

FOR INDEX OF SHEETS, SEE SHEET 3

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

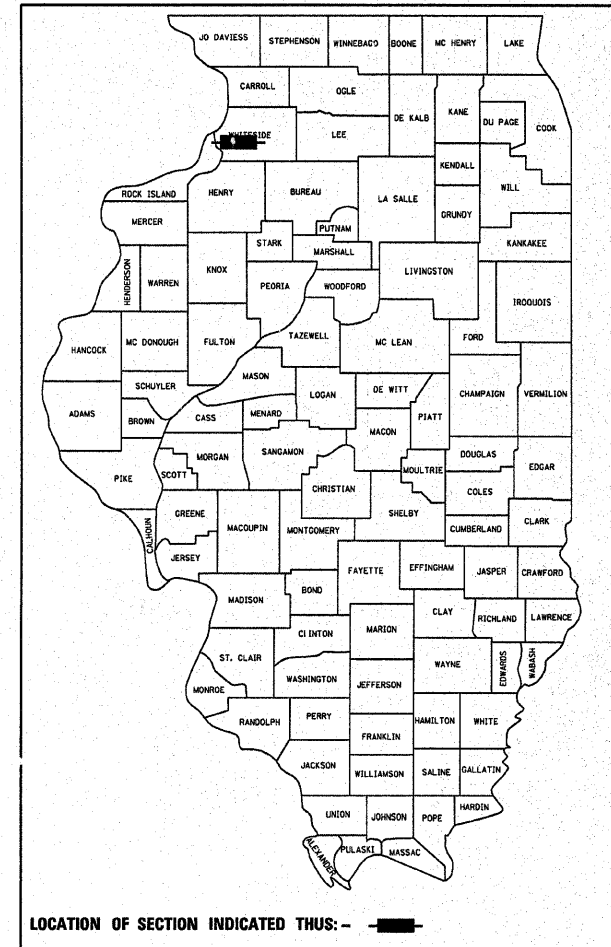
FAI ROUTE 88 (I-88) & FAP ROUTE 309 (US 30 SPUR)
SECTION D2 BRIDGE PAINTING 2009-2
BRIDGE PAINTING
WHITESIDE COUNTY
C-92-031-09

STANDARDS

- 701001-02
- 701006-03
- 701400-03
- 701401-05
- 701402-07
- 701901-01
- 704001-05

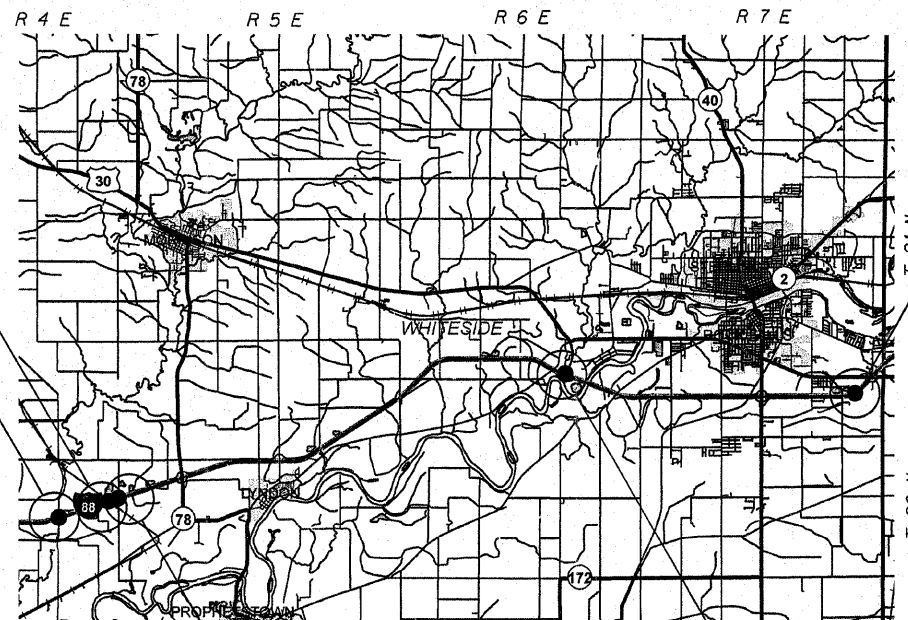
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#	**	Whiteside	29	1

FED. ROAD DIST. NO. ILLINOIS CONTRACT NO.
* FAI Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2
D-92-006-09



Structure Numbers
Location 3 098-0061 (EB)
Location 4 098-0062 (WB)

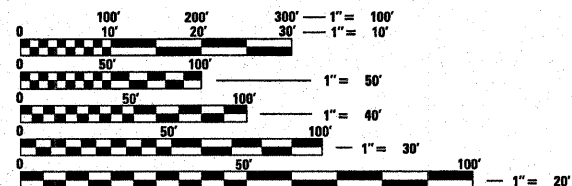
Structure Numbers
Location 1 098-0059 (EB)
Location 2 098-0060 (WB)



Structure Numbers
Location 9 098-0089 (WB)
Location 10 098-0090 (EB)

Structure Numbers
Location 5 098-0063 (EB)
Location 6 098-0064 (WB)

Structure Numbers
Location 7 098-0077 (SB)
Location 8 098-0078 (NB)



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 2 Bridge Paint Technician - Dan Link 815/284-5416
District 2 Bridge Maintenance Engineer - Mahmoud Etemadi 815/284-5393

GROSS LENGTH = 1727.1 FT. = 0.327 MILE
NET LENGTH = 1727.1 FT. = 0.327 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED December 5, 2008
George F. Ream
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

January 30, 2009
Charles G. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT

January 30, 2009
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

CONTRACT NO. 64E63

SUMMARY OF QUANTITIES

SFTY-2A

Pay Item Number	Description	Units	Total Quantity
50606401	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.1	L SUM	1
50606402	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.2	L SUM	1
50606403	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.3	L SUM	1
50606404	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.4	L SUM	1
50606405	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.5	L SUM	1
50606406	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.6	L SUM	1
50606407	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.7	L SUM	1
50606408	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.8	L SUM	1
50606409	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.9	L SUM	1
50606410	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.10	L SUM	1
50600600	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1
50600700	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1
50600800	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1
50600900	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1
50601000	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM	1
50601100	CLEANING AND PAINTING STEEL BRIDGE NO. 6	L SUM	1
50601200	CLEANING AND PAINTING STEEL BRIDGE NO. 7	L SUM	1
50601300	CLEANING AND PAINTING STEEL BRIDGE NO. 8	L SUM	1
50601400	CLEANING AND PAINTING STEEL BRIDGE NO. 9	L SUM	1
50601500	CLEANING AND PAINTING STEEL BRIDGE NO. 10	L SUM	1
67100100	MOBILIZATION	L SUM	1

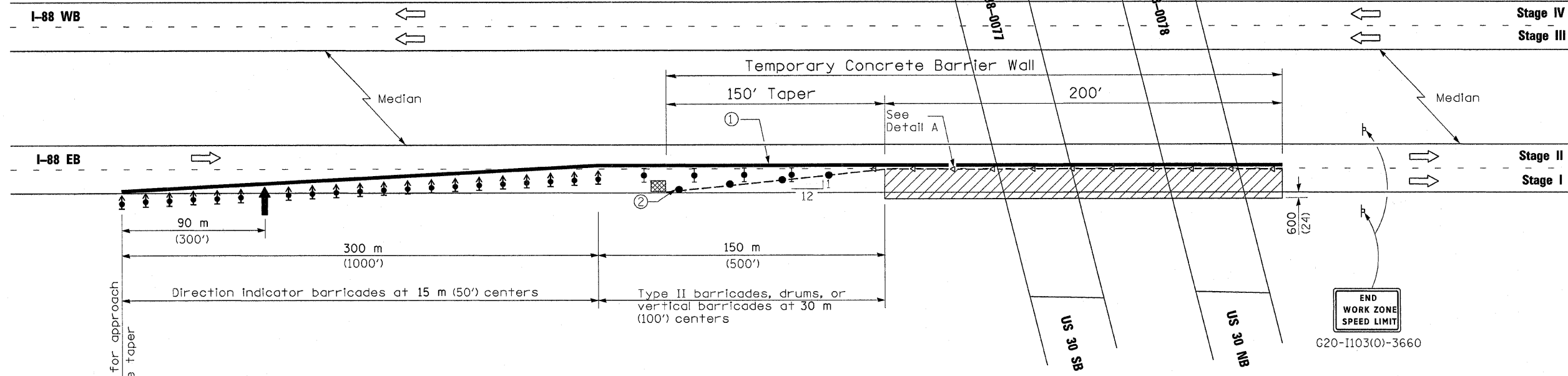
SFTY-2A

Pay Item Number	Description	Units	Total Quantity
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	2,500
70300200	TEMPORARY PAVEMENT MARKING	FOOT	7,500
70400100	TEMPORARY CONCRETE BARRIER	FOOT	350
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1050
X5067501	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 1	L SUM	1
X5067502	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 2	L SUM	1
X5067503	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 3	L SUM	1
X5067504	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 4	L SUM	1
X7013015	TRAFFIC CONTROL FOR ROAD CLOSURE	L SUM	1
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	1
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	3
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1

* FAI Route 88 & FAP Route 309 (I-88 & US 30)
 ** D2 Bridge Painting 2009-2

FILE NAME = P:\PAINTING\64E63\PLANeng.dgn	USER NAME = lirkd	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	Summary of Quantities	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -			*	**	Whiteside	29	2
	PLOT SCALE = 50,0000' / IN.	CHECKED -	REVISED -		SCALE:					
	PLOT DATE = Fri Dec 05 09:51:13 2008	DATE -	REVISED -		SHEET NO. OF SHEETS STA. TO STA.			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 64E63

Traffic Control Plan



Temporary Concrete Barrier

Locations 7 & 8	350 Feet
Total	350 Feet

Relocate Temporary Concrete Barrier

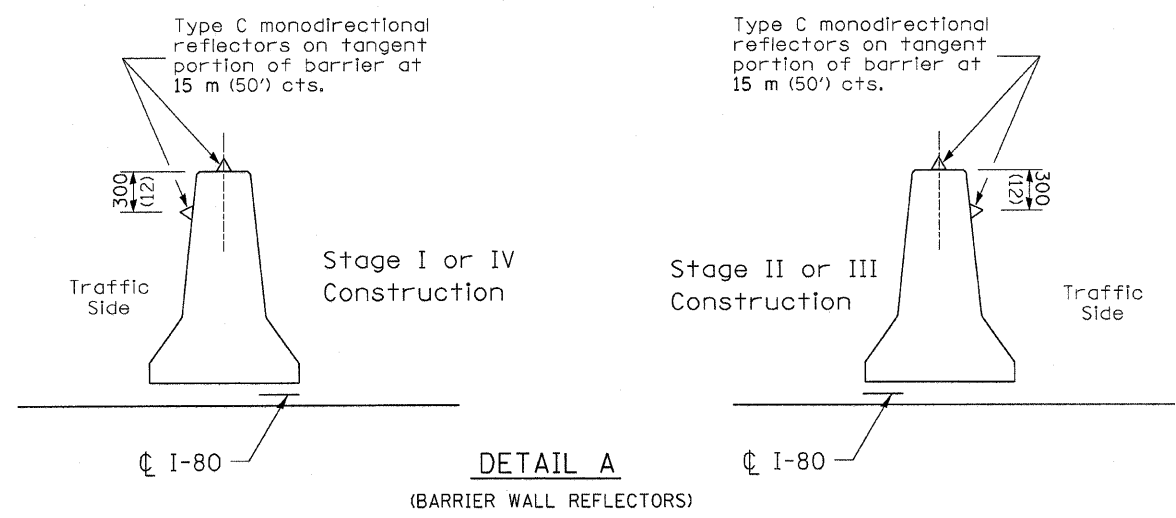
Stage II	350 Feet
Stage III	350 Feet
Stage IV	350 Feet
Total	1050 Feet

Impact Attenuators, Temporary

Locations 7 & 8	1 Each
	1 Each

Impact Attenuators, Relocate

Stage II	1 Each
Stage III	1 Each
Stage IV	1 Each
	3 Each



- ### SYMBOLS
- ↑ Arrow board
 - ▨ Work area
 - ⊥ Sign
 - ↑ Direction indicator barricade with steady burn monodirectional light
 - ⊥ Type II barricade, drum, or vertical barricade with steady burn monodirectional light
 - Temporary concrete barrier
 - ◁ Type C Monodirectional reflector
 - Vertical panel with steady burn monodirectional light.
 - ▣ Impact attenuator

- ① ReflectORIZED temporary pavement marking tape 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.
- ② Vertical panels at 7.6 m (25') centers with steady burning monodirectional lights.

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

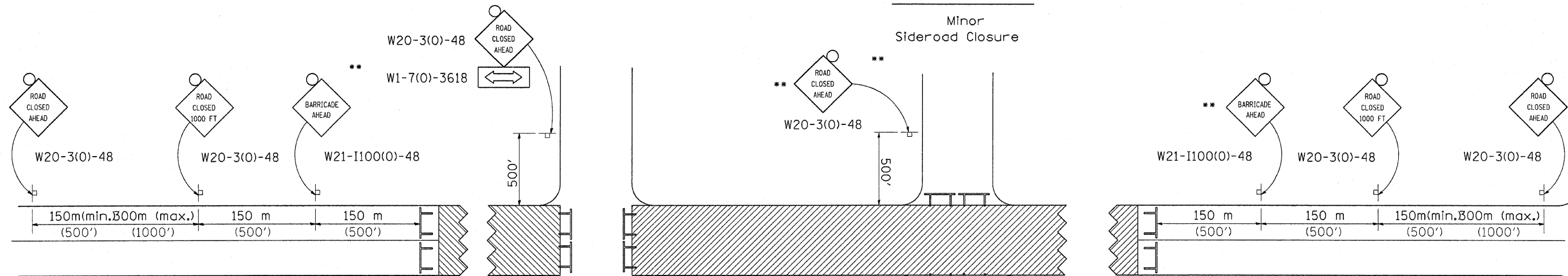
Traffic Control Plan
 US 30 Spur over I-88
 Various Routes Section D2 Bridge Painting 2009-2
 Whiteside County
 Structure No.'s 098-0077 & 098-0078

FILE NAME = P:\PAINTING\64E63\PLANeng.dgn	USER NAME = lmkdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCALE: SHEET NO. OF SHEETS STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			*	**	Whiteside	29	4	
		CHECKED -	REVISED -			CONTRACT NO.					
		DATE -	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

TRAFFIC CONTROL FOR ROAD CLOSURE

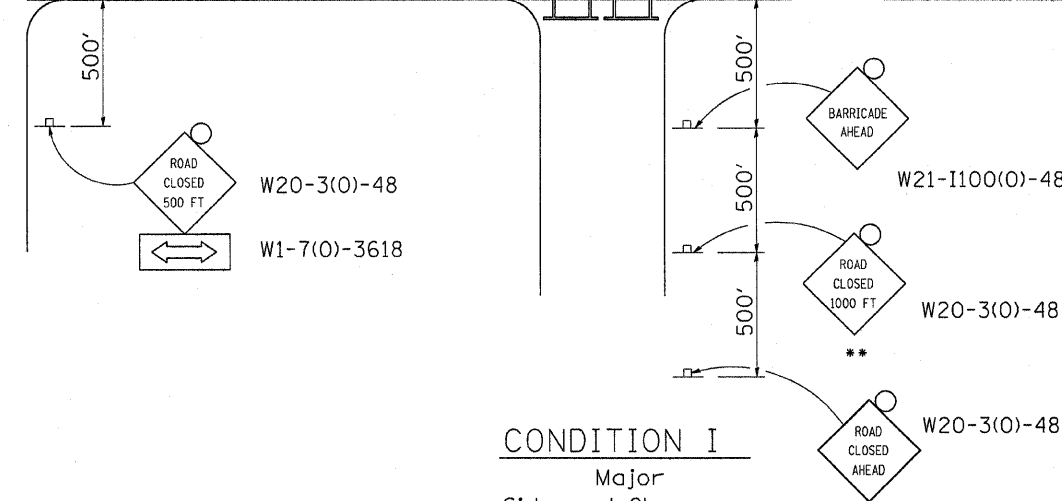
CONDITION II

Minor Sideroad Closure

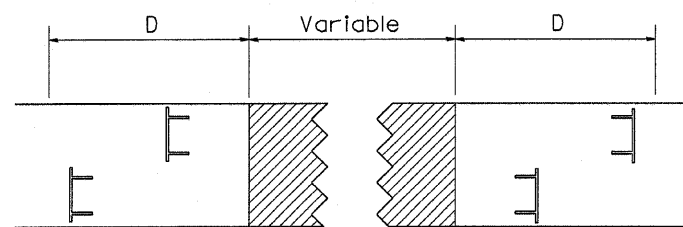


CONDITION I

Major Sideroad Closure






ROAD CLOSED TO THRU TRAFFIC BARRICADE SET UP



Type III Barricades and R11-4-4830 signs shall be as shown in "Road Closed To All Thru Traffic" detail on Highway Standard 701901. If the distance "D" exceeds 600 m (2000') an additional set of barricades and R11-4-4830 shall be placed at each end of the work area.

SYMBOLS

-  Work area
-  Type III Barricade with Flashers
-  Sign with flashing light

GENERAL NOTES

Longitudinal dimensions may be adjusted to fit field conditions.

When speed limit is less than 45mph, change sign spacing to 250' and change ROAD CLOSED 1000 FT to ROAD CLOSED 500 FT.

Side roads requiring all three signs as shown in CONDITION I (Major Sideroad Closure), shall be listed in the special provision.

** Where local access is to be maintained, barricades are to be set up as shown in Road Closed to thru traffic. Type III Barricades and R11-2-4830 signs shall be as shown in "Road Closed To All Traffic" detail on Highway Standard 701901.

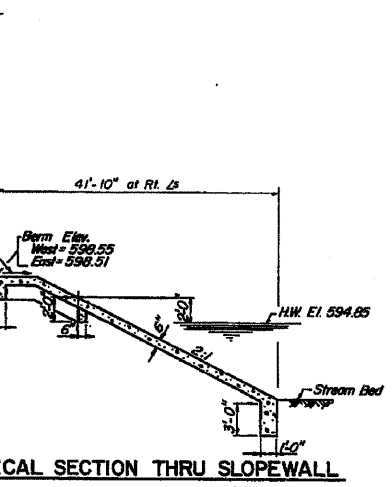
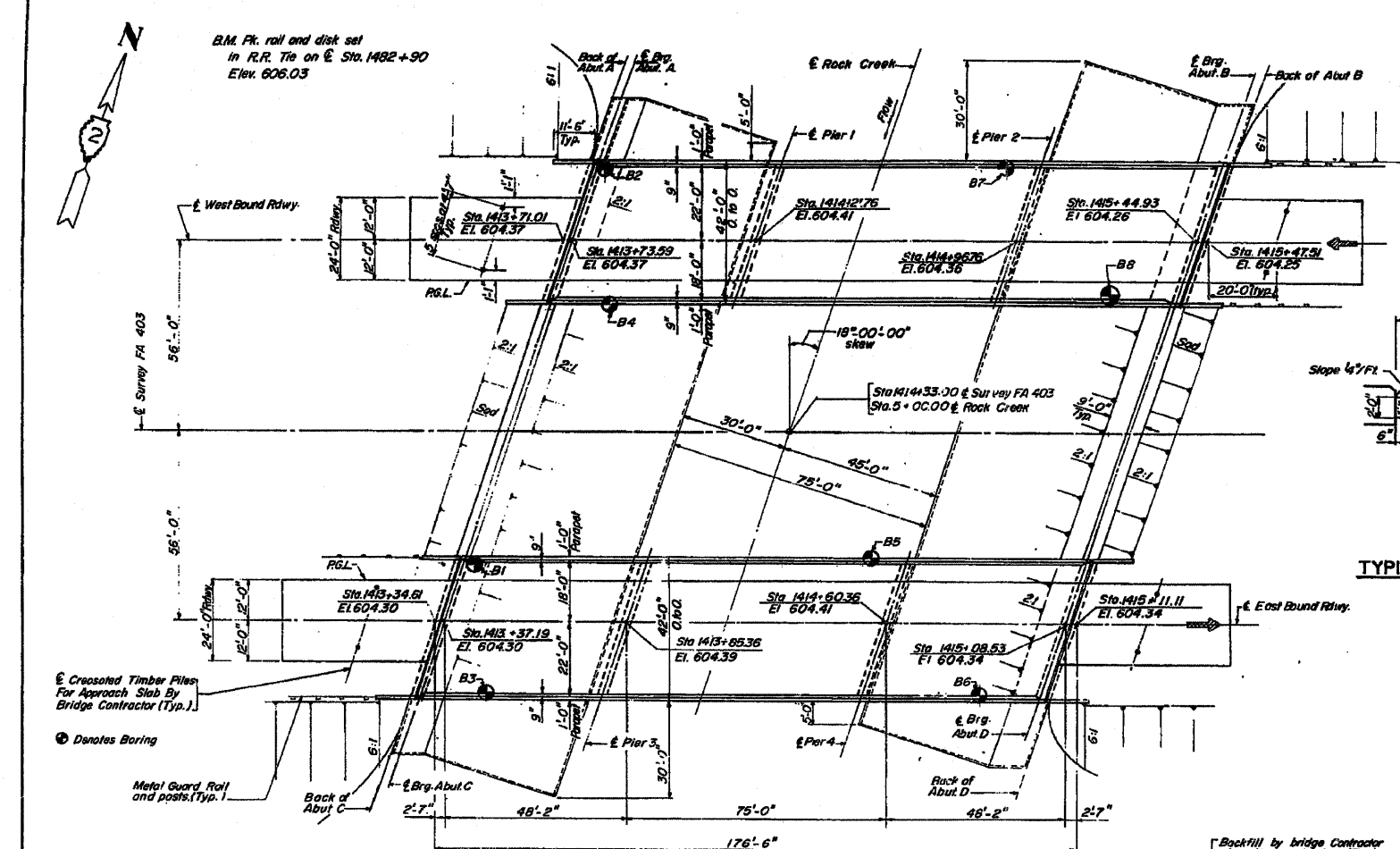
All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL APPLICATION FOR ROAD CLOSURE

FILE NAME = P:\PAINTING\64E63\PLA\eng.dgn	USER NAME = InkDJ	DESIGNED -	REVISED - 1-11-08	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -								Whiteside	29	5
		CHECKED -	REVISED -								CONTRACT NO.		
		DATE -	REVISED -								ILLINOIS FED. AID PROJECT		
		PLOT SCALE = 52.0000' / IN.			SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.				
		PLOT DATE = Fri Dec 05 09:51:33 2008			TRAFFIC CONTROL FOR ROAD CLOSURE 40.1								

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
195-118-1	2	WHITESIDE	230	78
SHEET NO. 1				
7 SHEETS				

FOR INFORMATION ONLY



GENERAL NOTES

ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN.

FIELD CONNECTIONS SHALL BE BOLTED USING HIGH STRENGTH BOLTS. BOLTS 3/4" & OPEN HOLES 13/16" Ø, UNLESS OTHERWISE NOTED.

THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM OF FLANGE OF BEAMS OR GIRDS 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.

SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" x 6" MESH, WEIGHING 50# PER 100 SQ. FT.

THE EMBANKMENT CONFIGURATION SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

THE CONTRACTOR SHALL DRIVE FOUR TEST PILES IN A PERMANENT LOCATION, ONE EACH AT ABUTMENT A AND PIER 2 OF WEST BOUND AND ONE EACH AT PIER 3 AND ABUTMENT D OF EAST BOUND, AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.

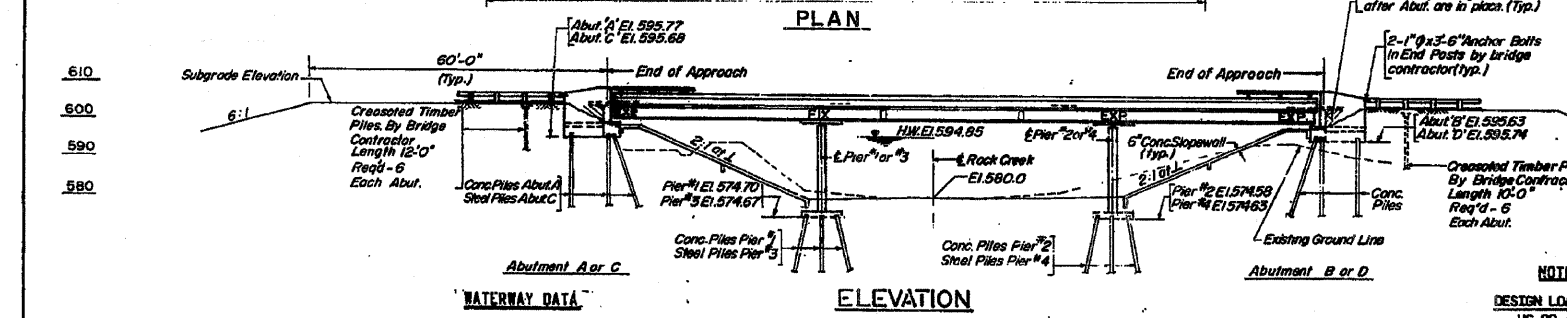
THE CONCRETE RAIL SECTION ABOVE THE IMMEDIATE CRUST, JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS I CONCRETE, EXCEPT THE APPROVED SHALL CONFORM TO THE REQUIREMENTS OF HAMBURG CONCRETE.

PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH WATERPROOFING MEMBRANE SYSTEM IS APPLIED.

LAYOUT OF SLOPE WALLS MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

Bearing seat surfaces shall be constructed or adjusted to the design-stated elevations within a tolerance of ± 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the Hangers, webs, cover plates, and splice plates. The steel girders or wide flange beams.

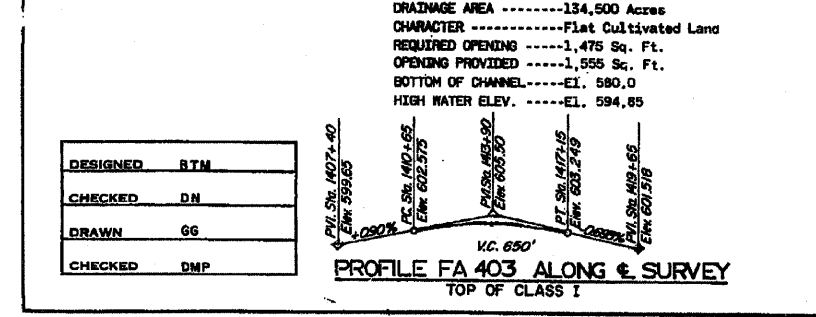


STATION 1414+33.00
BUILT IN BY
STATE OF ILLINOIS
FA 403 SECTION 195-1B-1
FA PROJECT-ENRFS-403-1141
LOADING HS 20

NAME PLATE
SEE STD 2113

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
STRUCTURE EXCAVATION	CU. YDS.	530		530
PROTECTIVE GRAY	SQ. YDS.	312		312
CLASS "X" CONCRETE	CU. YDS.	940.5	728.0	1668.5
STRUCTURAL STEEL	L. 300	0.32		0.32
ALUMINUM BAILING	LIN. FT.	662		662
REINFORCEMENT BARS	LS.	106,630	30,200	144,830
STUD SHEAR CONNECTORS	EACH	8,362		8,362
CREOSOTED PILES UP TO 20 FEET	LIN. FT.		264	264
STEEL PILES 18"x36"	LIN. FT.		1,094	1,094
TEST PILES 18"x36"	EACH		1	1
CONCRETE PILES	LIN. FT.		1,095	1,095
CONCRETE TEST PILES	EACH		3	3
NAME PLATES	EACH		2	2
SLOPE WALL (6")	SQ. YDS.		2,300	2,300
SUB. CONC. SURFACE COURSE CLASS I	TONS	126		126
REINFORCED JOINT SEALER, 2 1/2"	LIN. FT.	1,000		1,000
PERMANENT BENCH MARK, TYPE 1	EACH		60	60
PERMANENT JOINT SEALER 4"	LIN. FT.		60	60
* CALCULATED WEIGHT OF STRUCTURAL STEEL = 30,150 LBS.				



WATERWAY DATA

DRAINAGE AREA -----134,500 Acres
CHARACTER -----Flat Cultivated Land
REQUIRED OPENING -----1,475 Sq. Ft.
OPENING PROVIDED -----1,555 Sq. Ft.
BOTTOM OF CHANNEL -----EL. 580.0
HIGH WATER ELEV. -----EL. 594.85

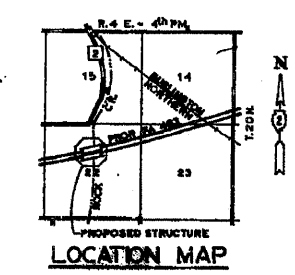
DESIGN LOADING:
HS 20-44 And Allowance For 25 P.S.F.
Future Wearing Surface

DESIGN STRESSES:
f_c = 1400 P.S.I. Except As Follows:
f_c = 1200 P.S.I. For Deck Slab;
f_c = 1000 P.S.I. For Conc. In Contact With Earth.
f_s = 20,000 P.S.I. - Structural Steel.
f_s = 20,000 P.S.I. - Reinforcement Steel.
v = 75 P.S.I. Allowable Shear In Footings.
n = 10

Allowable Live Load Deflection = L/1200 (Composites)
DESIGN SPECIFICATIONS: AASHTO 1969 As Applicable

APPROVED

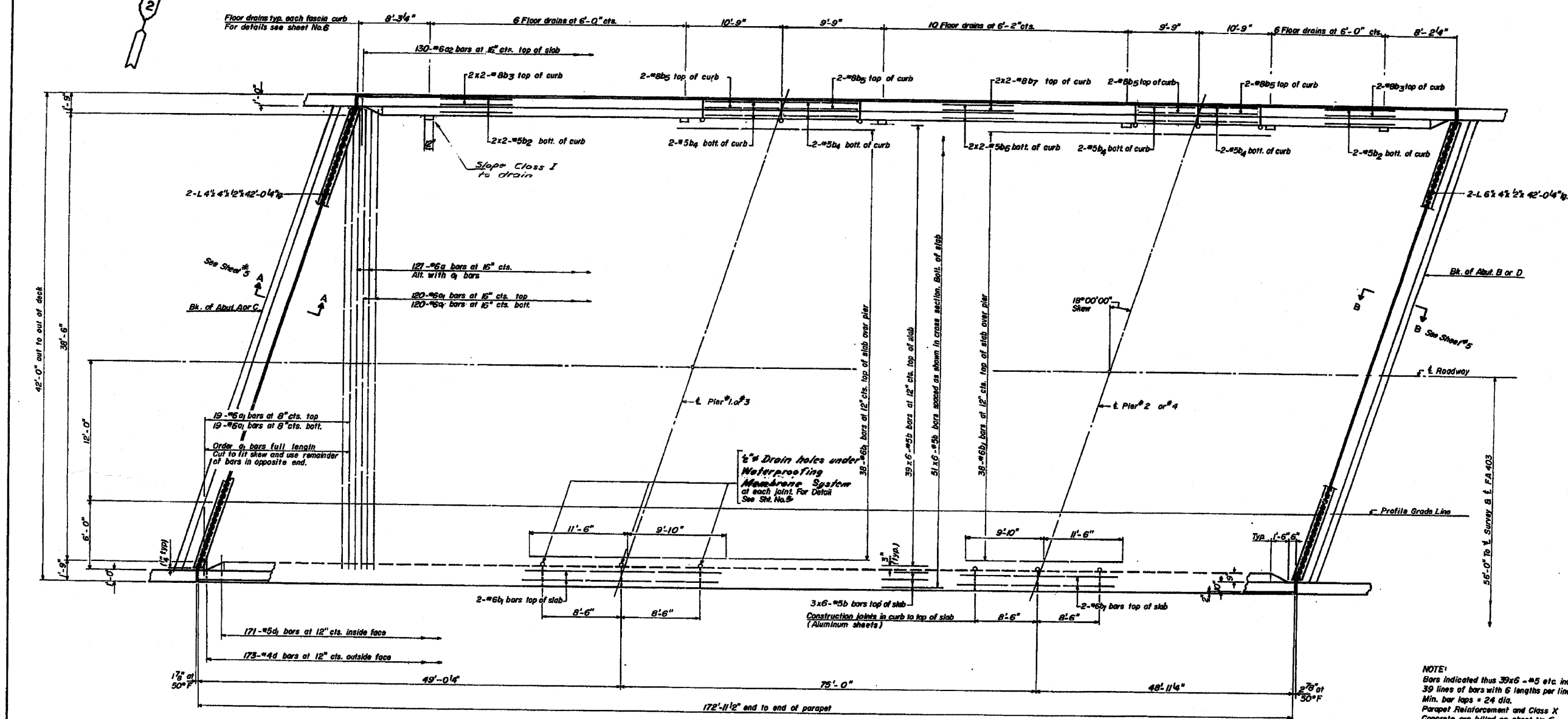
NOTE:
For Footing Layout Refer Sheet # 8



GENERAL PLAN & ELEVATION
FA 403 SECTION 195-1B-1
FA 403 OVER ROCK CREEK
WHITESIDE COUNTY
STATION 1414+33.00

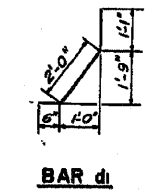
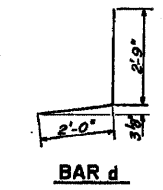
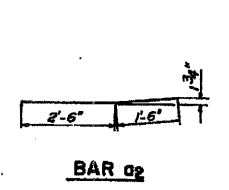
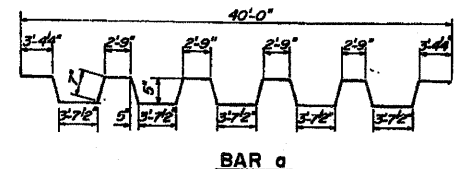
FOR INFORMATION ONLY

DATE	ISSUED	BY	SCALE	SHEET NO.
10/1/08	195	WHITE	250	79
FA 403	1-2			17 SHEETS



DECK PLAN
(WEST BOUND SHOWN)
(EAST BOUND SIMILAR)
(Except R.G.L.)

DESIGNED	A.A.
CHECKED	B.T.M.
DRAWN	A.M.
CHECKED	B.T.M.



NOTE:
Bars indicated thus 39x6 #5 etc. indicates 39 lines of bars with 6 lengths per line. Min. bar laps = 24 dia.
Parapet Reinforcement and Class X Concrete are billed on sheet No. 6
Work this sheet with sheet No. 5

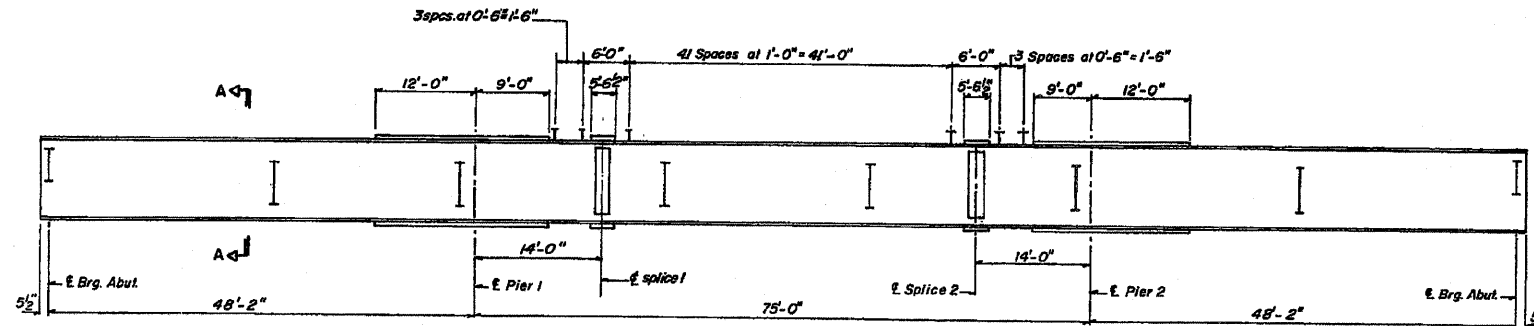
DECK SLAB
FA 403 SECTION 195-1B-1
FA 403 OVER ROCK CREEK
WHITESIDE COUNTY
STATION 1414+33.00

098-0059,60
* FA1 Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2

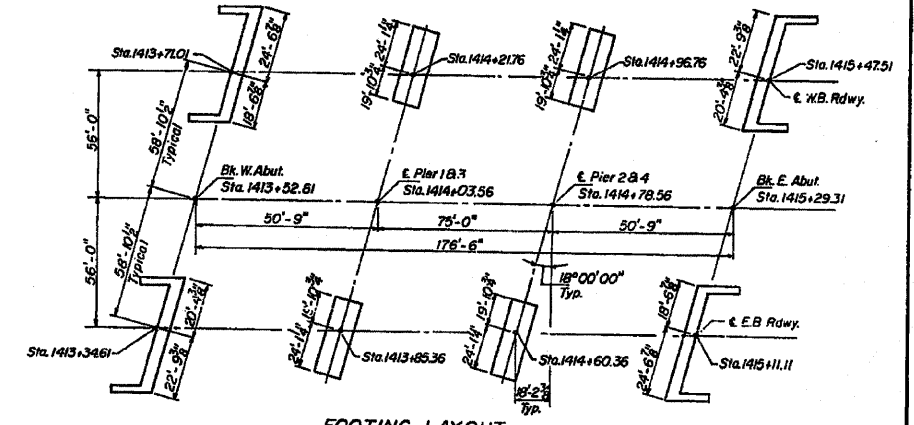
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		DRAWN -	REVISED -								Whiteside	29	7
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -										
	PLOT DATE = Fri Dec 05 13:34:08 2008	DATE -	REVISED -						FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			CONTRACT NO. 64E63

FOR INFORMATION ONLY

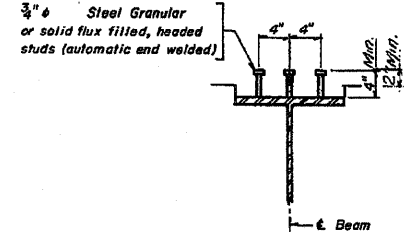
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8
FA 403	195-1	WHITESIDE	230	83	17 SHEETS
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



BEAM ELEVATION
WEST BOUND SHOWN
EAST BOUND SAME



FOOTING LAYOUT



SECTION A-A
No. Req'd. 1800

WEST BOUND BRIDGE

* TOP OF BEAM ELEVATIONS

LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
E. Brg. Abut. A	603.195	603.342	603.455	603.514	603.399	603.261
E. Pier 1	603.172	603.321	603.438	603.500	603.387	603.252
E. Splice 1	603.165	603.315	603.433	603.495	603.383	603.249
E. Splice 2	603.126	603.280	603.400	603.465	603.355	603.224
E. Pier 2	603.110	603.265	603.386	603.451	603.342	603.212
E. Brg. Abut. B	603.094	603.211	603.334	603.403	603.297	603.169

EAST BOUND BRIDGE

* TOP OF BEAM ELEVATIONS

LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
E. Brg. Abut. C	603.212	603.341	603.448	603.380	603.257	603.102
E. Pier 3	603.234	603.365	603.476	603.410	603.290	603.137
E. Splice 3	603.240	603.372	603.483	603.418	603.299	603.147
E. Splice 4	603.245	603.379	603.493	603.431	603.315	603.165
E. Pier 4	603.242	603.377	603.492	603.431	603.315	603.166
E. Brg. Abut. D	603.230	603.368	603.485	603.427	603.314	603.168

* For fabrication only.
NOTE: Deflection not included

(Composite in positive moment areas only)

INTERIOR GIRDER MOMENT TABLE

	0.4 Span 1 or 3	Pier 1 or 2	0.5 Span 2
I_s (in ⁴)	8160	11213	8160
I_c (in ⁴)			20796
S_s (in ³)	487	650	487
S_c (in ³)			700
\bar{Q} (k/ft)	0.897	1.303	0.897
$M\bar{D}$ (k)	101	372	259
$f_s \bar{Q}$ (ksi)	2.49	6.97	6.39
$S \bar{Q}$ (k/ft)	0.406	.406	0.406
$M_s \bar{Q}$ (k)	57	141	144
$M\bar{k} + Imp$ (k)	403	342	632
Total (k)	460	483	776
$f_s \bar{k}$ (ksi)	11.73	8.92	1330
f_s Total (ksi)	13.62	15.79	19.69
VR (k)	51.9		52.7

INTERIOR GIRDER REACTION TABLE

	Abutments	Piers
$R \bar{Q} + S \bar{Q}$ (k)	20.7	90.8
$R \bar{k} + Imp.$ (k)	52.7	65.0
R Total (k)	73.4	155.8

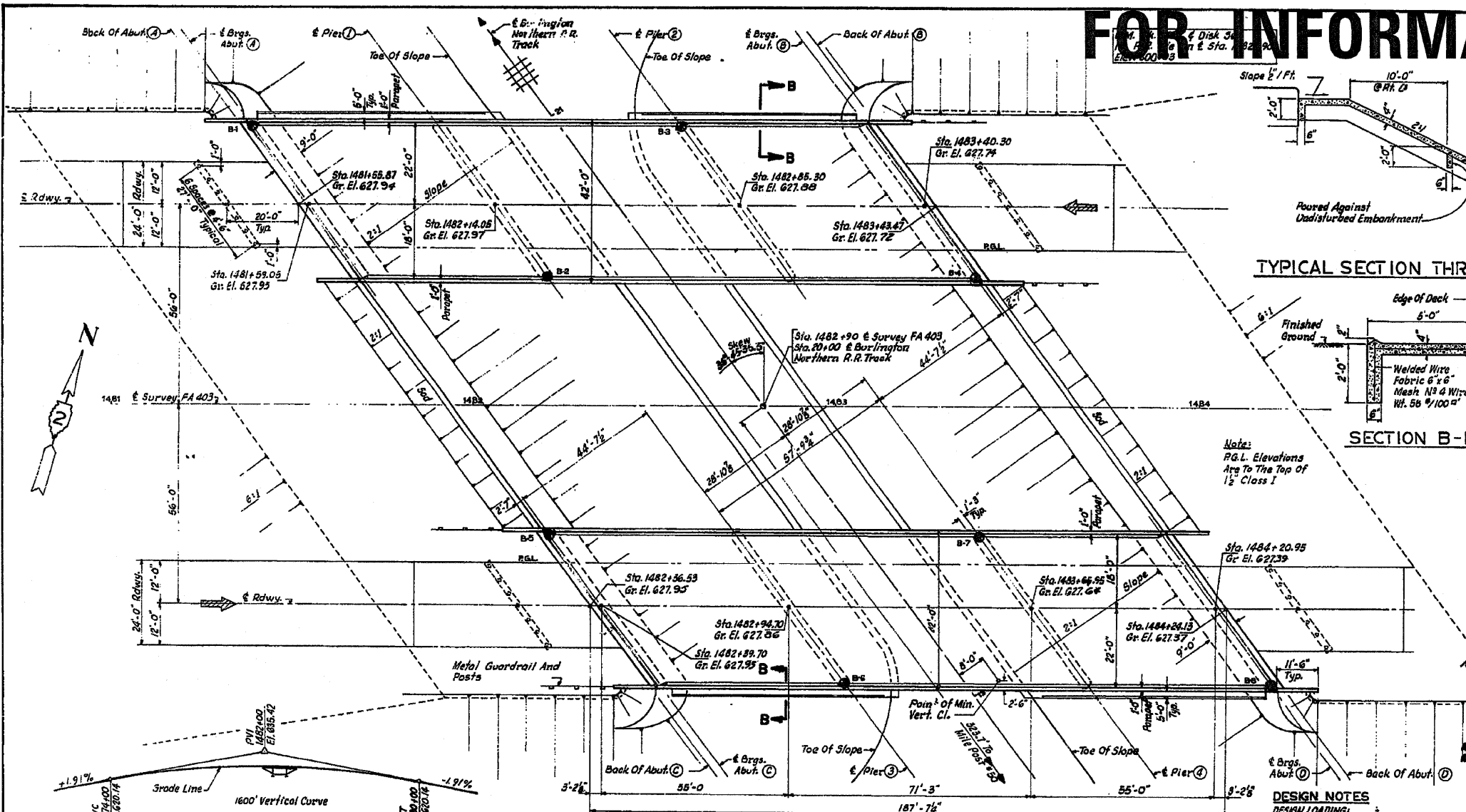
I_s and S_s are the moment of inertia and section modulus of steel section.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing I_s .
 V_i is the maximum $\bar{k} + Impact$ Shear range in span.

DESIGNED	A.A.
CHECKED	D.M.P.
DRAWN	S.G.
CHECKED	D.M.P.

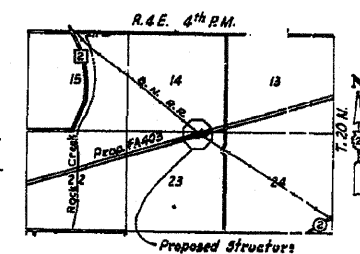
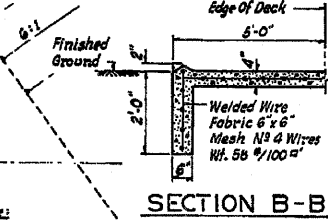
098-0059, 60
SUPERSTRUCTURE STEEL
FA 403 SECTION 195 - 18-1
FA 403 OVER ROCK CREEK
WHITESIDE COUNTY
STATION 1414 + 33.00
* FAI Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2

FOR INFORMATION ONLY

PROJECT NO.	195-1-VB
SECTION NO.	FA 403
DATE	09-06-12
DRAWN BY	G.S.
CHECKED BY	D.M.P.



TYPICAL SECTION THRU SLOPE WALL



LOCATION MAP

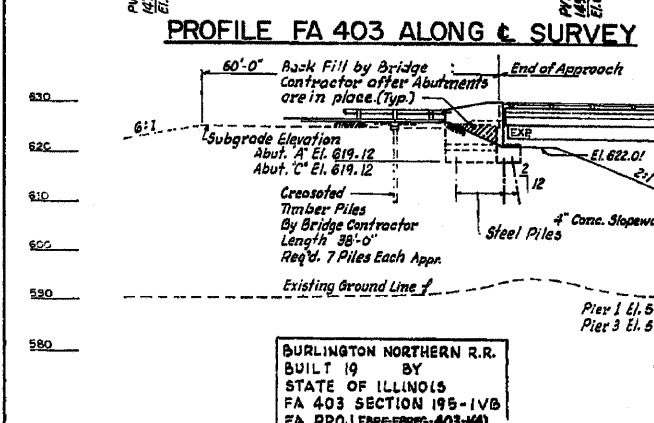
GENERAL NOTES

ALL REINFORCEMENT BARS SHALL BE LAPPED 26 DIAMETERS UNLESS OTHERWISE SHOWN.
 FIELD CONNECTIONS SHALL BE BOLTED USING HIGH STRENGTH BOLTS. BOLTS 3/4" Ø, OPEN HOLES 1 1/8" Ø, UNLESS OTHERWISE NOTED.
 THE BASIC LEAD SILICON CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.
 FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE JOINT OF FLANGE OF BEAMS OR GIRDERS RUN TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE JOINTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
 ANCHOR BOLTS SHALL BE SET BEFORE CONCRETE POURING OVER 36 POINTS.
 SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" x 6" MESH, WEIGHING 50# PER 100 SQ. FT..

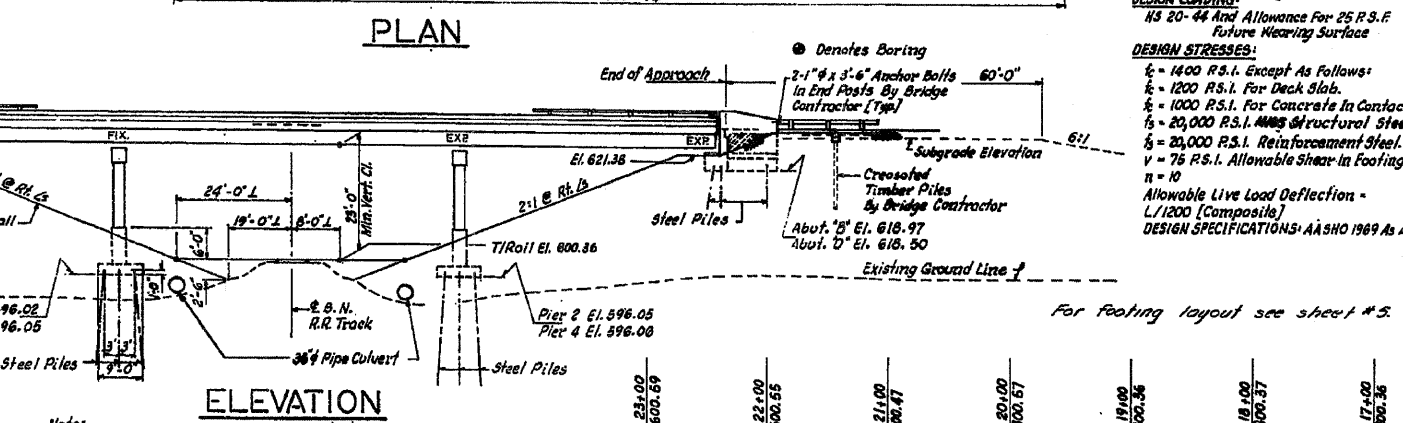
THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.
 THE CONTRACTOR SHALL DRIVE EIGHT STEEL TEST PILES IN A PERMANENT LOCATION, ONE EACH AT PIERS AND ONE AT EACH ABUTMENT AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.
 THE CONCRETE RAIL SECTION ABOVE THE MANDATORY CONST. JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF NORMAL CONCRETE.
 PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH WATERPROOFING MEMBRANE SYSTEM IS APPLIED.
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
 The contractor shall submit components subject to the Engineer's approval for field testing and shall furnish the results of the testing to the Engineer. TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
STRUCTURE EXCAVATION	CY. YDS.	---	---	---
PROTECTIVE COAT	SQ. YDS.	286	---	286
CLASS "X" CONCRETE	CY. YDS.	478.6	822.6	1,061.2
STRUCTURAL STEEL	L. 300	0.35	---	0.35
ALUMINUM RAILING	LIN. FT.	734	---	734
REINFORCEMENT BARS	LB.	128,020	61,950	189,970
CREOSOTED TIMBER PILES (2" x 10" x 30')	LIN. FT.	---	1,064	1,064
STEEL PILES HP 10x42	LIN. FT.	---	4,759	4,759
TEST PILES HP 10x42	EACH	---	8	8
NAME PLATES	EACH	---	2	2
SLOPE WALL (4")	SQ. YDS.	---	2,802	2,802
CONC. SURFACE COURSE CH 2	TONS	132	---	132
MECHANICAL JOINTS	SQ. YDS.	1,570	---	1,570
2" NEOPRENE JOINT	LIN. FT.	100	---	100
2" PREFORMED JOINT SEALER	LIN. FT.	104	---	104
STD SHEAR CONNECTORS	EACH	4,428	---	4,428
PERMANENT BENCH MARK, TYPE I	EACH	1	---	1

* CALCULATED WEIGHT OF STRUCTURAL STEEL = 397,300



BURLINGTON NORTHERN R.R.
 BUILT BY
 STATE OF ILLINOIS
 FA 403 SECTION 195-1-VB
 FA PROJ. ENR-FBR-6-403-441
 LOADING H & 20
NAME PLATE
 See Std. 21B



Note:
 Before Beginning Construction of The Piers The Elevation of The Embankment Must Be Built To The Bottom of The Pier Footing Elevation Full Widths And Length.

PROVED
PROFILE BURLINGTON NORTHERN R.R. TRACK
 TOP OF RAIL ELEVATION

DESIGN NOTES

DESIGN LOADING:
 HS 20-44 Allowance For 25 R.S.F. Future Wearing Surface

DESIGN STRESSES:
 f_c = 1400 R.S.I. Except As Follows:
 f_c = 1200 R.S.I. For Deck Slab.
 f_c = 1000 R.S.I. For Concrete In Contact With Earth.
 f_s = 20,000 R.S.I. Allowable Structural Steel.
 v = 75 R.S.I. Allowable Shear In Footings.
 n = 10
 Allowable Live Load Deflection = L/1200 (Composites)
 DESIGN SPECIFICATIONS: AASHTO 989 As Applicable.

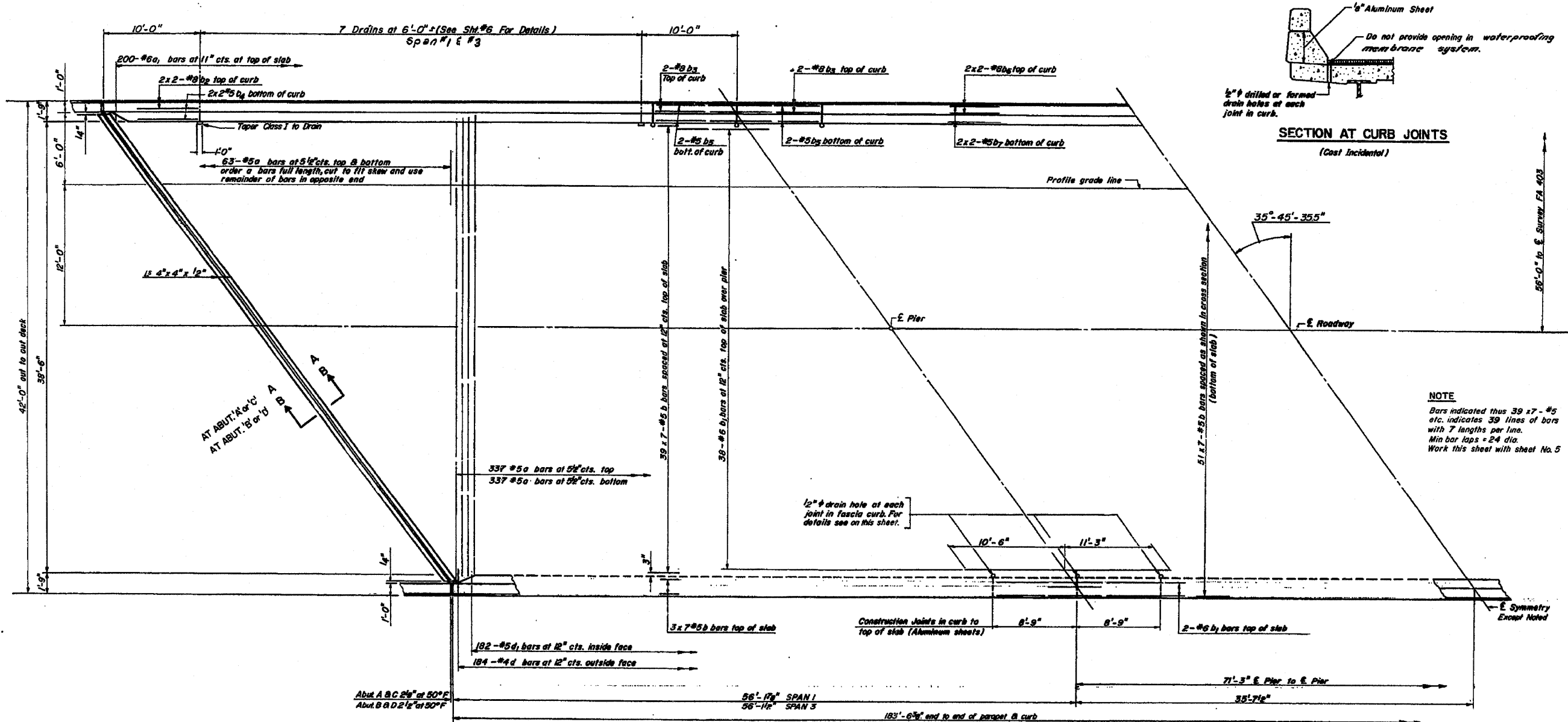
GENERAL PLAN & ELEVATION
 FA 403 SECTION 195-1-VB
 FA 403 OVER BURLINGTON NORTHERN R.R.
 WHITESIDE COUNTY
 STATION 1482+90.00
 098-0061.2

* FAI Route 88 & FAP Route 309 (I-88 & US 30)
 ** D2 Bridge Painting 2009-2

FILE NAME = P:\PAINTING\64663\PLN\eng.dgn	USER NAME = jinkdj	DESIGNED =	REVISED =	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	F.A. RTE. =	SECTION =	COUNTY = Whiteside	TOTAL SHEETS = 29	SHEET NO. = 11
PLOT SCALE = 50,0000' / IN.	CHECKED =	REVISOR =	DATE =	SCALE: SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO. =	ILLINOIS FED. AID PROJECT =	CONTRACT NO. =		

FOR INFORMATION ONLY

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 403	195-IVB	WHITESIDE	230	96
SHEET NO. 4				
16 SHEETS				



DESIGNED	B.T.M.
CHECKED	A.A.
DRAWN	A.M.
CHECKED	B.T.M.

HALF DECK PLAN - EAST BOUND WEST BOUND SIMILAR (EXCEPT P.G.L.)

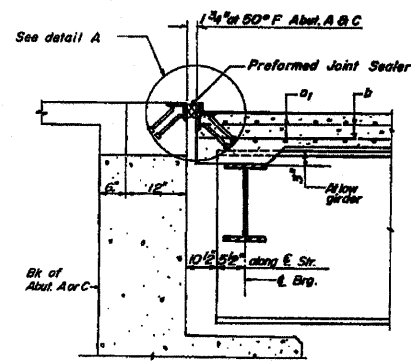
DECK DETAILS
FA 403 SECTION 195-IVB
FA 403 OVER BURLINGTON NORTHERN R. R.
WHITESIDE COUNTY
STATION 1482 + 90.00
098-cw61.2

* FAI Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2

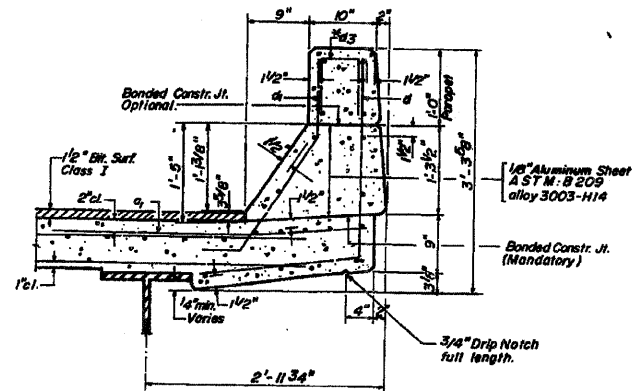
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	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -		FA 403	195-IVB	Whiteside	29	12
	PLOT DATE = Fri Dec 05 14:06:49 2008	CHECKED -	REVISED -		CONTRACT NO. 64E63				
		DATE -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEETS
196	1-2	WHITESIDE	230	97	16
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					

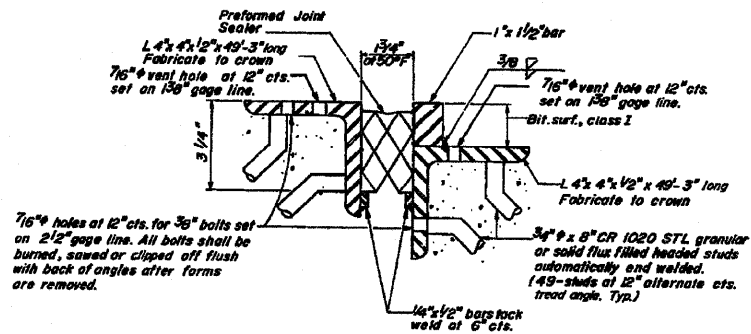


SECTION A-A



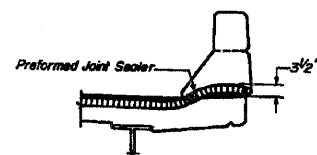
CURB SECTION

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

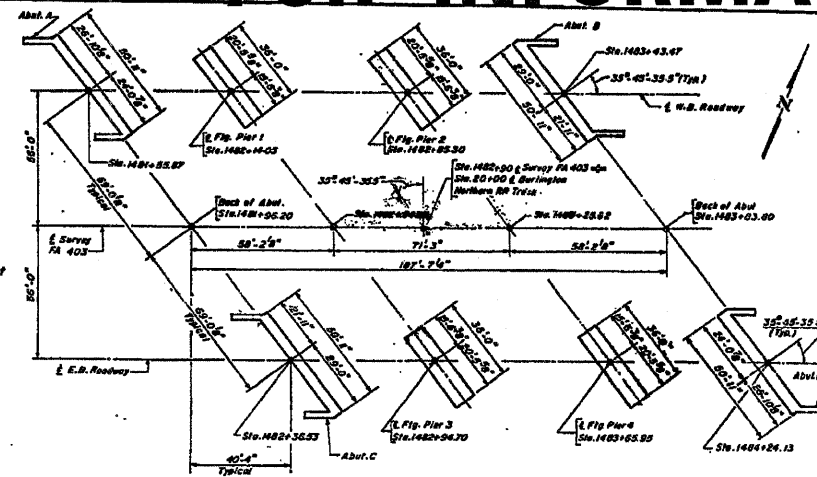


DETAIL A
Scale: 3/8"=1"

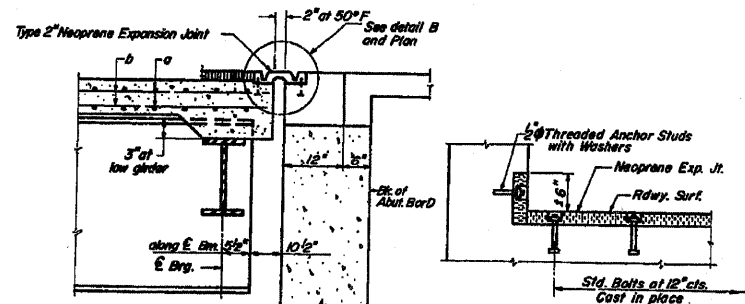
PREFORMED JOINT SEALER (2 1/2") AT ABUT. A & C



TYPICAL END OF SEALER TREATMENT

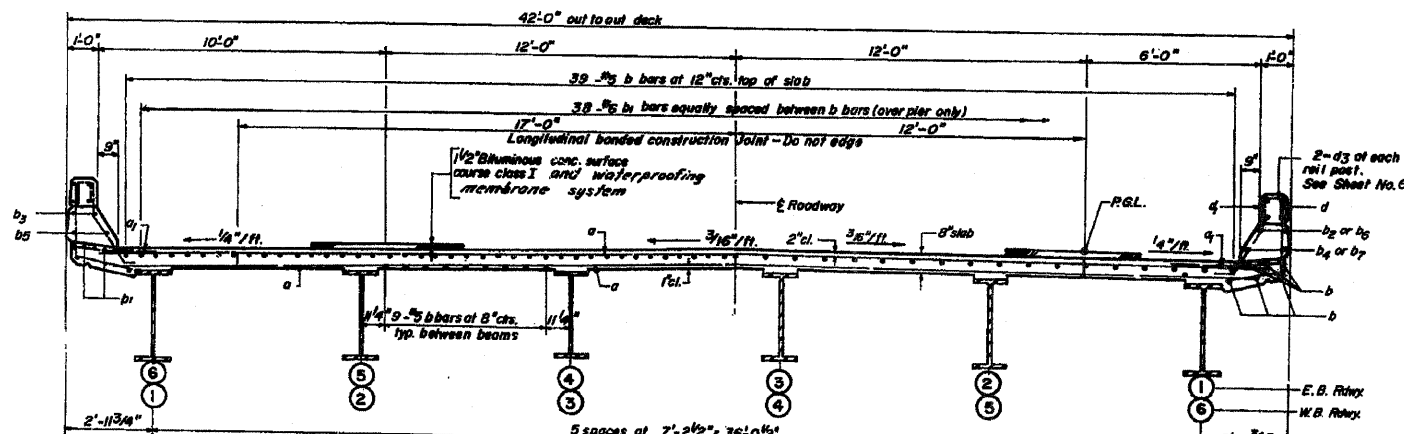


FOOTING LAYOUT

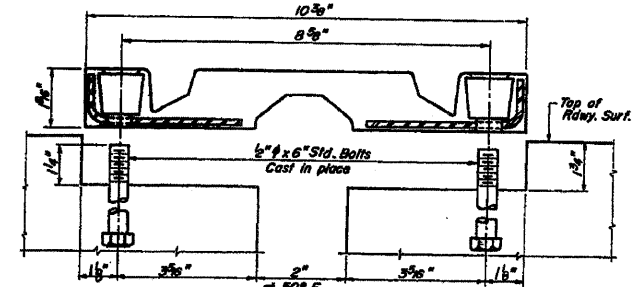


SECTION B-B

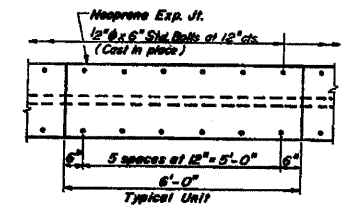
ABUTMENT INSTALLATION



CROSS SECTION
W.B. BRIDGE LOOKING EAST
E.B. BRIDGE LOOKING WEST



DETAIL B



PLAN

BAR NO.	SIZE	LENGTH	SHAPE
a	800 #5	40'-0"	—
a1	400 #6	4'-0"	—
b	672 #5	27'-3"	—
b1	84 #6	21'-9"	—
b2	16 #6	24'-6"	—
b3	16 #6	8'-6"	—
b4	16 #5	24'-2"	—
b5	16 #5	8'-6"	—
b6	8 #8	27'-9"	—
b7	8 #5	27'-4"	—
d	368 #4	4'-9"	J
d1	364 #5	3'-7"	J

Material	Quantity	Weight
Reinforcement Bars	Lbs.	62,930
Class X Concrete	Cu. Yds.	227.4
Structural Steel	Lbs.	196,690
Protective Coat	Sq. Yds.	133
Bit. Conc. Surface Course Class	Ton	66
Waterproofing Mem. Sys.	Sq. Yds.	7.85
2 1/2" Preformed Joint Sealer	Ln. Ft.	52
2" Neoprene Joint	Lb. Ft.	50

Note: Bill of Material - for one Bridge only. Material for two Bridges required.

**Weight of bearing assemblies with lead plates and anchor bolts is included as Structural Steel.

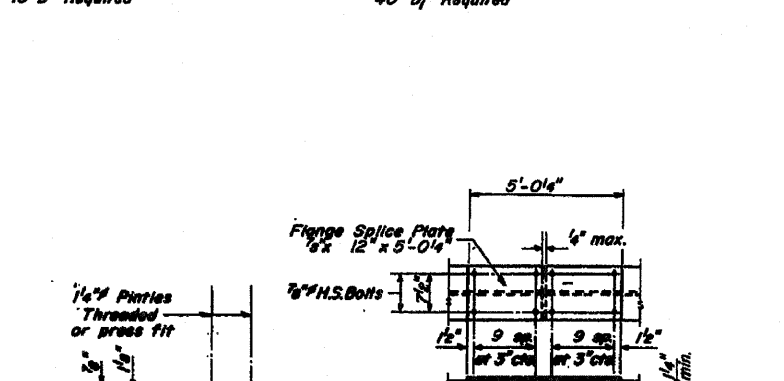
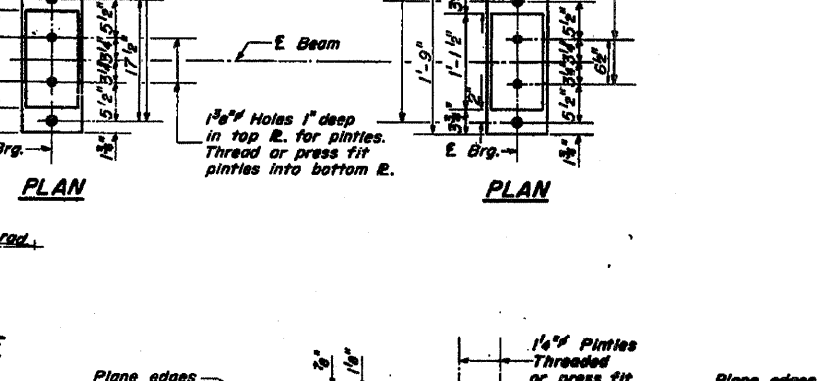
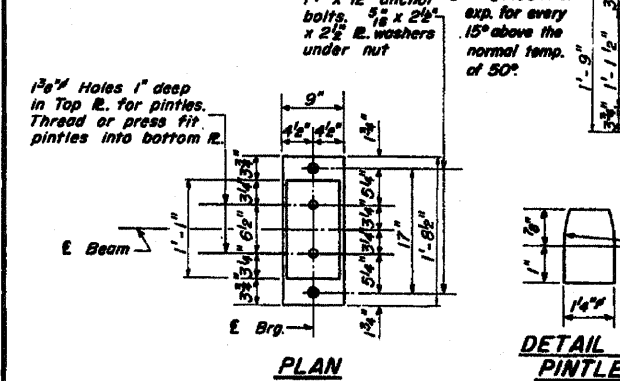
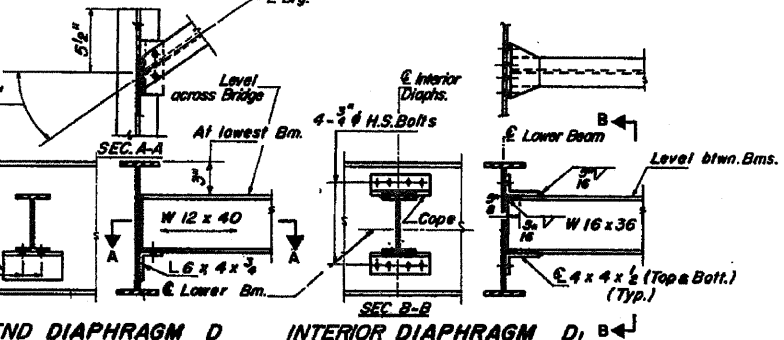
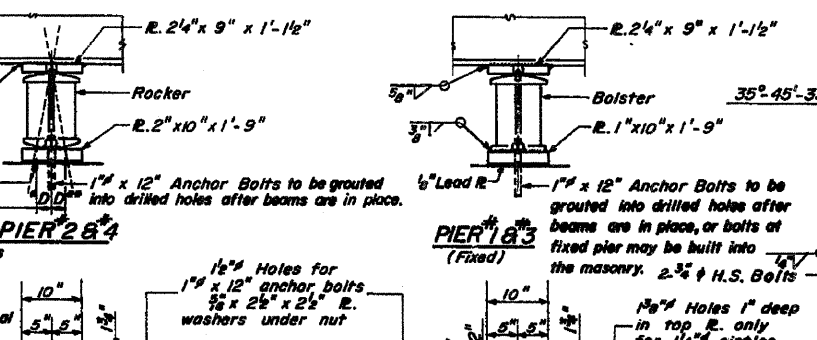
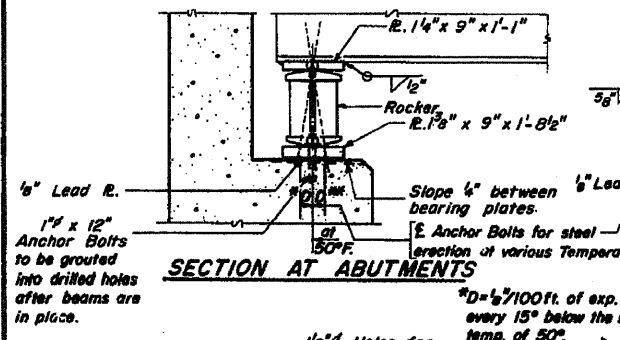
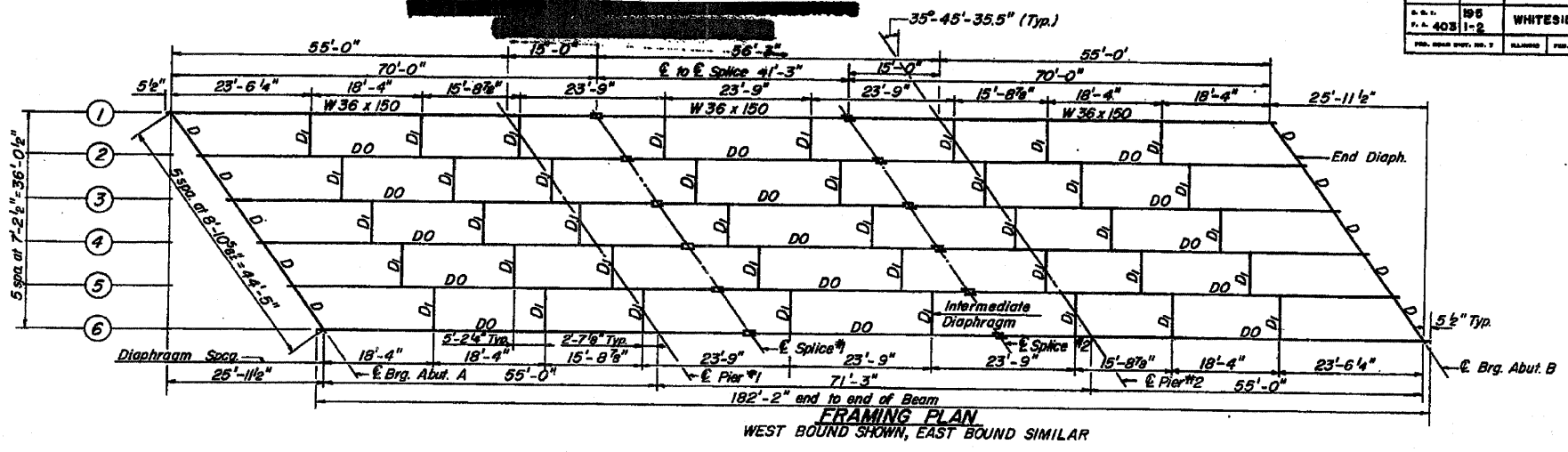
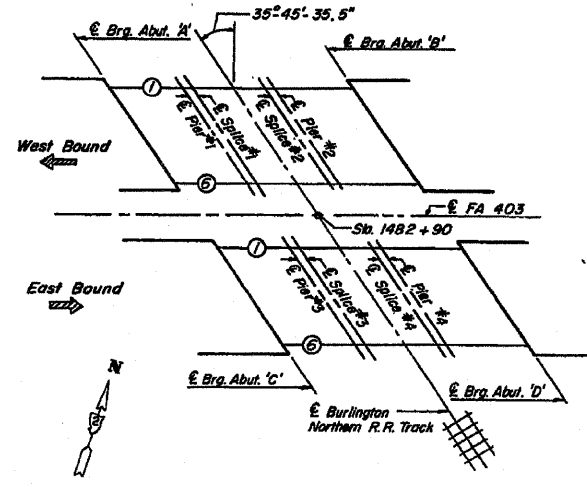
**Parapet Reinforcement and Class X Concrete are billed on sheet No. 6

Note: Work this sheet with sheet No. 4

DECK DETAILS
FA 403 SECTION 195-1VB
FA 403 OVER BURLINGTON NORTHERN R.R.
WHITESIDE COUNTY
STATION 1482+90.00
098-00612

FOR INFORMATION ONLY

PROJECT NO.	195	SECTION	230	SHEET NO.	7
FA 403	1-2	WHITESIDE	230	92	16 SHEETS



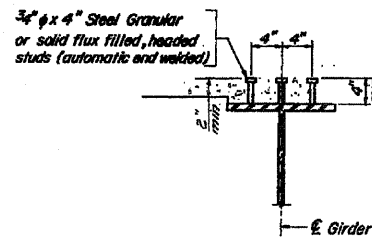
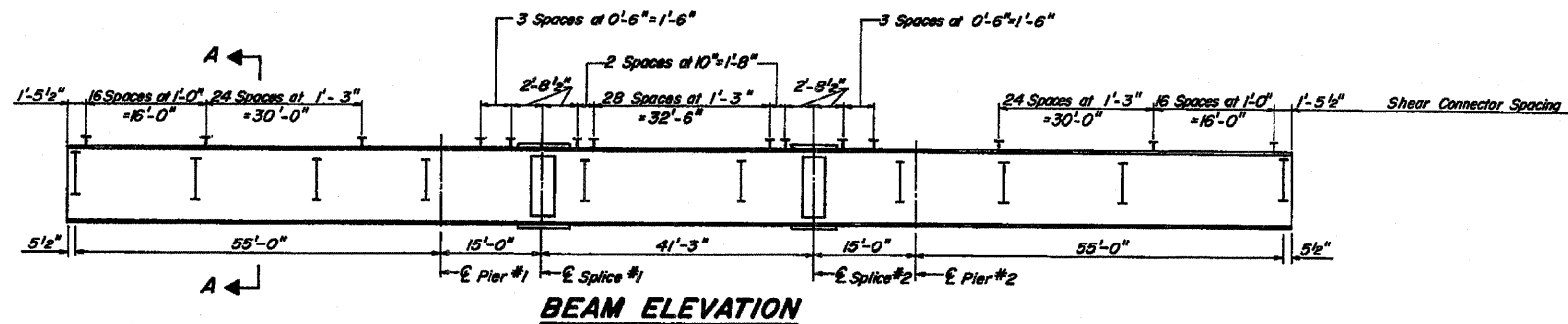
DESIGNED	R.K.
CHECKED	H.R.S.
DRAWN	A.S.
CHECKED	H.R.S.

Work this sheet with sheet No. 6

098-0061,2
SUPERSTRUCTURE STEEL
FA 403 SECTION 195-1 VB
FA 403 OVER BURLINGTON NORTHERN R.R.
WHITESIDE COUNTY
STATION 1482+90.00

FOR INFORMATION ONLY

PROJECT NO.	SECTION	QUANTITY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FA 403	1-2	WHITE SIDE	230	100	16 SHEETS

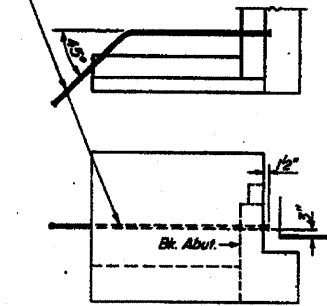


SECTION A-A

WEST BOUND BRIDGE

* TOP OF BEAM ELEVATIONS						
LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
E. Brg. Abut. 'A'	626.743	626.900	627.023	627.091	626.983	626.853
E. Pier 1	626.723	626.874	626.990	627.051	626.936	626.800
E. Splice 1**	626.791	626.940	627.054	627.113	626.996	626.858
E. Splice 2**	626.756	626.900	627.009	627.063	626.941	626.797
E. Pier 2	626.663	626.805	626.912	626.964	626.841	626.695
E. Brg. Abut. 'B'	626.591	626.725	626.825	626.871	626.740	626.588

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



ELECTRICAL CONDUIT LOCATION (Pile Bent Abutments)

(Composite in positive moment areas only)

	0.4 Span or 3	Pier 1 or 2	0.5 Span 2
I_s (in ⁴)	9030	9030	9030
I_c (in ⁴)	22969	—	22969
S_s (in ³)	504	504	504
S_c (in ³)	726.27	—	726.27
I_c (in ⁴)	0.895	0.895	0.895
M_D (k)	179.25	364.04	203.87
$f_s D$ (ksi)	4.27	8.67	4.85
S_D (k/ft)	0.406	0.406	0.406
$M_s D$ (k)	95.77	129.0	128.62
$M_u + Imp$ (k)	519.6	306.1	583.20
Total (k)	615.37	435.1	711.82
$f_s U$ (ksi)	10.17	10.36	11.76
f_s Total (ksi)	14.44	19.03	16.63
VR (k)	52.00	—	52.5

	Abutment	Pier
R D (k)	26.8	91.0
R U + Imp. (k)	54.9	64.8
R Total (k)	81.7	155.8

EAST BOUND BRIDGE

* TOP OF BEAM ELEVATIONS						
LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
E. Brg. Abut. 'C'	626.854	626.984	627.092	627.024	626.902	626.745
E. Pier 3	626.724	626.847	626.948	626.874	626.745	626.582
E. Splice 3**	626.762	626.883	626.982	626.907	626.775	626.610
E. Splice 4**	626.645	626.762	626.856	626.775	626.638	626.467
E. Pier 4	626.522	626.637	626.729	626.646	626.508	626.335
E. Brg. Abut. 'D'	626.340	626.447	626.533	626.443	626.298	626.119

* For fabrication only.
** Top of Splice

Work this sheet with sheet No. 7

DESIGNED	H.R.S.
CHECKED	A.A.
DRAWN	Z.W.
CHECKED	A.A.

I_s and S_s are the moment of inertia and section modulus of steel section.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s .
 V_p is the maximum U + Impact Shear range in span.

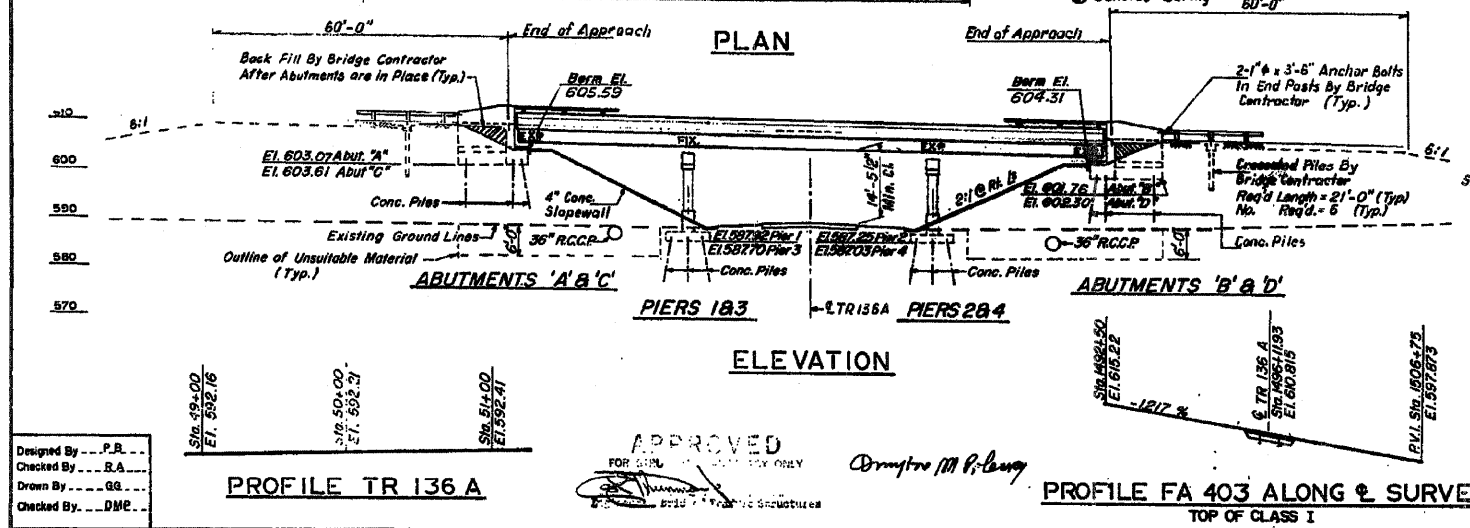
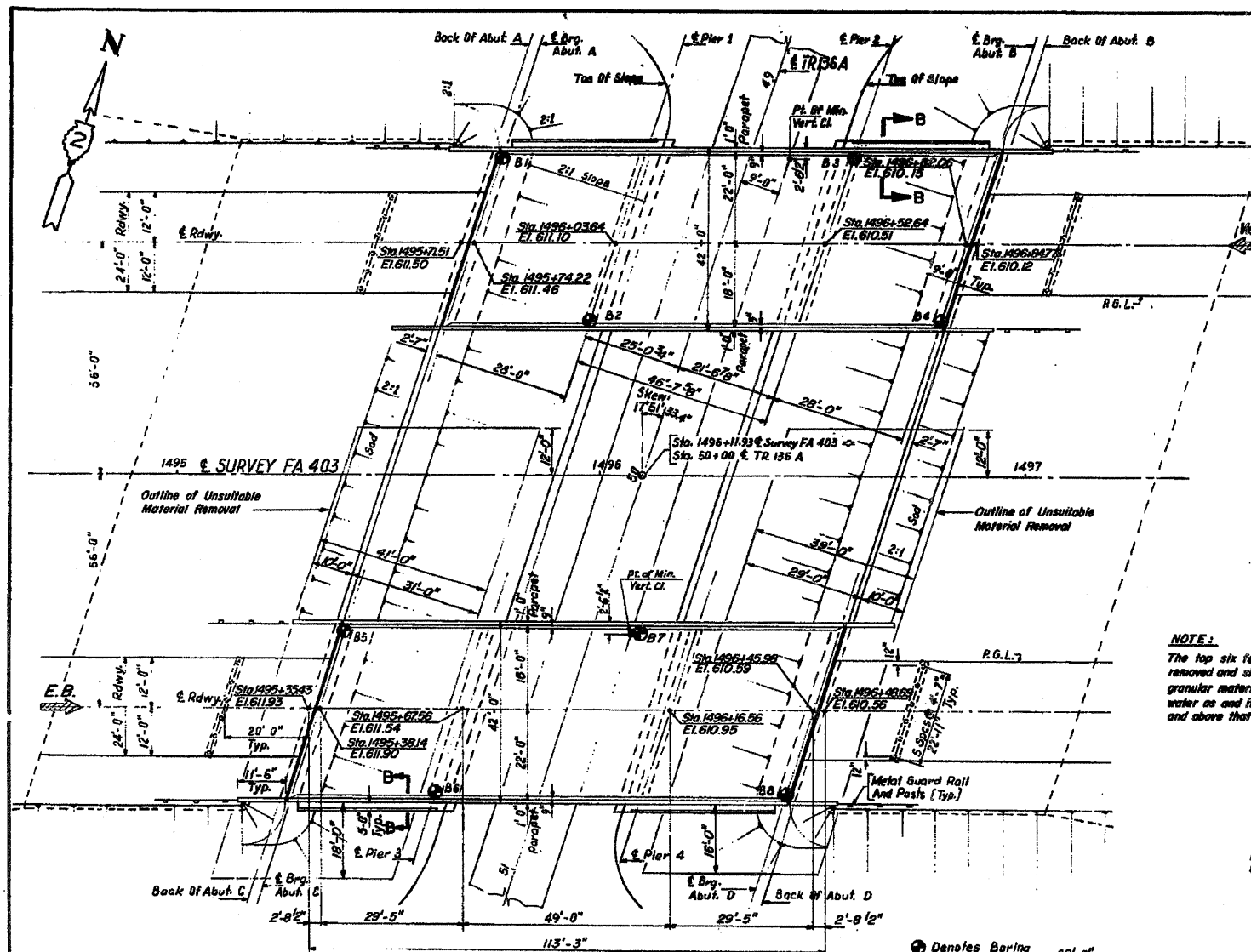
098-00 61 2
SUPERSTRUCTURE STEEL
FA 403 SECTION 195-1 VB
FA 403 OVER BURLINGTON NORTHERN R.R.
WHITESIDE COUNTY
STATION 1482 + 90.00

* FA1 Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2

FILE NAME = P:\PAINTING\64E63\PLR\Ang.dgn	USER NAME = linkdj	DESIGNED -	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISIONS -					Whiteside	29	15
		CHECKED -	REVISIONS -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.
		DATE -	REVISIONS -							ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY

STATE	ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ILLINOIS	195	109	WHITESIDE	230	109
F.A. 403	1-2				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



GENERAL NOTES

ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN. FIELD CONNECTIONS SHALL BE BOLTED USING HIGH STRENGTH BOLTS. BOLTS 3/4" Ø, UNLESS OTHERWISE NOTED.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED IN THE BOTTOM OF FLANGE OF BEAMS OR GIRDS NOR ON 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.

SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" x 6" MESH, WEIGHING 50# PER 100 SQ. FT.

THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

THE CONTRACTOR SHALL DRIVE 9 CONCRETE TEST PILES IN A PERMANENT LOCATION, ONE EACH AT THE PIERS AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMOVAL OF THE PILES.

THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.

THE CONCRETE BELL SECTION ABOVE THE MANDATORY CONST. JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF SANDPAIL CONCRETE.

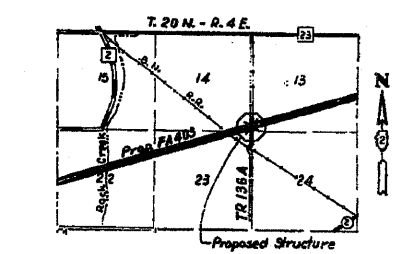
PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH WATERPROOFING MEMBRANE IS APPLIED.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

NOTE 1:
The top six feet of black clay shall be removed and shall be replaced with porous granular material to two feet above the water and if observed during construction, and above that with suitable borrow material.

NAME PLATE
SEE STD. 2113

STATION 1496+11.93
BUILT BY
STATE OF ILLINOIS
F.A. 403 SECTION 195-109-5
F.A. PROJECT NUMBER 195-109-5
LOADING HS 20



TOTAL BILL OF MATERIAL

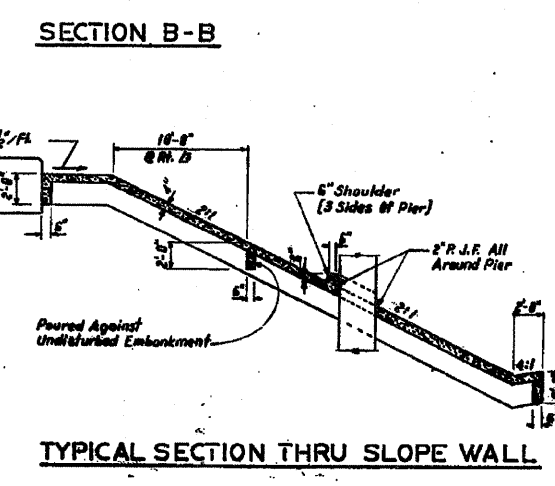
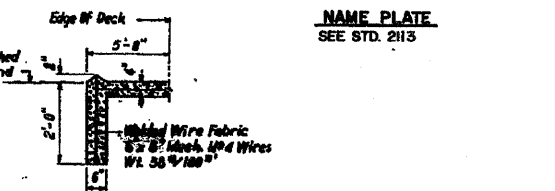
ITEM	UNIT	SUPER STRUCT.	SUB STRUCT.	TOTAL
STRUCTURE EXCAVATION	CU. YDS.	-	231	231
PROTECTIVE COAT	SQ. YDS.	200	-	200
CLASS "X" CONCRETE	CU. YDS.	2003	982.0	671.3
STRUCTURAL STEEL	L. SH.	0.16	-	0.16
ALUMINUM BAILING	LIN. FT.	439	-	439
REINFORCEMENT BARS	LIN.	99,000	30,000	129,000
GRAVELLED TINDER PILES (20.1' TO 20")	LIN. FT.	-	504	504
CONCRETE PILES	LIN. FT.	-	1793	1793
TEST PILES (CONCRETE)	EACH	-	4	4
NAME PLATES	EACH	-	2	2
SLOPE WALLS (6")	SQ. YDS.	-	1601	1601
BIT. CONC. SURFACE COURSE CL-1	YDS.	90	-	90
PREPARED JT. SEALER 31"	SQ. YDS.	940	-	940
PREPARED JT. SEALER 21"	LIN. FT.	176	-	176
MINIMUM 2.0 DIAMETER 1/4" WIRE	CU. YDS.	-	2010	2010
POSSIBLE GRANULAR EMBANKMENT	CU. YDS.	-	2010	2010
PERMANENT BENCH MARK, TYPE I	EACH	-	1	1

* CALCULATED WEIGHT OF STRUCTURAL STEEL = 100,320

DESIGN NOTES

DESIGN LOADING:
HS 20-44 And Allowance for 25 PS.F.
Future Wearing Surface

DESIGN STRESSES:
f_c = 1400 P.S.I. Except As Follows:
f_c = 1200 P.S.I. For Deck Slab.
f_c = 1000 P.S.I. For Concrete In Contact With Earth.
f_s = 28,000 P.S.I. - 11.8% Structural Steel.
f_s = 28,000 P.S.I. - Reinforcement Steel.
v = 75 P.S.I. Allowable Shear in Footings
n = 10
Allowable Live Load Deflection =
L/1000 (Non Composite)
DESIGN SPECIFICATIONS: AASHTO 1969 As Applicable



098-0063.4
GENERAL PLAN & ELEVATION
FA 403 SECTION 195-109-5
FA 403 OVER TR 136-A
WHITESIDE COUNTY
STATION 1496+11.93

For footing layout see sheet #16.

Designed By: P.R.
Checked By: R.A.
Drawn By: G.G.
Checked By: D.M.C.

PROFILE TR 136 A

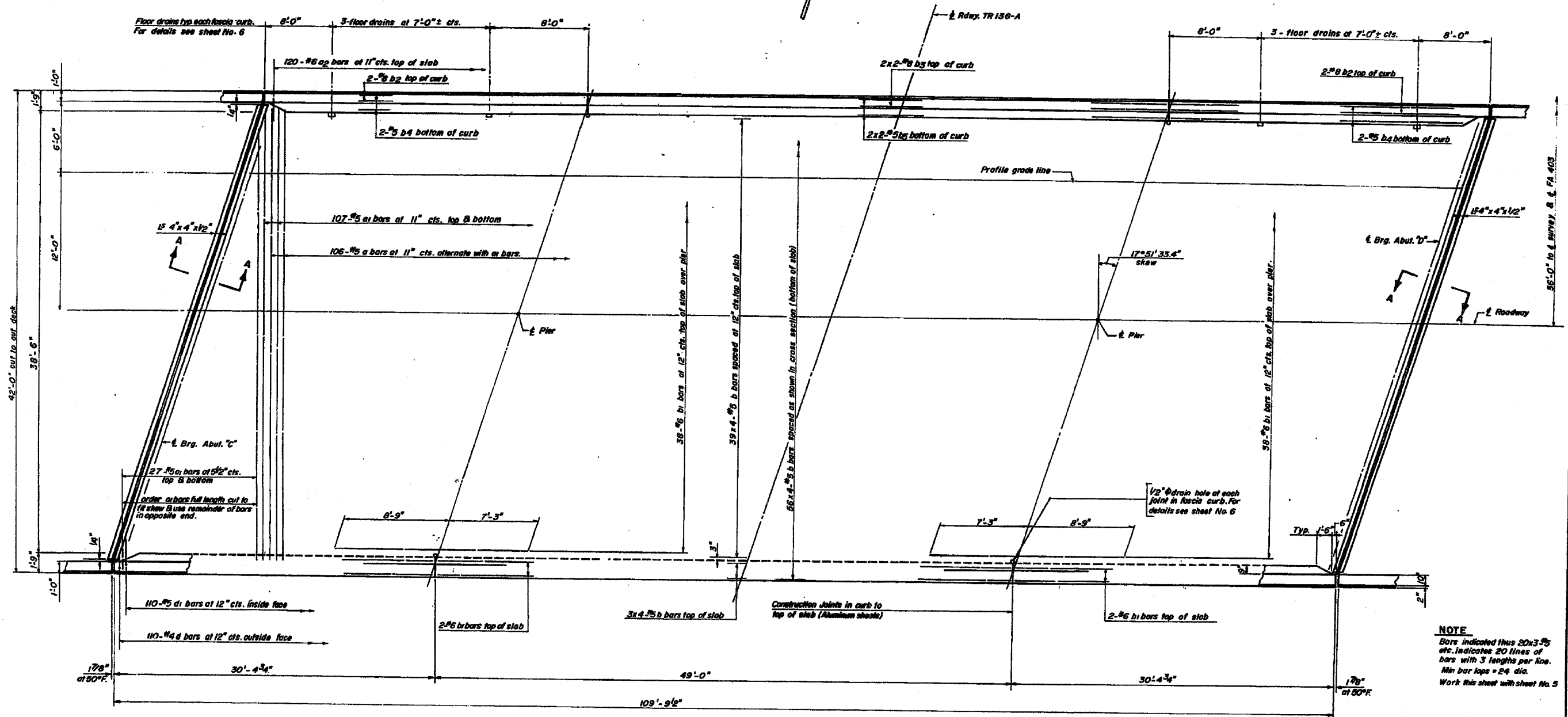
APPROVED
FOR USE BY THE STATE OF ILLINOIS
Doris M. P. Lang

PROFILE FA 403 ALONG & SURVEY
TOP OF CLASS I

TYPICAL SECTION THRU SLOPE WALL

FOR INFORMATION ONLY

PROJECT NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
195-403	1-2	WHITESIDE	230	17
F.A. DIST. NO. 7	ALIGNED	FED. AID PROJECT		



NOTE
 Bars indicated thus 20x3 #5 etc. indicates 20 lines of bars with 3 lengths per line. Min bar laps = 24 dia. Work this sheet with sheet No. 5

DESIGNED	B.T.M.
CHECKED	H.S.
DRAWN	A.M.
CHECKED	H.S.

DECK PLAN (EAST BOUND SHOWN)
 (WEST BOUND SIMILAR BY 180° ROTATION ABOUT & SURVEY & & FA 403)

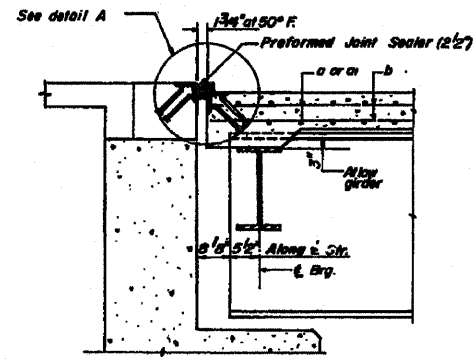
DECK SLAB
 FA 403 SECTION 195-1H8-5
 FA 403 OVER TR 136A
 WHITESIDE COUNTY
 STATION 1496+11.93
 098-0063.4

* FAI Route 88 & FAP Route 309 (I-88 & US 30)
 ** D2 Bridge Painting 2009-2

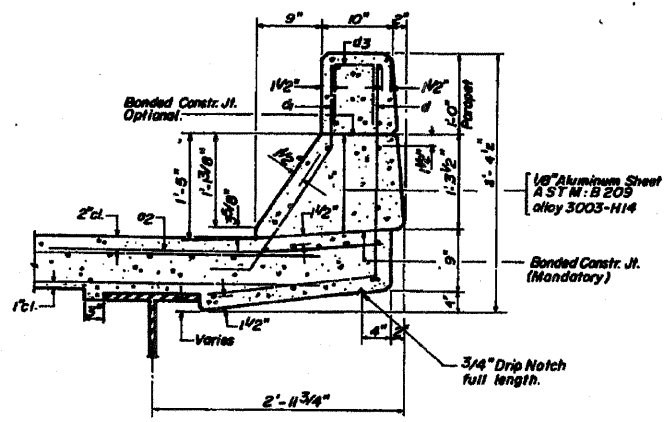
FILE NAME: P:\PAINTING\64663\PLA\eng.dgn	USER NAME: linkdj	DESIGNED: B.T.M.	REVISIONS:	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	F.A. DIST. NO. 7	SECTION 1-2	COUNTY Whiteside	TOTAL SHEETS 29	SHEET NO. 17
PLOT SCALE = 50.0000' / IN.	PLOT DATE = Fri Dec 05 13:41:09 2008	DRAWN: A.M.	CHECKED: H.S.		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	CONTRACT NO. 64E63

FOR INFORMATION ONLY

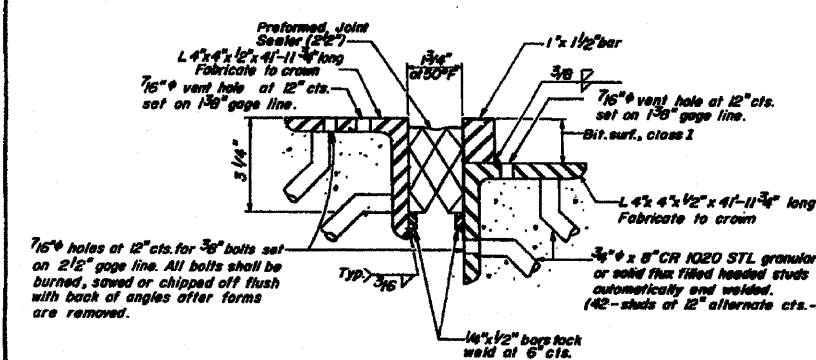
DATE	ISSUED	PROJECT	TOTAL SHEETS	SHEET NO.
11-2	11-2	WHTESIDE 290	113	17



SECTION A-A

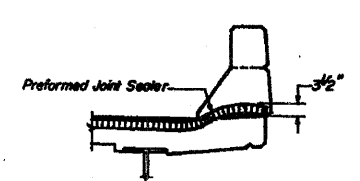


CURB SECTION

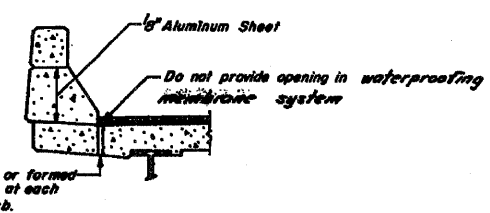


DETAIL A

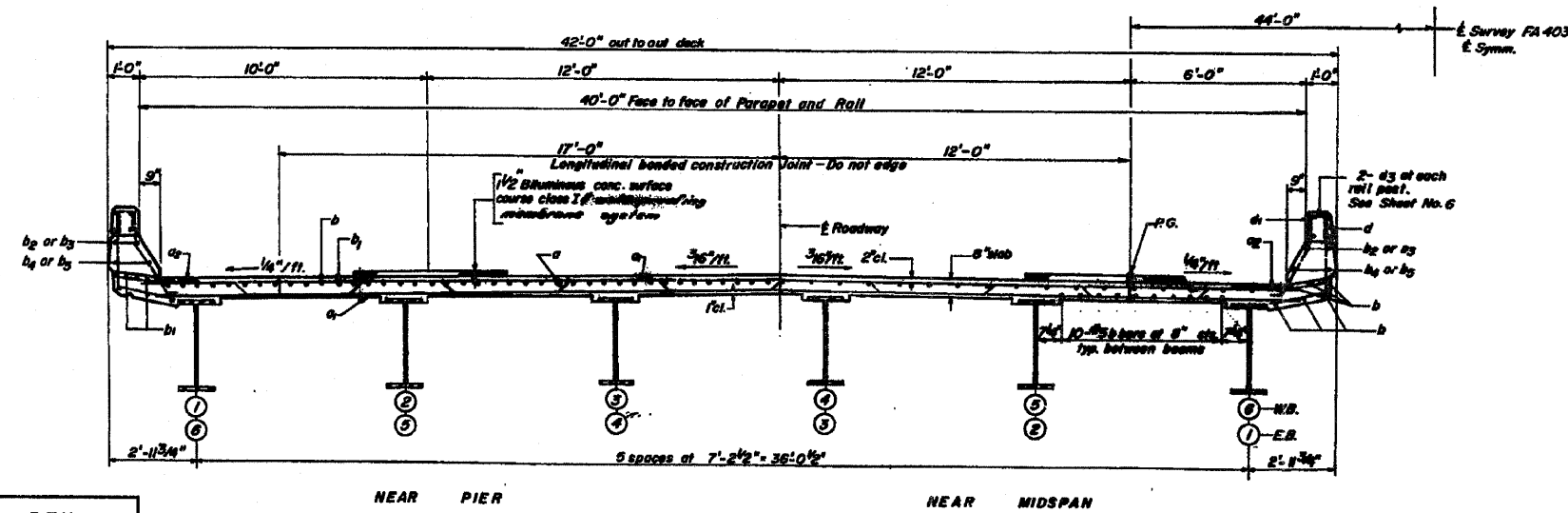
PREFORMED JOINT SEALER (2 1/2")



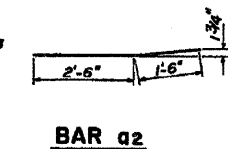
TYPICAL END OF SEALER TREATMENT



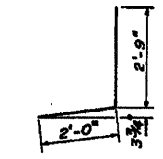
SECTION AT CURB JOINTS



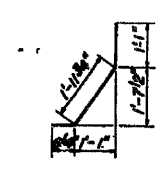
CROSS SECTION
W.B. ROADWAY LOOKING EAST
E.B. ROADWAY LOOKING WEST



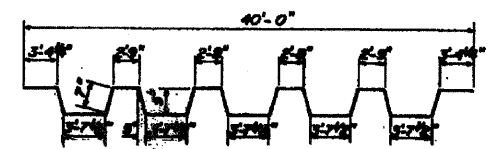
BAR a2



BAR d



BAR d1



BAR a

ONE BRIDGE BILL OF MATERIAL

BAR NO.	SIZE	LENGTH	SHAPE
a	100	40'-0"	U
a1	200	40'-0"	U
a2	240	4'-0"	U
b	404	28'-3"	U
b1	84	16'-0"	U
b2	8	30'-0"	U
b3	8	25'-0"	U
b4	8	30'-0"	U
b5	8	25'-0"	U
c	220	4'-9"	U
c1	220	3'-7"	U
d	220	4'-9"	U
d1	220	3'-7"	U

Material	Quantity	Unit
Bilumbeu Concrete Surface Course Class I	40	Tons
Minimex Alum. Sp. 2	470	Sq. Yds.
Protective Coat	164	Sq. Yds.
Reinforcement Bars	34,820	Lbs.
Class X Concrete	1375	Cu. Yds.
Structural Steel	100,400	Lbs.

Note: Bill of Material for one bridge only. Material for two bridges required.

* Weight of bearing assemblies with lead plates and anchor bolts are included as Structural Steel

* Parapet Reinforcement and Class X Concrete are billed on sheet No. 6

Note: Work this sheet with sheet No. 4

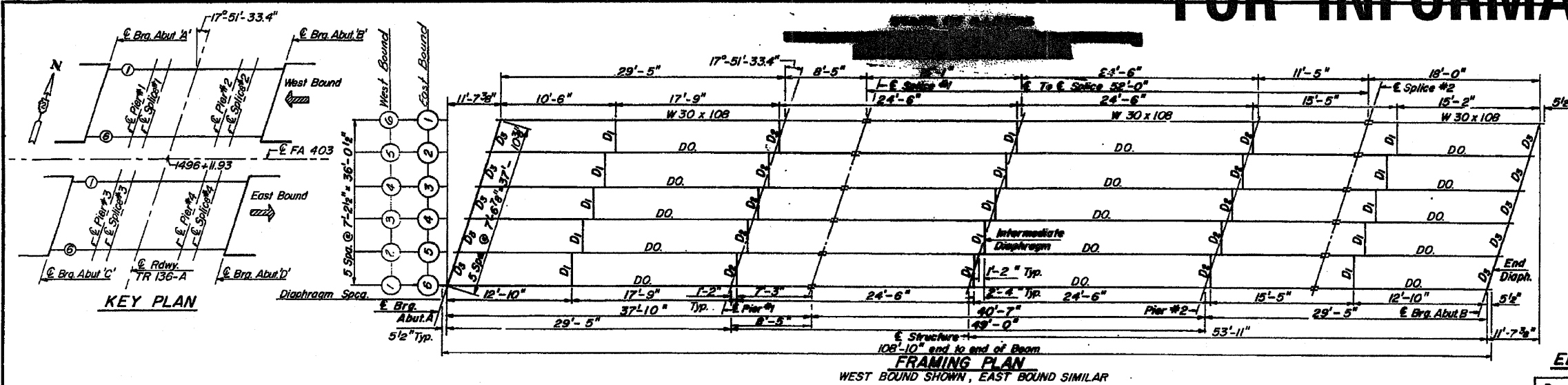
DECK DETAILS
FA 403 SECTION 186-118-B
FA 403 OVER TR 186-A
WHTESIDE COUNTY

* FAI Route 88 & FAP Route 309 (I-88 & US 30) STATION 100+11.85
** 02 Bridge Painting 2009-2
096-00634

DESIGNED	B.T.M.
CHECKED	H.S.
DRAWN	A.M.
CHECKED	H.S.

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 403	1-2	WHITESIDE	230	115
SHEET NO. 7				
17 SHEETS				



SHIMS

Abut. C	1/8"
Abut. D	3/16"

ELEV. TOP OF WEST BOUND BEAMS*

Beam No.	E. Brg. Abut. A	E. Pier #1	E. Splice #1	E. Pier #2	E. Splice #2	E. Brg. Abut. B
6	610.419	610.004	609.902	609.408	609.269	609.107
5	610.525	610.110	610.007	609.513	609.374	609.212
4	610.609	610.194	610.091	609.597	609.458	609.296
3	610.518	610.103	610.001	609.507	609.368	609.206
2	610.373	609.958	609.856	609.362	609.223	609.060
1	610.195	609.780	609.677	609.183	609.044	608.882

ELEV. TOP OF EAST BOUND BEAMS*

Beam No.	E. Brg. Abut. C	E. Pier #3	E. Splice #3	E. Pier #4	E. Splice #4	E. Brg. Abut. D
1	610.732	610.317	610.215	609.721	609.582	609.425
2	610.894	610.479	610.377	609.883	609.744	609.581
3	611.036	610.620	610.518	610.024	609.885	609.723
4	611.001	610.586	610.484	609.990	609.851	609.688
5	610.912	610.497	610.395	609.901	609.762	609.600
6	610.791	610.375	610.273	609.779	609.640	609.478

* For Fabrication Only.

INTERIOR BEAM MOMENT TABLE

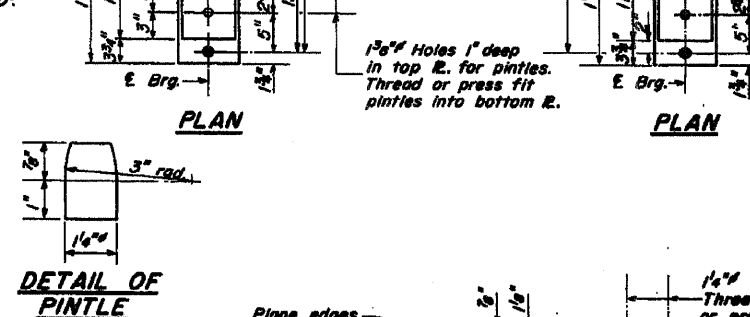
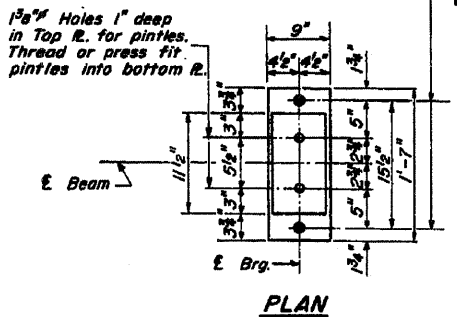
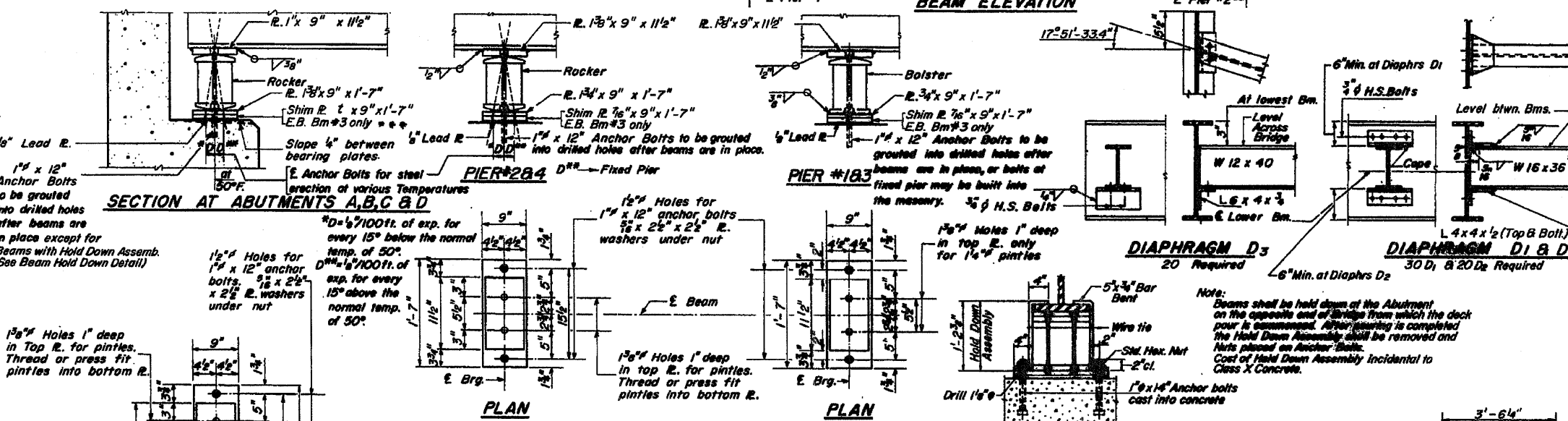
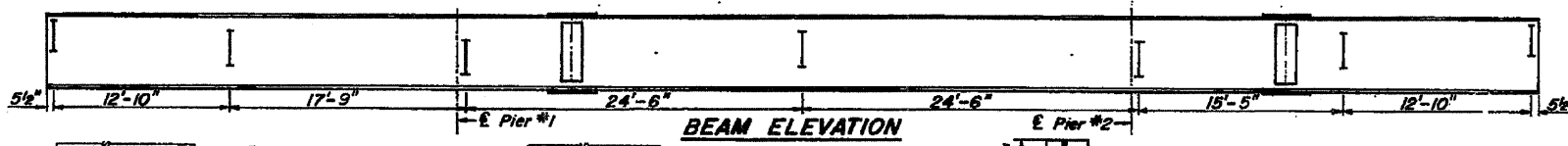
	0.4 Sp. 1 or 3	Pier 1 or 2	0.5 Sp. 2
I (in ⁴)	4461	4461	4461
DL (K)	1255	1255	1255
MDL (K)	42.9	-217.4	159.1
MLL (K)	196.1	-240.21	290.8
M Total (K)	239.0	-457.6	449.9
Fs (Ksi)	9.59	19.37	19.05

INTERIOR GIRDER REACTION TABLE

	Abut.	Pier
RDL (K)	11.0	56.5
RLU (K)	45.9	62.7
R Total (K)	56.9	119.2

* FAI Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2

SUPERSTRUCTURE STEEL
FA 403 SECTION 195-1HB-5
FA 403 OVER TR 136-A
WHITESIDE COUNTY
STATION 1496+11.93
096-0663.4

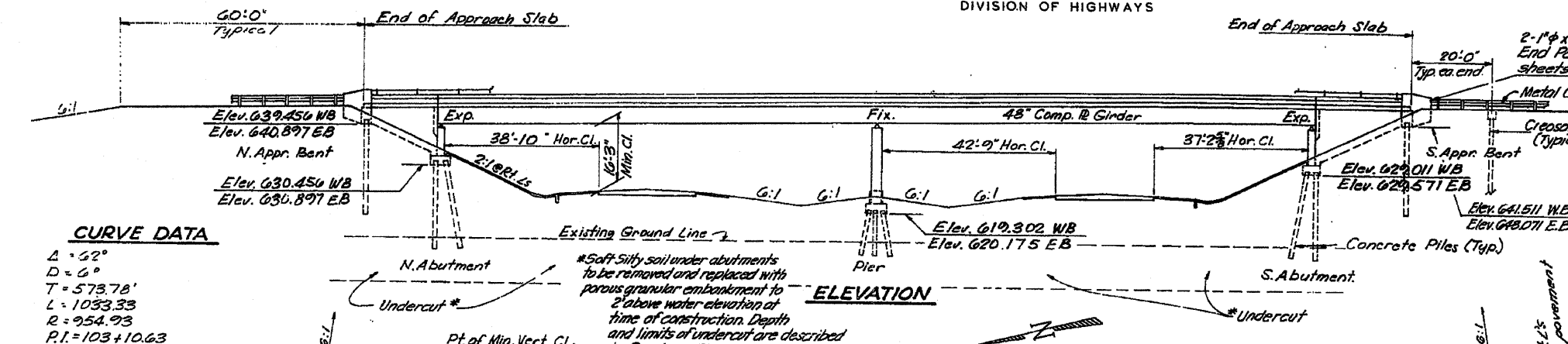


DESIGNED	D.N.
CHECKED	H.S.
DRAWN	A.S.
CHECKED	H.S.

FOR INFORMATION ONLY

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

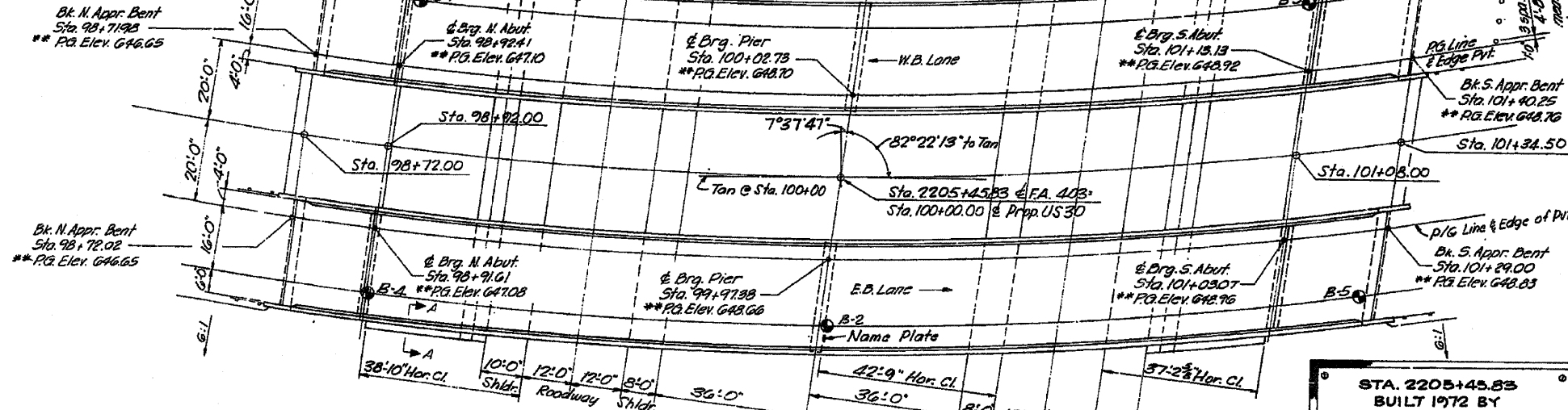
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. /
F.A. 403	195-3	WHITESIDE	589	196	20 SHEETS
FED. ROAD DIST. NO. 7 (ILLINOIS) [EA. PROJ.]					



CURVE DATA

$\Delta = 52^\circ$
 $D = 6'$
 $T = 573.78'$
 $L = 1033.33$
 $R = 954.93$
 $P.I. = 103 + 10.63$
 $P.C. = 97 + 36.85$
 $P.T. = 107 + 70.18$
 $S.E. = 0.081'$

*Soft Silty soil under abutments to be removed and replaced with porous granular embankment to 2' above water elevation at time of construction. Depth and limits of undercut are described in Roadway Plans.



PLAN

DESIGN STRESSES

$f_c = 1200$ psi Deck Slab
 $f_c = 1400$ psi Curb, Parapet, & Substructure
 $f_c = 75$ psi Flyg.
 $n = 10$
 $f_s = 20,000$ psi Reinf.
 $f_s = 20,000$ psi Struct.
 Allowable Deflection = $L/1440$
 Design Specifications - 1969 AASHTO (as applicable)
 Allow 25% per square foot for future wearing surface.

LOADING - HS 20-44

APPROACH PILE DATA

Type: Creosoted
 Length Reqd.: 31' N. Appr.
 33' S. Appr.
 No. Reqd. 4 each Appr. - 16 total

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
 Fasteners shall be high strength bolts. Bolts 8"φ; open holes 1/16"φ unless otherwise noted.
 Calculated weight of Structural Steel = 483.067
 The basic lead silica 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 flange of girders nor to top flange for a distance equal to one fourth the span length each way from the pier support. Field welding in other areas will be permitted only when approved by the Engineer.
 Anchor bolts shall be set before bolting crossframes over supports.
 Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 50 lbs. per 100 sq. ft.
 The Contractor shall drive one concrete test pile at each abutment and pier in a permanent location as directed by the Engineer before ordering the remainder of piles.
 Concrete piles of 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 at 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 Coal Tar Interlayer Protective Coat is applied.
 The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

BILL OF MATERIAL

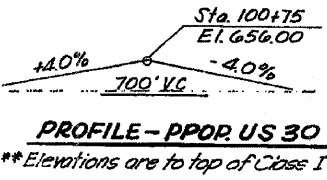
Item	Unit	Super	Sub	Total
Structure Excavation	Cu. Yds.	---	122	122
Class X Concrete	Cu. Yds.	549.5	360.3	909.8
Structural Steel	Lump Sum	---	---	---
Reinforcement Bars	Lbs.	118992	45122	164114
Concrete Piles	Lin. Ft.	---	4757	4757
Test Piles, Concrete	Ea.	---	6	6
Slope Wall, 4"	Sq. Yds.	---	481	481
Bit. Surf. Class I	Tons	120	---	120
Coal Tar Inter. Prot. Coat	Sq. Yds.	1435	---	1435
Aluminum Railings	Lin. Ft.	1029	---	1029
Preformed Joint Sealer	Lin. Ft.	114	---	114
Stud Shear Connectors, 3/4"	Ea.	2880	---	2880
Name Plate	Ea.	---	1	1
Protective Coating	Sq. Yds.	414	---	414
*Sand Rockfill	Cu. Yds.	---	310	310
Creosoted Appr. Piles (20.1 to 38)	Lin. Ft.	---	512	512

* See Special Provisions

STA. 2205+45.83
 BUILT 1972 BY
 STATE OF ILLINOIS
 F.A. RTE. 403, SEC. 195-3HB
 LOADING HS20

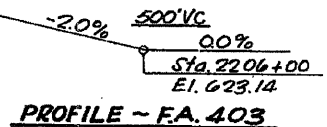
NAME PLATE

See Std. 2113

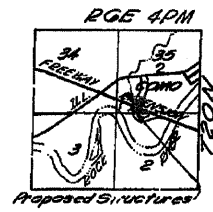


PROFILE - PPOR US 30

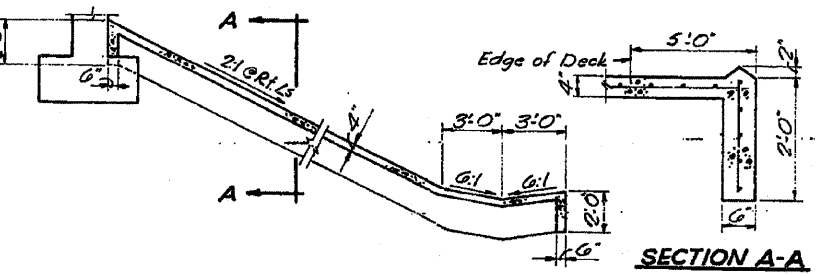
** Elevations are to top of Class I



PROFILE - F.A. 403



LOCATION SKETCH



SECTION THRU SLOPEWALL

SECTION A-A

DESIGNED H.M.W.	EXAMINED	19
CHECKED C.D.C.	PASSED	
DRAWN C.D.C.	APPROVED	
CHECKED S.M.K.		

APPROVED FOR STRUCTURAL ADEQUACY ONLY

Signature and Title



GENERAL PLAN & ELEVATION

PROP. U.S. 30 OVER F.A. 403
 F.A. RTE. 403 - SEC. 195-3HB
 WHITESIDE COUNTY
 STATION 2205+45.83

098-0077,8

PLANS PREPARED BY MACKIE ENGINEERING CO.

* FAI Route 88 & FAP Route 309 (I-88 & US 30)

** D2 Bridge Painting 2009-2

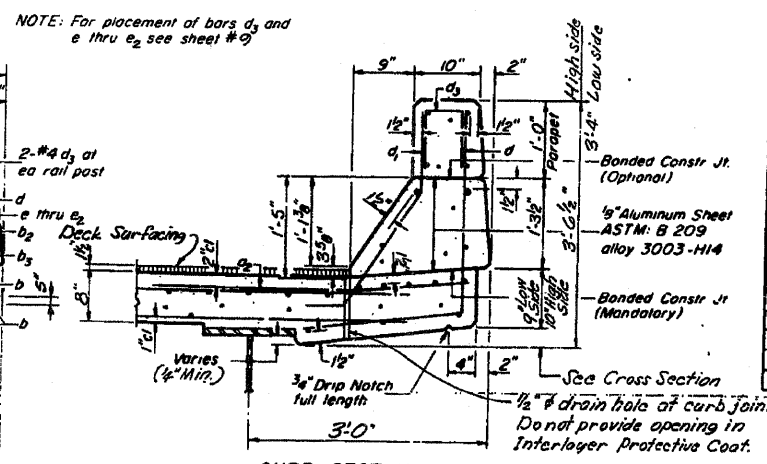
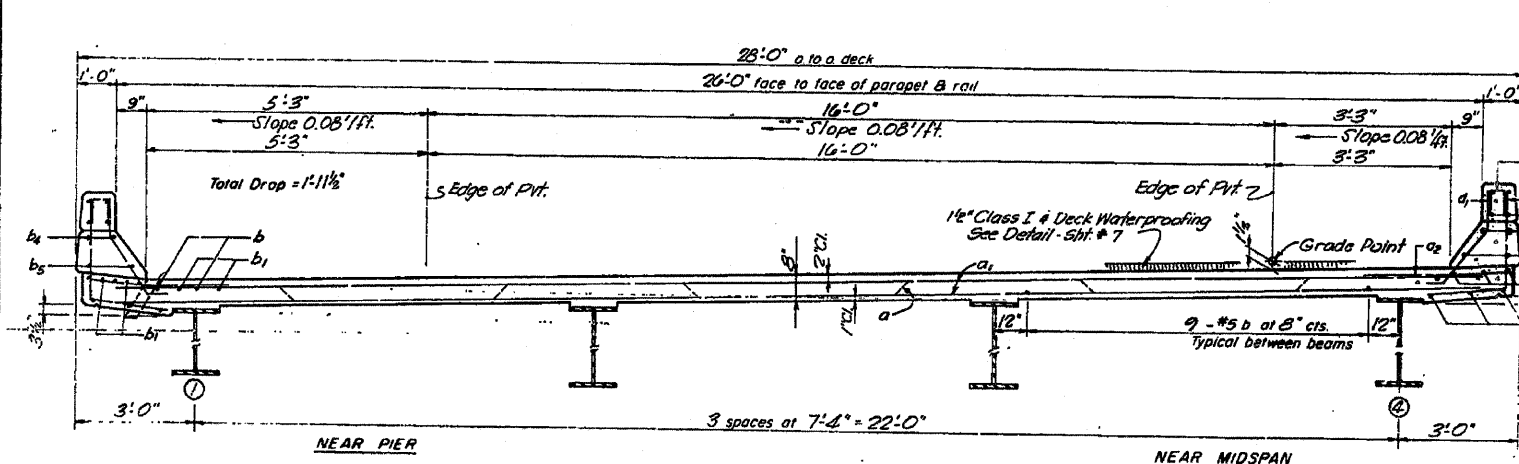
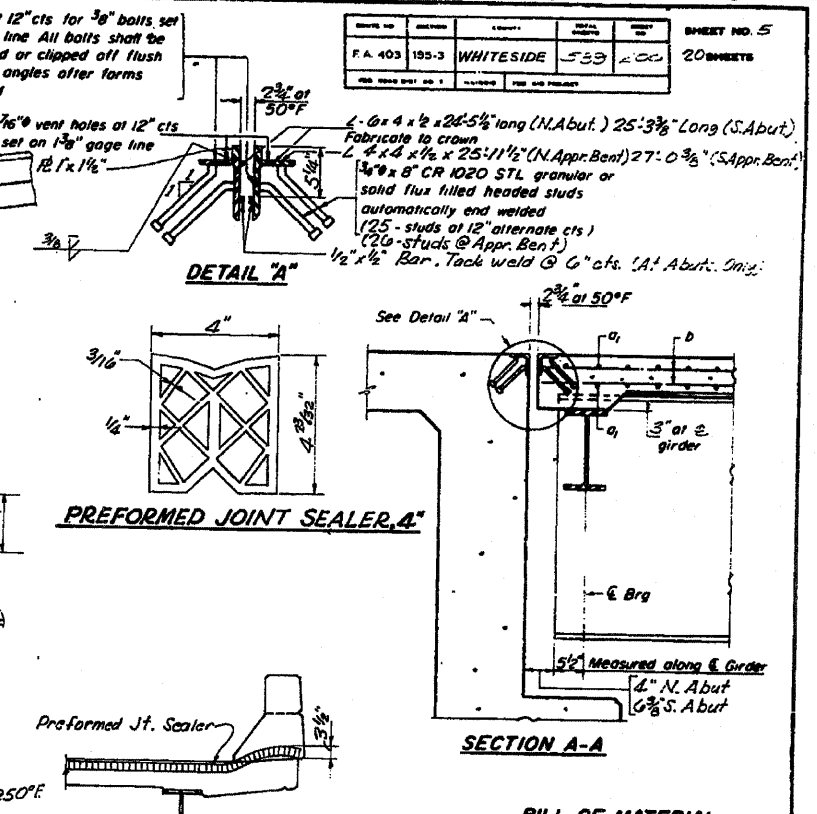
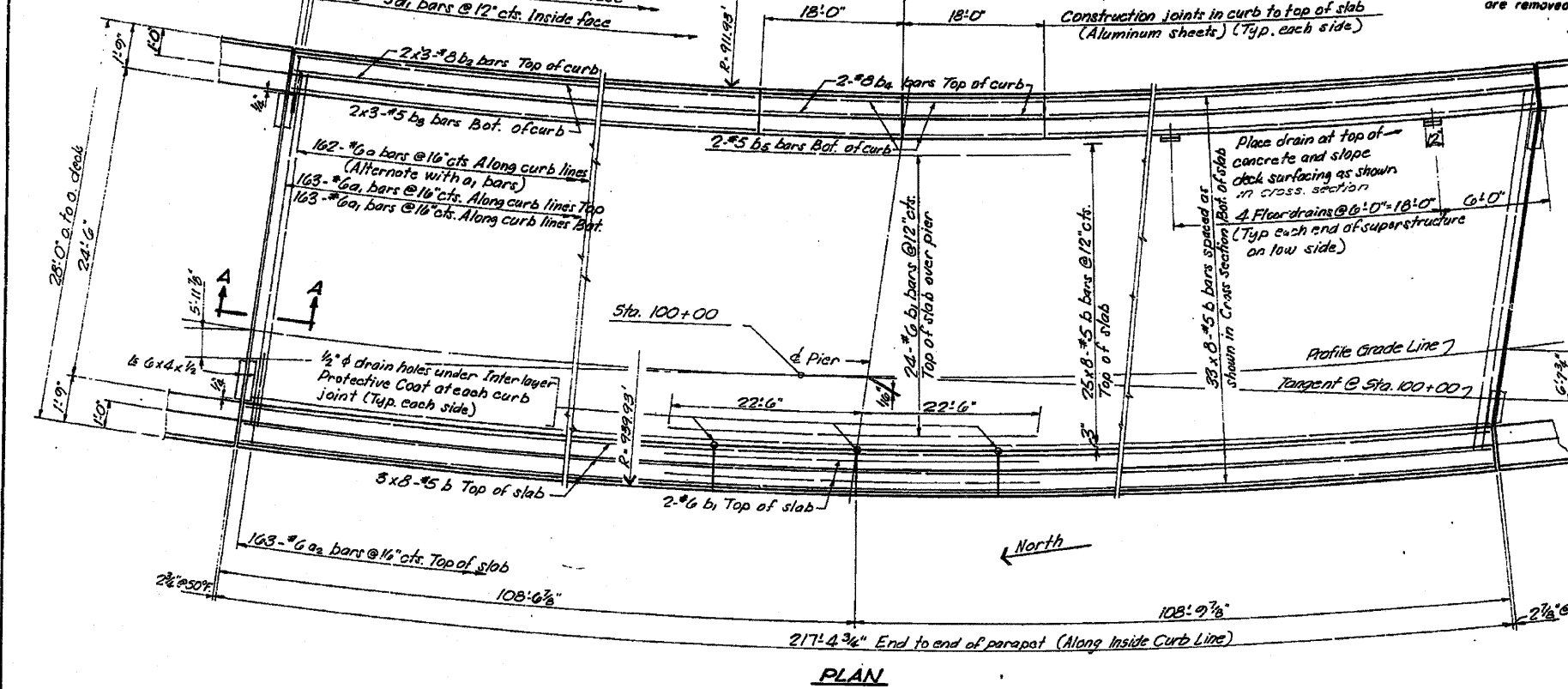
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				SHEET NO. OF SHEETS		TOTAL SHEETS		CONTRACT NO.	
FILE NAME: RP\PAINTING\64663\PLAN\eng.dgn	DESIGNED: H.M.W.	REVISION: ---	DRAWN: C.D.C.	REVISION: ---	19	20	29	20	64E63
PLOT SCALE = 5/8" = 1'-0"	CHECKED: C.D.C.	REVISION: ---	CHECKED: ---	REVISION: ---					
PLOT DATE = Fri Dec 05 13:42:18 2008	DATE: ---	REVISION: ---	DATE: ---	REVISION: ---					

FOR INFORMATION ONLY

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

STATE OF ILLINOIS
 DIVISION OF HIGHWAYS

PROJECT NO.	DATE	DESIGNER	SCALE	SHEET NO.
F.A. 403 195-3	WHITESIDE	533	20	20 SHEETS

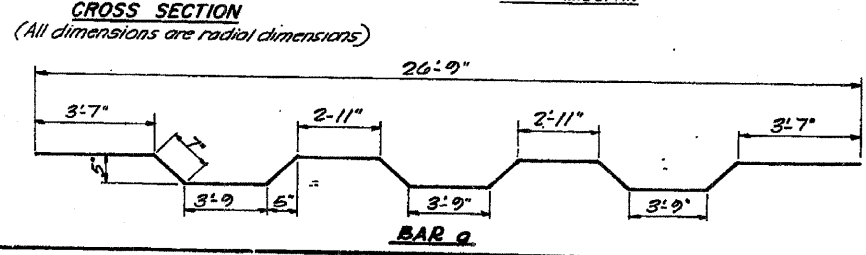


BILL OF MATERIAL

Bar	No	Size	Length	Shape
a	162	#6	27'-9"	
a ₁	326	#6	26'-9"	
a ₂	326	#6	4'-0"	
b	512	#5	28'-3"	
b ₁	28	#6	45'-0"	
b ₂	24	#8	31'-5"	
b ₃	24	#5	31'-0"	
b ₄	8	#8	17'-9"	
b ₅	8	#5	17'-9"	
c	436	#4	4'-7"	
d	436	#5	3'-8"	
Reinforcement Bars				Lbs 4499.8
Class X Concrete				Cu Yds 165.5

DESIGNED C. Clary
 CHECKED S. Mck
 DRAWN C. Clary
 CHECKED S. Mck

S-586-L(30) 4-22-68, 12-3-69



SUPERSTRUCTURE, WB BRIDGE

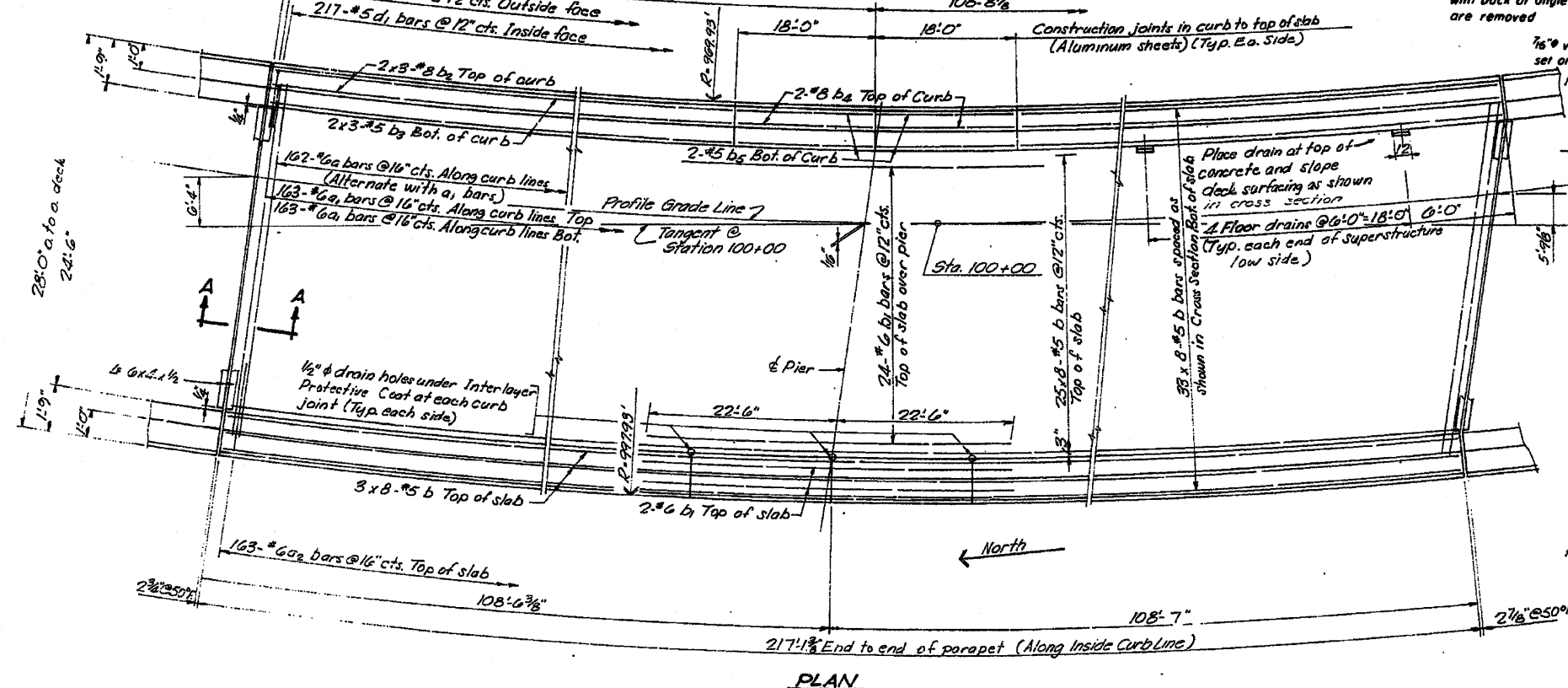
F.A. RTE. 403 SEC. 195-34B
 WHITESIDE COUNTY
 STATION 2205+45.83

098-0077, 8

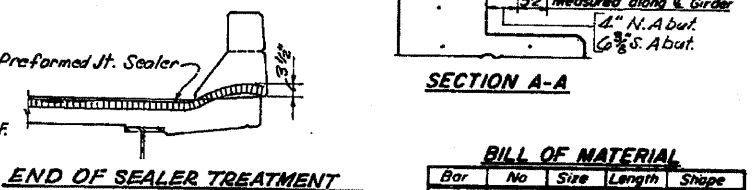
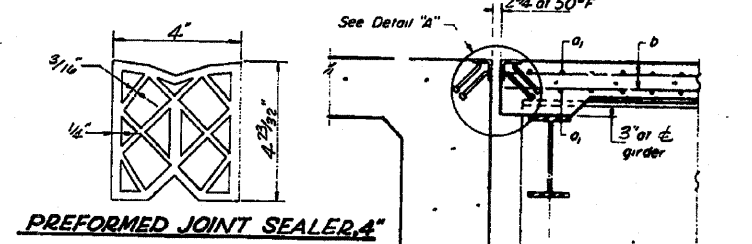
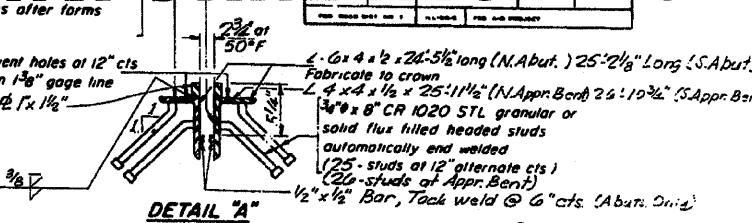
* FAI Route 88 & FAP Route 309 (I-88 & US 30)
 ** D2 Bridge Painting 2009-2

FOR INFORMATION ONLY

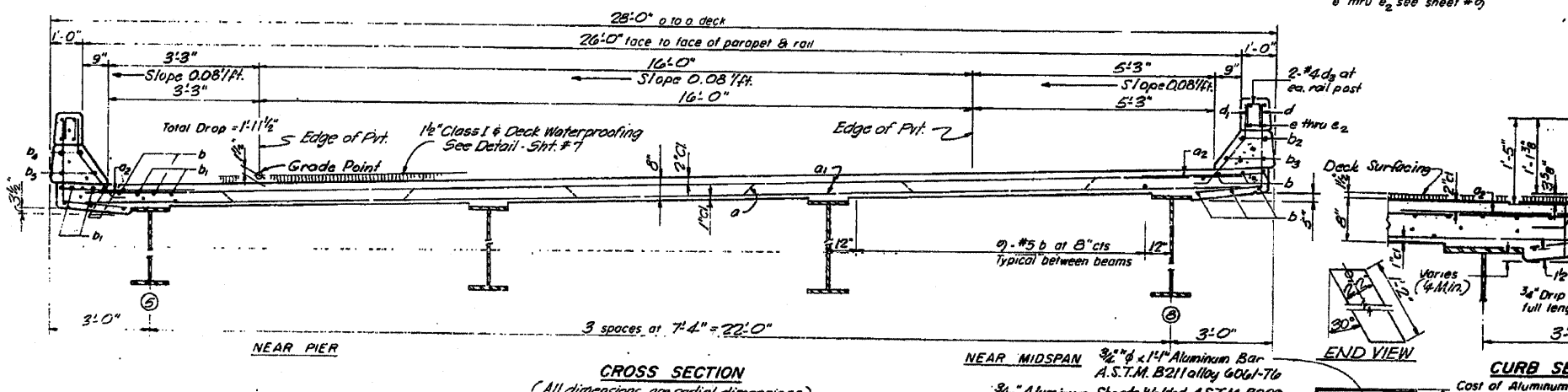
NOTE
Bars indicated thus $\#2 \times 3 \times 5$ etc
indicates 20 lines of bars with 3
lengths per line
Min. bar laps = 24 dia



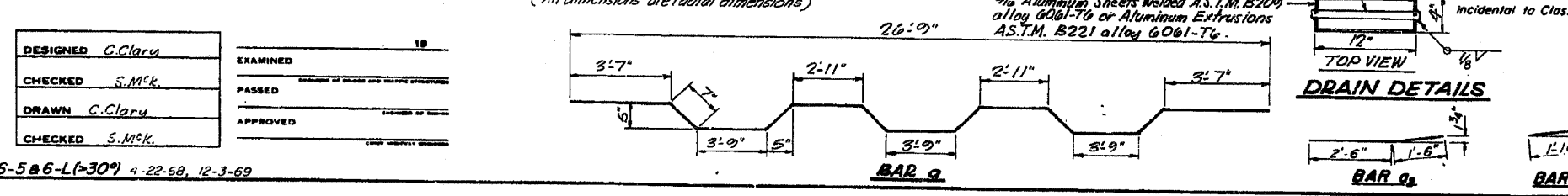
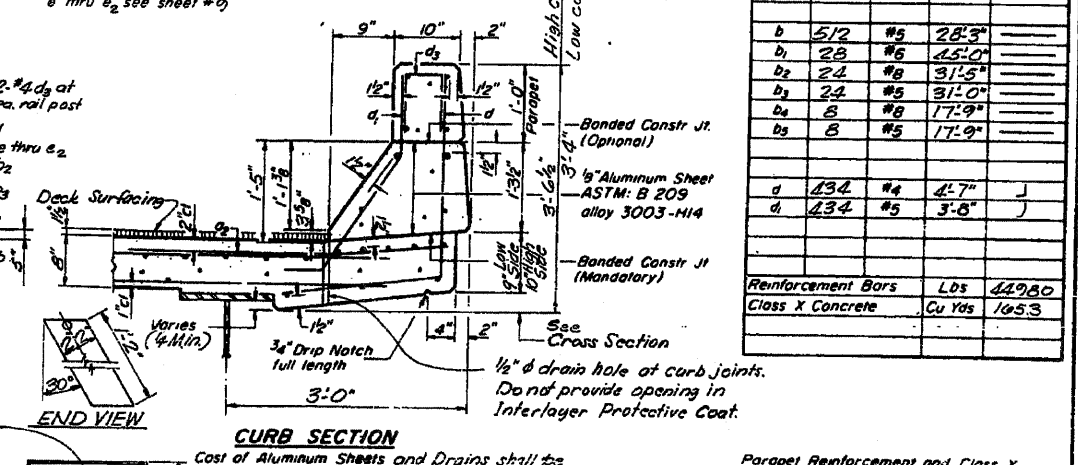
STATE OF ILLINOIS
DIVISION OF HIGHWAYS



BILL OF MATERIAL				
Bar	No	Size	Length	Shape
a	162	#6	27'-9"	
a ₁	326	#6	26'-9"	
a ₂	326	#6	4'-0"	
b	512	#5	28'-3"	
b ₁	28	#6	45'-0"	
b ₂	24	#8	31'-5"	
b ₃	24	#5	31'-0"	
b ₄	8	#8	17'-9"	
b ₅	8	#5	17'-9"	
d	134	#4	4'-7"	
d ₁	134	#5	3'-8"	
Reinforcement Bars		Lds		449.80
Class X Concrete		Cu Yds		165.3



NOTE: For placement of bars d₃ and
e thru e₂ see sheet #9



DESIGNED C. Clary	EXAMINED
CHECKED S. McK.	PASSED
DRAWN C. Clary	APPROVED
CHECKED S. McK.	

S-586-L(30) 4-22-69, 12-3-69

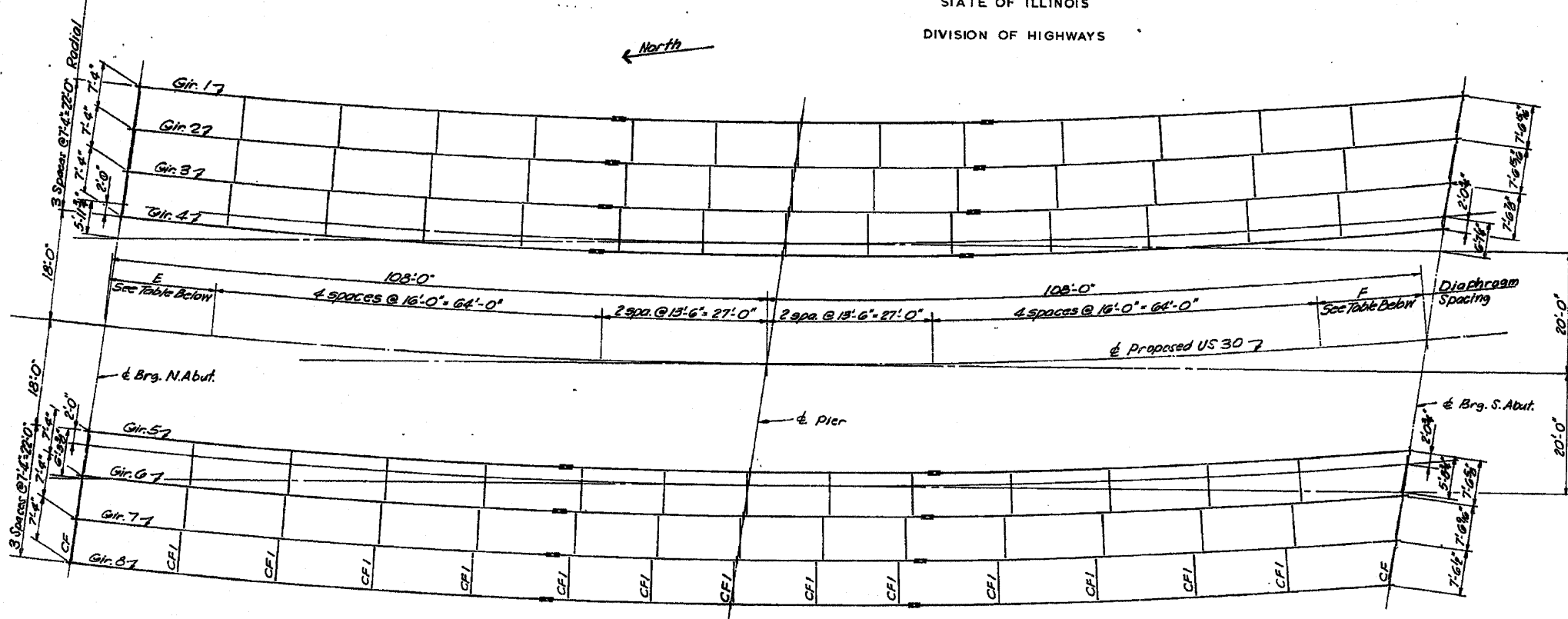
Parapet Reinforcement and Class X
Concrete are billed on sheet #9

SUPERSTRUCTURE, EB BRIDGE
F.A. RTE. 403 SEC. 105-3HB
WHITESIDE COUNTY
STATION 2205+45.83
098-0077.8

FOR INFORMATION ONLY

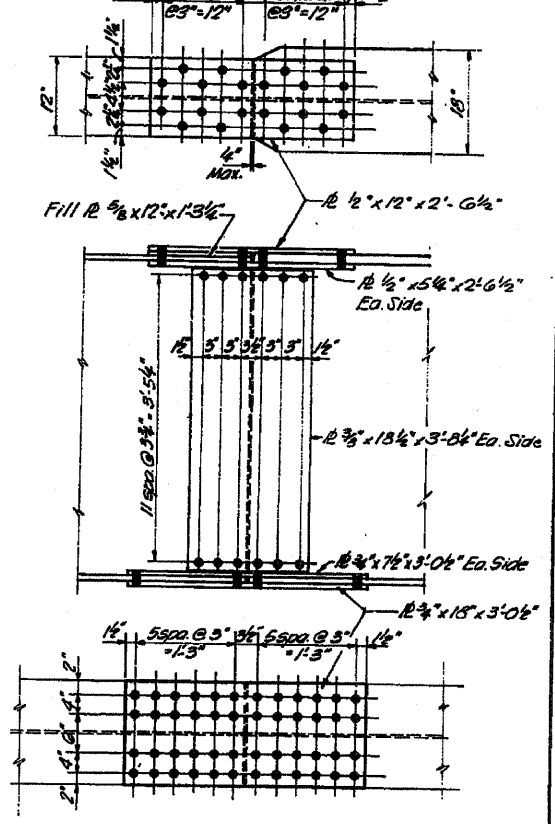
STATE OF ILLINOIS
DIVISION OF HIGHWAYS

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10
F.A. 403	195-3	WHITESIDE	589	205	20 SHEETS

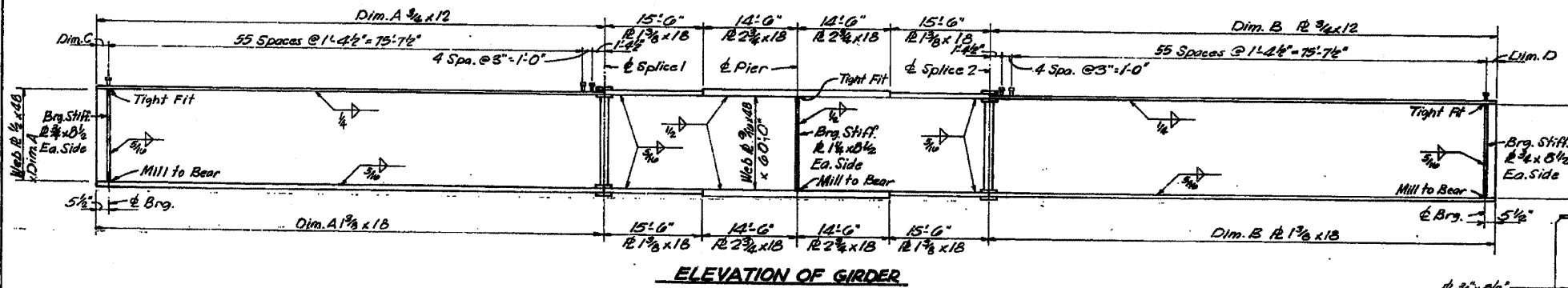


FRAMING PLAN

Notes: Interior Diaphragms to be placed radially.
All dimensions are along & of beam unless otherwise noted.
Curve all beams to individual radii.



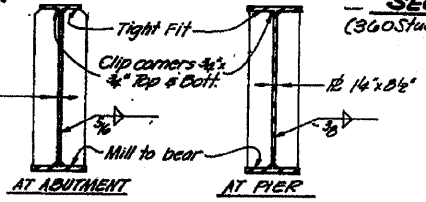
SPlice DETAILS
(All Bolts 3/4" H.S.)



ELEVATION OF GIRDER

3/4" x 5" CR 1020 STL
granular or solid flux
filled headed studs
automatically end welded

SECTION A-A
(360 Studs per Girder)



BEARING STIFFENERS

DESIGNED A.K.C.	EXAMINED
CHECKED S.M.K.	PASSED
DRAWN C.D.C.	APPROVED
CHECKED S.M.K.	

Girder	Radius	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F
1	R 1 1/2 x 18	78'-7 1/2"	5'-2"	7'-11 1/2"	17'-2 1/2"	17'-5 1/2"	
2	R 2 1/4 x 18	78'-7 1/2"	5'-2"	7'-11 1/2"	17'-2 1/2"	17'-5 1/2"	
3	R 2 1/4 x 18	78'-7 1/2"	5'-2"	7'-11 1/2"	17'-2 1/2"	17'-5 1/2"	
4	R 2 1/4 x 18	78'-7 1/2"	5'-2"	7'-11 1/2"	17'-2 1/2"	17'-5 1/2"	
5	R 2 1/4 x 18	78'-7 1/2"	5'-2"	7'-11 1/2"	17'-2 1/2"	17'-5 1/2"	
6	R 2 1/4 x 18	78'-7 1/2"	5'-2"	7'-11 1/2"	17'-2 1/2"	17'-5 1/2"	
7	R 2 1/4 x 18	78'-7 1/2"	5'-2"	7'-11 1/2"	17'-2 1/2"	17'-5 1/2"	
8	R 2 1/4 x 18	78'-7 1/2"	5'-2"	7'-11 1/2"	17'-2 1/2"	17'-5 1/2"	

	Gir. 1	Gir. 2	Gir. 3	Gir. 4	Gir. 5	Gir. 6	Gir. 7	Gir. 8
Br. N. Abut.	644.546	645.129	645.712	646.297	646.881	647.464	647.129	647.712
Splice 1	645.785	646.368	646.951	647.534	648.117	648.700	648.365	648.948
Pier	646.980	647.563	648.146	648.729	649.312	649.895	649.560	650.143
Splice 2	646.252	646.835	647.418	648.001	648.584	649.167	648.832	649.415
Br. S. Abut.	646.394	646.977	647.560	648.143	648.726	649.309	648.974	649.557

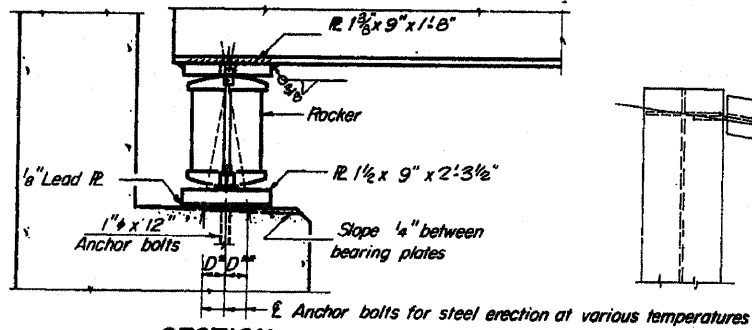
STRUCTURAL STEEL
098-00776
F.A. RTE. 403 ~ SEC. 195-3HB
WHITESIDE COUNTY
STATION 2205+45.83

* FAI Route 88 & FAP Route 309 (I 88 & US 30)
** D2 Bridge Painting 2009-2

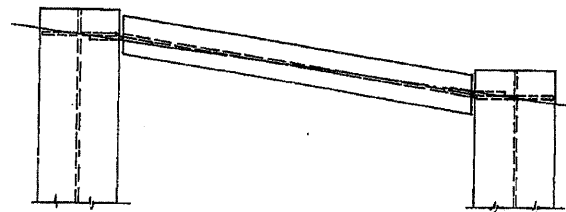
FOR INFORMATION ONLY

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

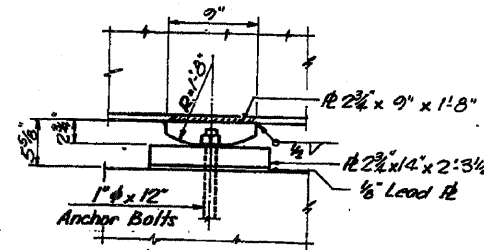
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F.A. 403 195-3	WHITESIDE	583	208	11
SHEETS				



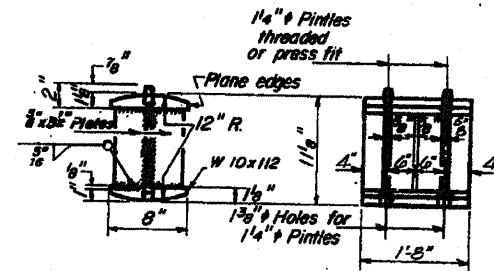
SECTION



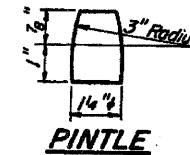
PLAN



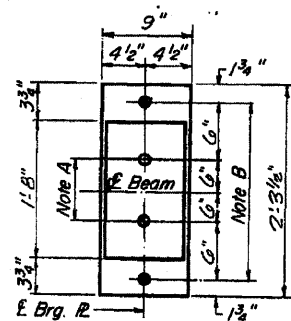
ELEVATION



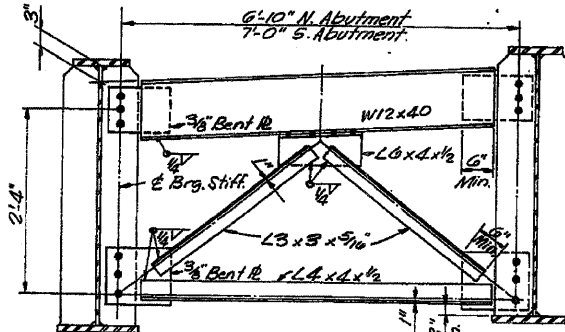
ROCKER



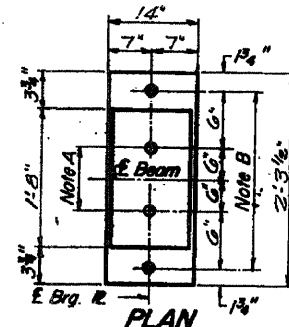
PINTLE



AT ABUTMENT



GROSS FRAME CF



AT PIER

NOTE A
1 1/8" Holes - 1" deep in top R.
for pintles. Thread or press fit
pintles into bottom R.

NOTE B
1 1/8" Holes for 1" anchor bolts
in 2 1/2 x 2 1/2" R. Washers
under nut.

NOTE C
1 1/8" Holes 1" deep in top R.
only for 1 1/4" pintles.

Note: Secondary stresses due to beam curvature
will increase those shown by 14% (2).

	0.4 Span	Pier
I_s (in ⁴)	22388	68416
S_x (in ³)	1204	2558
DL (K)	1.049	1.049
M/DL (K)	635	1898
f_c /DL (ksi)	6.88	8.91
I_c (n=30) (in ⁴)	45580	
S_c (in ³)	1612	
SDL (K)	.480	.480
M/SDL (K)	367	763
f_c /SDL (ksi)	2.91	3.58
I_c (n=10) (in ⁴)	62817	
S_c (in ³)	1648	
MLL (K)	908	856
M/MLP (K)	195	183
M/TOTAL (K)	1103	1038
f_c /LL (ksi)	8.03	4.87
f_c /TOTAL (ksi)	17.87	17.56
VR	57.6	

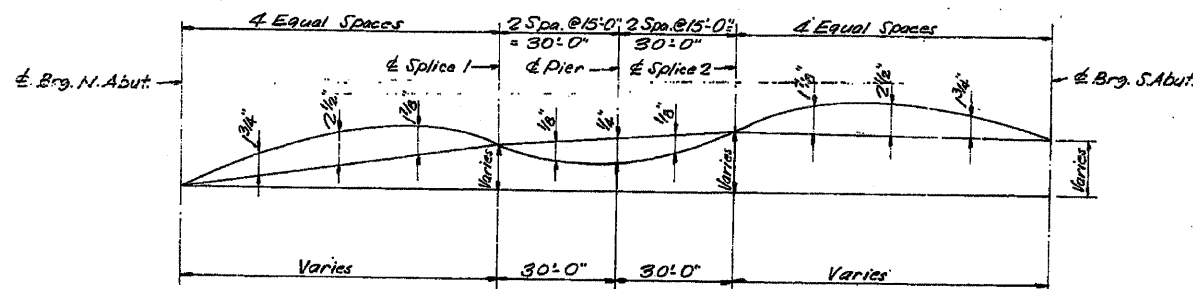
NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

- D^* (Side of brg away from fixed brg.)
 $D^* = \frac{1}{8}$ " per each 100' of expansion for every 15° fall below the normal temp. of 50°F
 - D^{**} (Side of brg toward fixed brg.)
 $D^{**} = \frac{1}{8}$ " 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

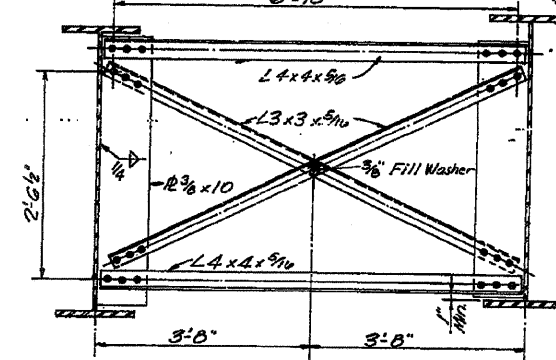
	Abut.	Pier
R/DL	54.8	214.8
R/L	47.8	74.2
R/IMP	10.3	17.0
R/TOTAL	112.9	311.0

I_s and S_x are the moment of inertia and section modulus of the steel section.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_c .
 VR is the maximum $\frac{1}{2}$ impact shear range in the span.



CAMBER DIAGRAM

Includes allowance for Total Dead Load Deflection and Vertical Curvature of the Roadway.



CROSS FRAME CF I

SHOES

F.A. RTE. 403 - SEC. 195-3H8
WHITESIDE COUNTY
STATION 2205+45.83

DESIGNED <u>A.K.C.</u>	EXAMINED _____
CHECKED <u>S.M.C.</u>	PASSED _____
DRAWN <u>P.G. Barnett & C. DC.</u>	APPROVED _____
CHECKED <u>S.M.C.</u>	_____

I-2-B 9-1-65, 8-1-70

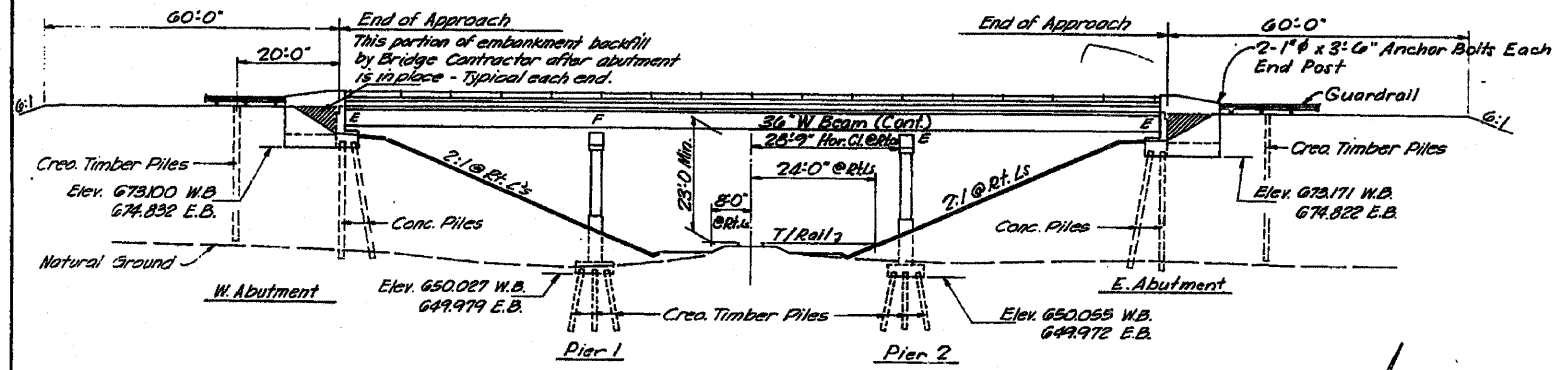
* FAI Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2

098100778

FOR INFORMATION ONLY

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

NO.	SEC.	ROUTE	SHEET	NO.
F.A. 403	195-3	WHITESIDE	589	252
18 SHEETS				



APPROACH PILE DATA
Type: Cressed Timber Piles
No. Req'd.: 24
Length Req'd.: 26' W.Abut.-W.B., 23' E.Abut.-W.B.
31' W.Abut.-E.B., 31' E.Abut.-E.B.
See Special Provisions

GENERAL NOTES

All reinforcement bars shall be lapped 8d diameters unless otherwise shown.
Fasteners shall be high strength bolts. Bolts 3/4"; open holes 5/8" unless otherwise noted.
Calculated weight of Structural Steel = 320,607
The basic lead silica chromate paint system shall be used for shop and field painting of Structural Steel.
Field welding of construction accessories will not be permitted to cut from 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.
Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 50# per 100 sq. ft.
The Contractor shall drive one concrete test pile at each abutment and one timber pile at each pier in a permanent location as directed by the Engineer before ordering the remainder of piles.
Concrete piles at abutment shall be driven in holes precored through the embankment in accordance with Article 513.09(c) of the Standard Specifications.
The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class I Concrete, except the aggregates shall conform to the requirements for Mandrel Concrete.
Protective Coat shall not be applied to surfaces to which Coal Tar Interlayer Protective Coat is applied.

STATION 2593 + 91.75
BUILT 1972 BY
STATE OF ILLINOIS
F.A. RTE 403 - SEC. 195 - 3VB
LOADING HS 20
NAME PLATE
See Std. 2113

BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Structure Excavation	Cu. Yds.		570	570
Class I Concrete	Cu. Yds.	444.0	508.4	952.4
Structural Steel	Lump Sum	1		1
Reinforcement Bars	Lbs.	112,909	62,266	175,175
Concrete Piles	Lin. Ft.		1608	1608
Test Piles, Concrete	Ea.		4	4
Cressed Timber Piles (20/16)	Lin. Ft.		2381	2381
Test Piles, Cressed Timber	Ea.		4	4
Slope Wall 4"	Sq. Yds.		2253	2253
Bit. Surface, Class I	Tons	118		118
Coal Tar Inter. Prot. Coat	Sq. Yds.	1410		1410
Aluminum Railings	Lin. Ft.	655		655
Preformed Jt. Sealer	Lin. Ft.	191		191
Protective Coat	Sq. Yds.	290		290
Name Plate	Ea.	2		2
Cressed Timber Piles, Under 20'	Lin. Ft.		1295	1295

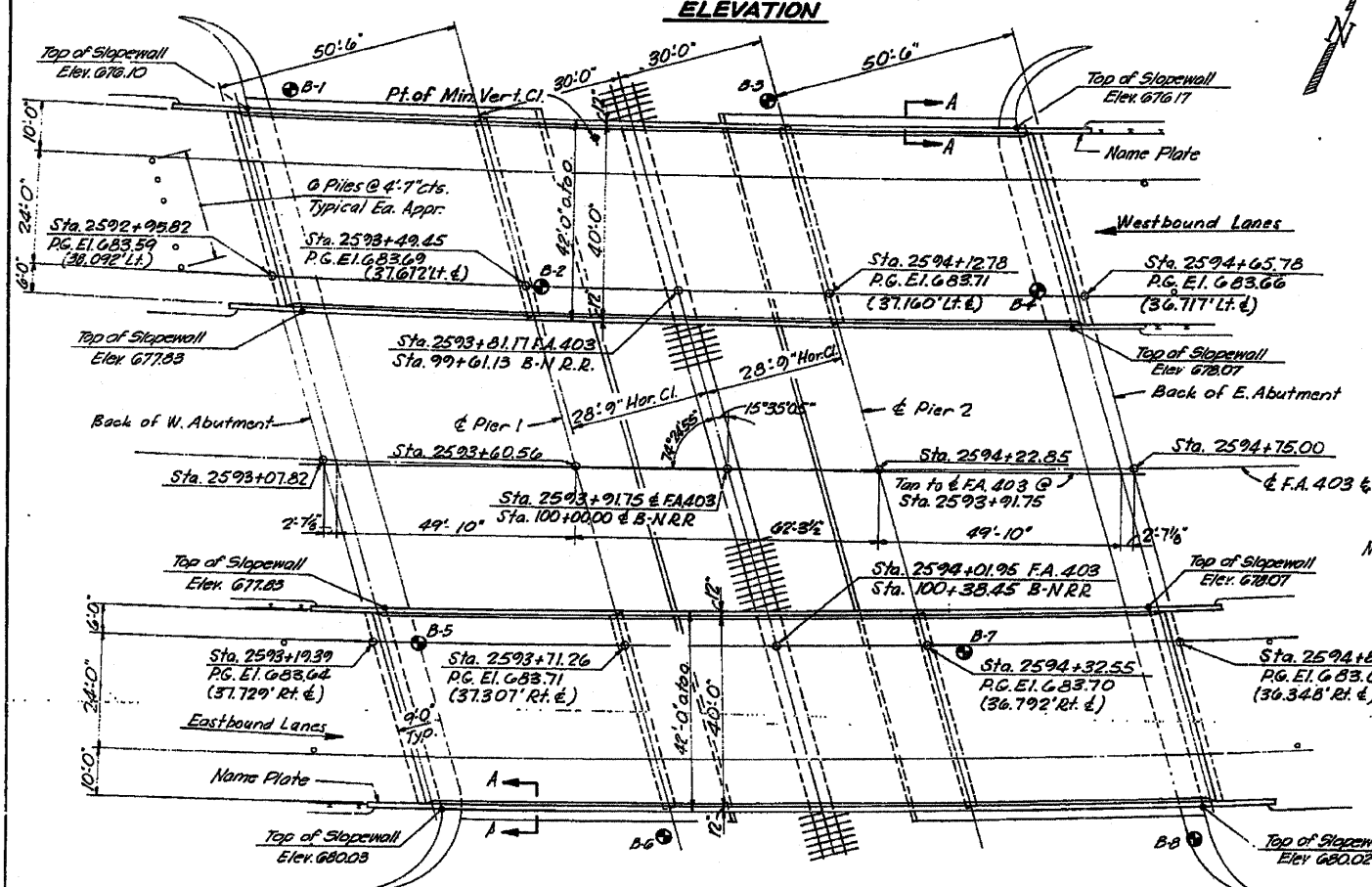
LOADING HS 20-44

DESIGN STRESSES

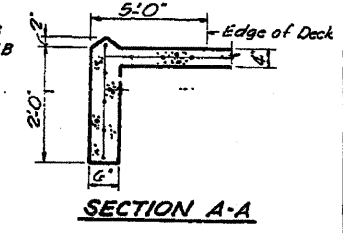
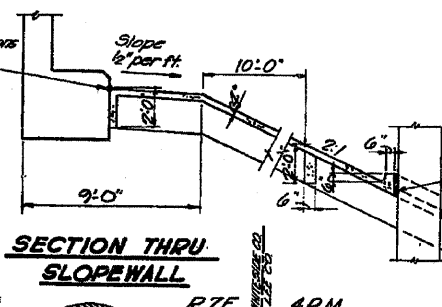
$f_c = 1200$ psi Deck Slab
 $f_c = 1400$ psi Curb, Parapet, & Substructure
 $V_c = 75$ psi Footings
 $n = 10$
 $f_s = 20,000$ psi Reinf.
 $f_s = 20,000$ psi Struct.
Allowable Δ Deflection = $L/1000$.
Design Specifications - 1969 AASHTO (as applicable)
Allow 25# per sq. ft. for future wearing surface.

HORIZONTAL CURVE DATA

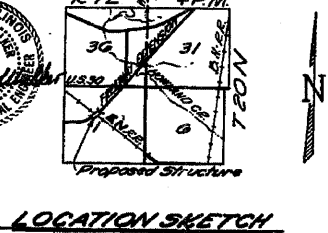
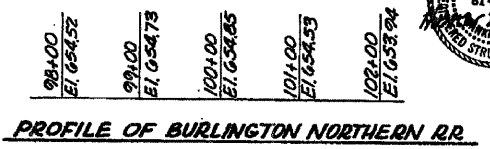
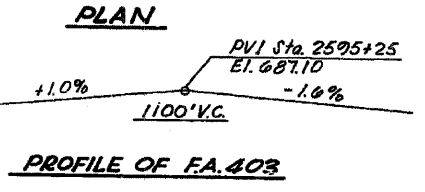
* $\Delta = 47^\circ 21' 05''$ Left
* $D = 2100'$
* $T = 1296.11'$
* $E = 263.25'$
* $R = 2804.79'$
* $L = 2947.54'$
* $SE = .0611$
 $RI = 2806 + 34.19$
 $RC = 2575 + 78.08$
 $RT = 2599 + 45.62$
*This data is for WB
R.G. Line, & Survey & EB
R.G. Line
2" P.J.F. all around Pier
Begin median width transition of WB
R.G. Line @ P.C. Sta. 2575 + 75.10
Begin median width transition of EB
R.S. Line @ P.C. Sta. 2575 + 81.01



Note: Top of slopewall to be held at a constant slope between elevations shown on Plan.



DESIGNED	H.M.W.	EXAMINED	
CHECKED	C.D.C.	PASSED	
DRAWN	C.D.C.	APPROVED	
CHECKED	S.M. Knight		



GENERAL PLAN & ELEVATION
F.A. RTE. 403 OVER BURLINGTON NORTHERN RR
F.A. RTE. 403 SEC. 195 - 3VB
WHITESIDE COUNTY
STATION 2593 + 91.75

098-0089, 90

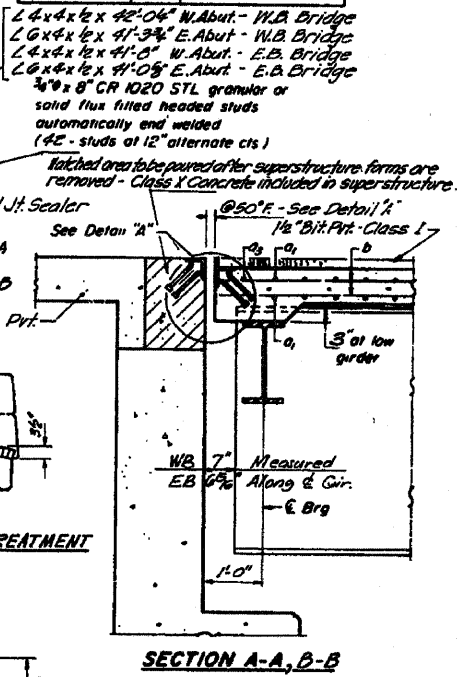
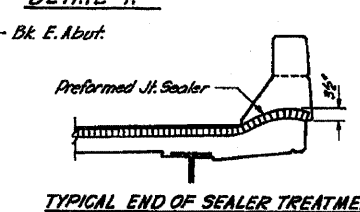
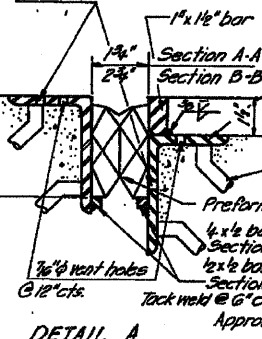
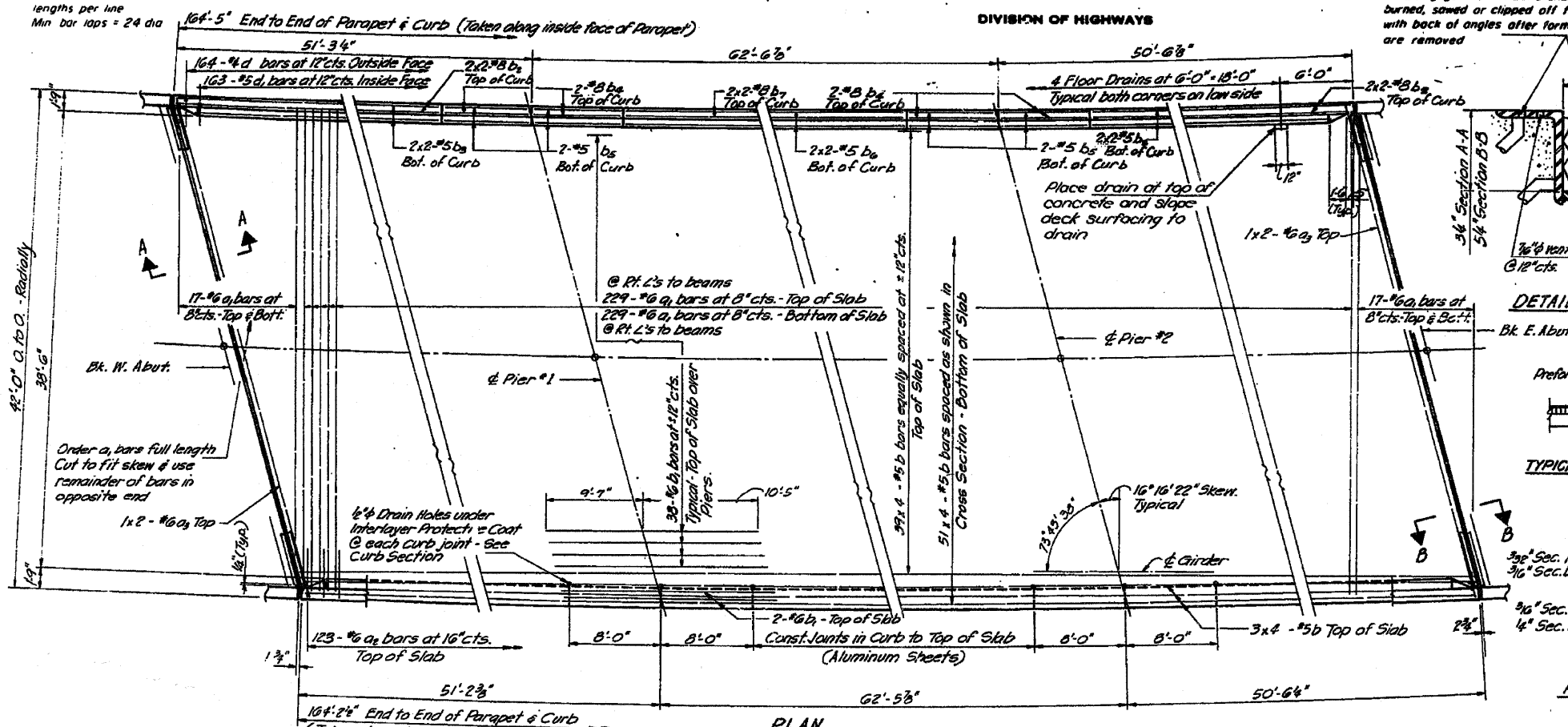
* FAI Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2

FOR INFORMATION ONLY

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 403-195-3	WHITESIDE	539	26	18

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

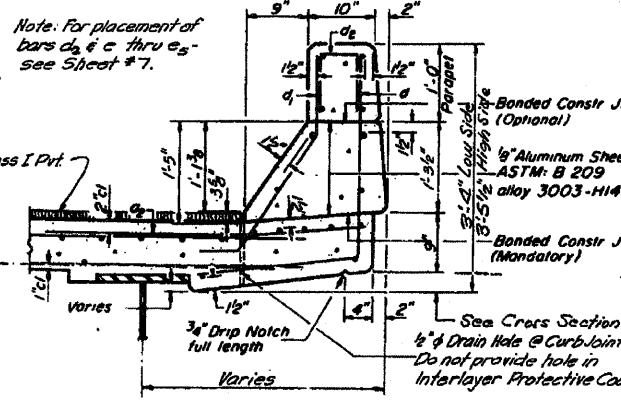


BILL OF MATERIAL

Bar	No	Size	Length	Shape
a ₁	492	#6	40'-6"	
a ₂	246	#6	4'-0"	
a ₃	4	#6	22'-6"	
b	384	#5	41'-11"	
b ₁	84	#6	20'-0"	
b ₂	16	#8	22'-6"	
b ₃	16	#5	22'-1"	
b ₄	16	#8	7'-9"	
b ₅	16	#5	23'-10"	
b ₆	8	#8	24'-2"	
d	328	#4	5'-0"	
e	328	#5	3'-8"	
Reinforcement Bars				Lbs 55,016
Class X Concrete				Cu Yds 189.3

Note: Bar lengths are based on max. length necessary for W.B. Structure. Variation to be adjusted in applica lengths.

Parapet Reinforcement and Class X Concrete are billed on sheet # 7.



DESIGNED	G.D.C.	EXAMINED	18
CHECKED	J.P.	PASSED	
DRAWN	L.R.	APPROVED	
CHECKED	S.Mck.		

S-586-L(=30) 4-22-68, 12-3-69

SUPERSTRUCTURE - W.B. BRIDGE
F.A. RTE. 403 - SEC. 195-3YB
WHITESIDE COUNTY
STATION 2593+91.75
098-0089 90

* F.A. Route 88 & F.A.P. Route 309 (1188 & US 30)
** D2 Bridge Painting 2009-2

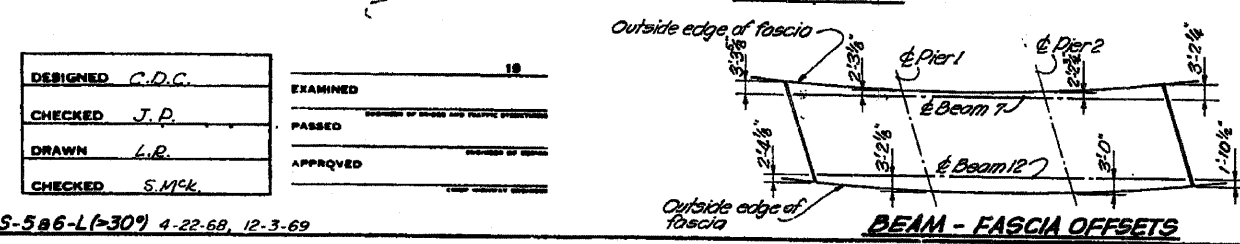
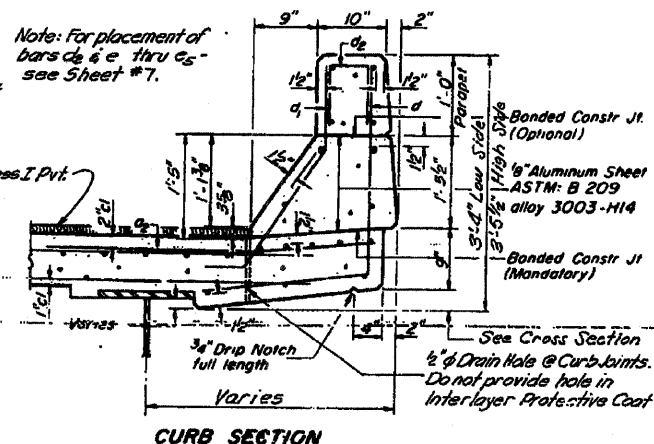
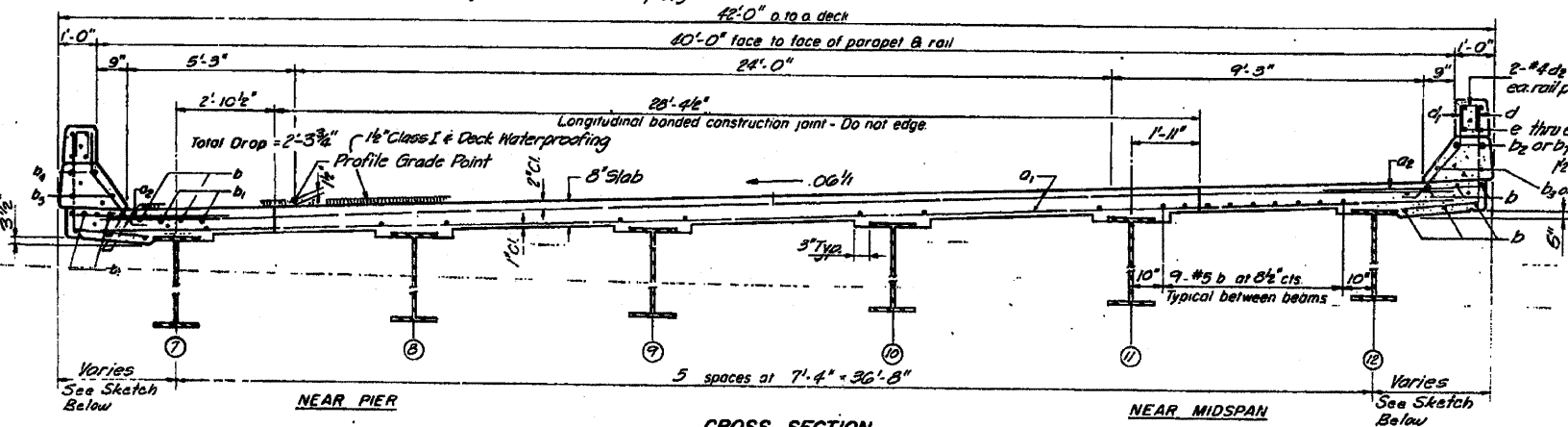
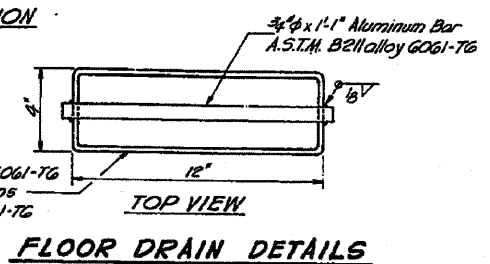
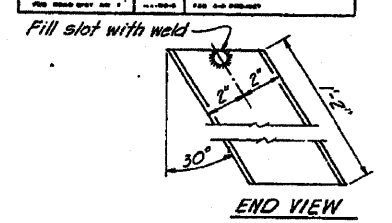
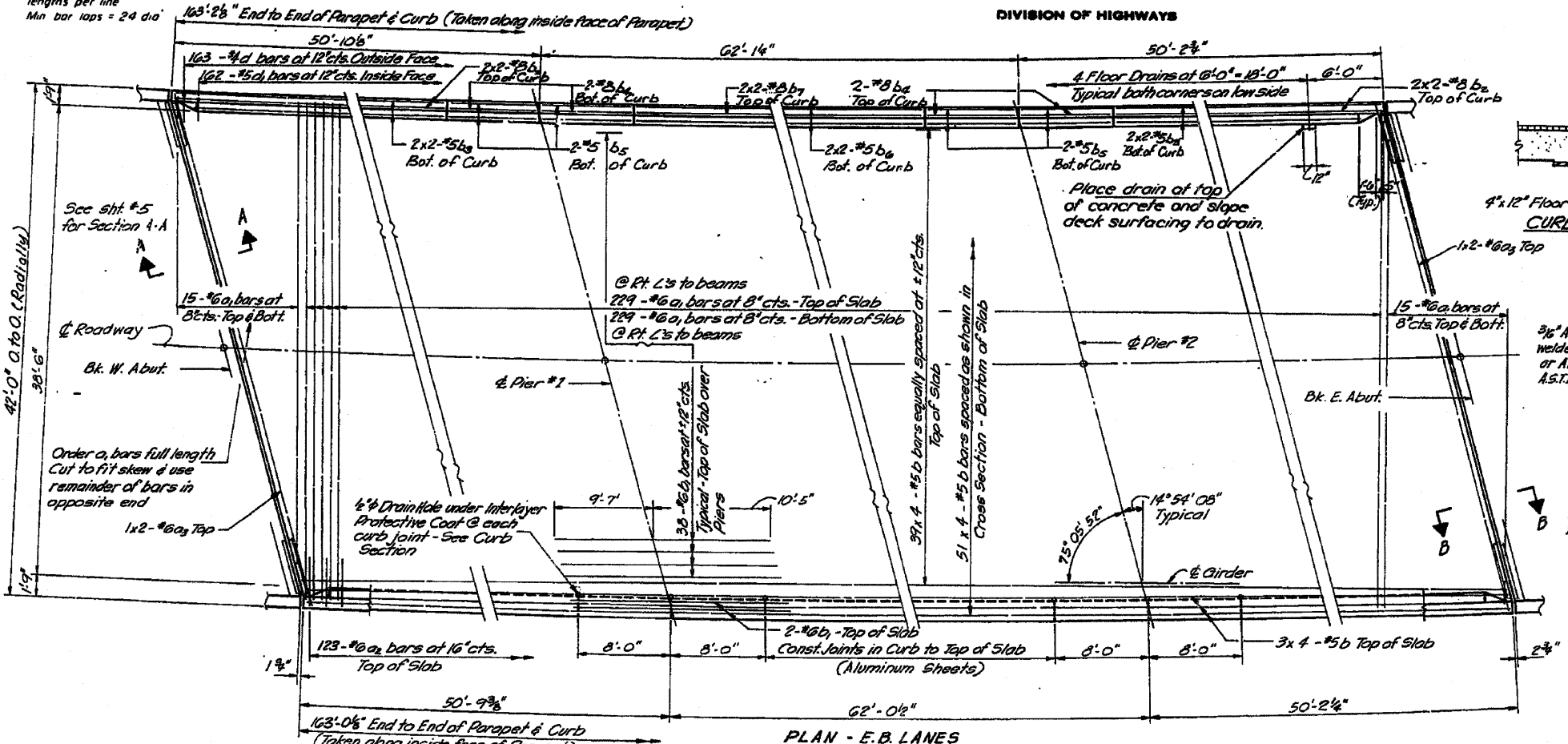
FOR INFORMATION ONLY

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

PROJECT NO. 6
F.A. 403 195-3 WHITESIDE 589 E-7 18 SHEETS

NOTE

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



BILL OF MATERIAL

Bar	No	Size	Length	Shape
a ₁	488	#6	40'-6"	
a ₂	246	#6	8'-0"	
a ₃	4	#6	22'-6"	
b	384	#5	41'-11"	
b ₁	84	#6	20'-0"	
b ₂	16	#8	22'-6"	
b ₃	16	#5	22'-1"	
b ₄	16	#8	7'-9"	
b ₅	16	#5	7'-9"	
b ₆	8	#5	25'-10"	
b ₇	8	#5	22'-2"	
d	326	#4	5'-0"	
d ₁	384	#5	3'-8"	
Reinforcement Bars				Lbs 55358
Class X Concrete				Cu Yds 187.9

Note: Bar lengths are based on max. length necessary for W.B. Structure. Variation to be adjusted in splice lengths.
Parapet Reinforcement and Class X Concrete are billed on sheet #7.

SUPERSTRUCTURE - E.B. BRIDGE
F.A. RTE. 403 - SEC. 195-3VB
WHITESIDE COUNTY
STATION 2593+ 91.75

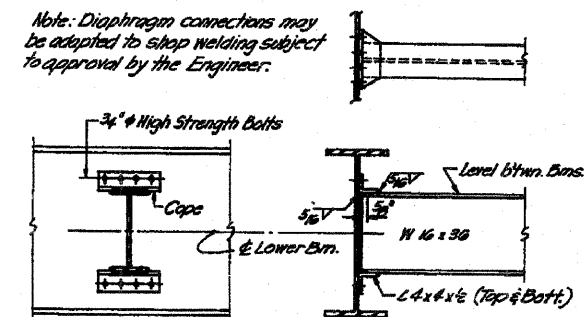
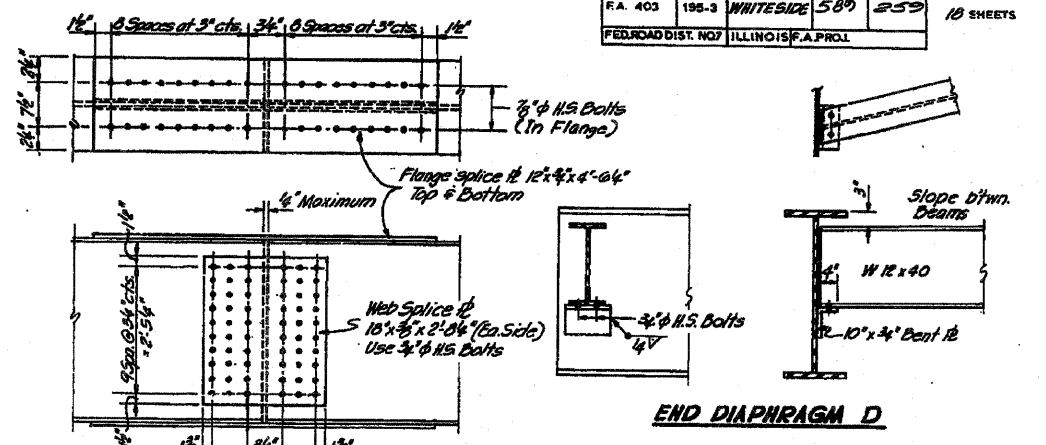
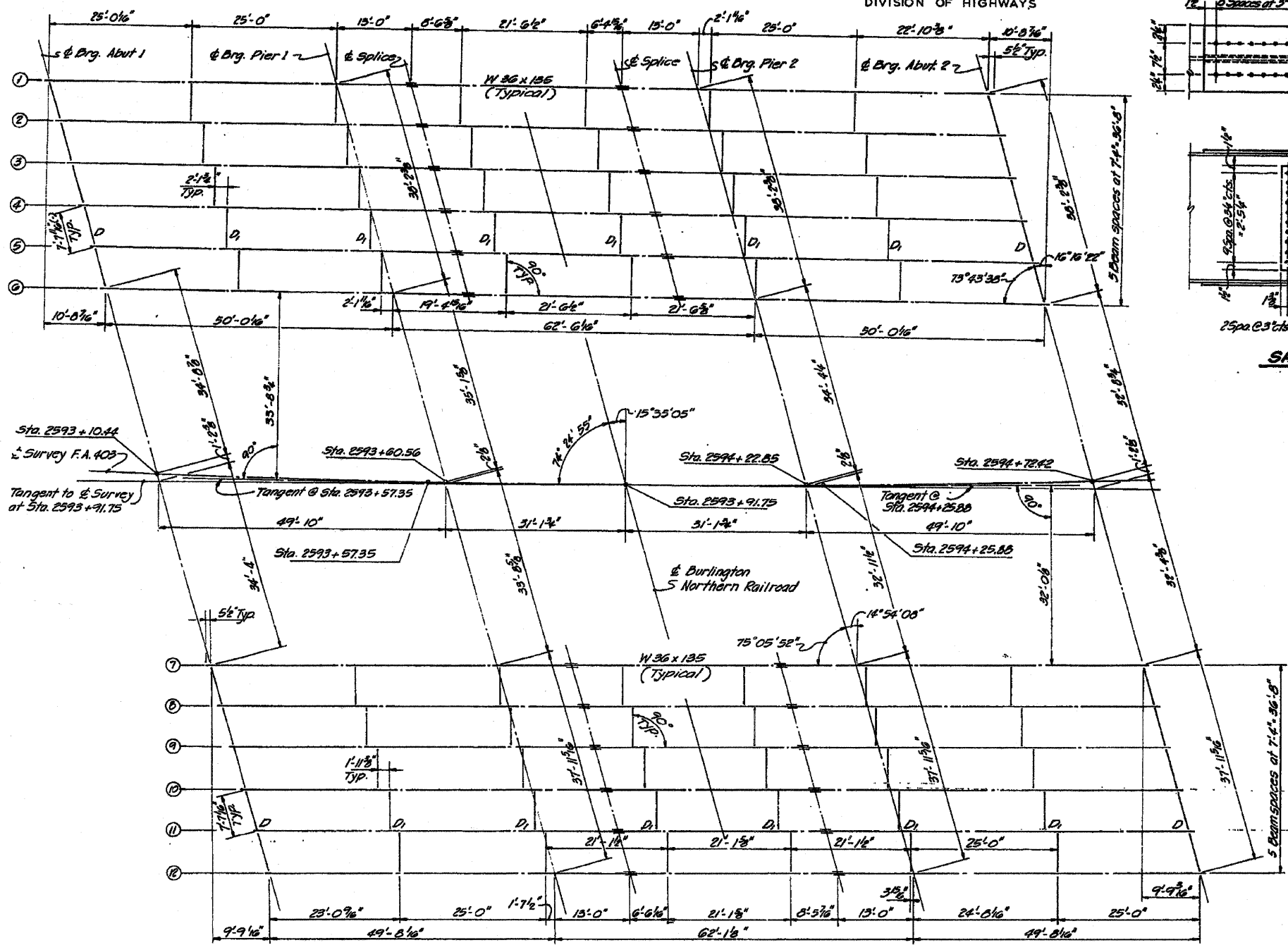
DESIGNED	C.D.C.	18
CHECKED	J.P.	
DRAWN	L.R.	
CHECKED	S.M.K.	

S-586-L(309) 4-22-68, 12-3-69

FOR INFORMATION ONLY

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.	OF
F.A. 403	195-3	WHITESIDE	589	259	10 SHEETS
FED. ROAD DIST. NO. 7			ILLINOIS F.A. PROJ.		



Note: Diaphragm connections may be adapted to shop welding subject to approval by the Engineer.

* TOP OF FLANGE ELEVATIONS						
Westbound Bridge						
	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6
& Brg. W. Abut.	680.769	681.171	681.613	682.055	682.497	682.939
& Brg. Pier 1	682.761	681.223	681.644	682.065	682.506	682.948
& Splice 1	680.769	681.211	681.652	682.093	682.534	682.976
& Splice 2	680.766	681.227	681.668	682.109	682.549	682.991
& Brg. Pier 2	680.769	681.220	681.671	682.111	682.552	682.993
& Brg. E. Abut.	680.801	681.242	681.682	682.123	682.564	683.006
Eastbound Bridge						
	Bm. 7	Bm. 8	Bm. 9	Bm. 10	Bm. 11	Bm. 12
& Brg. W. Abut.	682.462	682.892	683.322	683.752	684.182	684.612
& Brg. Pier 1	682.462	682.903	683.343	683.783	684.223	684.663
& Splice 1	682.462	682.923	683.363	683.803	684.243	684.683
& Splice 2	682.462	682.977	683.417	683.857	684.297	684.737
& Pier 2	682.458	682.916	683.356	683.796	684.236	684.676
& Brg. E. Abut.	682.449	682.891	683.330	683.770	684.210	684.650

* For Fabrication only.

FRAMING PLAN

DESIGNED	J.P.	EXAMINED	
CHECKED	A.K.C.	PASSED	
DRAWN	L.B.K.	APPROVED	
CHECKED	S.M. Knight		

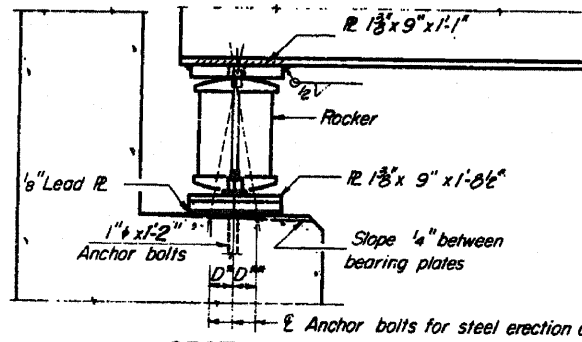
STRUCTURAL STEEL
F.A. RTE. 403 - SEC. 195-3VB
WHITESIDE COUNTY
STATION 2593 + 91.75

* FAI Route 88 & FAP Route 509 (I-88 & US 50)
** D2 Bridge Painting 2009-2
098-0089, 90

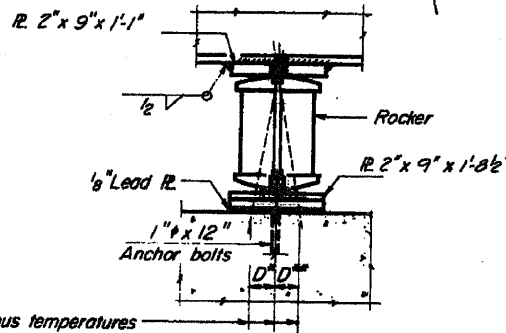
FOR INFORMATION ONLY

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

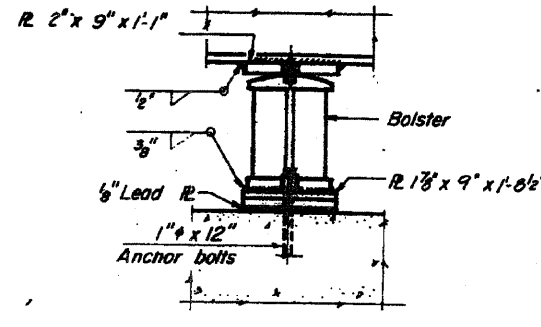
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO. 9 of 10 SHEETS
...	...	WHITESIDE	580	260



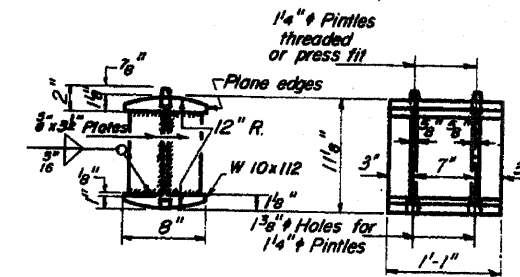
SECTION



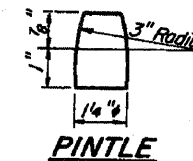
ELEVATION



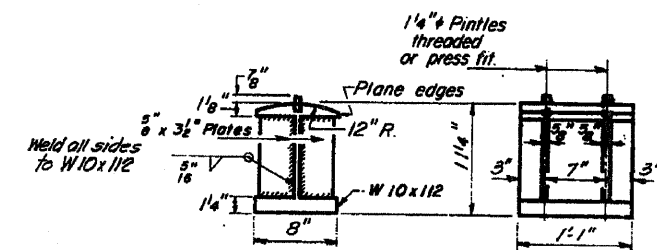
ELEVATION



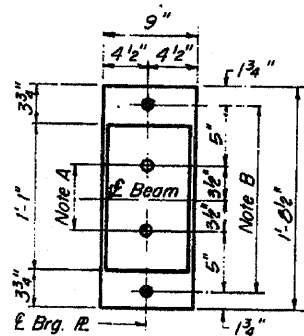
ROCKER



PINTLE

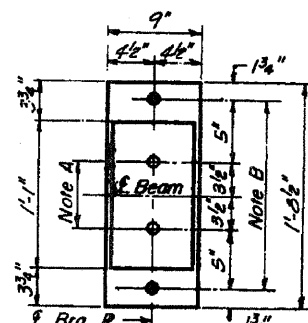


BOLSTER



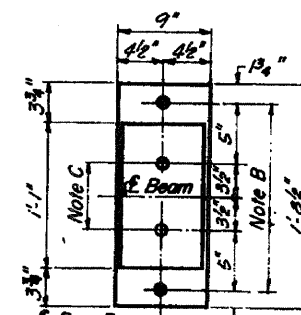
PLAN

AT ABUTMENT



PLAN

AT PIER



PLAN

AT PIER

NOTE A
1 3/8" Holes - 1" deep in top R.
for pintles Thread or press fit
pintles into bottom R.

NOTE B
1 1/2" Holes for 1" anchor bolts.
1/8 x 2 1/2 x 2 1/2 R. Washers
under nut

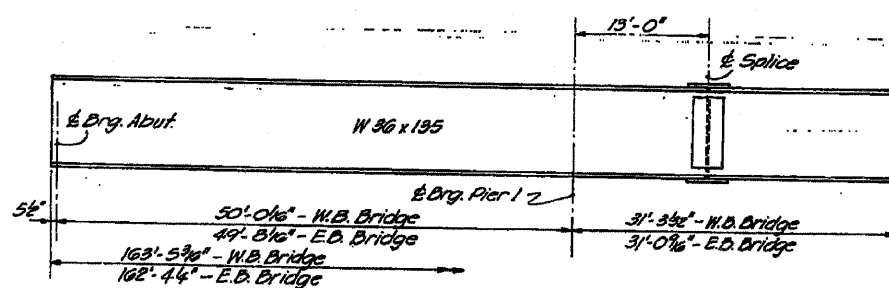
NOTE C
1 3/8" Holes 1" deep in top R.
only for 1 1/4" pintles.

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

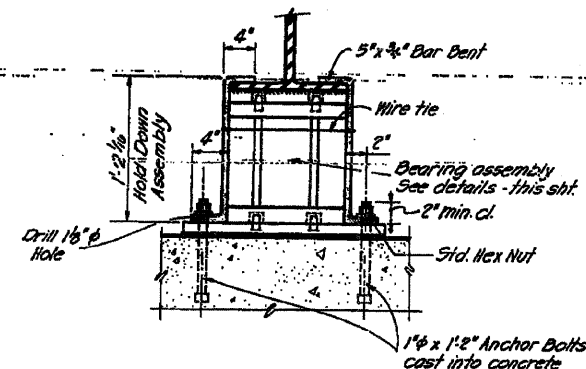
- a) D^* (Side of brg away from fixed brg)
 $D^* = \frac{1}{8}$ " per each 100' of expansion for
every 15° fall below the normal temp.
of 50°F
 D^{**} (Side of brg toward fixed brg.)
 $D^{**} = \frac{1}{8}$ " per each 100' of expansion for
every 15° rise above the normal temp.
of 50°F

- 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



BEAM ELEVATION



BEAM HOLD DOWN DETAIL

Note: Beams shall be held down at the abutment on the
opposite end of the bridge from which the deck pour is
commenced. After pouring is completed the hold down
assembly shall be removed and nuts placed on the anchor
bolts. Cast of hold down assembly incidental to Class X
concrete.

INTERIOR GIRDER MOMENT TABLE				
		4 Span 1	Pier	5 Span 2
I_s	(in ⁴)	7820	7820	7820
S_x	(in ³)	440	440	440
R/P	(k)	1,225	1,225	1,225
M_1	(k)	211.2	394.2	205.2
I_s	(ksi)	5.8	10.7	5.6
M_2	(k)	330.9	276.6	347.3
M_{max}	(k)	96.2	76.3	92.6
$M_{(1+2)}$	(k)	433.1	352.9	439.9
F_s	(ksi)	11.8	9.6	12.0
F_s TOTAL	(ksi)	17.6	20.3	17.6

INTERIOR GIRDER REACTION TABLE		
	Abut	Pier
R_1	22.8	76.8
R_2	37.2	35.1
R_{EMD}	10.6	12.7
R TOTAL	70.6	125.6

DESIGNED	J.P.	19
CHECKED	S.M.K.	
DRAWN	L.R.	
CHECKED	S.M.K.	

I-2-B 9-1-65, 8-1-70

098-0039, 90
STRUCTURAL STEEL
F.A. RTE. 403-SEC. 195-3VB
WHITESIDE COUNTY
STATION 2593+91.75

* FAI Route 88 & FAP Route 309 (I-88 & US 30)
** D2 Bridge Painting 2009-2

FILE NAME	DESIGNED	REVISION	SCALE	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
								Whiteside	29	29

CONTRACT NO. 64E63