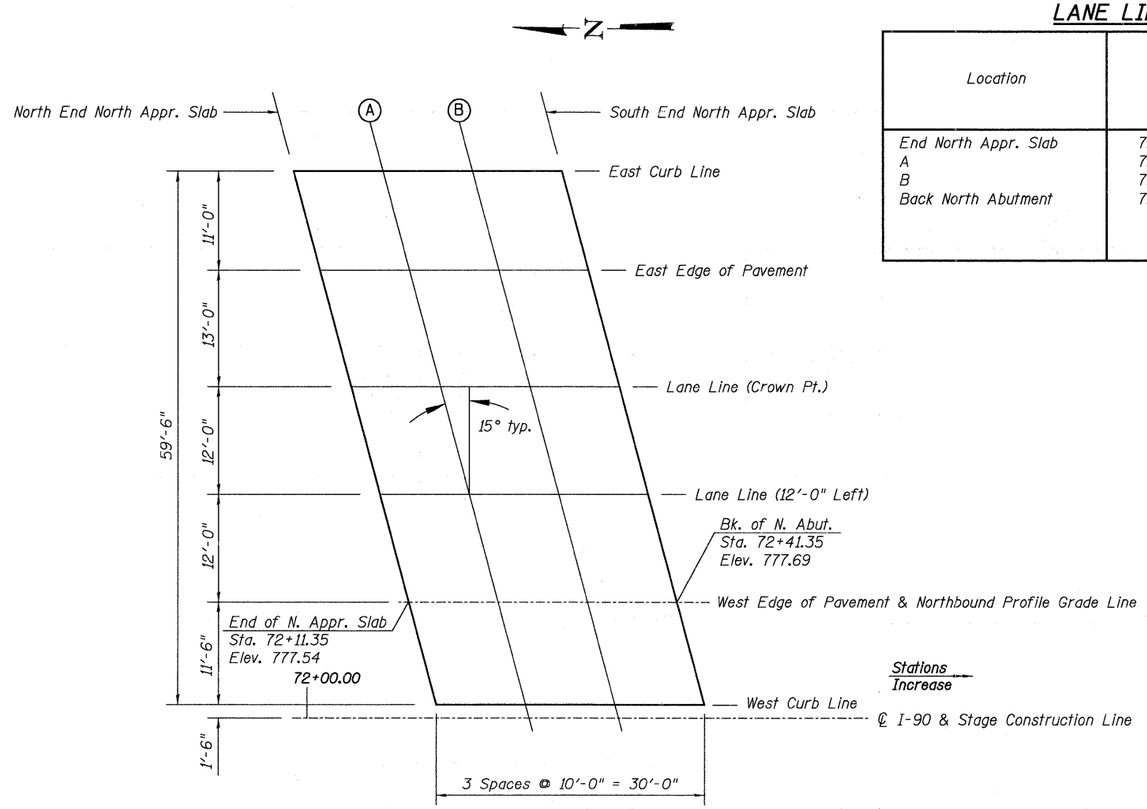
Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	71+98.49	-48.00	777.48
A	72+08.49	-48.00	777.53
B	72+18.49	-48.00	777.58
Back North Abutment	72+28.49	-48.00	777.63

EAST EDGE OF PAVEMENT (37'-0" LT)

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+01.44	-37.00	777.72
A	72+11.44	-37.00	777.77
B	72+21.44	-37.00	777.82
Back North Abutment	72+31.44	-37.00	777.87

LANE LINE (CROWN PT) (24'-0" LT)

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+04.92	-24.00	777.94
A	72+14.92	-24.00	777.99
B	72+24.92	-24.00	778.04
Back North Abutment	72+34.92	-24.00	778.09



PLAN

LANE LINE (12'-0" LT)

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+08.13	-12.00	777.77
A	72+18.13	-12.00	777.82
B	72+28.13	-12.00	777.87
Back North Abutment	72+38.13	-12.00	777.92

WEST EDGE OF PAVEMENT & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+11.35	0.00	777.54
A	72+21.35	0.00	777.59
B	72+31.35	0.00	777.64
Back North Abutment	72+41.35	0.00	777.69

WEST CURB LINE (11'-6" RT)

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+14.43	11.50	777.31
A	72+24.43	11.50	777.36
B	72+34.43	11.50	777.41
Back North Abutment	72+44.43	11.50	777.46

Note:
Positive offset means right of profile grade line.
Negative offset means left of profile grade line.

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PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF NORTHEAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 10 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	355
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		

EAST CURB LINE (48'-0" LT)

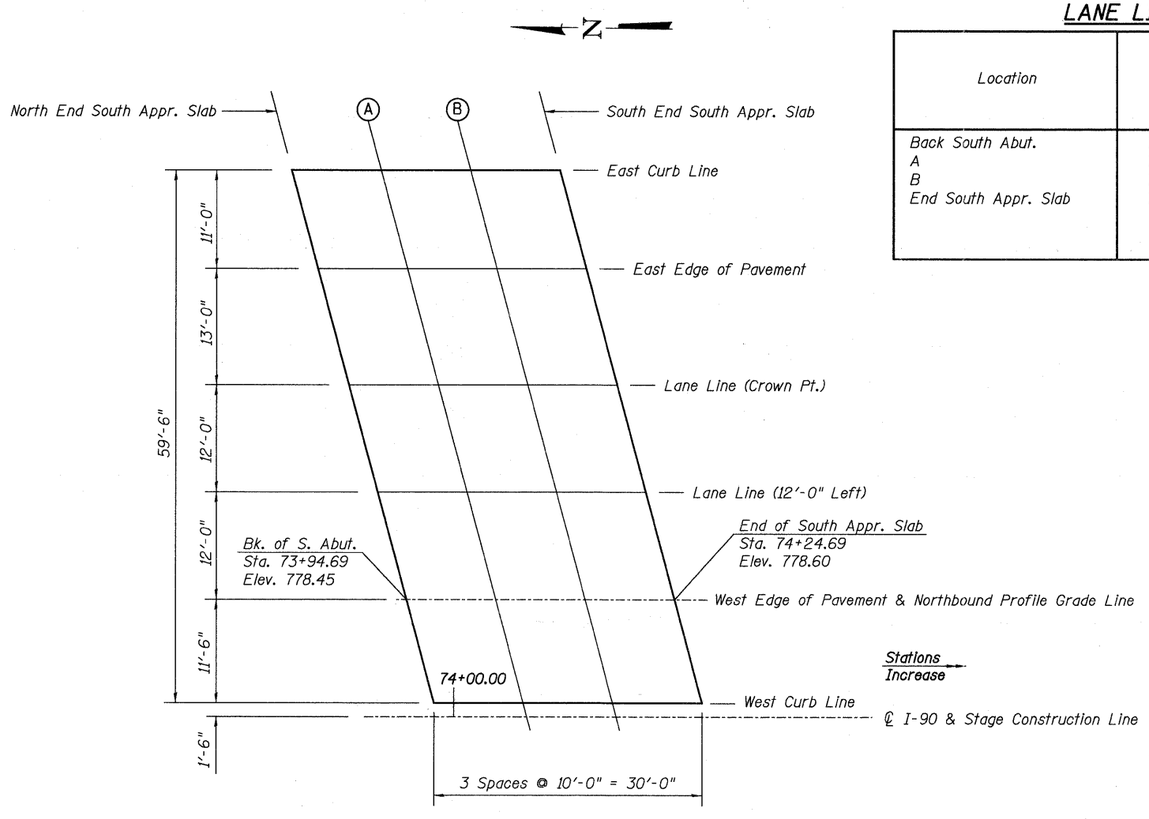
Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	73+81.83	-48.00	778.39
A	73+91.83	-48.00	778.44
B	74+01.83	-48.00	778.49
End South Appr. Slab	74+11.83	-48.00	778.54

EAST EDGE OF PAVEMENT (37'-0" LT)

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	73+84.78	-37.00	778.64
A	73+94.78	-37.00	778.69
B	74+04.78	-37.00	778.74
End South Appr. Slab	74+14.78	-37.00	778.79

LANE LINE (CROWN PT) (24'-0" LT)

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	73+88.26	-24.00	778.86
A	73+98.26	-24.00	778.91
B	74+08.26	-24.00	778.96
End South Appr. Slab	74+18.26	-24.00	779.01



PLAN

LANE LINE (12'-0" LT)

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	73+91.47	-12.00	778.69
A	74+01.47	-12.00	778.74
B	74+11.47	-12.00	778.79
End South Appr. Slab	74+21.47	-12.00	778.84

WEST EDGE OF PAVEMENT & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	73+94.69	0.00	778.45
A	74+04.69	0.00	778.50
B	74+14.69	0.00	778.55
End South Appr. Slab	74+24.69	0.00	778.60

WEST CURB LINE (11'-6" RT)

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	73+97.77	11.50	778.23
A	74+07.77	11.50	778.28
B	74+17.77	11.50	778.33
End South Appr. Slab	74+27.77	11.50	778.38

Note:
Positive offset means right of profile grade line.
Negative offset means left of profile grade line.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SOUTHEAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 11 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	356
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

WEST CURB LINE (OFFSET VARIES)

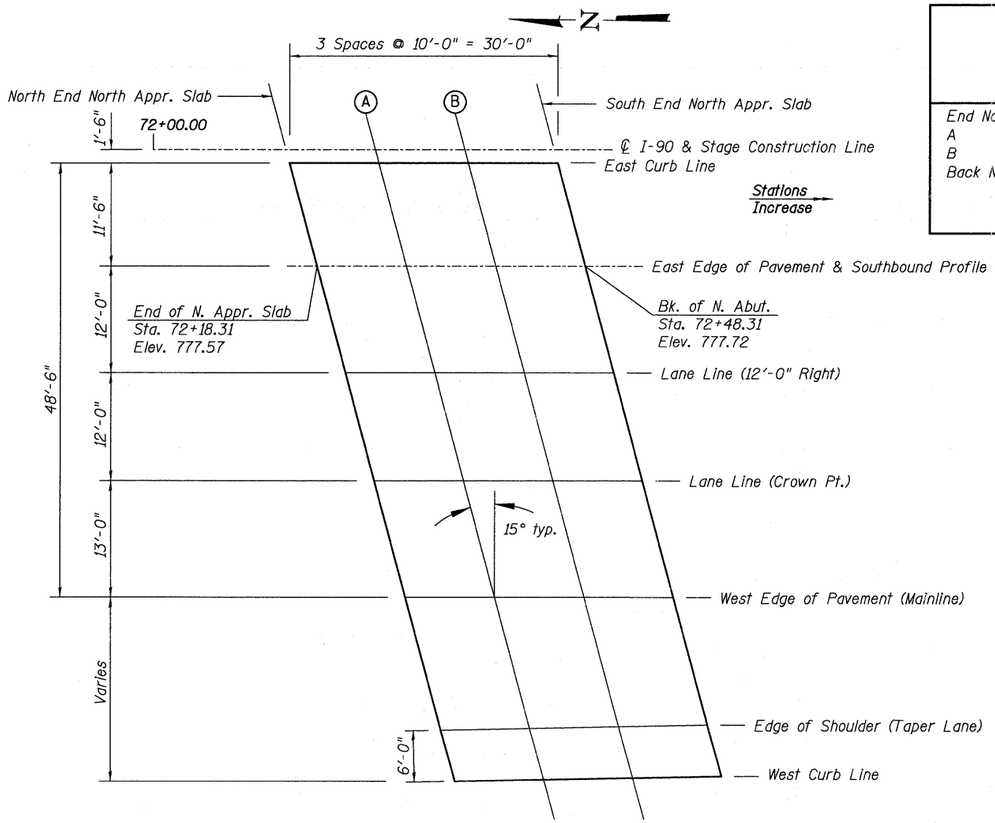
Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+33.81	57.84	777.45
A	72+43.76	57.64	777.50
B	72+53.70	57.44	777.56
Back North Abutment	72+63.65	57.24	777.61

WEST EDGE OF PAVEMENT (MAINLINE) (37'-0" RT)

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+28.23	37.00	777.86
A	72+38.23	37.00	777.91
B	72+48.23	37.00	777.96
Back North Abutment	72+58.23	37.00	778.01

LANE LINE (CROWN PT) (24'-0" RT)

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+24.74	24.00	778.04
A	72+34.74	24.00	778.09
B	72+44.74	24.00	778.14
Back North Abutment	72+54.74	24.00	778.19



LANE LINE (12'-0" RT)

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+21.53	12.00	777.84
A	72+31.53	12.00	777.89
B	72+41.53	12.00	777.94
Back North Abutment	72+51.53	12.00	777.99

EAST EDGE OF PAVEMENT & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+18.31	0.00	777.57
A	72+28.31	0.00	777.62
B	72+38.31	0.00	777.67
Back North Abutment	72+48.31	0.00	777.72

EAST CURB LINE (11'-6" LT)

Location	Station	Offset	Theoretical Grade Elevations
End North Appr. Slab	72+15.23	-11.50	777.32
A	72+25.23	-11.50	777.37
B	72+35.23	-11.50	777.42
Back North Abutment	72+45.23	-11.50	777.47

Note:
Positive offset means right of profile grade line.
Negative offset means left of profile grade line.

PLAN

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF NORTHWEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 12 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	357
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		

WEST CURB LINE (OFFSET VARIES)

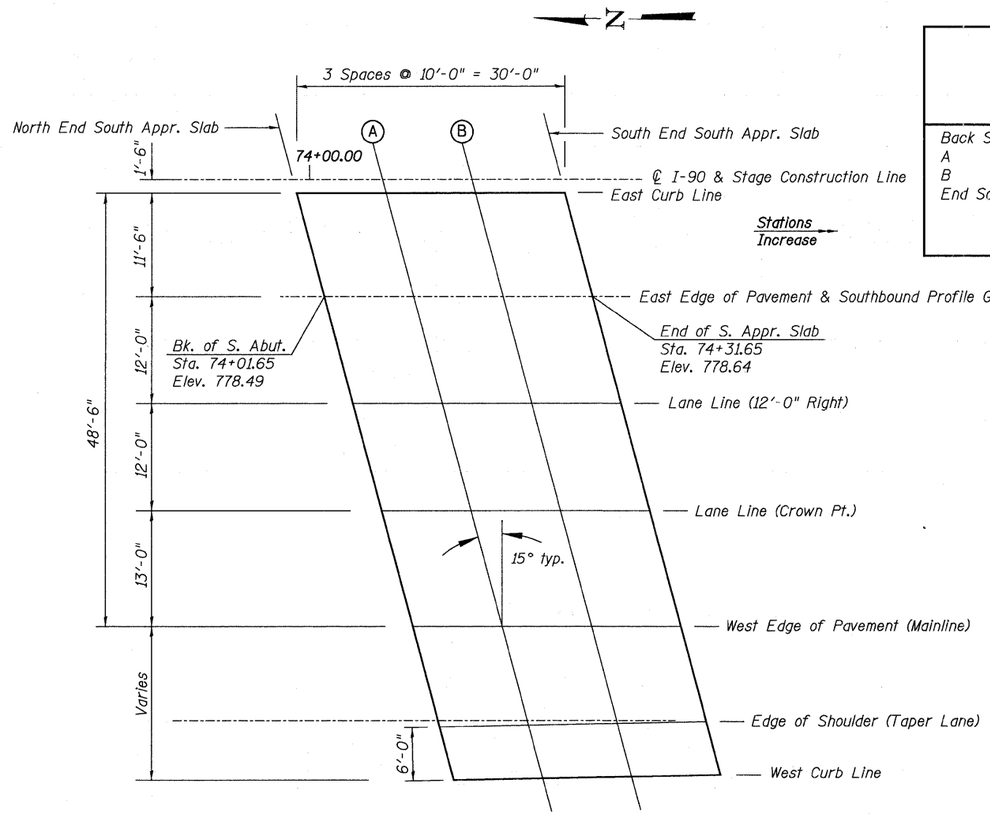
Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	74+16.17	54.19	778.44
A	74+26.12	53.99	778.49
B	74+36.07	53.79	778.55
End South Appr. Slab	74+46.01	53.59	778.60

WEST EDGE OF PAVEMENT (MAINLINE) (37'-0" RT)

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	74+11.56	37.00	778.77
A	74+21.56	37.00	778.82
B	74+31.56	37.00	778.87
End South Appr. Slab	74+41.56	37.00	778.92

LANE LINE (CROWN PT) (24'-0" RT)

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	74+08.08	24.00	778.96
A	74+18.08	24.00	779.01
B	74+28.08	24.00	779.06
End South Appr. Slab	74+38.08	24.00	779.11



PLAN

LANE LINE (12'-0" RT)

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	74+04.87	12.00	778.75
A	74+14.87	12.00	778.80
B	74+24.87	12.00	778.85
End South Appr. Slab	74+34.87	12.00	778.90

EAST EDGE OF PAVEMENT & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	74+01.65	0.00	778.49
A	74+11.65	0.00	778.54
B	74+21.65	0.00	778.59
End South Appr. Slab	74+31.65	0.00	778.64

EAST CURB LINE (11'-6" LT)

Location	Station	Offset	Theoretical Grade Elevations
Back South Abut.	73+98.57	-11.50	778.23
A	74+08.57	-11.50	778.28
B	74+18.57	-11.50	778.33
End South Appr. Slab	74+28.57	-11.50	778.38

Note:
Positive offset means right of profile grade line.
Negative offset means left of profile grade line.

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PLOT DATE =	CHECKED - JTT	REVISED -	

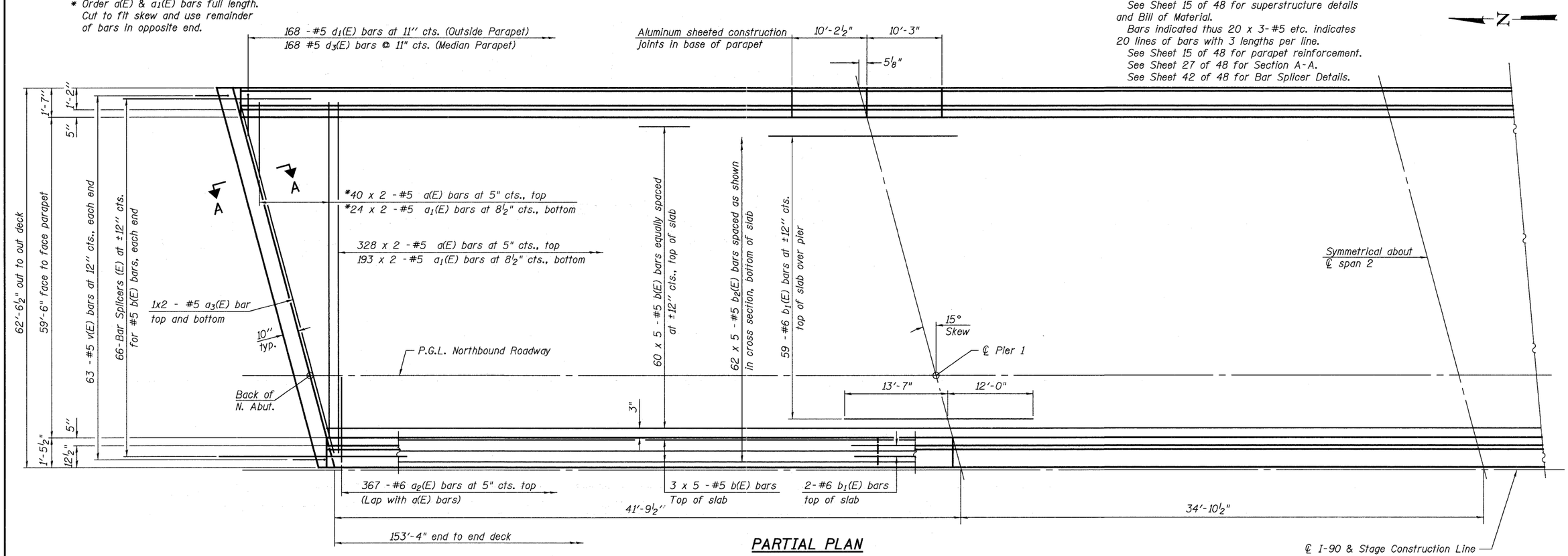
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SOUTHWEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 13 OF 48 SHEETS

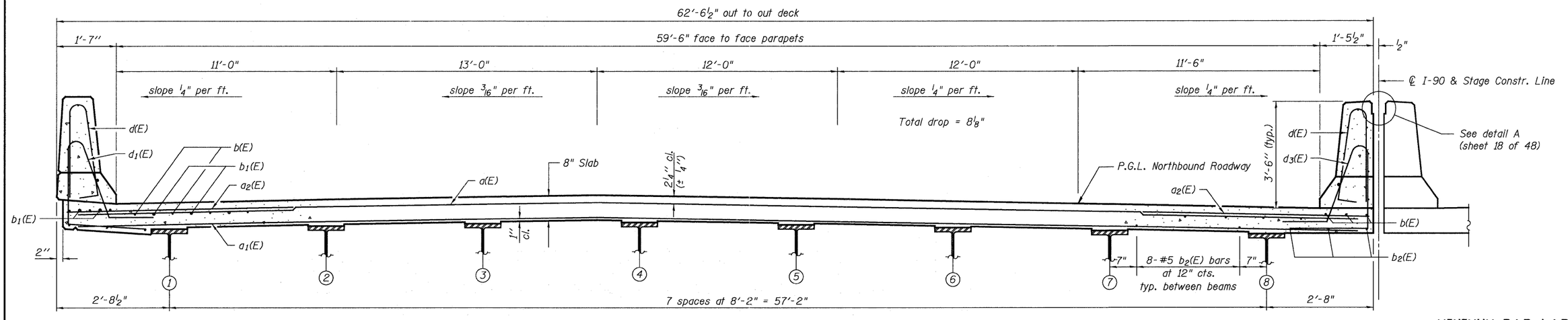
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	358
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

* Order a(E) & a_1(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

Notes:
See Sheet 15 of 48 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 15 of 48 for parapet reinforcement.
See Sheet 27 of 48 for Section A-A.
See Sheet 42 of 48 for Bar Splicer Details.



PARTIAL PLAN



NEAR PIER

NEAR MIDSPAN

CROSS SECTION
(Looking South)

MINIMUM BAR LAP

#5 a(E) bar = 3'-3"
other #5 bars = 2'-7"
#6 bar = 3'-1"
#8 bar = 5'-5''

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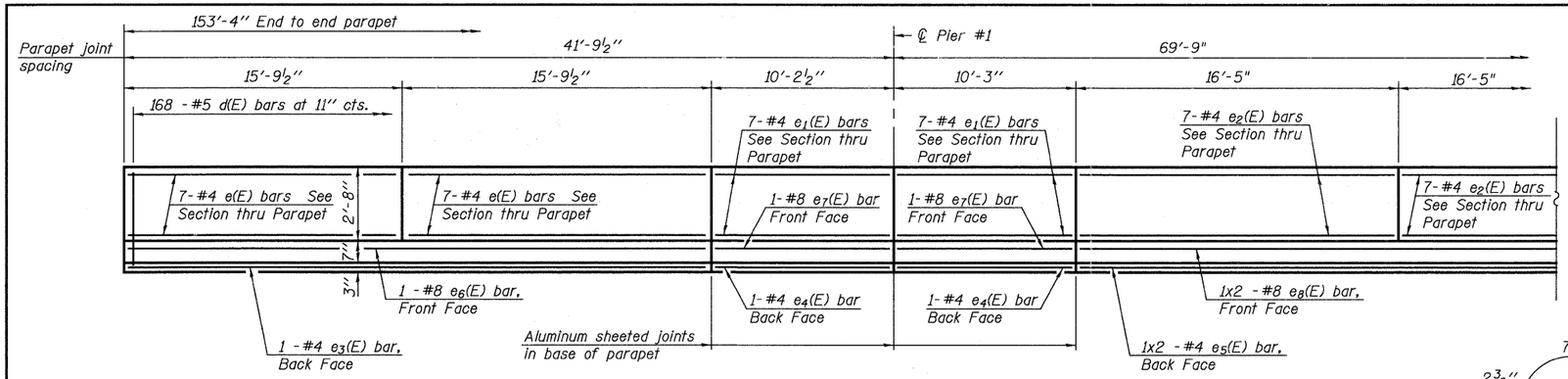
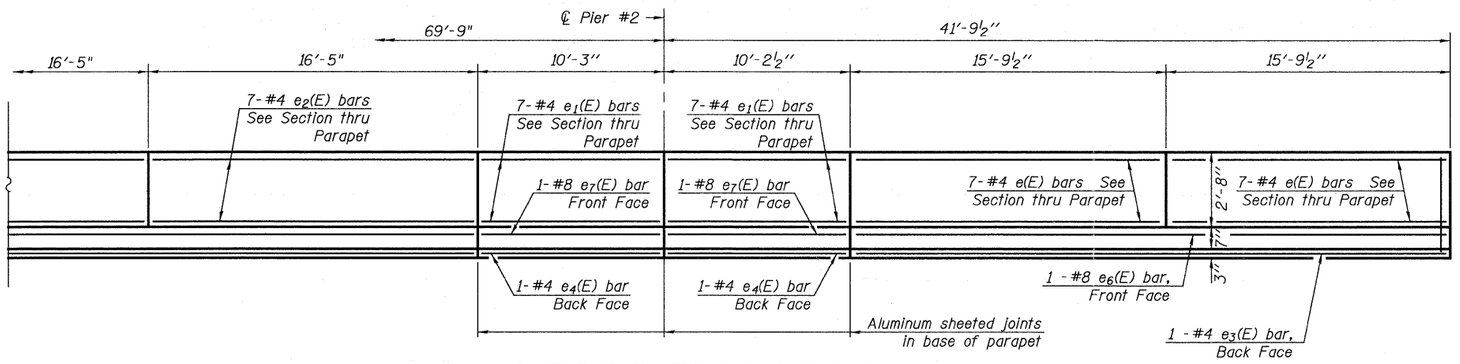
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

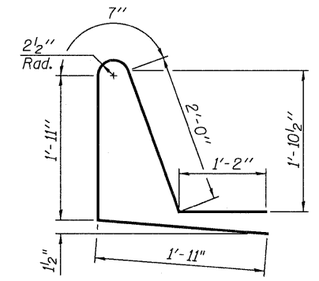
SUPERSTRUCTURE NORTHBOUND
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 14 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	359
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		

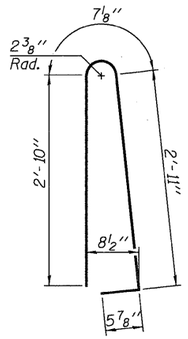




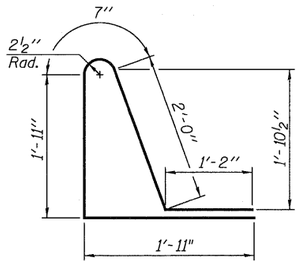
INSIDE ELEVATION OF PARAPET



BAR d1(E)



BAR d(E)



BAR d3(E)

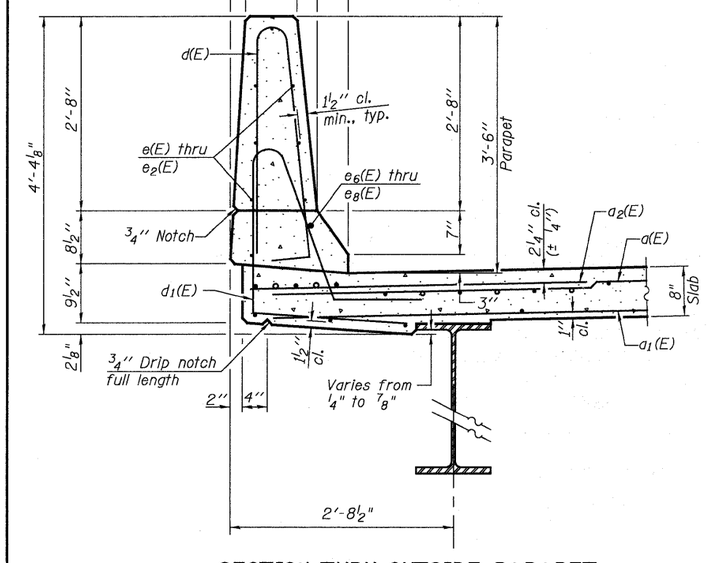
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	736	#5	32'-8"	
a1(E)	434	#5	32'-4"	
a2(E)	734	#6	6'-6"	
a3(E)	8	#5	33'-8"	
b(E)	330	#5	32'-8"	
b1(E)	126	#6	25'-7"	
b2(E)	310	#5	32'-8"	
d(E)	336	#5	6'-10"	
d1(E)	168	#5	7'-7"	
d3(E)	168	#5	7'-7"	
e(E)	56	#4	15'-5"	
e1(E)	56	#4	9'-10"	
e2(E)	42	#4	16'-1"	
e3(E)	4	#4	31'-3"	
e4(E)	8	#4	9'-10"	
e5(E)	4	#4	25'-6"	
e6(E)	4	#8	31'-3"	
e7(E)	8	#8	9'-10"	
e8(E)	4	#8	27'-2"	
m(E)	30	#6	23'-10"	
m1(E)	32	#6	11'-0"	
m2(E)	14	#6	8'-0"	
m3(E)	4	#6	2'-4"	
s(E)	124	#5	6'-10"	
s1(E)	124	#4	9'-10"	
v(E)	126	#5	3'-9"	
Reinforcement Bars, Epoxy Coated			Pound	85,270
Concrete Superstructure			Cu. Yds.	327.3

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.
See sheet 27 of 48 for s(E), s1(E) and v(E) bar details .

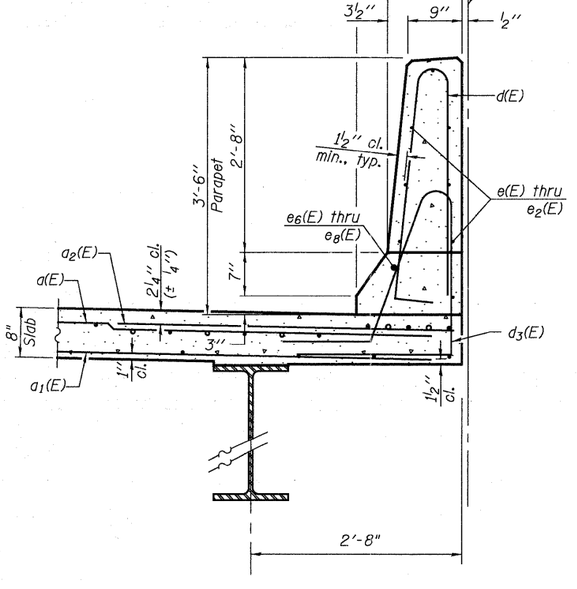
MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-1"
#8 bar = 5'-5"



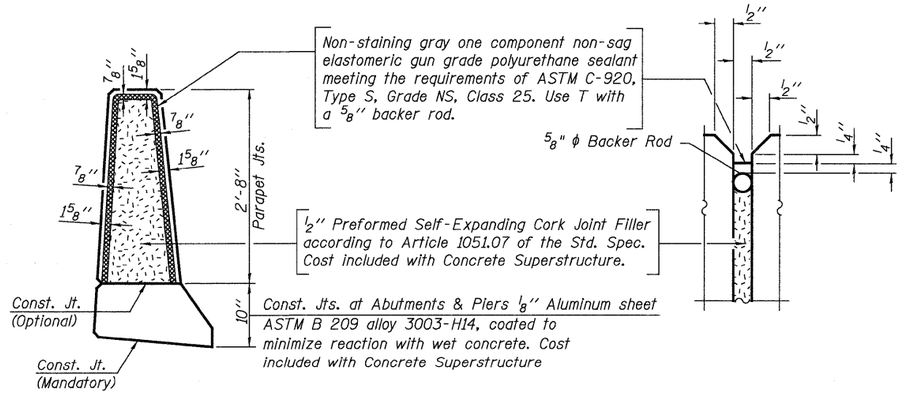
SECTION THRU OUTSIDE PARAPET

Looking South



SECTION THRU MEDIAN PARAPET

Looking South



PARAPET JOINT DETAILS

(Outside Parapet Shown
Inside Parapet Similar)

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PLOT DATE =	CHECKED - JTT	REVISED -

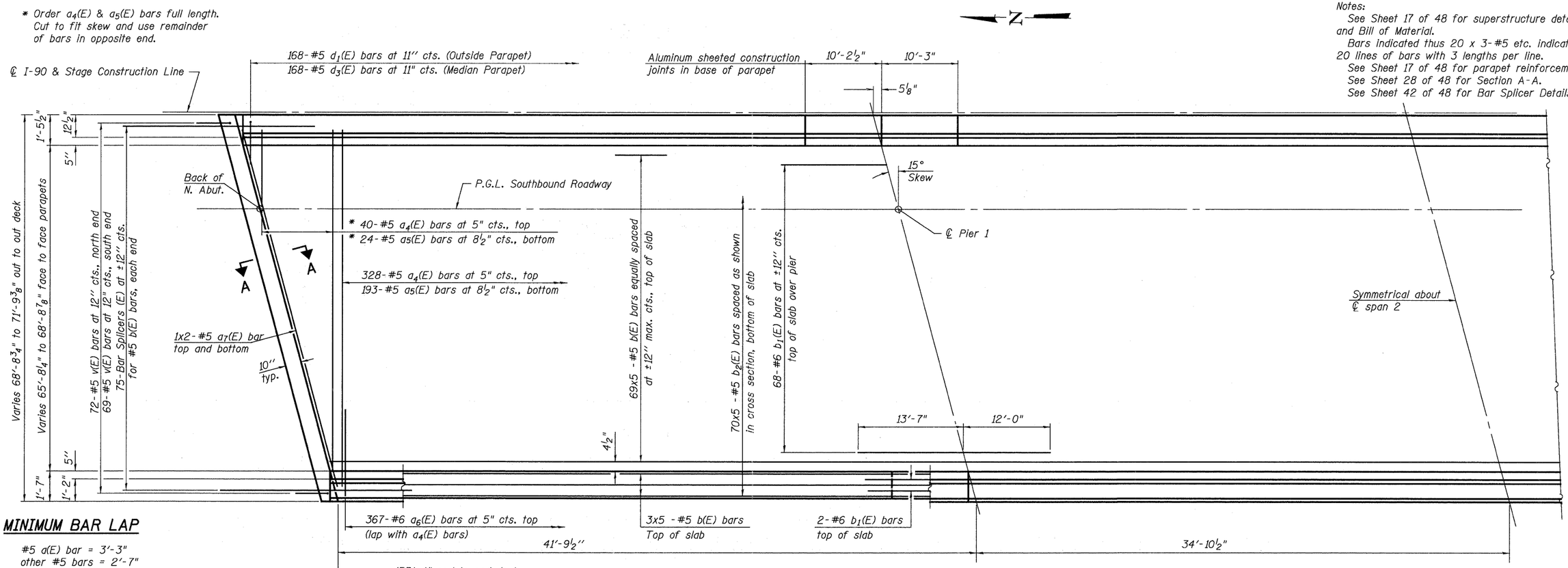
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS N.B.
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 15 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	360
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

* Order $a_4(E)$ & $a_5(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.

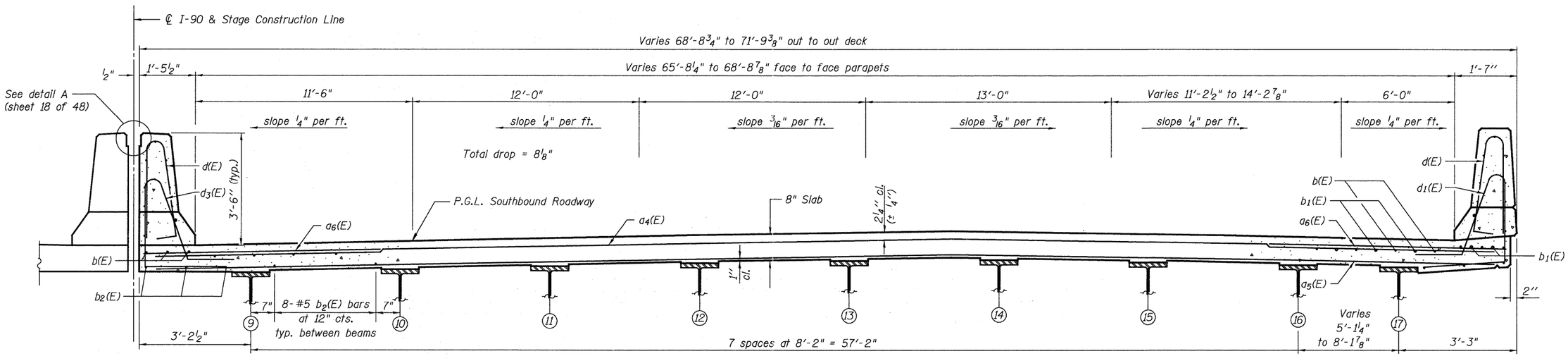
Notes:
See Sheet 17 of 48 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 17 of 48 for parapet reinforcement.
See Sheet 28 of 48 for Section A-A.
See Sheet 42 of 48 for Bar Splicer Details.



PARTIAL PLAN

MINIMUM BAR LAP

#5 d(E) bar = 3'-3"
other #5 bars = 2'-7"
#6 bar = 3'-1"
#8 bar = 5'-5"



NEAR MIDSPAN

NEAR PIER

CROSS SECTION
(Looking South)

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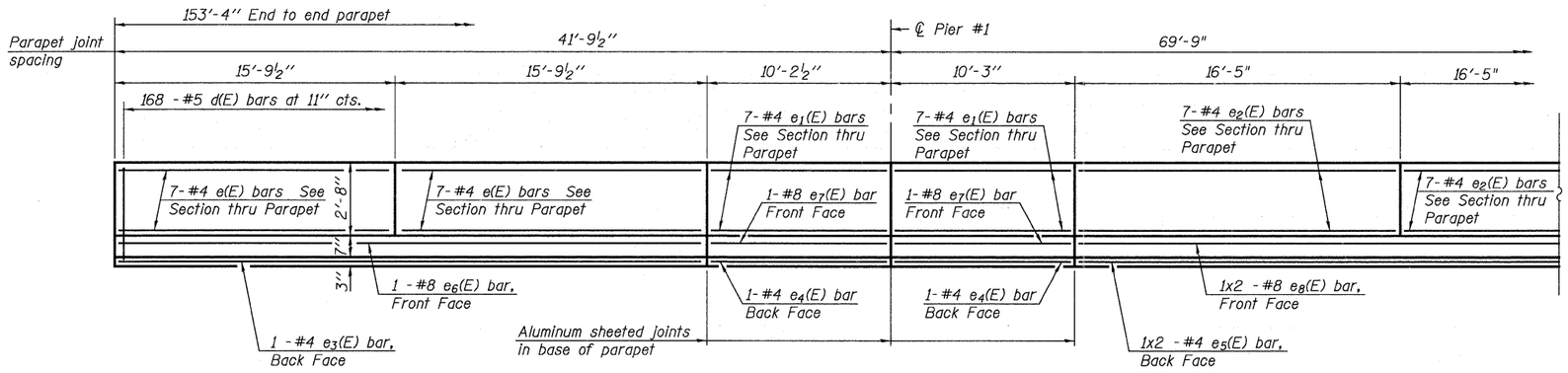
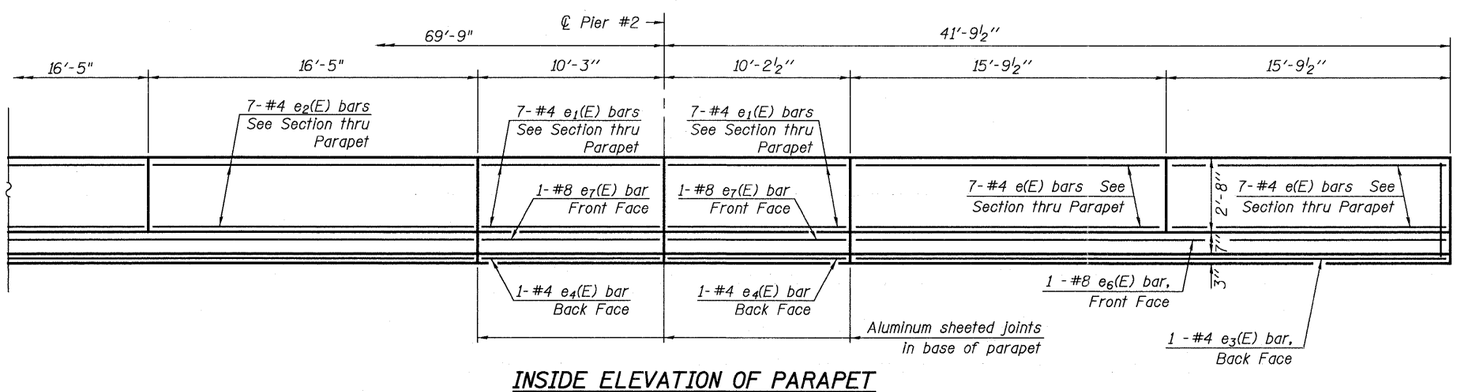
PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

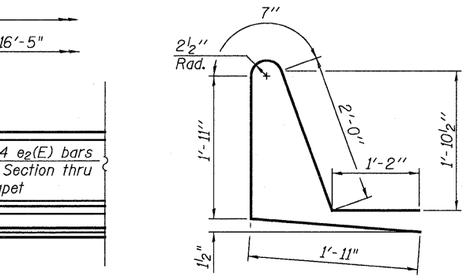
SUPERSTRUCTURE SOUTHBOUND
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 16 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	361
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

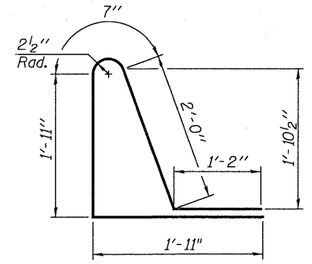




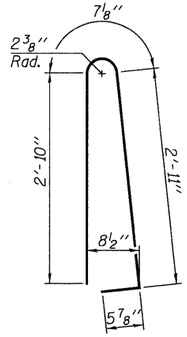
INSIDE ELEVATION OF PARAPET



BAR d1(E)



BAR d3(E)



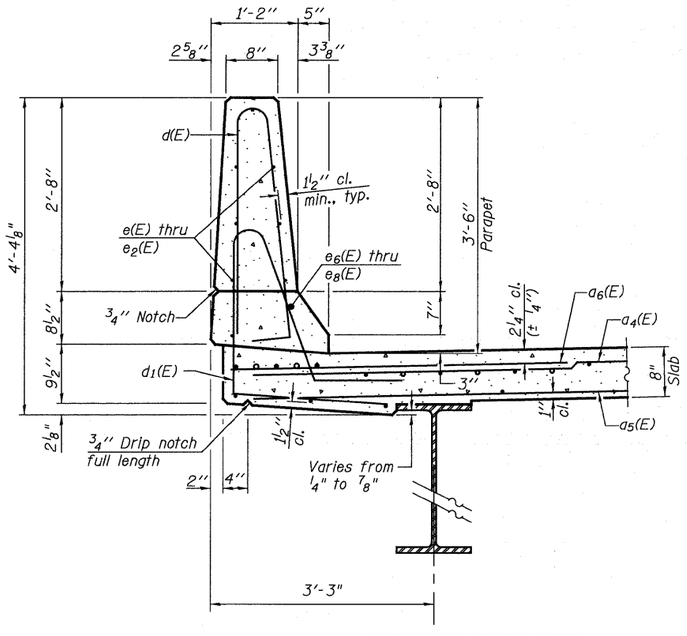
BAR d(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_4(E)$	736	#5	37'-6"	
$a_5(E)$	434	#5	37'-2"	
$a_6(E)$	734	#6	6'-6"	
$a_7(E)$	8	#5	38'-3"	
b(E)	375	#5	32'-8"	
$b_1(E)$	144	#6	25'-7"	
$b_2(E)$	350	#5	32'-8"	
d(E)	336	#5	6'-10"	
$d_1(E)$	168	#5	7'-7"	
$d_3(E)$	168	#5	7'-7"	
e(E)	56	#4	15'-5"	
$e_1(E)$	56	#4	9'-10"	
$e_2(E)$	42	#4	16'-1"	
$e_3(E)$	4	#4	31'-3"	
$e_4(E)$	8	#4	9'-10"	
$e_5(E)$	4	#4	25'-6"	
$e_6(E)$	4	#8	31'-3"	
$e_7(E)$	8	#8	9'-10"	
$e_8(E)$	4	#8	27'-2"	
$m_2(E)$	16	#6	8'-0"	
$m_3(E)$	4	#6	2'-4"	
$m_4(E)$	30	#6	27'-0"	
$m_5(E)$	40	#6	10'-4"	
s(E)	140	#5	6'-10"	
$s_1(E)$	140	#4	9'-10"	
v(E)	141	#5	3'-9"	
Reinforcement Bars, Epoxy Coated			Pound	95,330
Concrete Superstructure			Cu. Yds.	367.3

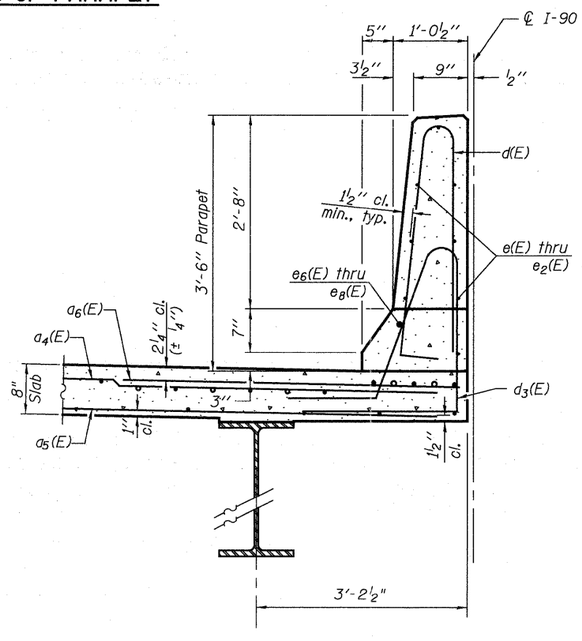
See sheet 28 of 48 for s(E), $s_1(E)$ and v(E) bar details .

Bars indicated thus 1 x 2- #5 etc. indicates 1 line of bars with 2 lengths per line.



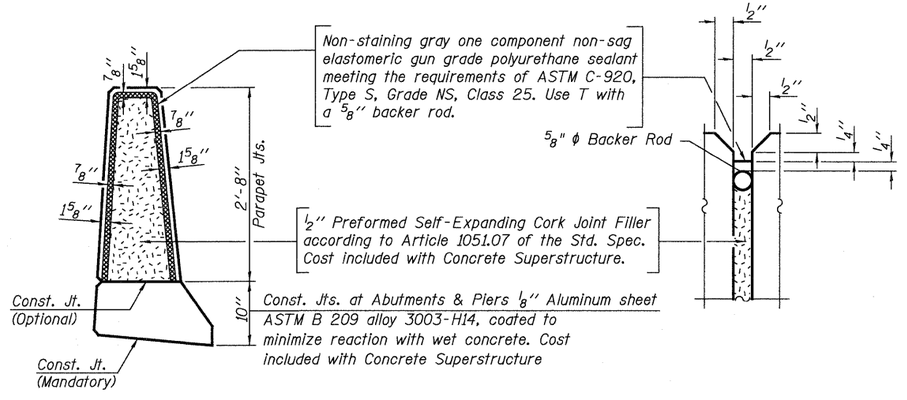
SECTION THRU OUTSIDE PARAPET

Looking North



SECTION THRU MEDIAN PARAPET

Looking North



PARAPET JOINT DETAILS

(Outside Parapet Shown
Inside Parapet Similar)

MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-1"
#8 bar = 5'-5"

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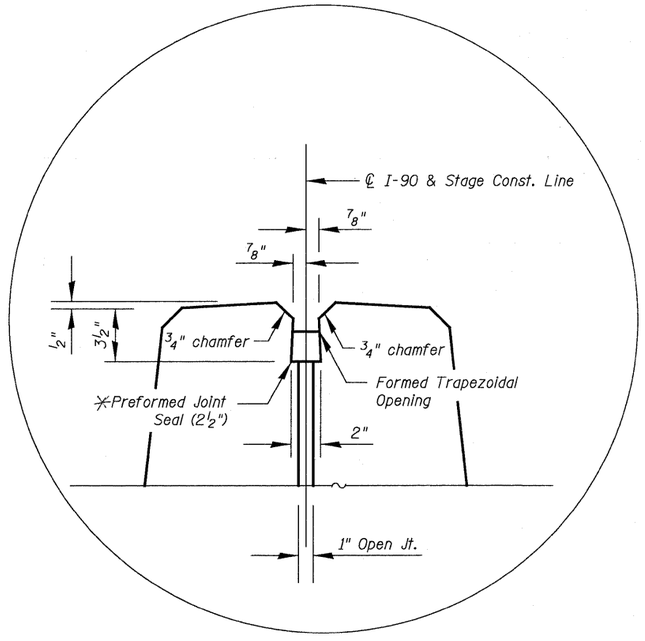
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

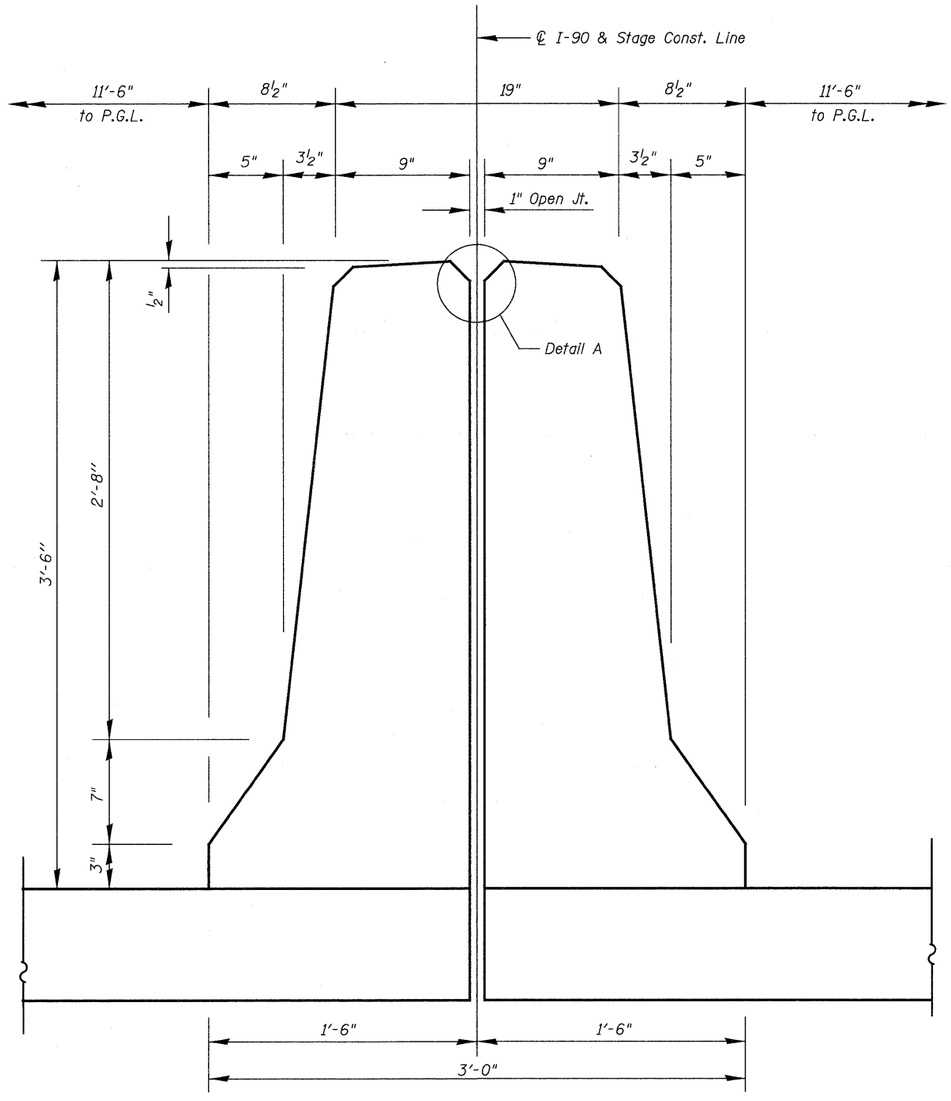
SUPERSTRUCTURE DETAILS S.B.
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 17 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	362
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



DETAIL A

*COST INCLUDED IN CONCRETE SUPERSTRUCTURE



PROPOSED MEDIAN PARAPET TO MATCH HWY STD. 637006-02

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PLOT DATE =	CHECKED - JTT	REVISED -	

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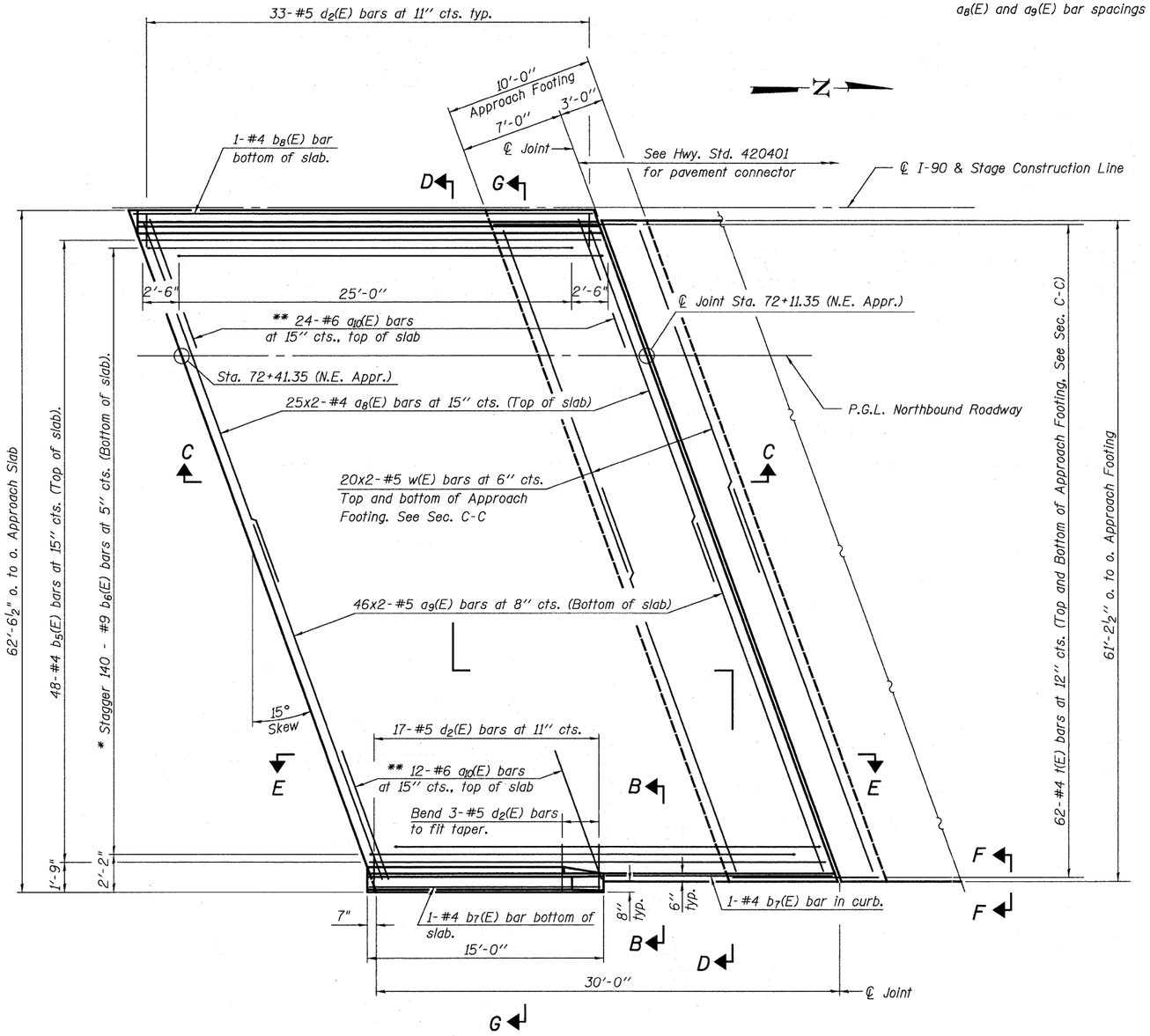
DEPARTMENT OF TRANSPORTATION

MEDIAN PARAPET DETAILS
STRUCTURE NO. 101-0193 & 101-0194
BRIDGE SHEET NO. 18 OF 48 SHEETS

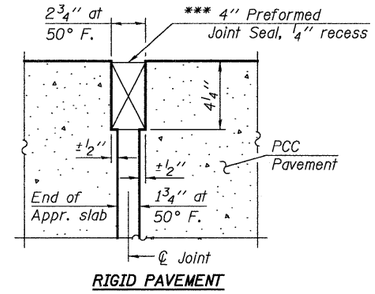
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	363
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		

Notes:
See sheet 20 of 48 for Sections C-C, D-D and G-G.
$a_8(E)$ and $a_9(E)$ bar spacings measured along ℄ Rdwy.



PLAN

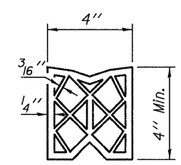
* Tilt #9 $b_6(E)$ bars as required to maintain clearance.
** Space between $a_8(E)$ bars, typ. each parapet.



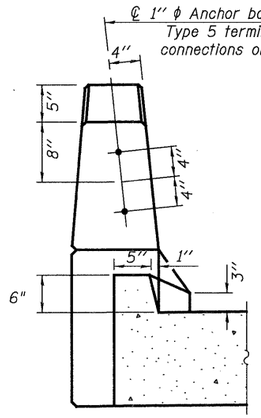
RIGID PAVEMENT

DETAIL A

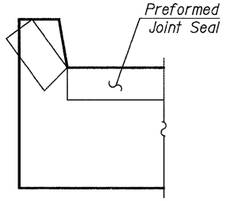
*** Cost included with Concrete Superstructure.



PREFORMED JOINT SEAL

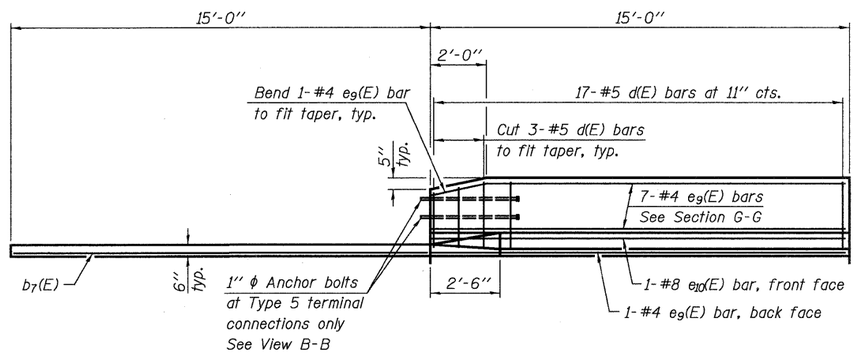


VIEW B-B



VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



VIEW E-E

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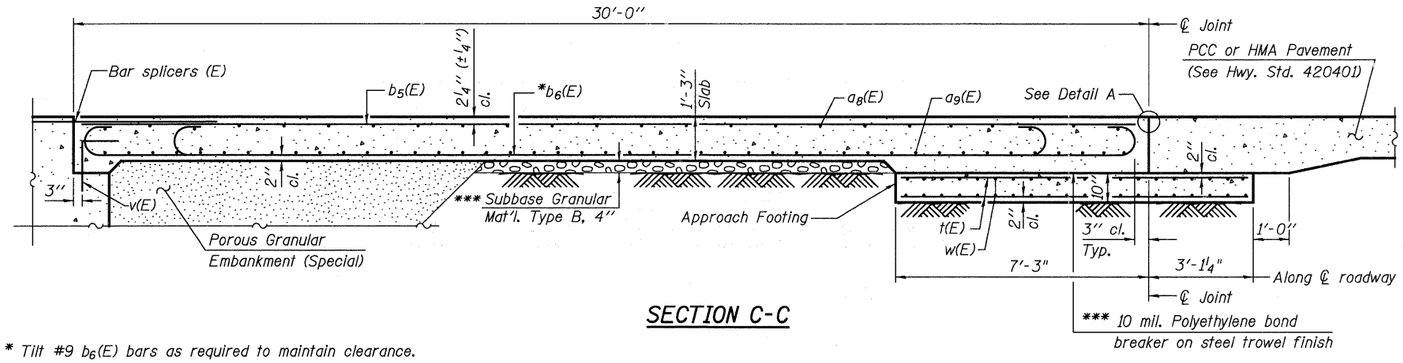
BRIDGE APPROACH SLAB DETAILS N.E.
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 19 OF 48 SHEETS

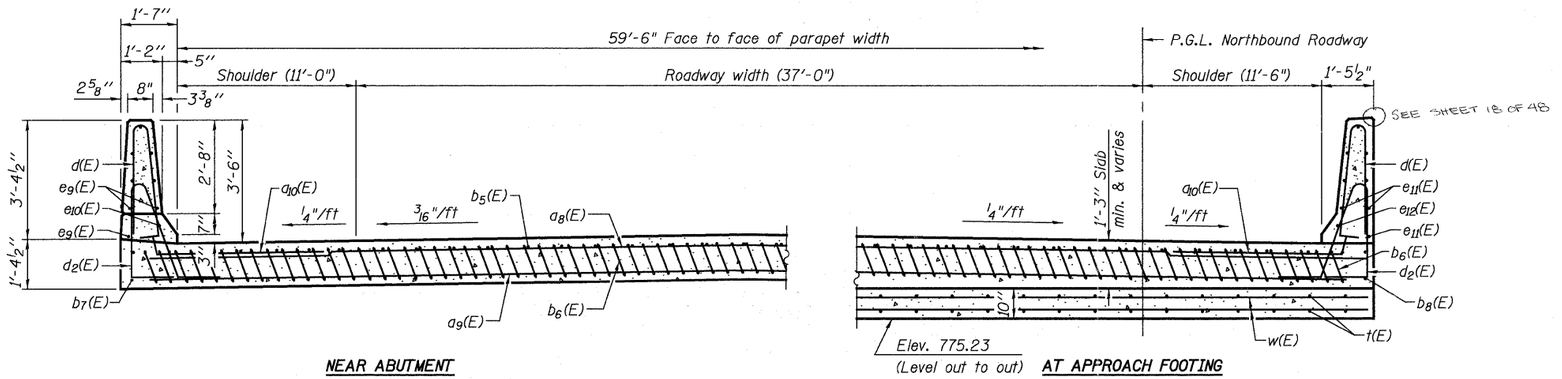
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	364
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



SECTION C-C

* Tilt #9 b_6(E) bars as required to maintain clearance.

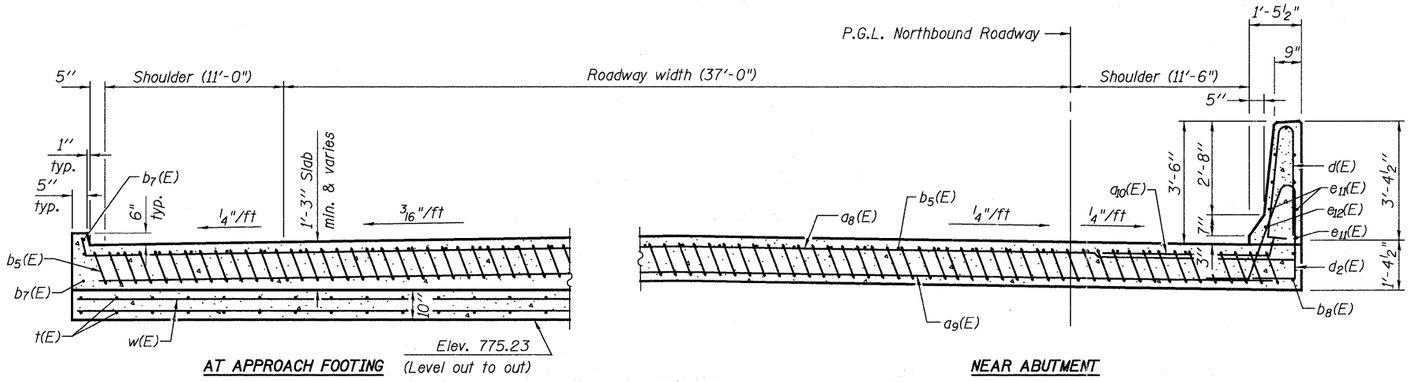
*** Cost included with Concrete Superstructure.



NEAR ABUTMENT — AT APPROACH FOOTING

SECTION G-G

(See Plan for dimensions not shown)



AT APPROACH FOOTING — NEAR ABUTMENT

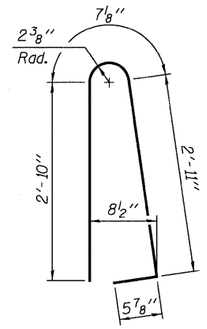
SECTION D-D

(See Plan for dimensions not shown)

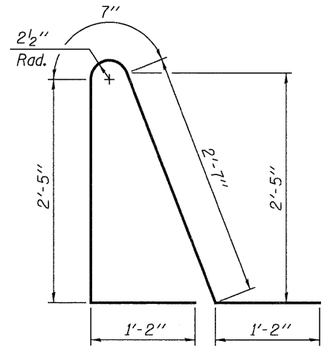
MINIMUM BAR LAP

#4 bar = 2'-1"
#5 bar = 2'-7"

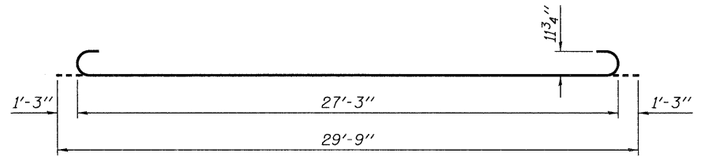
Notes:
See sheet 19 of 48 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 27 of 48.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 42 of 48.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 48.
For additional parapet details, see sheet 15 of 48.



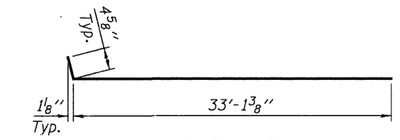
BAR d(E)



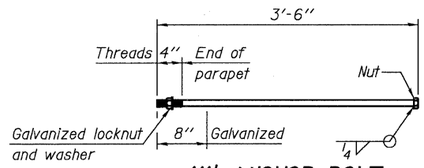
BAR d_2(E)



BAR b_6(E)



BAR a_8(E)



1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_8(E)	50	#4	33'-6"	
a_9(E)	92	#5	33'-3"	
a_{10}(E)	36	#6	6'-6"	
b_5(E)	48	#4	29'-8"	
b_6(E)	140	#9	29'-9"	
b_7(E)	2	#4	14'-8"	
b_8(E)	1	#4	29'-8"	
d(E)	50	#5	6'-10"	
d_2(E)	50	#5	7'-11"	
e_9(E)	8	#4	14'-8"	
e_{10}(E)	1	#8	14'-8"	
e_{11}(E)	8	#4	29'-8"	
e_{12}(E)	1	#8	29'-8"	
t(E)	124	#4	10'-0"	
w(E)	80	#5	32'-10"	
Concrete Superstructure			Cu. Yd.	98.6
Concrete Structures			Cu. Yd.	18.9
Reinforcement Bars, Epoxy Coated			Pound	24,505

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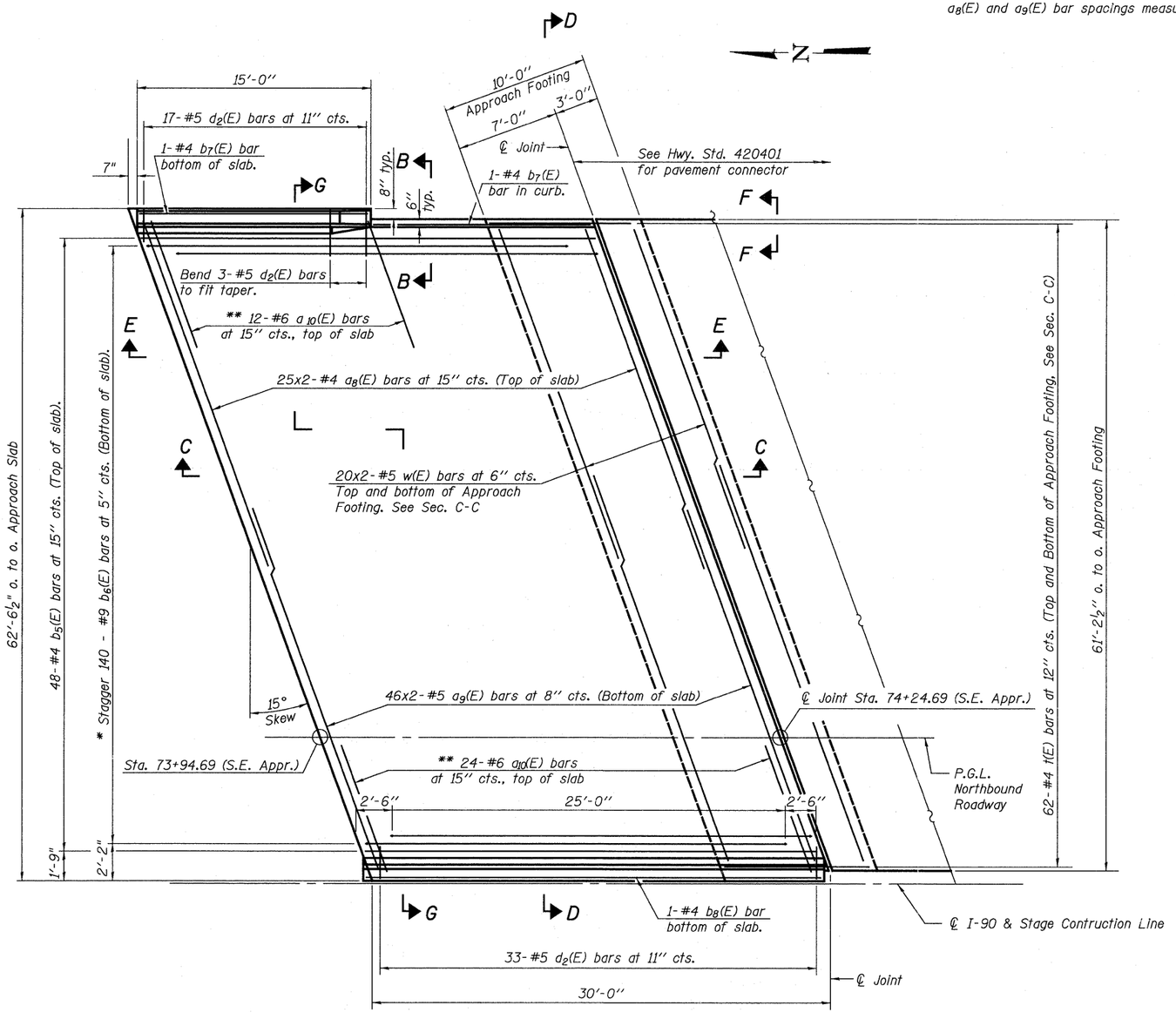
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS N.E.
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 20 OF 48 SHEETS

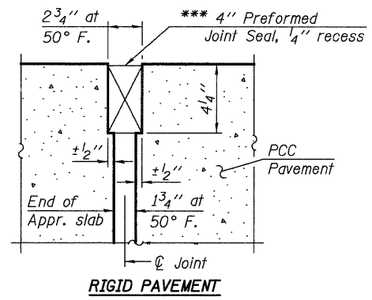
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	365
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

Notes:
See sheet 22 of 48 for Sections C-C, D-D and G-G.
$a_8(E)$ and $a_9(E)$ bar spacings measured along ℄ Rdwy.



PLAN

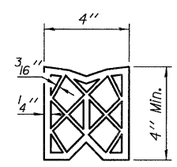
* Tilt #9 $b_6(E)$ bars as required to maintain clearance.
** Space between $a_8(E)$ bars, typ. each parapet.



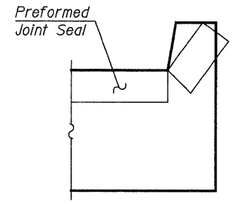
RIGID PAVEMENT

DETAIL A

*** Cost included with Concrete Superstructure.

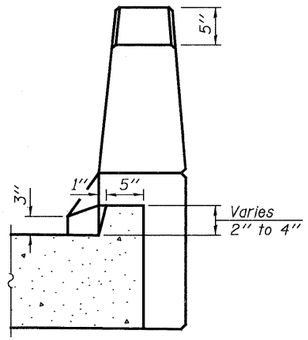


PREFORMED JOINT SEAL

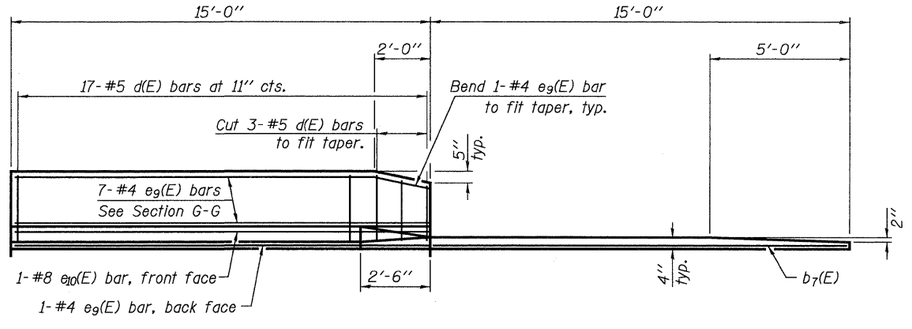


VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



VIEW B-B



VIEW E-E

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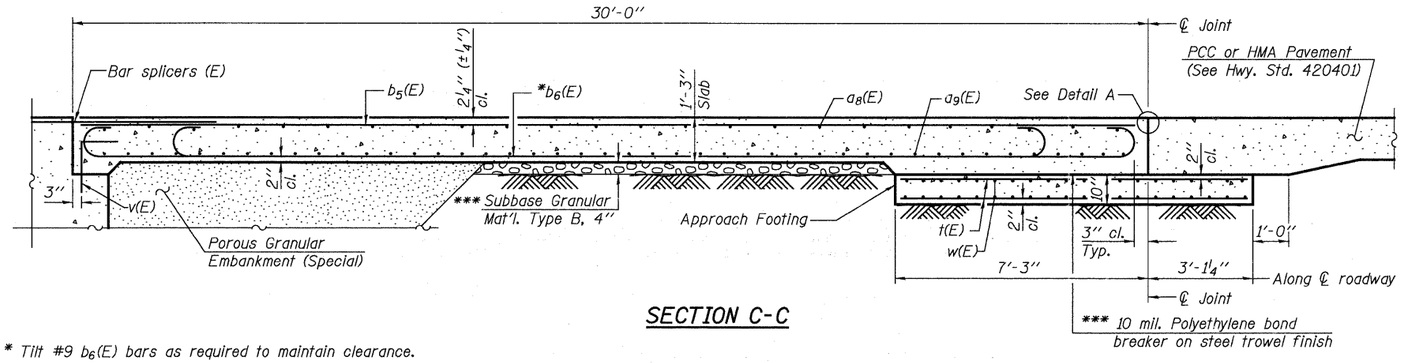
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS S.E.
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 21 OF 48 SHEETS

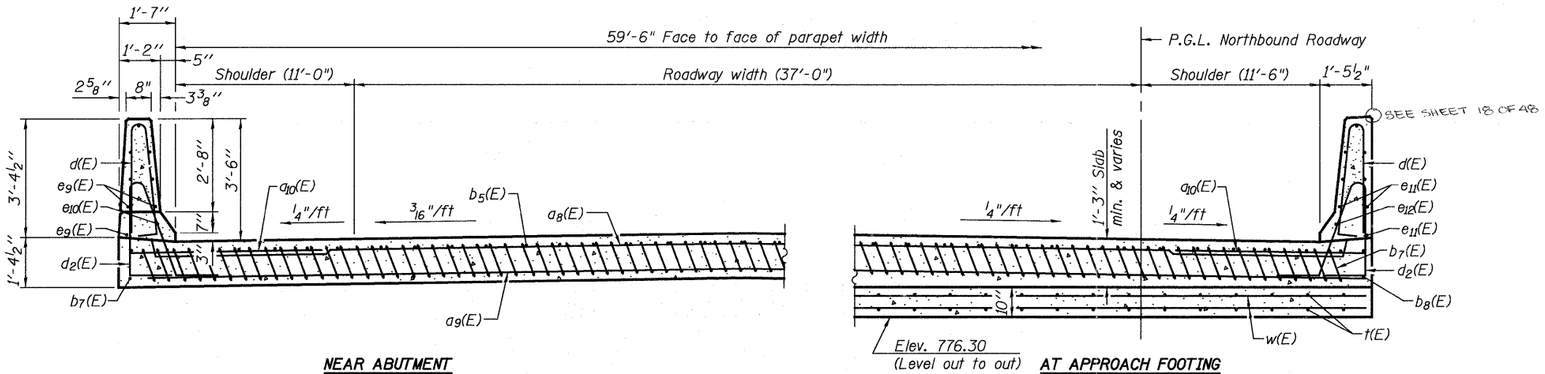
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	366
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



SECTION C-C

* Tilt #9 b_6(E) bars as required to maintain clearance.

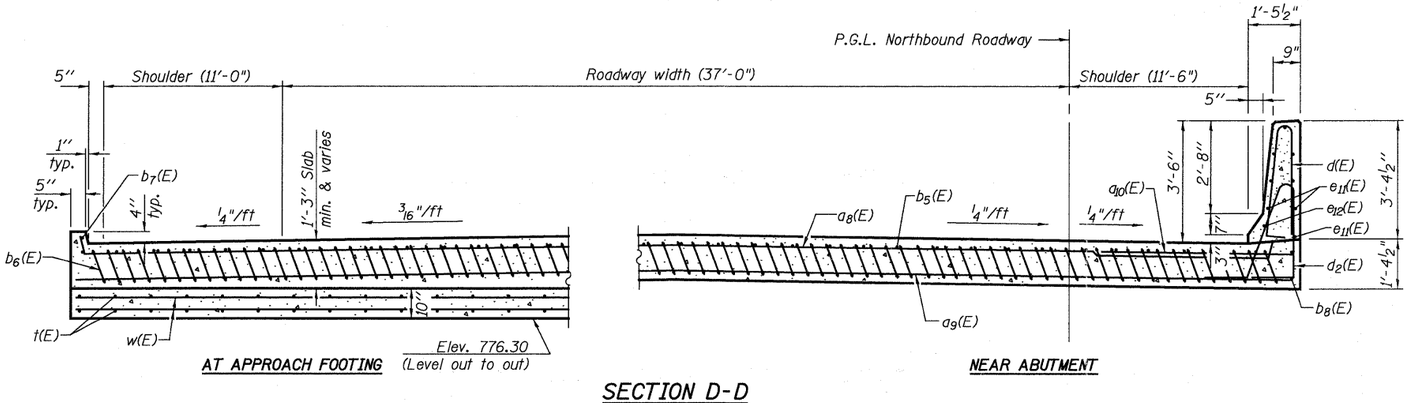
*** Cost included with Concrete Superstructure.



NEAR ABUTMENT **AT APPROACH FOOTING**

SECTION G-G

(See Plan for dimensions not shown)



AT APPROACH FOOTING **NEAR ABUTMENT**

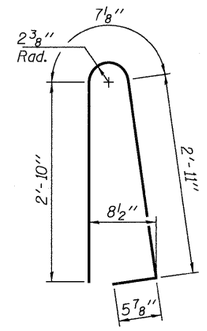
SECTION D-D

(See Plan for dimensions not shown)

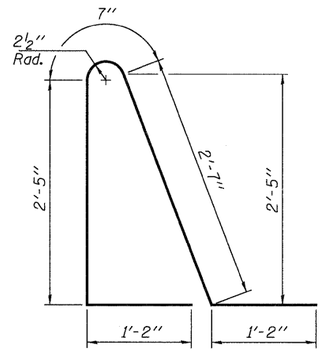
LAP LENGTH

#4 bars = 2'-1"
#5 bars = 2'-7"

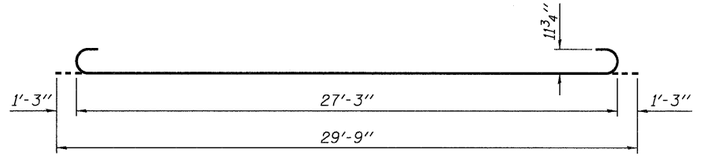
Notes:
See sheet 21 of 48 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 27 of 48.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 42 of 48.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 48.
For additional parapet details, see sheet 15 of 48.



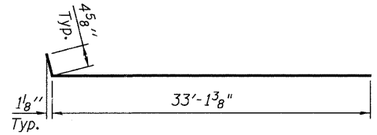
BAR d(E)



BAR d_2(E)



BAR b_6(E)



BAR a_8(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_8(E)	50	#4	33'-6"	
a_9(E)	92	#5	33'-3"	
a_{10}(E)	36	#6	6'-6"	
b_5(E)	48	#4	29'-8"	
b_6(E)	140	#9	29'-9"	
b_7(E)	2	#4	14'-8"	
b_8(E)	1	#4	29'-8"	
d(E)	50	#5	6'-10"	
d_2(E)	50	#5	7'-11"	
e_9(E)	8	#4	14'-8"	
e_{10}(E)	1	#8	14'-8"	
e_{11}(E)	8	#4	29'-8"	
e_{12}(E)	1	#8	29'-8"	
t(E)	124	#4	10'-0"	
w(E)	80	#5	32'-10"	
Concrete Superstructure			Cu. Yd.	98.6
Concrete Structures			Cu. Yd.	18.9
Reinforcement Bars, Epoxy Coated			Pound	24,505

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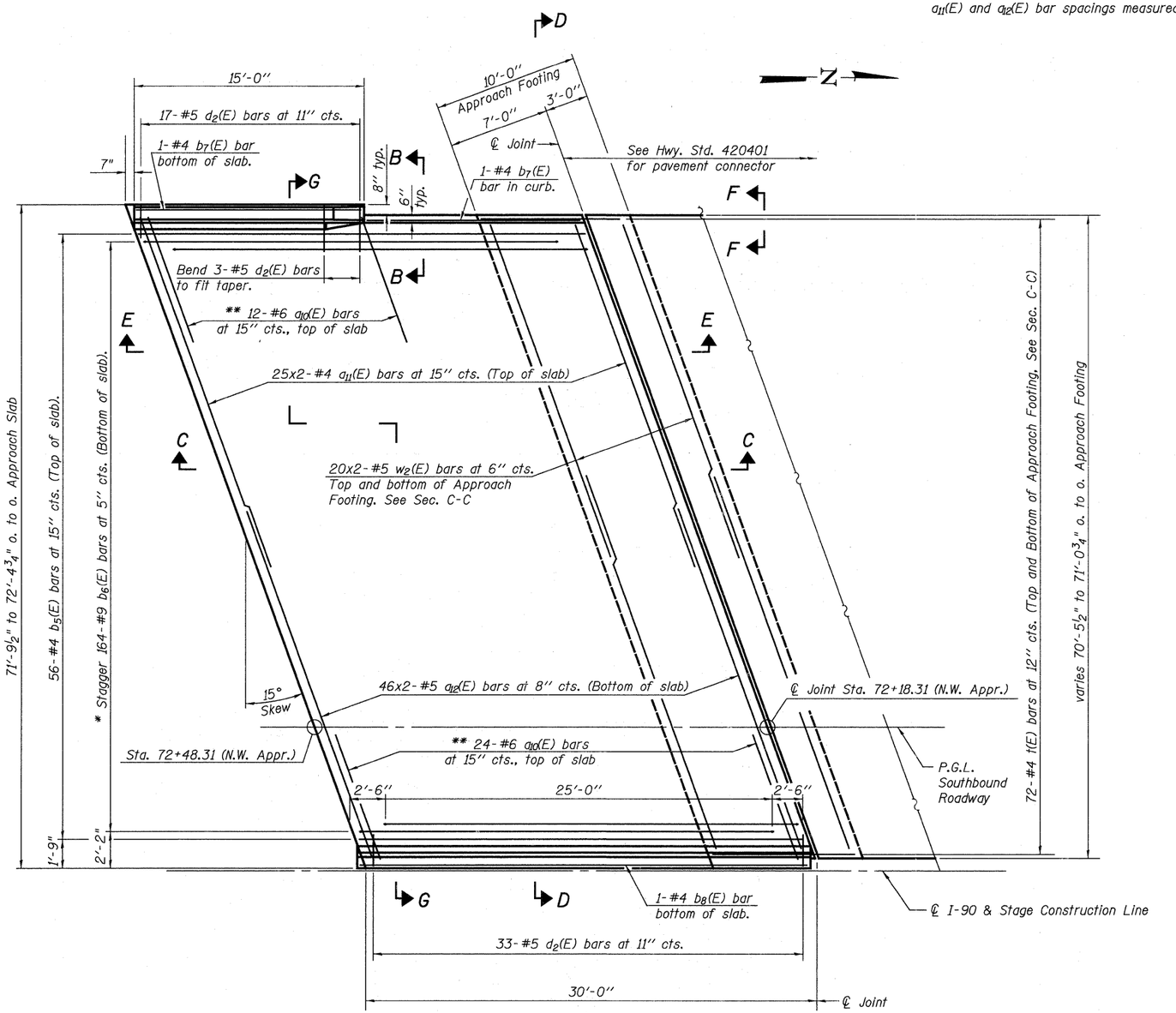
PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS S.E.
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 22 OF 48 SHEETS

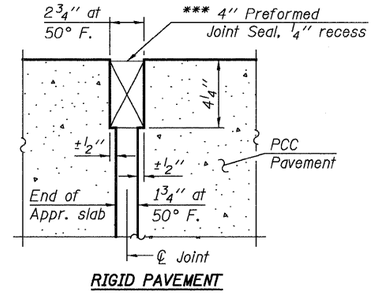
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	367
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

Notes:
See sheet 24 of 48 for Sections C-C, D-D and G-G.
$a_{11}(E)$ and $a_{12}(E)$ bar spacings measured along ℄ Rdwy.



PLAN

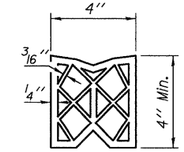
* Tilt #9 $b_6(E)$ bars as required to maintain clearance.
** Space between $a_{11}(E)$ bars, typ. each parapet.



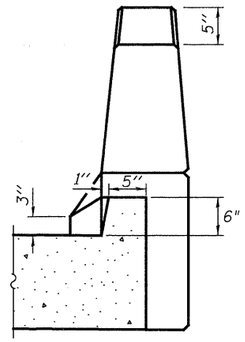
RIGID PAVEMENT

DETAIL A

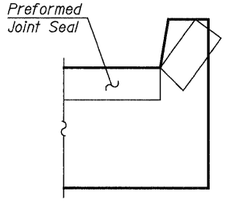
*** Cost included with Concrete Superstructure.



PREFORMED JOINT SEAL

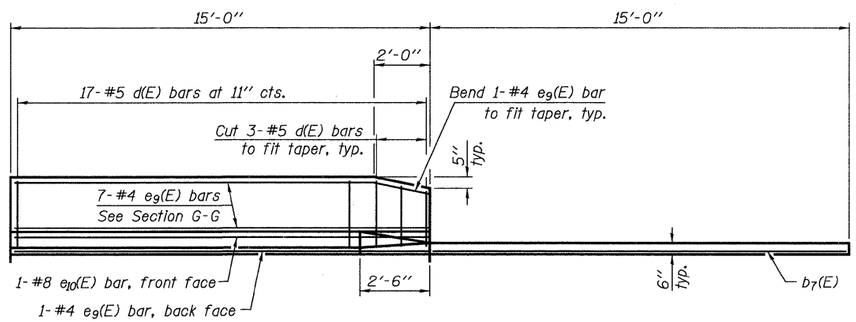


VIEW B-B



VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



VIEW E-E

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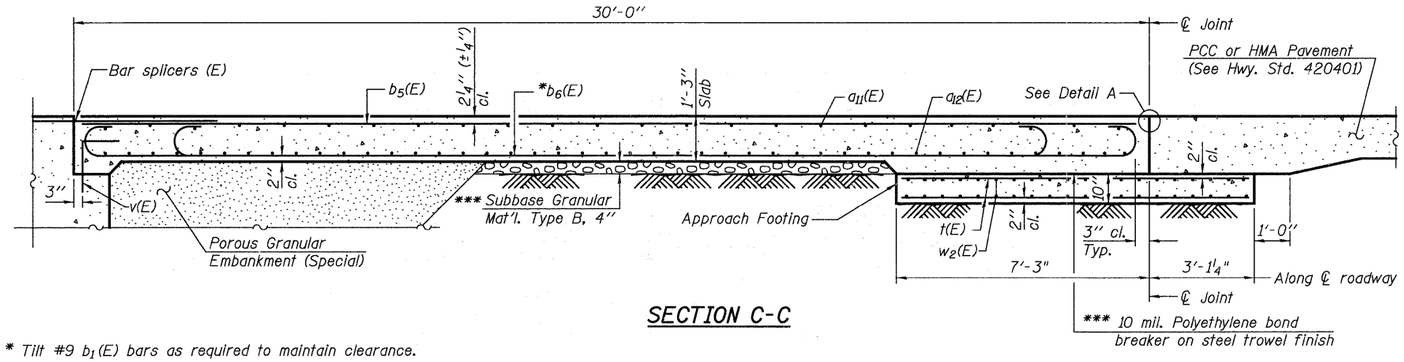
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS N.W.
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 23 OF 48 SHEETS

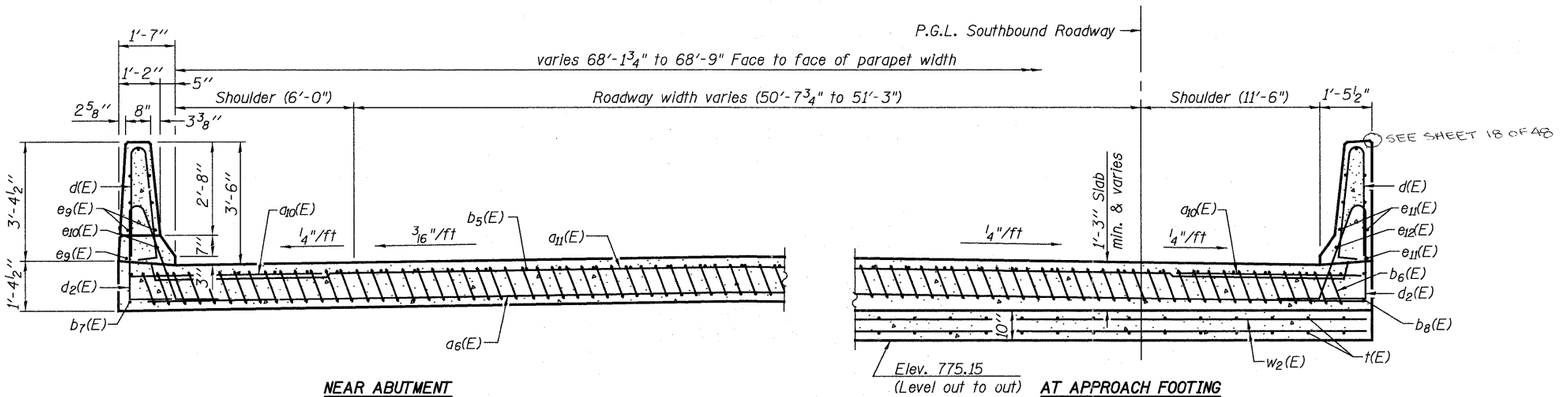
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	368
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



SECTION C-C

* Tilt #9 b_1(E) bars as required to maintain clearance.

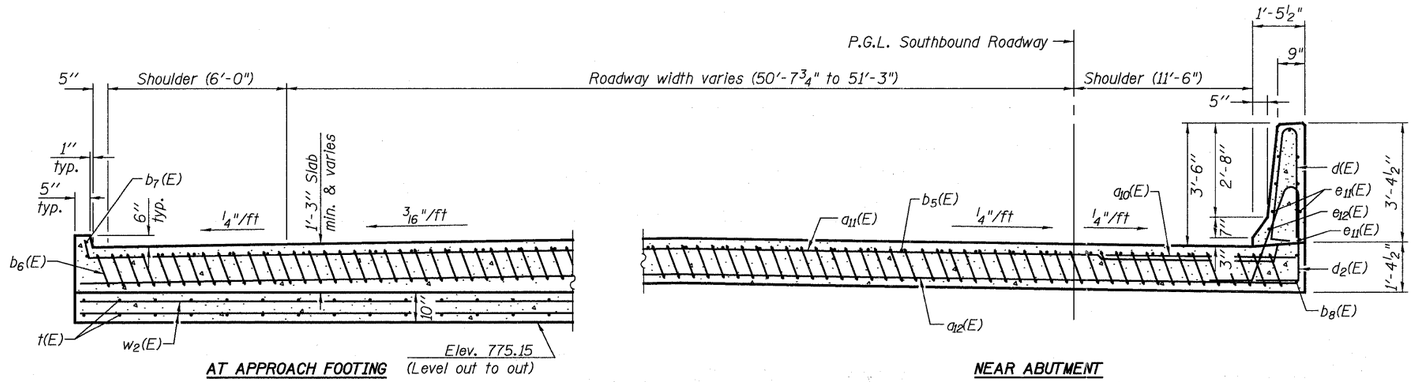
*** Cost included with Concrete Superstructure.



NEAR ABUTMENT — AT APPROACH FOOTING

SECTION G-G

(See Plan for dimensions not shown)



AT APPROACH FOOTING — NEAR ABUTMENT

SECTION D-D

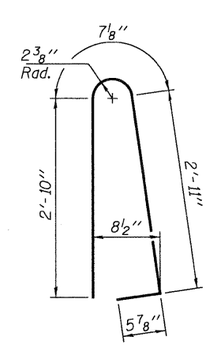
(See Plan for dimensions not shown)

LAP LENGTH

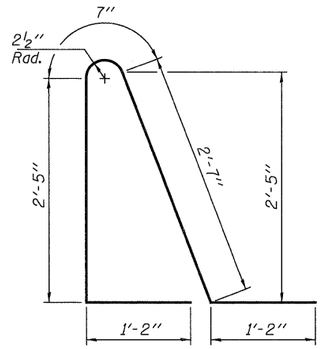
#4 bars = 2'-1"
#5 bars = 2'-7"

Notes:

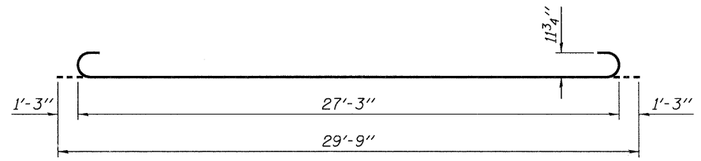
See sheet 23 of 48 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 28 of 48.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 42 of 48.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 48.
For additional parapet details, see sheet 17 of 48.



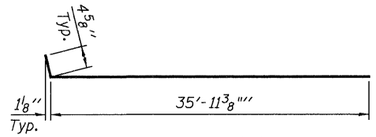
BAR d(E)



BAR d_2(E)



BAR b_6(E)



BAR a_{11}(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{10}(E)	36	#6	6'-6"	
a_{11}(E)	50	#4	38'-8"	
a_{12}(E)	92	#5	38'-4"	
b_5(E)	56	#4	29'-8"	
b_6(E)	164	#9	29'-9"	
b_7(E)	2	#4	14'-8"	
b_8(E)	1	#4	29'-8"	
d(E)	50	#5	6'-10"	
d_2(E)	50	#5	7'-11"	
e_9(E)	8	#4	14'-8"	
e_{10}(E)	1	#8	14'-8"	
e_{11}(E)	8	#4	29'-8"	
e_{12}(E)	1	#8	29'-8"	
t(E)	144	#4	10'-0"	
w_2(E)	80	#5	37'-11"	
Concrete Superstructure			Cu. Yd.	113.0
Concrete Structures			Cu. Yd.	21.9
Reinforcement Bars, Epoxy Coated			Pound	28,309

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PLOT DATE =	CHECKED - JTT	REVISED -

STATE OF ILLINOIS
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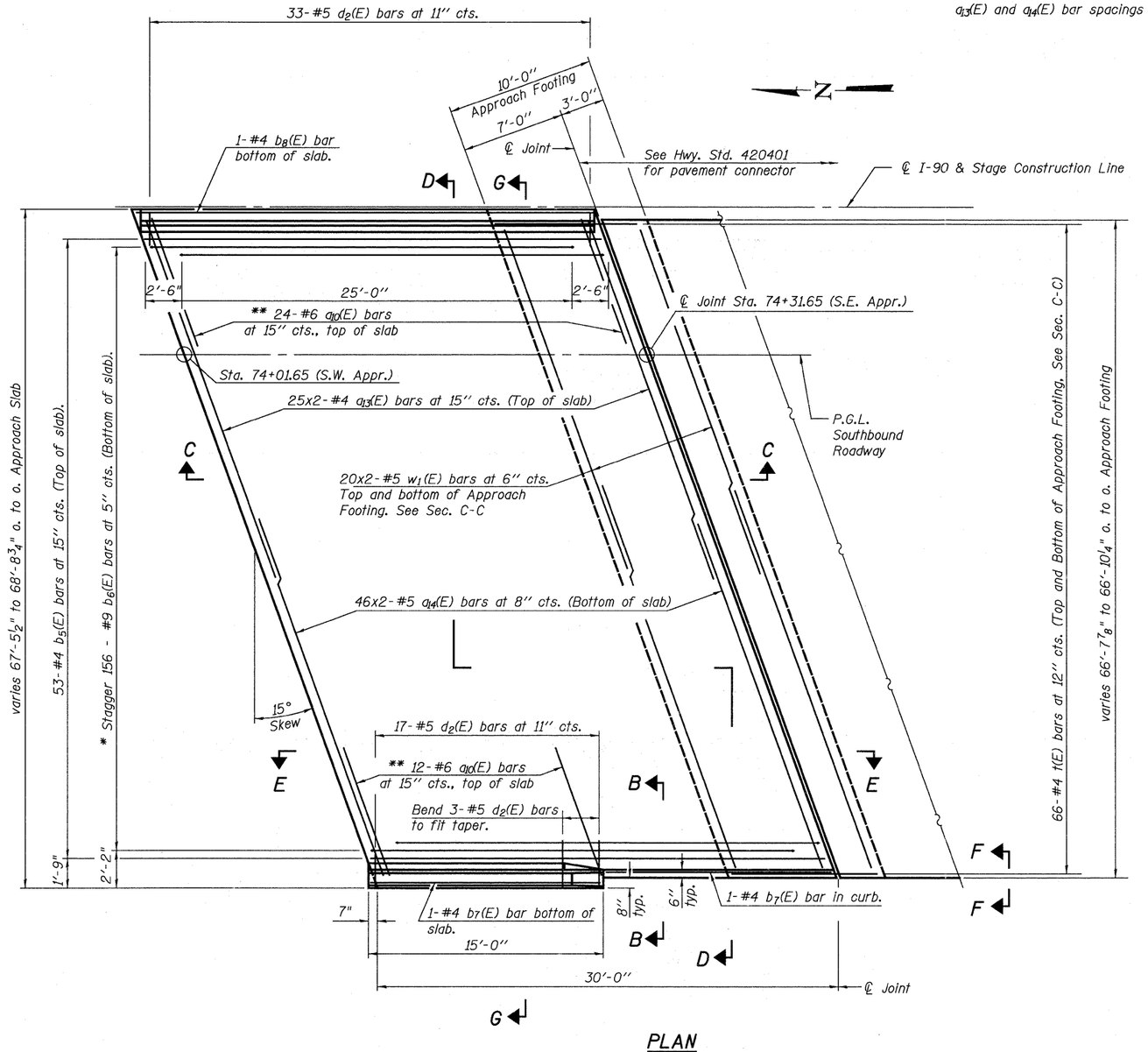
BRIDGE APPROACH SLAB DETAILS N.W.
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 24 OF 48 SHEETS

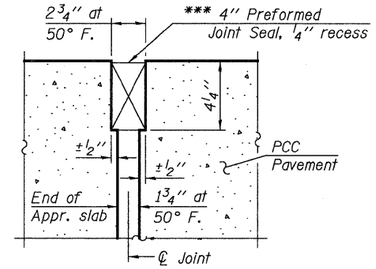
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	369
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

Notes:
See sheet 26 of 48 for Sections C-C, D-D and G-G.
a_{13}(E) and a_{14}(E) bar spacings measured along ℄ Rdwy.

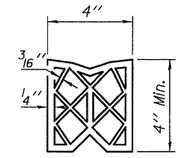


PLAN

* Tilt #9 b_6(E) bars as required to maintain clearance.
** Space between a_{13}(E) bars, typ. each parapet.



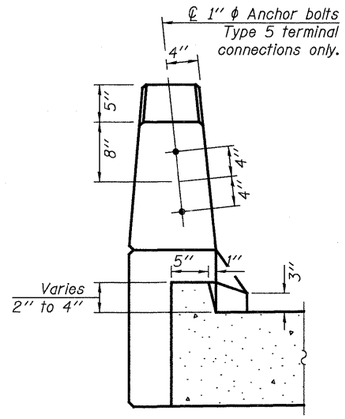
RIGID PAVEMENT



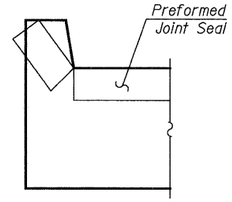
PREFORMED JOINT SEAL

DETAIL A

*** Cost included with Concrete Superstructure.

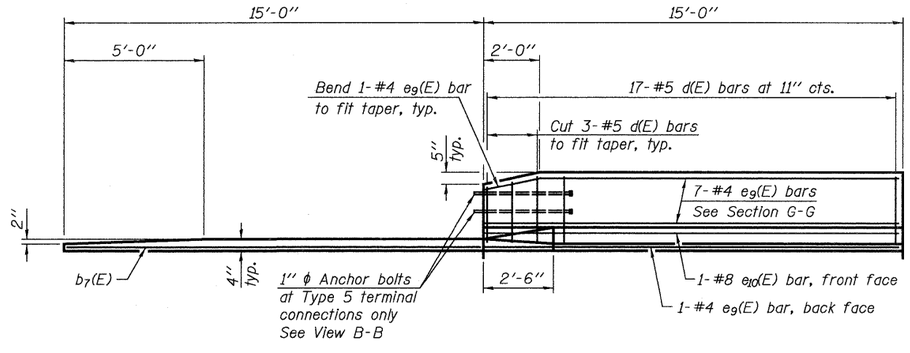


VIEW B-B



VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



VIEW E-E

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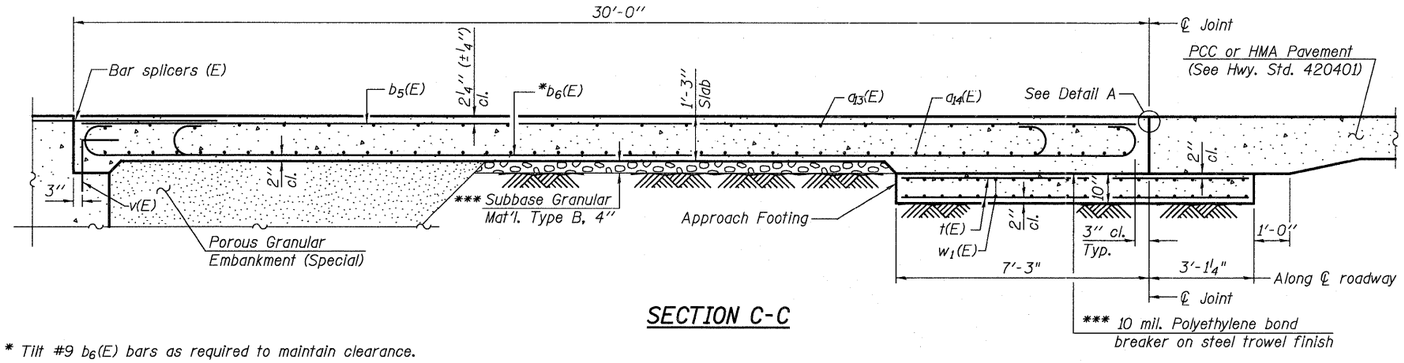
PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS S.W.
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 25 OF 48 SHEETS

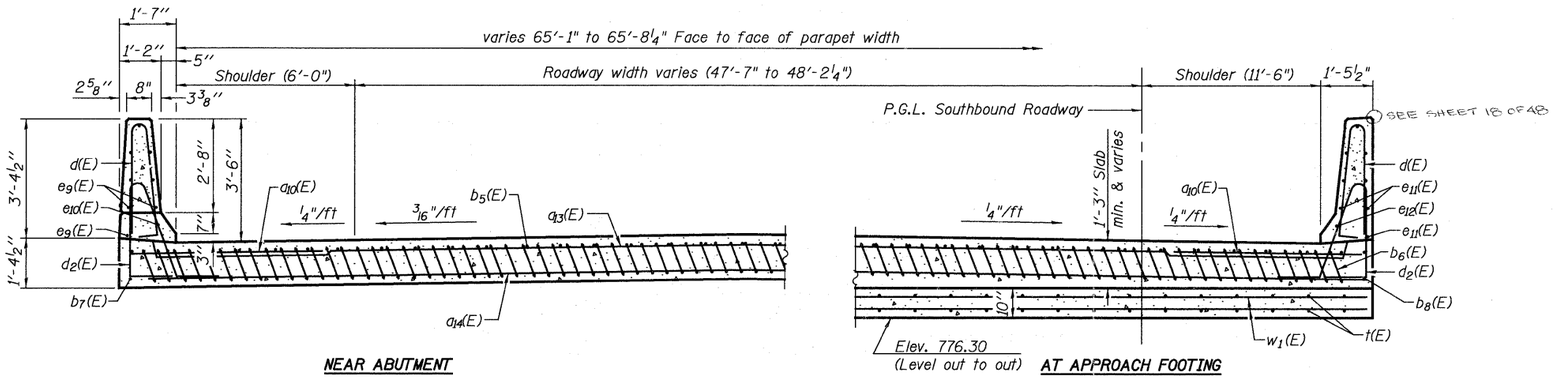
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	370
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



SECTION C-C

* Tilt #9 b_6(E) bars as required to maintain clearance.

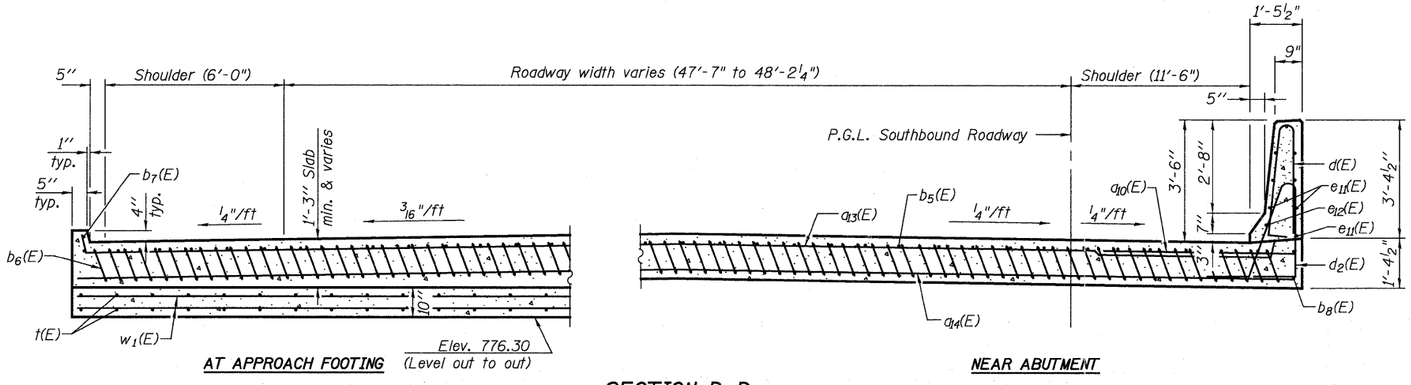
*** Cost included with Concrete Superstructure.



NEAR ABUTMENT — AT APPROACH FOOTING

SECTION G-G

(See Plan for dimensions not shown)



AT APPROACH FOOTING — NEAR ABUTMENT

SECTION D-D

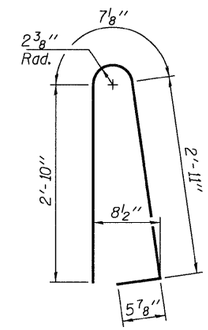
(See Plan for dimensions not shown)

LAP LENGTH

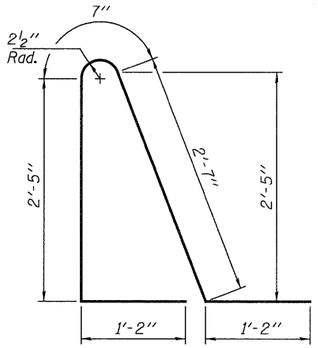
#4 bars = 2'-1"
#5 bars = 2'-7"

Notes:

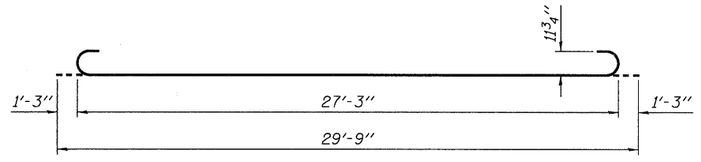
See sheet 25 of 48 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 28 of 48.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 42 of 48.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 48.
For additional parapet details, see sheet 17 of 48.



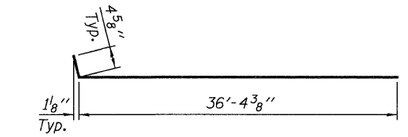
BAR d(E)



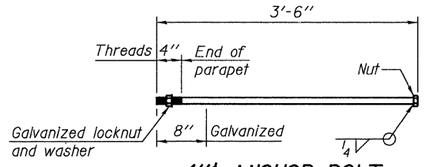
BAR d_2(E)



BAR b_6(E)



BAR a_{13}(E)



1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{10}(E)	36	#6	6'-6"	
a_{13}(E)	50	#4	36'-9"	
a_{14}(E)	92	#5	36'-6"	
b_5(E)	53	#4	29'-8"	
b_6(E)	156	#9	29'-9"	
b_7(E)	2	#4	14'-8"	
b_8(E)	1	#4	29'-8"	
d(E)	50	#5	6'-10"	
d_2(E)	50	#5	7'-11"	
e_9(E)	8	#4	14'-8"	
e_{10}(E)	1	#8	14'-8"	
e_{11}(E)	8	#4	29'-8"	
e_{12}(E)	1	#8	29'-8"	
t(E)	132	#4	10'-0"	
w_1(E)	80	#5	35'-9"	
Concrete Superstructure			Cu. Yd.	107.0
Concrete Structures			Cu. Yd.	20.4
Reinforcement Bars, Epoxy Coated			Pound	26,940

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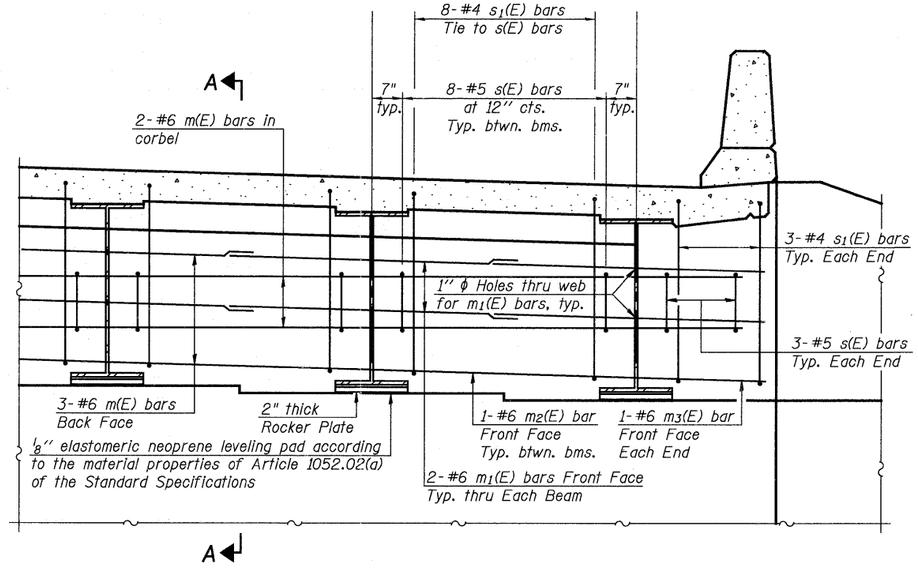
BRIDGE APPROACH SLAB DETAILS S.W.
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 26 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	371
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



DIAPHRAGM ELEVATION AT ABUTMENT

(Looking North at the North Abutment)

Notes:

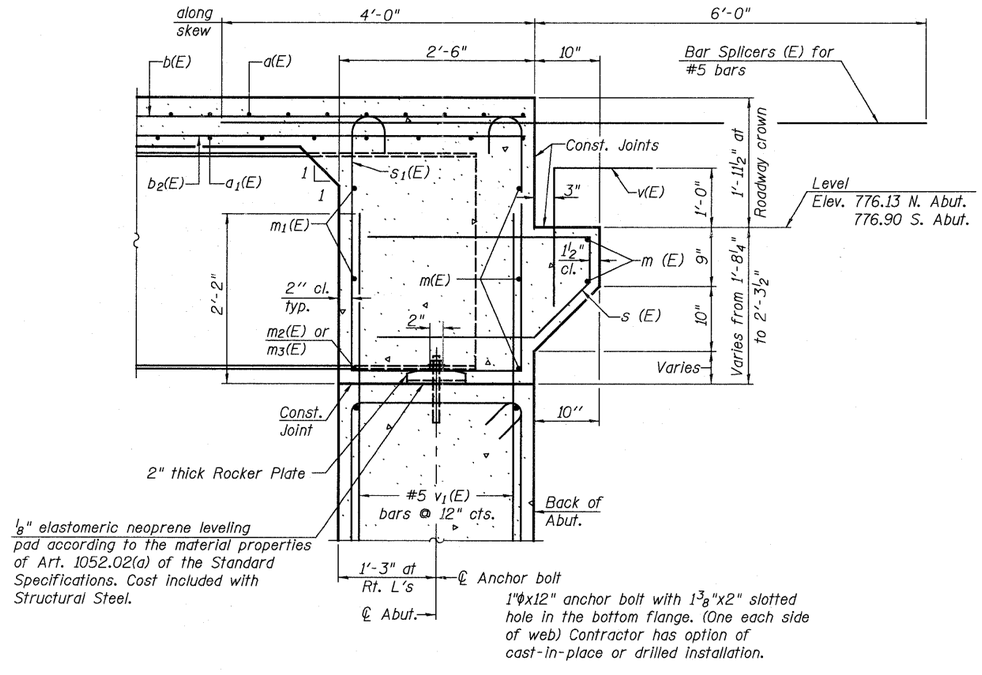
Reinforcement bars in diaphragm are billed with superstructure on sheet 15 of 48.

Concrete in diaphragm is included with Concrete Superstructure on sheet 15 of 48.

The s(E) and s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

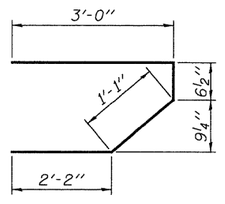
MIN. BAR LAP

#6 bar = 3'-4"

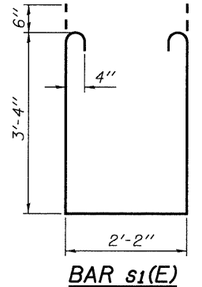


SECTION A-A

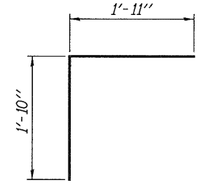
Dimensions at right angles to abutment, except as shown.



BAR s(E)



BAR s_1(E)



BAR v(E)

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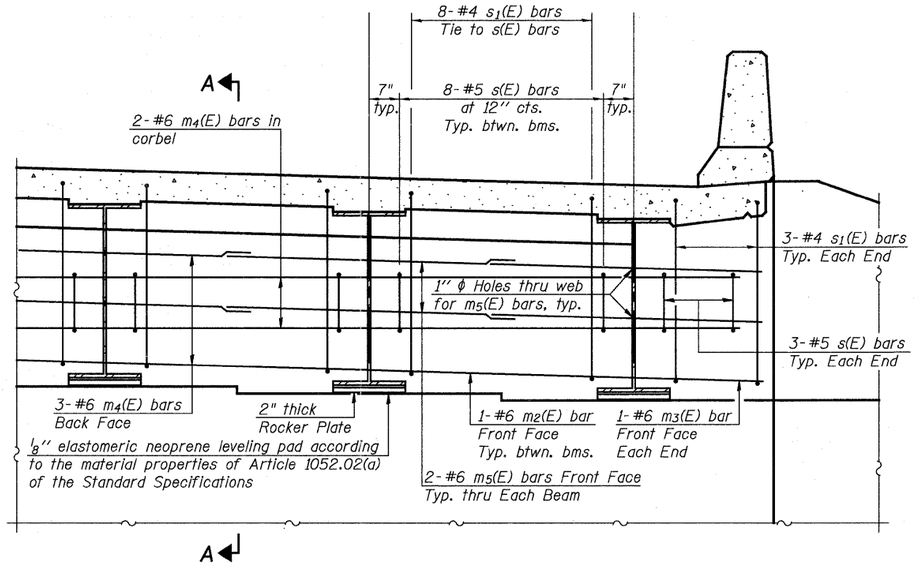
DIAPHRAGM DETAILS N.B.
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 27 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	372
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



DIAPHRAGM ELEVATION AT ABUTMENT

(Looking South at the South Abutment)

Notes:

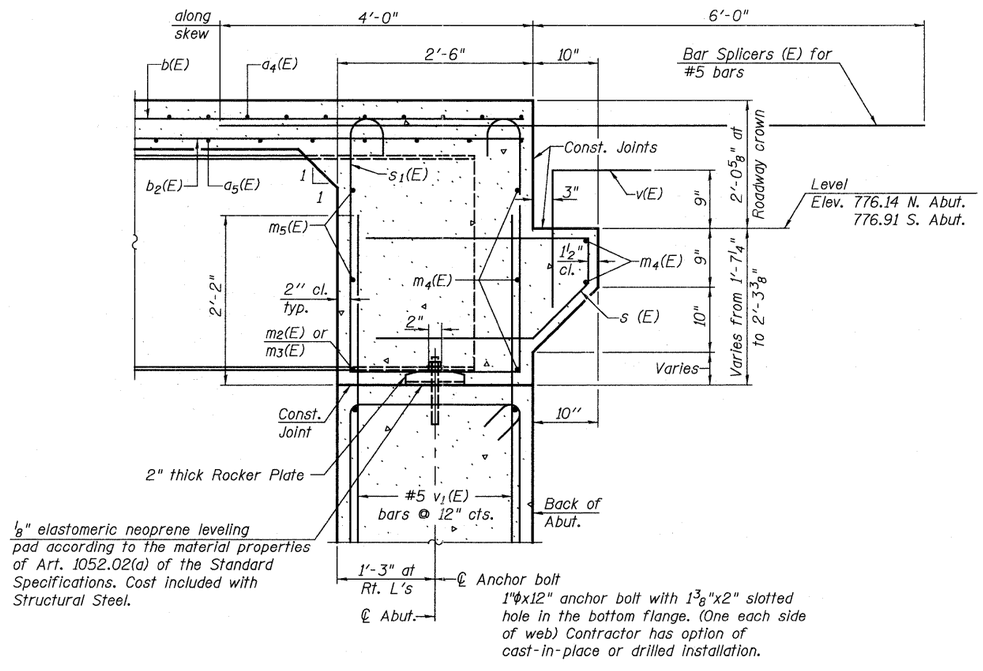
Reinforcement bars in diaphragm are billed with superstructure on sheet 17 of 48.

Concrete in diaphragm is included with Concrete Superstructure on sheet 17 of 48.

The s(E) and s (E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

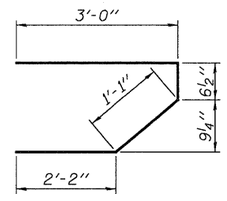
MIN. BAR LAP

#6 bar = 3'-4"

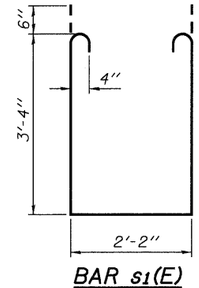


SECTION A-A

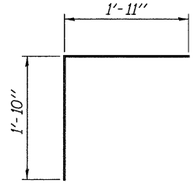
Dimensions at right angles to abutment, except as shown.



BAR s(E)



BAR s_1(E)



BAR v(E)

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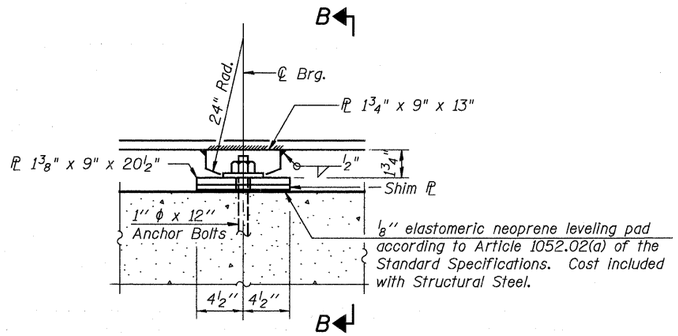
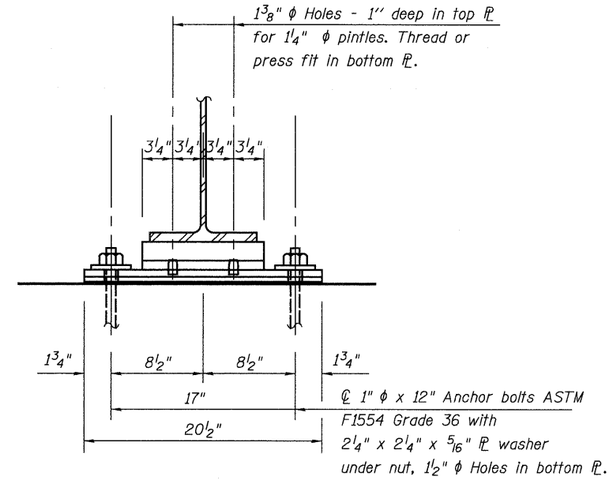
DIAPHRAGM DETAILS S.B.
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 28 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	373
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



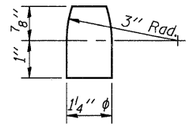
ELEVATION



SECTION B-B

FIXED BEARING AT PIERS

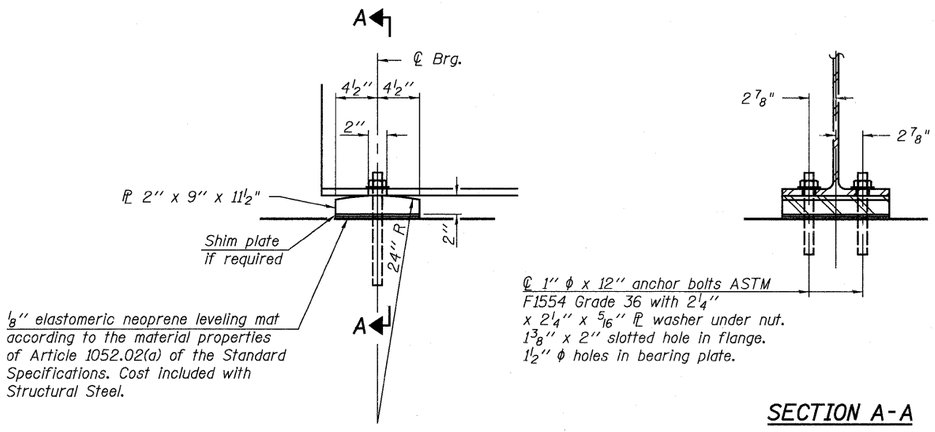
(34 Required)



DETAIL OF PINTLE

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Anchor Bolts, 1" ϕ	Each	136



ELEVATION AT ABUTMENT

SECTION A-A

FIXED BEARING AT ABUTMENTS

(34 Required)

NOTES

All steel for plates and pintels shall be Grade 50.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Anchor bolts at fixed bearings may either be cast-in-place or installed in holes after the supported member is in place.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified.

The corresponding specified grade os AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

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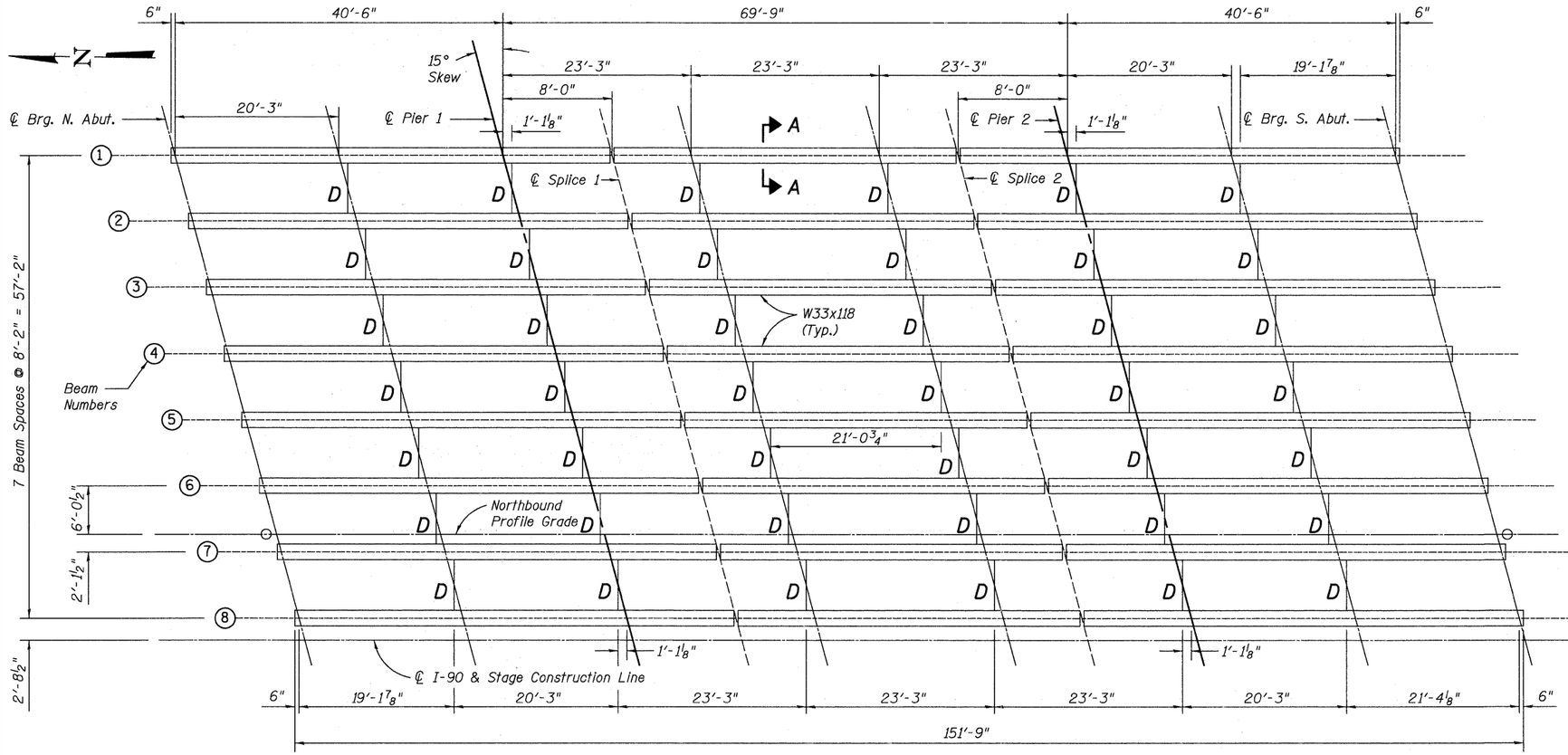
DEPARTMENT OF TRANSPORTATION

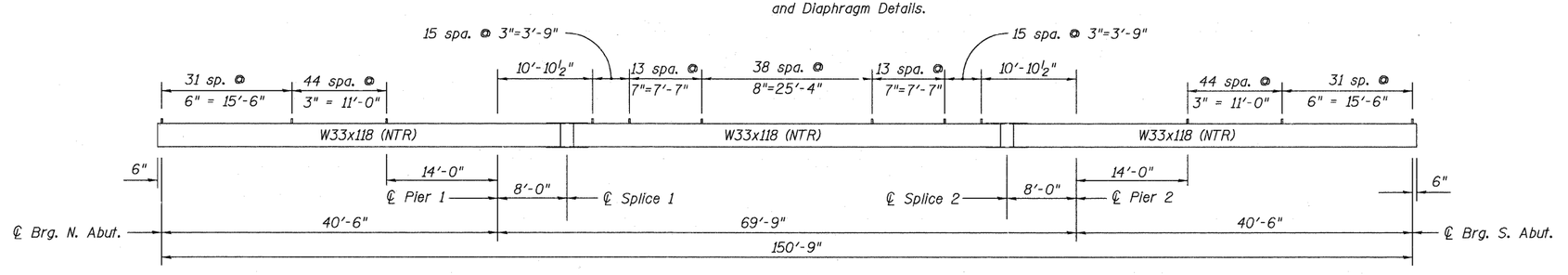
BEARING DETAILS
STRUCTURE NO. 101-0193 & 101-0194
BRIDGE SHEET NO. 29 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	374
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



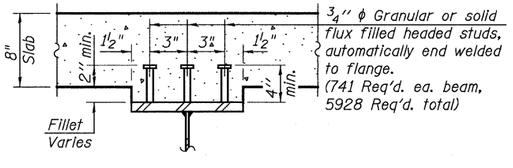
FRAMING PLAN

See Sheet 32 of 48 for Splice and Diaphragm Details.



BEAM ELEVATION

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2



3/4" ϕ Granular or solid flux filled headed studs, automatically end welded to flange. (741 Req'd. ea. beam, 5928 Req'd. total)

SECTION A-A

*INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
R_{DC1}	(k)	12.30	61.81
R_{DC2}	(k)	1.48	6.97
R_{DW}	(k)	4.91	23.14
R_{L+IM}	(k)	72.70	108.67
R_{Total}	(k)	91.39	200.59

* Service Loads

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7	Beam 8
℄ Brg. N. Abut.	776.94	777.12	777.27	777.36	777.24	777.09	776.93	776.77
Pier 1	777.11	777.29	777.44	777.53	777.41	777.26	777.10	776.95
Splice 1	777.18	777.36	777.51	777.60	777.48	777.33	777.17	777.02
Splice 2	777.39	777.57	777.72	777.81	777.69	777.54	777.38	777.22
Pier 2	777.46	777.64	777.79	777.88	777.76	777.61	777.45	777.29
℄ Brg. S. Abut.	777.69	777.88	778.02	778.11	777.99	777.85	777.69	777.53

TOP OF BEAM ELEVATIONS

For Fabrication Only

INTERIOR GIRDER MOMENT TABLE		0.4 Sp. 1 or 0.6 Sp. 3	Pier	0.5 Sp. 2
I_s	(in^4)	5,900	5,900	5,900
$I_c(n)$	(in^4)	17,256	-	17,256
$I_c(3n)$	(in^4)	12,993	-	12,993
S_s	(in^3)	359	359	359
$S_c(n)$	(in^3)	549	-	549
$S_c(3n)$	(in^3)	500	-	500
Z	(in^3)	-	415	-
DC1	(k/')	1.001	1.485	1.001
M_{DC1}	('k)	66	474	254
DC2	(k/')	0.112	-	0.112
M_{DC2}	('k)	10	-	36
DW	(k/')	0.372	-	0.372
M_{DW}	('k)	32	-	120
M_{L+IM}	('k)	470	402	729
M_U (Strength I)	('k)	966	1322	1818
$\phi_f M_n$, $\phi_f M_{nc}$	('k)	3053	1729	3053
f_s DC1	(ksi)	2.2	15.8	8.5
f_s DC2	(ksi)	0.24	-	0.86
f_s DW	(ksi)	0.77	-	2.9
f_s 1.3(L+IM)	(ksi)	13.4	17.5	20.7
f_s (Service II)	(ksi)	16.6	33.3	33.0
f_s (Total)(Strength I)	(ksi)	-	-	-
V_f	(k)	43.1	-	44.2

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations ($in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_U (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+IM}$

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

V_f: Factored shear range computed according to Article 6.10.10.

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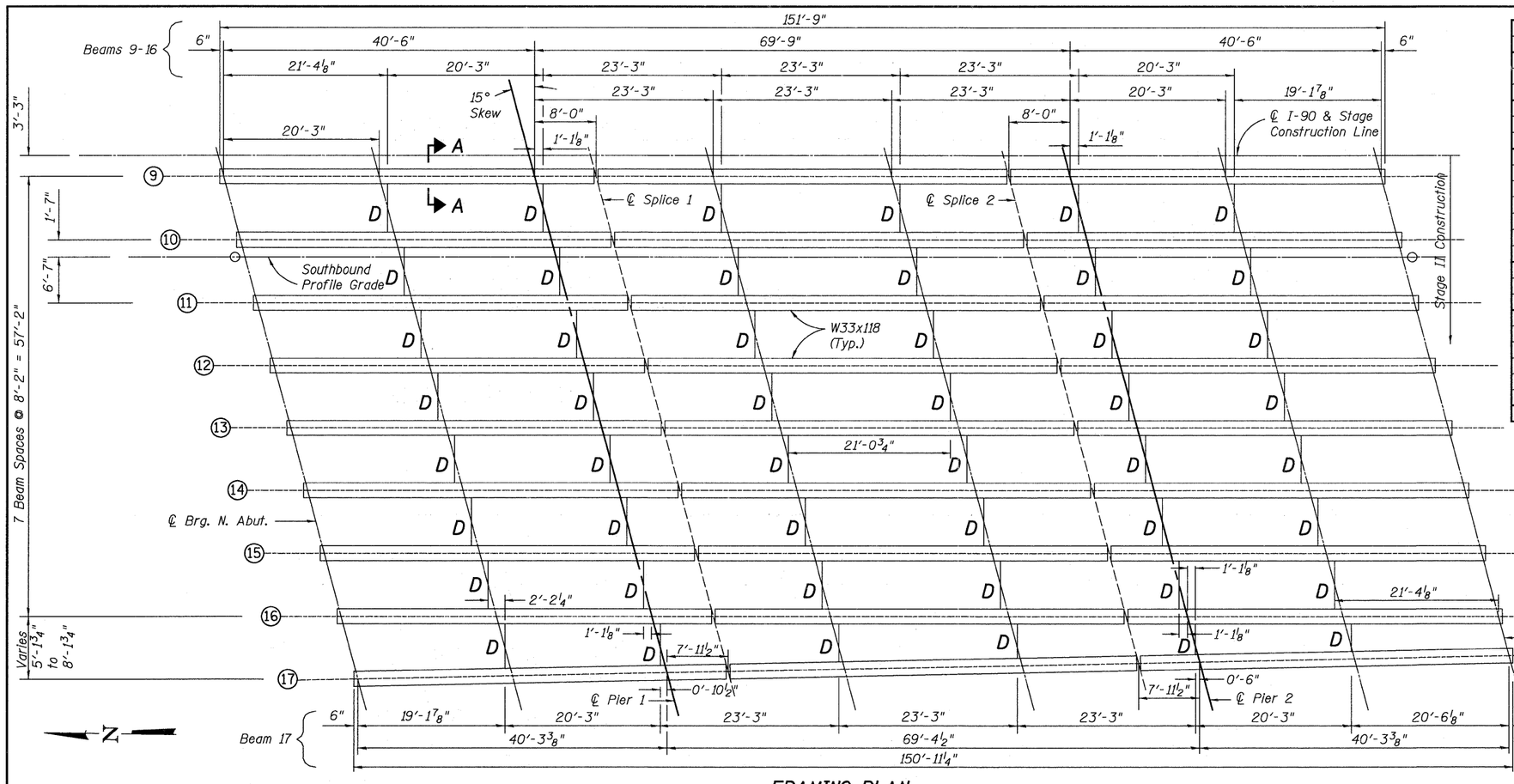
FRAMING PLAN N.B.
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 30 OF 48 SHEETS

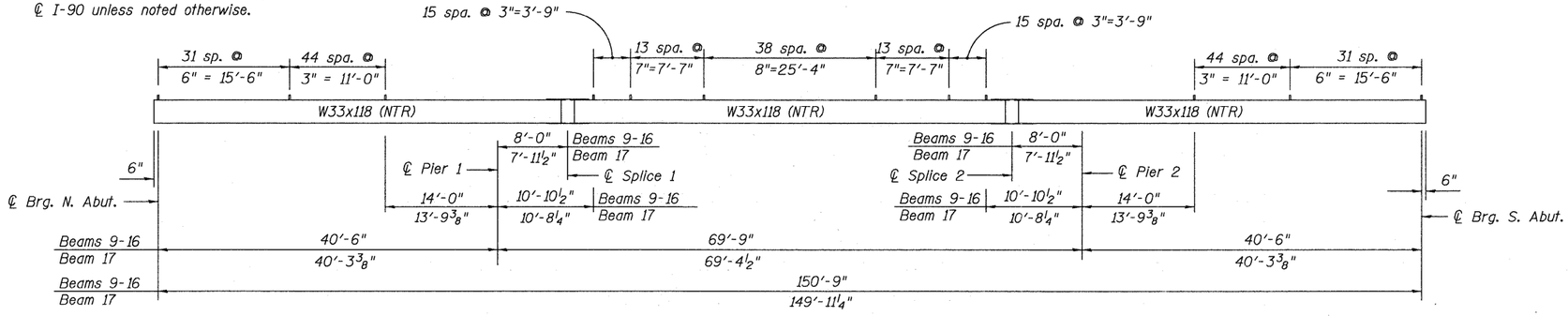
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	375
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



FRAMING PLAN

See Sheet 32 of 48 for Splice and Diaphragm Details.

Note: Dimensions are at RT angles or parallel to ℄ I-90 unless noted otherwise.



BEAM ELEVATION

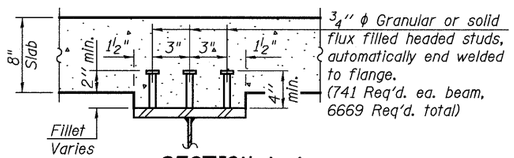
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2

Location	Beam 9	Beam 10	Beam 11	Beam 12	Beam 13	Beam 14	Beam 15	Beam 16	Beam 17
℄ Brg. N. Abut.	776.79	776.97	777.16	777.32	777.46	777.38	777.25	777.09	776.93
Pier 1	776.96	777.15	777.33	777.49	777.63	777.55	777.42	777.26	777.12
Splice 1	777.03	777.22	777.40	777.56	777.70	777.62	777.49	777.33	777.19
Splice 2	777.24	777.42	777.61	777.77	777.91	777.83	777.63	777.54	777.42
Pier 2	777.31	777.49	777.68	777.84	777.98	777.90	777.70	777.61	777.49
℄ Brg. S. Abut.	777.55	777.73	777.91	778.08	778.21	778.13	778.00	777.84	777.74

TOP OF BEAM ELEVATIONS

For Fabrication Only

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier	0.5 Sp. 2
I_s	(in^4)	5,900	5,900	5,900
$I_c(n)$	(in^4)	17,256	-	17,256
$I_c(3n)$	(in^4)	12,993	-	12,993
S_s	(in^3)	359	359	359
$S_c(n)$	(in^3)	549	-	549
$S_c(3n)$	(in^3)	500	-	500
Z	(in^3)	-	415	-
DC1	(k/')	1.001	1.485	1.001
M_{DC1}	('k)	66	474	254
DC2	(k/')	0.112	-	0.112
M_{DC2}	('k)	10	-	36
DW	(k/')	0.372	-	0.372
M_{DW}	('k)	32	-	120
M_{L+IM}	('k)	470	402	729
M_u (Strength I)	('k)	966	1322	1818
$\phi_f M_n$, $\phi_f M_{nc}$	('k)	3053	1729	3053
f_s DC1	(ksi)	2.2	15.8	8.5
f_s DC2	(ksi)	0.24	-	0.86
f_s DW	(ksi)	0.77	-	2.9
f_s 1.3(L+IM)	(ksi)	13.4	17.5	20.7
f_s (Service II)	(ksi)	16.6	33.3	33.0
f_s (Total)(Strength I)	(ksi)	-	-	-
V_f	(k)	43.1	-	44.2



SECTION A-A

3/4" ϕ Granular or solid flux filled headed studs, automatically end welded to flange. (741 Req'd. ea. beam, 6669 Req'd. total)

* INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
R_{DC1}	(k)	12.30	61.81
R_{DC2}	(k)	1.48	6.97
R_{DW}	(k)	4.91	23.14
R_{L+IM}	(k)	72.70	108.67
R_{Total}	(k)	91.39	200.59

* Service Loads

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations ($in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.). $1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi). $M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+IM}$

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi). $1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

V_f: Factored shear range computed according to Article 6.10.10.

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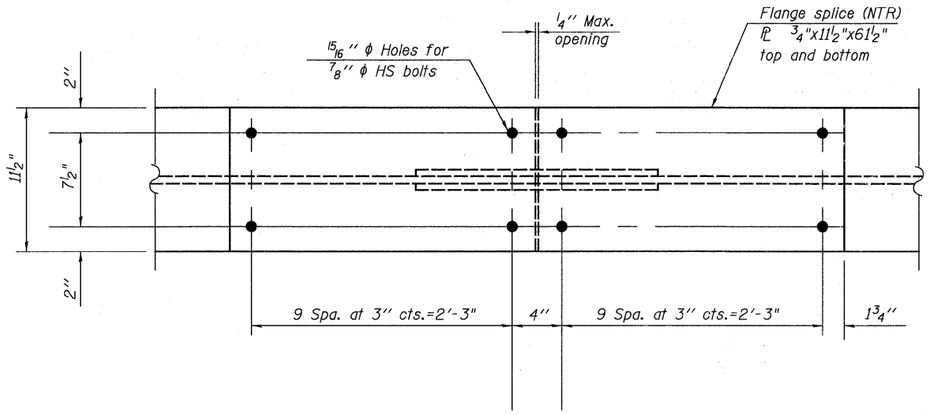
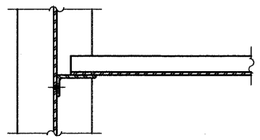
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN S.B.
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 31 OF 48 SHEETS

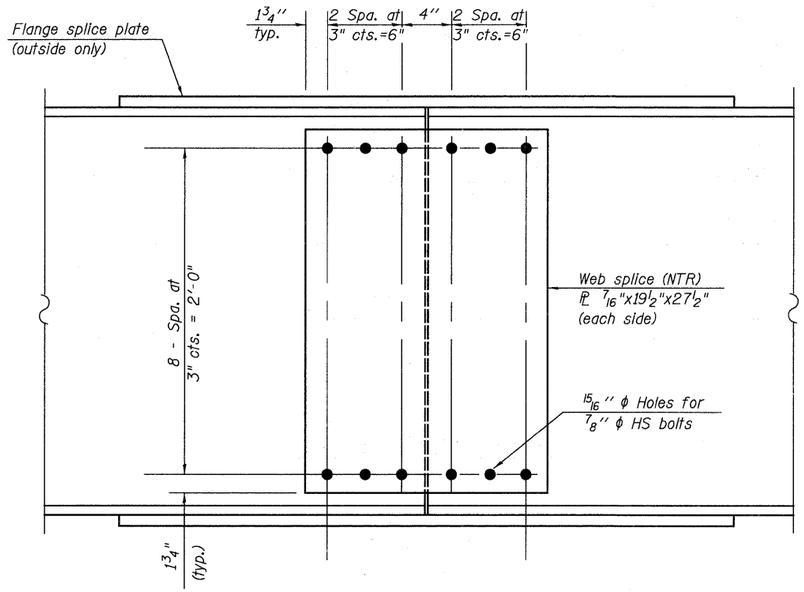
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	376
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			



FLANGE SPLICE PLATE

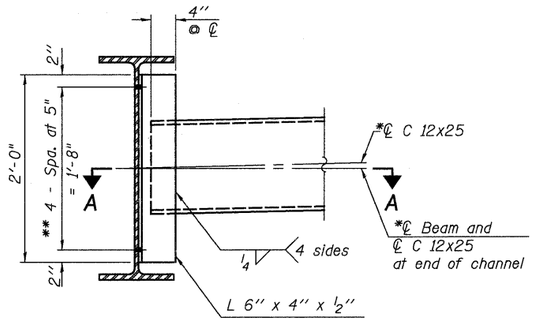


SECTION A-A



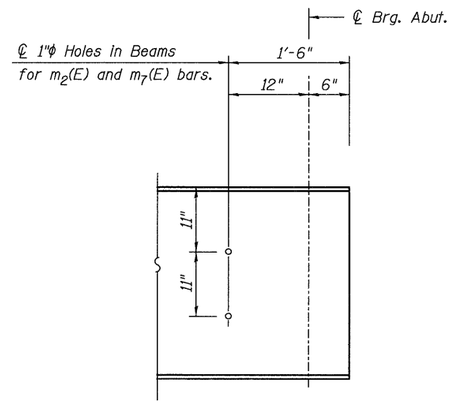
WEB SPLICE PLATE

(34 Required)



INTERIOR DIAPHRAGM

Note:
Two hardened washers required for each set of oversized holes.
*Alternate channels (C 12x30) are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.
**3/4" ϕ HS bolts, 15/16" ϕ holes



TYP. END OF BEAM ELEVATION

NOTES

All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

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PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

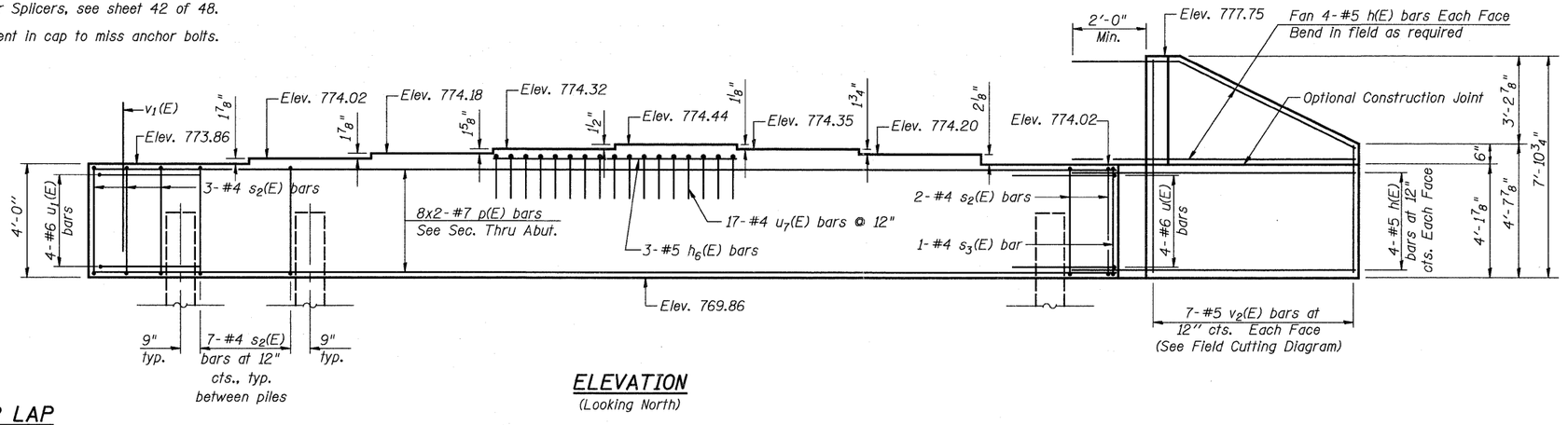
FRAMING DETAILS
STRUCTURE NO. 101-0193 & 101-0194
BRIDGE SHEET NO. 32 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	377
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

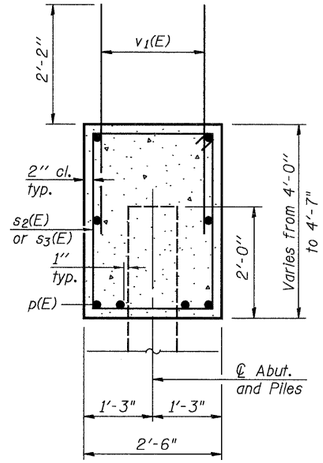
Notes:
Pour steps monolithically with cap.

For details of Bar Splicers, see sheet 42 of 48.

Space reinforcement in cap to miss anchor bolts.

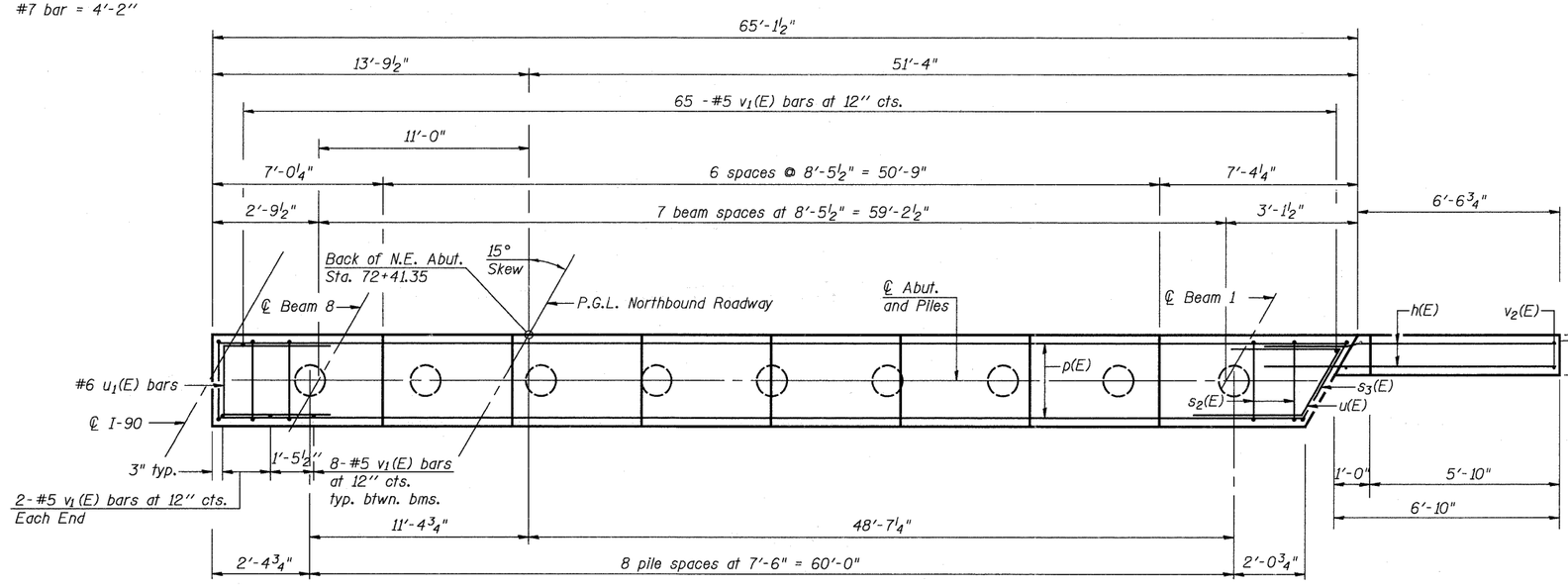


ELEVATION
(Looking North)

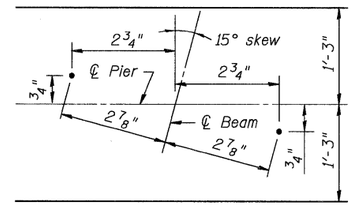


SEC. THRU ABUT.

MINIMUM BAR LAP
#7 bar = 4'-2"



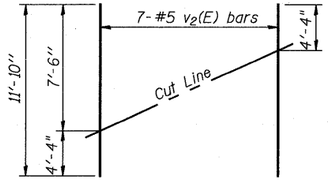
PLAN



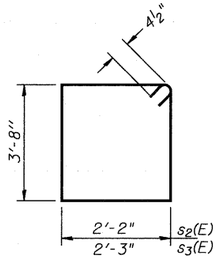
TYPICAL ANCHOR BOLT LOCATION

PILE DATA

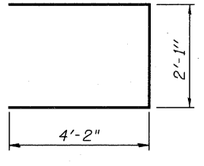
Type: 14" ϕ Metal Shell w/ 0.25" walls
Nominal Required Bearing: 364 Kips/Pile
Factored Resistance Available: 200 Kips/Pile
Est. Length: 46 Feet
No. Production Piles: 8
No. Test Piles: 1



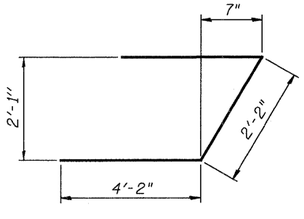
FIELD CUTTING DIAGRAM
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



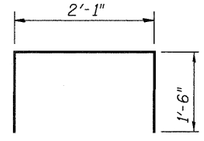
BARS s2(E) & s3(E)



BAR u1(E)



BAR u(E)



BAR u7(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	9'-8"	——
h6(E)	3	#5	16'-5"	——
p(E)	16	#7	34'-6"	——
s2(E)	61	#4	12'-5"	☐
s3(E)	1	#4	12'-7"	☐
u(E)	4	#6	10'-6"	⌐
u1(E)	4	#6	10'-5"	⌐
u7(E)	17	#4	5'-1"	⌐
v1(E)	125	#5	4'-10"	——
v2(E)	7	#5	11'-10"	——
Structure Excavation		Cu. Yd.	36.3	
Concrete Structures		Cu. Yd.	26.6	
Reinforcement Bars, Epoxy Coated		Pound	2765	
Furnishing Metal Shell Piles, 14"ϕ x 0.250"		Foot	370	
Driving Piles		Foot	370	
Test Pile, Metal Shells		Each	1	

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

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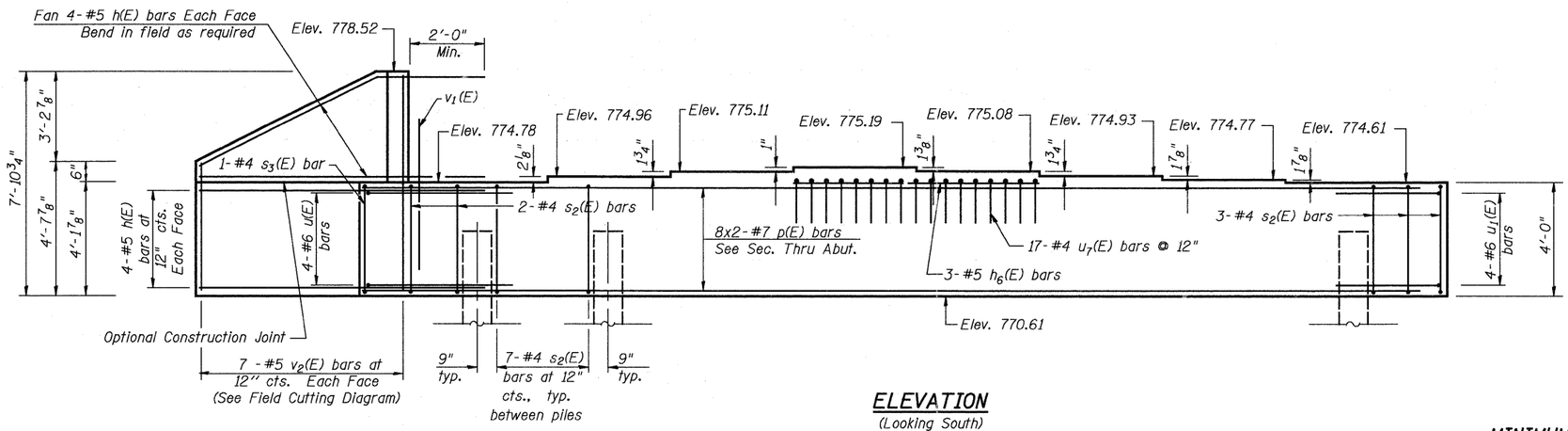
PLOT DATE =	CHECKED - JTT	REVISED -

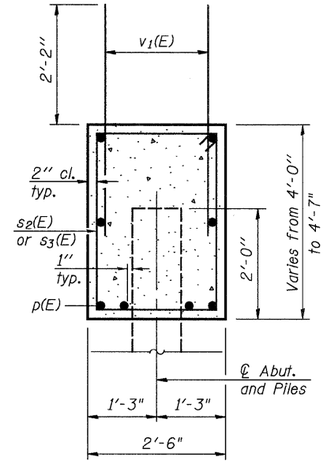
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTHEAST ABUTMENT DETAILS
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 33 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	378
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



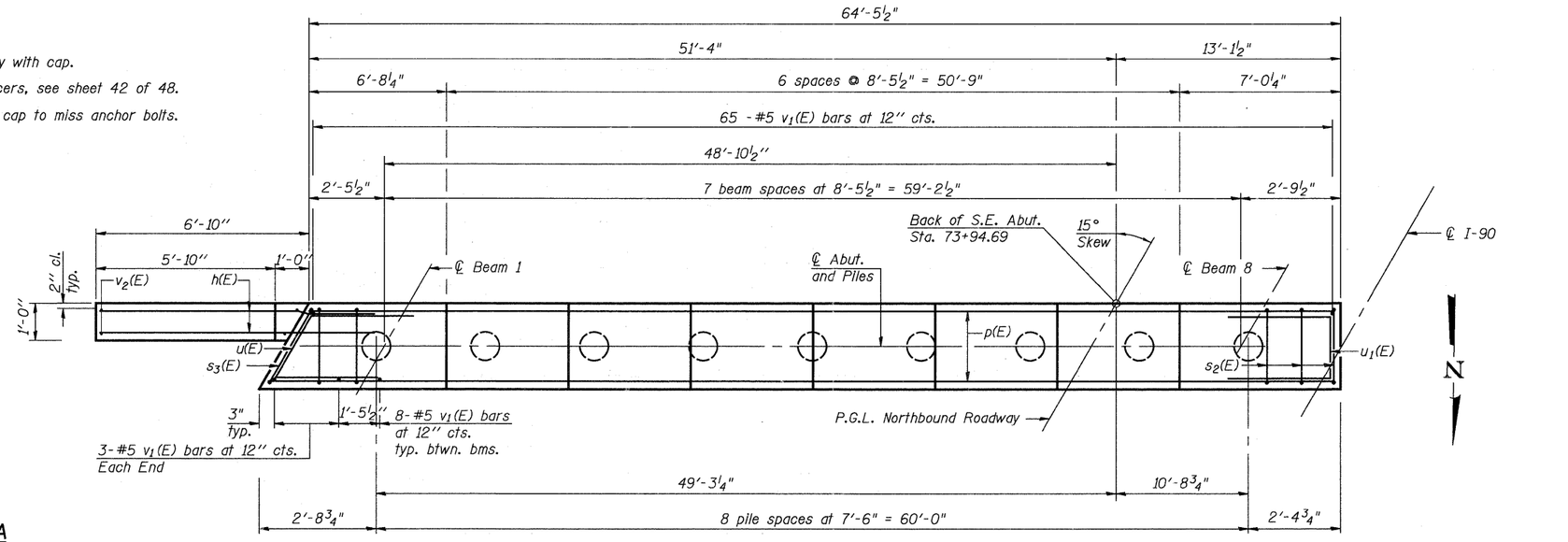
ELEVATION
(Looking South)



SEC. THRU ABUT.

MINIMUM BAR LAP
#7 bar = 4'-2"

Notes:
- Pour steps monolithically with cap.
- For details of Bar Splicers, see sheet 42 of 48.
- Space reinforcement in cap to miss anchor bolts.

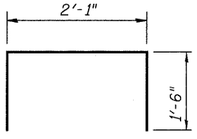


PLAN

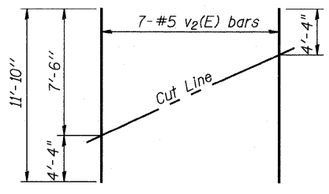
TYPICAL ANCHOR BOLT LOCATION

PILE DATA

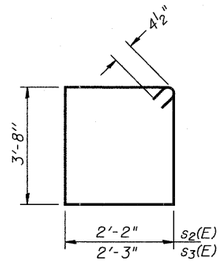
Type: 14" ϕ Metal Shell w/ 0.25" walls
Nominal Required Bearing: 364 Kips/Pile
Factored Resistance Available: 200 Kips/Pile
Est. Length: 46 Feet
No. Production Piles: 8
No. Test Piles: 1



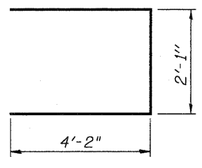
BAR u7(E)



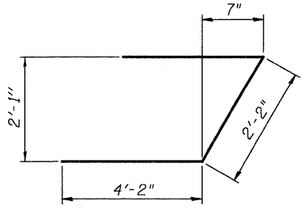
FIELD CUTTING DIAGRAM
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s2(E) & s3(E)



BAR u1(E)



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	9'-8"	——
h_6(E)	3	#5	16'-5"	——
p(E)	16	#7	34'-6"	——
s_2(E)	61	#4	12'-5"	
s_3(E)	1	#4	12'-7"	
u(E)	4	#6	10'-6"	
u_1(E)	4	#6	10'-5"	
u_7(E)	17	#4	5'-1"	
v_1(E)	127	#5	4'-10"	——
v_2(E)	7	#5	11'-10"	——
Structure Excavation		Cu. Yd.	36.1	
Concrete Structures		Cu. Yd.	26.6	
Reinforcement Bars, Epoxy Coated		Pound	2765	
Furnishing Metal Shell Piles, 14"ϕ x 0.250"		Foot	370	
Driving Piles		Foot	370	
Test Pile, Metal Shells		Each	1	

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

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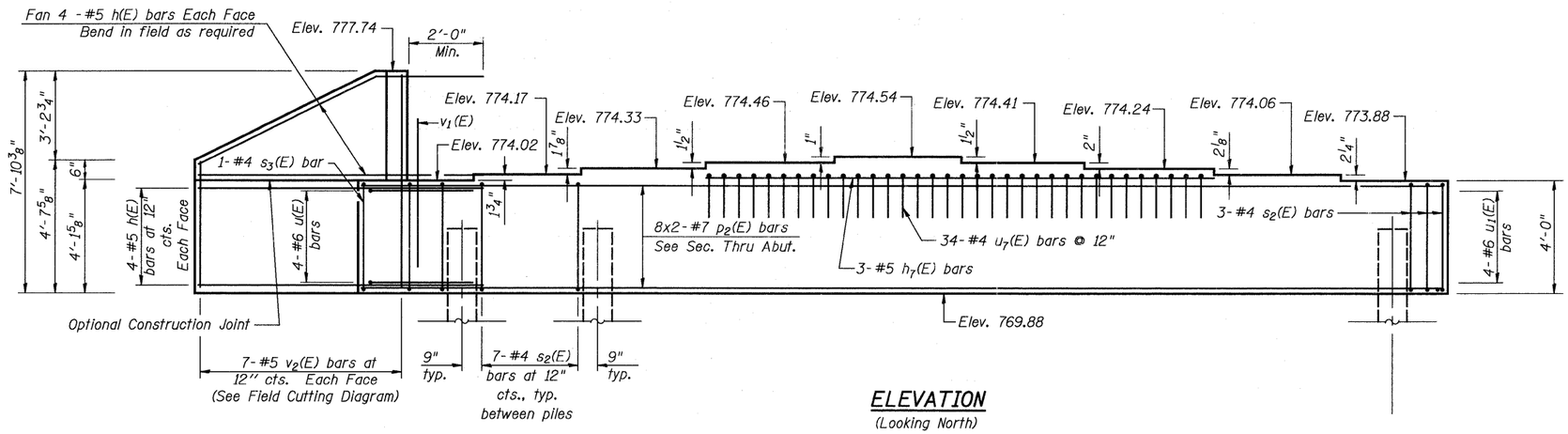
PLOT DATE =	CHECKED - JTT	REVISED -	

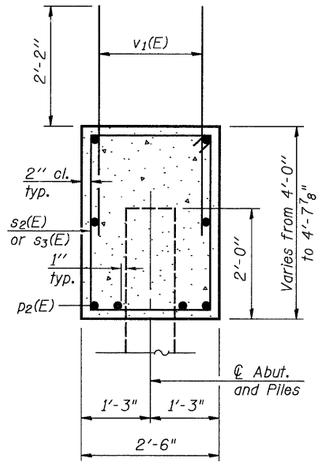
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTHEAST ABUTMENT DETAILS
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 34 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	379
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



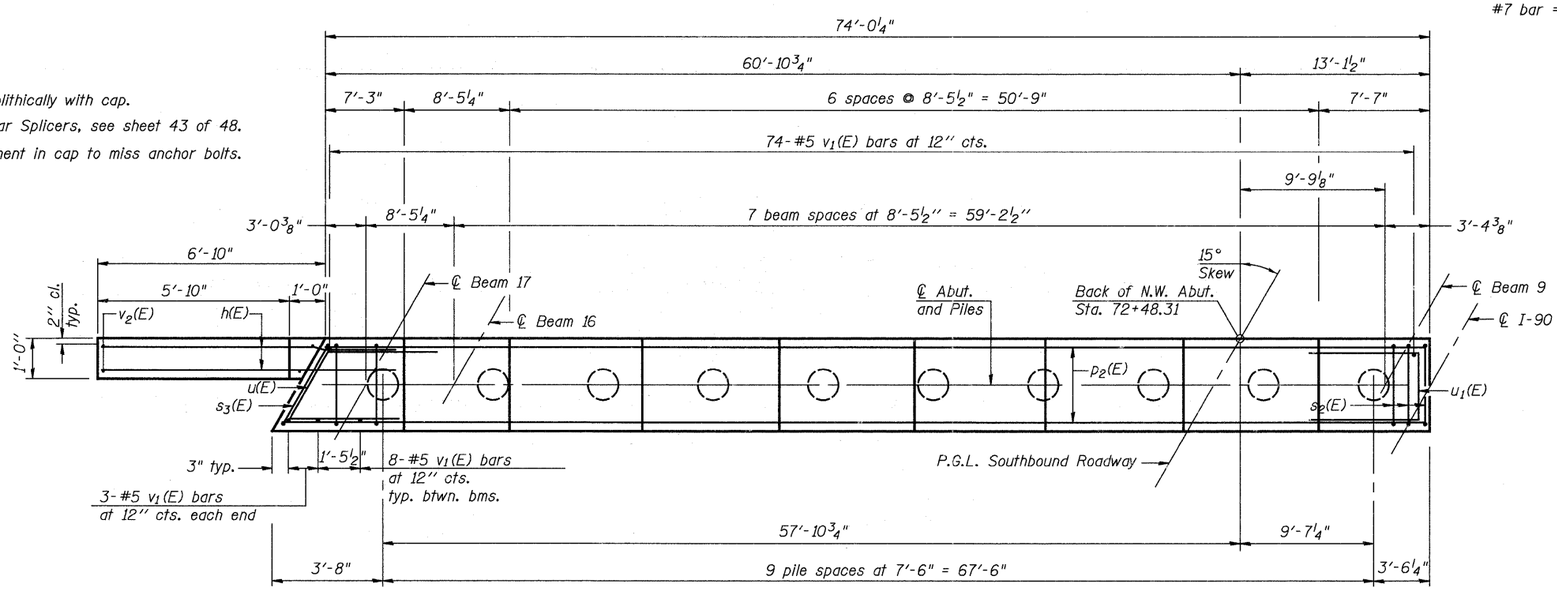
ELEVATION
(Looking North)



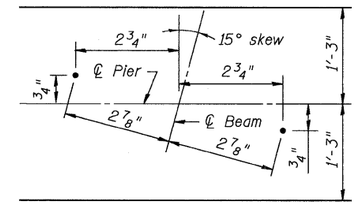
SEC. THRU ABUT.

MINIMUM BAR LAP
#7 bar = 4'-2"

Notes:
- Pour steps monolithically with cap.
- For details of Bar Splicers, see sheet 43 of 48.
- Space reinforcement in cap to miss anchor bolts.



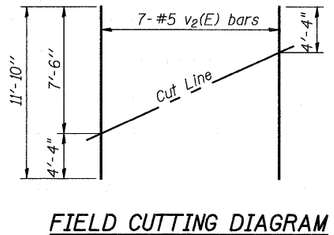
PLAN



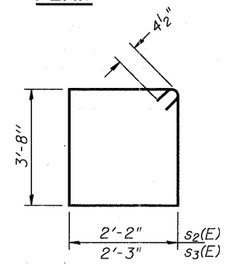
TYPICAL ANCHOR BOLT LOCATION

PILE DATA

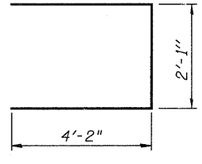
Type: 14" ϕ Metal Shell w/ 0.25" walls
Nominal Required Bearing: 364 Kips/Pile
Factored Resistance Available: 200 Kips/Pile
Est. Length: 46 Feet
No. Production Piles: 9
No. Test Piles: 1



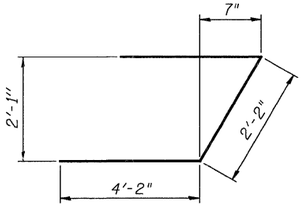
FIELD CUTTING DIAGRAM
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



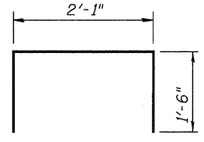
BARS s2(E) & s3(E)



BAR u1(E)



BAR u(E)



BAR u7(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	9'-8"	——
h7(E)	3	#5	33'-6"	——
p2(E)	16	#7	38'-11"	——
s2(E)	78	#4	12'-5"	⌐¬
s3(E)	1	#4	12'-7"	⌐¬
u(E)	4	#6	10'-6"	⌐¬
u1(E)	4	#6	10'-5"	⌐¬
u7(E)	34	#4	5'-1"	⌐¬
v1(E)	144	#5	4'-10"	——
v2(E)	7	#5	11'-10"	——
Structure Excavation		Cu. Yd.	39.7	
Concrete Structures		Cu. Yd.	30.6	
Reinforcement Bars, Epoxy Coated		Pound	3215	
Furnishing Metal Shell Piles, 14"ϕ x 0.250"		Foot	415	
Driving Piles		Foot	415	
Test Pile, Metal Shells		Each	1	

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

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Design Firm License: Illinois 184-000816

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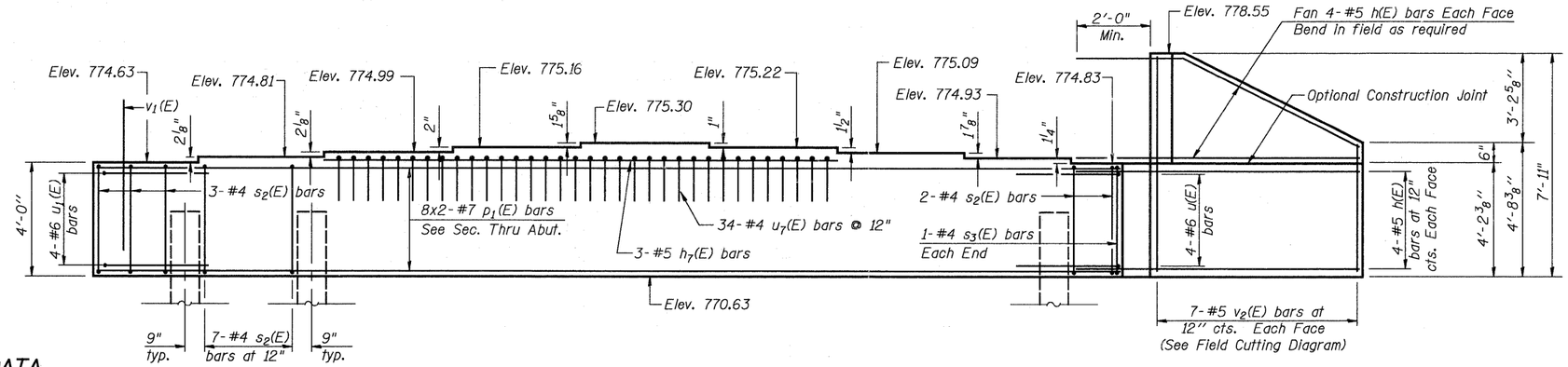
PLOT SCALE =	DRAWN - JBB	REVISED -
PLOT DATE =	CHECKED - JTT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTHWEST ABUTMENT DETAILS
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 35 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	380
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

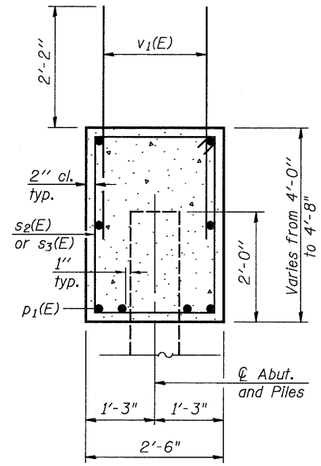


PILE DATA

Type: 14" ϕ Metal Shell w/ 0.25" walls
Nominal Required Bearing: 364 Kips/Pile
Factored Resistance Available: 200 Kips/Pile
Est. Length: 46 Feet
No. Production Piles: 9
No. Test Piles: 1

ELEVATION

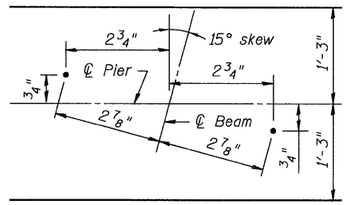
(Looking South)



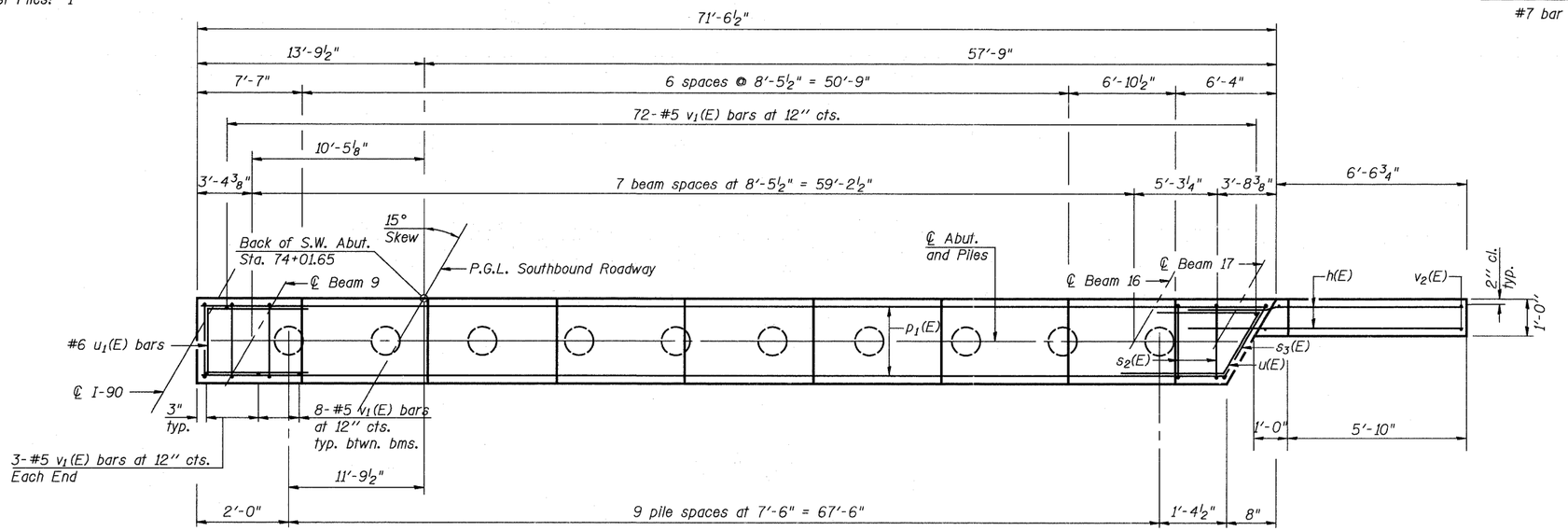
SEC. THRU ABUT.

MINIMUM BAR LAP

#7 bar = 4'-2"



TYPICAL ANCHOR BOLT LOCATION



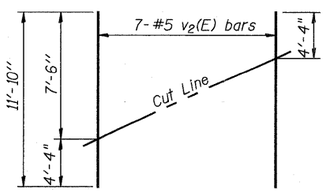
PLAN

Notes:

Pour steps monolithically with cap.

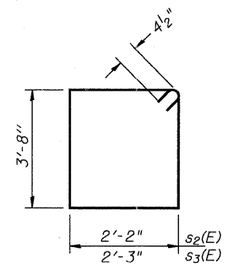
For details of Bar Splicers, see sheet 42 of 48.

Space reinforcement in cap to miss anchor bolts.

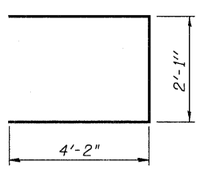


FIELD CUTTING DIAGRAM

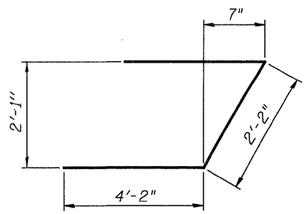
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



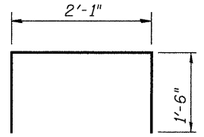
BARS s2(E) & s3(E)



BAR u1(E)



BAR u(E)



BAR u7(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	9'-8"	
h7(E)	3	#5	33'-6"	
p1(E)	16	#7	37'-8"	
s2(E)	78	#4	12'-5"	
s3(E)	1	#4	12'-7"	
u(E)	4	#6	10'-6"	
u1(E)	4	#6	10'-5"	
u7(E)	34	#4	5'-1"	
v1(E)	142	#5	4'-10"	
v2(E)	7	#5	11'-10"	
Structure Excavation		Cu. Yd.	38.4	
Concrete Structures		Cu. Yd.	29.4	
Reinforcement Bars, Epoxy Coated		Pound	3197	
Furnishing Metal Shell Piles, 14"ϕ x 0.250"		Foot	415	
Driving Piles		Foot	415	
Test Pile, Metal Shells		Each	1	

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

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DEPARTMENT OF TRANSPORTATION

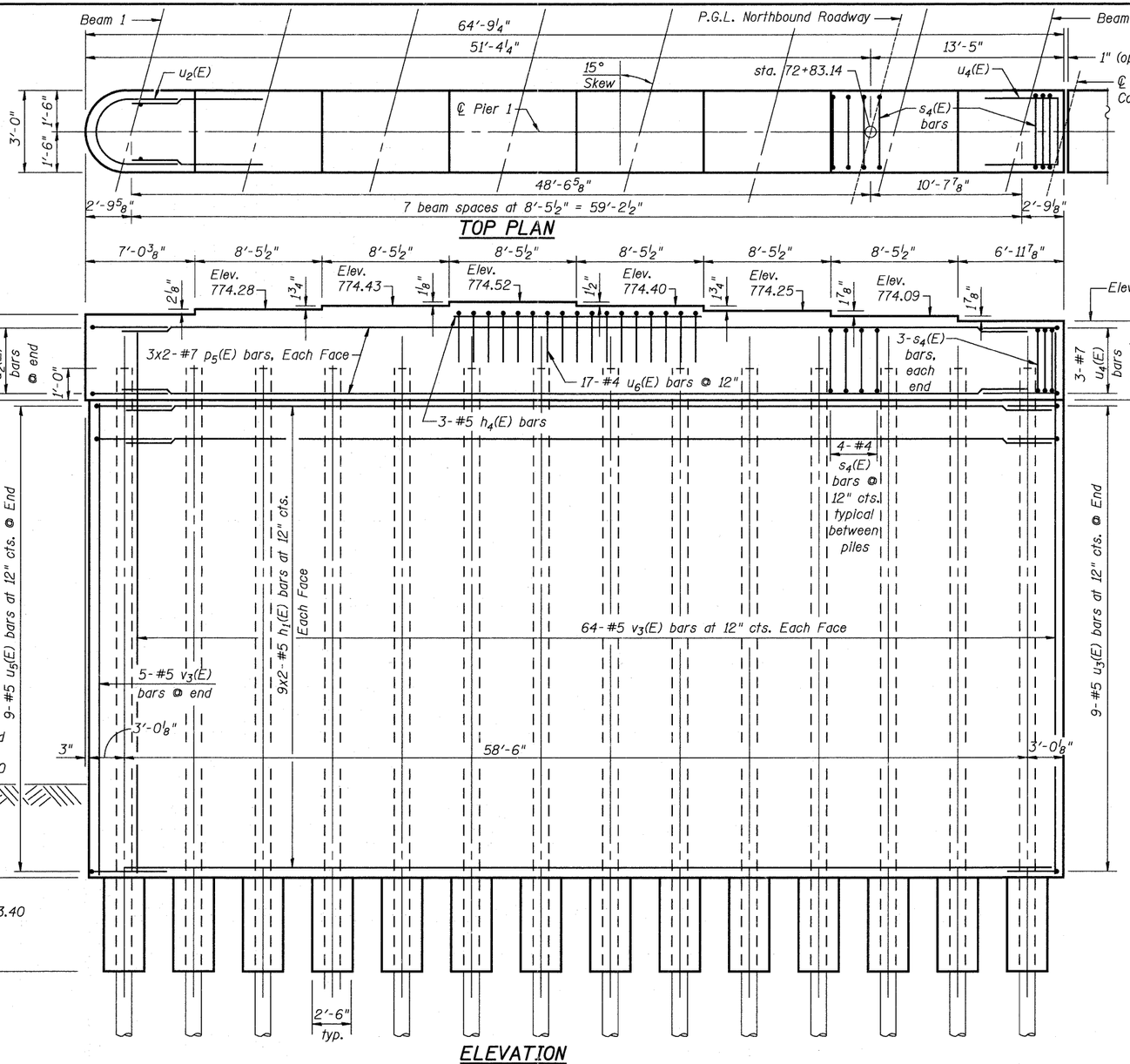
SOUTHWEST ABUTMENT DETAILS
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 36 OF 48 SHEETS

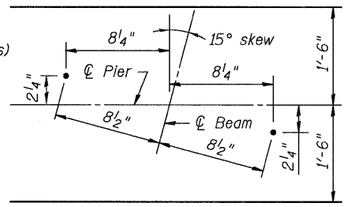
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	381
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 41 of 48.

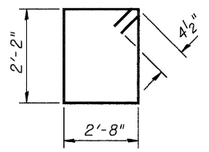
PILE DATA

Type: 14" ϕ Metal Shell w/ 0.25" walls
Nominal Required Bearing: 416 Kips/Pile
Factored Resistance Available: 191 Kips/Pile
Est. Length: 82 Feet
No. Production Piles: 14
No. Test Piles: 0

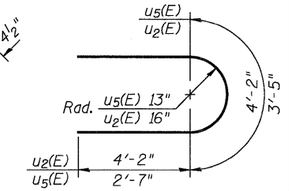




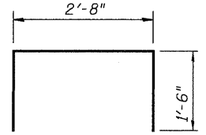
TYPICAL ANCHOR BOLT LOCATION



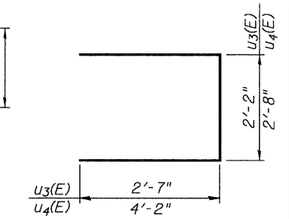
BAR $s_4(E)$



BAR $u_5(E)$ & $u_2(E)$



BAR $u_6(E)$



BAR $u_3(E)$ & $u_4(E)$

MINIMUM BAR LAP

#5 bar = 2'-7"
#7 bar = 4'-2"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_1(E)$	36	#5	32'-9"	——
$h_4(E)$	3	#5	16'-7"	——
$p_5(E)$	12	#7	33'-7"	——
$s_4(E)$	58	#4	10'-5"	□
$u_2(E)$	3	#7	12'-6"	⊃
$u_3(E)$	9	#5	7'-4"	⊐
$u_4(E)$	3	#7	11'-0"	⊐
$u_5(E)$	9	#5	8'-7"	⊃
$u_6(E)$	17	#4	5'-8"	⊓
$v_3(E)$	133	#5	10'-2"	——
Structure Excavation		Cu. Yd.	49.5	
Concrete Structures		Cu. Yd.	63.1	
Reinforcement Bars, Epoxy Coated		Pound	4,277	
Furnishing Metal Shell Piles, 14"ϕ x 0.250"		Foot	1150	
Driving Piles		Foot	1150	
Concrete Encasement		Cu. Yd.	6.0	

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

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PLOT DATE =	CHECKED - JTT	REVISED -	

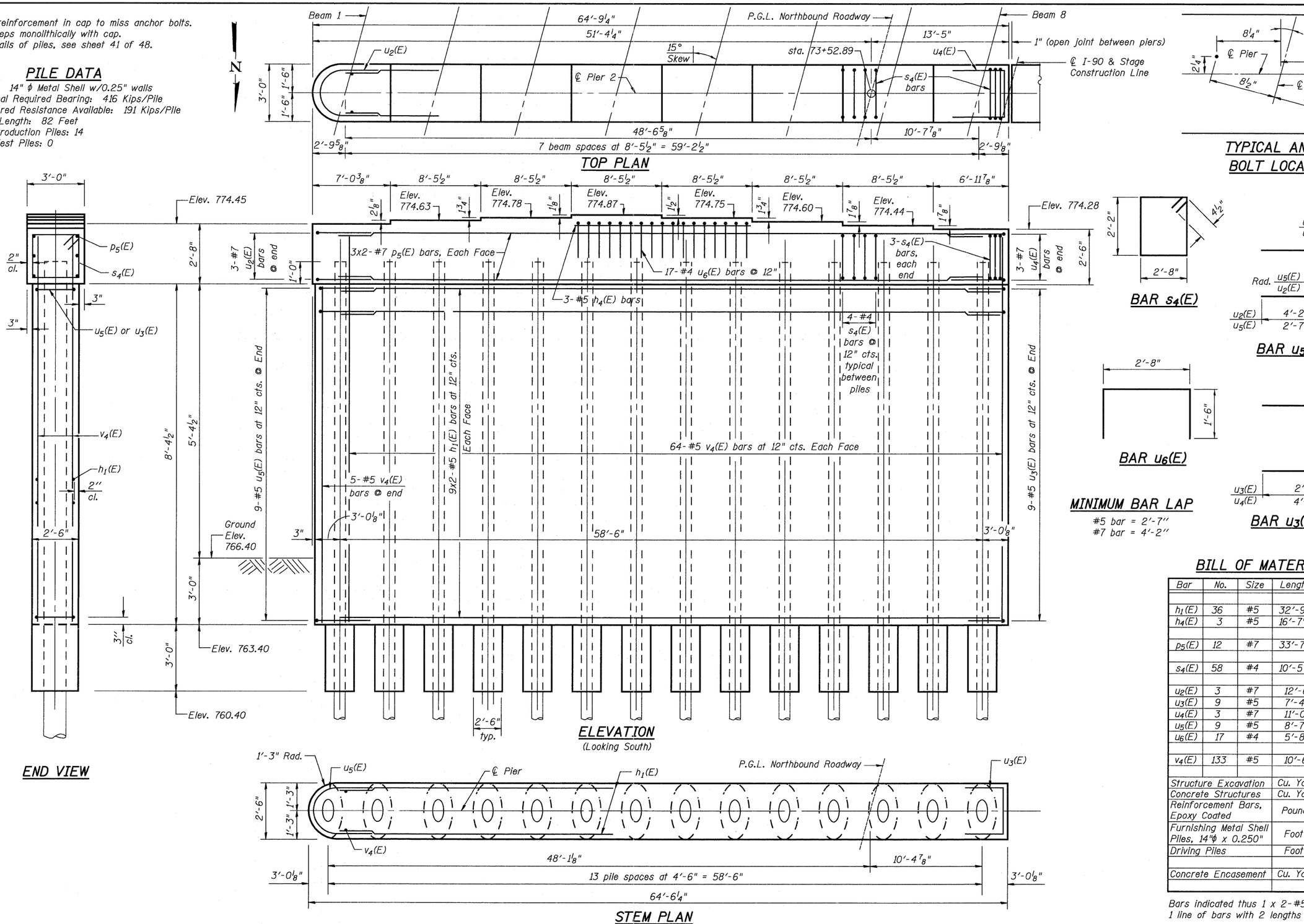
PIER 1 NORTHBOUND DETAILS
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 37 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	382
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 41 of 48.

PILE DATA

Type: 14" ϕ Metal Shell w/0.25" walls
Nominal Required Bearing: 416 Kips/Pile
Factored Resistance Available: 191 Kips/Pile
Est. Length: 82 Feet
No. Production Piles: 14
No. Test Piles: 0



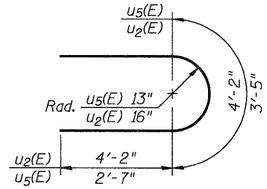
ELEVATION
(Looking South)

END VIEW

STEM PLAN

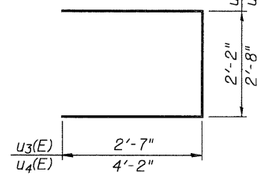
TYPICAL ANCHOR BOLT LOCATION

BAR s_4(E)



BAR u_5(E) & u_2(E)

BAR u_6(E)



BAR u_3(E) & u_4(E)

MINIMUM BAR LAP

#5 bar = 2'-7"
#7 bar = 4'-2"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_1(E)	36	#5	32'-9"	——
h_4(E)	3	#5	16'-7"	——
p_5(E)	12	#7	33'-7"	——
s_4(E)	58	#4	10'-5"	□
u_2(E)	3	#7	12'-6"	⊃
u_3(E)	9	#5	7'-4"	⊃
u_4(E)	3	#7	11'-0"	⊃
u_5(E)	9	#5	8'-7"	⊃
u_6(E)	17	#4	5'-8"	⊓
v_4(E)	133	#5	10'-6"	——
Structure Excavation			Cu. Yd.	49.5
Concrete Structures			Cu. Yd.	64.9
Reinforcement Bars, Epoxy Coated			Pound	4.323
Furnishing Metal Shell Piles, 14"ϕ x 0.250"			Foot	1150
Driving Piles			Foot	1150
Concrete Encasement			Cu. Yd.	6.0

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 NORTHBOUND DETAILS
STRUCTURE NO. 101-0194
BRIDGE SHEET NO. 38 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	383
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

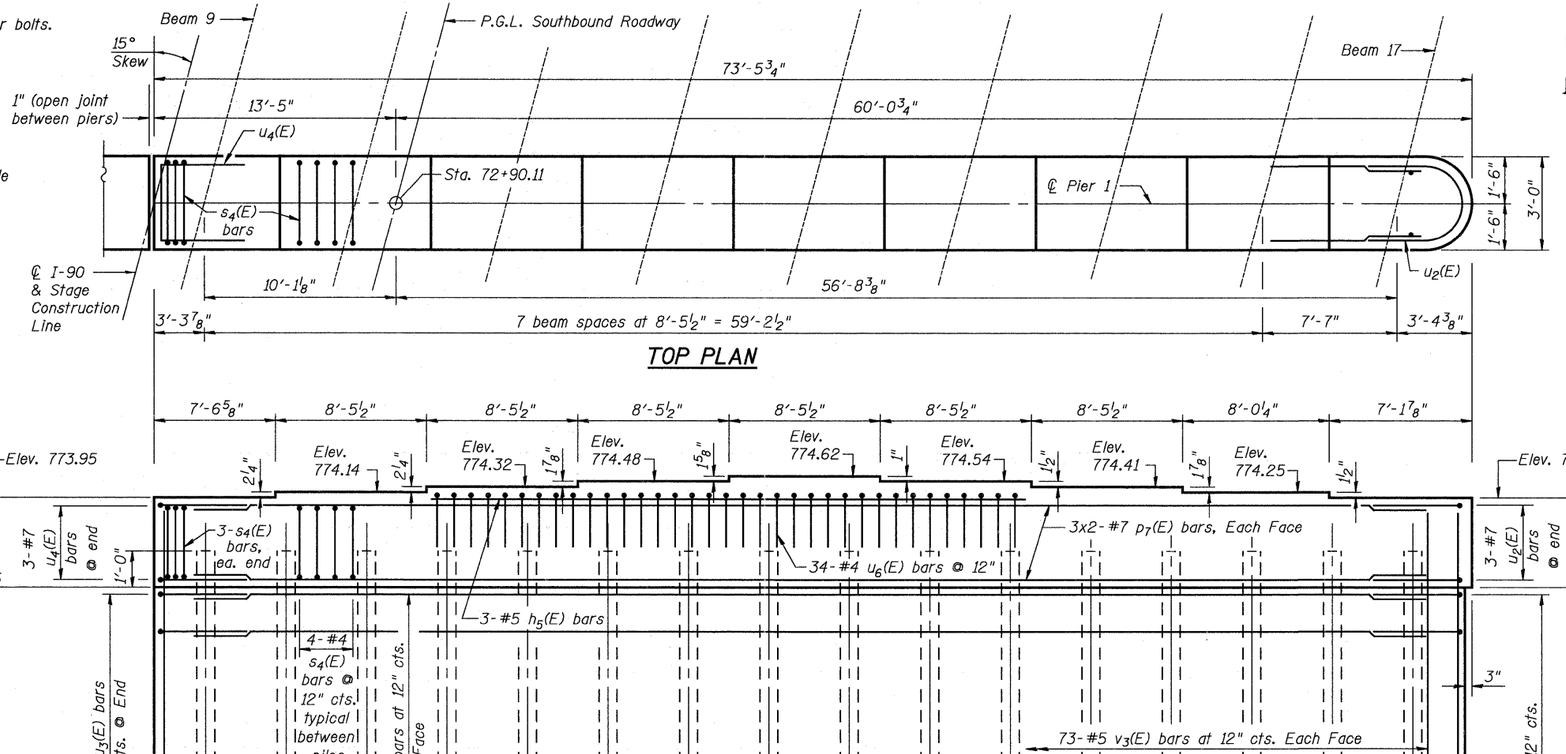
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 41 of 48.

PILE DATA

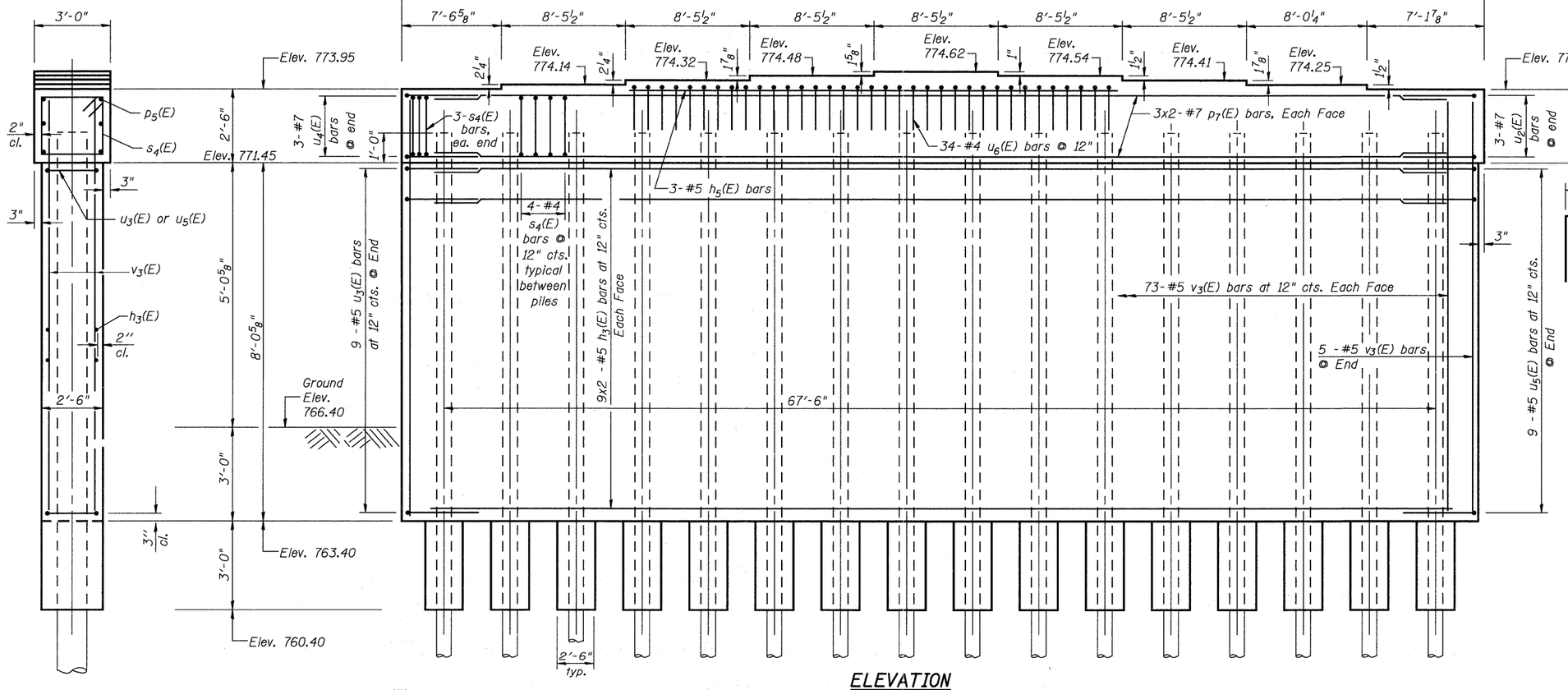
Type: 14"ϕ Metal Shell w/ 0.25" walls
Nominal Required Bearing: 416 Kips/Pile
Factored Resistance Available: 191 Kips/Pile
Est. Length: 82 Feet
No. Production Piles: 16
No. Test Piles: 0

MINIMUM BAR LAP

#5 bar = 2'-7"
#7 bar = 4'-2"

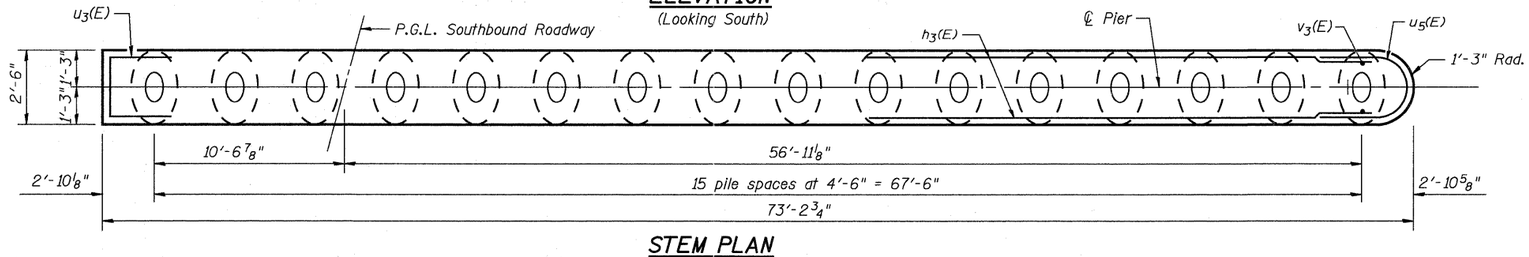


TOP PLAN

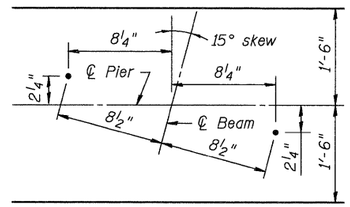


END VIEW

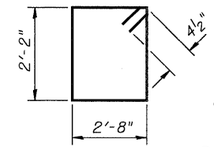
ELEVATION
(Looking South)



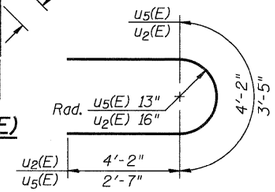
STEM PLAN



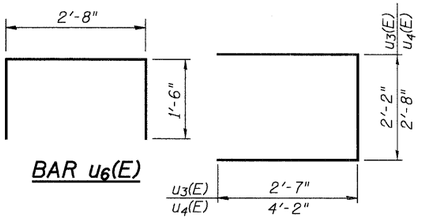
TYPICAL ANCHOR BOLT LOCATION



BAR s4(E)



BAR u5(E) & u2(E)



BAR u6(E)

BAR u3(E) & u4(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_3(E)$	36	#5	37'-3"	——
$h_5(E)$	3	#5	33'-6"	——
$p_7(E)$	12	#7	38'-0"	——
$s_4(E)$	66	#4	10'-5"	□
$u_2(E)$	3	#7	12'-6"	⊔
$u_3(E)$	9	#5	7'-4"	⊔
$u_4(E)$	3	#7	11'-0"	⊔
$u_5(E)$	9	#5	8'-7"	⊔
$u_6(E)$	34	#4	5'-8"	⊓
$v_3(E)$	151	#5	10'-2"	——
Structure Excavation		Cu. Yd.	55.8	
Concrete Structures		Cu. Yd.	72.1	
Reinforcement Bars, Epoxy Coated		Pound	4,918	
Furnishing Metal Shell Piles, 14" x 0.250"		Foot	1310	
Driving Piles		Foot	1310	
Concrete Encasement		Cu. Yd.	6.8	

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

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PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 SOUTHBOUND DETAILS
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 39 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	384
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

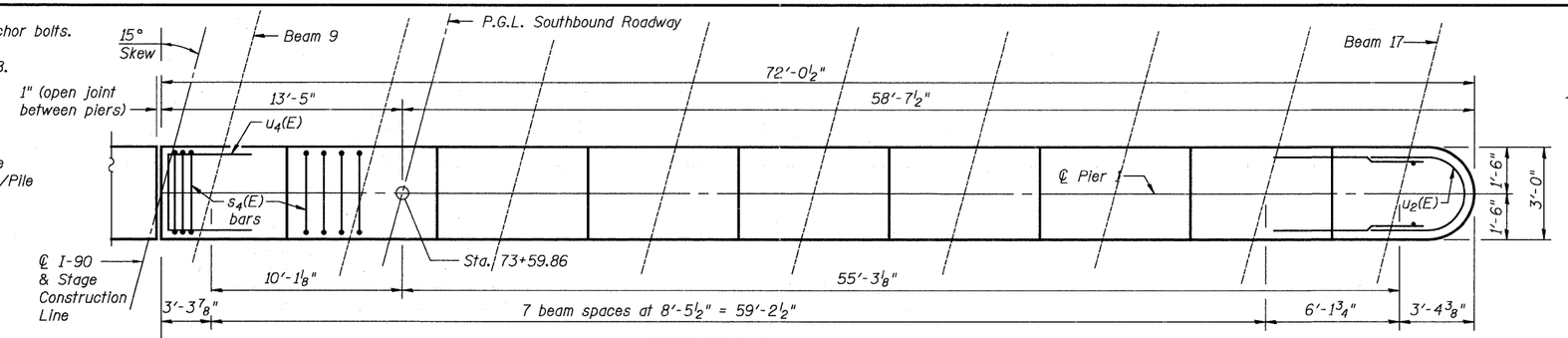
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 41 of 48.

PILE DATA

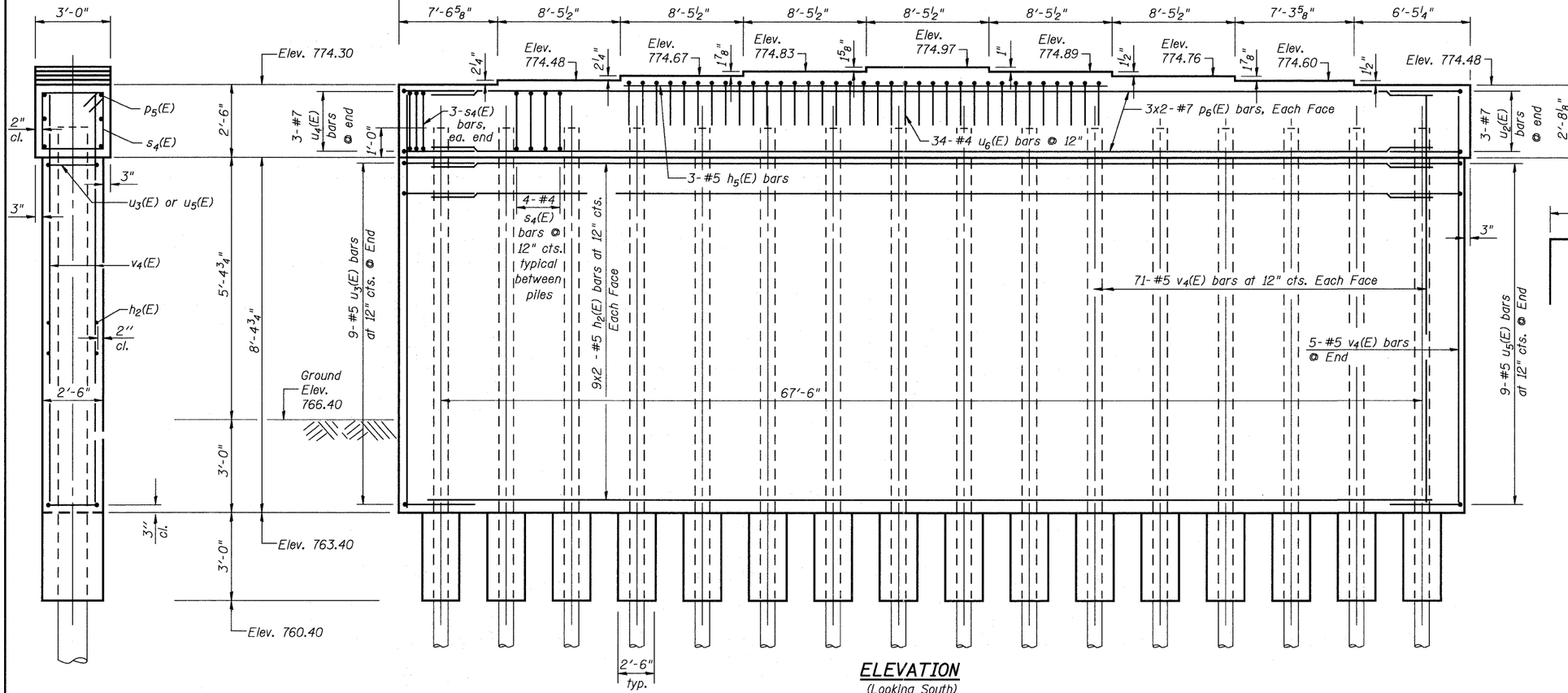
Type: 14"ϕ Metal Shell w/0.25" walls
Nominal Required Bearing: 416 Kips/Pile
Factored Resistance Available: 191 Kips/Pile
Est. Length: 82 Feet
No. Production Piles: 16
No. Test Piles: 0

MINIMUM BAR LAP

#5 bar = 2'-7"
#7 bar = 4'-2"

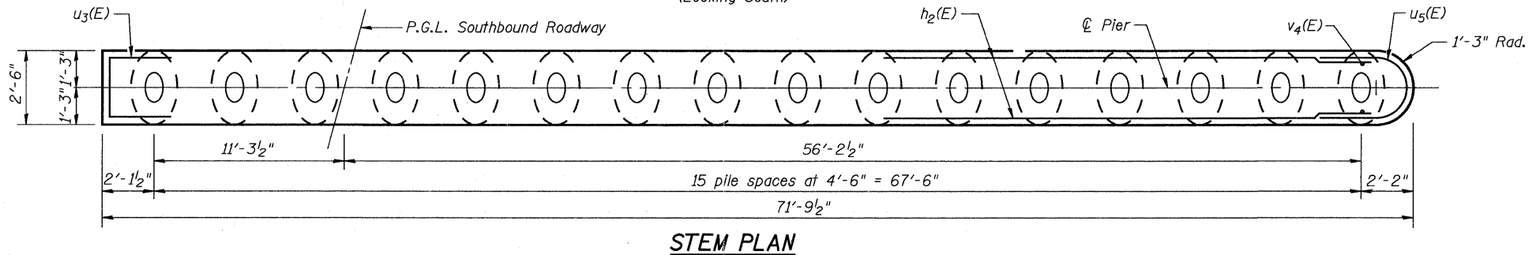


TOP PLAN

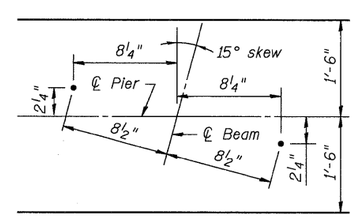


ELEVATION
(Looking South)

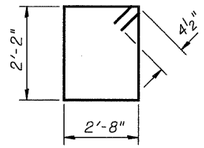
END VIEW



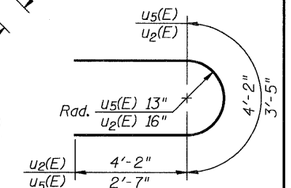
STEM PLAN



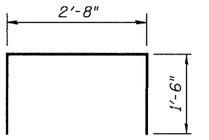
TYPICAL ANCHOR BOLT LOCATION



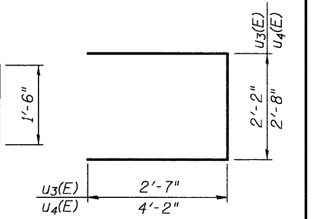
BAR $s_4(E)$



BAR $u_5(E)$ & $u_2(E)$



BAR $u_6(E)$



BAR $u_3(E)$ & $u_4(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_2(E)$	36	#5	36'-6"	——
$h_5(E)$	3	#5	33'-6"	——
$p_6(E)$	12	#7	37'-4"	——
$s_4(E)$	66	#4	10'-5"	□
$u_2(E)$	3	#7	12'-6"	⊐
$u_3(E)$	9	#5	7'-4"	⊐
$u_4(E)$	3	#7	11'-0"	⊐
$u_5(E)$	9	#5	8'-7"	⊐
$u_6(E)$	34	#4	5'-8"	⊐
$v_4(E)$	147	#5	10'-6"	——
Structure Excavation			Cu. Yd.	54.8
Concrete Structures			Cu. Yd.	72.6
Reinforcement Bars, Epoxy Coated			Pound	4,882
Furnishing Metal Shell Piles, 14"ϕ x 0.250"			Foot	1310
Driving Piles			Foot	1310
Concrete Encasement			Cu. Yd.	6.8

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

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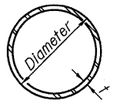
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

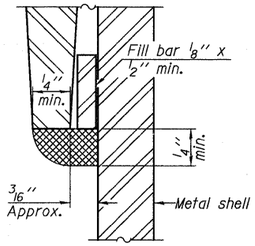
PIER 2 SOUTHBOUND DETAILS
STRUCTURE NO. 101-0193
BRIDGE SHEET NO. 40 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	385
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

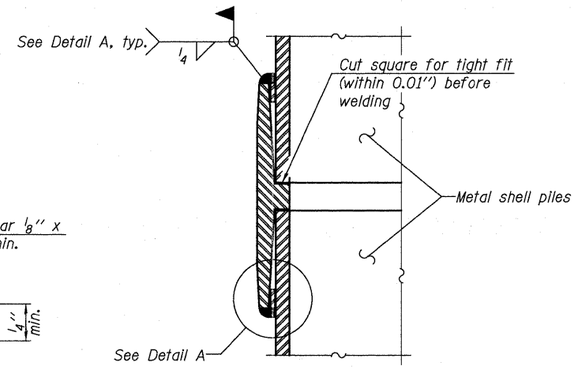


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3$/ft.)
111	0.250″	36.71	0.0368

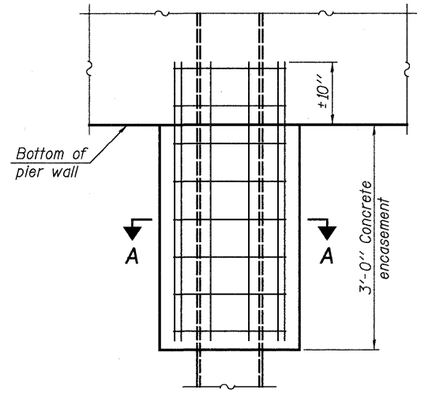


DETAIL A

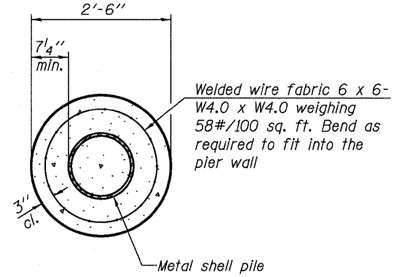


Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



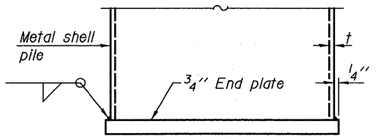
ELEVATION



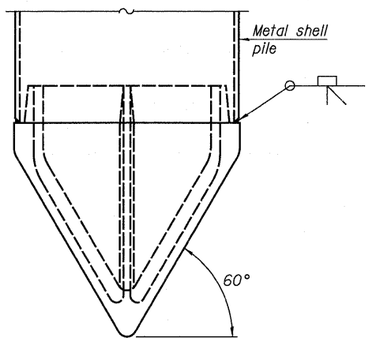
SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.

CONCRETE ENCASEMENT AT PIERS



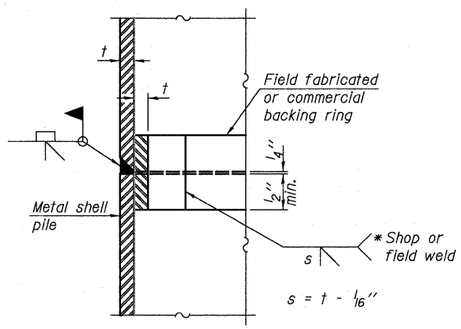
END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

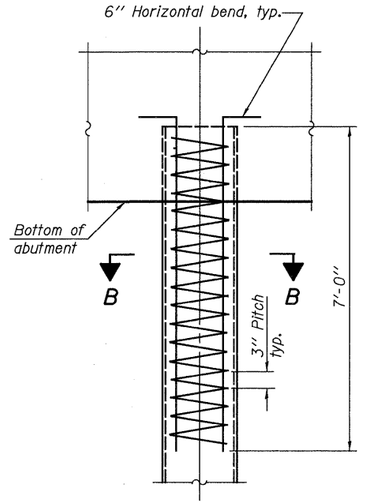
METAL SHELL PILE SHOE ATTACHMENT

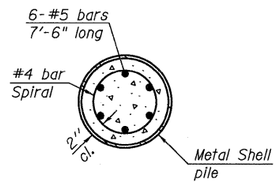
(See Note A)



COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.





SECTION B-B

ELEVATION

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

F-MS 7-1-10

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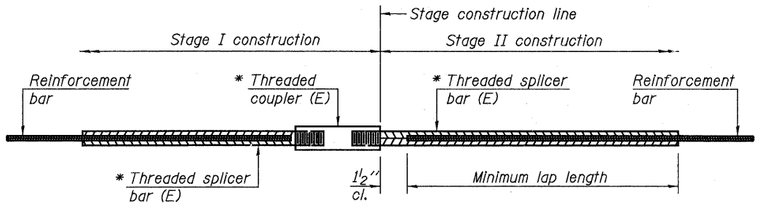
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 101-0193 & 101-0194
BRIDGE SHEET NO. 41 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	386
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

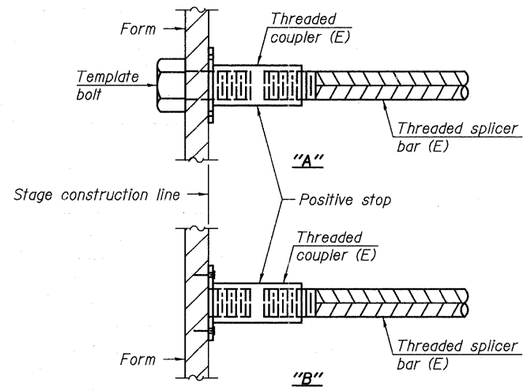
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

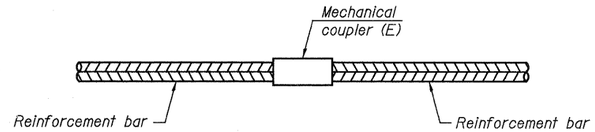
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



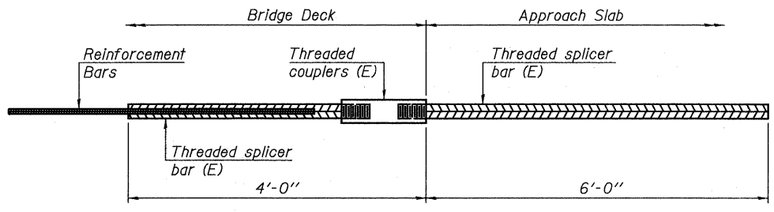
INSTALLATION AND SETTING METHODS

"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.



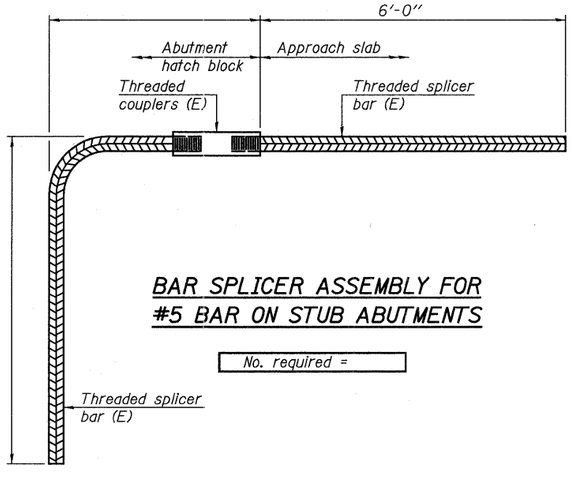
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 282



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. 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 special provision for Mechanical Splicers.

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

BSD-1 7-1-10

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS
STRUCTURE NO. 101-0193 & 101-0194
BRIDGE SHEET NO. 42 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	387
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 10/26/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO.
Station 73+20

BORING NO. B-1
Station 72+75
Offset 5.00ft Rt Median CL
Ground Surface Elev. 99.60 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 67.1 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)		BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	MEDIUM dark brown LOAM			
			0.5 P	19.0
97.10				
	MEDIUM brown LOAM	4		
		3 2	0.8 P	15.0
95.60				
-5		4		
	VERY STIFF dark gray SILTY CLAY LOAM	6 7	2.5 B	26.0
93.10				
	MEDIUM gray/brown SILTY CLAY LOAM	3		
		4 5	0.6 P	19.0
90.60				
-10		2		
	STIFF gray SANDY LOAM	3 5	1.3 P	17.0
87.60				
	LOOSE tan SAND with medium GRAVEL	3		
		3 3		
85.60				
-15		4		
	MEDIUM tan dry fine SAND	5		
83.10		6		
	LOOSE tan dry clean medium coarse SAND	2		
		4 5		
80.60				
-20				

DEPTH (ft)		BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	MEDIUM tan clean medium coarse SAND	3		
		4 6		
78.10				
	MEDIUM tan clean medium coarse SAND with medium GRAVEL	3		
		5 8		
75.60				
-25		1		
	MEDIUM tan fine SAND	3 7		
73.10				
	MEDIUM tan fine SAND	1		
		6 6		
70.60				
-30		3		
	MEDIUM tan fine SAND	5 7		
68.10				
	LOOSE tan fine SAND	1		
		3 6		
65.60				
-35		2		
	LOOSE tan clean medium coarse SAND	3 5		
63.10				
	MEDIUM tan clean medium coarse SAND with GRAVEL	1		
		4 10		
60.60				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 10/26/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO.
Station 73+20

BORING NO. B-1
Station 72+75
Offset 5.00ft Rt Median CL
Ground Surface Elev. 99.60 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 67.1 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)		BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	MEDIUM tan clean medium coarse SAND	3		
		5 9		
58.10				
	Wash MEDIUM tan clean medium coarse SAND	7		
		13 15		
55.60				
-45		5		
	Wash MEDIUM tan clean medium coarse SAND	9 14		
53.10				
	Wash MEDIUM tan clean medium coarse SAND with GRAVEL	3		
		7 11		
50.60				
-50		6		
	MEDIUM tan clean medium coarse SAND with GRAVEL	9 10		
48.10				
	MEDIUM tan clean medium SAND	3		
		7 12		
45.60				
-55		6		
	Wash MEDIUM tan/clean medium SAND	10 10		
43.10				
	Wash MEDIUM tan clean medium SAND	1		
		3 6		
40.60				
-60				

DEPTH (ft)		BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	Wash MEDIUM tan clean medium SAND	1		
		3 5		
38.10				
	Wash MEDIUM tan clean medium SAND & GRAVEL	6		
		12 18		
35.60				
-65		0		
	Wash DENSE tan clean medium SAND with GRAVEL	9 23		
33.10				
	Wash VERY DENSE tan clean medium coarse SAND & GRAVEL	23		
		25 29		
30.60				
-70		15		
	Wash VERY DENSE tan clean medium coarse SAND & GRAVEL	31 32		
28.10	End of Boring			
-75				
-80				

Soil Boring B-1

Soil Boring Log Ground Surface Elevation of 99.60 = Plan Elevation of 767.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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PLOT DATE =	CHECKED - JTT	REVISED -	STRUCTURE NO. 101-0193 & 101-0194
			BRIDGE SHEET NO. 43 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	388
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 10/30/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 73+20

BORING NO. B-2
Station 74+16
Offset 5.00ft Lt Median CL
Ground Surface Elev. 99.50 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 64.5 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
		0.8 P	21.0	MEDIUM dark brown SILTY CLAY LOAM
97.00	4			VERY STIFF dark brown LOAM
	6 8	2.5 B	13.0	
95.50 -5	4			STIFF dark gray SILTY CLAY
	6 8	1.8 P	26.0	
93.00	3			VERY STIFF brown SILTY CLAY LOAM
	5 8	2.0 P	29.0	
90.50 -10	3			VERY STIFF brown LOAM
	5 6	2.1 P	19.0	
88.00	2			VERY STIFF tan SILTY LOAM with fine SAND lens
	4 6	2.1 B	20.0	
85.00 -15	4			LOOSE tan fine SAND
	4 4			
83.00	0			LOOSE tan fine SAND
80.50 -20	3 4			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	1			LOOSE tan clean medium coarse SAND
	3 4			
74.50 -25	1			LOOSE tan fine SAND
	2 5			
69.50 -30	4			MEDIUM tan clean medium coarse SAND
	6 8			
64.50 ▼ -35	3			MEDIUM tan clean medium coarse SAND
	4 8			
59.50 -40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 10/30/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 73+20

BORING NO. B-2
Station 74+16
Offset 5.00ft Lt Median CL
Ground Surface Elev. 99.50 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 64.5 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	1			MEDIUM tan clean medium coarse SAND
	3 7			
54.50 -45	3			Wash MEDIUM tan clean medium coarse SAND with medium GRAVEL
	6 11			
49.50 -50	7			Wash MEDIUM tan clean medium coarse SAND
	10 16			
44.50 -55	3			DENSE tan fine SAND
	14 31			
39.50 -60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	6			Wash
	11 18			MEDIUM tan clean medium coarse SAND with medium GRAVEL
34.50 -65	13			Wash
	18 23			DENSE tan clean medium coarse SAND with medium GRAVEL
33.00				End of Boring
-70				
-75				
-80				

Soil Boring B-2

Soil Boring Log Ground Surface Elevation of 99.50 = Plan Elevation of 775.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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PLOT SCALE =	DRAWN - JBB	REVISED -	
PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS II
STRUCTURE NO. 101-0193 & 101-0194
BRIDGE SHEET NO. 44 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	389
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 11/1/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 73+20

BORING NO. B-3
Station 73+57
Offset 78.00ft Rt Median CL
Ground Surface Elev. 90.00 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 60.0 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown SILTY CLAY LOAM			0.8 P	26.0
	87.50 -5	2		
VERY STIFF gray LOAM with fine SAND lens		2 5	0.3 B	17.0
	85.50 -5			
LOOSE brown SAND		2 2 3		
	83.50 -10			
LOOSE tan fine SAND		3 2 3		
	81.00 -10			
LOOSE tan fine SAND		1 2 3		
	75.00 -15			
MEDIUM tan clean medium coarse SAND		2 4 7		
	70.00 -20			
LOOSE tan clean medium coarse SAND		1 3 5		
	65.00 -25			
LOOSE tan clean medium coarse SAND		2 4 5		
	60.00 ▼ -30			
MEDIUM tan fine SAND		0 4 15		
	55.00 -35			
MEDIUM tan clean medium coarse SAND with medium GRAVEL		3 4 7		
	50.00 -40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 11/1/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 73+20

BORING NO. B-3
Station 73+57
Offset 78.00ft Rt Median CL
Ground Surface Elev. 90.00 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 60.0 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
LOOSE tan fine SAND		1 3 6		
	45.00 -45			
Wash MEDIUM tan clean medium coarse SAND		6 12 16		
	40.00 -50			
VERY DENSE tan fine SAND with medium GRAVEL		20 33 32		
	35.00 -55			
Wash DENSE tan clean medium coarse SAND with GRAVEL		10 14 20		
	33.50			
End of Boring				
	-60			

Soil Boring B-3

Soil Boring Log Ground Surface Elevation of 90.00 = Plan Elevation of 767.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-5637
(815) 398-2332 FAX (815) 398-2496
Design Firm Licenses: Illinois 184-000815

USER NAME =	DESIGNED - JTT	REVISED -	
	CHECKED - VAC	REVISED -	
PLOT SCALE =	DRAWN - JBB	REVISED -	
PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS III
STRUCTURE NO. 101-0193 & 101-0194
BRIDGE SHEET NO. 45 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	390
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 11/2/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 73+20

BORING NO. B-4
Station 73+53
Offset 83.00ft Lt Median CL
Ground Surface Elev. 88.50 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 63.5 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM tan SILTY CLAY LOAM			0.6 P	21.0
	86.00	2		
MEDIUM light gray SANDY LOAM		3	0.5 P	20.0
		3		
	84.00			
	-5	2		
VERY LOOSE tan fine SAND		1		
	82.00	2		
		1		
VERY LOOSE black/tan fine SAND		1		
	79.50	3		
	-10	2		
LOOSE tan clean medium coarse SAND		3		
		3		
	73.50 -15	3		
LOOSE tan fine SAND		3		
		5		
	68.50 -20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
LOOSE tan clean medium coarse SAND		3		
		4		
		5		
	63.50 -25 ▼			
MEDIUM tan clean medium coarse SAND		3		
		6		
		5		
	58.50 -30			
MEDIUM tan clean medium coarse SAND		3		
		6		
		6		
	53.50 -35			
MEDIUM tan clean medium coarse SAND		4		
		7		
		8		
	48.50 -40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 11/2/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 73+20

BORING NO. B-4
Station 73+53
Offset 83.00ft Lt Median CL
Ground Surface Elev. 88.50 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 63.5 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM tan clean medium coarse SAND		7		
		10		
		14		
	43.50 -45			
MEDIUM tan fine SAND with medium GRAVEL		3		
		7		
		19		
	38.50 -50			
Wash MEDIUM tan clean medium coarse SAND		5		
		10		
		15		
	33.50 -55			
Wash DENSE tan clean medium coarse SAND with medium GRAVEL		8		
		14		
		23		
	28.50 -60			
Wash VERY DENSE tan SAND & GRAVEL		34		
		100/9"		
	27.00			
Wash VERY DENSE tan SAND & GRAVEL		100/8.5"		
	24.50			
Wash VERY DENSE tan SAND with medium GRAVEL	-65	19		
		27		
	22.00	41		
End of Boring				
	-70			
	-75			
	-80			

Soil Boring B-4

Soil Boring Log Ground Surface Elevation of 88.50 = Plan Elevation of 765.00

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

USER NAME =	DESIGNED - JTT	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - VAC	REVISED -	
PLOT SCALE =	DRAWN - JBB	REVISED -	SOIL BORING LOGS IV STRUCTURE NO. 101-0193 & 101-0194
PLOT DATE =	CHECKED - JTT	REVISED -	BRIDGE SHEET NO. 46 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	391
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 11/8/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 73+20

BORING NO. B-5
Station 72+75
Offset 78.00ft Lt Median CL
Ground Surface Elev. 90.00 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 65.0 ft ▼
Upon Completion Wash ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
		0.6 P	19.0	MEDIUM brown SILTY CLAY LOAM
87.50	4			LOOSE tan/brown dirty SAND
86.00	3 3			
-5	1			STIFF brown LOAM with SAND lens
	4	1.1	31.0	
83.00	5	P		
	8			MEDIUM tan medium SAND
81.00	5 7			
-10	3			LOOSE tan fine SAND
	4			
	5			
75.00 -15	2			LOOSE tan clean medium coarse SAND
	3			
	5			
70.00 -20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			MEDIUM tan clean medium coarse SAND
	4			
	6			
65.00 -25	2			MEDIUM tan clean medium coarse SAND
	5			
	6			
60.00 -30	1			MEDIUM tan clean medium coarse SAND
	3			
	7			
55.00 -35	2			MEDIUM tan clean medium coarse SAND with medium GRAVEL
	3			
	8			
50.00 -40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 11/8/06

ROUTE FAI 90 DESCRIPTION P92-066-06 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road LOGGED BY W. Garza

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 73+20

BORING NO. B-5
Station 72+75
Offset 78.00ft Lt Median CL
Ground Surface Elev. 90.00 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 65.0 ft ▼
Upon Completion Wash ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			MEDIUM tan clean medium coarse SAND with GRAVEL
	6			
	9			
45.00 -45	3			Wash MEDIUM tan clean medium coarse SAND with medium GRAVEL
	7			
	12			
40.00 -50	6			Wash MEDIUM tan fine SAND
	11			
	16			
35.00 -55	1			MEDIUM tan clean medium coarse SAND
	5			
	8			
30.00 -60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	12			Wash
	28			VERY DENSE tan clean medium coarse SAND with GRAVEL
28.50	30			
				End of Boring
-65				
-70				
-75				
-80				

Soil Boring B-5

Soil Boring Log Ground Surface Elevation of 90.00 = Plan Elevation of 767.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-5837
(815) 398-2332 FAX (815) 398-2466
Design Firm License: Illinois 184-000818

USER NAME =	DESIGNED - JTT	REVISED -	
	CHECKED - VAC	REVISED -	
PLOT SCALE =	DRAWN - JBB	REVISED -	
PLOT DATE =	CHECKED - JTT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS V
STRUCTURE NO. 101-0193 & 101-0194
BRIDGE SHEET NO. 47 OF 48 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	392
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

ROUTE FAI 90 DESCRIPTION P92-066-66 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road Date 11/14/06

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E LOGGED BY W. Garza

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO.
Station 73+20

BORING NO. B-6
Station 72+42
Offset 68.00ft Rt Median CL
Ground Surface Elev. 99.80 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 89.8 ft ▼
Upon Completion 64.8 ft ▽
After 1.0 Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
8" Asphalt Shoulder				
MEDIUM black LOAM			0.6 P	14.0
MEDIUM dark brown dirty SAND with GRAVEL	97.30	6		
		8		
	95.80	8		
STIFF gray SILTY CLAY LOAM	-5	2		
		2	1.1	22.0
	93.30	4	B	
STIFF brown SILTY LOAM		3		
		4	2.0	19.0
	90.80	8	P	
VERY STIFF tan/gray SILTY CLAY	▼-10	3		
		3	2.1	26.0
	88.30	5	B	
VERY STIFF brown SANDY LOAM with bottom 4" fine SAND		9		
		7	2.1	13.0
	85.30	7	P	
LOOSE tan dry fine SAND	-15	3		
		3		
		4		
	79.80	-20		
LOOSE tan dry fine SAND		3		
		3		
		5		
MEDIUM tan clean medium coarse dry SAND	74.80	-25		
		2		
		4		
		8		
MEDIUM tan dry clean medium coarse SAND	69.80	-30		
		3		
		5		
		9		
MEDIUM tan clean medium coarse SAND with medium GRAVEL	64.80 ▽	-35		
		3		
		5		
		9		
	59.80	-40		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

ROUTE FAI 90 DESCRIPTION P92-066-66 I-90 Bridge over Dry Run Creek, .25 m. N. of Prairie Hill Road Date 11/14/06

SECTION (X2-1) RS-1 LOCATION Roscoe Twp. - 10 SW, SEC., TWP. 46N, RNG. 2E LOGGED BY W. Garza

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO.
Station 73+20

BORING NO. B-6
Station 72+42
Offset 68.00ft Rt Median CL
Ground Surface Elev. 99.80 ft

Surface Water Elev. 86.00 ft
Stream Bed Elev. 85.50 ft

Groundwater Elev.:
First Encounter 89.8 ft ▼
Upon Completion 64.8 ft ▽
After 1.0 Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM tan fine SAND		9		
		9		
		11		
MEDIUM tan clean medium coarse SAND	54.80	-45		
		5		
		8		
		10		
Wash MEDIUM tan clean medium coarse SAND with medium GRAVEL	49.80	-50		
		9		
		12		
		17		
Wash DENSE tan SAND & GRAVEL	44.80	-55		
		8		
		16		
		23		
	39.80	-60		
MEDIUM tan clean medium coarse SAND with GRAVEL		9		
		13		
		14		
DENSE tan clean medium coarse SAND with medium GRAVEL	34.80	-65		
		16		
		19		
		24		
End of Boring	33.30			
		-70		
		-75		
		-80		

Soil Boring B-6
Soil Boring Log Ground Surface Elevation of 99.80 = Plan Elevation of 775.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS from 137 (Rev. 8-99)

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-3837
(815) 395-2332 FAX (815) 395-2466
Design Firm License: Illinois 184-000816

USER NAME =	DESIGNED - JTT	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - VAC	REVISED -	SOIL BORING LOGS VI
PLOT SCALE =	DRAWN - JBB	REVISED -	STRUCTURE NO. 101-0193 & 101-0194
PLOT DATE =	CHECKED - JTT	REVISED -	BRIDGE SHEET NO. 48 OF 48 SHEETS

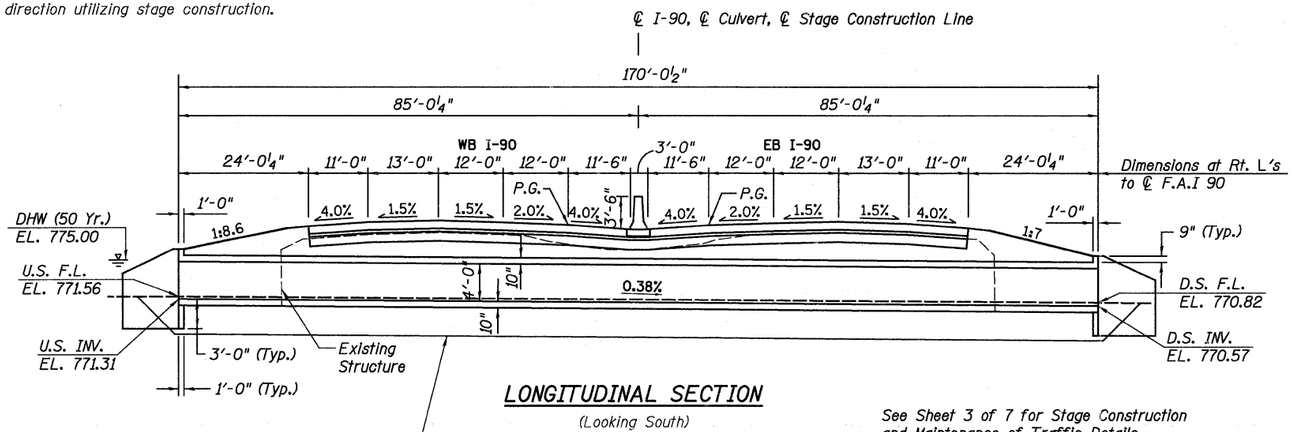
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	393
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

Bench Mark: Toe of Sign, Sta. 100+84.16, 86.5' RT; Elevation 777.04

Existing Structure: S.N. 101-1031 built 1959 at sta. 96+09.07 is a R.C. double 8'x4' box culvert 154 feet long. Skew 29° 49' 23" RT. Structure to be removed and replaced.

Salvage: No Salvage

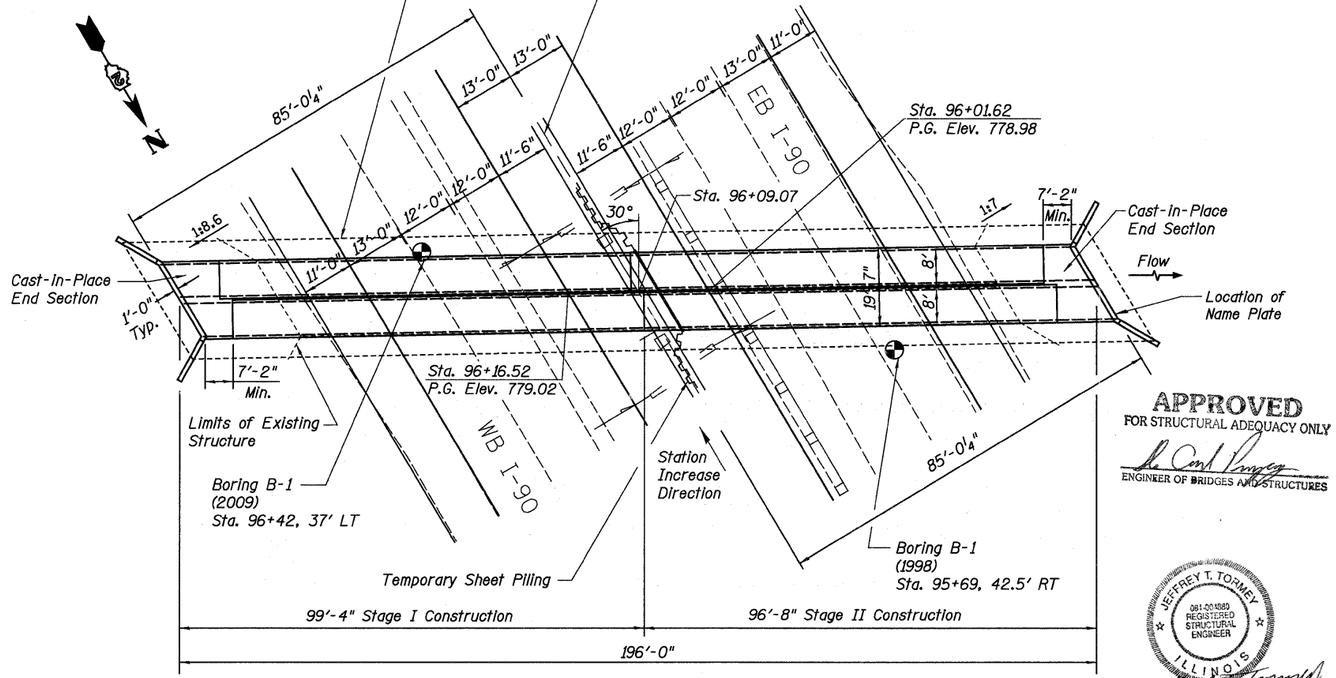
Staging: Two lanes of traffic shall be maintained in each direction utilizing stage construction.



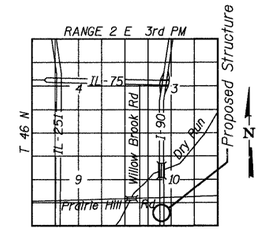
LONGITUDINAL SECTION

(Looking South)
(Dimensions are ⊥ to ℄ Roadway)

See Sheet 3 of 7 for Stage Construction and Maintenance of Traffic Details.



PLAN



LOCATION SKETCH

INDEX OF CULVERT SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT		TOTAL
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.		714.5
Removal of Existing Structures	Each		1
Name Plates	Each		1
Box Culvert End Sections, Culvert No. 1	Each		2
Precast Concrete Box Culverts, 8' x 4'	Foot		352
Breaker Run Crushed Stone	Ton		1133.2
Temporary Sheet Piling	Sq. Ft.		1465
Temporary Support System	L. Sum		1

STATION 96+09.07
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RTE 90 SEC (X2-1)R
LOADING HS-20 & ALT
STRUCTURE NO. 101-1095

NAME PLATE

See Std. 515001

PROFILE GRADE

(along ℄ roadway)

LOADING HS 20-44 & ALTERNATE

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

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

DESIGN SCOUR ELEVATION TABLE

	Upstream	Downstream
Design Scour Elevation (ft)	768.31	767.57

DESIGN STRESSES

FIELD UNITS

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

PRECAST UNITS

f'c = 5,000 psi
fy = 65,000 psi
(welded wire fabric)

JEFFREY T. TORMEY
081-004880
REGISTERED STRUCTURAL ENGINEER
ILLINOIS
10/21/11

JEFFREY T. TORMEY
IL REGISTRATION #081-004880
EXPIRATION DATE 11/30/12

SMALL CULVERT WATERWAY INFORMATION TABLE

Drainage Area = 271 ac.
Low Grade Elev. 778.40 @ Sta. 92+50.92

Flood	Freq. Yr.	Q C.F.S.	Headwater El. Exist.	Prop.
Ten Year	10	134	773.67	773.81
Design	50	266	774.79	775.00
Base	100	345	775.41	775.65
Max. Calc.	500	535	776.74	777.08

GENERAL PLAN AND ELEVATION
I-90 OVER TRIBUTARY TO DRY RUN CREEK
F.A.I. ROUTE 90 (I-90)
SECTION (X2-1)R
WINNEBAGO COUNTY
STATION 96+09.07
STRUCTURE NO. 101-1095

McClure Engineering Associates, Inc.
7282 Argus Drive Rockford, Illinois 61107-5637
(815) 398-2332 FAX (815) 398-2496
Design Firm License: Illinois 184-000818

USER NAME =	DESIGNED - JTT	REVISED -
	CHECKED - VAC	REVISED -
PLOT SCALE =	DRAWN - JBB	REVISED -
PLOT DATE =	CHECKED - JTT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 101-1095
BOX CULVERT SHEET NO. 1 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	394
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

Reinforcing bars shall conform to the requirements of ASTM A 706 Gr 60.

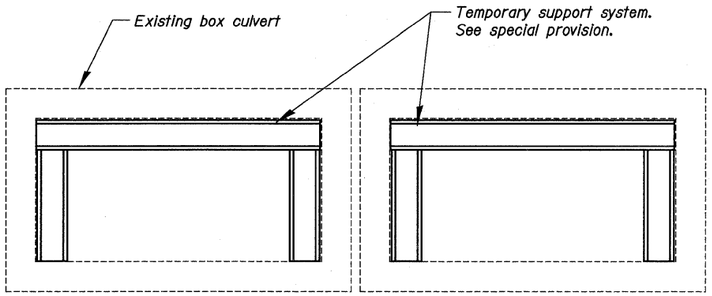
The design fill for this structure is 2 feet. The precast concrete box culvert sections shall conform to the requirements of AASHTO M259-I.

See Sheet 3 of 7 for culvert construction sequence.

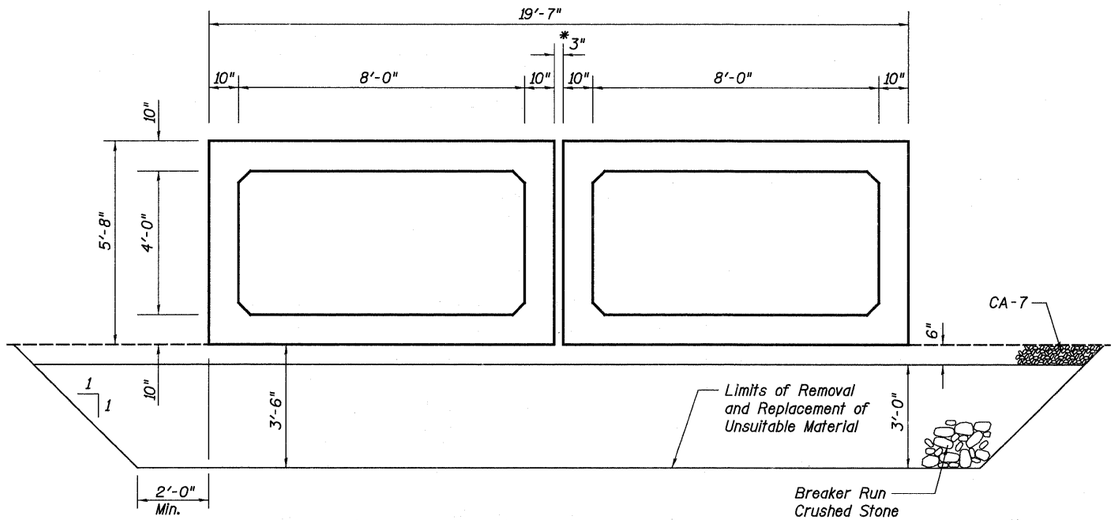
The box culvert end section shall be built in the field and a precast option is not allowed except the cutoff wall may be precast. If the contractor elects to use a precast cutoff wall, shop drawings and a proposed construction sequence shall be submitted to the engineer for approval.

Areas of the precast box culvert in contact with cast-in-place concrete shall be sandblasted, cleaned and wetted prior to placing concrete in the field according to Article 503.09(b).

The ends of the precast box culvert adjacent to the end section shall be formed without the male and female shapes specified in Article 8.1 of AASHTO M259-I.



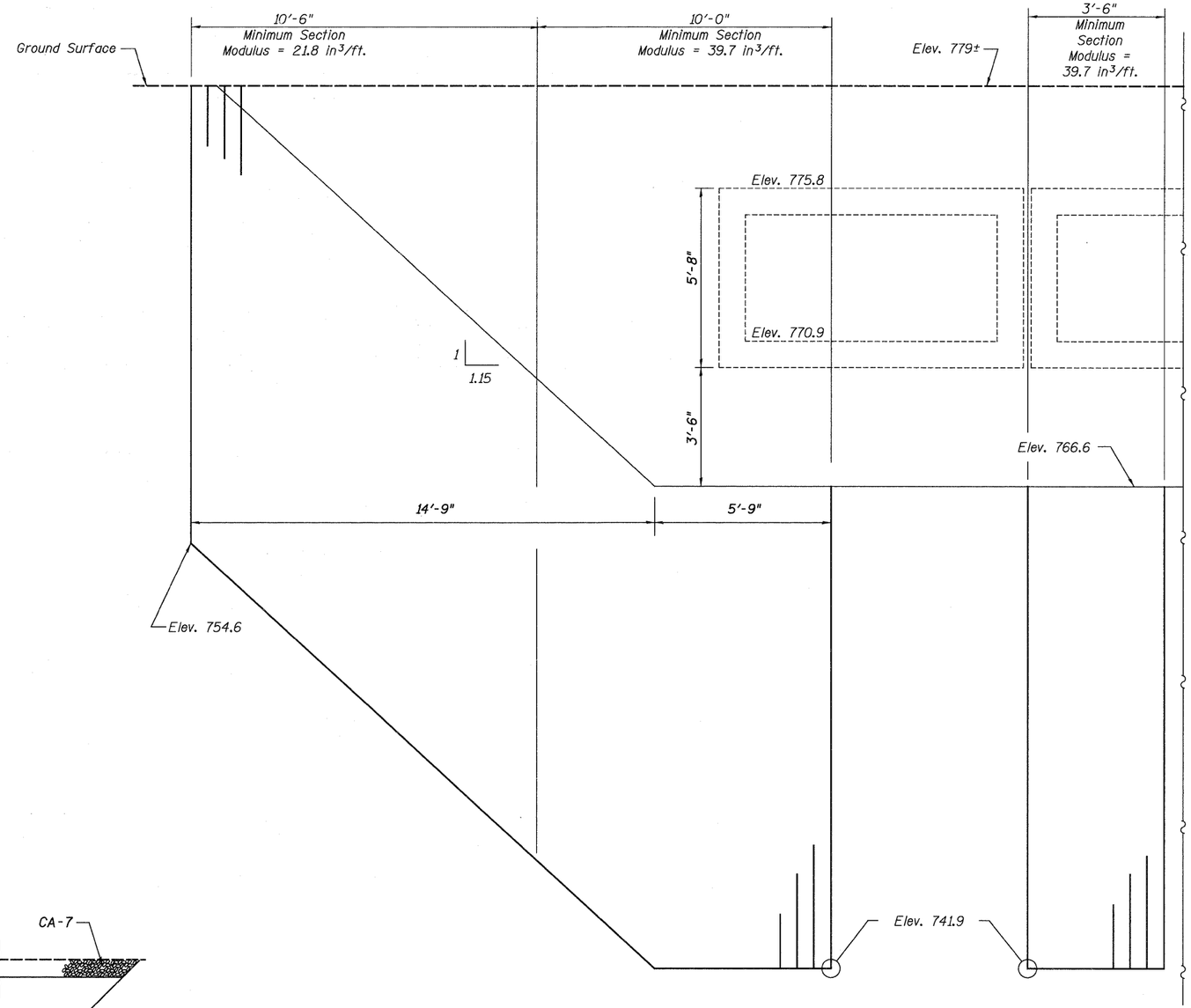
SECTION THRU EXISTING CULVERT



SECTION THRU PRECAST BARREL

2 - Cell Precast Box Culvert

* Nominal space filled with class SI concrete per article 540.06



TEMPORARY SHEET PILING

If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

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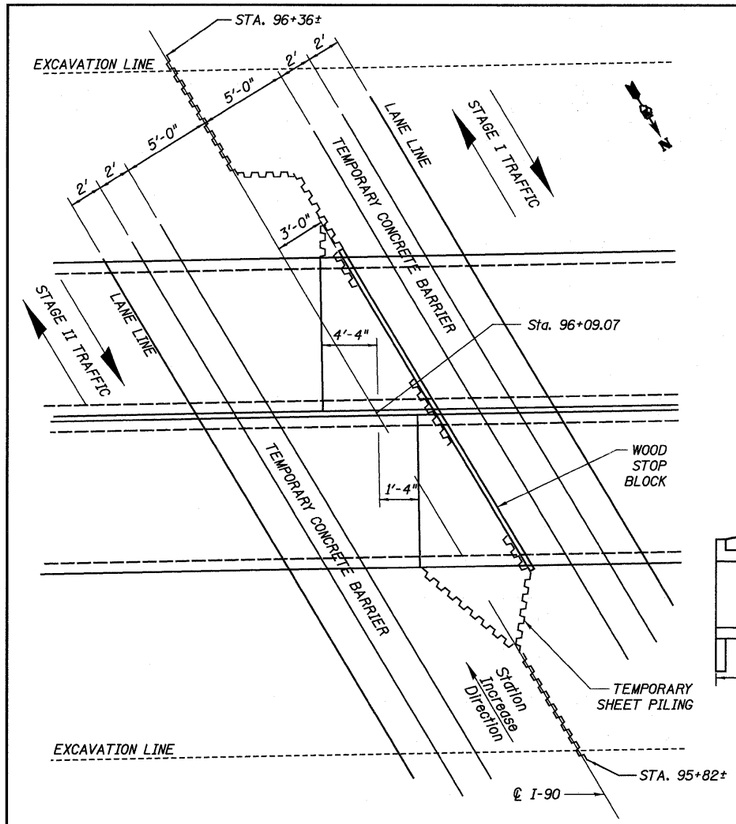
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 101-1095
BOX CULVERT SHEET NO. 2 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	395
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



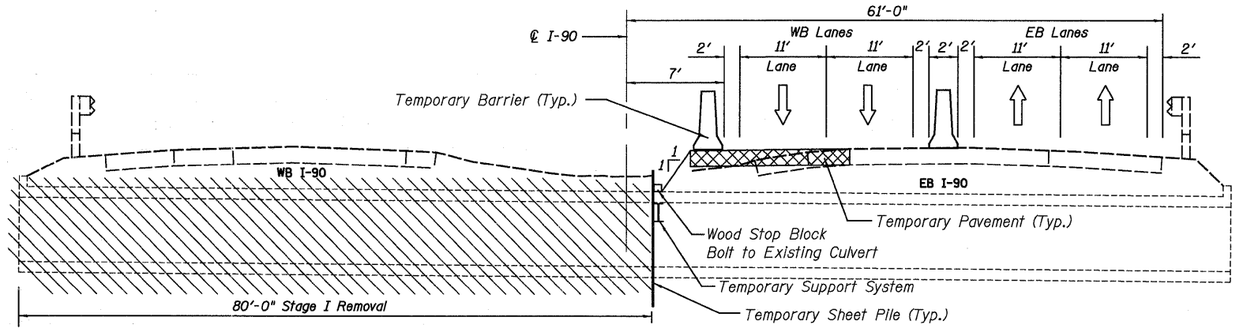
STAGING DETAIL

STAGE I

1. Construct temporary pavement.
2. Shift traffic to Eastbound I-90 using crossover.
3. Remove east half of existing box culvert.
4. Construct east half of proposed box culvert.
5. Construct proposed Westbound roadway.

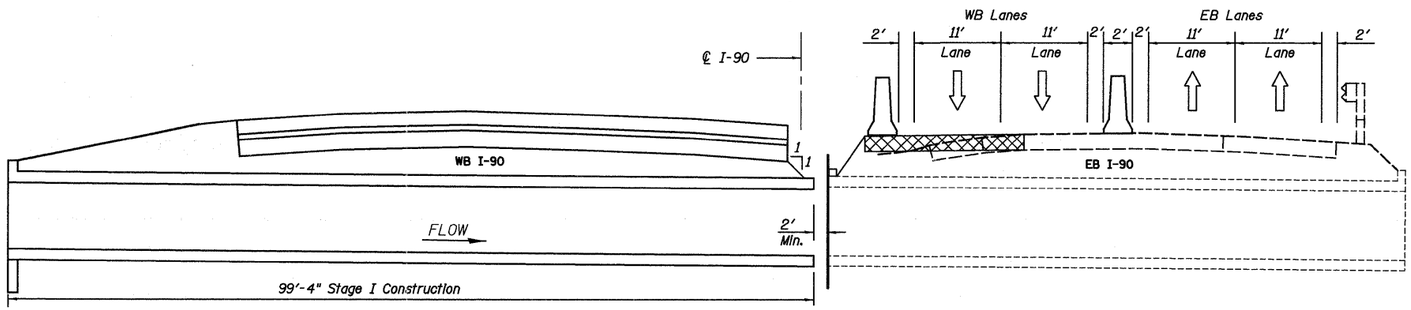
STAGE II

1. Shift traffic to Westbound I-90 using crossover.
2. Remove west half of existing box culvert.
3. Construct west half of proposed box culvert.
4. Construct proposed Eastbound roadway.
5. Construct permanent median barrier.



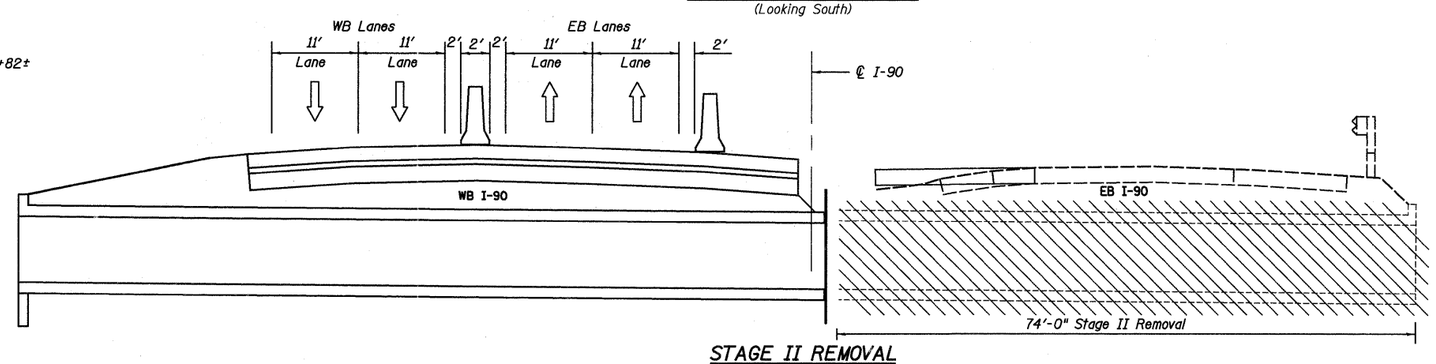
STAGE I REMOVAL

(Looking South)



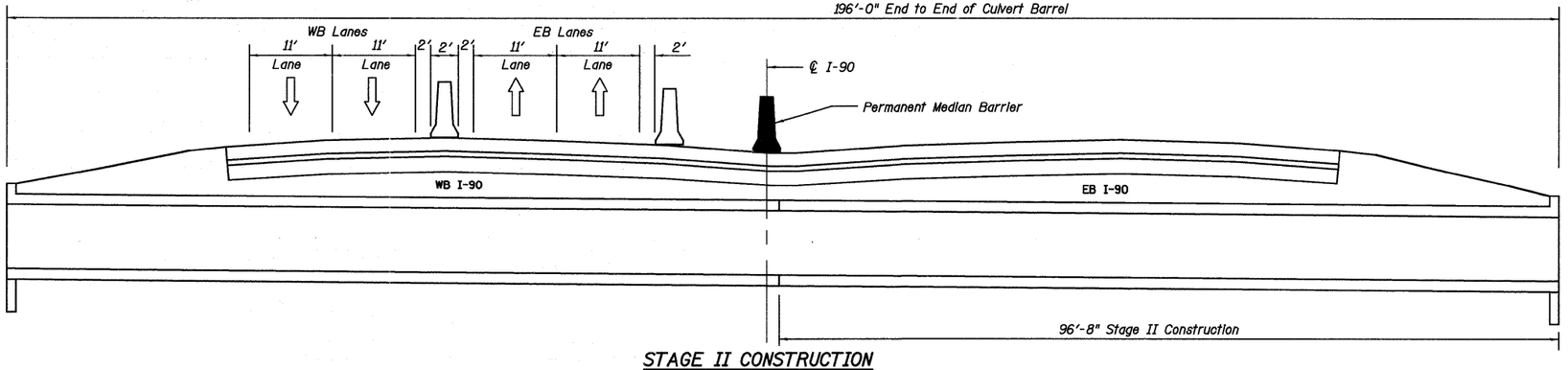
STAGE I CONSTRUCTION

(Looking South)



STAGE II REMOVAL

(Looking South)



STAGE II CONSTRUCTION

(Looking South)

LEGEND

- Temporary Pavement
- Removal Area

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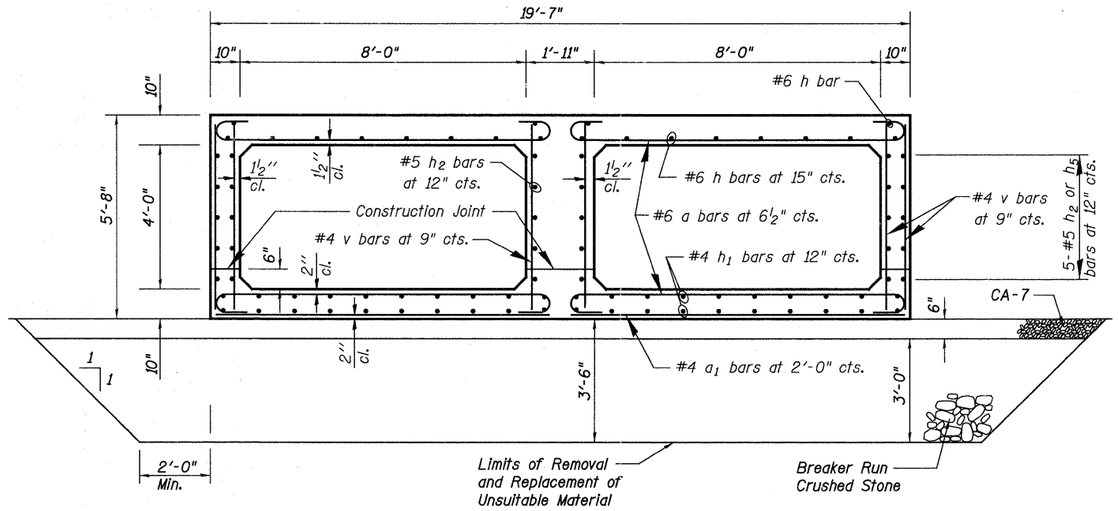
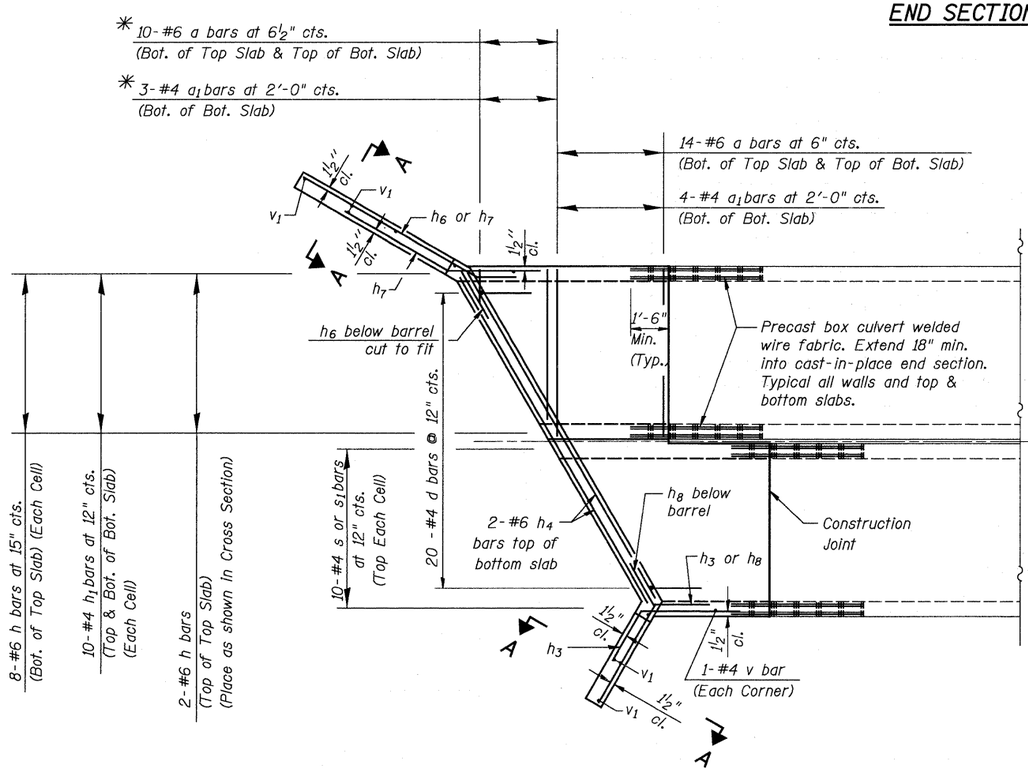
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
STRUCTURE NO. 101-1095
BOX CULVERT SHEET NO. 3 OF 7 SHEETS

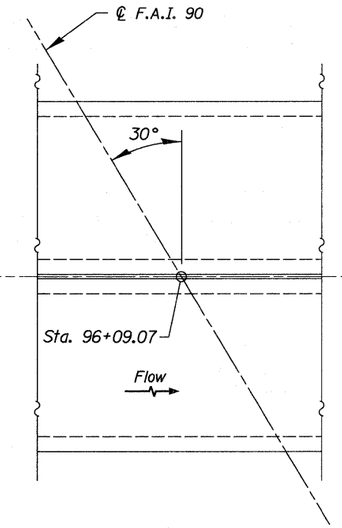
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	396
		CONTRACT NO. 64C29		
	ILLINOIS	FED. AID PROJECT		



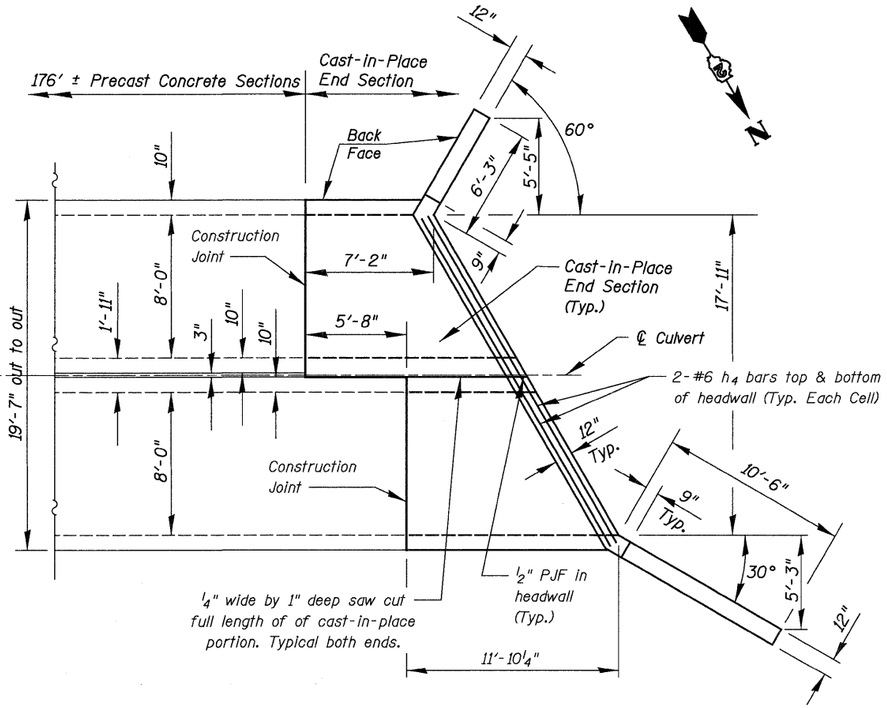
END SECTION DETAIL



SHOWING REINFORCEMENT



PLAN



SHOWING OUTLINES

* a and a_1 bars in skew portion of slab shall be ordered full length and cut to fit. Remaining bars to be used in adjacent cell.

Notes:
See Sheet 5 of 7 for section A-A and additional reinforcing information.

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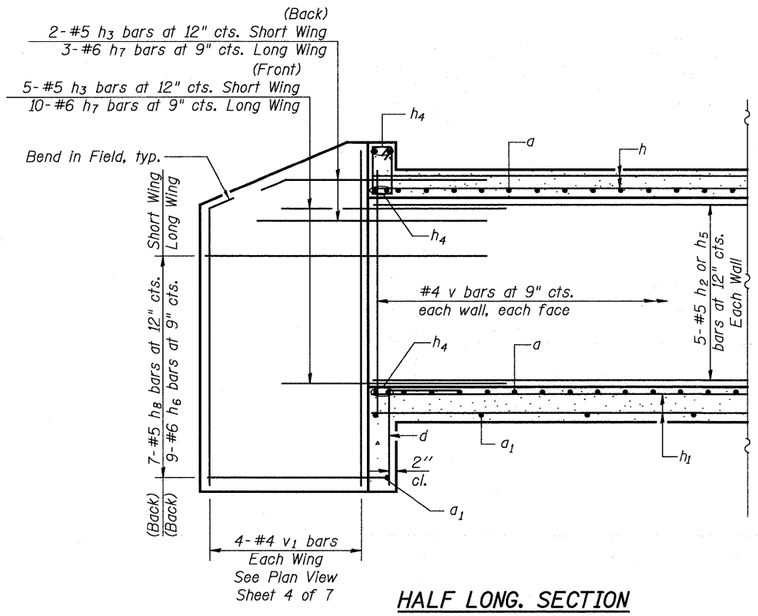
PLOT DATE =	CHECKED - JTT	REVISED -

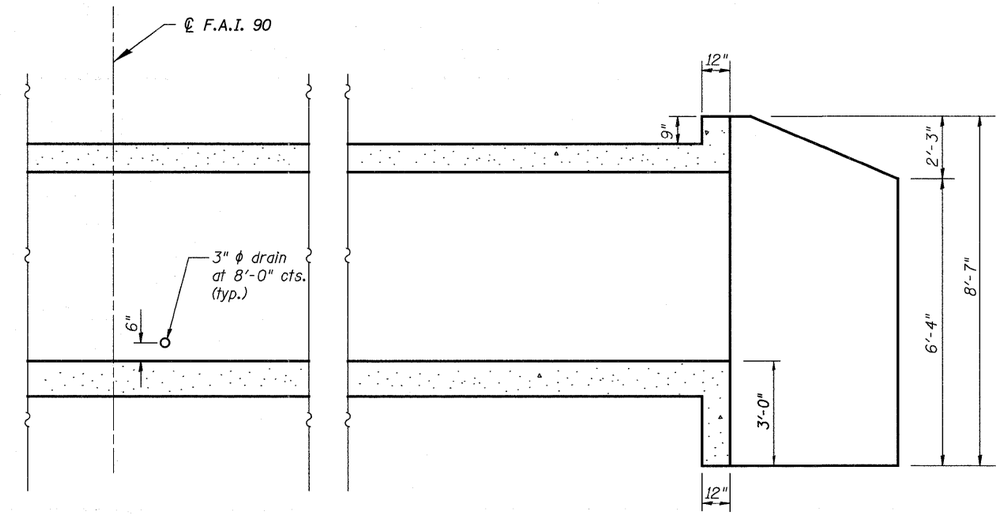
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BOX CULVERT END SECTION DETAILS
STRUCTURE NO. 101-1095
BOX CULVERT SHEET NO. 4 OF 7 SHEETS

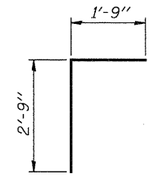
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	397
		CONTRACT NO. 64C29		
		ILLINOIS FED. AID PROJECT		



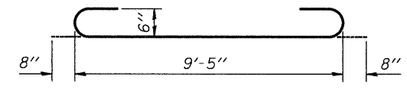
HALF LONG. SECTION



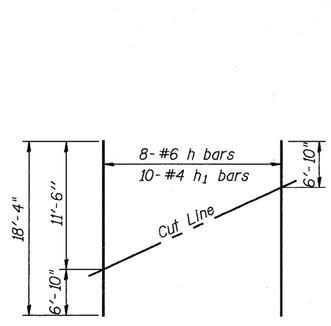
HALF ELEVATION



BAR d

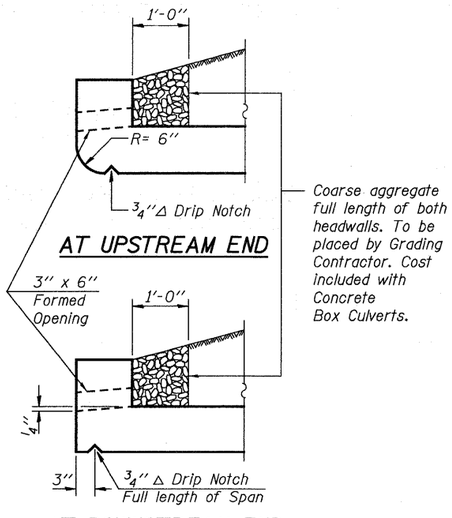


BAR a

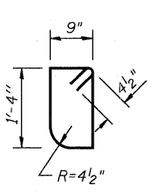


FIELD CUTTING DIAGRAM

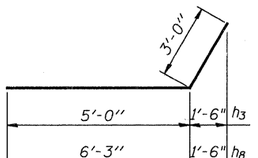
Order bars full length. Cut as shown and use remainder of bars in adjacent cell.



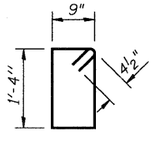
DRAIN DETAIL



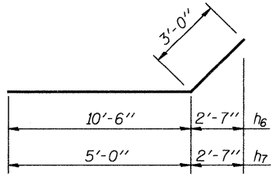
BAR s



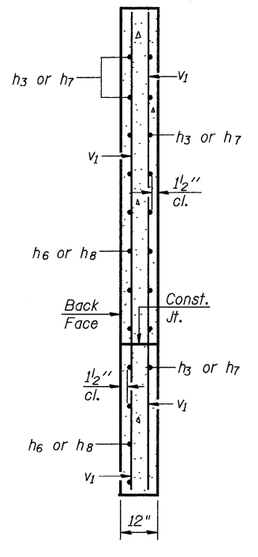
BARS h3 & h8



BAR s1



BARS h6 & h7



SECTION A-A

BILL OF MATERIAL

(FOR INFORMATION ONLY)

Bar	No.	Size	Length	Shape
a	152	#6	10'-9"	
a_1	26	#4	9'-5"	
d	40	#4	4'-6"	
h	20	#6	18'-4"	
h_1	40	#4	18'-4"	
h_2	30	#5	6'-10"	
h_3	14	#5	8'-0"	
h_4	24	#6	10'-11"	
h_5	30	#5	11'-6"	
h_6	18	#5	13'-6"	
h_7	26	#6	8'-0"	
h_8	14	#5	9'-3"	
s	20	#4	4'-9"	
s_1	20	#4	4'-11"	
v	166	#4	5'-4"	
v_1	16	#4	8'-3"	
Concrete Box Culverts			Cu. Yd.	28.7
Reinforcement Bars			Pound	6370

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BOX CULVERT END SECTION DETAILS
STRUCTURE NO. 101-1095
BOX CULVERT SHEET NO. 5 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	398
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 4/8/09

ROUTE FAI 90 DESCRIPTION D92-075-06 I-90 box culvert, N. of Rockton Road LOGGED BY W. Garza

SECTION (X2-1) J-2 LOCATION , SEC., TWP., RNG.

COUNTY Winnebago DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45 Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 96+42
Offset 37.00ft Lt NB CL
Ground Surface Elev. 93.50 ft

Surface Water Elev. Dry ft
Stream Bed Elev. 93.50 ft

Groundwater Elev.:
First Encounter 66.5 ft ▼
Upon Completion Wash ft
After ____ Hrs. ____ ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
STIFF dark brown LOAM				
			1.1 P	19.0
	91.50			
MEDIUM brown SANDY LOAM		2		
		3	0.5 P	17.0
		5		
	89.50			
LOOSE brown dirty SAND	-5	3		
		3		
	87.50	4		
LOOSE tan clean medium coarse SAND		2		
		2		
	85.00	3		
VERY LOOSE tan clean medium coarse SAND	-10	1		
		0		
	82.50	1		
LOOSE tan SANDY GRAVEL		3		
		4		
	80.00	5		
MEDIUM tan SANDY GRAVEL	-15	5		
		6		
	77.50	7		
MEDIUM tan SANDY GRAVEL		5		
		8		
	75.00	8		
	-20	3		

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM tan clean medium coarse SAND *(continued)*		5		
	72.50	8		
MEDIUM tan fine SAND		2		
		4		
	70.00	6		
MEDIUM tan fine, moist SAND	-25	2		
		6		
	67.50	8		
LOOSE tan fine SAND	▼	1		
		2		
	65.00	5		
MEDIUM tan clean medium coarse SAND	-30	2		
		5		
	62.50	10		
Wash No Recovery		4		
		7		
	60.00	10		
MEDIUM tan fine SAND	-35	7		
		12		
	57.50	16		
End of Boring				
	-40			

Soil Boring B-1 (96+42)
Soil Boring Log Ground Surface Elevation of 93.50 = Plan Elevation of 776.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 101-1095
BOX CULVERT SHEET NO. 6 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	399
		CONTRACT NO. 64C29		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 9/10/98

ROUTE FAI 90 DESCRIPTION (P92-066-06 Failed WW) Box Culvert, 0.1 mile south of Prairie Hill Road, Failed Wing Wall LOGGED BY C. Jenkins

SECTION _____ LOCATION Roscoe Twp. - NW15, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD _____ HAMMER TYPE _____

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 95+69
Offset 42.50ft Rt SB CL
Ground Surface Elev. 92.20 ft

Surface Water Elev. 92.50 ft
Stream Bed Elev. 92.00 ft

Groundwater Elev.:
First Encounter 62.2 ft ▼
Upon Completion Wash ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				MEDIUM brown SANDY LOAM
		0.5 P		
89.70				
	2			SOFT brown SANDY LOAM
	2	0.3		
	5	S		
87.70				
-5	6			LOOSE brown medium grained SAND
	4			
85.70	3			
	2			LOOSE brown medium grained SAND & GRAVEL
	2			
83.20	3			
-10	1			VERY LOOSE tan, fine grained SAND
	2			
80.70	1			
	3			VERY LOOSE tan SAND & GRAVEL
	2			
78.20	2			
-15	3			LOOSE tan fine grained SAND
	3			
75.70	4			
	4			Same as above
	4			
73.20	6			
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			Same as above
	5			
70.70	7			
	7			DENSE tan fine SAND
	15			
68.20	17			
-25	9			MEDIUM tan medium grained SAND
	12			
65.70	14			
	8			Same as above
	13			
63.20	14			
-30 ▼	4			MEDIUM tan medium grained SAND
	9			
60.70	13			
	4			MEDIUM tan fine grained SAND
	13			
58.20	14			
-35	6			MEDIUM tan medium grained SAND
	8			
55.70	11			
	13			Begin Wash
	21			DENSE tan medium grained SAND
53.20	27			
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 9/10/98

ROUTE FAI 90 DESCRIPTION (P92-066-06 Failed WW) Box Culvert, 0.1 mile south of Prairie Hill Road, Failed Wing Wall LOGGED BY C. Jenkins

SECTION _____ LOCATION Roscoe Twp. - NW15, SEC., TWP. 46N, RNG. 2E

COUNTY Winnebago DRILLING METHOD _____ HAMMER TYPE _____

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 95+69
Offset 42.50ft Rt SB CL
Ground Surface Elev. 92.20 ft

Surface Water Elev. 92.50 ft
Stream Bed Elev. 92.00 ft

Groundwater Elev.:
First Encounter 62.2 ft ▼
Upon Completion Wash ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	5			Same as above
	16			
50.70	22			
				End of Boring
-45				
-50				
-55				
-60				

Soil Boring B-1 (95+69)
Soil Boring Log Ground Surface Elevation of 92.20 = Plan Elevation of 778.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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PLOT SCALE =	DRAWN - JBB	REVISED -	
PLOT DATE =	CHECKED - JTT	REVISED -	

SOIL BORING LOGS
STRUCTURE NO. 101-1095
BOX CULVERT SHEET NO. 7 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(X2-1)R	WINNEBAGO	510	400
		CONTRACT NO. 64C29		
		ILLINOIS	FED. AID PROJECT	