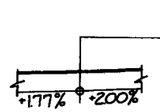
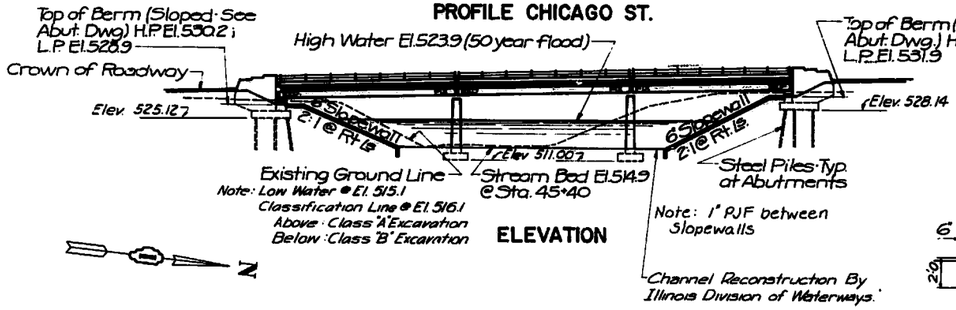
Bench Mark No.530: "O" in open top fire hydrant East side Chicago Street at end of Siegel Street. El. 531.601.

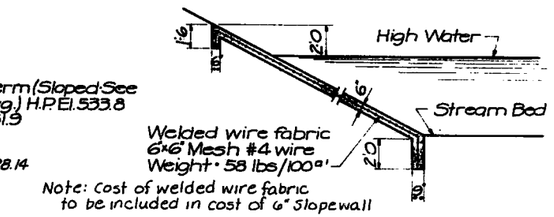
Existing structure at site. See Roadway Plans.



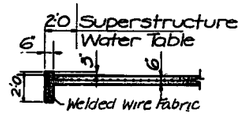
PROFILE CHICAGO ST.



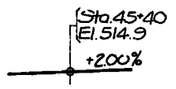
ELEVATION



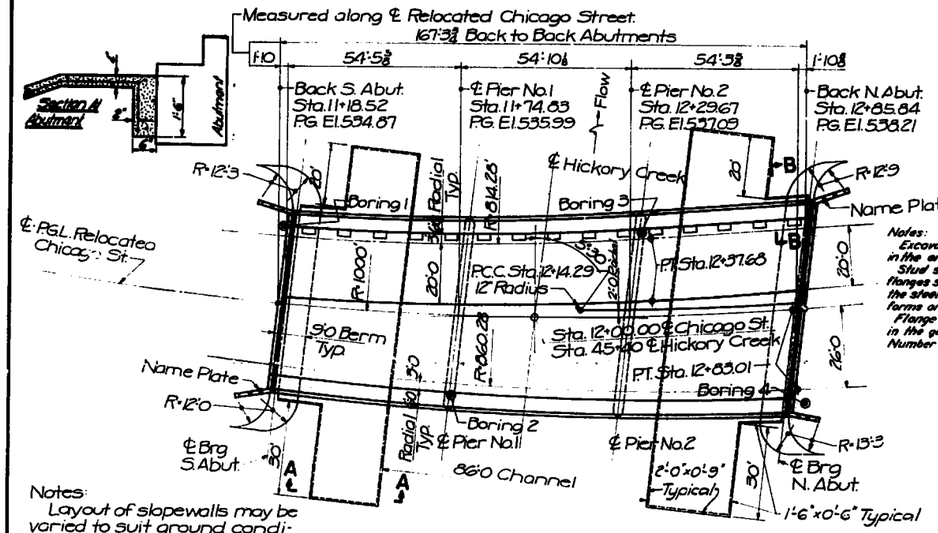
SECTION A-A



SECTION B-B

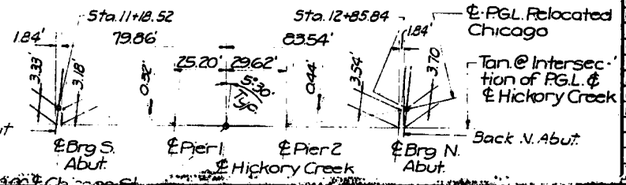


℄ PROFILE PROP. CHANNEL BOTTOM-HICKORY CREEK



PLAN

Notes:
Layout of slopewalls may be varied to suit ground conditions in the field as directed by the Engineer.
Abutments and Piers are parallel to ℄ Hickory Creek.



◉ Denotes boring location

DESIGNED	DJV
DRAWN	S.E.F.
CHECKED	G.S.

Sta. 45+40 ℄ Hickory Creek

PIER AND ABUTMENT LAYOUT

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

WATERWAY INFORMATION

Drainage Area: 107 Sq. Miles
Character: Rolling, clay, cultivated ℄ Residential.
Required Opening: 882 Sq. Ft. based on 50yr flood.
Proposed effective bridge opening: 882 Sq. Ft.

DESIGN STRESSES

Reinforced Concrete:
f'c = 3500 p.s.i.
fs = 20,000 p.s.i.
n = 10
Ec = 1400 p.s.i. (Except Footings)
Ec = 1000 p.s.i. (Footings)
Kc = 90 p.s.i. (Except Footings)
Kc = 75 p.s.i. (Footings)
Structural Steel:
fs = 20,000 p.s.i.
Maximum Foundation Pressure:
3 Tons per sq. ft.
Loading: HS-20-44

TOTAL BILL OF MATERIALS
Sec. 99-4B

Item		Unit	Super	Sub	Total
Class A Excavation for Struct.		Cu. Yd.		410	410
Class B Excavation for Struct.		Cu. Yd.		45	45
Rock Excavation for Structures		Cu. Yd.		145	145
Class X Concrete		Cu. Yd.	317.2	161.0	478.2
Class A Concrete		Cu. Yd.		327.6	327.6
Furnishing & Erecting Structural Steel		Pound	292,980		292,980
Bridge Seat Sealent #		Lump Sum			L.S.
Reinforcement Bars		Pound	82,500.	20,240	102,740
Protective Coat		Sq. Yds	1,320		1320
Furnishing Steel Piles 10BP42		Lin. Ft.		370	370
Test Piles Steel 10BP42		Each		2	2
[illegible]		Lin. Ft.		370	370
Name Plates		Each		2	2
[illegible]		[illegible]		1150	1150
[illegible]		[illegible]		[illegible]	[illegible]
[illegible]		Lin. Ft.	351	[illegible]	[illegible]

Prepared and recommended [illegible]

F.A.I.-80	99-4B	WILL	192	118	–
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	I-80-4(31)134		

SHEET NO. 1
9 SHEETS

GENERAL NOTES

Coarse aggregate used in parapets and end posts must be free of chert, flint, limonite, lignite and soft sandstone.

The concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications.

Rivets ¾" ϕ, open holes 13/16" ϕ unless noted.

All rockers, bolsters, bearing plates, lead plates, pintles, and anchor bolts shall be fabricated and set in accordance with Article 51.15 of the Standard Specifications and are included in quantity of Structural Steel.

Anchor Bolts shall be set before connecting diaphragms over support. Space reinforcing to miss anchor bolts.

Expansion guards shall be fabricated and erected in accordance with Article 51.13(d) of the Standard Specifications and are included in quantity of Structural Steel.

Except as otherwise provided all Structural Steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Articles 56.1 to 56.5 inclusive of the Standard Specifications.

All surfaces of expansion guards inaccessible after erection shall be given two shop coats of red lead paint. The ¾" ϕ welded studs shall not be painted.

The Contractor shall drive two (2) test piles in permanent locations as directed by the Engineer before ordering remainder of piles. The test piles shall be located as follows:

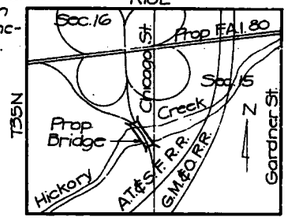
Steel: One each at North and South Abuts.

No rock larger than 3" shall be placed in fills in the area where piles are to be driven.

All Structural Steel shall be A 36 Steel.

All welding as shown shall be by the electric arc process and shall comply with the requirements of the Standard Specifications for welded Highway and Railway Bridges, 1956, of the American Welding Society.

Permanent forms will not be permitted in forming the concrete floor slab.



LOCATION PLAN

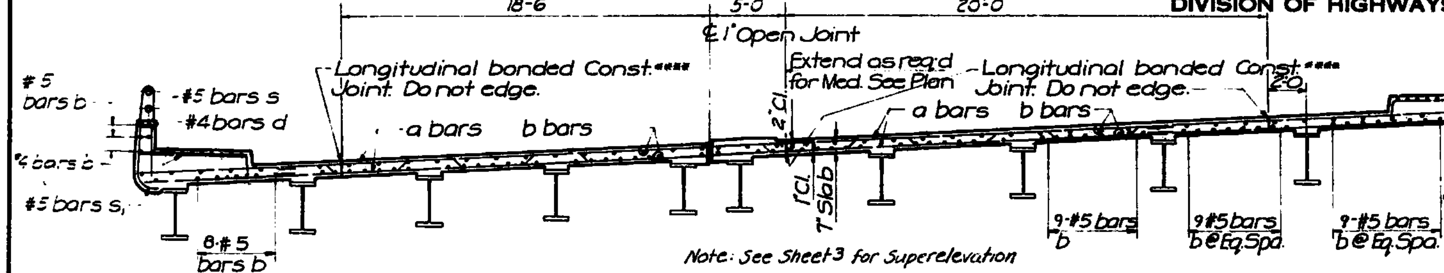
GENERAL PLAN & ELEVATION
RELOCATED CHICAGO STREET OVER HICKORY CREEK
CHICAGO ST. STA. 12 + 00.00
F.A. ROUTE 80 — PROJECT I-80-4(31)134
SECTION 99-4B — WILL COUNTY

Route No.	Section	County	Total Sheets	Sheet No.
F.A.I.-80	99-4B	WILL	192	113

SHEET NO. 2
9 SHEETS

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

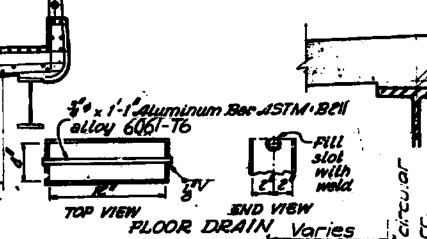
**** Longitudinal reinforcing shall not cross longitudinal joint.



CROSS SECTION
Thru Center Span

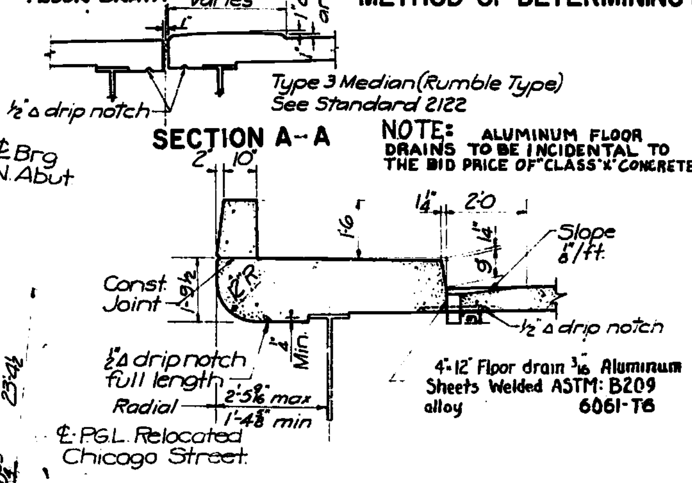
Note: Median portion to be made in a separate pour and to be Type 3 (modified for width) constructed in accordance with Illinois Standard 2122.

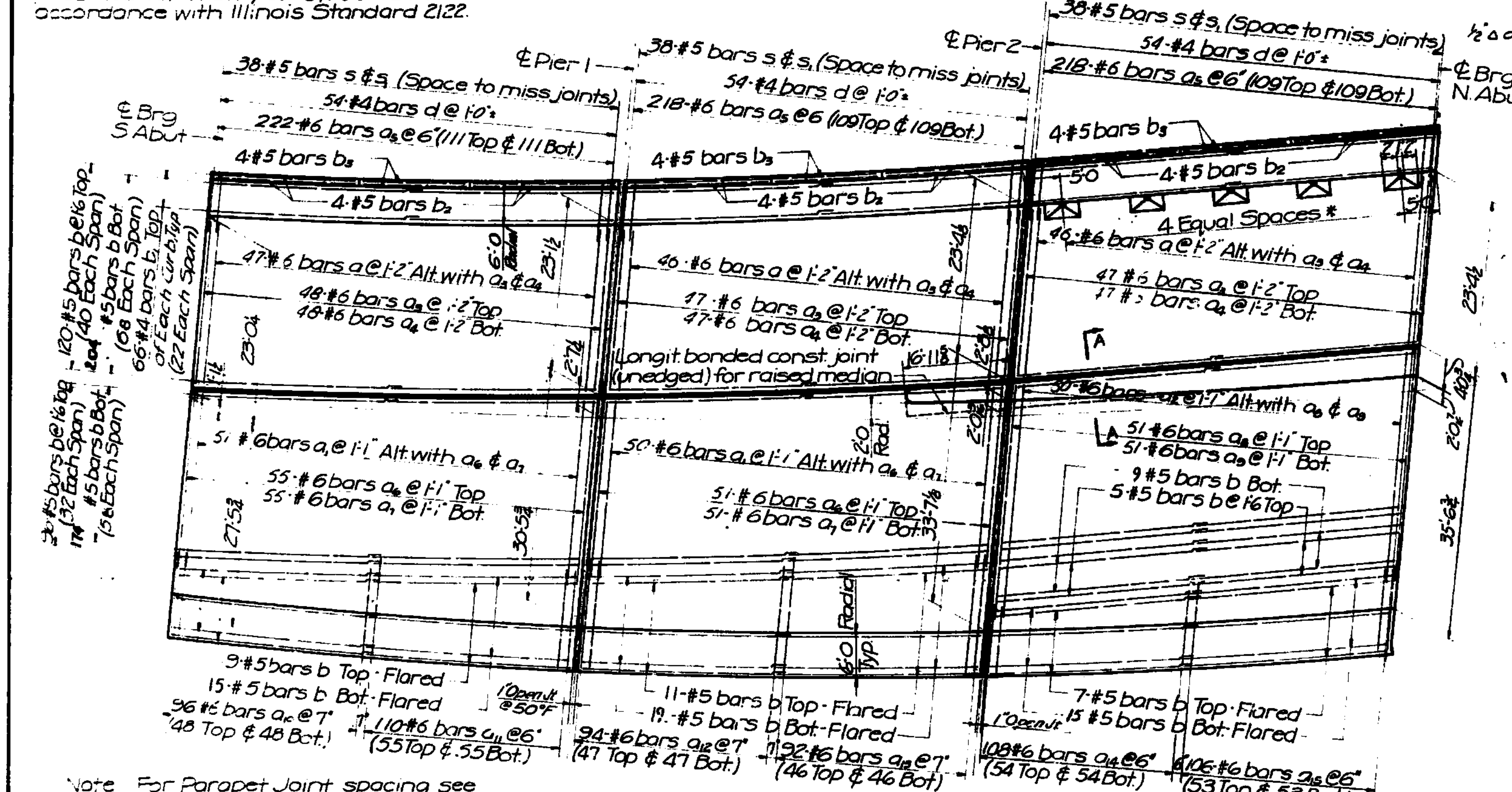
Note: Place 2 additional s bars inside face of parapet at each rail post. For post spacing see Sheet 5.



After all structural steel has been erected elevations of the top flanges of the beams shall be taken at intervals shown on D.L. Deflection Diagram. From these elevations subtract the increment of deflection for these points determined from the D.L. Deflection Diagram. The elevations so attained subtracted from the theoretical grade elevations minus floor thickness equals the fillet heights above tops of beams.

METHOD OF DETERMINING FILLET HEIGHT "t"

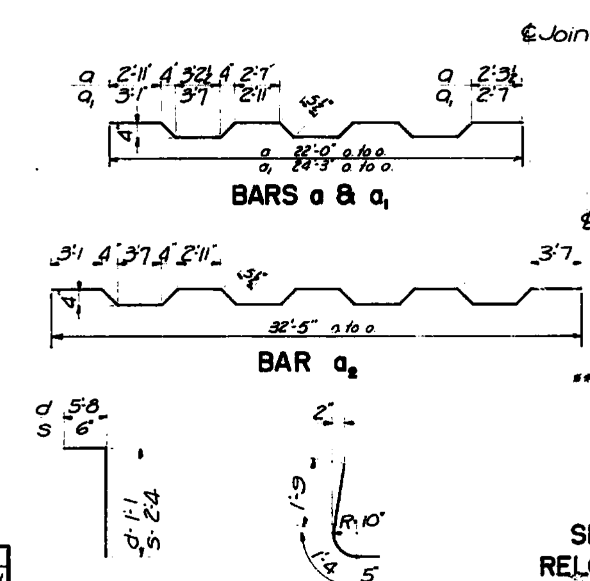




Note: For Parapet Joint spacing see Sheet 5.
Curb and Parapet Reinforcing shown is the same for both curbs.
Transverse bar spacing is measured perpendicular to ℄s of brgs.
For Expansion Guard detail see sheet 4.

PLAN

* Floor Drain spacing typical for all spans along West edge of rdwy.



BILL OF REINFORCEMENT

Bar	No.	Size	Lgth	Shape
a	139	#6	22'-9"	⊔⊔⊔
a_1	101	#6	25'-0"	⊔⊔⊔
a_2	50	#6	33'-5"	⊔⊔⊔
a_3	142	#6	22-0	—
a_4	142	#6	21-6	—
a_5	658	#6	8-6	—
a_6	106	#6	24-3	—
a_7	106	#6	23-9	—
a_8	51	#6	31-6	—
a_9	51	#6	31-0	—
a_{10}	96	#6	12-0	—
a_{11}	110	#6	13-0	—
a_{12}	94	#6	14-3	—
a_{13}	92	#6	16-3	—
a_{14}	108	#6	10-6	—
a_{15}	106	#6	11-6	—
b	774	#5	28-0	—
b_1	132	#4	28-3	—
b_2	48	#5	19-6	—
b_3	24	#5	14-6	—
d	324	#4	6-9	˥
s	324	#5	2-10	˥
s_1	228	#5	3-6	L

BILL OF MATERIAL

Class X Concrete	Cu.Yd.	317.2
Reinforcement Bars	lbs.	82,500
Structural Steel ***	lbs.	292980

*** Structural Steel includes weight of rockers, bolsters, bearing plates, lead plates, pintles and anchor bolts & studs. Estimated Weight - 16030 lbs.

ELEVATIONS - TOP OF SLAB **
See sheet 3 for location of points

Sgr. \ Pt.	1	2	3	4	5	6	7	8	9	10	11
A	533.89	534.04	534.19	534.34	534.50	534.65	534.82	534.84	534.98	535.10	535.20
B	534.17	534.31	534.45	534.60	534.76	534.92	535.09	535.11	535.24	535.37	535.48
C	534.43	534.57	534.72	534.67	535.02	535.18	535.34	535.36	535.50	535.64	535.77
D	534.65	534.80	534.92	535.11	[illegible]	535.43	535.60	535.8[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
F	534.91	535.08	535.25	535.42	535.60	[illegible]	[illegible]	[illegible]	536.12	536.28	536.40
[illegible]	[illegible]	535.25	535.4[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	535.22	535.47	535.70	535.94	536.19	536.43	536.67	[illegible]	[illegible]	[illegible]	537.34
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Sgr. \ Pt.	12	13	14	15	16	17	18	19	20	21
A	535.31	535.41	535.52	535.54	535.65	535.89	536.14	536.39	536.65	536.91
B	535.60	535.72	535.84	535.86	535.97	536.17	536.45	536.66	536.90	537.15
C	535.89	536.05	536.16	536.18	536.30	536.50	536.72	536.94	537.16	537.39
D	536.18	536.3[illegible]	536.4[illegible]	[illegible]	536.6[illegible]	536.81	537.01	537.22	537.42	537.63
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	537.52	[illegible]	[illegible]
F	536.60	536.76	536.93	[illegible]	537.10	537.27	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	537.25	537.3[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	538.11	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	537.54	[illegible]	[illegible]	537.96	[illegible]	[illegible]	538.46	538.59	538.72	538.86
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

** [illegible] elevations [illegible] of the projection of [illegible] Top of slab along 1½% cross slope.

DESIGNED [illegible]
CHECKED [illegible]

SLAB PLAN & CROSS SECTION
RELOCATED CHICAGO STREET OVER HICKORY CREEK
CHICAGO ST. STA. 12 + 00.00
F.A.I. ROUTE 80 [illegible] PROJECT
SECTION [illegible] WILL COUNTY

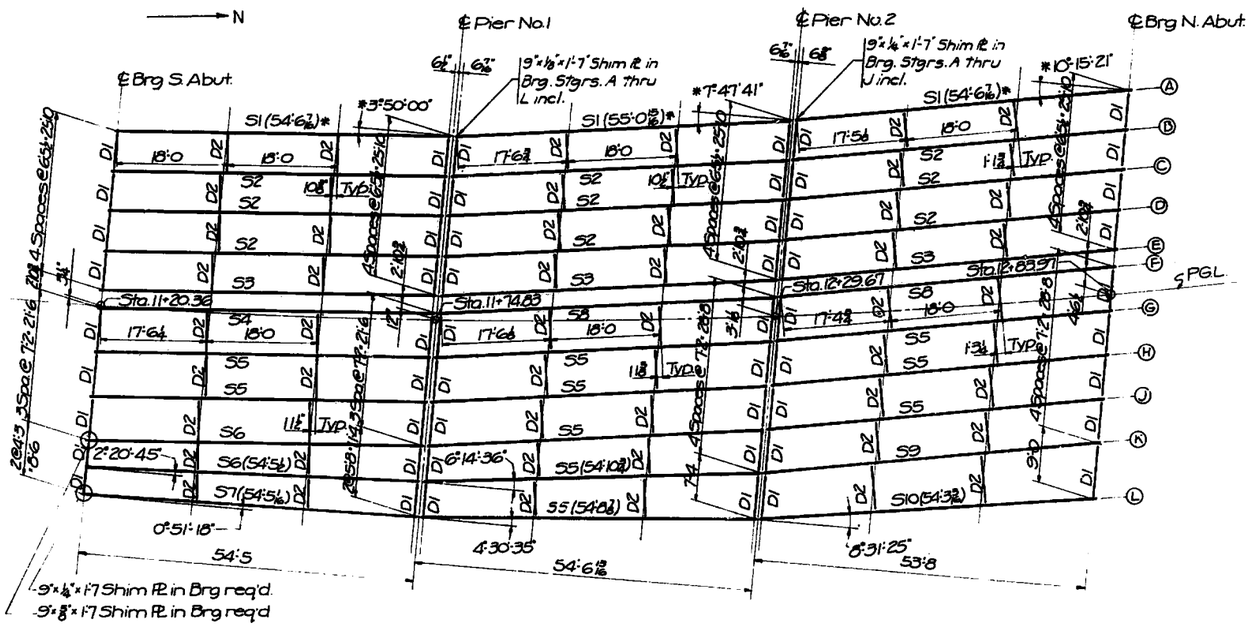
[illegible] CONSULTING ENGINEERS
WOODBURY, N. J. NEW YORK, N. Y.

Rev. [illegible] Rev. [illegible] 73,020 to 82,500 [illegible] Slab reinf. d. Drain [illegible]

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

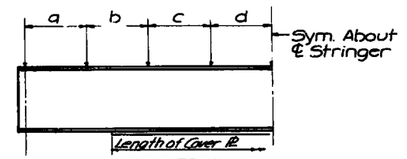
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4B	WILL	192	114
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 3
9 SHEETS



FRAMING PLAN

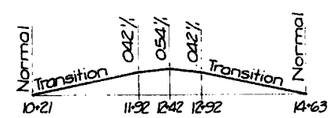
*Typical for all stringers parallel within the same span.
Note: All Plan dimensions are in a horizontal plane. Lengths given in parenthesis are between ℄'s of Piers and ℄'s of Abut. Brgs.



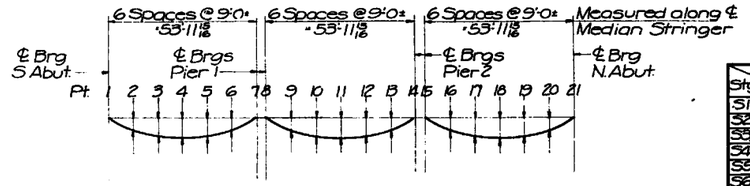
STRINGER DETAIL

BEAM SCHEDULE

Stgr. Mark	Size	Cover Plate Size	Cover Plate Lgth.	Shear Connector Spacing a Pitch	a Lgth.	b Pitch	b Lgth.	c Pitch	c Lgth.	d Pitch
S1	30WF108	9×⅜	40-0	7	7-0	8½	7-1	11	7-4	16
S2	30WF108	9×⅜	40-0	7	7-0	8½	7-1	11	7-4	16
S3	30WF108	9×½	36-0	7½	6-5	9	7-6	12	8-0	16
S4	30WF108	9×⅜	39-0	7	6-5	8	6-0	10	7-6	14
S5	30WF108	9×1	41-0	6½	7-7	8	6-8	10	7-6	14
S6	30WF108	9×⅜	37-6	7½	6-5	9	7-6	12	8-0	16
S7	30WF108	9×⅜	37-6	7½	6-3	9	7-6	12	8-0	16
S8	30WF108	9×½	40-0	7	6-5	8	6-0	10	7-6	14
S9	30WF116	9×1	40-6	6½	8-8	8	7-4	10	8-4	14
S10	30WF116	9×1	40-6	6½	8-8	8	7-4	10	8-4	14



RATES OF SUPERELEVATION

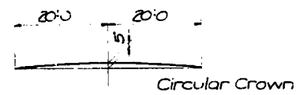


Points are parallel to ℄ Brgs.

DEAD LOAD DEFLECTIONS

Stgr. \ Pt.	Δ 2	3	4	5	6	9	10	11	12	15	16	17	18	19	20
S1, S1, S1	.062	.097	.109	.097	.062	.062	.097	.109	.097	.062	.062	.097	.109	.097	.062
S2, S2, S2	.050	.048	.054	.048	.050	.050	.048	.054	.048	.050	.050	.048	.054	.048	.050
S3, S3, S3	.019	.030	.034	.030	.019	.019	.030	.034	.030	.019	.019	.030	.034	.030	.019
S4, S8, S8	.024	.038	.043	.038	.024	.029	.047	.053	.047	.029	.029	.047	.053	.047	.029
S5, S5, S5	.032	.051	.058	.051	.032	.032	.051	.058	.051	.032	.032	.051	.058	.051	.032
S6, S6, S6	.034	.054	.061	.054	.034	.032	.051	.058	.051	.032	.032	.051	.058	.051	.032
S6, S6, S9	.034	.054	.061	.054	.034	.032	.051	.058	.051	.032	.034	.054	.061	.054	.034
S7, S8, S10	.062	.097	.109	.094	.062	.062	.097	.109	.097	.062	.037	.091	.102	.091	.068

Δ = Dead load deflection in feet due to weight of Slab and Parapet.



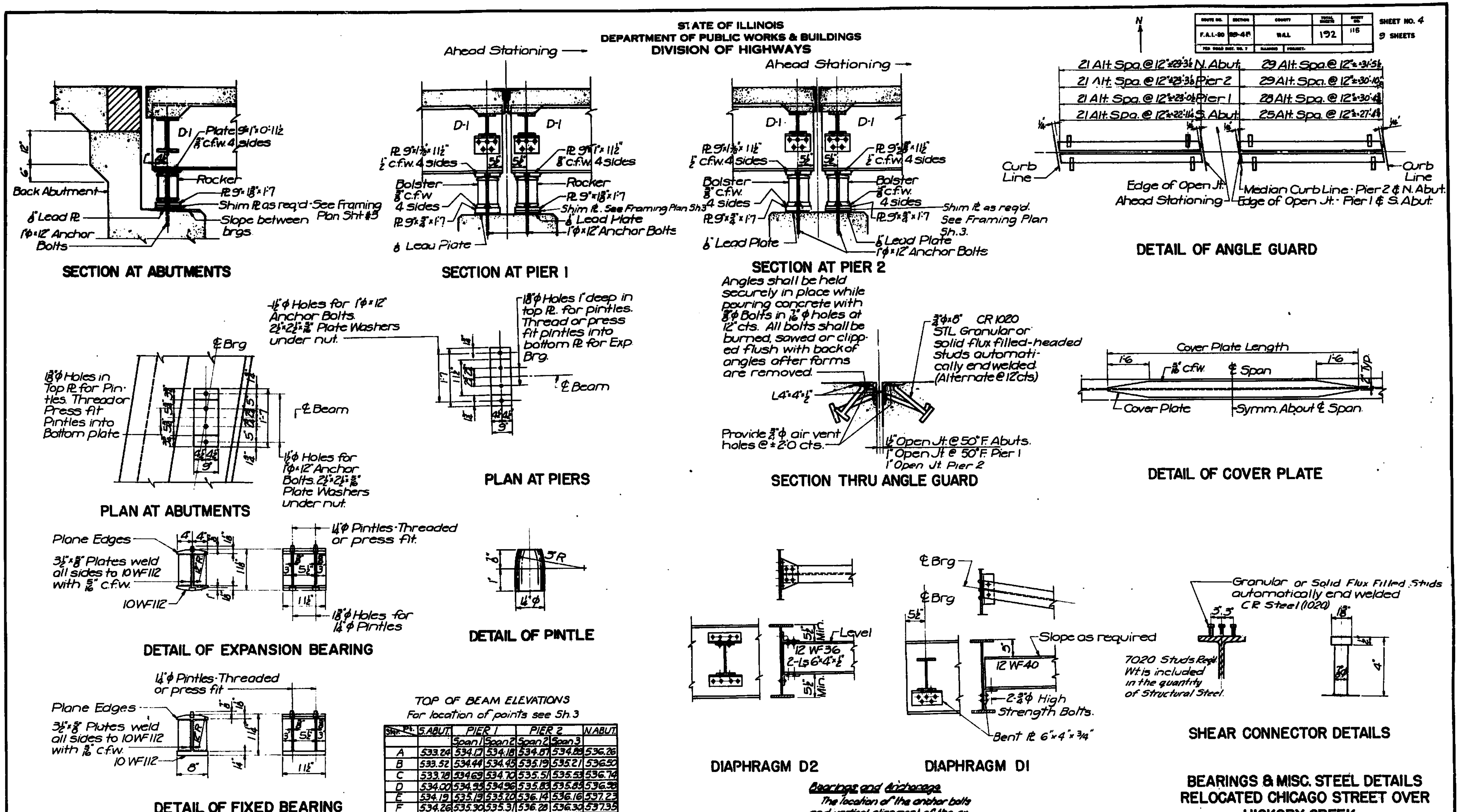
NORMAL SECTION

DESIGNED DJV
DRAWN [illegible]
CHECKED [illegible]

FRAMING PLAN AND STEEL DETAILS RELOCATED CHICAGO STREET OVER HICKORY CREEK

CHICAGO ST. STA. 12+00.00
F A I ROUTE 80 PROJECT
SECTION 99-4B

BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS
WOODBURY, N.Y. CRYSTAL LAKE, ILL.



TOP OF BEAM ELEVATIONS

For location of points see Sh. 3

Str. \ Pt.	S. ABUT.	PIER 1 Span 1	PIER 1 Span 2	PIER 2 Span 2	PIER 2 Span 3	N. ABUT.
A	533.24	534.17	534.18	534.87	534.89	536.26
B	533.52	534.44	534.45	535.19	535.21	536.50
C	533.78	534.69	534.70	535.51	535.53	536.74
D	534.00	534.95	534.96	535.83	535.85	536.98
E	534.19	535.19	535.20	536.14	536.16	537.23
F	534.26	535.30	535.31	536.28	536.30	537.35
G	534.41	535.55	535.56	536.63	536.65	537.63
H	534.52	535.79	535.80	536.97	536.99	537.92
J	534.57	536.02	536.03	537.31	537.33	538.21
K	534.60	536.20	[illegible]	[illegible]	537.66	[illegible]
L	534.62	[illegible]	[illegible]	537.89	538.01	[illegible]

Bearings and Anchorage

The location of the anchor bolts and vertical alignment of the expansion bearings shall be adjusted to the temperature at the time of erection. See Art. 54.9(f).

Anchor Bolts shall be grouted into drilled holes after beams are in place, or bolts at fixed pier may be

BEARINGS & MISC. STEEL DETAILS
RELOCATED CHICAGO STREET OVER
HICKORY CREEK

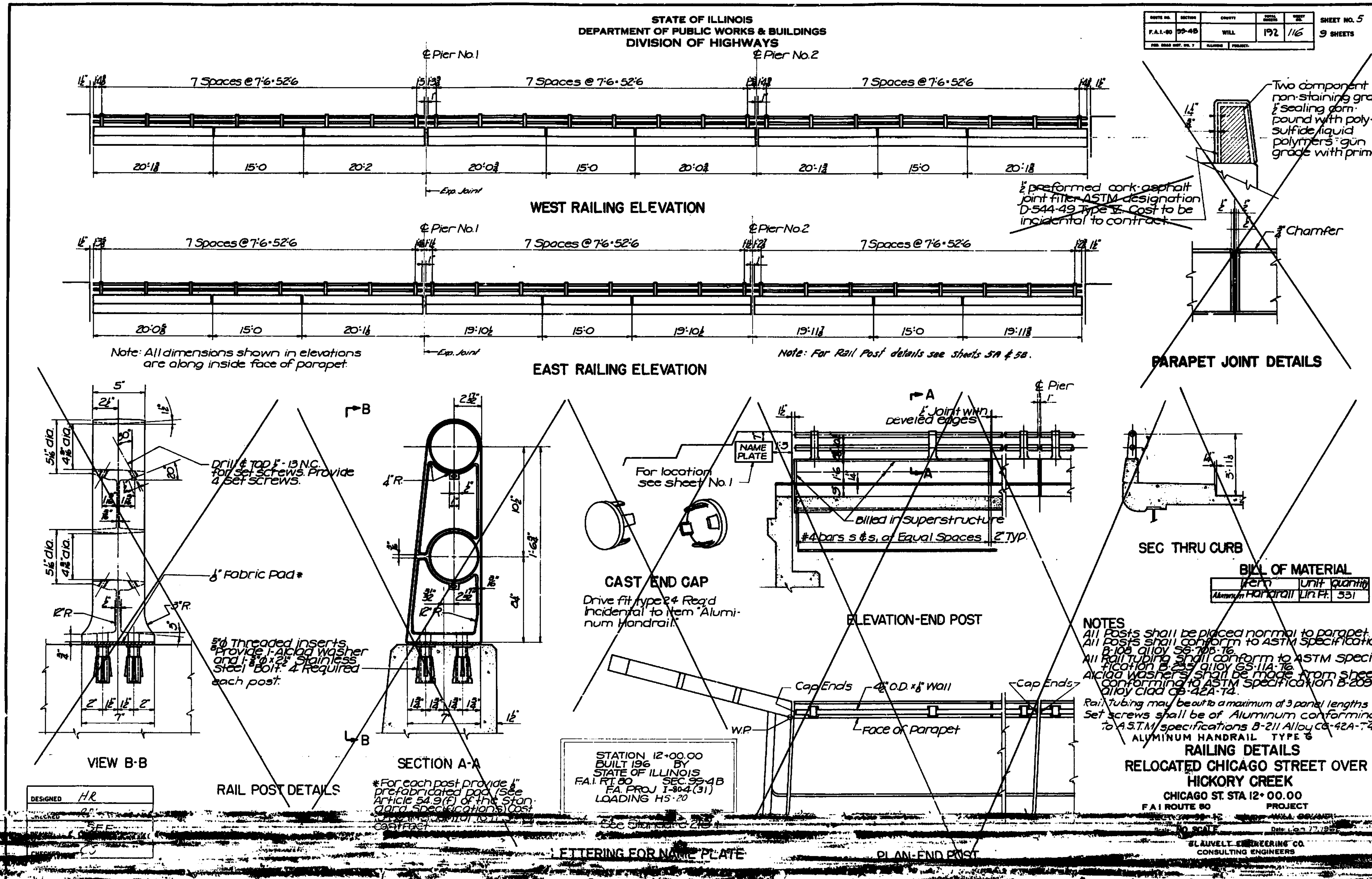
CHICAGO ST. STA. 12+00.00

F A I ROUTE 80 PROJECT

Scale: NO SCALE Date: Jan. 7, 1962

CONSULTING ENGINEERS

DESIGNED R.D.L.
CHECKED H.R.
CHECKED C.S.


STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS
SHEET NO. 5
9 SHEETS
F.A.I.-80
99-4B
WILL
192
116
WEST RAILING ELEVATION
EAST RAILING ELEVATION
℄ Pier No.1
℄ Pier No.2
7 Spaces @ 7'-6" = 52'-6
Exp. Joint
Note: All dimensions shown in elevations are along inside face of parapet.
Note: For Rail Post details see sheets 5A & 5B.
Two component non-staining gray ½" sealing compound with poly-sulfide liquid polymers gun grade with primer
½" preformed cork-asphalt joint filler ASTM designation D-544-49 Type II. Cost to be incidental to contract.
¾" Chamfer
PARAPET JOINT DETAILS
Drill & tap ⅜"-13 N.C. for set screws. Provide 4 set screws.
⅛" Fabric Pad*
⅝"Ø Threaded inserts. Provide 1-Alclad washer and 1-⅝"Ø x 2" Stainless Steel Bolt. 4 Required each post.
VIEW B-B
SECTION A-A
RAIL POST DETAILS
*For each post provide ⅛" prefabricated pad (See Article 54.9(F) of the Standard Specifications) Cost incidental to contract.
For location see sheet No. 1
NAME PLATE
CAST END CAP
Drive fit type 24 Req'd Incidental to item "Aluminum Handrail."
½" Joint with beveled edges
Billed in Superstructure
#4 bars s & s, at Equal Spaces
2" Typ.
ELEVATION-END POST
Cap Ends
4" O.D. x ⅛" Wall
Face of Parapet
W.P.
PLAN-END POST
STATION 12+00.00
BUILT 196 BY
STATE OF ILLINOIS
F.A.I. RT. 80 SEC. 99-4B
F.A. PROJ. I-80-4(31)
LOADING HS-20
See Standard 2113
LETTERING FOR NAME PLATE
SEC THRU CURB
BILL OF MATERIAL
Item | Unit | Quantity
Aluminum Handrail | Lin. Ft. | 331
NOTES
All Posts shall be placed normal to parapet.
All Posts shall conform to ASTM Specification B-108 alloy SG-70B-T6.
All Rail tubing shall conform to ASTM Specification B-235 alloy GS-11A-T6.
Alclad washers shall be made from sheet conforming to ASTM Specification B-209 alloy clad CG-42A-T4.
Rail tubing may be cut to a maximum of 3 panel lengths.
Set screws shall be of Aluminum conforming to A.S.T.M. specifications B-211 Alloy CG-42A-T4.
ALUMINUM HANDRAIL TYPE G
RAILING DETAILS
RELOCATED CHICAGO STREET OVER
HICKORY CREEK
CHICAGO ST. STA 12+00.00
F.A.I. ROUTE 80
PROJECT
NO SCALE
BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS
DESIGNED H.R.

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 80	99-4B	WILL	192	116A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5A
9 SHEETS

SECTION THRU TOP RAIL

SECTION THRU SPLICE
TOP RAIL

CAST END CAP
For Top Rail
Required

RAIL POST CLAMP BAR
For Top Rail

SPLICE CLAMP BAR
For Top Rail

VIEW B-B

SECTION A-A

RAIL POST DETAILS

CAST END CAP
For Bottom Rail
DRIVE FIT TYPE
Required

RAIL SPLICE
Notch top of slot in rails to clear 5/16" screw.

Note Work this sheet with sheet #5

SEC. THRU ELLIPTICAL RAIL SECTION

SEC. THRU SPLICE

PARAPET JOINT DETAIL

INSIDE VIEW AT ABUTMENT

SEC. THRU CURB

NOTES

All Posts shall be normal to parapet.

All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-221 alloy 6061-T6 and shall extend a minimum of 2 panel lengths (attached to a minimum of 3 posts) except at ends or at open joints where a minimum of 1 panel length is required. All joints in railing must be spliced per detail.

See Special Provisions for following Material Specifications:

Cast Aluminum Alloy Bridge Post - Alloy A344-T4.
Stainless Steel Cap Screws, Washers and Bars.
Fabric Bearing Pad

METHOD of MEASUREMENT: Aluminum handrail shall be measured in lineal feet. The length paid for shall be the over all length along the top longitudinal railing member thru all posts and gaps.

BASIS of PAYMENT: Aluminum handrail shall be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation and erection.

Cost of rail splice, end caps and hardware to be incidental to item ALUMINUM HANDRAIL.

Provide 1-⅛" and 2-1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.

BILL OF MATERIAL

Item	Unit	Quantity
ALUMINUM HANDRAIL	Lin. Ft.	331

TYPE L
ALUMINUM HANDRAIL
F.A.I. ROUTE 80
SECTION 99-4B
WILL COUNTY
STA. [illegible]

DESIGNED	
CHECKED	
[illegible]	W. M. C[illegible]
DRAWN	W. A. Suusman[illegible]
[illegible]	
CHECKED	

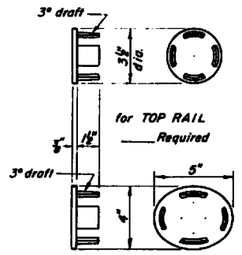
19
EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
[illegible]
APPROVED
CHIEF HIGHWAY ENGINEER

R-20 8-16-64 Rev. 2-23-65 8-18-66 [illegible]-66

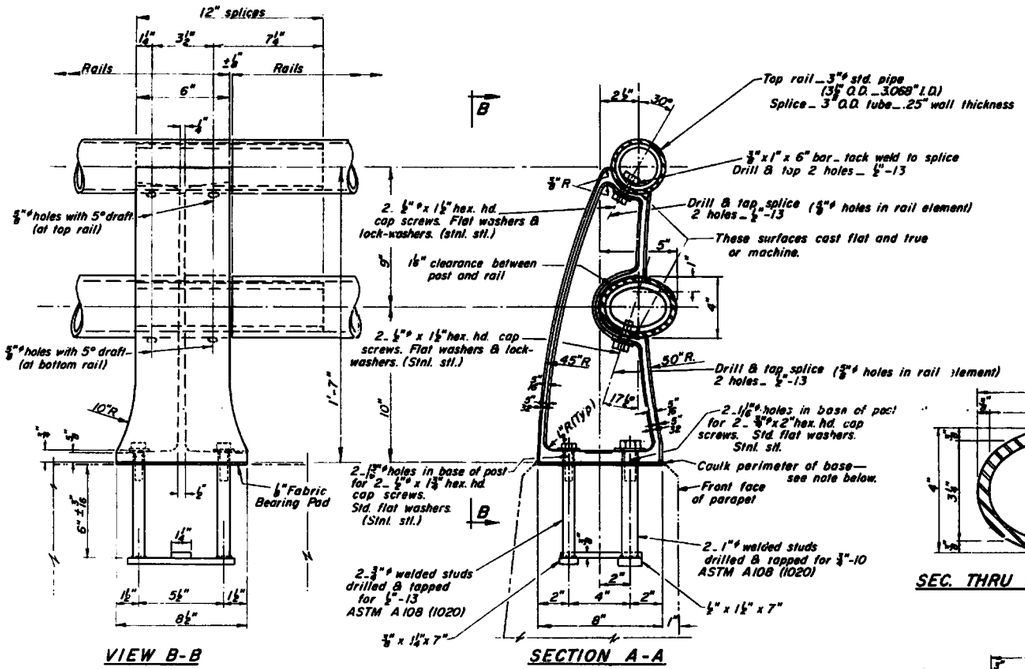
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

REGION NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	99-4B	WILL	192	1168
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 58
9 SHEETS



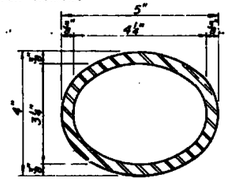
CAST END CAPS
DRIVE FIT TYPE
for BOTTOM RAIL
Required



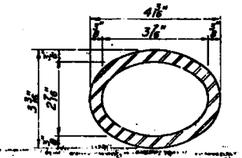
VIEW B-B

SECTION A-A

RAIL POST DETAILS



SEC. THRU BOTTOM RAIL



SEC. THRU BOTTOM SPLICE

NOTES:

All Posts shall be normal to parapet.
All Posts shall be malleable cast iron conforming to ASTM A-47, Grade 35018, galvanized to ASTM A-153.
All Rail Tubing shall conform to applicable requirements of ASTM A-53, Grade B, (pipe or tube) galvanized to ASTM A-120.
For material composition of Fabric Bearing Pad, see Special Provisions.

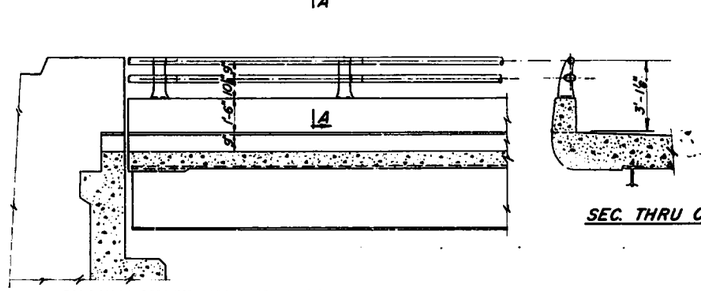
Provide 1-⅛" and 2-1/16" galvanized sheet steel shims for 25% of the Posts. Rail element shall be parallel to Grade—high spots shall be ground and low spots shimmed.
If any of the galvanizing coat is damaged or removed during erection, the affected area shall be painted with one coat of zinc paint in accordance with Military Specification MIL-P-26915 Type 1, air-dry cure.
See Special Provisions for following Material Specifications:
Stainless Steel Cap Screws, Stainless Steel Bars and Stainless Steel Washer.

METHOD of MEASUREMENT: Metal handrail shall be measured in lineal feet. The length paid for shall be the overall length along the top longitudinal railing member through all posts and gaps.

BASIS of PAYMENT: Metal handrail will be paid for at the contract unit price per lineal for METAL HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation and erection.

Cost of rail splice, end caps and hardware to be incidental to Item METAL HANDRAIL.

Note Work this sheet with sheet #5

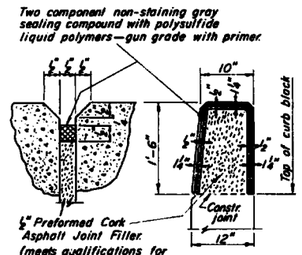


INSIDE VIEW AT ABUTMENT

SEC. THRU CURB

BILL of MATERIAL

Item	Unit	Quantity
METAL HANDRAIL	Lin. Ft.	331



PARAPET JOINT DETAIL

TYPE M
METAL HANDRAIL
F.A.I. ROUTE 80
SECTION 99-4B
WILL COUNTY
STA. 12+00.00

DESIGNED
CHECKED
EXAMINED 19
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
APPROVED

Note!
Seal base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers—gun grade with prime.

Note!
Splice must be sliding fit in Rail Section

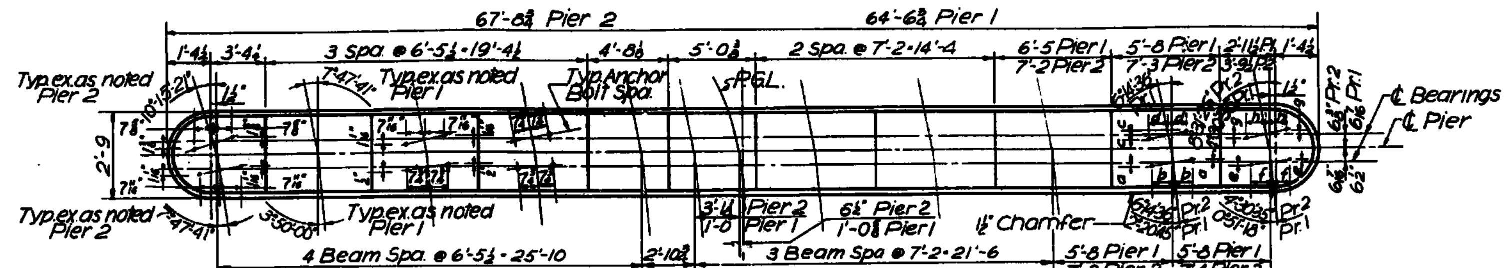
R-21 Dwn. 8-20-64 Rev 7-23-65 8-18-65

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

F.A.I.-80	99-42	WILL	192	117

SHEET NO. 6
9 SHEETS

Ahead Stationing



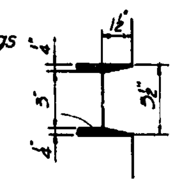
TOP PLAN

Anchor bolt dimensions typ. for Pier 2 ex. as noted

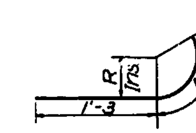
Anchor bolt dimensions typ. for Pier 1 ex. as noted

ANCHOR BOLT DIMENSIONS

	a	b	c	d	e	f	g	h
PIER 1	5/16"	7¾"	13/16"	7 11/16"	⅛"	7¾"	⅝"	7¾"
PIER 2	15/16"	7 11/16"	1⅜"	7⅝"	⅝"	7¾"	1⅛"	7 11/16"

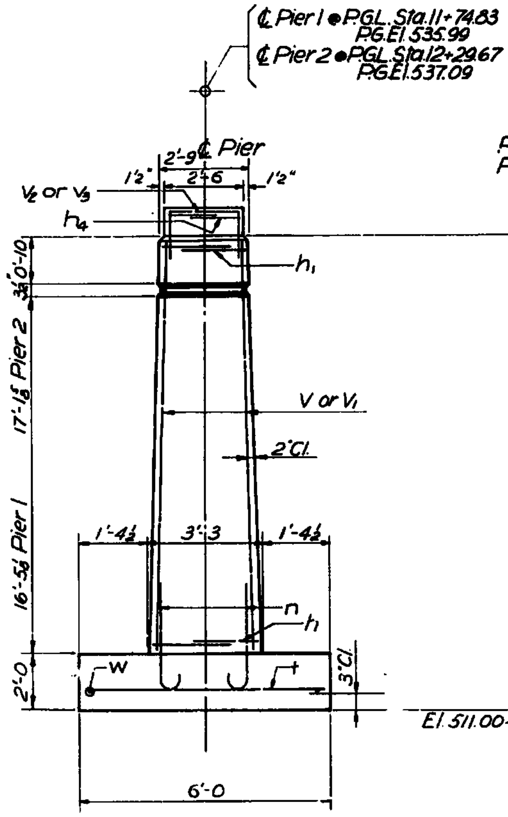


NOTCH DETAIL

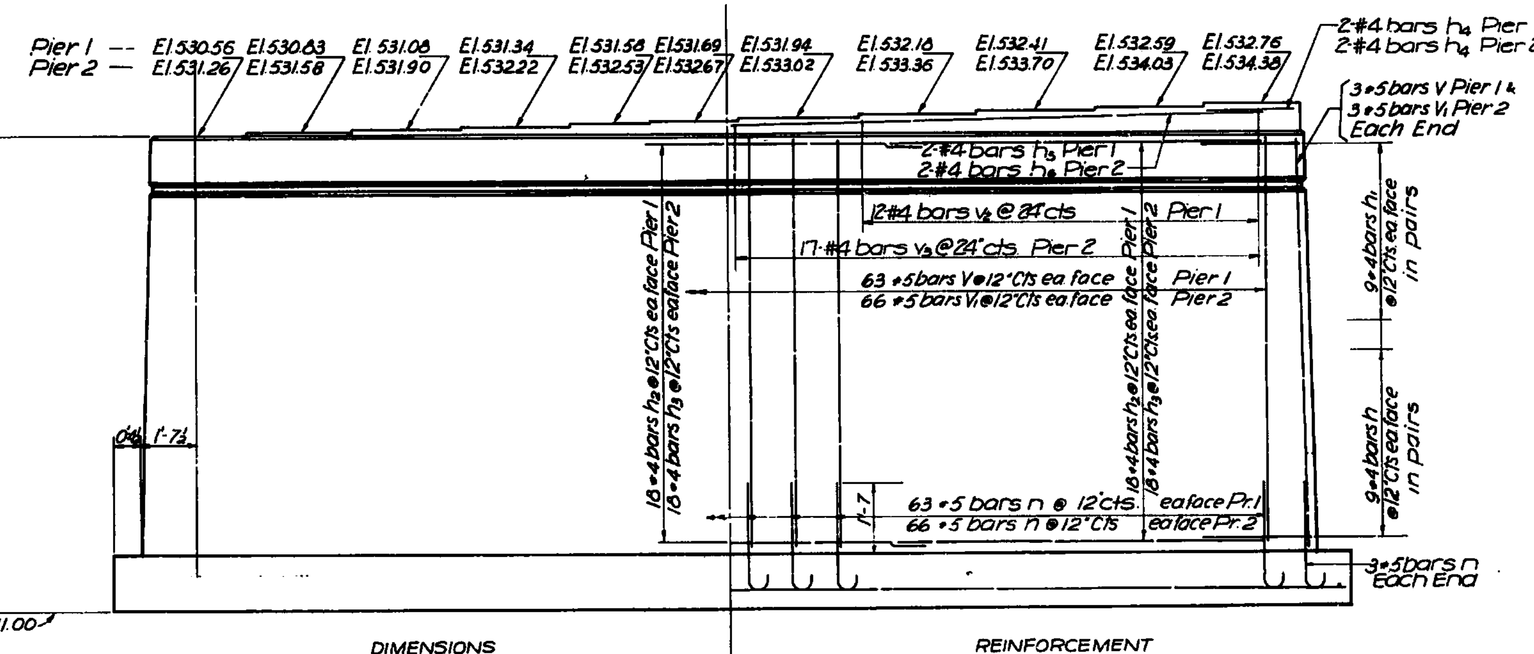


Bar	R	A
h	1'-5	2'-9
h₁	1'-3½	2'-6
h₄	1'-2	2'-3

BARS h, h₁ to h₄

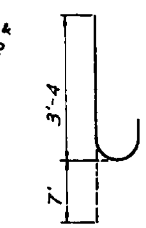


END VIEW

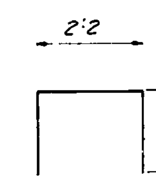


Note: Bottom of footings to extend 6" into sound rock.

ELEVATION



BAR n

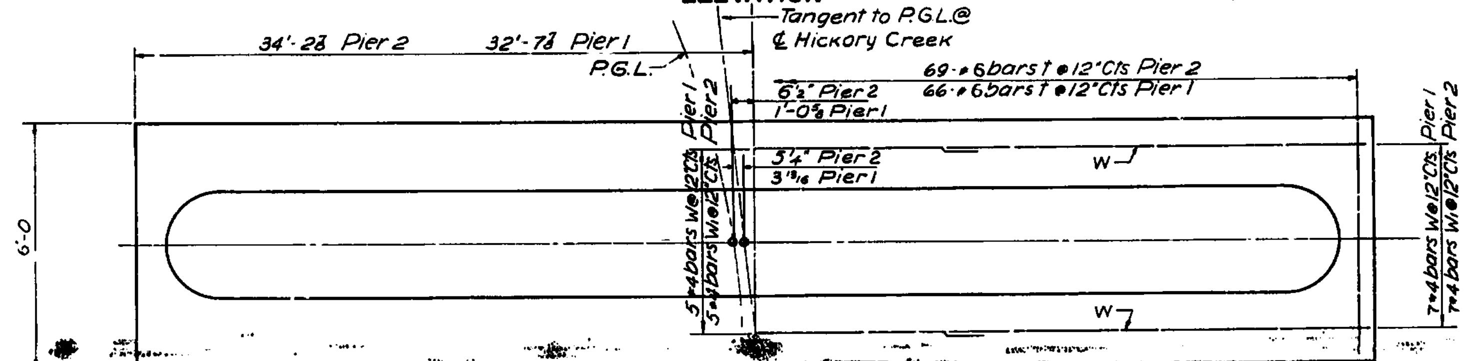


BARS V₂ & V₃

PIERS
BILL OF MATERIAL

Bar	No	Size	Lgth	Shape
h	72	#4	4'-0	hook
h₁	72	#4	3'-9	hook
h₂	108	#4	21'-3	straight
h₃	108	#4	22'-3	straight
h₄	4	#4	3-6	hook
h₅	2	#4	22-0	straight
h₆	2	#4	32-0	straight
n	270	#5	3-11	hook
V	132	#5	17'-3	straight
V₁	138	#5	18'-0	straight
V₂	12	#4	6-6	⊓
V₃	17	#4	8-6	⊓
t	135	#6	5-6	straight
W	21	#4	22'-3	straight
W₁	21	#4	23'-3	straight
Class A Concrete			Cu. Yd.	327.6
Reinf. Bars			Lb.	11,420

Fabricator shall identify bars by location and bar mark, i.e., Pier 1, Mk h



FOOTING PLAN

DESIGNED	DJV
CHECKED	HR
CHECKED	CS

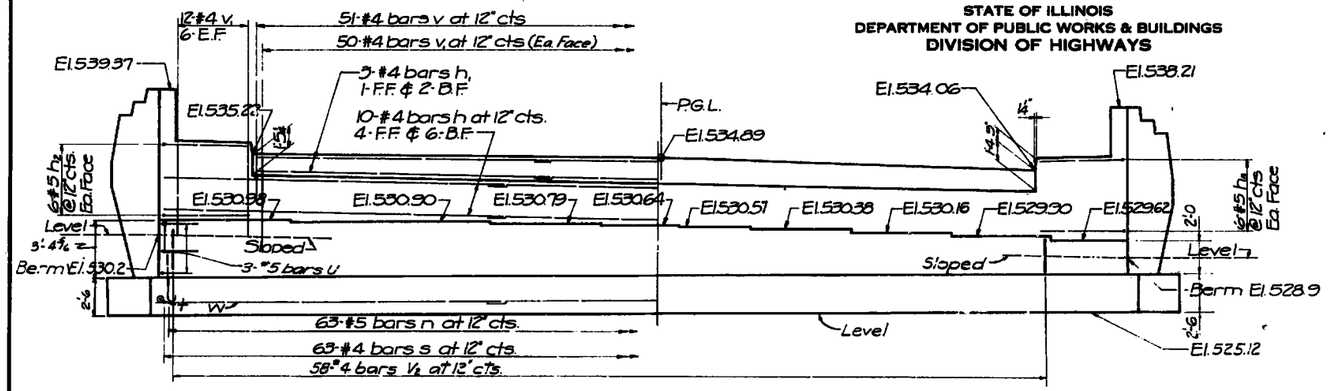
PIERS
RELOCATED CHICAGO STREET OVER HICKORY CREEK
CHICAGO ST. STA. 12+00.00
F.A.I. ROUTE 80 PROJECT
SECTION 99-42
Scale NO SCALE Date Jan. 17, 1962
BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS
WOODBURY, N.J. NEW YORK, N.Y. CRYSTAL LAKE, ILL.

Rev. ... 5-63 ... 6-0 Increase width of footing 4'-0 to 6'-0, Change 318.1 cu. yds. Class X Concrete to 327.6 cu. yds. Class A Concrete, Reinforcing bars 10,580 to 11,420 lbs.

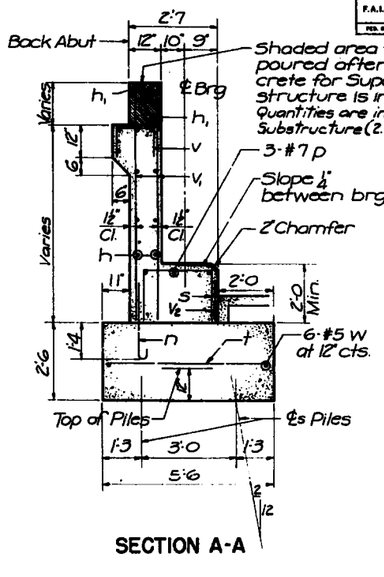
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	39-4B	WILL	192	118
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 7
9 SHEETS



ELEVATION



SECTION A-A

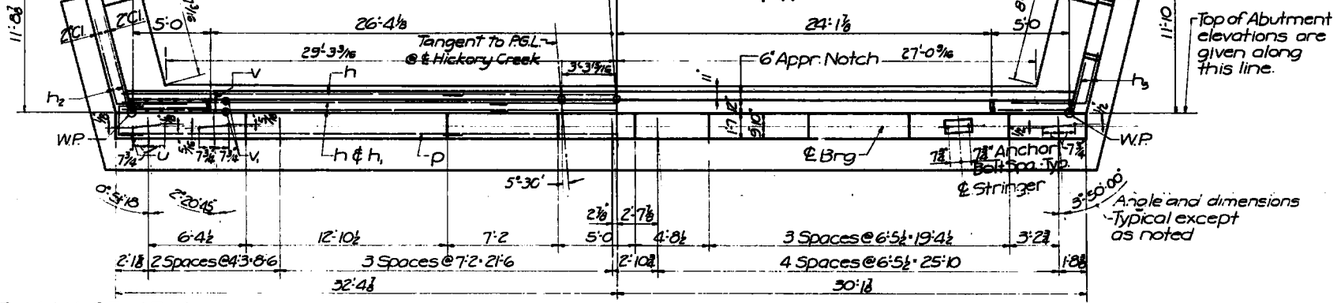
SOUTH ABUTMENT BILL OF REINFORCEMENT

Bar	No.	Size	Lgth	Shape
h	30	#4	21-6	—
h_1	9	#4	18-0	—
h_2	12	#5	7-9	⌐
h_3	12	#5	7-9	⌐
n	63	#5	4-7	⌐
n_1	28	#5	5-5	⌐
p	9	#7	22-3	—
s	63	#4	5-11	⊓
t	64	#5	5-0	—
t_1	24	#5	4-6	—
u	6	#5	5-3	⊓
v	51	#4	2-9	⊓
v_1	124	#4	6-0	—
½	58	#4	2-1	—
w	18	#5	22-6	—
w_1	12	#5	10-9	—

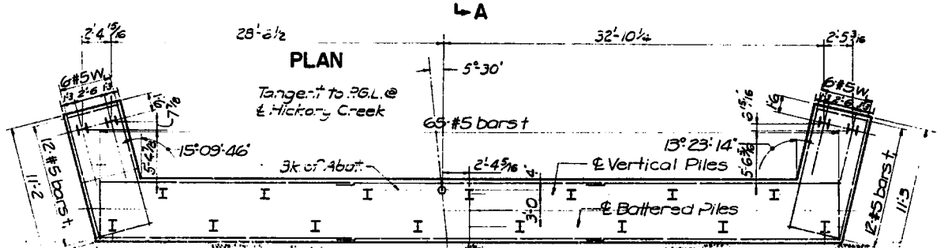
SOUTH ABUTMENT BILL OF MATERIAL

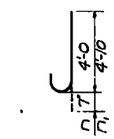
Item	Unit	Quan.
Class X Concrete	CU.YDS.	75.0
Reinf. Bars	lbs.	4,130
Test Pile (10BP42)	Ea.	1
Steel Piles (10BP42)	Lin Ft.	252

Note: Bill of Material includes Reinforcement and Class X Concrete in End Posts. Fabricator shall identify bars by location and bar mark, i.e., S. Abut, Mk h.

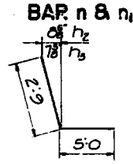


L-A

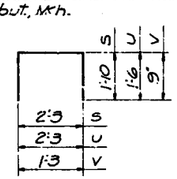




BAR n & n_1



BAR h_2 & h_3



BARS s u & v

PILE DATA

Type: 10BP42
Capacity: 33 Ton Min.
Est Length: 14 Feet
No. Reqd: 18
One Test Pile

Refer to Bill of Material for Test and Steel Piles 3-17-58 ASA

DESIGNED DJV
CHECKED HR
DRAWN SEP

SOUTH ABUTMENT
RELOCATED CHICAGO STREET OVER HICKORY CREEK

CHICAGO ST. STA. 12+00.00

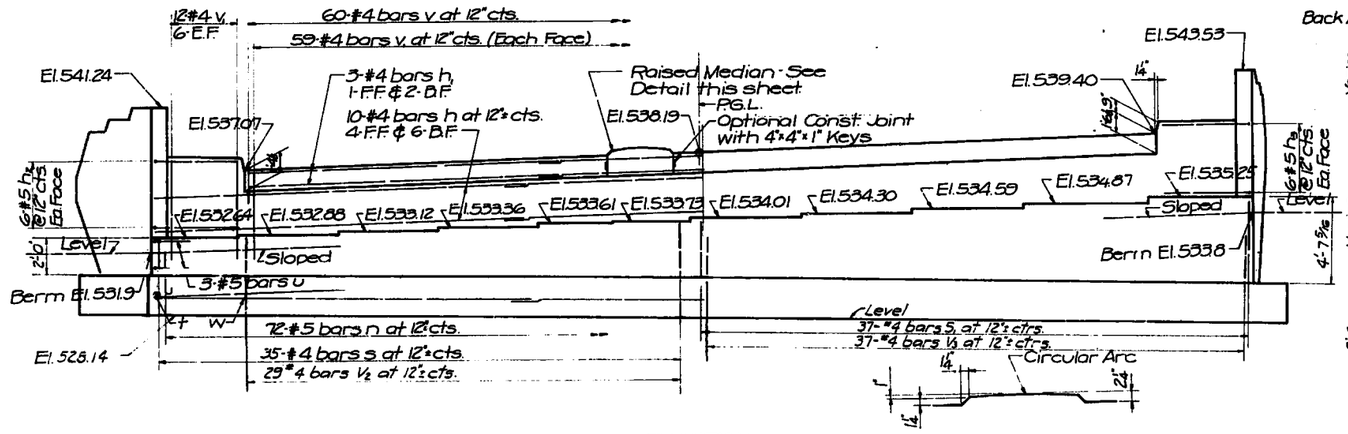
F.A.I. ROUTE 80 — PROJECT
SECTION 39-4B — WILL COUNTY
Scale: NO SCALE — Date: Jan. 7, 1962

BLAUVELT ENGINEERING CO.

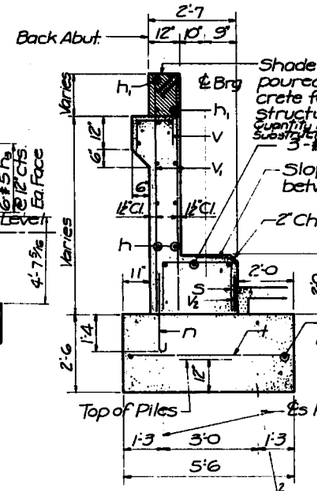
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	29-4B	WILL	192	119
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT:		

SHEET NO. 8
9 SHEETS



ELEVATION



SECTION A-A

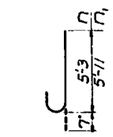
NORTH ABUTMENT BILL OF REINFORCEMENT

Bar	No.	Size	Lgth	Shape
h	30	#4	22-6	—
h1	9	#4	20-9	—
h2	12	#5	7-9	⌊
h3	12	#5	7-9	⌋
n	72	#5	5-10	⊃
n1	28	#5	6-6	—
p	9	#7	25-3	—
s	35	#4	5-11	⊓
s1	37	#4	6-5	⊓
t	71	#5	5-0	—
t1	29	#5	4-6	—
u	6	#5	5-3	⊓
v	60	#4	2-9	⊓
v1	142	#4	6-0	—
v2	29	#4	2-1	—
v3	37	#4	3-2	—
w	18	#5	22-6	—
w1	6	#5	10-3	—
w2	6	#5	11-0	—

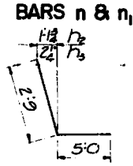
NORTH ABUTMENT BILL OF MATERIAL

Item	Unit	Quan.
Class X Concrete	Cu Yds	66.0
Reinf. Bars	lbs	4,690
Test Pile (10BP42)	Ea	1
Steel Piles (10BP42)	Lin Ft	324

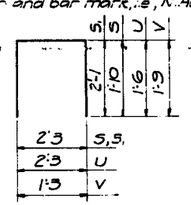
Note: Bill of Material includes Reinforcement and Class X Concrete for End Posts. Fabricator shall identify bars by location and bar mark, i.e., N. Abut. Mk. h.



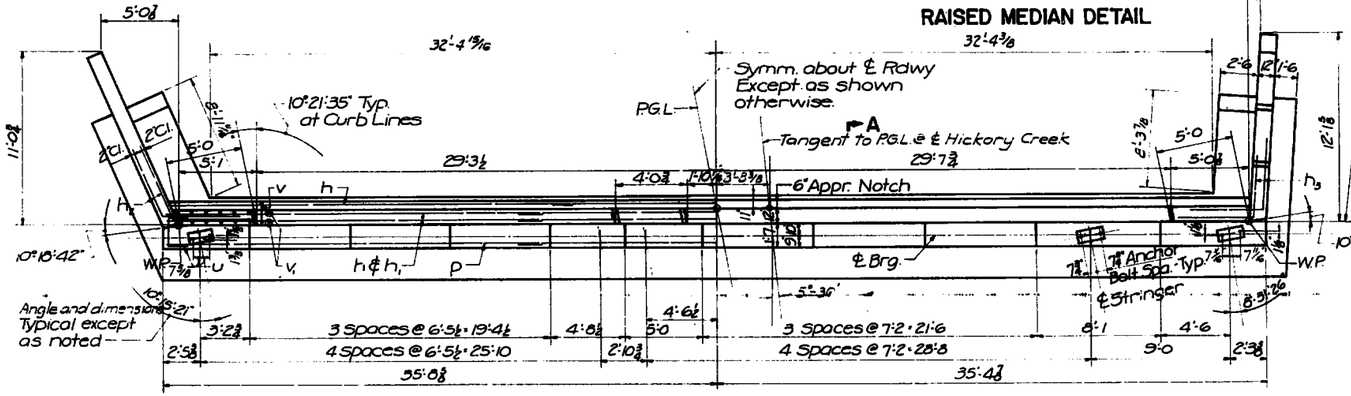
BARS n & n1



BARS h2 & h3

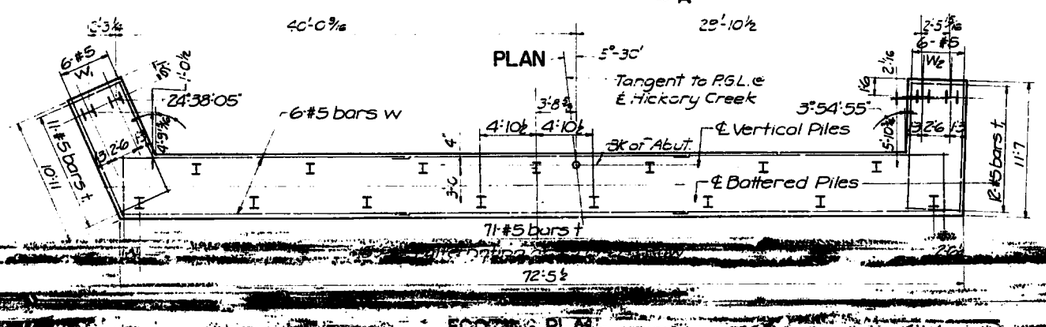


BARS s u & v



RAISED MEDIAN DETAIL

For details of End Posts see sheet 9



FOOTING PLAN

PILE DATA

Type: 10BP42
Capacity: 37 Tons Min.
Est. Length: 18 Feet
No. Req'd: 18
One Test Pile.

NORTH ABUTMENT RELOCATED CHICAGO STREET OVER HICKORY CREEK

CHICAGO ST. STA. 12+00.00

F.A.I. ROUTE 80 PROJECT COUNTY

DESIGNED	HR
DRAWN	SEF
CHECKED	

SCALE: NO SCALE

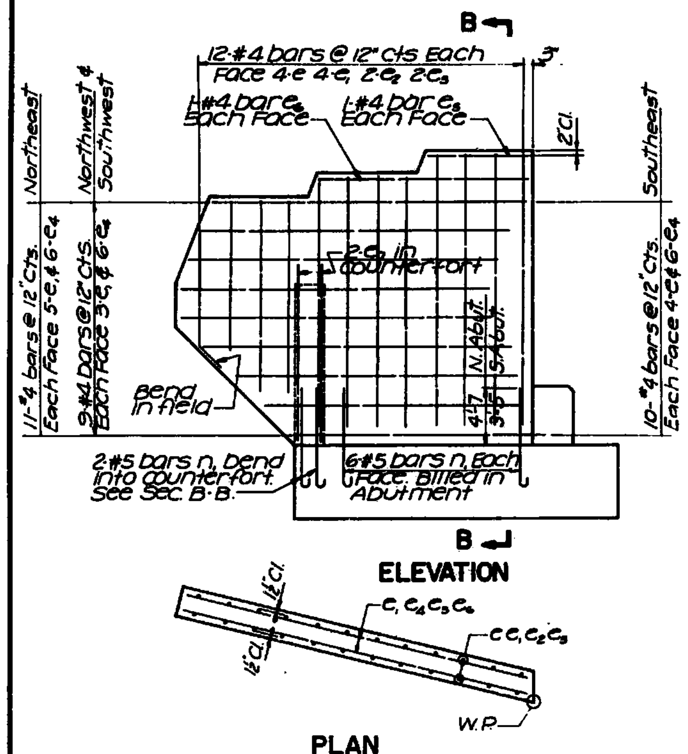
ST. LOUIS ENGINEERING CO.
WOODBURY, N.J. NEW YORK, N.Y. CRYSTAL LAKE, ILL.

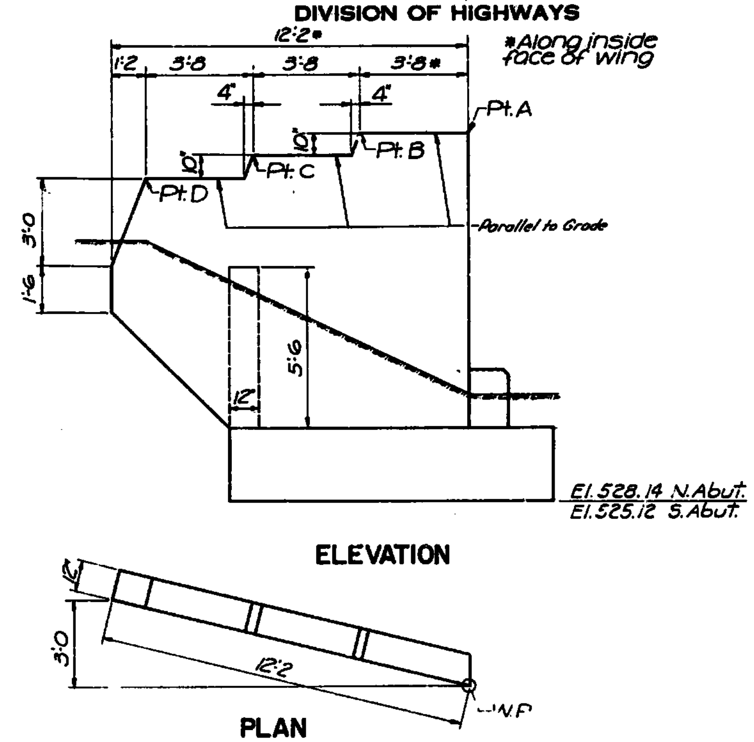
Rev. added to Bill of Material Test Pile and Steel Piles 3-11-66 SEF

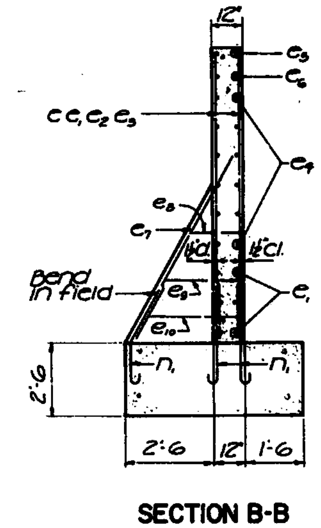
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

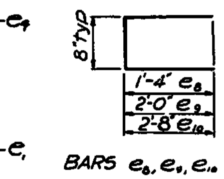
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4B	WILL	192	120

SHEET NO. 9
9 SHEETS







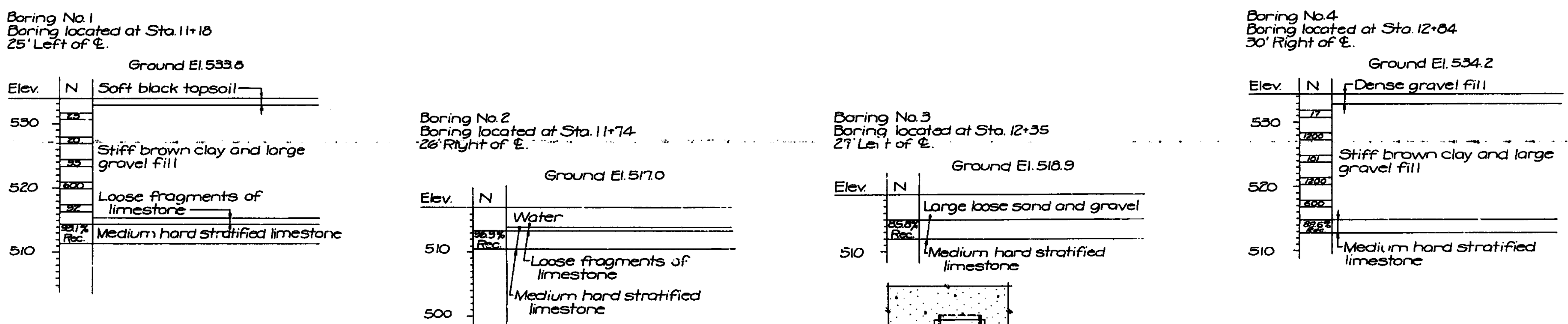


4 END POSTS
BILL OF MATERIAL

Bar	No.	Size	Lgth	Shape
e	32	#4	9-3	—
e_1	62	#4	8-6	—
e_2	16	#4	6-6	—
e_3	16	#4	5-0	—
e_4	48	#4	10-6	—
e_5	8	#4	3-6	—
e_6	8	#4	7-0	—
e_7	8	#5	7-0	—
e_8	4	#4	3'-2"	⊏
e_9	4	#4	4'-6	⊏
e_{10}	4	#4	5'-10	⊏

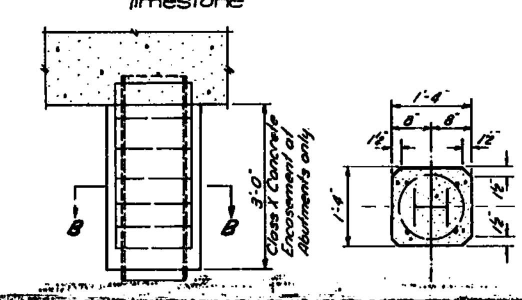
Quantities included on sheets 7&8

Pt. \ W.W.	North Abut. N.E.	North Abut. N.W.	South Abut. S.E.	South Abut. S.W.
A	543.53	541.24	539.37	536.21
B	543.59	541.33	539.30	536.14
C	542.83	540.59	538.40	537.24
D	542.06	539.84	537.50	536.34



Note:
N = Blows per foot of penetration of sampling spoon. Hammer weight = 140#. Drop = 30 inches.

BORING DATA



TYPICAL PILE ENCASEMENT

ABUT. DETAILS & BORING DATA
RELOCATED CHICAGO STREET OVER HICKORY CREEK
CHICAGO ST. STA. 12+00.00
F.A.I. ROUTE 80 PROJECT
SECTION 99-4B WILL COUNTY

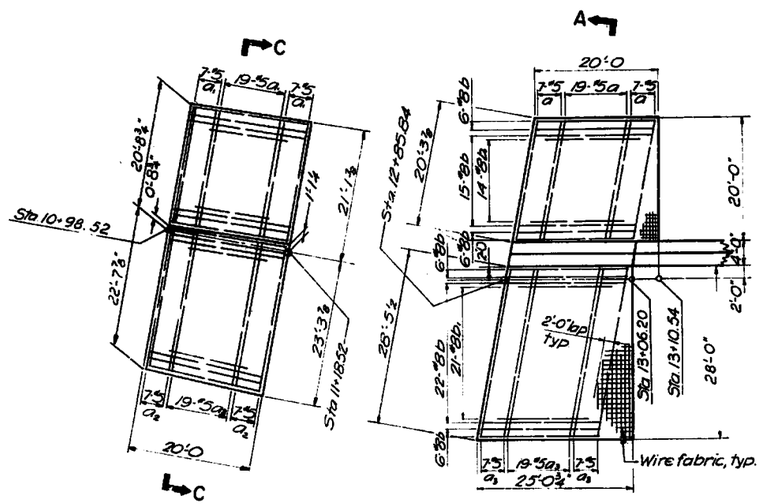
CONSULTING ENGINEERS
NEW YORK, N.Y. CRYSTAL LAKE, ILL.

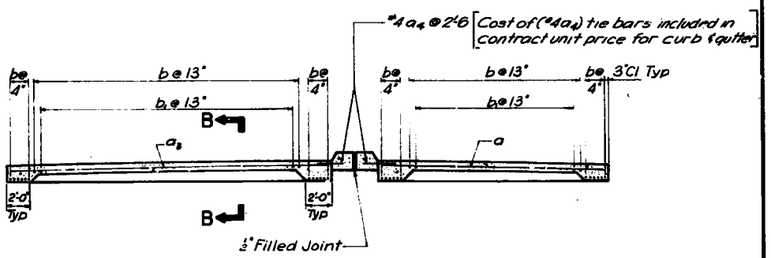
DESIGNED RDL
CHECKED CS

Added Pile Encasement Detail 5-17-66 A.S.A.

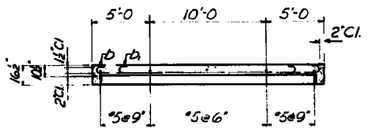
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

STATE SEC.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4	WILL	192	121
FED. ROAD DIST. NO. 7	RAILROAD	PROJECT		





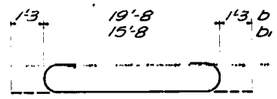
SECTION A-A



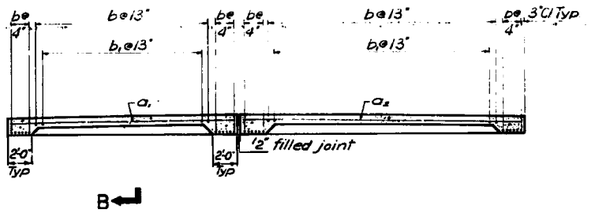
SECTION B-B

BILL OF REINFORCING

Bar	No	Size	Lgth	Shape
a	33	#5	20'0	—
a1	33	#5	19'8	—
a2	33	#5	23'0"	—
a3	33	#5	28'0	—
a4	18	#4	2'-6"	—
b	119	#8	22'-2	c
b1	67	#8	18'-2	c



BARS b & b1



SECTION C-C

Note: Provide 2" cl from reinf to face of concrete unless otherwise noted. For additional notes and details see Illinois Standard 1909-4

BILL OF MATERIAL

Item	Unit	Quan.
Reinforcement Bars	Lbs	13420
Portland Cement Conc Pavement 16½-10½-16½	Sq. Yd.	216

DETAILS OF APPROACH SLAB

DESIGNED	CS
CHECKED	SMW
DRAWN	
CHECKED	

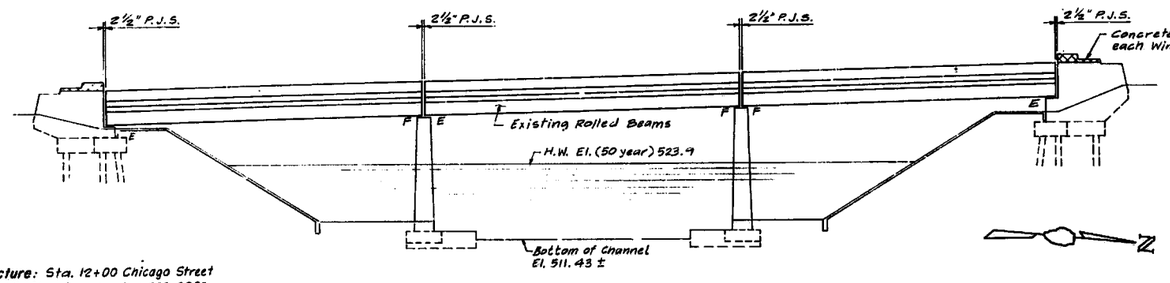
APPROACH SLAB
RELOCATED CHICAGO STREET OVER
HICKORY CREEK
CHICAGO ST. STA. 12+00.00
F.A.I. ROUTE 80 PROJECT
SECTION 99-4 WILL COUNTY
Scale: NO SCALE Date: Jan 7, 1953
CONSULTING ENGINEERS

B.M. - Army Corp. of Engr. Std. Disk S.W. Wingwall
Elev. 536.35

SHEET NO. 1
19 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	167	116
FED. ROAD DIST. NO.	ILLINOIS	PROJECT-		

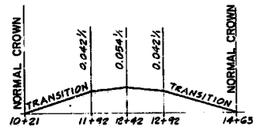
* 99-4WRS, 99-48-Y (89)

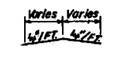


Existing Structure: Sta. 12+00 Chicago Street Built 1962, Structure number 099-0083. Superstructure reinforced concrete deck on steel stringers, 3 simple spans, substructure closed abutments on steel H-piles and solid piers on spread footings. Deck to be removed and replaced. Traffic to be maintained utilizing stage construction.

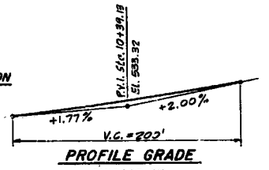
HORIZONTAL CURVE DATA

PROPOSED S.B. MEDIAN EDGE	EXISTING ℄	PROPOSED N.B. MEDIAN EDGE
CURVE NO. 4		CURVE NO. 5
PI STA. = 11+23.32 * 6.03' RIGHT	PI STA. = 11+49.87	PI STA. = 11+74.57 * 13.09' RIGHT
Δ = 15°33'10"	Δ = 15°33'10"	Δ = 89°33'10"
D = 6°21'58"	D = 5°45'51"	D = 8° 11'06"
R = 900.00'	R = 994'	R = 700.00'
T = 122.91'	T = 135.74'	T = 95.39'
L = 244.30'	L = 269.82'	L = 190.01'
E = 8.35'	E = 9.23'	E = 6.50'



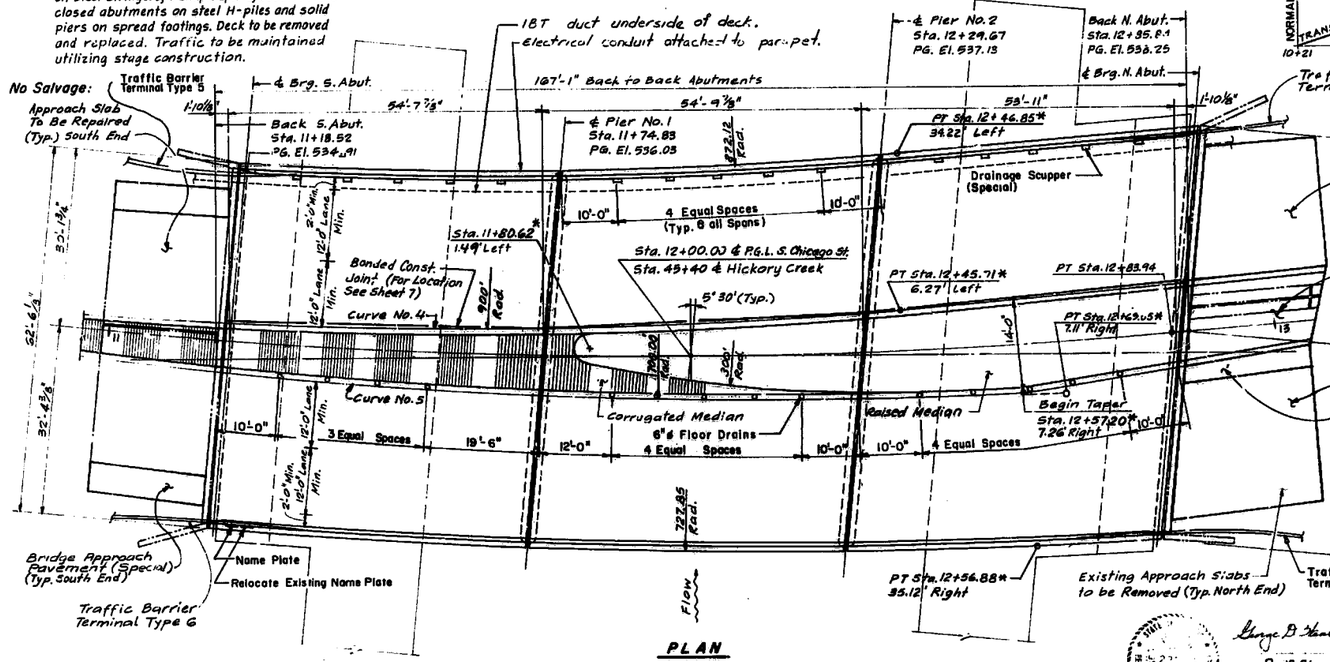


NORMAL SECTION



PROFILE GRADE
CHICAGO ST.
Used for determination of Deck Elevations only. Refer to Plan and Profile sheets for entire profile.

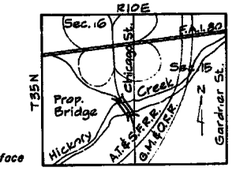
ELEVATION



PLAN

Note: I.B.T. And Electrical Conduit to be Relocated, See Roadway Plans.

EXISTING & PROPOSED SUPERELEVATION RATES

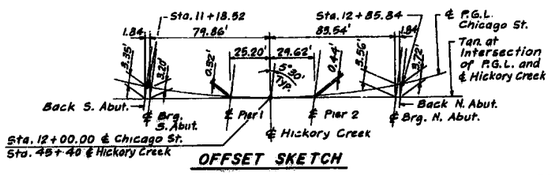


LOCATION PLAN

DESIGN SPECIFICATIONS
1989 AASHTO, 1990 Interim

LOADING HS 20-44

DESIGN STRESSES
f'c = 3,500 psi
fy = 60,000 psi (Reinf.) } New Construction
fy = 36,000 psi (Struct.)
fs = 20,000 psi (Struct.) Existing



OFFSET SKETCH

* Note: Stations Shown Are Based On Stationing Along ℄ S. Chicago Street

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Sep 30 to 91
Licensed Structural Engineer

George D. Shaw
9-18-91
11-30-92

PLANS PREPARED BY:
CONSOER, TOWNSEND & ASSOCIATES, INC.
CONSULTING ENGINEERS
303 EAST WACKER DRIVE
CHICAGO, ILLINOIS 60601

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN AND ELEVATION
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-48-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

SCALE: NONE
DATE:
DRAWN BY: E.T.
CHECKED BY: A.J.M.

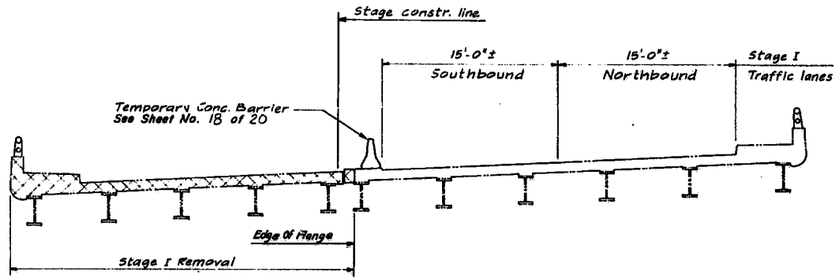
D C B A 0 A B C D

TAMERAN

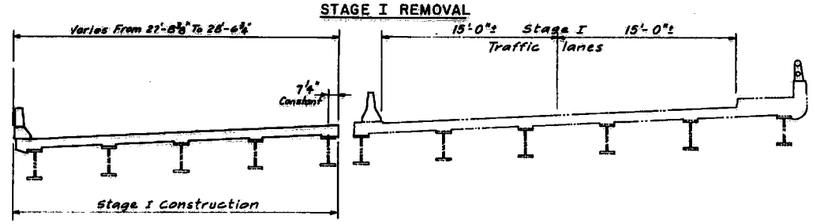
SHEET NO. 2
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	167	117
FED. ROAD DIST. NO.	ILLINOIS	PROJECT-		

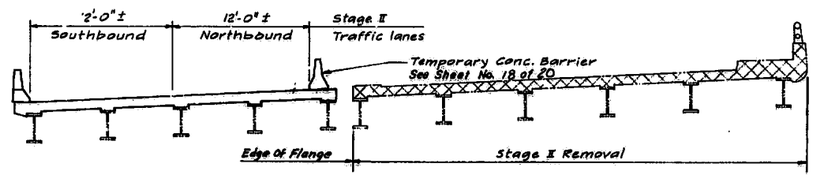
* 99-4WRS, 99-4B-Y(89)



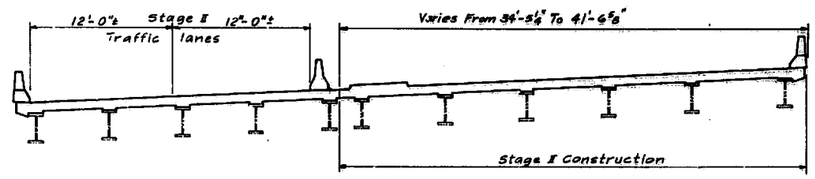
STAGE I REMOVAL



STAGE I CONSTRUCTION



STAGE II REMOVAL



STAGE II CONSTRUCTION

NOTE: Deck cross sections are shown looking north.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGE CONSTRUCTION
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

SCALE: NONE
DATE : . .
DRAWN BY: E.T.
CHECKED BY: J.A.W.

D C B A 0 A B C D
TAMERAN

SHEET NO. 3
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	187	118
FED.ROAD DIST.NO.	ILLINOIS	PROJECT-		

* 99-4WRS, 99-48-Y(89)

INDEX OF DRAWINGS

DWG. NO.	DESCRIPTION
1	GENERAL PLAN AND ELEVATIONS
2	STAGE CONSTRUCTION
3	INDEX OF DRAWINGS, GENERAL NOTES, AND SUMMARY OF QUANTITIES
4	DECK ELEVATIONS
5	DECK ELEVATIONS
6	DECK ELEVATIONS
7	DECK ELEVATIONS
8	DECK PLAN - DIMENSIONS
9	DECK PLAN - REINFORCEMENT
10	DECK CROSS SECTION
11	PARAPET DETAILS
12	FRAMING DETAILS
13	ELASTOMERIC BEARINGS
14	ABUTMENTS - CONC. REMOVAL
15	ABUTMENTS - RECONSTRUCTION
16	P.J.S. DETAILS (2 1/2")
17	BAR SPLICER (COUPLER) DETAILS
18	TEMPORARY CONCRETE BARRIER
19	STEEL DRAINAGE SCUPPER
20	STRUCTURAL REPAIRS

GENERAL NOTES

Fasteners shall be high strength bolts.
Bolts 3/4" ø, open holes 15/16" ø, unless otherwise noted.

The first two coats of the Lead and Chromate free Alkyd Paint System shall be used for shop and field painting of new structural steel.

Structural steel shall only be cleaned and painted as required by the special provision "Cleaning and Painting New Steel and Adjacent Areas of Existing Steel Structures".

Field welding of construction accessories will not be permitted to the bottom flange of beams. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms ~~(bolting cross frames)~~ over supports.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

Shoulder transition to wingwall shall be shaped with broken concrete. Cost incidental.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variation shall not be cause for additional compensation or a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Prior to pouring the new concrete for the deck, all loose rust , loose mill scale, loose paint and all other foreign material shall be removed from the embedded portions of the flanges of stringers(girders). The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP7 for Brush-Off Blast Cleaning Cost shall be incidental to concrete removal.

Existing name plates shall be salvaged and relocated as directed by the Engineer.

The Contractor will be required to mark on top of the concrete deck the locations of the top flange of all the steel beams of girders, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beams or girder flanges is not permitted.

TOTAL BILL OF MATERIAL - BRIDGE

ITEM CODE	ITEM	UNIT	QUANTITY		
			SUBSTRUCTURE	SUPERSTRUCTURE	TOTAL
[illegible]0102400	CONCRETE REMOVAL	CU. YD.	9.6		[illegible]
50104800	REMOVAL OF EXISTING CONCRETE DECK	SQ.M.		[illegible]	[illegible]
50300100	FLOOR DRAINS	EACH		[illegible]	[illegible]
50300120	PREFORMED JOINT SEAL 2 1/2"	LIN. FT.		270	270
50300250	CLASS X CONCRETE SUPERSTRUCTURE	CU.YD.		526.9	[illegible]
50300310	ELASTOMERIC BEARING ASSEMBLY, TYPE	EACH		55	55
50400200	CLASS X CONCRETE	CU. YD.	5.9		[illegible]
50700400	FURNISHING AND ERECTING STRUCTURAL STEEL	LBS.		6,460	[illegible]
50700700	JACK AND REMOVE EXISTING BEARINGS	EACH		55	55
51200200	REINFORCEMENT BARS (EPOXY COATED)	LBS.	1,200	78,400	[illegible]
51400100	NAME PLATES	EACH		1	1
66600300	TEMPORARY CONCRETE BARRIER TERMINAL SECTION	EACH		2	2
66600400	INSTALL & REMOVE TEMPORARY CONCRETE BARRIER	UNIT		55	55
66600800	RELOCATE TEMPORARY CONCRETE BARRIER	UNIT		55	55
Z0007200	BRIDGE SEAT SEALER **	L.SUM		1	1
70018000	DRAINAGE SCUPPERS SPECIAL	EACH		1	1
Z0020300	EPOXY CRACK SEALING *	L.FT.	175		175
70020400	EPOXY MORTAR REPAIR	CU.FT.	1		4
Z0047300	PROTECTIVE SHIELD	SQ.YD.		[illegible]	[illegible]
X7192800	RELOCATE USGS SURVEY MONUMENT	L.SUM		1	1
X7192800	BRIDGE DECK GROOVING	SQ.YD.		[illegible]	[illegible]

* ESTIMATED QUANTITY TAKEN FROM 1985 BRIDGE CONSTRUCTION REPORT
** ESTIMATED QUANTITY BRIDGE SEAT SEALER = 64 SQ.YD.

STATION 12+00
REBUILT 199_ BY
STATE OF ILLINOIS
FAR RT 846 SEC 99-4WRS 099-48-Y(89)
F.A. PROJ.
LOADING HS20
STR NO. 099-0083

NAME PLATE
REFER TO STD. 2113
COST OF RELOCATING EXISTING NAME PLATE SHALL BE INCIDENTAL TO NEW NAME PLATE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INDEX OF DRAWINGS, GENERAL NOTES, AND SUMMARY OF QUANTITIES
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-48-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083
SCALE:
DRAWN BY: JAW
DATE:
CHECKED BY: AJM

INDEX

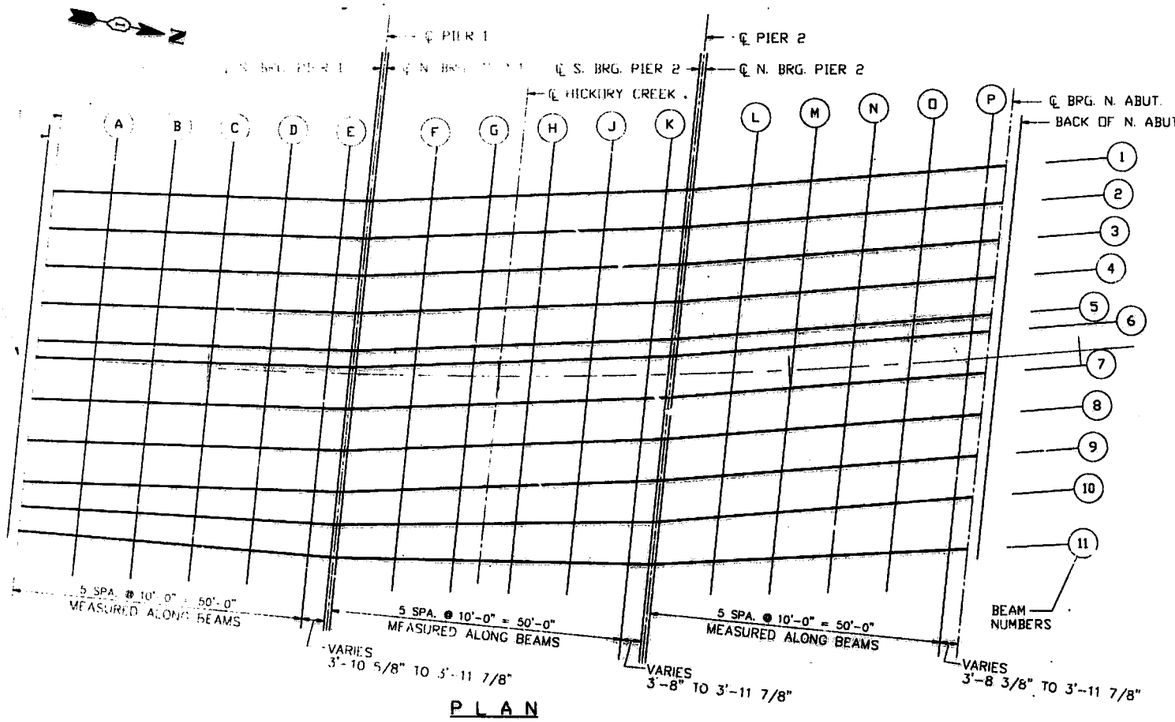
D C B A A 0 A B C D

TAMERAN

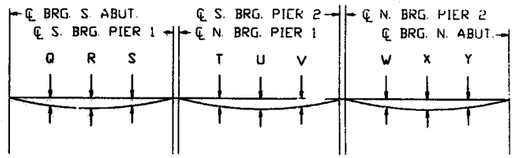
SHEET NO. 4
20 SHEETS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	W	WILL		119
FEDERAL DISTRICT	ILLINOIS	PROJECT		

* Section 99-4WRS,99-4B-Y(89)



PLAN

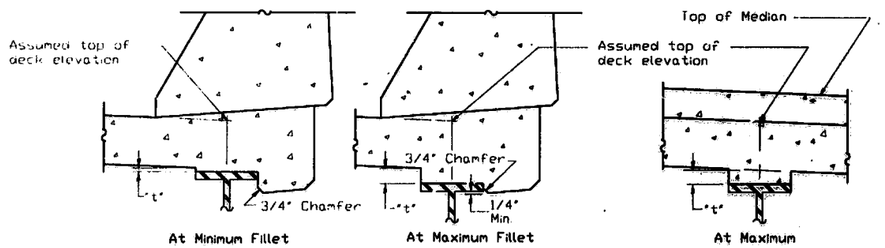


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

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

BEAM NUMBERS	DEAD LOAD DEFLECTION IN INCHES								
	Q	R	S	T	U	V	W	X	Y
1 & 11	5/16	1/2	3/8	3/8	9/16	3/8	3/8	9/16	3/8
2, 3 & 4	7/16	5/8	1/2	1/2	11/16	1/2	7/16	5/8	1/2
5 & 6	3/8	9/16	3/8	7/16	5/8	7/16	3/8	1/2	3/8
7, 8 & 9	1/2	11/16	1/2	1/2	3/4	1/2	1/2	11/16	1/2
10	3/8	9/16	3/8	7/16	9/16	7/16	1/2	11/16	1/2



FILLET HEIGHTS

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

S-CHICAG\ELEV-BI

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK ELEVATIONS
S.CHICAGO ST. OVER HICKORY CR.
F.A.P. 846
SECTION 99-4WRS,99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083
SCALE: 1" = 10' DRAWN BY: J.A.V.
DATE: CHECKED BY: A.J.M.

C B A 0 A B C D

TAMERAN

SHEET NO. 5
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	W	WILL	1892	189
FEDERAL DISTRICT	ILLINOIS	PROJECT-		

Section 99-4WRS,99-4B-Y(89)

BEAM 1

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	[illegible]	[illegible]	[illegible]	535.351
℄ BRG. S. ABUT	[illegible]	[illegible]	[illegible]	535.410
A	[illegible]	[illegible]	[illegible]	[illegible]
B	[illegible]	[illegible]	[illegible]	[illegible]
C	[illegible]	[illegible]	[illegible]	[illegible]
D	[illegible]	[illegible]	[illegible]	[illegible]
E	[illegible]	[illegible]	[illegible]	537.009
℄ S. BRG. PIER 1	[illegible]	[illegible]	[illegible]	537.145
℄ N. BRG. PIER 1	[illegible]	[illegible]	[illegible]	537.181
F	[illegible]	[illegible]	[illegible]	537.548
G	[illegible]	[illegible]	[illegible]	537.883
H	[illegible]	[illegible]	538.136	538.186
J	[illegible]	[illegible]	538.436	538.471
K	[illegible]	[illegible]	538.726	538.741
℄ S. BRG. PIER 2	[illegible]	[illegible]	538.843	538.845
℄ N. BRG. PIER 2	[illegible]	[illegible]	538.875	538.875
L	[illegible]	[illegible]	539.143	539.169
M	[illegible]	[illegible]	539.286	539.369
N	[illegible]	[illegible]	539.423	539.469
O	[illegible]	[illegible]	539.555	539.569
P	[illegible]	[illegible]	539.674	539.665
℄ BRG N. ABUT	[illegible]	[illegible]	539.729	539.709
BACK N. ABUT.	[illegible]	[illegible]	539.751	539.751

BEAM 2

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	11+18.84	-22.06	535.251	535.251
℄ BRG. S. ABUT.	11+20.71	-22.17	535.304	535.304
A	11+30.93	-22.60	535.599	535.631
B	11+41.16	-22.94	535.896	535.948
C	11+51.40	-23.17	536.193	536.248
D	11+61.64	-23.29	536.489	536.530
E	11+71.86	-23.32	536.782	536.795
℄ S. BRG. PIER 1	11+75.96	-23.30	536.898	536.898
℄ N. BRG. PIER 1	11+77.07	-23.33	536.931	536.931
F	11+87.30	-23.90	537.246	537.279
G	11+97.536	-24.38	537.544	537.598
H	12+07.78	-24.75	537.807	537.865
J	12+18.03	-25.02	538.105	538.150
K	12+28.29	-25.18	538.380	538.397
℄ S. BRG. PIER 2	12+32.39	-25.22	538.489	538.489
℄ N. BRG. PIER 2	12+33.46	-25.25	538.519	538.519
L	12+43.71	-25.69	538.789	538.820
M	12+53.97	-26.03	538.948	538.999
N	12+64.24	-26.27	539.100	539.155
O	12+74.51	-26.40	539.247	539.288
P	12+84.25	-26.42	539.381	539.394
℄ BRG. N. ABUT.	12+88.80	-26.41	539.443	539.443
BACK N. ABUT.	12+90.67	-26.40	539.468	539.468

BEAM 3

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	11+18.74	-15.62	535.150	535.150
℄ BRG. S. ABUT.	11+20.61	-15.71	535.199	535.199
A	11+30.76	-16.15	535.468	535.500
B	11+40.92	-16.48	535.739	535.791
C	11+51.09	-16.17	536.010	536.065
D	11+61.26	-16.84	536.280	536.321
E	11+71.43	-16.87	536.547	536.560
℄ S. BRG. PIER 1	11+75.49	-16.85	536.653	536.653
℄ N. BRG. PIER 1	11+76.59	-16.88	536.683	536.683
F	11+86.75	-17.47	536.972	537.005
G	11+96.92	-17.95	537.251	537.305
H	12+07.10	-18.32	537.515	537.574
J	12+17.29	-18.60	537.777	537.822
K	12+27.48	-18.77	538.035	538.052
℄ S. BRG. PIER 2	12+31.54	-18.81	538.137	538.137
℄ N. BRG. PIER 2	12+32.62	-18.85	538.165	538.165
L	12+42.80	-19.30	538.432	538.463
M	12+53.00	-19.64	538.606	538.657
N	12+63.20	-19.89	538.774	538.829
O	12+73.40	-20.03	538.963	539.004
P	12+83.61	-20.07	539.093	539.106
℄ BRG. N. ABUT.	12+87.64	-20.06	539.154	539.154
BACK N. ABUT.	12+89.51	-20.05	539.182	539.182

BEAM 4

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	[illegible]	[illegible]	535.051	535.051
℄ BRG. S. ABUT	[illegible]	[illegible]	535.095	535.095
A	11+33.19	9.69	535.338	535.370
B	11+43.68	10.05	535.583	535.635
C	11+53.75	10.25	535.829	535.884
D	11+62.80	10.41	536.073	536.114
F	11+73.39	10.43	536.315	536.328
℄ S. BRG. PIER 1	11+75.81	10.41	536.410	536.410
℄ N. BRG. PIER 1	11+76.91	10.44	536.438	536.438
F	11+86.99	11.05	536.702	536.735
G	11+96.36	11.52	536.959	537.013
H	12+06.43	11.90	537.207	537.266
J	12+16.59	12.18	537.452	537.497
K	12+26.67	12.36	537.693	537.710
℄ S. BRG. PIER 2	12+30.71	12.41	537.788	537.788
℄ N. BRG. PIER 2	12+31.79	12.44	537.814	537.814
L	12+41.91	12.90	538.072	538.103
M	12+52.03	13.26	538.262	538.313
N	12+62.17	13.51	538.445	538.500
O	12+72.30	13.64	538.622	538.663
P	12+82.44	13.71	538.794	538.807
℄ BRG. N. ABUT.	12+86.48	13.72	538.861	538.861
BACK N. ABUT.	12+88.34	13.76	538.892	538.892

BEAM 5

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	11+18.56	-2.71	534.952	534.952
℄ BRG. S. ABUT.	11+20.40	-2.80	534.991	534.991
A	11+30.42	-3.24	535.209	535.235
B	11+40.45	-3.57	535.429	535.472
C	11+50.48	-3.81	535.649	535.695
D	11+60.52	-3.95	535.868	535.902
E	11+70.56	-3.98	536.085	536.096
℄ S. BRG. PIER 1	11+74.56	-3.97	536.170	536.170
℄ N. BRG. PIER 1	11+75.65	-4.00	536.195	536.195
F	11+85.68	-4.59	536.433	536.462
G	11+95.72	-5.09	536.670	536.717
H	12+05.76	-5.48	536.901	536.952
J	12+15.82	-5.77	537.129	537.168
K	12+25.87	-5.95	537.353	537.367
℄ S. BRG. PIER 2	12+29.89	-6.00	537.442	537.442
℄ N. BRG. PIER 2	12+30.97	-6.03	537.467	537.467
L	12+41.02	-6.50	537.707	537.733
M	12+51.08	-6.87	537.915	537.957
N	12+61.15	-7.13	538.113	538.158
O	12+71.22	-7.29	538.304	538.338
P	12+81.29	-7.35	538.491	538.502
℄ BRG. N. ABUT.	12+85.32	-7.35	538.564	538.564
BACK N. ABUT.	12+87.18	-7.34	538.598	538.598

STAGE CONSTRUCTION LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	11+18.55	-2.16	534.942	534.942
℄ BRG. S. ABUT.	11+20.39	-2.20	534.981	534.981
A	11+30.40	-2.63	535.197	535.223
B	11+40.43	-2.97	535.415	535.437
C	11+50.45	-3.21	535.632	535.678
D	11+60.49	-3.35	535.849	535.883
E	11+70.52	-3.38	536.063	536.074
℄ S. BRG. PIER 1	11+74.52	-3.37	536.148	536.148
℄ N. BRG. PIER 1	11+75.61	-3.36	536.172	536.172
F	11+85.63	-3.39	536.408	536.436
G	11+95.66	-3.98	536.643	536.689
H	12+05.70	-4.48	536.872	536.922
J	12+15.75	-4.87	537.089	537.137
K	12+25.80	-5.16	537.321	537.335
℄ S. BRG. PIER 2	12+29.81	-5.34	537.409	537.409
℄ N. BRG. PIER 2	12+30.69	-5.41	537.434	537.434
L	12+40.74	-5.88	537.672	537.698
M	12+50.99	-6.25	537.881	537.923
N	12+61.05	-6.52	538.081	538.126
O	12+71.12	-6.68	538.273	538.307
P	12+81.18	-6.74	538.462	538.479
℄ BRG. N. ABUT.	12+85.21	-6.74	538.535	538.535
BACK N. ABUT.	12+87.07	-6.73	538.570	538.570

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK ELEVATIONS
S.CHICAGO ST. OVER HICKORY CR.
F.A.P. 846
SECTION 99-4WRS,99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

SCALE:
DRAWN BY: J.A.W.
DATE:
CHECKED BY: A.J.M.

JGLIET\ELEV-1

D C B A 0 A B C D

TAMERAN

SHEET NO. 6
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99	WILL	187	121
FED.ROAD DIST.NO.	ILLINOIS	PROJECT-		

Section 99-4WRS,99-4B-Y(89)

PROFILE GRADE LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT				
℄ BRG. S. ABUT				
A				
B				
C				
D				
E				
℄ S. BRG. PIER 1				
℄ N. BRG. PIER 1				
F				
G				
H				
J				
K				
℄ S. BRG. PIER 2				
℄ N. BRG. PIER 2				
L				
M				
N				
O				
P				
℄ BRG. N. ABUT				
BACK N. ABUT				

BEAM 6

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	11+18.52	0.19	534.904	534.904
℄ BRG. S. ABUT.	11+20.35	0.09	534.943	534.943
A	11+30.34	-0.34	535.151	535.176
B	11+40.34	-0.68	535.360	535.402
C	11+50.35	-0.92	535.569	535.614
D	11+60.36	-1.06	535.777	535.810
E	11+70.37	-1.09	535.982	535.993
℄ S. BRG. PIER 1	11+74.36	-1.08	536.063	536.063
℄ N. BRG. PIER 1	11+75.45	-1.11	536.086	536.086
F	11+85.44	-1.71	536.314	536.340
G	11+95.45	-2.20	536.541	536.583
H	12+05.47	-2.59	536.764	536.810
J	12+15.49	-2.89	536.985	537.020
K	12+25.52	-3.08	537.202	537.215
℄ S. BRG. PIER 2	12+29.52	-3.13	537.287	537.287
℄ N. BRG. PIER 2	12+30.60	-3.16	537.312	537.312
L	12+40.63	-3.63	537.545	537.570
M	12+50.66	-4.00	537.758	537.799
N	12+60.70	-4.27	537.963	538.007
O	12+70.74	-4.44	538.161	538.194
P	12+80.78	-4.50	538.354	538.365
℄ BRG N. ABUT.	12+81.80	-4.50	538.430	538.430
BACK N. ABUT.	12+86.66	4.50	538.465	538.465

BEAM 7

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	11+18.42	7.36	534.666	534.666
℄ BRG. S. ABUT.	11+20.24	7.26	534.704	534.704
A	11+30.16	6.82	534.907	534.941
B	11+40.09	6.48	535.109	535.165
C	11+50.02	6.24	535.308	535.368
D	11+59.96	6.10	535.505	535.550
E	11+69.90	6.06	535.698	535.713
℄ S. BRG. PIER 1	11+73.86	6.07	535.773	535.773
℄ N. BRG. PIER 1	11+74.94	6.03	535.795	535.795
F	11+84.86	5.44	536.011	536.046
G	11+94.80	4.94	536.223	536.282
H	12+04.74	4.54	536.428	536.492
J	12+14.70	4.24	536.630	536.679
K	12+24.65	4.04	536.829	536.847
℄ S. BRG. PIER 2	12+28.63	3.98	536.908	536.908
℄ N. BRG. PIER 2	12+29.71	3.95	536.930	536.930
L	12+39.66	3.47	537.145	537.178
M	12+49.62	3.09	537.369	537.424
N	12+59.59	2.81	537.589	537.648
O	12+69.56	2.63	537.804	537.848
P	12+79.53	2.55	538.013	538.027
℄ BRG. N. ABUT.	12+83.51	2.55	538.095	538.095
BACK N. ABUT.	12+85.36	2.55	538.133	538.133

BEAM 8

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.				
℄ BRG. S. ABUT.				
A				
B				
C				
D				
E				
℄ S. BRG. PIER 1				
℄ N. BRG. PIER 1				
F				
G				
H				
J				
K				
℄ S. BRG. PIER 2				
℄ N. BRG. PIER 2				
L				
M				
N				
O				
P				
℄ BRG. N. ABUT.				
BACK N. ABUT.				

BEAM 9

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	11+18.22	21.69	534.192	534.192
℄ BRG. S. ABUT.	11+20.02	21.60	534.226	534.226
A	11+29.80	21.15	534.409	534.441
B	11+39.59	20.81	534.590	534.642
C	11+49.38	20.56	534.770	534.826
D	11+59.18	20.41	534.947	534.989
E	11+68.97	20.36	535.120	535.134
℄ S. BRG. PIER 1	11+72.88	20.37	535.188	535.188
℄ N. BRG. PIER 1	11+73.95	20.33	535.208	535.208
F	11+83.73	19.72	535.404	535.436
G	11+93.53	19.41	535.594	535.647
H	12+03.33	18.80	535.763	535.820
J	12+13.14	18.48	535.930	535.974
K	12+22.96	18.27	536.094	536.110
℄ S. BRG. PIER 2	12+26.87	18.21	536.158	536.158
℄ N. BRG. PIER 2	12+27.97	18.17	536.177	536.177
L	12+37.78	17.68	536.356	536.389
M	12+47.60	17.28	536.580	536.635
N	12+57.42	16.98	536.832	536.891
O	12+67.25	16.77	537.078	537.122
P	12+77.09	16.67	537.319	537.333
℄ BRG. N. ABUT.	12+81.00	16.66	537.414	537.414
BACK N. ABUT.	12+82.83	16.66	537.458	537.458

BEAM 10

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	11+18.17	25.94	534.051	534.051
℄ BRG. S. ABUT.	11+19.95	25.89	534.082	534.082
A	11+29.70	25.70	534.251	534.277
B	11+39.45	25.60	534.418	534.460
C	11+49.19	25.60	534.582	534.637
D	11+58.94	25.70	534.742	534.776
E	11+68.69	25.90	534.898	534.909
℄ S. BRG. PIER 1	11+72.50	26.01	534.958	534.958
℄ N. BRG. PIER 1	11+73.56	26.00	534.976	534.976
F	11+83.30	25.66	535.154	535.182
G	11+93.05	25.41	535.329	535.371
H	12+02.80	25.26	535.467	535.516
J	12+12.55	25.21	535.605	535.641
K	12+22.30	25.26	535.739	535.751
℄ S. BRG. PIER 2	12+26.02	25.31	535.788	535.788
℄ N. BRG. PIER 2	12+27.11	25.29	535.804	535.804
L	12+36.85	24.78	535.967	536.030
M	12+46.60	24.37	536.180	536.234
N	12+56.36	24.06	536.448	536.506
O	12+66.12	23.85	536.710	536.753
P	12+75.89	23.73	536.967	536.981
℄ BRG. N. ABUT.	12+79.78	23.72	537.067	537.067
BACK N. ABUT.	12+81.60	23.71	537.114	537.114

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK ELEVATIONS
S.CHICAGO ST. OVER HICKORY CR.
F.A.P. 846
SECTION 99-4WRS,99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

SCALE:
DATE:
DRAWN BY: J.A.W.
CHECKED BY: A.J.M.

JOLIET\ELEV-2

D C B A 0 A B C D
TAMERAN

SHEET NO. 7
23 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	W	WILL	122	
FEDERAL DIST.NO.	ILLINOIS	PROJECT-		

* Section 99-4WRS,99-4B-Y(89)

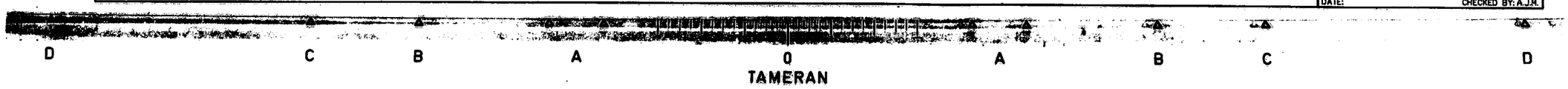
BEAM 11

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BACK S. ABUT.	[illegible]	[illegible]	[illegible]	533 911
℄ BRG. S. ABUT.	[illegible]	[illegible]	[illegible]	534 019
A	[illegible]	[illegible]	[illegible]	534 107
B	[illegible]	[illegible]	[illegible]	534 281
C	[illegible]	[illegible]	[illegible]	534 454
D	[illegible]	[illegible]	[illegible]	534 549
E	[illegible]	[illegible]	[illegible]	534 686
℄ S. BRG. PIER 1	[illegible]	[illegible]	[illegible]	534 729
℄ N. BRG. PIER 1	[illegible]	[illegible]	[illegible]	534 745
F	[illegible]	[illegible]	[illegible]	534 908
G	[illegible]	[illegible]	535 057	535 097
H	[illegible]	[illegible]	[illegible]	535 214
J	[illegible]	[illegible]	[illegible]	535 317
K	[illegible]	32 26	535 385	535 395
℄ S. BRG. PIER 2	[illegible]	32 43	535 422	535 422
℄ N. BRG. PIER 2	[illegible]	32 49	535 439	535 435
L	[illegible]	32 62	535 564	535 590
M	[illegible]	32 13	535 743	535 787
N	[illegible]	[illegible]	[illegible]	536 008
O	[illegible]	[illegible]	[illegible]	536 309
P	[illegible]	[illegible]	[illegible]	536 546
℄ BRG. N. ABUT	[illegible]	32 52	536 630	536 630
BACK N. ABUT.	[illegible]	[illegible]	[illegible]	536 677

JOLIET\ELEV-3

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK ELEVATIONS
S.CHICAGO ST. OVER HICKORY CR.
F.A.P. 846
SECTION 99-4WRS,99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

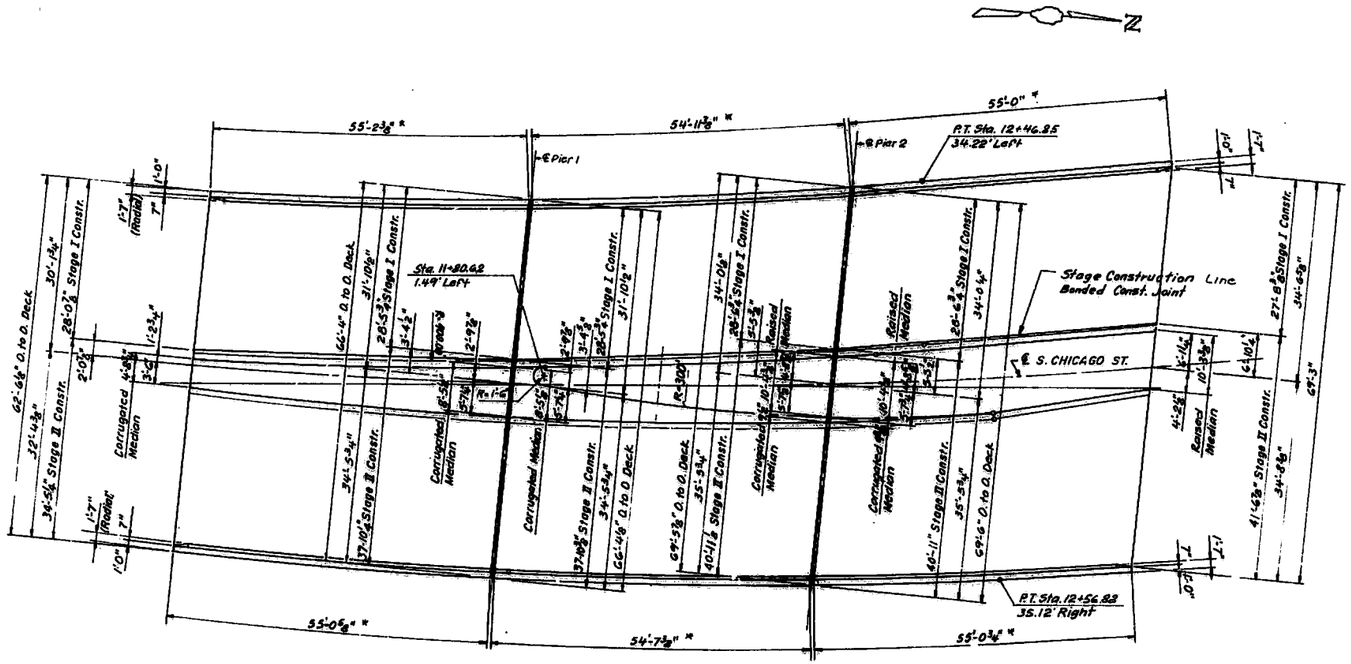
SCALE:
DATE:
DRAWN BY: J.A.V.
CHECKED BY: A.J.H.



SHEET NO. 8
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	187	123
FED ROAD DIST. NO.	ILLINOIS	PROJECT-		

* 99-4WRS, 99-4B-Y(89)



DECK PLAN

* MEASURED ALONG PARAPET

REVISIONS	
NAME	DATE

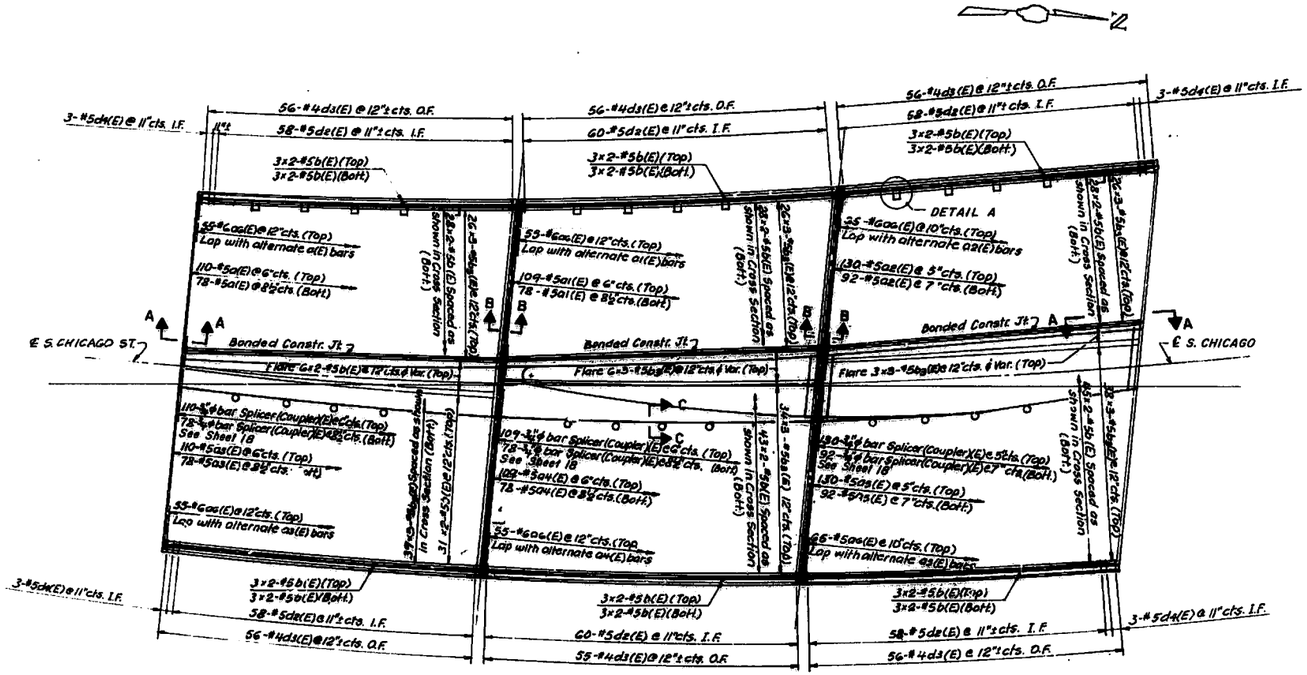
ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK PLAN-DIMENSIONS
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083
SCALE: NONE
DATE :
DRAWN BY: G.S.
CHECKED BY: J.A.W.

D C B A 0 A B C D
TAMERAN

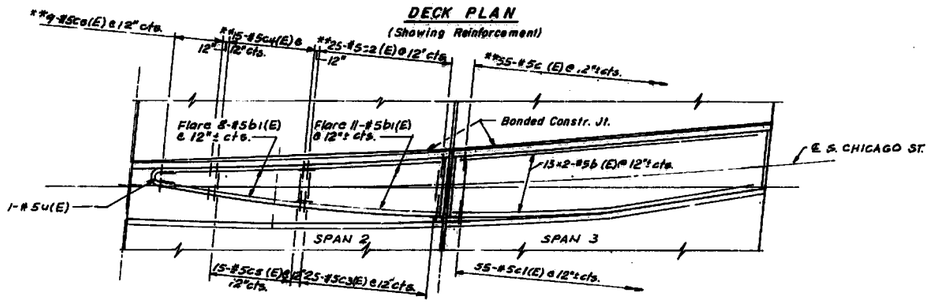
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	187	124
FED. ROAD DIST. NO.	ILLINOIS	PROJECT-		

SHEET NO. 9
20 SHEETS

* 99-4WRS, 99-48-Y(89)

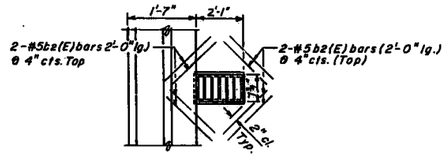


DECK PLAN
(Showing Reinforcement)

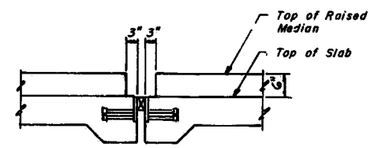


** Each Side of Raised Median

RAISED MEDIAN-PLAN
(Showing Reinforcement)



DETAIL A
(Rotated by 90°)



P.J.S. DETAIL AT RAISED MEDIAN

NOTES: BARS INDICATED THUS 20 x 3 #5 ETC. INDICATES 20 LINES OF BARS WITH 3 LENGTHS PER LINE.
FOR SECTIONS A-A & B-B SEE SHEET 12
FOR SECTION C-C SEE SHEET 11
MIN. LAP LENGTH FOR #5 BAR = 2'-2"

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK PLAN-REINFORCEMENT
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-48-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099 0083

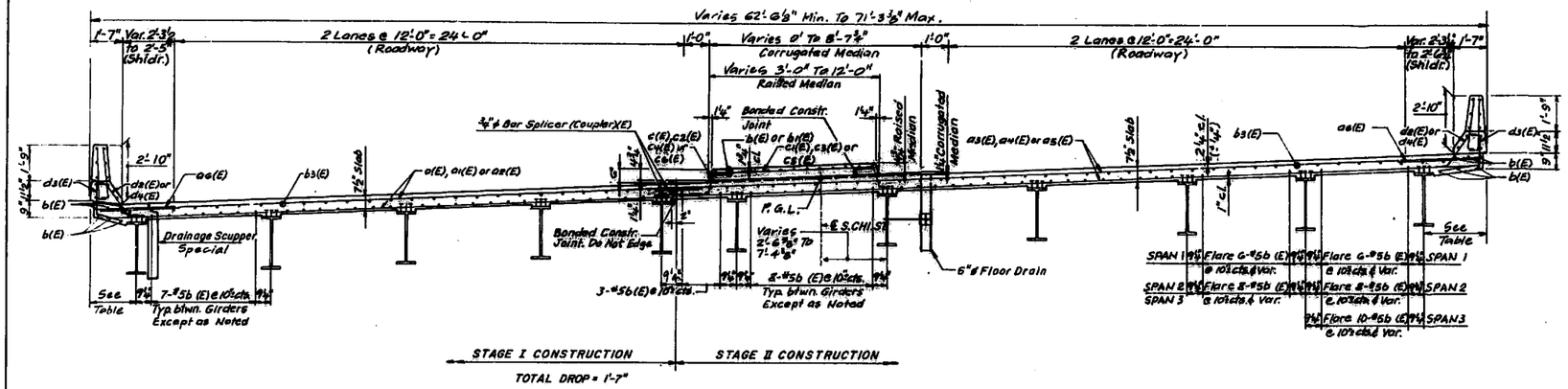
SCALE: NONE
DATE :
DRAWN BY: G.S.
CHECKED BY: J.A.W.

D C B A 0 A B C D
TAMERAN

SHEET NO. 10
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	187	185
FED. ROAD DIST. NO.	ILLINOIS	PROJECT-		

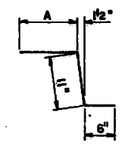
* 99-4WRS, 99-4B-Y(89)



TYPICAL CROSS SECTION
(LOOKING NORTH)

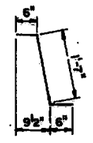
TABLE OF FACIA DIMENSIONS

		WEST	EAST
SPAN 1	MAX.	2'-0 1/2"	3'-0 5/8"
	MIN.	1'-4 1/2"	2'-2 5/8"
SPAN 2	MAX.	2'-1 5/8"	3-2 1/8"
	MIN.	1'-7 5/8"	2'-7 1/8"
SPAN 3	MAX.	2'-2 5/8"	2'-11 1/8"
	MIN.	2'-0 5/8"	2'-6 5/8"

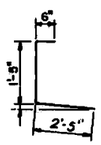


BARS C(E), C2(E), C4(E) & C6(E)

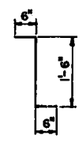
BAR	A
C(E)	2'-0"
C2(E)	2'-6"
C4(E)	2'-3"
C6(E)	1'-0"



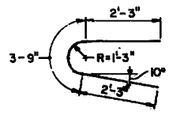
BAR D2(E)



BAR D3(E)



BAR D4(E)



BAR U(E)

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	188	#5	26'-10"	
A1(E)	187	#5	27'-1"	
A2(E)	222	#5	27'-7"	
A3(E)	188	#5	33'-4"	
A4(E)	187	#5	37'-1"	
A5(E)	222	#5	40'-4"	
A6(E)	350	#6	4'-0"	
B(E)	516	#5	28'-6"	
B1(E)	19	#5	26'-0"	
B2(E)	120	#5	2'-0"	
B3(E)	594	#5	19'-9"	
C(E)	110	#5	3'-5"	
C1(E)	55	#5	9'-9"	
C2(E)	50	#5	3'-11"	
C3(E)	25	#5	6'-9"	
C4(E)	30	#5	3'-8"	
C5(E)	15	#5	3'-3"	
C6(E)	18	#5	2'-5"	
D2(E)	352	#5	2'-7"	
D3(E)	335	#4	4'-4"	
D4(E)	12	#5	2'-6"	
U(E)	1	#5	8'-3"	

ITEM	UNIT	QTY
REINF. BARS (EPOXY COATED)	LBS.	73,980
CLASS X CONC. SUPERSTRUCTURE	CU. YDS.	290.3
REMOVAL OF EXIST. CONCRETE DECK *	L.SUM	1

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

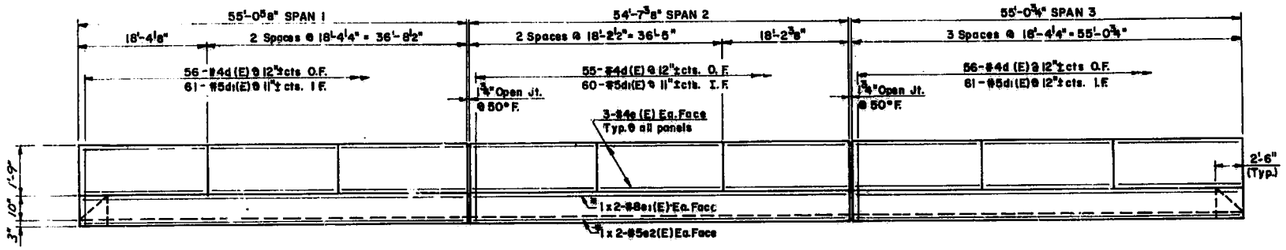
* EST. QUANTITY = 317 CU. YDS.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK CROSS SECTION
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

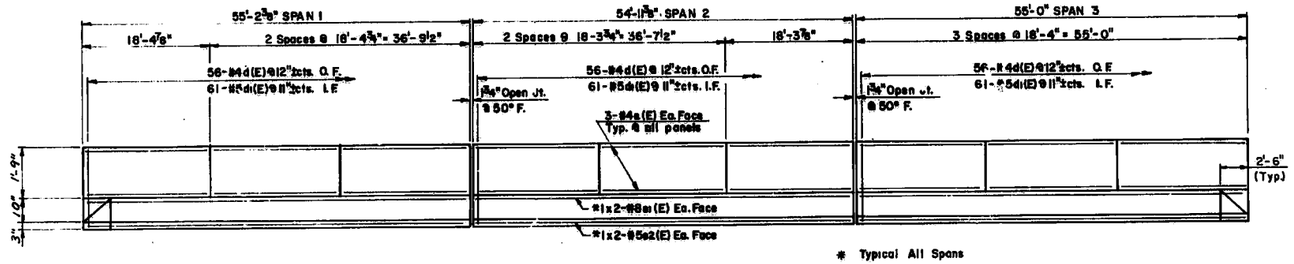
SCALE: NONE
DATE :
DRAWN BY: G.S.
CHECKED BY: J.A.W.

D C B A 0 A B C D
TAMERAN



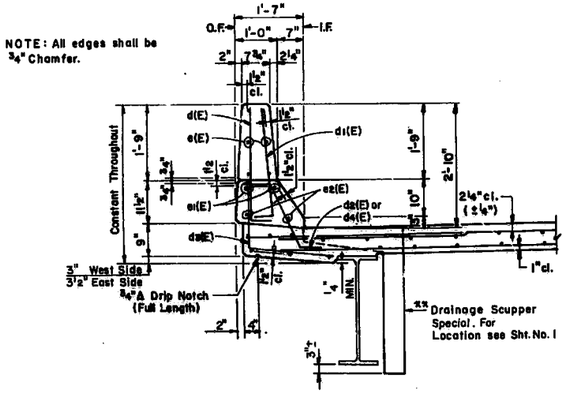
* Typical All Spans

EAST PARAPET ELEVATION



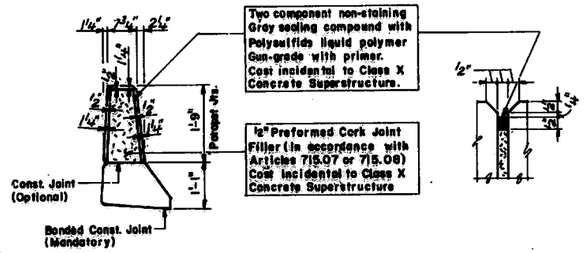
* Typical All Spans

WEST PARAPET ELEVATION

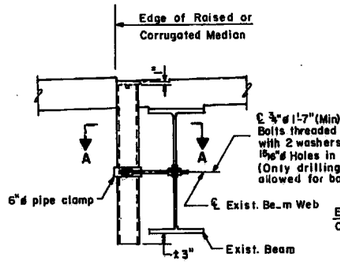


** Hollow Structural steel tubing shall conform to the requirements of ASTM designation A-300 Grade B, or A-301 Structural Steel Tubing.

SECTION THRU PARAPET

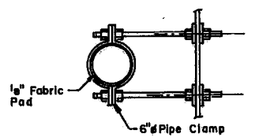


PARAPET JOINT DETAILS



SECTION C-C

The surface of the fiberglass pipe shall be free of bond inhibiting agents

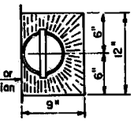


SECTION A-A

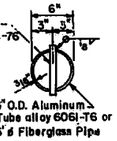
NOTE: No flame cutting of the beam web will be allowed.

FIBERGLASS PIPE

ALUMINUM TUBE



TOP PLAN



TOP PLAN

NOTES:

Fiberglass pipe shall conform to ASTM-D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

The exterior surfaces of the Floor Drain shall be painted with the vinyl emanel coat painting specified for Structural Steel. The exterior surfaces of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structures Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting Fiberglass to have prewash as per MIL- P-15328.

SHEET NO. 11
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	187	126
FED. ROAD DIST. NO.	ILLINOIS	PROJECT-		

*99-4WRS, 99-48-Y(89)

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
D(E)	335	#4	3'-0"	L
D1(E)	365	#5	3'-0"	L
E(E)	108	#4	18'-0"	——
E1(E)	12	#5	28'-3"	——
E2(E)	12	#8	29'-8"	——

ITEM	UNIT	QTY.
REINF. BARS (EPOXY COATED)	LBS.	4,420
CLASS X CONC. SUPERSTRUCTURE	CU. YDS.	36.4
6"ø FLOOR DRAIN	EACH	14

MIN LAP LENGTHS	
BAR SIZE	LAP
#5	2'-2"
#8	4'-6"

Reinforcement Bars Designated (E) Shall Be Epoxy Coated

Bars Indicated Thus 1 x 2 #8 Etc. Indicates 1 Line Of Bars With 2 Lengths Per Line.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PARAPET DETAILS
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-48-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

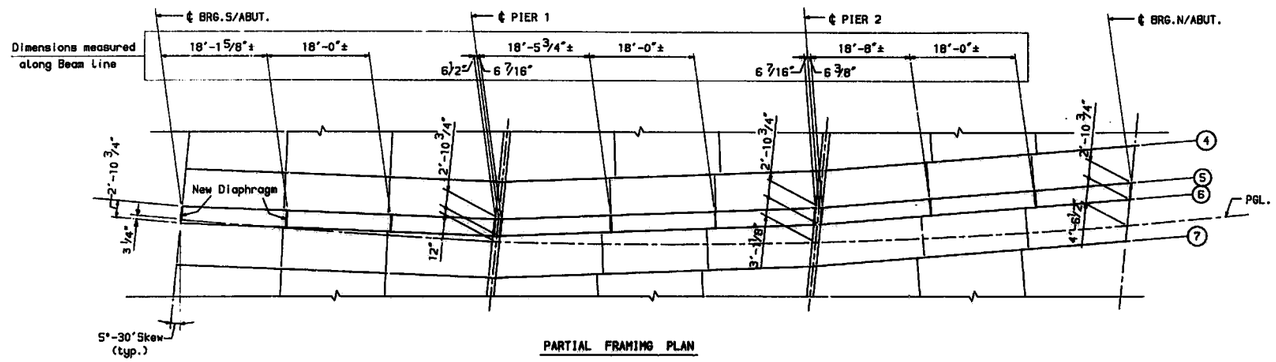
SCALE: NONE
DATE :
DRAWN BY: G.S.
CHECKED BY: J.A.W.

D C B A 0 A B C D
TAMERAN

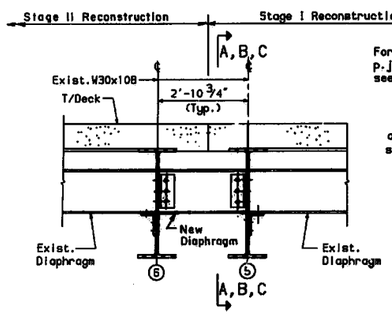
SHEET NO. 12
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI	a	WILL	157	127
FED.ROAD DIST.NO.	ILLINOIS	PROJECT-		

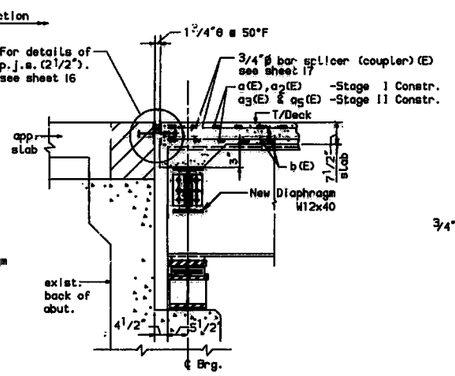
a 99-4WRS, 99-4B-Y(89)



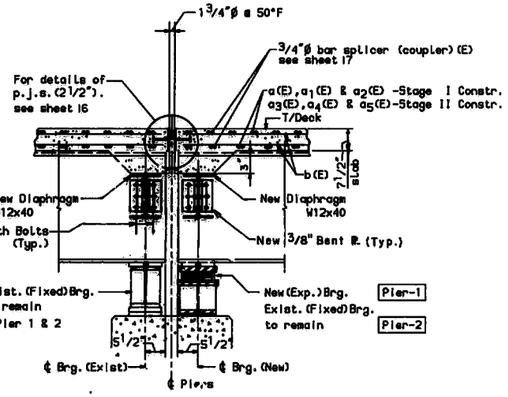
PARTIAL FRAMING PLAN



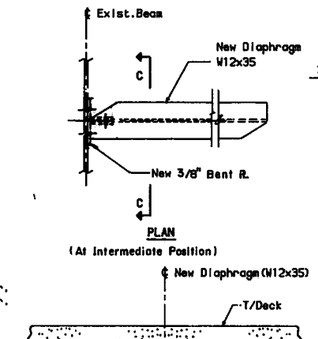
TYPICAL DIAPHRAGM DETAIL
(Looking South)



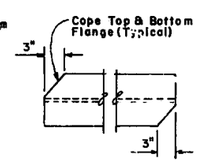
SECTION A-A
(At Abutments)



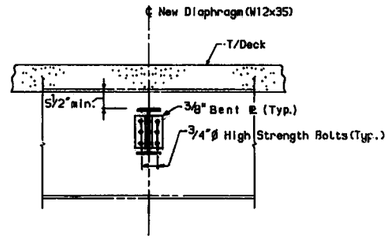
SECTION B-B
(At Pier-1)
(Pier-2 similar U.N.O)



PLAN
(At Intermediate Position)



COPING DETAIL



SECTION C-C
(At Intermediate positions)

Notes:

ALL dimensions to be verified in field.

ALL contact surfaces of joints for the new diaphragms shall be free of paint or lacquer.

Hardended washers shall be required over all 15/16" ø holes.

No flame cutting of the beam web will be allowed. Only drilling will be allowed for bolt holes.

STAGE I

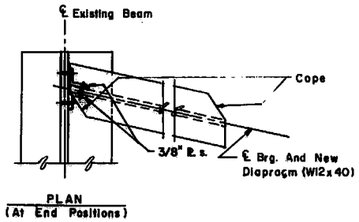
After removal of existing concrete deck, attach new diaphragms to existing beams using 3/8" bent plates. Attach only to beam line ⑤. Do not attach to or drill holes in webs of beam line ⑥.

STAGE II

Prior to the removal of the concrete deck drill holes in existing beam webs and attach new diaphragms using 3/8" bent plates. Local concrete removal at the new diaphragms may be necessary to facilitate construction. Check all bolts for proper tightness and then proceed with deck removal and Stage II Reconstruction.

INTERIOR GIRDER MOMENT TABLE		W30x116 .5 SPAN	W30x108 .5 SPAN
Is	(in⁴)	6570	6059
Ic	(in⁴)	20125	18891
Ss	(in³)	516	486
Sc	(in³)	752	713
n NC	(k/i)	0.914	0.811
MD	(ft)	333	296
fb-non-comp.	(ksi)	7.74	7.31
SQ	(k/i)	0.334	0.309
MS.B.	(ft)	122	113
ML	(ft)	509	445
Mime	(ft)	143	125
MTOTAL	(ft)	774	683
fb-comp.	(ksi)	12.34	11.50
fb TOTAL	(ksi)	20.08	18.81
VR	(k)	55.5	48.5

INTERIOR GIRDER REACTION TABLE		W30x117	W30x108
RD	(k)	33.7	21.9
RL	(k)	43.3	37.9
Imp	(k)	12.2	10.6
RTOTAL	(k)	89.2	70.4



PLAN
(At End Positions)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
FURNISHING AND ERECTING STRUCTURAL STEEL	LBS	16,460

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING DETAILS
S.CHICAGO ST.OVER HICKORY CREEK
F.A.I.-80
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA.12+00.00
SN.099-0083

SCALE: NONE
DATE:
DRAWN BY: X.J.
CHECKED BY: J.A.W.

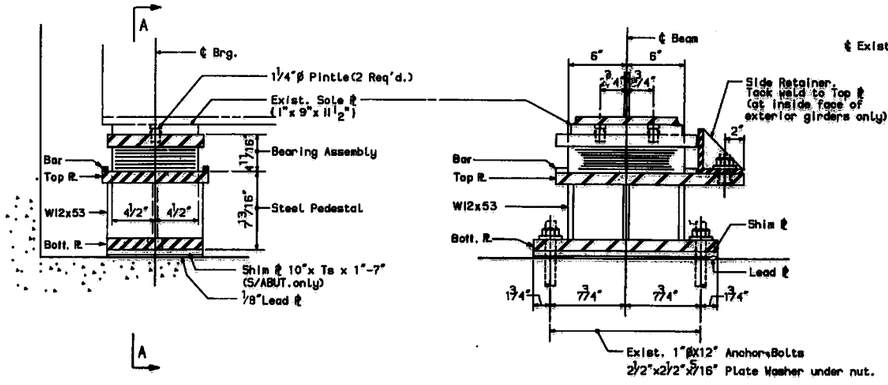
FRM-PLOT

D C B A 0 A B C D
TAMERAN

SHEET NO. 13
20 SHEETS

SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	B	WILL	167	128

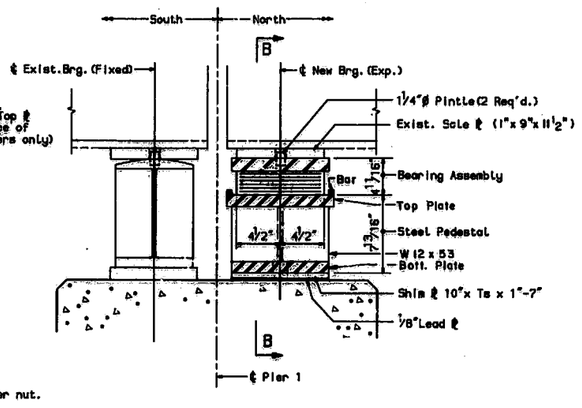
FED. ROAD DIST. NO. | ILLINOIS PROJECT-



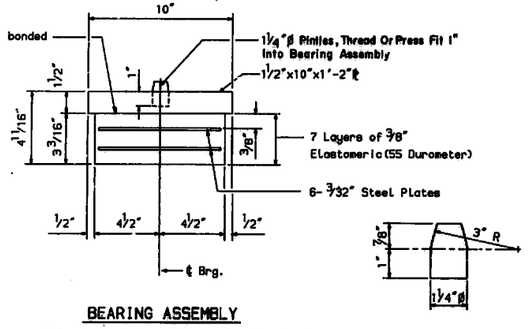
ELEVATION AT ABUTS.

TYPE I ELASTOMERIC EXP.BRG.

SECTION A-A
(SECTION B-B SIMILAR)



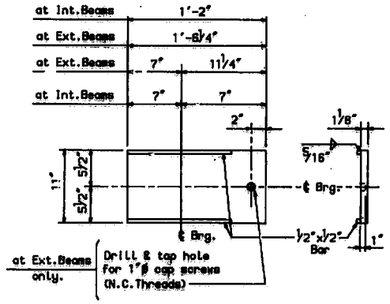
ELEVATION AT PIER 1
TYPE I ELASTOMERIC EXP.BRG.



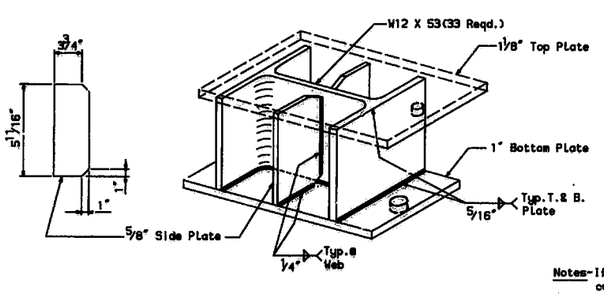
BEARING ASSEMBLY

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

PINTLE



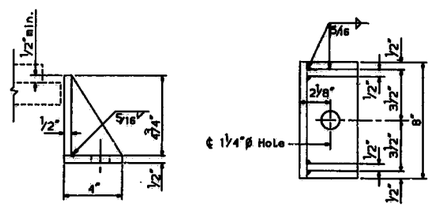
TOP PLATE
[6 Req'd. at Ext.Beams
27 Req'd. at Int.Beams]



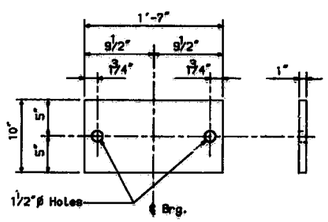
STEEL PEDESTAL DETAIL

Notes-If existing Anchor Bolts cannot be re-used, cut flush with seat and use plug weld.

All Steel for Bearing Assembly and Steel Pedestal to be (AASHTO M-183).



SIDE RETAINER
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates



BOTTOM PLATE
(33 Req'd.)

REQUIRED SHIM ℄ THICKNESSES (Ts)

S/ABUT. — GIRDER ⑨ - 5/8"
GIRDER ⑪ - ¼"

PIER 1 — GIRDERS ① THRU. ⑪ -⅜"

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	33

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
ELASTOMERIC BEARINGS
S.CHICAGO ST.OVER HICKORY CREEK
F.A.I.-80
SECTION 99-4WRS,99-4B-Y(89)
WILL COUNTY
STA.12+00.00
SN.099-0083

SCALE:NONE
DATE:

DRAWN BY: X.J.
CHECKED BY:J.A.W.

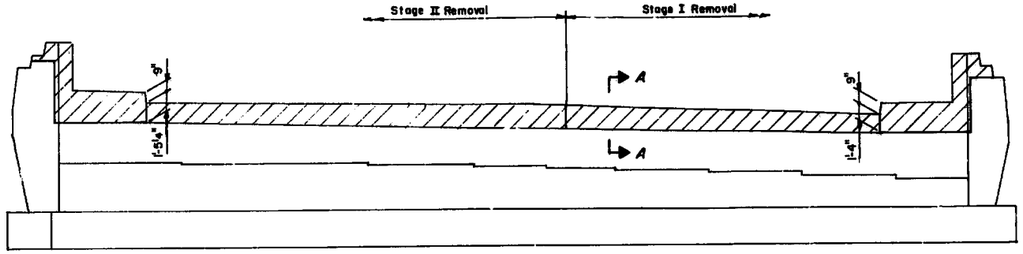
D C B A 0 A B C D

TAMERAN

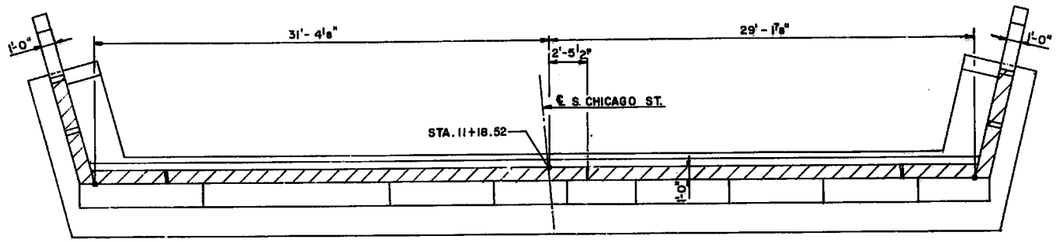
SHEET NO. 14
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	167	129
FED. ROAD DIST. NO.	ILLINOIS	PROJECT-		

* 99-4WRS, 99-4B-Y(89)

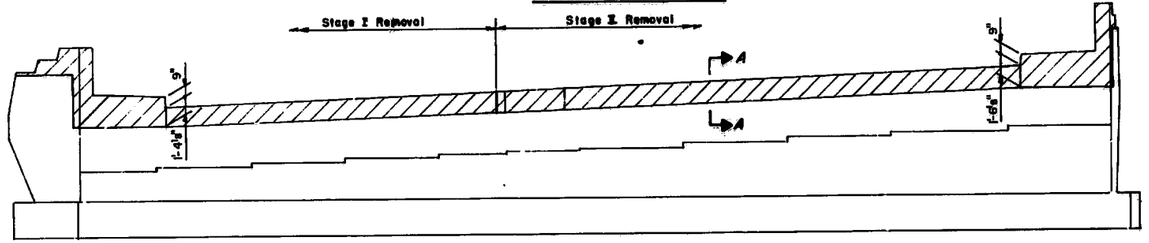


ELEVATION

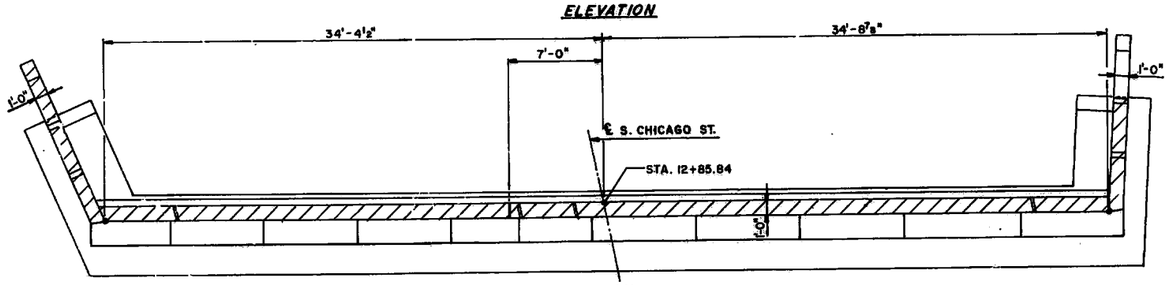


PLAN

EXISTING S. ABUTMENT



ELEVATION



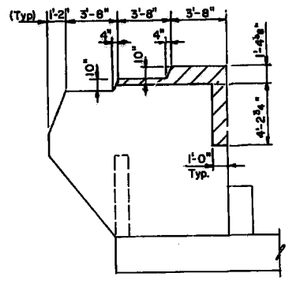
PLAN

EXISTING N. ABUTMENT

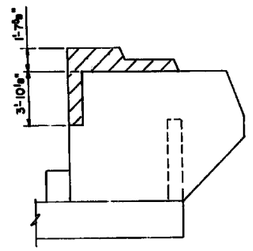
BILL OF MATERIALS

ITEM	UNIT	QTY
CONC. REMOVAL	CU. YDS.	9.6

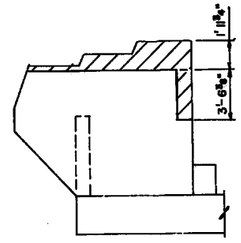
NOTE: HATCHED AREA TO BE REMOVED.



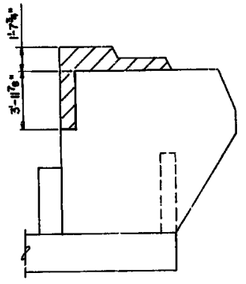
SOUTH EAST WING



SOUTH WEST WING



NORTH WEST WING



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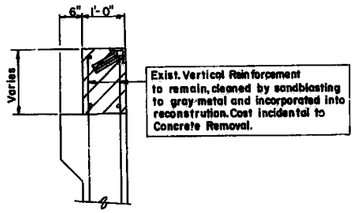


SECTION A-A

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENTS - CONCRETE REMOVAL
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

SCALE: NONE
DATE :

DRAWN BY: G.S.
CHECKED BY: JAW

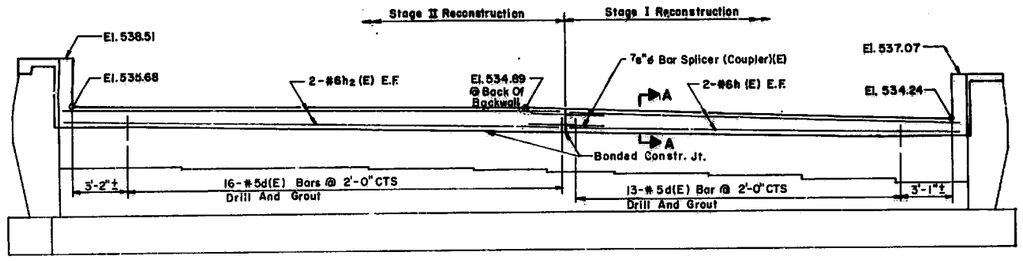
D C B A 0 A B C D

TAMERAN

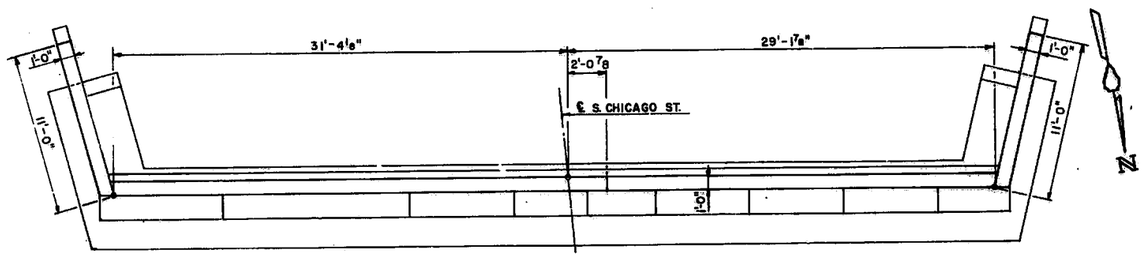
SHEET NO. 15
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	4	WILL	187	130
FED. ROAD DIST. NO.	ILLINOIS	PROJECT-		

#99-4WRS, 99-48-Y(89)

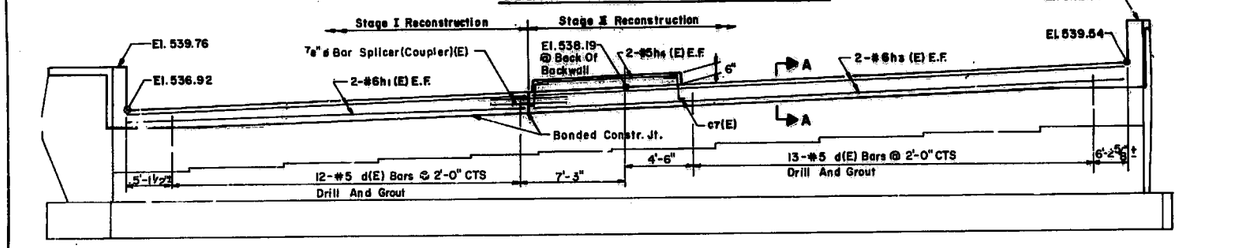


ELEVATION

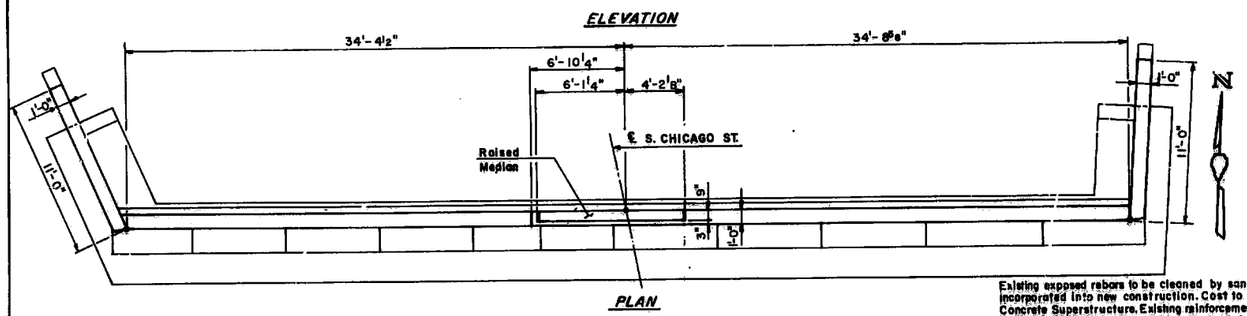


PLAN

SOUTH ABUTMENT MODIFICATIONS



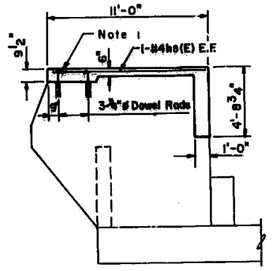
ELEVATION



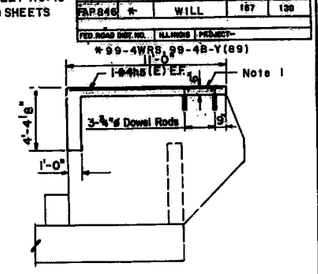
PLAN

NORTH ABUTMENT MODIFICATIONS

Existing exposed rebars to be cleaned by sandblasting to grey metal and incorporated into new construction. Cost to be incidental to Class X Concrete Superstructure. Existing reinforcement which is not embedded in the remaining concrete shall be removed and disposed.

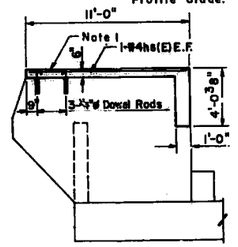


SOUTH EAST WING

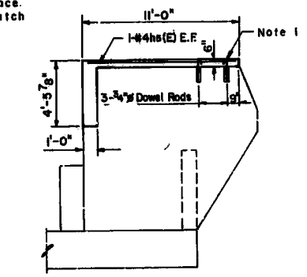


SOUTH WEST WING

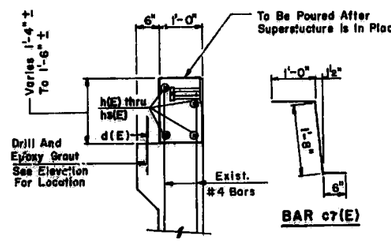
Note 1: End Post shall be poured after bridge parapet is in place. Form top surface to match Profile Grade.



NORTH WEST WING



NORTH EAST WING



SECTION A-A

BAR c7(E)

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	4	#6	27'-7"	
h1(E)	4	#6	28'-4"	
h2(E)	4	#6	34'-4"	
h3(E)	4	#6	42'-1"	
h4(E)	2	#5	9'-9"	
h8(E)	8	#4	10'-8"	
c7(E)	4	#5	3'-2"	
d(E)	54	#5	2'-0"	

ITEM	UNIT	QTY.
REINF BARS (EPOXY COATED)	LBS.	1000
CLASS X CONC.	CU YDS.	8.9

Note: Drilling And Grouting Of Dowel Rods And Bars, And Dowel Rods Shall Be Incidental To Class X Concrete.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENTS-RECONSTRUCTION
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-48-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

SCALE: NONE
DATE :

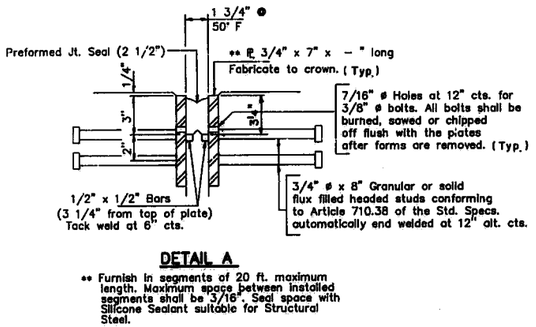
DRAWN BY: G.S.
CHECKED BY: J.A.W.

D C B A 0 A B C D
TAMERAN

SHEET NO. 16
20 SHEETS

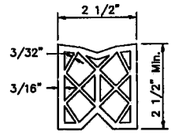
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	187	*31
FEDERAL DIST.NO.	ILLINOIS	PROJECT-		

* 99-4WRS 99-42-Y(89)

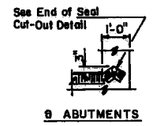


DETAIL A

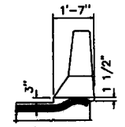
** Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.



PREFORMED JOINT SEAL (2 1/2")

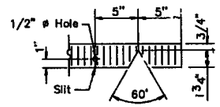


ø ABUTMENTS



ø PIERS

END TREATMENT



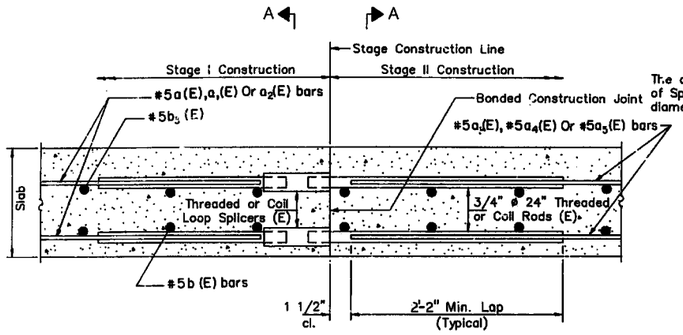
SEAL CUT-OUT

ILLINOIS DEPARTMENT OF TRANSPORTATION
P.J.S. DETAILS (2 1/2")
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS 99-42-Y(89)
WILL COUNTY
STA. 12+20.00
STA. 0+83
SCALE: NONE
DATE:
DRAWN BY: E.T.
CHECKED BY: J.A.W.

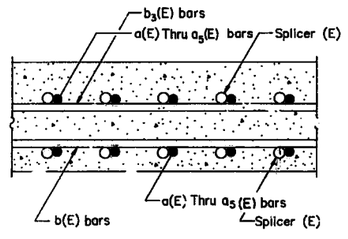
D C B A 0 A B C D
TAMERAN

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL	187	122
FED.ROAD DIST.NO.	ILLINOIS	PROJECT-		

* 99-4WRS, 99-4B-Y(89)



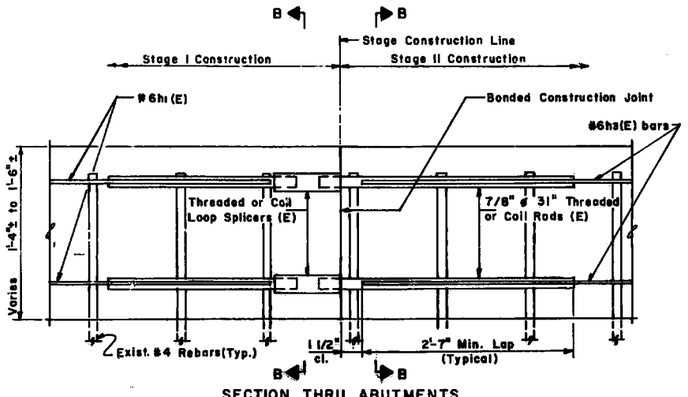
SECTION THRU SLAB



SECTION A-A

SPLICER DETAILS

Cost incidental to Reinforcement Bars (Epoxy Coated).

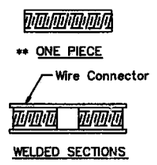


SECTION THRU ABUTMENTS
8 REQ'D

The diameter of this part of Splicer is the same as the diameter of the bar spliced.

The diameter of this part is equal or larger than the diameter of bar spliced.

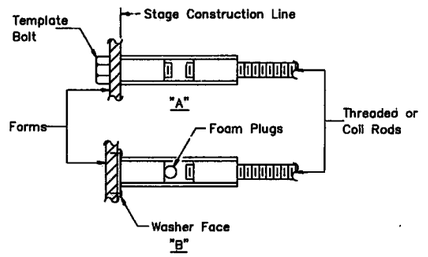
ROLLED THREAD DOWEL BAR



WELDED SECTIONS

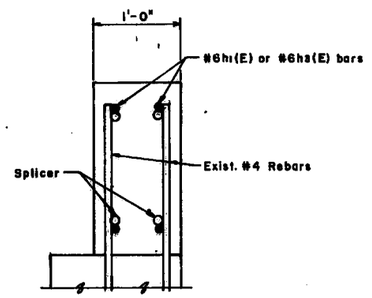
SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



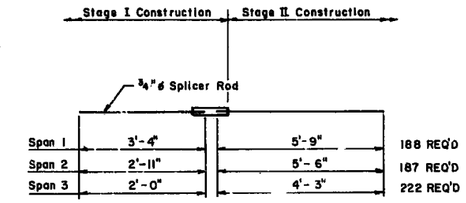
SECTION B-B
SPLICER DETAILS

Cost incidental to Reinforcement Bars (Epoxy Coated)

NOTES

1. Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
2. Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal to or greater than that of the lapped reinforcement bars.
3. All reinforcement bars shall be lapped and tied to the splicer rods.
4. Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.
5. Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:
   - ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
   - ② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

   Where f_y = Yield strength of lapped reinforcement bars in ksi.
   fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
   A_t = Tensile stress area of lapped reinforcement bars.
   * = 28 day concrete
6. Typical Splicer (Coupler) Assembly Sizes:
   - In Slabs: #5 bar lap with 3/4"ø Splicer (Coupler) x 2'-0" Splicer Rods — Minimum Capacity = 23.0 kips-tension; Minimum Pull-out Strength = 9.2 kips-tension
   - In Sub-Structure: #7 bar lap with 1"ø Splicer (Coupler) x 3'-5" Splicer Rods — Minimum Capacity = 45.1 kips-tension; Minimum Pull-out Strength = 18.0 kips-tension
   - In Sub-Structure: #6 bar lap with 7/8"ø Splicer (Coupler) x 2'-7" Splicer Rods — Minimum Capacity = 33.1 kips-tension; Minimum Pull-out Strength = 13.2 kips-tension



SPLICER (COUPLER) ASSEMBLY

Cost of ¾"ø & ⅞"ø Splicer Rod shall be incidental to Reinforcement Bars (Epoxy Coated)

For Location see Deck Plan-Reinf. & Abutments-Reconstruction.

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083
SCALE: NONE
DATE:
DRAWN BY: E.T.
CHECKED BY: J.A.W.

BSD-1 6-1-89

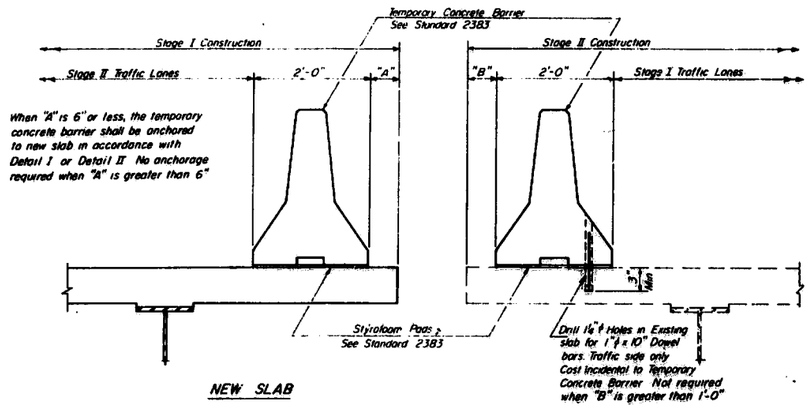
D C B A 0 A B C D

TAMERAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

					SHEET NO. 18
FAP 846	*	WILL			20 SHEETS

* 99-4WRS,99-4B-Y(89)



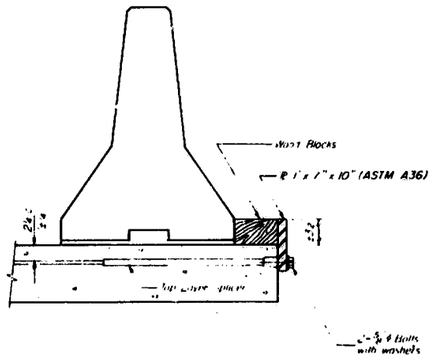
SECTIONS THRU SLAB

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x 10" steel PL to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each 10'-0" barrier panel.

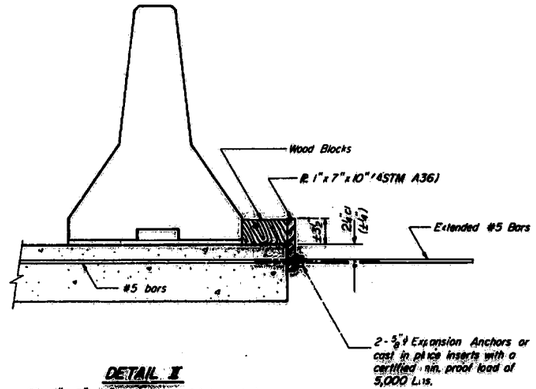
Detail II - With Extended Reinforcement Bars
Connect one (1) 1" x 7" x 10" steel PL to the concrete slab with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each 10'-0" barrier panel.

Cost of anchorage is incidental to Temporary Concrete Barrier.



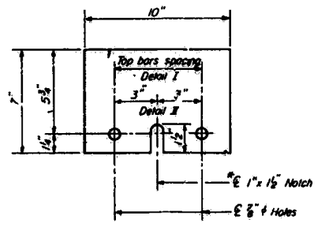
DETAIL I

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place



DETAIL II

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



PL 1" x 7" x 10"

* Required only with Detail II

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TEMPORARY CONCRETE BARRIER
S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0085

SCALE: NONE
DATE:

DRAWN BY: JGT
CHECK BY: J.A.W.

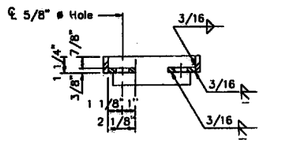
D C B A A B C D

TAMERAN

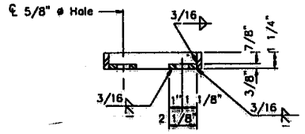
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP846	*	WILL	187	139
*RAILROAD DIST.NO.	ILLINOIS	PROJECT-No.:		

SHEET NO.19
20 SHEETS

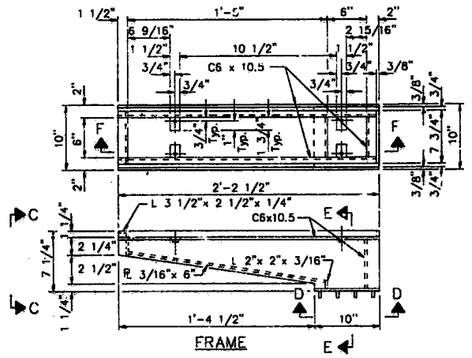
* 99-4WRS, 99-4B-Y (89)



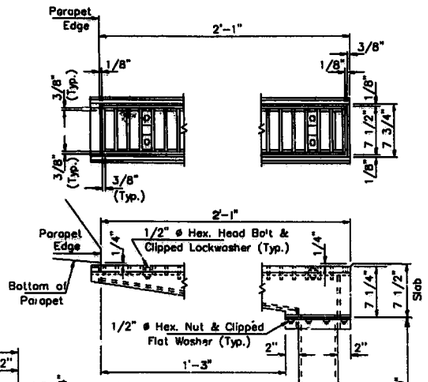
SECTION A-A



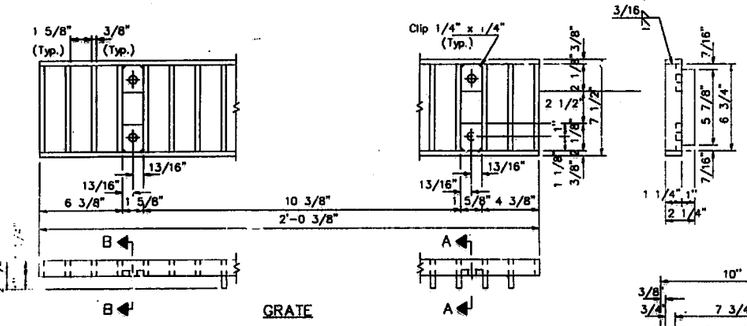
SECTION B-B



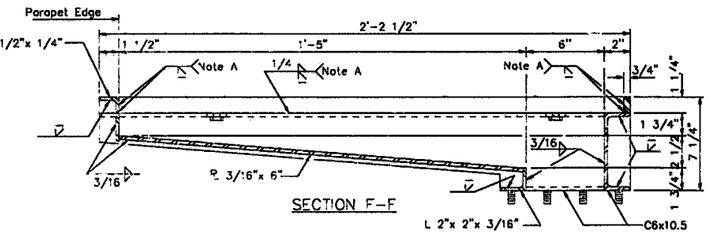
FRAME



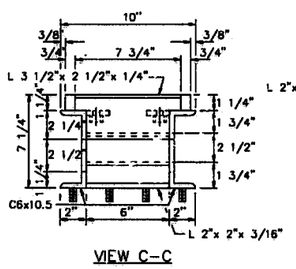
DRAINAGE SCUPPER



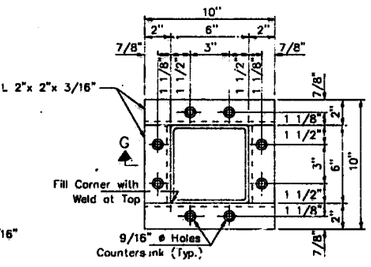
GRATE



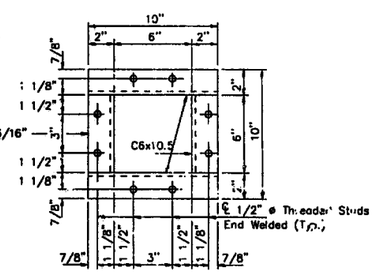
SECTION F-F



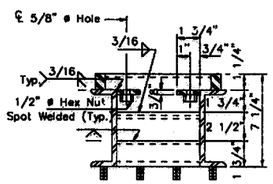
VIEW C-C



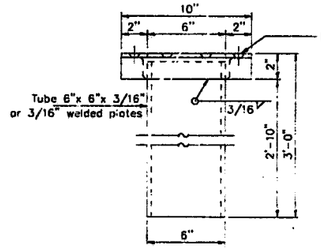
Note A:
Surface of welds shall be recessed 1/16" Max. or placed flush with inside face of bars to provide clearance for Grate.



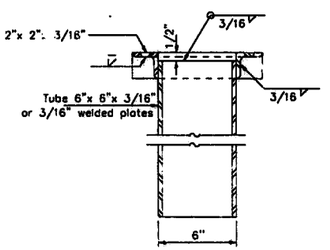
VIEW D-D



SECTION E-E



DOWNSPOUT



SECTION G-G

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper Special	Each	15

Notes:
Hollow structural steel tubing shall conform to the requirements of ASTM designation A500 Grade B, or A501 Structural Steel Tubing.
All other shapes, plates and bars shall conform to the requirements of AASHTO M183.
Bolts, studs, washers and nuts shall conform to the requirements of ASTM A307.
The Grate, Frame and Downspout shall be galvanized after shop fabrication in accordance with AASHTO M111 & ASTM A385.
All bolts, washers and nuts shall be galvanized in accordance with AASHTO M232.
Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper will be paid for at the unit bid price for "DRAINAGE SCUPPERS SPECIAL."

(W.T. to inside of exterior stringer flange shall not be >3'-11")

ILLINOIS DEPARTMENT OF TRANSPORTATION
STEEL DRAINAGE SCUPPER
S.CHICAGO ST.OVER HICKORY CREEK
F.A.P. 845
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

SCALE: NONE
DATE:
DRAWN BY: E.T.
CHECKED BY: D.M.

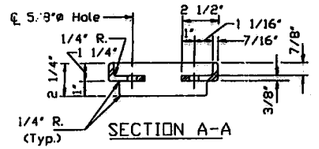
SCUPPER

D C B A 0 A B C D

TAMERAN

STATE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 846	*	WILL		
FEDERAL DIST. NO.	ILLINOIS	PROJECT-		

* 99-4WRS, 99-4B-Y (89)



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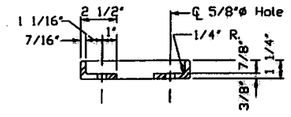

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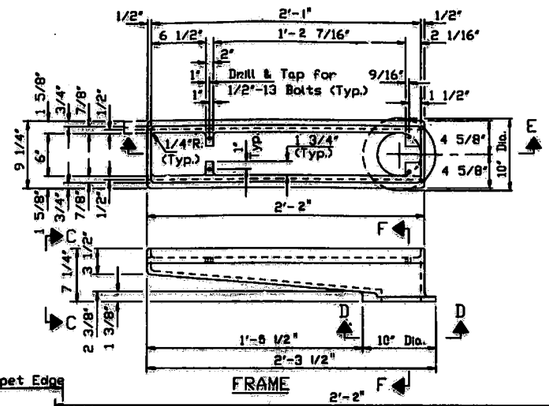
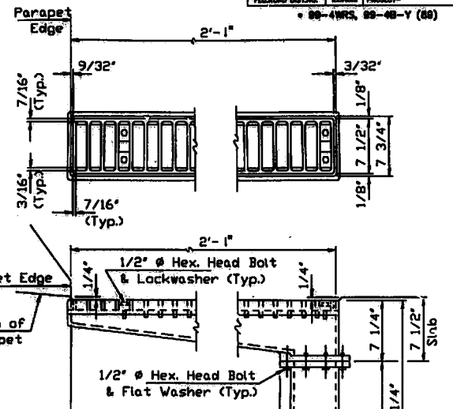
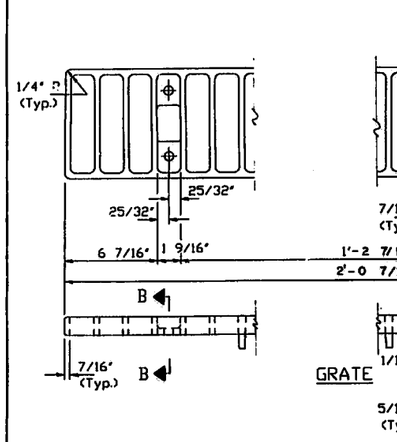
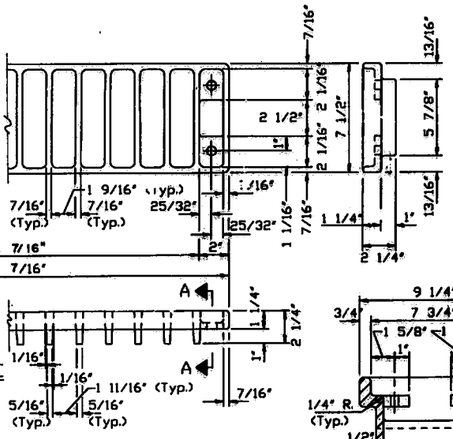


FRAME

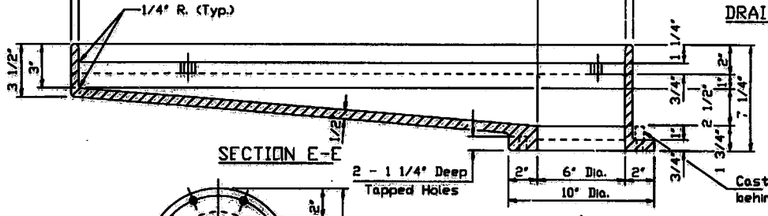


DRAINAGE SCUPPER





GRATE



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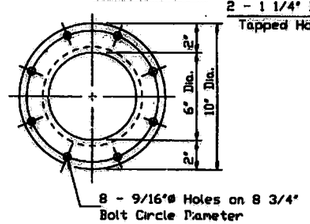
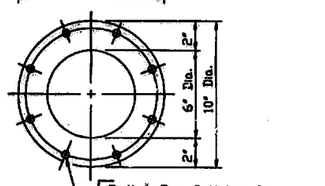
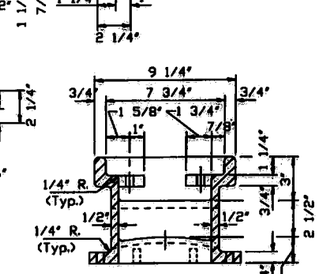
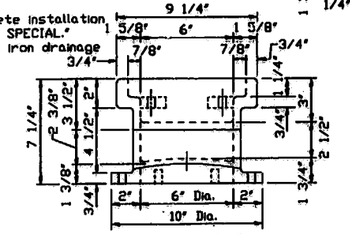




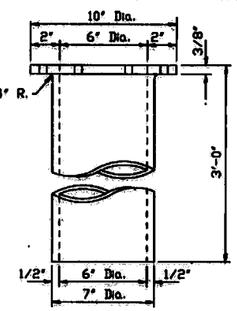
VIEW D-D



SECTION F-F



VIEW C-C



DOWNSPOUT

Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 30.

Bolts and washers shall conform to the requirements of ASTM A307.

All bolts and washers shall be galvanized in accordance with AASHTO M232.

As an alternate bolts and washers may be stainless steel conforming to the requirements of ASTM A193, Type 304.

Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper will be paid for at the unit bid price for "DRAINAGE SCUPPERS SPECIAL."

The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.

DS-4 12-1-83

ILLINOIS DEPARTMENT OF TRANSPORTATION
ALTERNATE - CAST IRON
DRAINAGE SCUPPER
S.CHICAGO ST.OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083
SCALE: NONE
DATE:
DRAWN BY: J.A.W.
CHECKED BY: A.J.M.

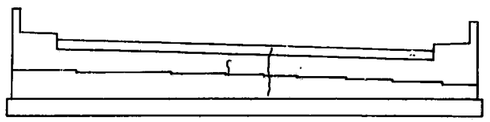
D C B A 0 A B C D

TAMERAN

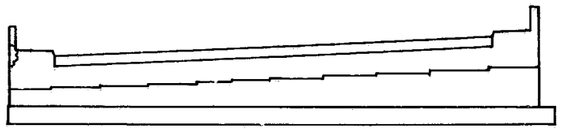
SHEET NO.20
20 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	*	WILL	187	186
FED. ROAD PROJ. NO.	ILLINOIS	PROJECT-		

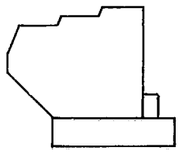
*99 4WRS, 99-4B-Y(89)



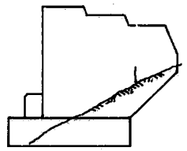
SOUTH ABUTMENT



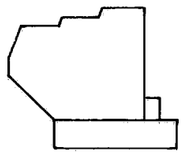
NORTH ABUTMENT



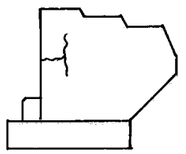
S.E. WING



S.W. WING



N.W. WING

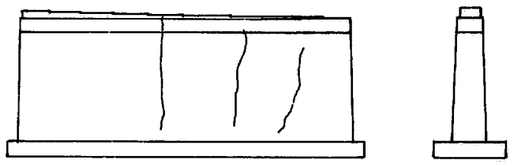


N.E. WING

ITEM	UNIT	QUANTITY
EPOXY CRACK SEALING	LI. FT.	270
EPOXY MORTAR REPAIR	CU. FT.	4

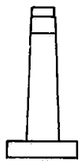
NOTE

REPAIRS SHOWN ARE BASED ON THE 1985 UPDATE TO THE 1980 BRIDGE CONDITION REPORT PREPARED BY THE STATE. ACTUAL AREAS TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION!



NORTH SIDE

EAST END



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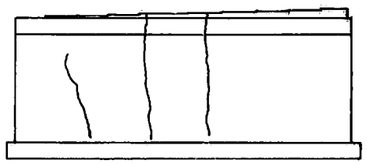
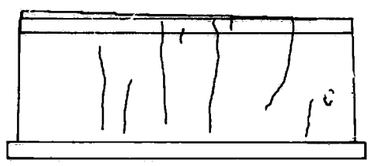
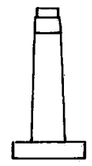


SOUTH SIDE

PIER 1



NORTH SIDE



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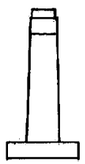

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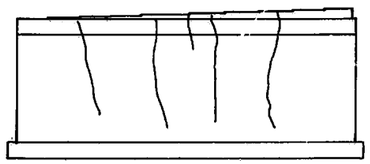


SOUTH SIDE

PIER 2

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STRUCTURAL REPAIRS

S. CHICAGO ST. OVER HICKORY CREEK
F.A.P. 846
SECTION 99-4WRS, 99-4B-Y(89)
WILL COUNTY
STA. 12+00.00
SN 099-0083

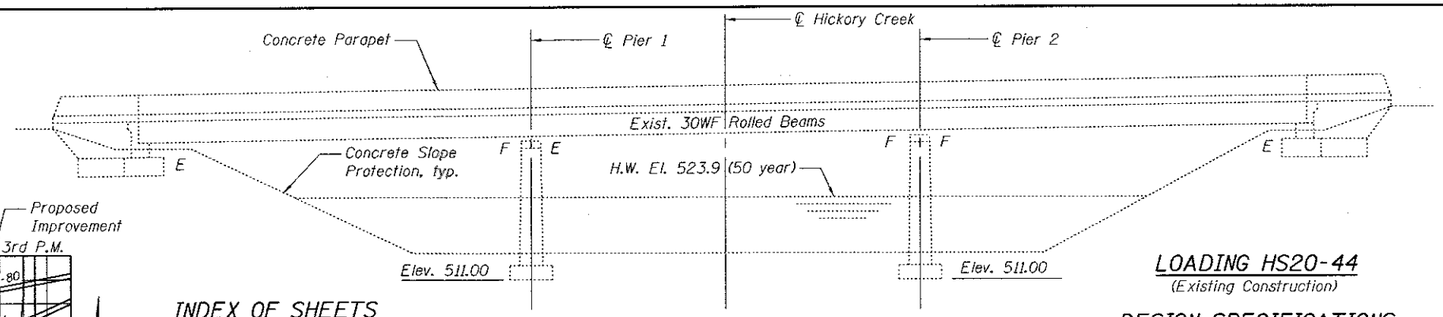
SCALE: NONE
DATE :

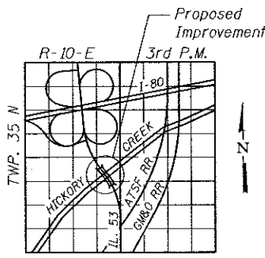
DRAWN BY: G.S.
CHECKED BY:

D C B A 0 A B C D

TAMERAN

$DATE$
$TIME$
$FILE$





LOCATION SKETCH

INDEX OF SHEETS

ELEVATION

LICENSED STRUCTURAL ENGINEER — STEPHEN E. ALSBURY 081-5261 — STATE OF ILLINOIS

I hereby certify that these plans were prepared by me or under my direct personal supervision and that I am a duly licensed structural engineer under the laws of the State of Illinois.

DATE: 08-13-2014

Stephen E. Alsbury S.E. #5261
LICENSE EXP. 11-30-2014
Applies to sheets 8-19 of 26

LOADING HS20-44

(Existing Construction)

DESIGN SPECIFICATIONS

2002 Standard Specifications for Highway Bridges 17th Edition

DESIGN STRESSES

FIELD UNITS

(NEW CONSTRUCTION)

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

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars designated (E) shall be epoxy coated.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.

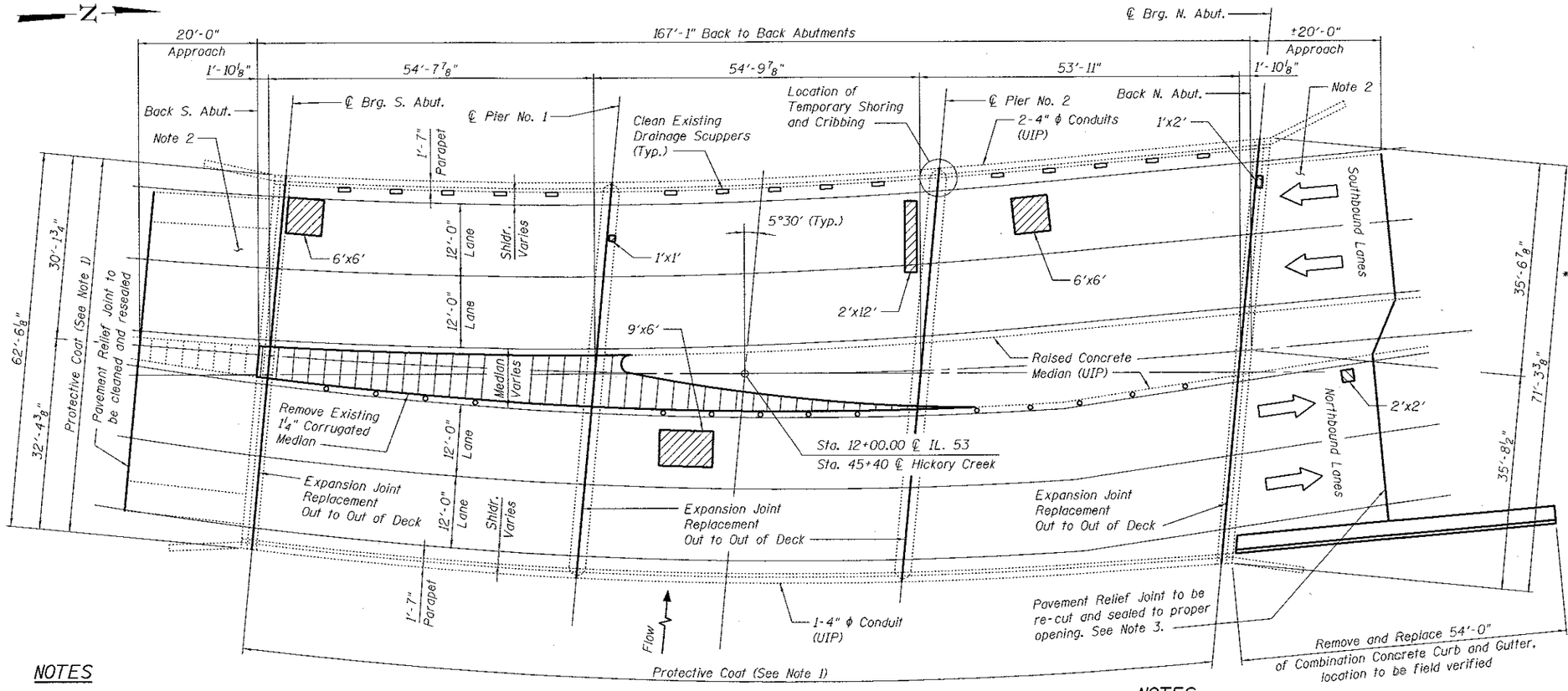
Cost of removal and disposal of existing abandoned conduits at abutments included with Concrete Removal.

All existing conduits shall remain and be protected as required (unless otherwise noted).

LEGEND

Partial Depth Bridge Deck Repair. (For Information Only)

Partial Depth Approach Slab Repair



PLAN

NOTES

1. Limits of Protective Coat are: tops and roadway faces of parapets, raised median and corrugated median.
2. Overlay North and South Approaches with HMA to proposed elevation of Bridge Deck Overlay.
3. Cost of re-cutting relief joint is included with Clean and Reseal Relief Joint.

* See sheet 19A of 26 for details.
** See sheets 12 and 19A of 26 for details.

NOTES

The limits and locations of the repairs shown are taken from the most recent survey performed by the District on August 31, 2010.

UIP = Use in Place

TOTAL BILL OF MATERIAL

	Item	Unit	Total
	Bituminous Materials (Tack Coat)	Pound	167
	Portland Cement Concrete Surface Removal - Butt Joint	Sq. Yd.	107
	Hot-Mix Asphalt Surface Course, Mix "D", N70	Ton	25
	Protective Coat	Sq. Yd.	118
	Combination Curb and Gutter Removal	Foot	54
	Median Removal Partial Depth	Sq. Ft.	900
	Concrete Removal	Cu. Yd.	33.0
	Concrete Structures	Cu. Yd.	0.5
	Concrete Superstructure	Cu. Yd.	37.9
	Bridge Deck Grooving	Sq. Yd.	910
**	Furnishing and Erecting Structural Steel	Pound	18245
	Reinforcement Bars, Epoxy Coated	Pound	5220
	Bar Splicers	Each	124
	Slope Wall Removal	Sq. Yd.	9
	Slope Wall 4"	Sq. Yd.	9
	Preformed Joint Strip Seal	Foot	265
	Combination Concrete Curb and Gutter, Type B-6.24 (Dowelled)	Foot	54
	Floor Drains to be Cleaned	Each	15
	Clean and Reseal Relief Joint	Foot	134
	Approach Slab Repair (Partial Depth)	Sq. Yd.	1
	Bridge Deck Latex Concrete Overlay 2½"	Sq. Yd.	1060
	Bridge Deck Scarification ¾"	Sq. Yd.	1060
	Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	850
	Structural Repair of Concrete (Depth Greater than 5 inches)	Sq. Ft.	18
	Temporary Shoring and Cribbing	Each	2
*	Structural Steel Removal	Pound	7820
*	Structural Steel Repair	Pound	300
	Jack and Remove Existing Bearings	Each	31
	Anchor Bolts 1"ϕ	Each	66

1

GENERAL PLAN AND ELEVATION
FAP-846 IL. 53 OVER HICKORY CREEK
SEC. 99-4WRS & 99-4B-Y(89)
WILL COUNTY
STATION 12+00.00
STRUCTURE NO. 099-0083

ABNA
DESIGN FIRM REG. 184.002117
9901 S. Western Ave.
Chicago, IL 60643
Ph. 773-881-4788
F: 773.239.3728

DESIGNED	TBS	REVISED	8/10/2017 RPN
CHECKED	RJL	REVISED	-
DRAWN	SCS	REVISED	-
CHECKED	TBS	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

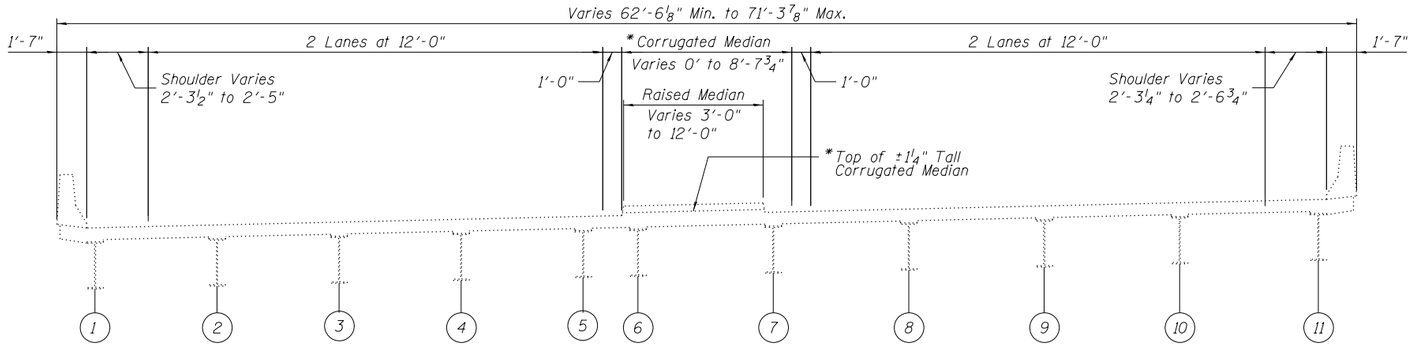
GENERAL PLAN AND ELEVATION

SHEET NO. 1 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	8
	STA. 01+000.000 TO STA.	CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

REV

$FILE$ $TIME$ $DATE$



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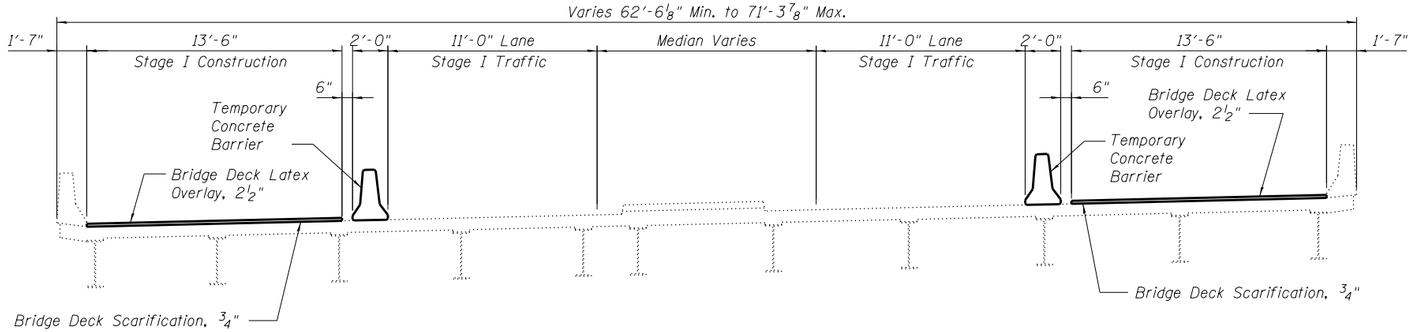
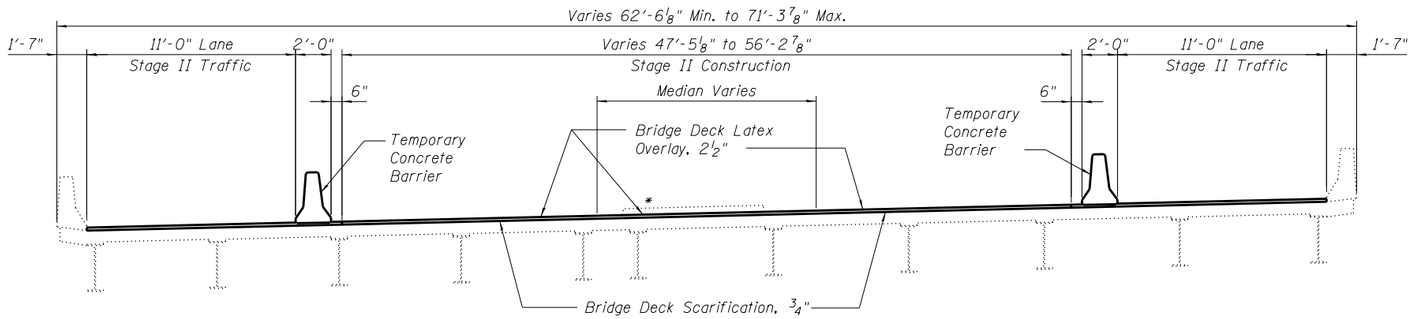


STAGE I



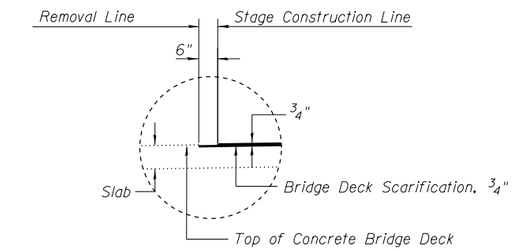
STAGE II

PROPOSED CONSTRUCTION STAGING

NOTE:

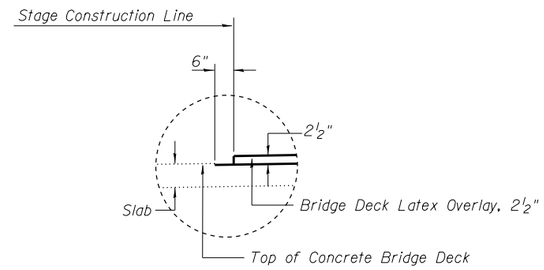
Temporary Concrete Barrier is paid for as Roadway Item.
See Standard 704001-06

*Corrugated Median to be removed and area scarified. New Concrete Overlay to be placed after scarification.



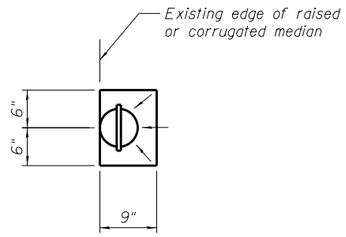
DETAIL A (Showing Removal)

(Looking North)



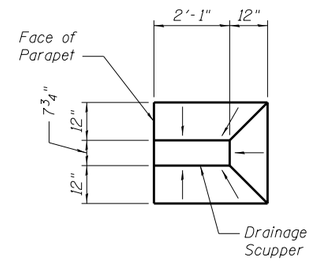
DETAIL B (Showing Proposed)

(Looking North)



OVERLAY TREATMENT AT FLOOR DRAIN

Taper overlay from 2 1/2" to 1" at edge of drain.



OVERLAY TREATMENT AT DRAINAGE SCUPPER

Taper overlay from 2 1/2" to 1" at edge of drain.

ABNA
DESIGN FIRM REG. 184.002117
9901 S. Western Ave.
Chicago, IL 60643
Ph. 773-881-4788
F: 773.239.3728

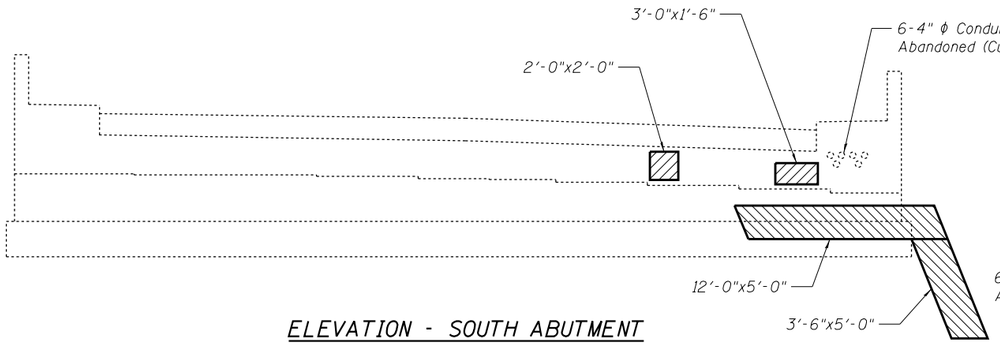
DESIGNED -	TBS	REVISED -	
CHECKED -	RJL	REVISED -	
DRAWN -	SCS	REVISED -	
CHECKED -	TBS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING

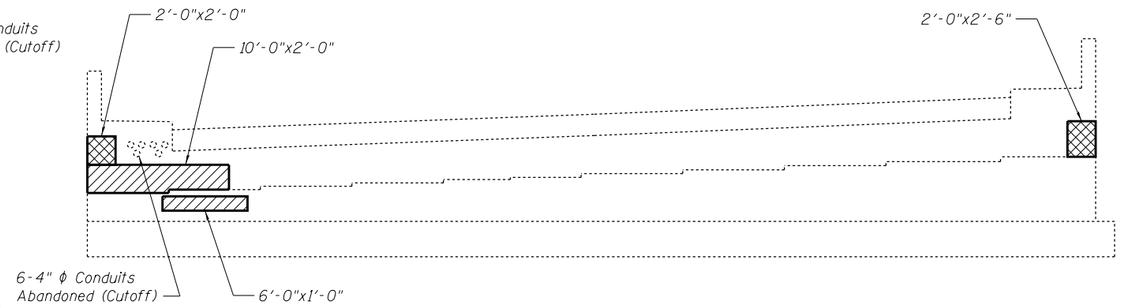
SHEET NO. 2 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	9
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



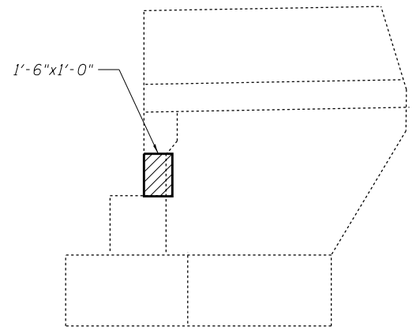
ELEVATION - SOUTH ABUTMENT

(Looking Back Station)



ELEVATION - NORTH ABUTMENT

(Looking Ahead Station)



ELEVATION - N.E. WINGWALL

NOTES

1. The contractor shall take sufficient precautions to prevent pollution of creeks or streams with construction materials.
2. The contractor shall avoid placing construction devices in creeks or streams. Placement of any such items shall be subject to approval by IDOT.
3. Slopewall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft. The cost of reinforcement shall be included with pay item for Slope Wall.
4. A minimum of 6" overlap between existing and new welded wire fabric must be provided.

LEGEND

Structural Repair of Concrete (Depth Equal to or less than 5 in.)

Structural Repair of Concrete (Depth Greater than 5 in.)

Slope Wall Repair 4"

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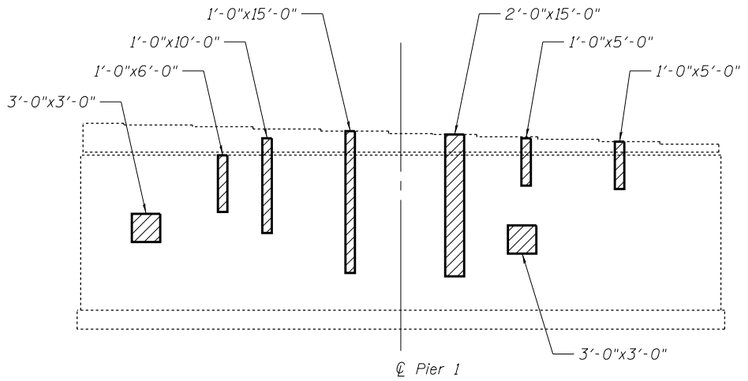
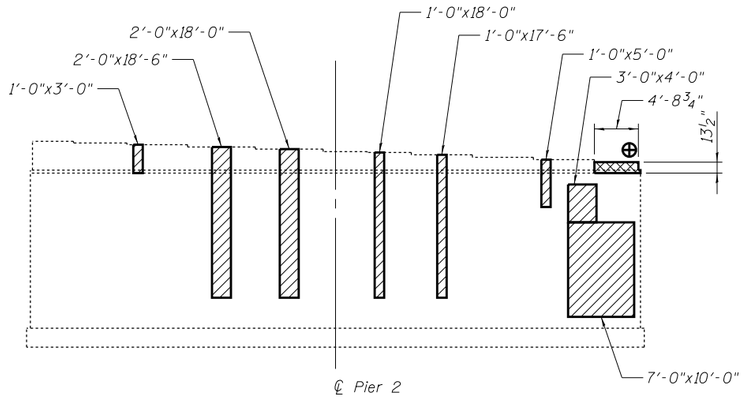
SUBSTRUCTURE REPAIR
SHEET 1 of 2
SHEET NO. 3 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	10
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



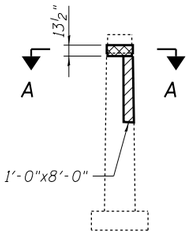
NORTH ELEVATION - PIER 1

(Looking Back Station)



NORTH ELEVATION - PIER 2

(Looking Back Station)



WEST END - PIER 2

LEGEND

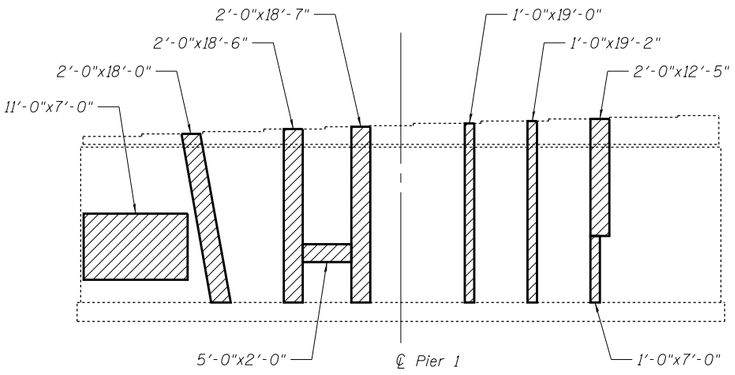
Structural Repair of Concrete (Depth Equal to or less than 5 in.)

Concrete Removal

REACTION TABLE (KIPS)

Location	DL	1/2(LL+I)
Span 2	34.9	38.8
Span 3	34.9	38.9

Note: Reaction Table provided for Temporary Shoring. Contractor shall provide shoring system designed to carry dead load plus 1/2 live load plus impact.

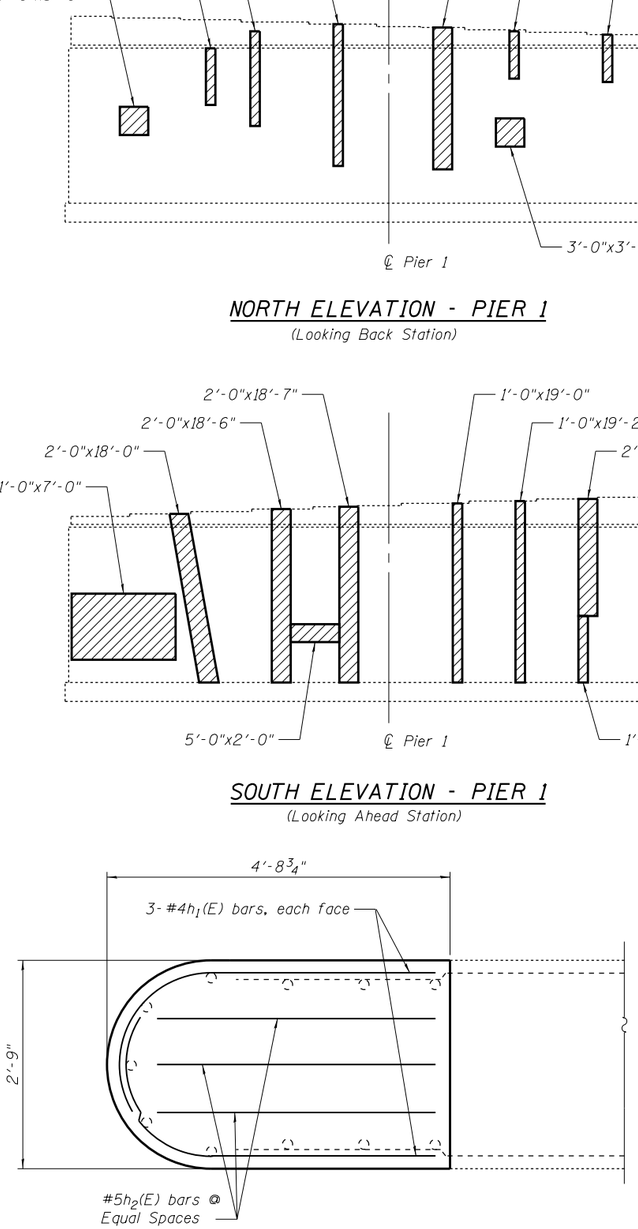


SOUTH ELEVATION - PIER 1

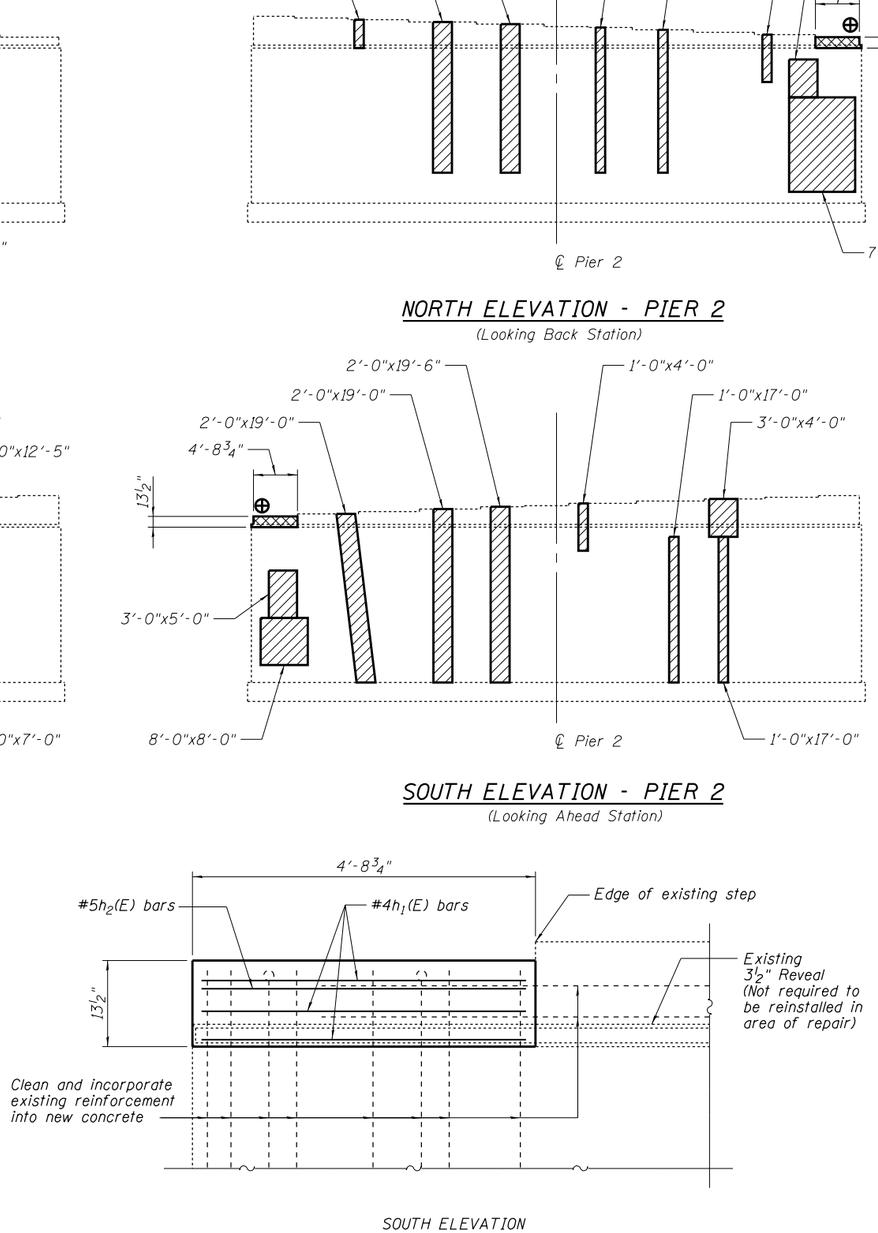
(Looking Ahead Station)

SOUTH ELEVATION - PIER 2

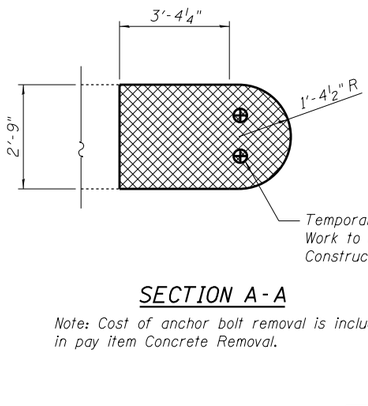
(Looking Ahead Station)



PLAN



SOUTH ELEVATION

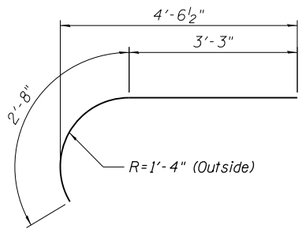


SECTION A-A

Note: Cost of anchor bolt removal is included in pay item Concrete Removal.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_1(E)	6	#4	5'-11"	⌒
h_2(E)	3	#5	3'-4"	—
Concrete Removal			Cu. Yd.	0.5
Concrete Structures			Cu. Yd.	0.5
Reinforcement Bars, Epoxy Coated			Pound	40



#4h1(E) bar

NOTES

1. The contractor shall take sufficient precautions to prevent pollution of creeks or streams with construction materials.
2. The contractor shall avoid placing construction devices in creeks or streams. Placement of any such items shall be subject to approval by IDOT.

WEST END - PIER 2 REPAIRS

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SUBSTRUCTURE REPAIR
SHEET 2 of 2
SHEET NO. 4 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	11
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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BEARING REPLACEMENT
AT PIER 2
SHEET NO. 5 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	12
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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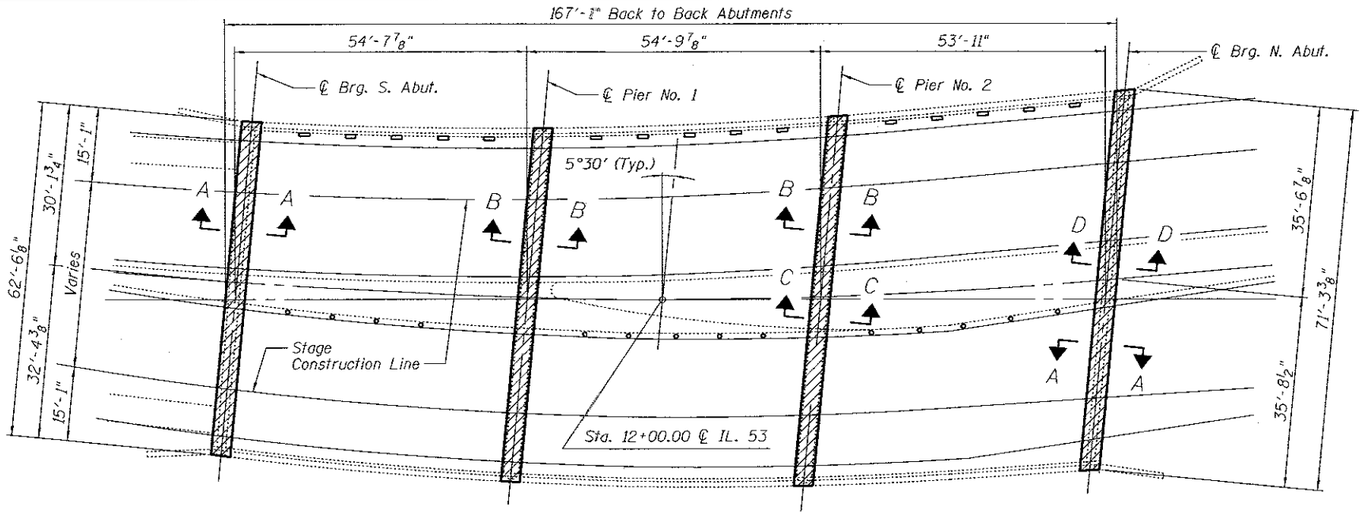
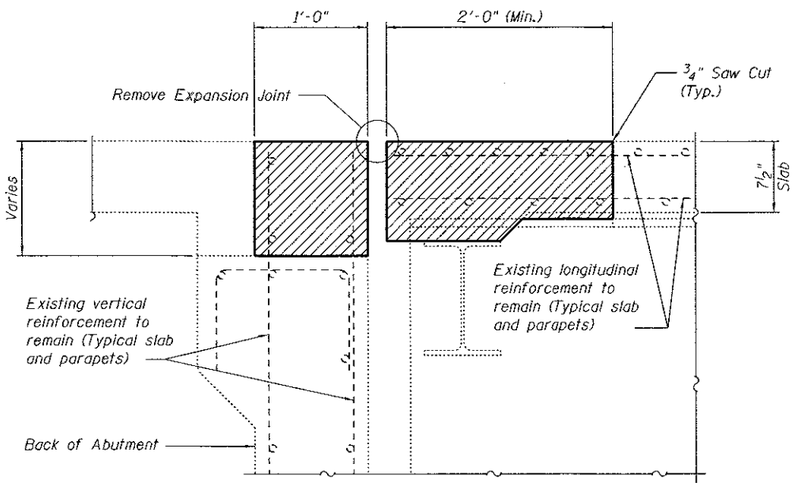
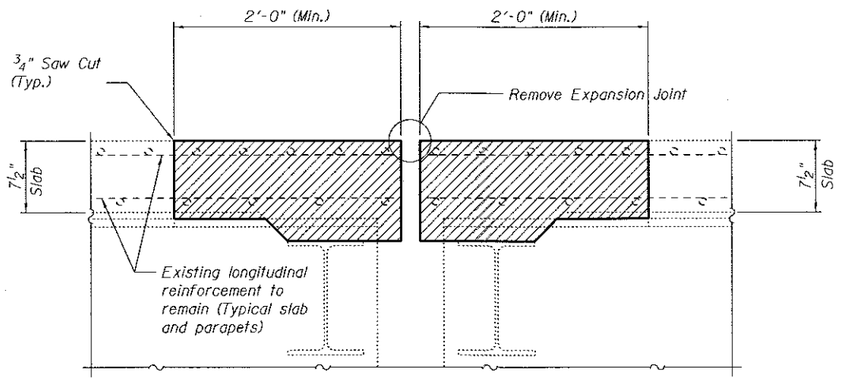
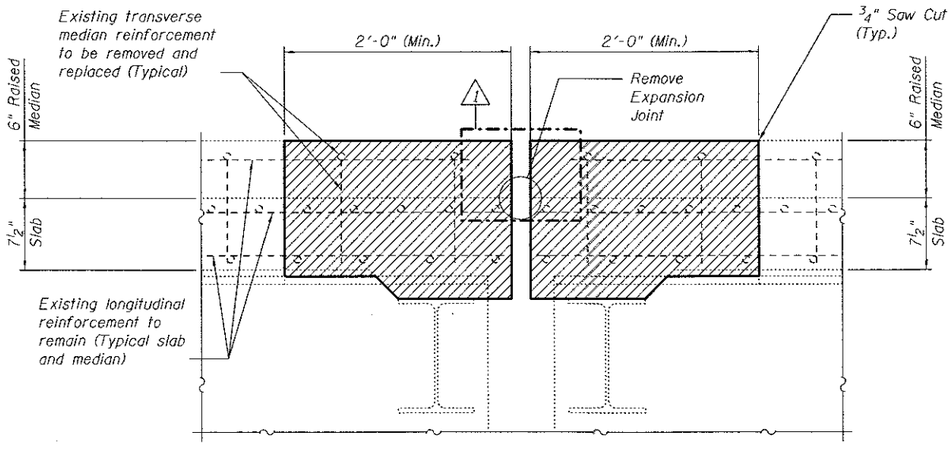


PLAN



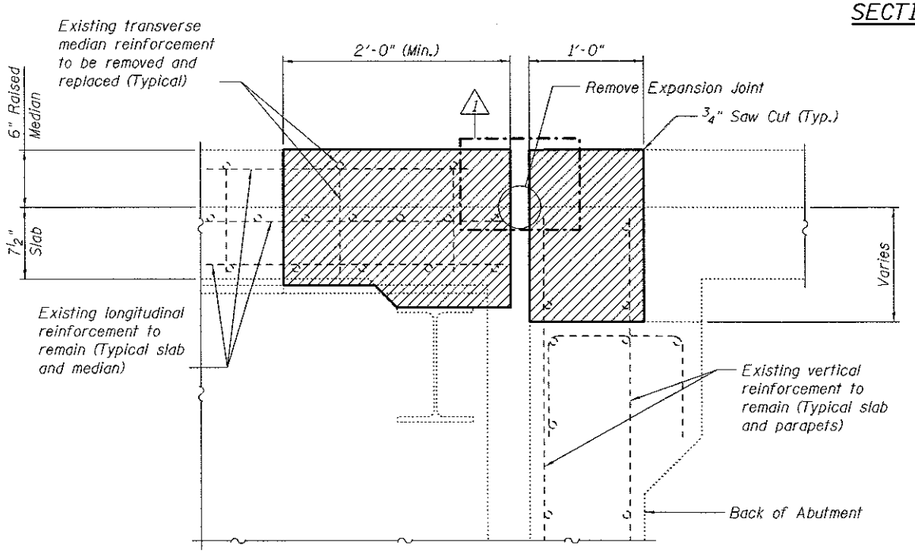


SECTION B-B



SECTION C-C

SECTION A-A



SECTION D-D

LEGEND

Concrete Removal

NOTES

Removal of the existing expansion joints will not be paid for separately but shall be included in the cost for Concrete Removal.

Hatched areas indicate concrete sections to be removed. Care shall be exercised by the contractor during and following concrete removal to ensure the existing reinforcement remaining in place is not damaged. All existing reinforcing to be incorporated into into new construction shall be blast-cleaned, straightened and properly positioned prior to concrete placement. Any reinforcement damaged during concrete removal shall be repaired or replaced using an approved Mechanical Bar Splicer System. Cost of removal shall be included with pay item for Concrete Removal. Cost of replacement shall be included with pay item for Concrete Superstructure.

Parapets and medians shall be removed and replaced within the limits of hatched areas shown. All longitudinal parapet and median reinforcement shall remain in place.

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EXPANSION JOINT REMOVAL

SHEET NO. 6 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	13
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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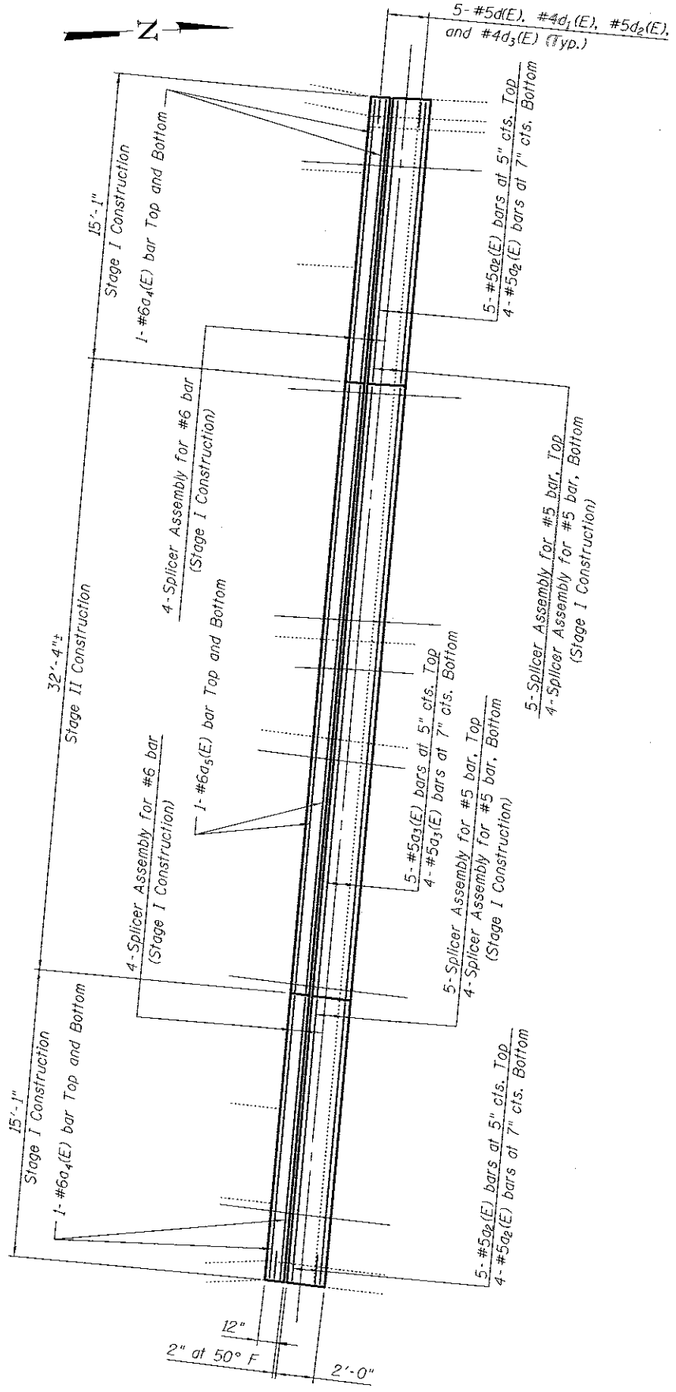
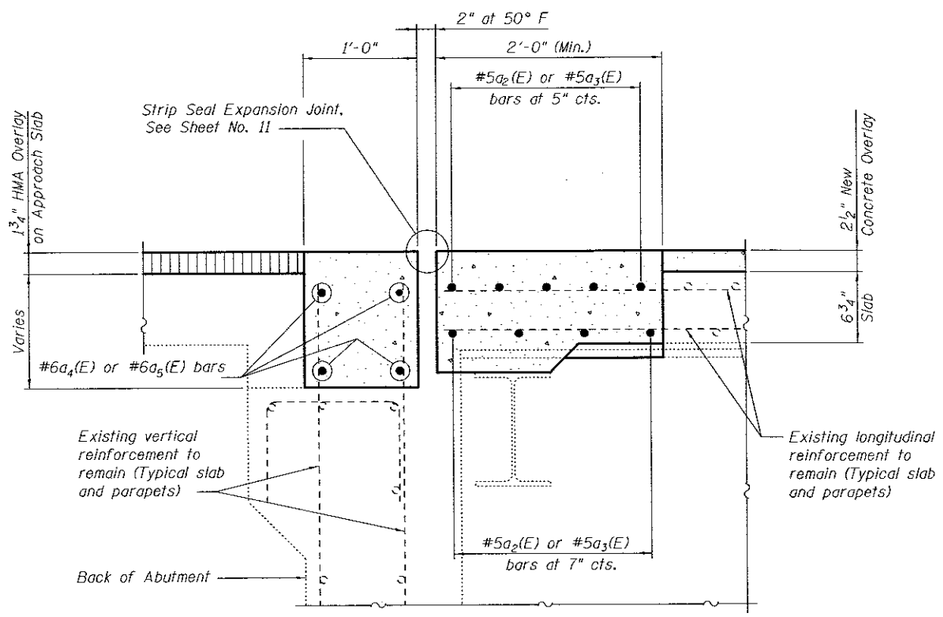
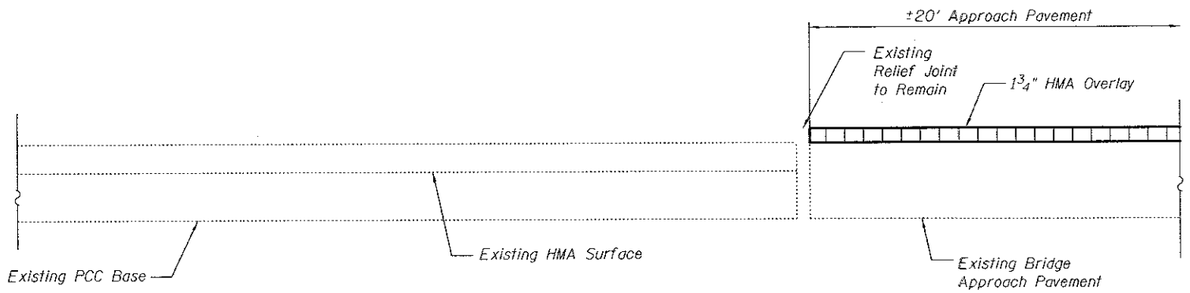


EXPANSION JOINT PLAN SOUTH ABUTMENT



TYPICAL SECTION AT EXPANSION JOINT



OVERLAY TREATMENT ON APPROACHES

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_2(E)$	18	#5	14'-10"	
$a_3(E)$	9	#5	32'-0"	
$a_4(E)$	8	#6	14'-10"	
$a_5(E)$	4	#6	32'-0"	
d(E)	10	#5	2'-7"	
$d_1(E)$	10	#4	3'-7"	
$d_2(E)$	10	#5	3'-0"	
$d_3(E)$	10	#4	3'-8"	
Concrete Removal			Cu. Yd.	7.3
Concrete Superstructure			Cu. Yd.	8.4
Reinforcement Bars, Epoxy Coated			Pound	1090

NOTES

For details of Strip Seal Expansion Joints, see Sheet 11.

Existing longitudinal parapet reinforcement shall remain in place. See Sheet 8 for Parapet Details.

See Sheet 12 for details of Bar Splicers.

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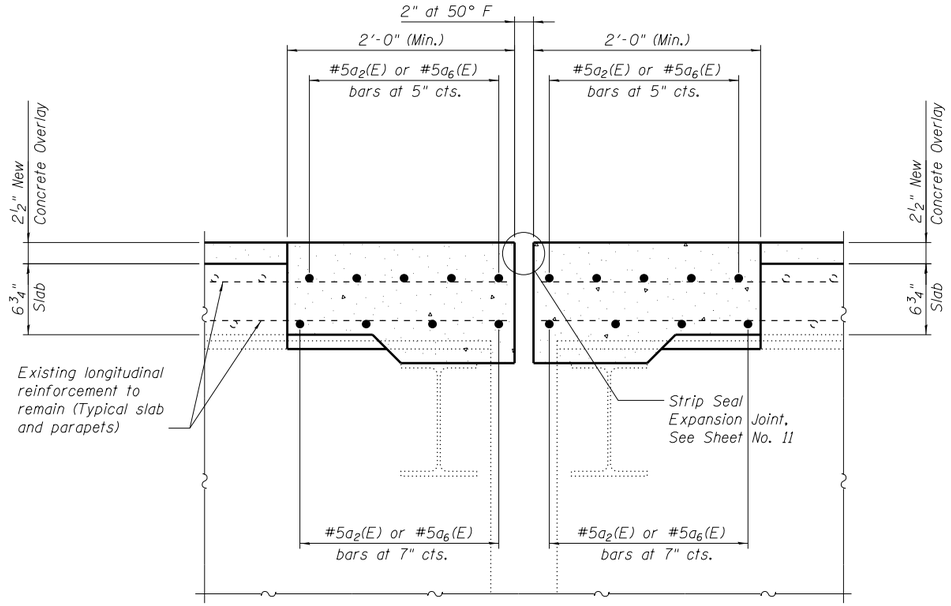
EXPANSION JOINT REPAIR

SHEET NO. 7 OF 12 SHEETS

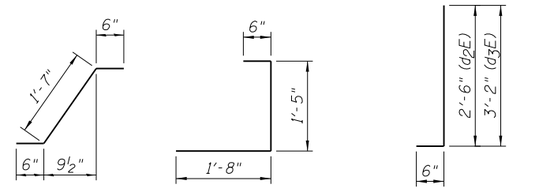
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	14
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

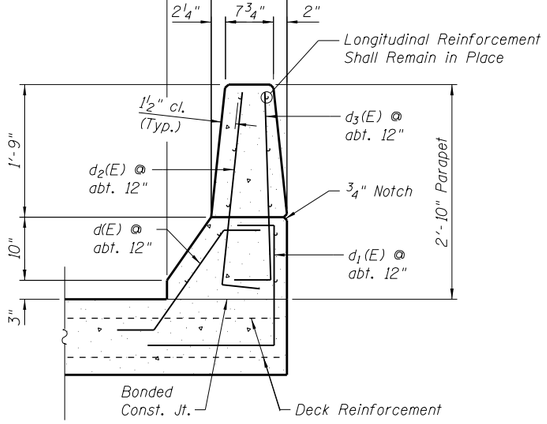
$FILE$ $TIME$ $DATE$

EXPANSION JOINT PLAN AT PIER 1



TYPICAL SECTION AT EXPANSION JOINT





TYPICAL SECTION THRU PARAPET
(Match Adjacent)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_2(E)$	36	#5	14'-10"	
$a_6(E)$	18	#5	35'-10"	
$d(E)$	12	#5	2'-7"	
$d_1(E)$	12	#4	3'-7"	
$d_2(E)$	12	#5	3'-0"	
$d_3(E)$	12	#4	3'-8"	
Concrete Removal			Cu. Yd.	7.6
Concrete Superstructure			Cu. Yd.	9.1
Reinforcement Bars, Epoxy Coated			Pound	1360

NOTES

For details of Strip Seal Expansion Joints. see Sheet 11.

Existing longitudinal parapet reinforcement shall remain in place.

See Sheet 12 for details of Bar Splicers.

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EXPANSION JOINT REPAIR

SHEET NO. 8 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	15
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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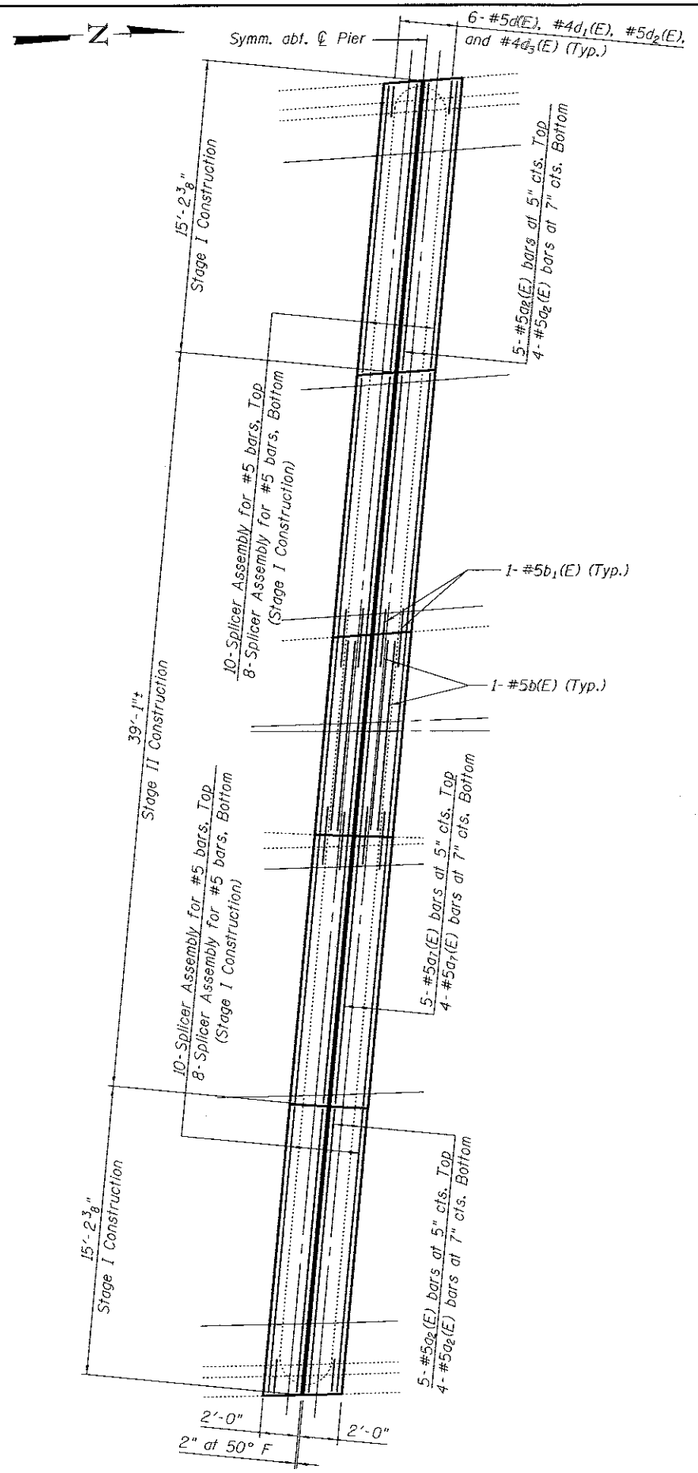
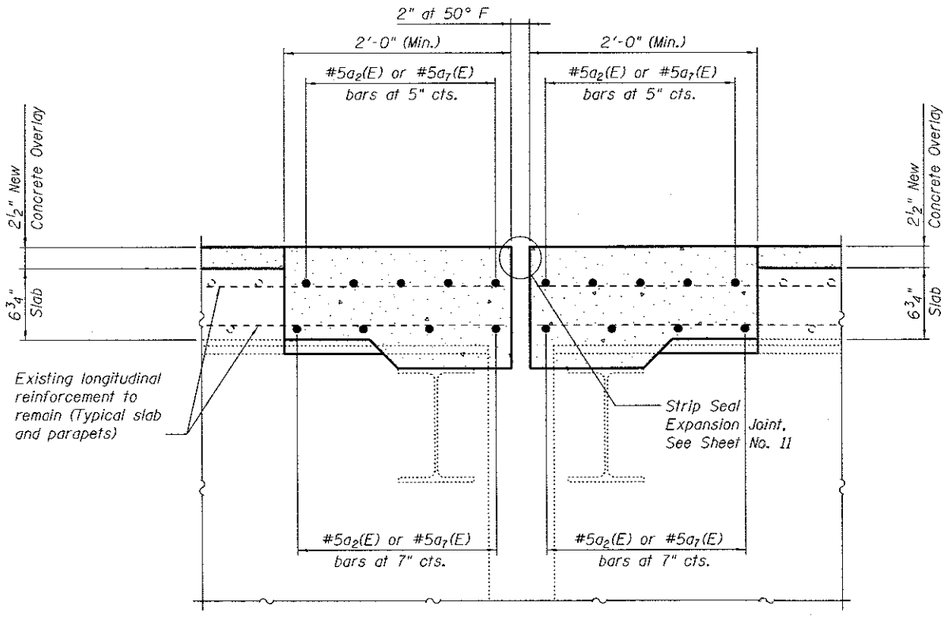
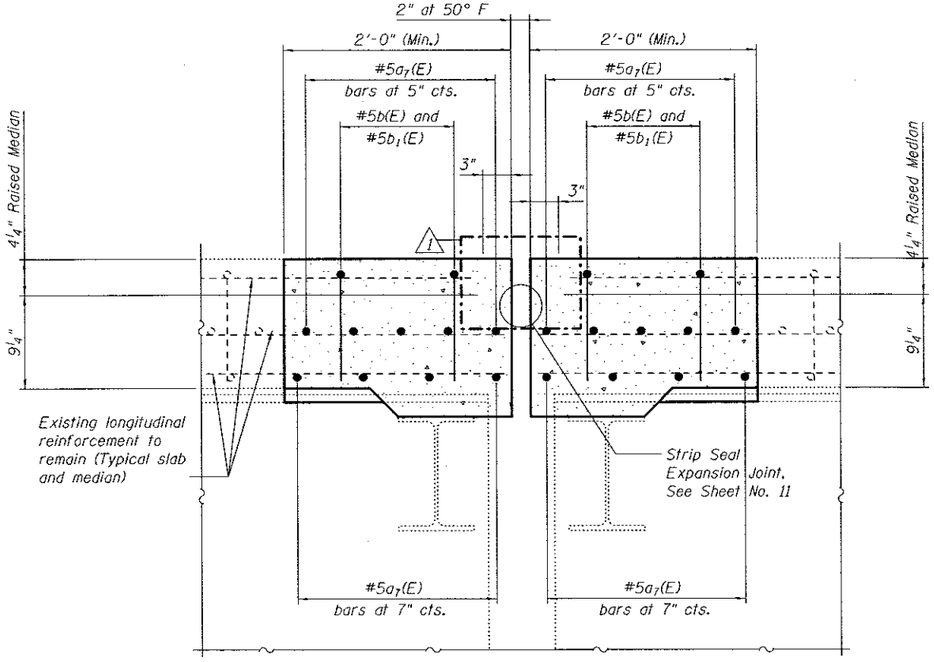


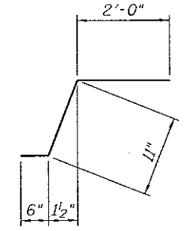
EXPANSION JOINT PLAN AT PIER 2



TYPICAL SECTION AT EXPANSION JOINT



TYPICAL SECTION THRU RAISED MEDIAN



BAR $b_1(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_2(E)$	36	#5	14'-10"	
$a_7(E)$	18	#5	38'-10"	
$b(E)$	4	#5	10'-1"	
$b_1(E)$	8	#5	3'-5"	
$d(E)$	12	#5	2'-7"	
$d_1(E)$	12	#4	3'-7"	
$d_2(E)$	12	#5	3'-0"	
$d_3(E)$	12	#4	3'-8"	
Concrete Removal			Cu. Yd.	8.8
Concrete Superstructure			Cu. Yd.	10.3
Reinforcement Bars, Epoxy Coated			Pound	1490

NOTES

For details of Strip Seal Expansion Joints, see Sheet 11.

Existing longitudinal parapet and raised median reinforcement shall remain in place. See Sheet 8 for parapet details.

See Sheet 12 for details of Bar Splicers.

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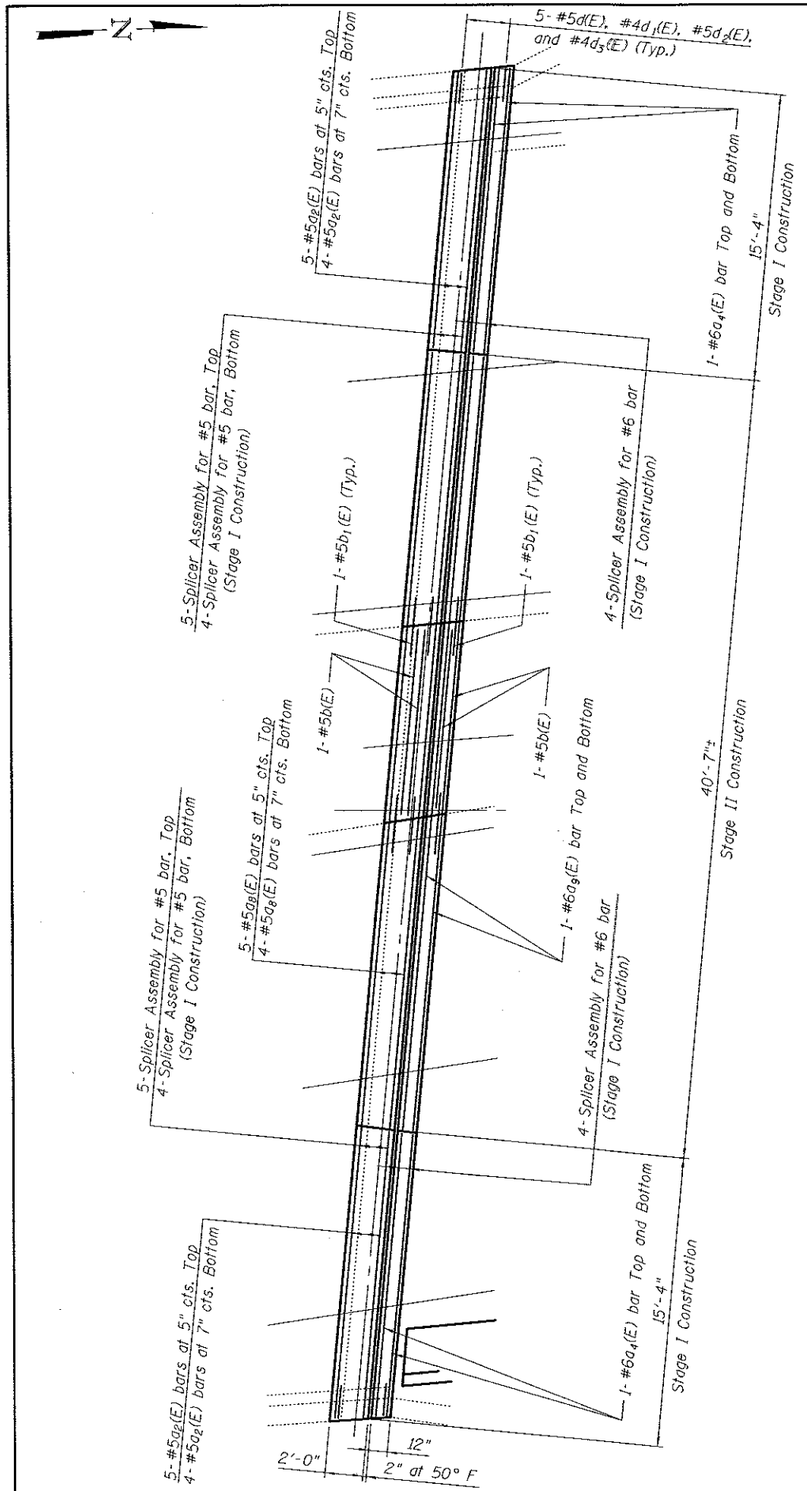
EXPANSION JOINT REPAIR

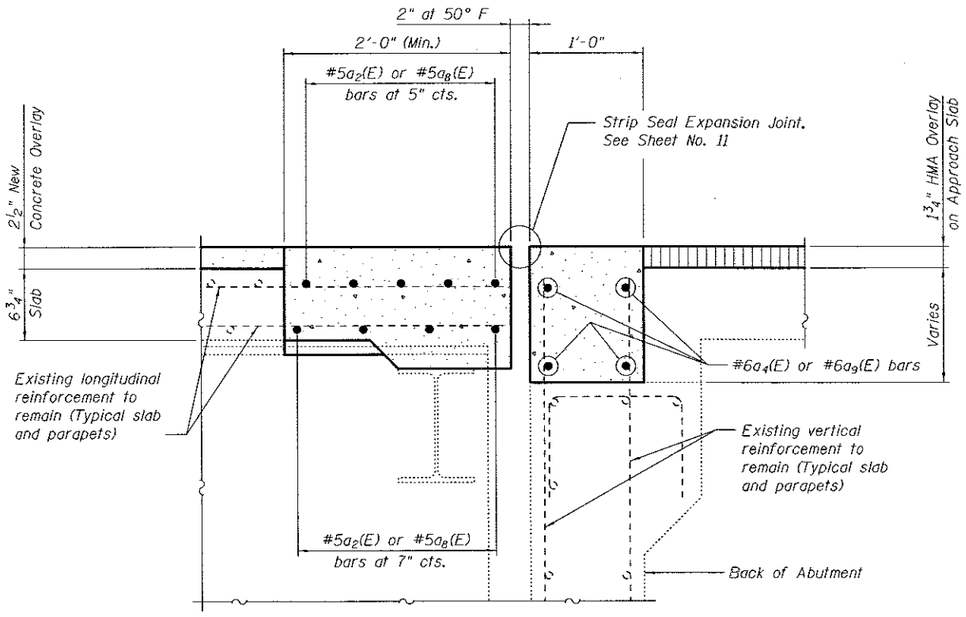
SHEET NO. 9 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	16
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

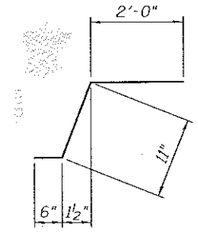
$FILE$ $TIME$ $DATE$



EXPANSION JOINT PLAN NORTH ABUTMENT



TYPICAL SECTION AT EXPANSION JOINT



BAR $b_1(E)$

TYPICAL SECTION THRU RAISED MEDIAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_2(E)$	18	#5	14'-10"	
$a_4(E)$	8	#6	14'-10"	
$a_8(E)$	9	#5	40'-4"	
$a_9(E)$	4	#6	40'-4"	
$b(E)$	3	#5	10'-1"	
$b_1(E)$	6	#5	3'-5"	
$d(E)$	10	#5	2'-7"	
$d_1(E)$	10	#4	3'-7"	
$d_2(E)$	10	#5	3'-0"	
$d_3(E)$	10	#4	3'-8"	
Concrete Removal			Cu. Yd.	8.9
Concrete Superstructure			Cu. Yd.	10.1
Reinforcement Bars, Epoxy Coated			Pound	1240

NOTES

For details of Strip Seal Expansion Joints, see Sheet 11.

Existing longitudinal parapet and raised median reinforcement shall remain in place. See Sheet 8 for parapet details.

See Sheet 12 for details of Bar Splicers.

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EXPANSION JOINT REPAIR

SHEET NO. 10 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	17
STA. 01+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

$DATE$
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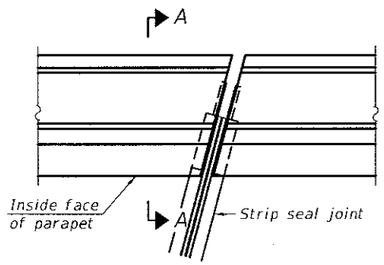
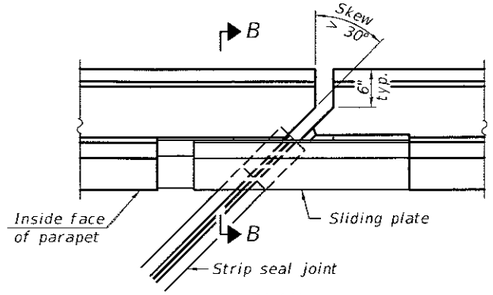
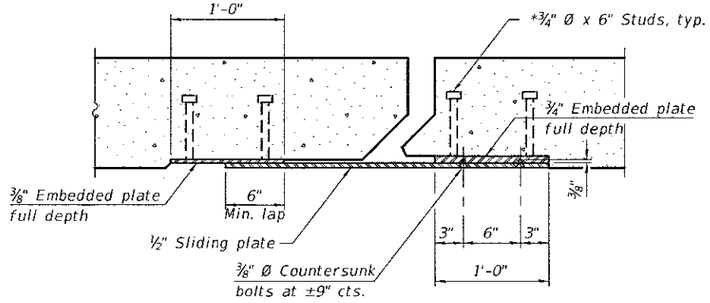


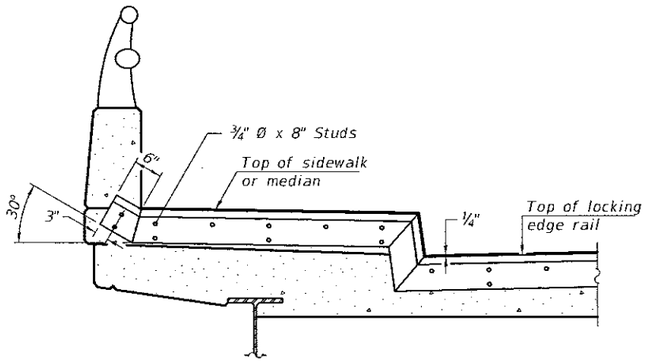
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

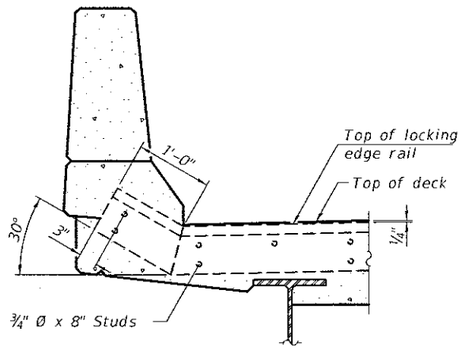


SECTION C-C

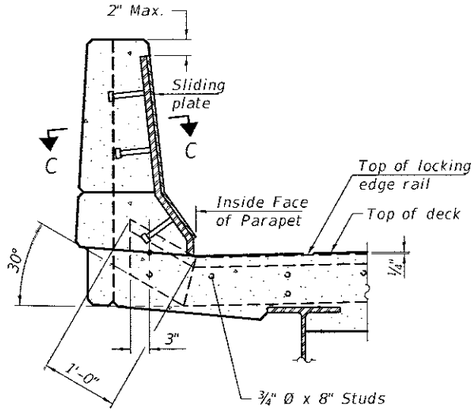


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

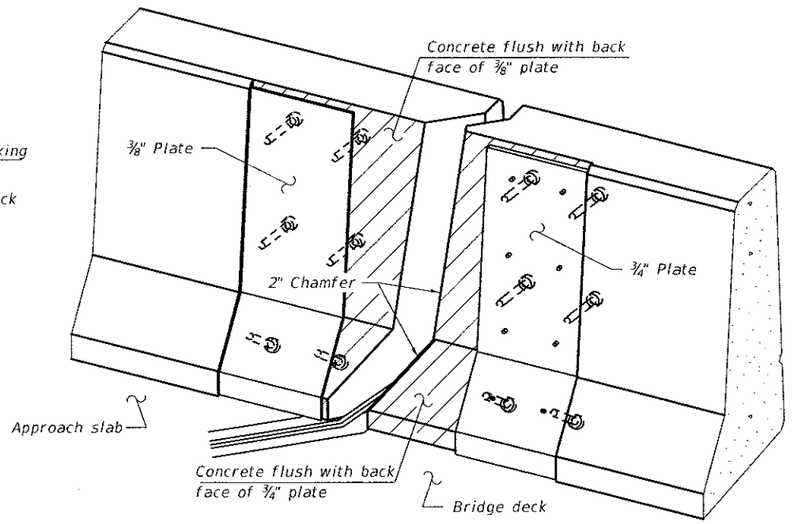
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



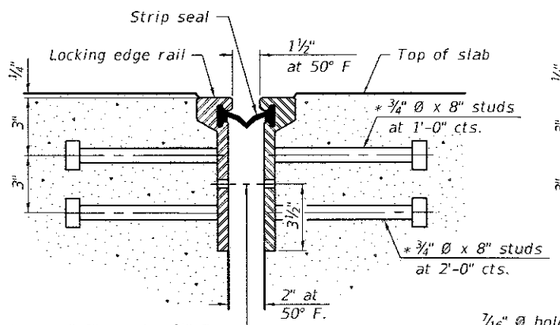
SECTION A-A



SECTION B-B

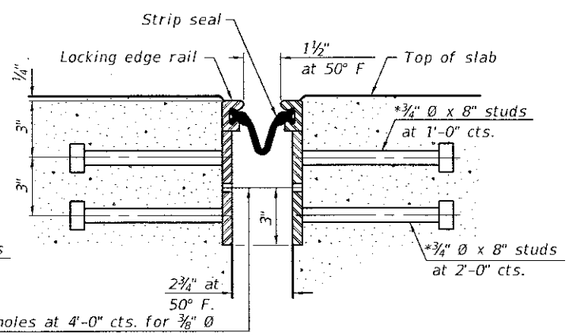


TRIMETRIC VIEW
(Showing back plates only)



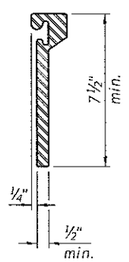
7/16" Ø holes at 4'-0" cts. for ⅜" Ø bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT

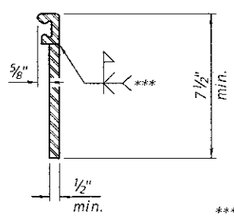


7/16" Ø holes at 4'-0" cts. for ⅜" Ø bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

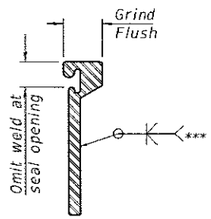
SECTION THRU WELDED RAIL JOINT



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

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

LOCKING EDGE RAILS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	265

EJ-SSJ 2-17-2017

ABNA
DESIGN FIRM REG. 184.002117
9901 S. Western Ave.
Chicago, IL 60643
Ph. 773-881-4788
F: 773.239.3728

DESIGNED	-	TBS
CHECKED	-	RJL
DRAWN	-	SCS
CHECKED	-	TBS

COMPLETE REVISION 8/10/2017 RPN
REVISED -
REVISED -
REVISED -

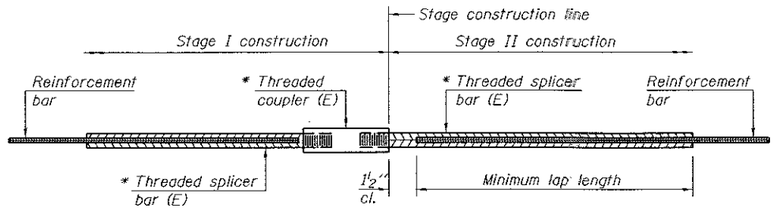
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT DETAILS

SHEET NO. 11 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	18
STA. 014+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

$DATE$
$TIME$
$FILE$

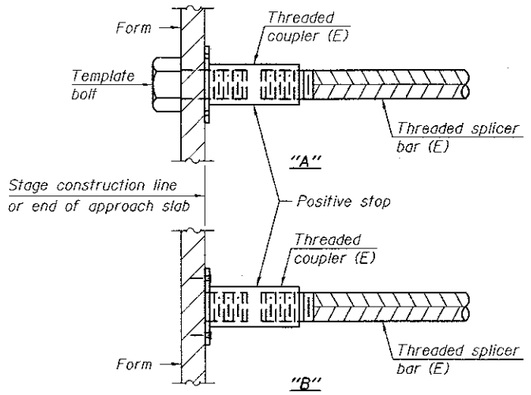


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½" + thread length

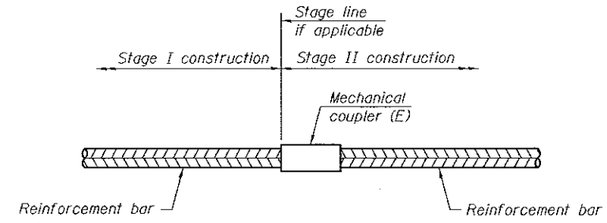
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
S. Abutment	5	18	3'-4"
S. Abutment	6	8	4'-0"
Pier 1	5	36	3'-6"
Pier 2	5	36	3'-6"
N. Abutment	5	18	3'-4"
N. Abutment	6	8	4'-0"



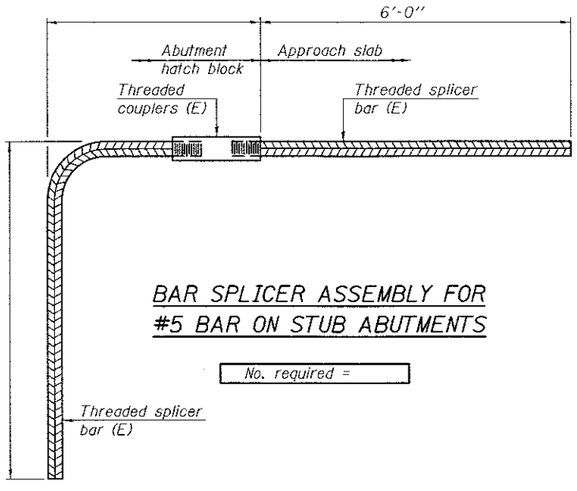
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 6-8-15

ABNA
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9901 S. Western Ave.
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CHECKED - RJL	REVISED -	
DRAWN - SCS	REVISED -	
CHECKED - TBS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER DETAILS

SHEET NO. 12 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	99-4WRS & 99-4B-Y(89)	WILL	26	19
STA. 014+000.000 TO STA.		CONTRACT NO. 60M98		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		