

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

**PROPOSED  
 HIGHWAY PLANS**

FAI ROUTE 88 (I-88)  
 SECTION (195-3HB-3)P

BRIDGE PAINTING  
 WHITESIDE COUNTY

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
88	195-3HB-3)P	Whiteside	8	3
		ILLINOIS	CONTRACT NO. 64G19	

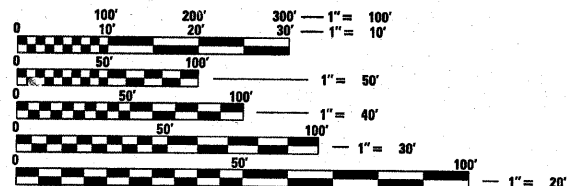
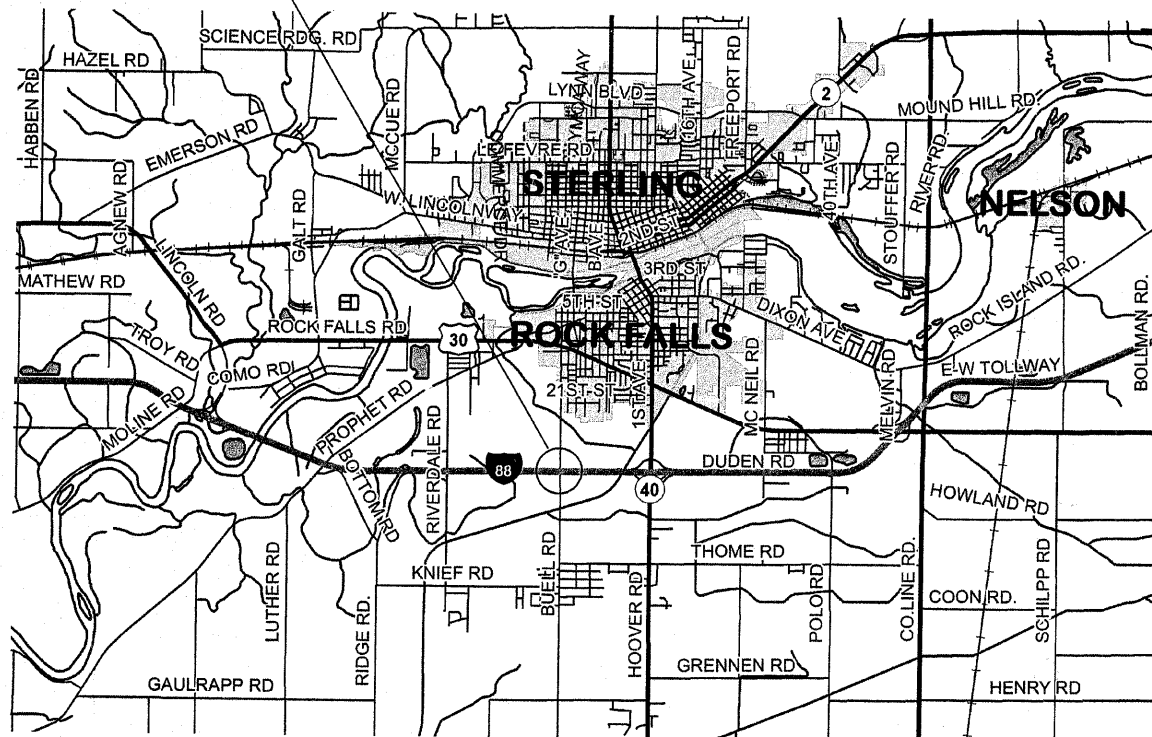
FOR INDEX OF SHEETS, SEE SHEET NO. 3

D-92-070-10



Project Location  
 Structure No. 098-0083

C-92-137-10



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

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

DISTRICT BRIDGE PAINT TECHNICIAN - DAN LINK 815/284-5416  
 DISTRICT BRIDGE ENGINEER - MAHMOUD ETEMADI 815/284-5393

CONTRACT NO. 64G19

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED March 16 2010  
George F. Ryan  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 7 2010  
Scott E. Stitt, P.E.  
 Acting ENGINEER OF DESIGN AND ENVIRONMENT

May 7 2010  
Christine M. Reed  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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 OF THE STATE OF ILLINOIS



# GENERAL NOTES

A minimum of 2 air monitors will be required to monitor abrasive blasting operations, see special provision for "Containment and Disposal of Lead Paint Cleaning Residues".

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 2A shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1. Class 2A shall be used on front slopes and ditch bottoms. Class 4 shall be used behind Type A gutter, on all backslopes and areas behind the backslope, and beyond the toe of front slope on fill sections without ditches. This work will be included in the contract unit price per LUMP SUM for CLEANING AND PAINTING STEEL BRIDGE NO. 1.

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the cost of CLEANING AND PAINTING STEEL BRIDGE NO. 1.

Mulch Method II shall be applied over all seeded areas. This shall be included in the cost of the CLEANING AND PAINTING STEEL BRIDGE NO. 1.

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123.

# INDEX OF SHEETS

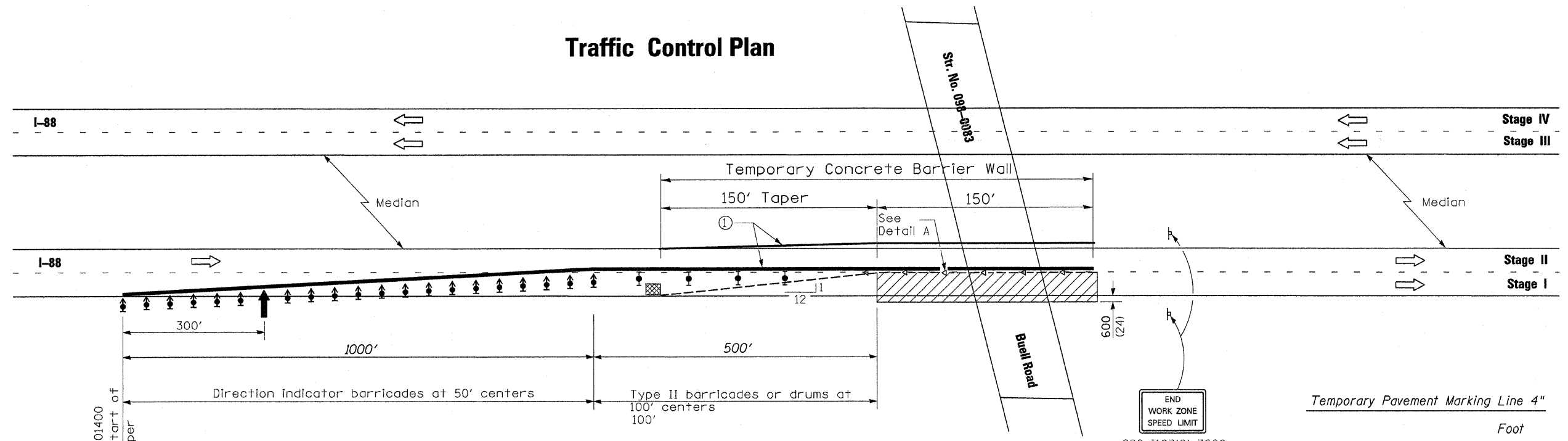
1. Cover Sheet
2. Summary of Quantities
3. General Notes, Index of Sheets, Standards
4. Traffic Control Plan  
Existing Bridge Plans Structure No. 098-0083
5. General Plan & Elevation
6. Superstructure
7. Framing Plan
8. Bearings

# STANDARDS

- 701101-02 Off-Road Operations, Multilane, 4.5 m (15') to 600 mm (24") From Pavement Edge
- 701301-03 Lane Closure, 2L, 2W, Short Time Operations
- 701400-04 Approach to Lane Closure, Freeway/Expressway
- 701402-07 Lane Closure, Freeway/Expressway, with Barrier
- 701406-05 Lane Closure, Freeway/Expressway, Day Operations Only
- 701901-01 Traffic Control Devices
- 704001-06 Temporary Concrete Barrier
- 720001-01 Sign Panel Mounting Details
- 720006-02 Sign Panel Erection Details
- 720011-01 Metal Posts for Signs, Markers and Delineators
- 728001-01 Telescoping Steel Sign Support
- 729001-01 Applications of Types A and B Metal Posts (For Signs & Markers)

FILE NAME =	USER NAME = lmkdj	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES, INDEX OF SHEETS, STANDARDS</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\BRV\Brdge Painting\Contract\PAINTING\64G19\PLANeng.dgn	DRAWN -	REVISED -	88			(195-3HB-3)P	Whiteside	8	3	
PLOT SCALE = 50,0000' / IN.	CHECKED -	REVISED -	CONTRACT NO. 64G19							
PLOT DATE = Tue Mar 16 06:42:58 2010	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							
						SCALE: _____	SHEET NO. _____ OF _____ SHEETS	STA. _____ TO STA. _____		

# Traffic Control Plan



### Temporary Concrete Barrier

Stage I	300 Feet
<b>Total</b>	<b>300 Feet</b>

### Impact Attenuators, Temporary

Stage I	1 Each
<b>Total</b>	<b>1 Each</b>

### Temporary Pavement Marking Line 4"

	Foot
Stage I	1950
Stage II	1950
Stage III	1950
Stage IV	1950
<b>Total</b>	<b>7800 Foot</b>

### Pavement Marking Removal

Stage I	100
Stage II	100
Stage III	100
Stage IV	100
<b>Total</b>	<b>400 Sq Ft</b>

### Relocate Temporary Concrete Barrier

Stage II	300
Stage III	300
Stage IV	300
<b>Total</b>	<b>900</b>

### Impact Attenuators, Relocate

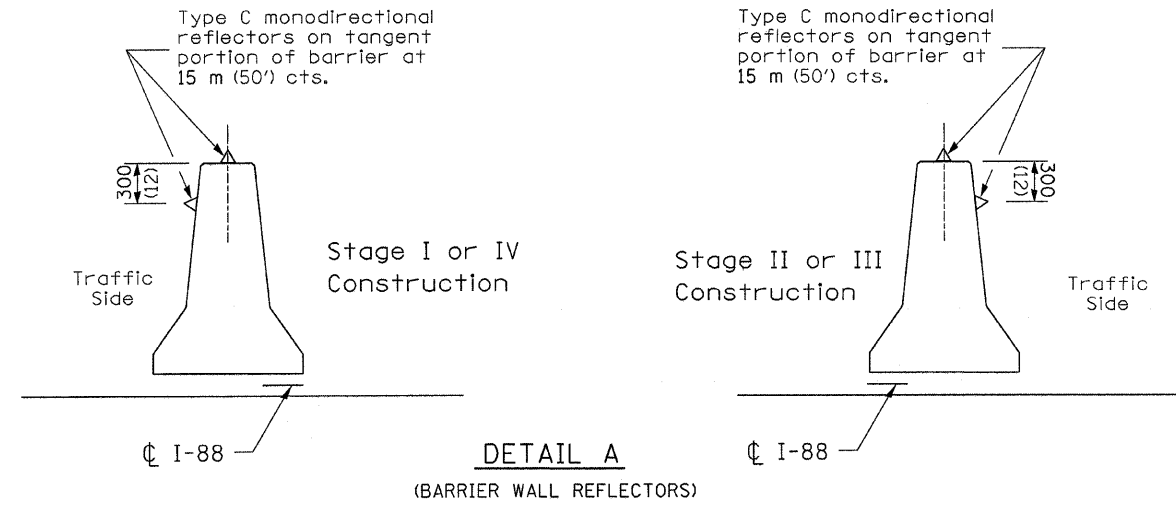
Stage II	1
Stage III	1
Stage IV	1
<b>Total</b>	<b>3 Each</b>

### Workzone Pavement Marking Removal

	Sq Ft
Stage I	650
Stage II	650
Stage III	650
Stage IV	650
<b>Total</b>	<b>2600 Sq Ft</b>

### Short-term pavement marking

Project	48
<b>Total</b>	<b>48 Feet</b>



### SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ♣ Sign
- ⬆ Direction indicator barricade with steady burn monodirectional light
- ⊞ Type II barricade or drum with steady burn monodirectional light
- Temporary concrete barrier
- ◁ Type C Monodirectional reflector
- ▣ Impact attenuator

① Temporary pavement marking shall be placed throughout the taper and along-side the work area. The edge line shall be white for right lane closure and yellow for left lane closures.

All dimensions are in millimeters (Inches) unless otherwise shown.

Traffic Control Plan  
Buell Road over I-88  
FAI Route 88 Section D2 Bridge Painting 2010-2  
Whiteside County  
Structure No. 098-0083

FILE NAME =	USER NAME = lmkdj	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>Traffic Control Plan Structure No. 098-0083</b>			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\NBR\Bridge Painting\Contracts\PAINTING\64G19\PLANeng.dgn		DRAWN -	REVISED -		88	D2 Bridge Painting 2010-2	Whiteside	8	4			
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -		CONTRACT NO.							
PLOT DATE = Tue Mar 16 06:42:49 2010		DATE -	REVISED -		FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT							

# FOR INFORMATION ONLY

STATE OF ILLINOIS  
DIVISION OF HIGHWAYS

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA 403	195-3HB	WHITESIDE	24	9

SHEET NO. 11

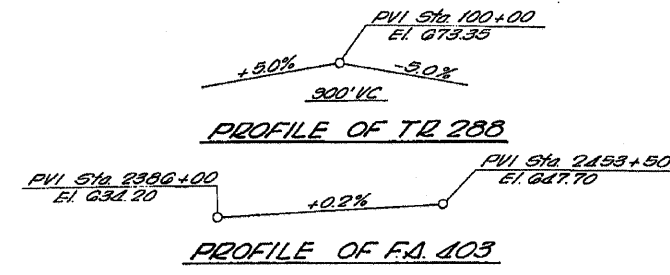
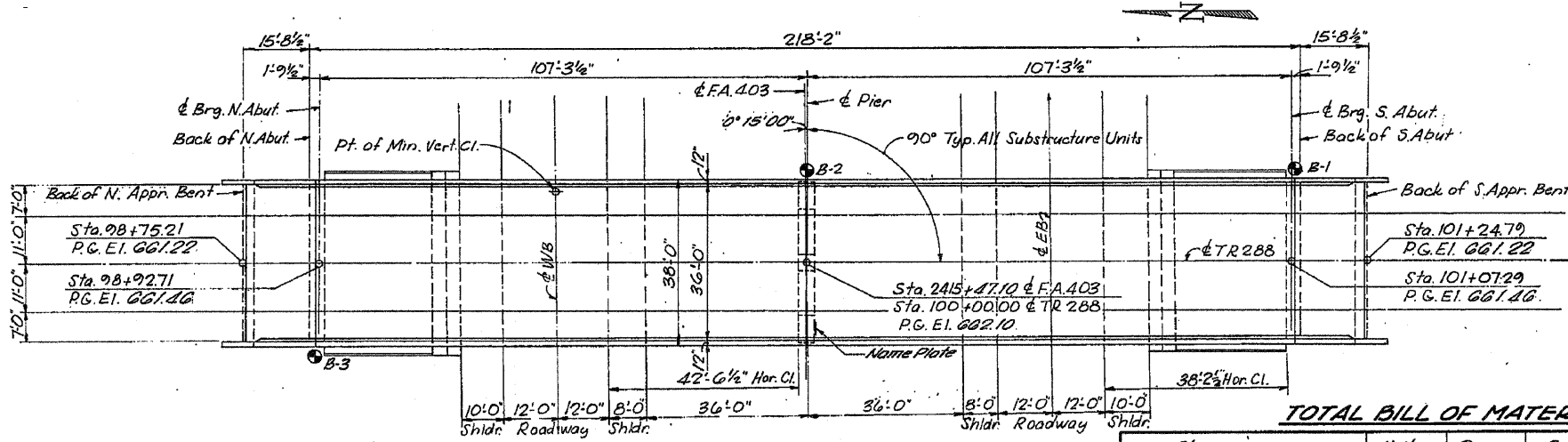
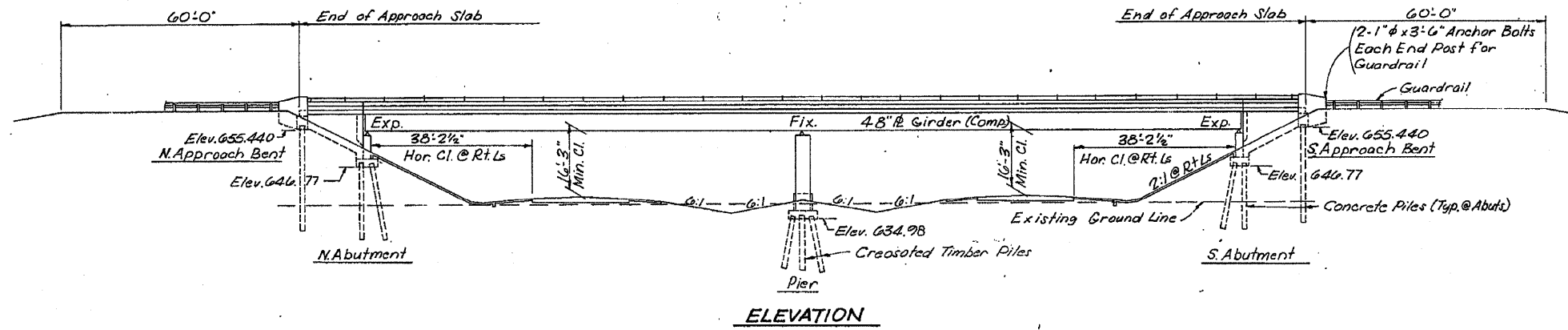
### GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.  
Fasteners shall be high strength bolts. Bolts  $\frac{3}{8}$ "  $\phi$ ; open holes  $\frac{1}{8}$ "  $\phi$  unless otherwise noted.  
Calculated weight of Structural Steel = 253,167 lbs.  
The basic lead silico chromate paint system shall be used for shop and field painting of Structural Steel.  
Field welding of construction accessories will not be permitted to bottom of flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting diaphragms over supports.  
Slab wall shall be reinforced with welded wire fabric  $6 \times 6$ " mesh, weighing 58# per 100 sq. ft.  
The contractor shall drive one concrete test pile of each abutment and one timber pile in vicinity of pier as directed by the Engineer before ordering the remainder of piles.  
Concrete piles at abutments shall be driven in holes prepared through the embankment in accordance with Article 513.09(c) of the Standard Specifications.  
The concrete rail section above the mandatory construction joint of the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.  
Protective Coat shall not be applied to surfaces to which Cool Tar Interlayer Protective Coat is applied.  
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutment.

### DESIGN STRESSES

$f_c = 1200$  psi Deck Slab  
 $f_c = 1400$  psi Curb, Parapet, & Substructure  
 $V_c = 75$  psi (Footings)  
 $n = 10$   
 $f_s = 20,000$  psi Reinf.  
 $f_s = 20,000$  psi Struct.  
Allowable  $\Delta$  Deflection =  $\frac{1}{1200}$   
Design Specifications 1969 AASHTO (as applicable)  
Allow: 25# per square ft. for future wearing surface.

### LOADING - HS 15-44

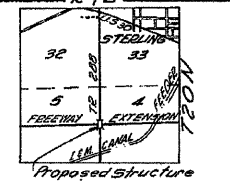
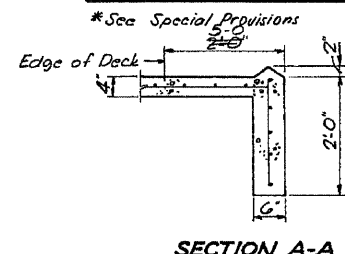
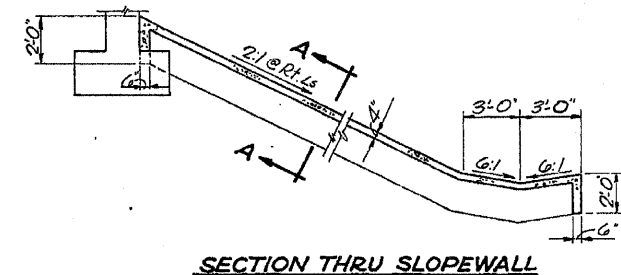


STATION 2415+47.10  
BUILT 1972 BY  
STATE OF ILLINOIS  
F.A. RTE. 403 SEC. 195-3HB-3  
LOADING HS15

NAME PLATE  
See Std. 2113

### TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total	
Structure Excavation	Cu. Yds.		72	72	56
Class X Concrete	Cu. Yds.	302.2	197.8	500.0	506.7
Structural Steel	Lump Sum	1		1	86,725.0
Reinforcement Bars	Lbs.	65846	20899	86745	1372.0
Concrete Piles	Lin. Ft.		2047	2047	
Test Piles, Concrete	Ea.		2	2	
Slope Wall 4"	Sq. Yds.		290	290	413.0
Bit. Surf. Class I	Tons	81		81	
Cool Tar Inter. Prot. Coat	Sq. Yds.	96.0		96.0	959
Aluminum Railing	Lin. Ft.	489		489	
Preformed Jt. Sealer	Lin. Ft.	76		76	
Stud Shear Connectors, $\frac{3}{4}$ "	Ea.	1890		1890	
Name Plate	Ea.		1	1	
Protective Coat	Sq. Yds.	160	36	196	219
Sand Backfill	Cu. Yds.		155	155	166.0
Crescoted Timber Piles (201#39)	Lin. Ft.		1008	1008	875.0
Test Piles, Timber	Ea.		1	1	



DESIGNED	H. Walker	EXAMINED	
CHECKED	C. Clary	PASSED	
DRAWN	C. Clary	APPROVED	
CHECKED	S. McKnight		

GENERAL PLAN & ELEVATION  
PROJECT F.A. 403  
T.R. 288 OVER F.A. 403  
F.A. RTE. 403-SEC. 195-3HB-3  
WHITESIDE COUNTY  
STATION 2415+47.10

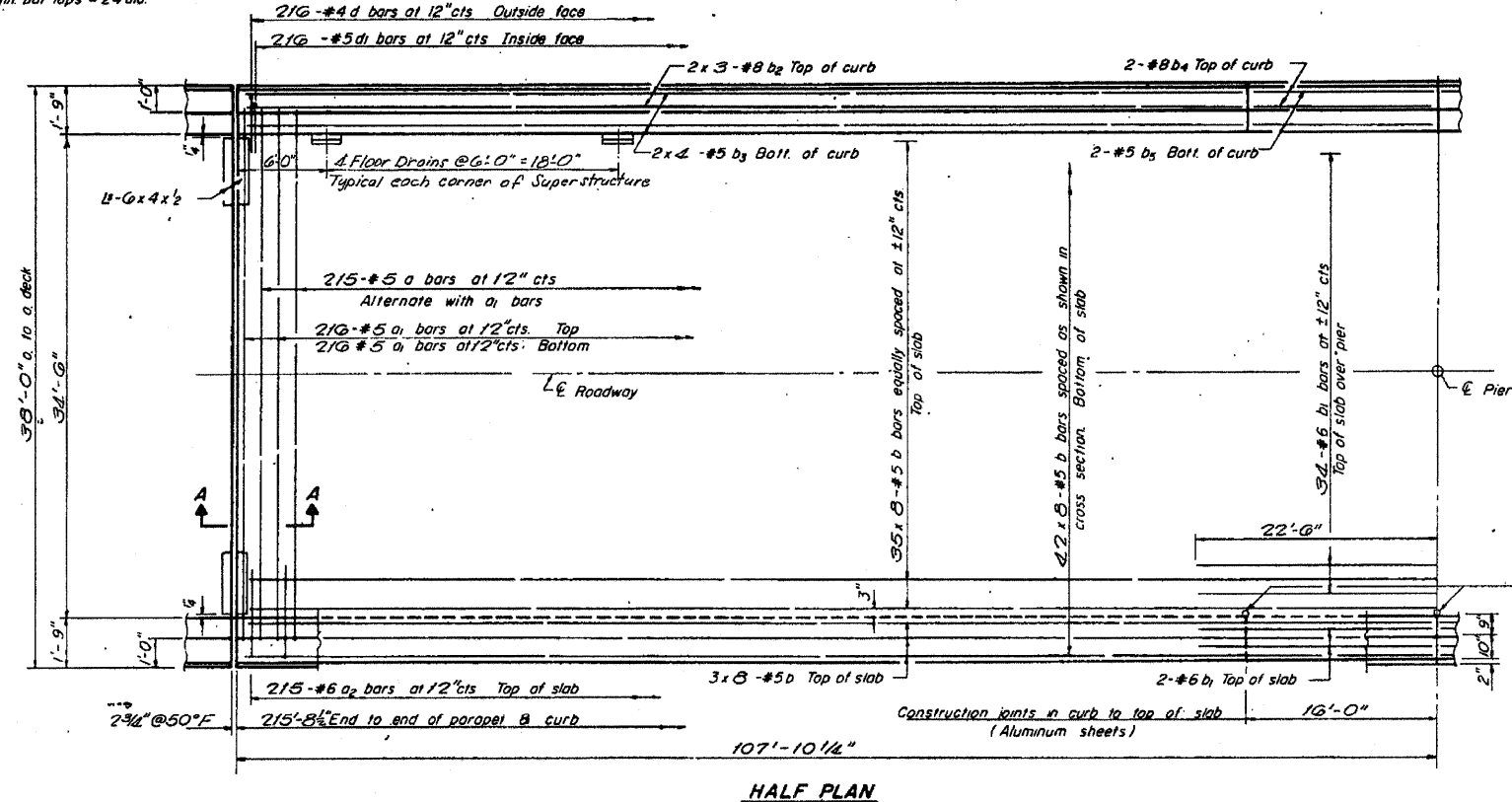
PLANS PREPARED BY MACKIE ENGINEERING CO.  
Rev. Structure Excav. 1-13-72

NOTE:  
Bars indicated in 20' lengths  
indicates 20 line  
lengths per line.  
Min. bar laps = 24" dia.

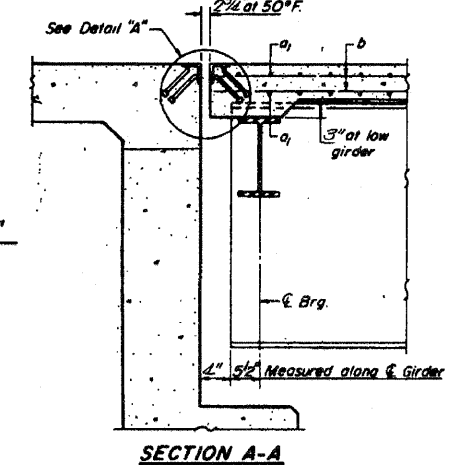
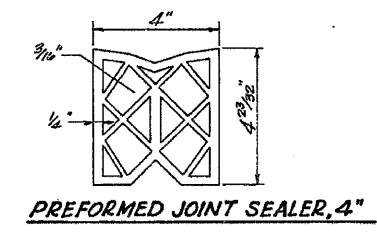
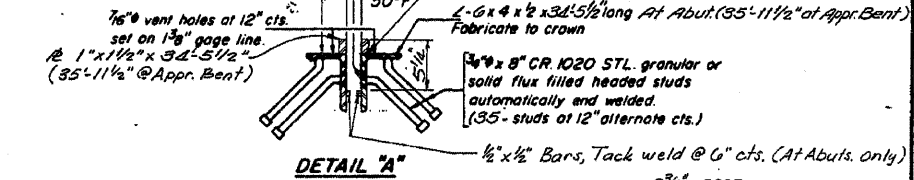
# FOR INFORMATION ONLY

STATE OF ILLINOIS  
DIVISION OF HIGHWAYS

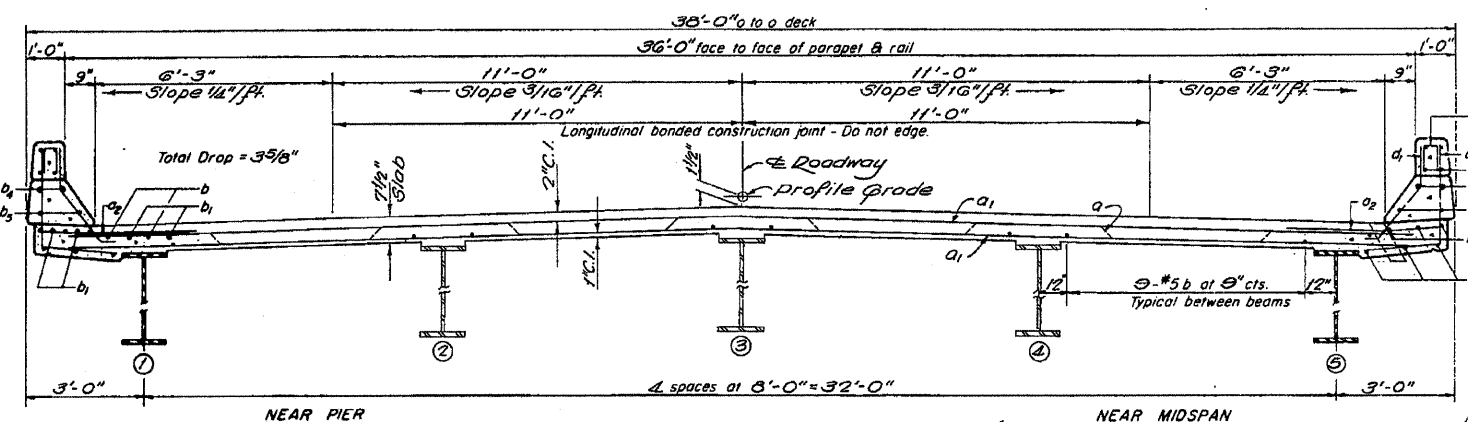
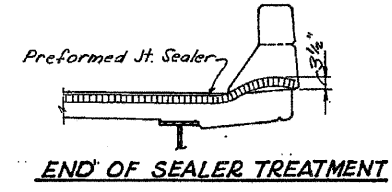
PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
FA-403	195-3HB-3	24	11



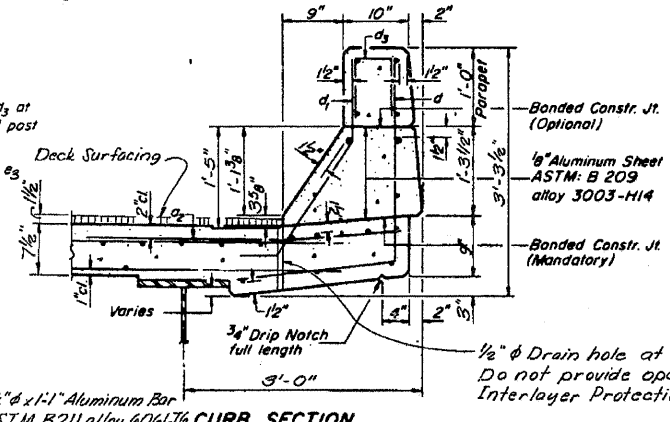
7/8" holes at 12" cts. for 3/8" bolts set on 2 1/2" gage line. All bolts shall be burned, sawed or clipped off flush with back of angles after forms are removed.



1/2" dia Drain holes under Interlayer Protective Coat at each joint. (Typ. Ea. Side)



NOTE: For placement of bars d3 and e1 thru e3 see sheet #5.

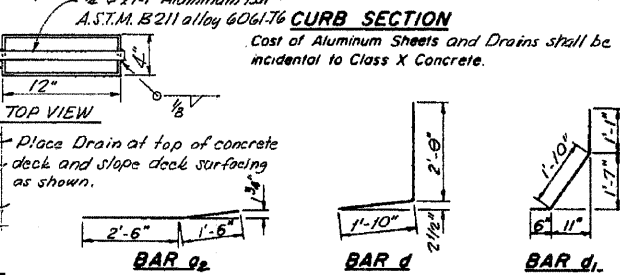
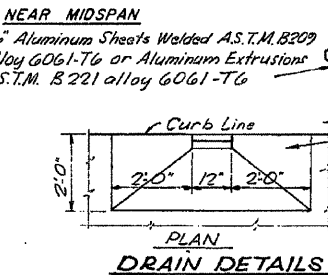
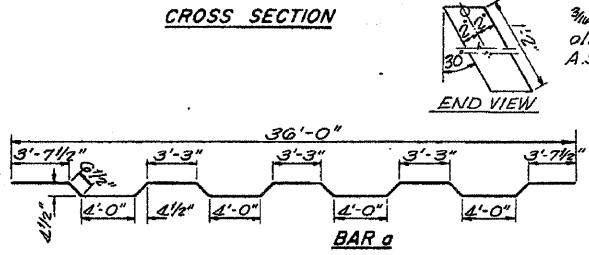


### BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	215	#5	37'-2"	
a1	432	#5	36'-0"	
a2	430	#6	4'-0"	
b	262	#5	23'-0"	
b1	38	#6	45'-0"	
b2	24	#8	31'-11"	
b3	32	#5	23'-4"	
b4	8	#8	15'-9"	
b5	8	#5	15'-9"	
d	432	#4	2'-7"	
e	432	#5	3'-5"	
Reinforcement Bars				Lbs. 55310
Class X Concrete				Cu. Yds. 201.8

DESIGNED	C. Clary	EXAMINED	
CHECKED	S. M. Knight	PASSED	
DRAWN	C. Clary	APPROVED	
CHECKED	S. M. Knight		

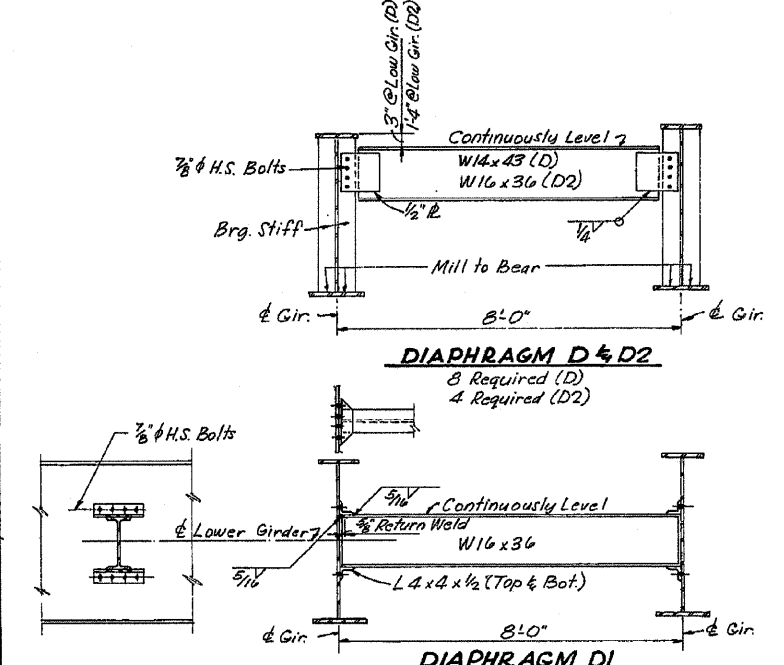
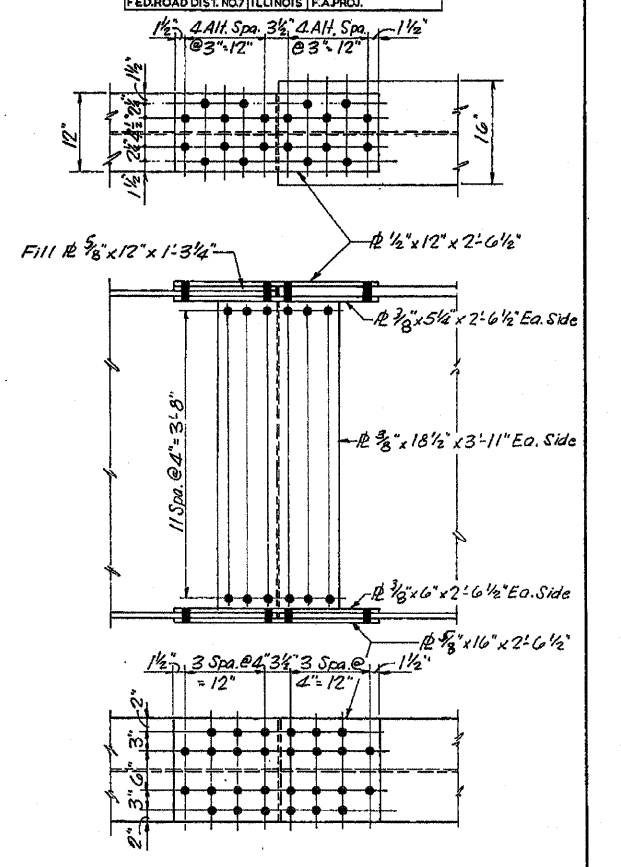
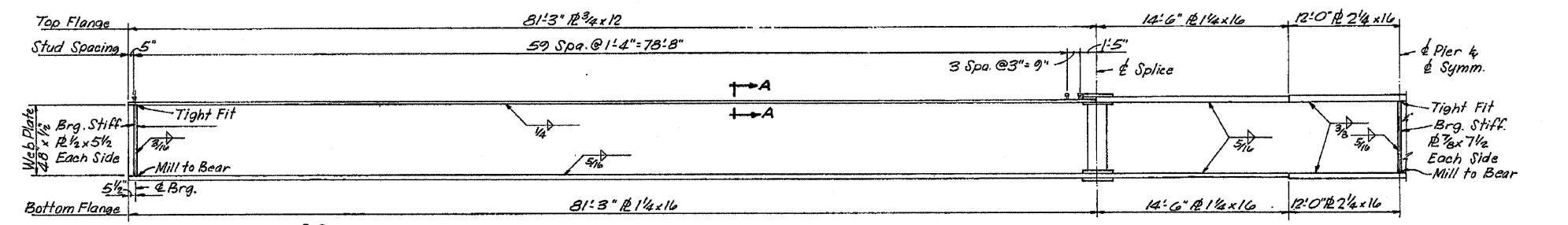
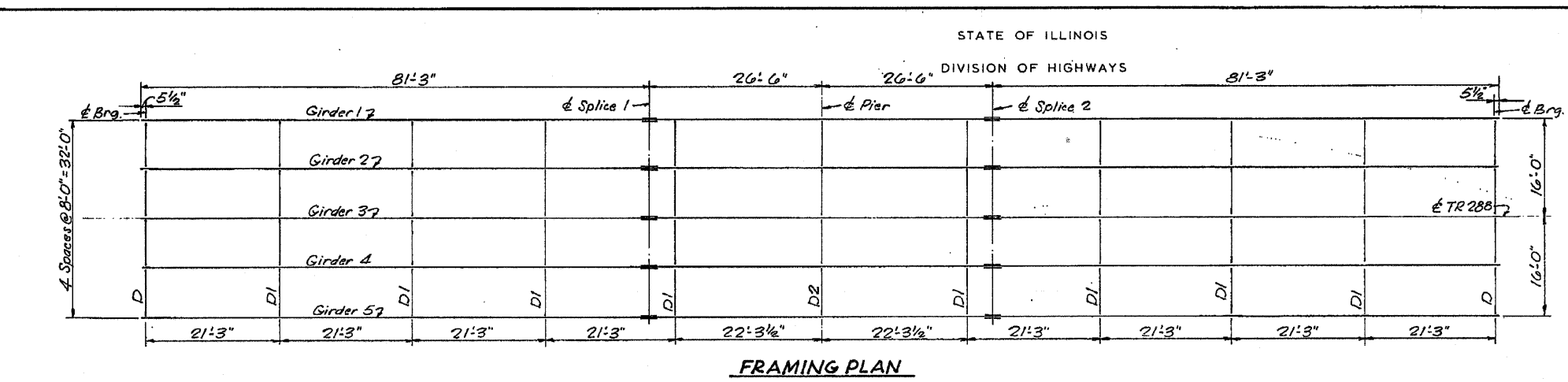
S-586-0 4-22-68, 12-3-69



Parapet Reinforcement and Class X Concrete are billed on sheet # 5

**SUPERSTRUCTURE MAIN SPAN**  
F.A. RTE. 403 SEC. 195-3HB-3  
WHITESIDE COUNTY  
STATION 2415+47.10

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
FA.403	195-3HB-3	WHITESIDE	24	14	11 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS F.A. PROJ.					



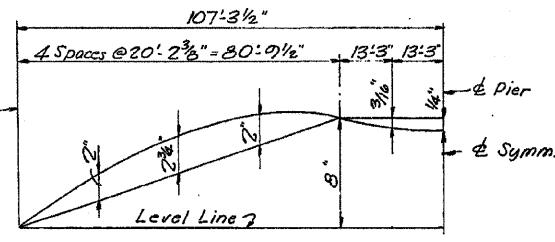
**MOMENT & SHEAR TABLE**

	0.4 Sp. 1	Pier
$I_s$ (in <sup>4</sup> )	20679	50090
$S_x$ (in <sup>3</sup> )	1029	1908
DL (k)	1.002	1.002
MDL (k)	6.68	16.71
$H_1$ DL (ksi)	7.79	10.51
$I_c$ (in <sup>4</sup> )	40581	
$S_c$ (in <sup>3</sup> )	1924	
SDL (k)	0.509	0.509
MSDL (k)	4.13	7.26
$H_1$ DL (ksi)	3.74	4.57
$I_c$ (in <sup>4</sup> )	58207	
$S_c$ (in <sup>3</sup> )	1458	
MLL (k)	753	624
MIMP (k)	162	132
M TOTAL (k)	915	758
$H_1$ LL (ksi)	7.53	4.77
$H_1$ TOTAL (ksi)	19.06	19.85
VR (k)	53.7	

**TOP OF WEB ELEVATIONS \***

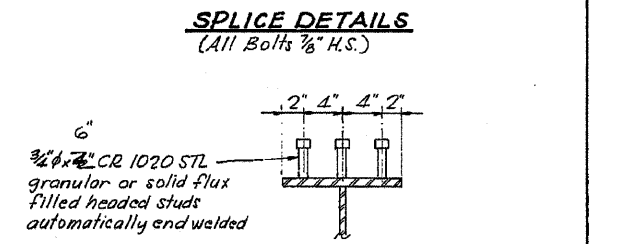
	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5
& Brg. N. Abut.	660191	660342	660467	660342	660191
& Splice 1	660852	661003	661128	661003	660852
& Pier	660831	660982	661107	660982	660831
& Splice 2	660852	661003	661128	661003	660852
& Brg. S. Abut.	660191	660342	660467	660342	660191

\*For Fabrication Only



**REACTION TABLE**

	Abut.	Pier
$R_b$ (k)	56.8	214.1
$R_L$ (k)	38.7	63.2
Imp (k)	8.4	13.6
$R_{TOTAL}$ (k)	103.9	290.9

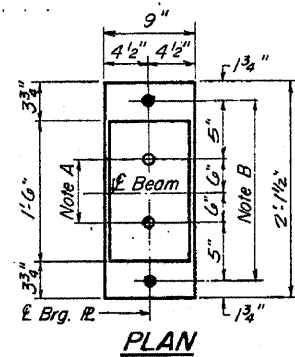
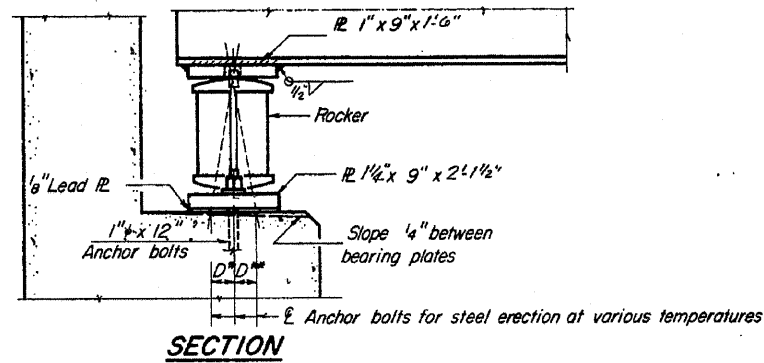


DESIGNED S. McKnight  
CHECKED A. Chugh  
DRAWN C. Clary  
CHECKED S. McKnight

EXAMINED \_\_\_\_\_  
PASSED \_\_\_\_\_  
APPROVED \_\_\_\_\_

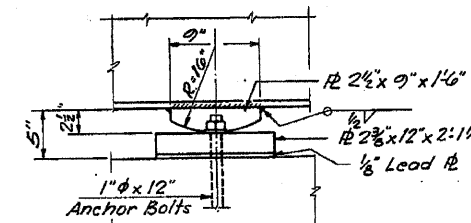
**FOR INFORMATION ONLY**

**STRUCTURAL STEEL**  
F.A. RTE. 403 ~ SEC. 195-3HB-3  
WHITESIDE COUNTY  
STATION 2415+47.10

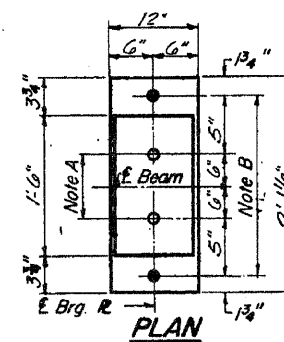


AT ABUTMENT

**NOTE A**  
1 3/8\"/>



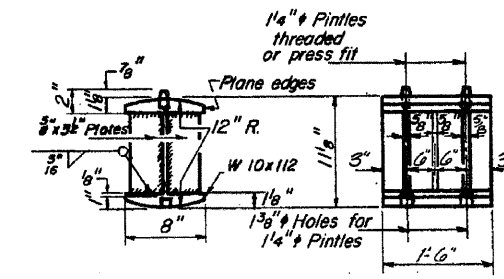
ELEVATION



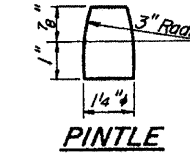
AT PIER

**NOTE B**  
1 1/2\"/>

**NOTE C**  
1 3/8\"/>



ROCKER



PINTLE

**NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.**

- a) D\* (Side of brg away from fixed brg.)  
D\* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 50°F.
- D\*\* (Side of brg. toward fixed brg.)  
D\*\* = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 50°F.
- b) After beams have been erected and dimensions D\* or D\*\* determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

**BEARING ASSEMBLY DETAILS**

DESIGNED S. MCK.	19
CHECKED	EXAMINED
DRAWN P.G. Barnett & C. D.C.	PASSED
CHECKED S. MCK.	APPROVED

I-2-B 9-1-65, B-1-70

**FOR INFORMATION ONLY**

**SHOES**

F.A. RTE. 403 - SEC. 195-3HB-3  
WHITESIDE COUNTY  
STATION 2415+47.10

FILE NAME = G:\BRN\Bridg Painting\Contracta\PAINTING\64G19\PLANeng.dgn	USER NAME = linkdj	DESIGNED - ----	REVISED - ----	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARINGS	F.A.I. RTE. 88	SECTION (195-3HB-3)P	COUNTY Whiteside	TOTAL SHEETS 8	SHEET NO. 8		
PLOT SCALE = 50,0000 ' / IN.	CHECKED - ----	REVISD - ----	REVISD - ----			SCALE: -----	SHEET NO. -- OF -- SHEETS	STA. ----- TO STA. -----	CONTRACT NO. 64G19			
PLOT DATE = Tue Mar 16 06:41:58 2010	DATE - ----	REVISD - ----	REVISD - ----			ILLINOIS FED. AID PROJECT						