

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

Official Copy
AK

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
57		Cumberland	18	1
PROJECT I-57-4(35)177				
* SEC. 18-20 HB				

284,618

QUANT.
REVISED
AS
BUILT

F.A.I. ROUTE 57 SEC. 18-20 HB CUMBERLAND CO.

PROJECT I-57-4(35)177

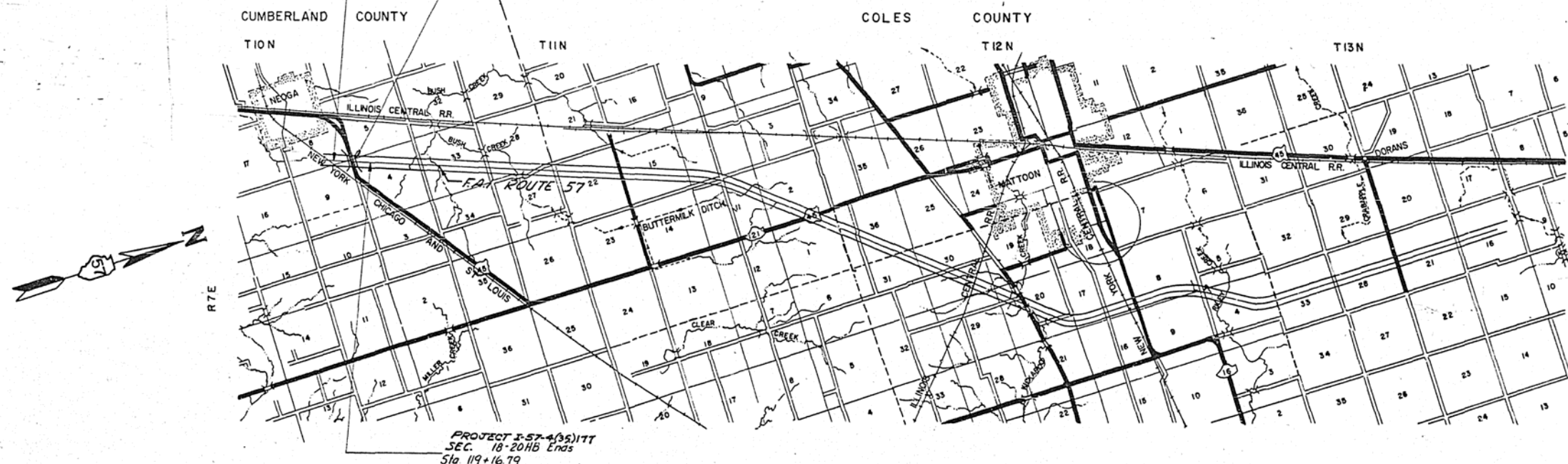
See sheet N°2
for Index of Sheets
and Summary of Quantities



DESIGN CLASSIFICATION
1100 - T - 70

Sec. 18-20HB includes the construction of two(2) parallel
3-span WF-Beam grade separation structures, spans each 28'42"-0" and
1@ 49'-6" c.c. brgs. located @ F.A.I. Sta. 118+48 carrying
FAI Route 57 over U.S. Route 45.

PROJECT I-57-4(35)177
SEC. 18-20HB Begins
Sta. 117+79.21



PROJECT I-57-4(35)177
SEC. 18-20HB Ends
Sta. 119+16.79

LAYOUT

SCALE 1"=1 MI.

NET LENGTH OF SECTION = 137.58 FEET = 0.026 MILES

NET LENGTH OF PROJECT = 137.58 FEET = 0.026 MILES

APPROVED
FOR ANNUAL ADEQUACY ONLY

W.E. Bauman
DISTRICT ENGINEER

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS	
SUBMITTED	January 16, 1962
EXAMINED	March 8, 1963
PASSED	March 8, 1963
APPROVED	March 8, 1963
APPROVED	March 8, 1963

HURST-ROSCHKE INC.
511 MAIN ST. HILLSBORO ILL.

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	
APPROVED	
DIVISION ENGINEER	DATE

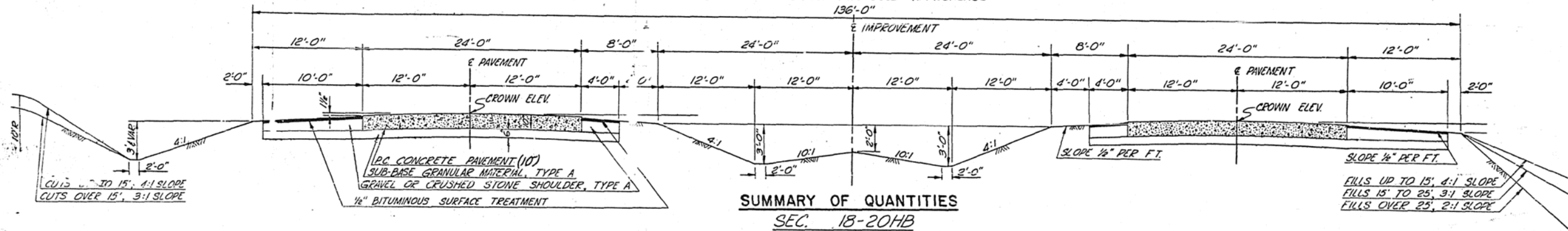
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SEC.	QUANTITY	TOTAL SHEETS	SHEET NO.
FAI 57	Cumberland	18	2	2
ILLINOIS PROJECT				
* SEC. 18-20 HB				

INDEX OF SHEETS

- SEC. 18-20HB
- COVER SHEET
 - INDEX OF SHEETS & SUMMARY OF QUANTITIES
 - PLAN & PROFILE OF F.A.I. 57
 - PLAN & PROFILE OF U.S. RTE. 45
 - TO 13A BRIDGE PLANS
 - 14 TO 15 STATION CROSS SECTIONS
 - 16 STANDARDS 2113, 2114, 1971-3
 - 17 STANDARD 2138-1
 - 18 STANDARD 2153-2

TYPICAL CROSS SECTION OF PROPOSED APPROACHES
136'-0"



SUMMARY OF QUANTITIES

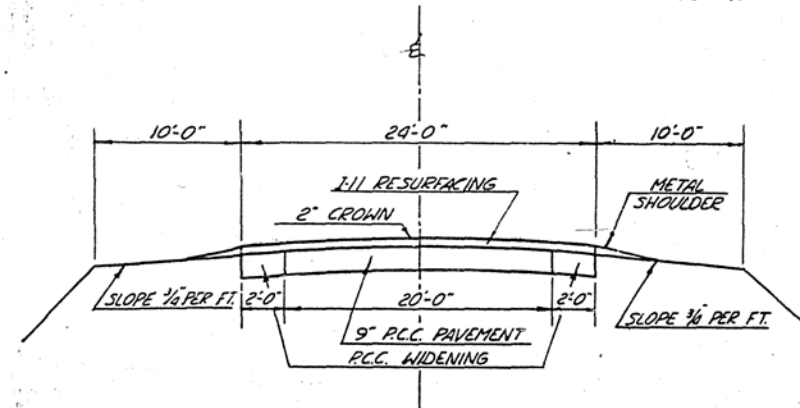
SEC. 18-20HB

QUANTITY	UNIT OF MEASURE	PAY ITEM	CODE NUMBER
36941	CU. YDS.	BORROW EXCAVATION	013001
23	CU. YDS.	TRENCH BACKFILL	020001
300	CU. YDS.	CLASS A EXCAVATION FOR STRUCTURES	050001
688.4	CU. YDS.	CLASS X CONCRETE	052003
284618	LBS.	FURNISHING & ERECTING STRUCTURAL STEEL	054001
99804	LBS.	REINFORCEMENT BARS	059001
1	LUMP SUM	REMOVING BUILDING No. 1	200646
1	LUMP SUM	REMOVING BUILDING No. 2	200647
528	LIN. FT.	FURNISHING CREOSOTED PILES, 20.1' TO 38'	060005
528	LIN. FT.	DRIVING TIMBER PILES	060008
1968.7	LIN. FT.	DRIVING STEEL PILES	060037
2119.9	LIN. FT.	FURNISHING STEEL PILES (8BP36")	060027
2	EACH	TEST PILES (STEEL-8BP36")	060036
2	EACH	NAME PLATES	061001
1548.2	SQ. YDS.	PROTECTIVE COAT	052021
1301	SQ. YDS.	SLOPE WALL 4"	083002
541	LIN. FT.	ALTERNATE A ALUMINUM HANDRAIL TYPE D	201152
541	LIN. FT.	ALTERNATE B METAL HANDRAIL - TYPE E	055015
463.5			060970

GENERAL NOTES

INTERSTATE SIGN CONFORMING TO STANDARD 2153-2 SHALL BE ERRECTED AT LOCATION SHOWN ON THE PLANS. WHEREVER REFERENCE IS MADE IN THESE PLANS TO THE "STANDARD SPECIFICATIONS", IT IS UNDERSTOOD TO INCLUDE THE "SUPPLEMENTAL SPECIFICATIONS", EFFECTIVE APRIL 2, 1962.

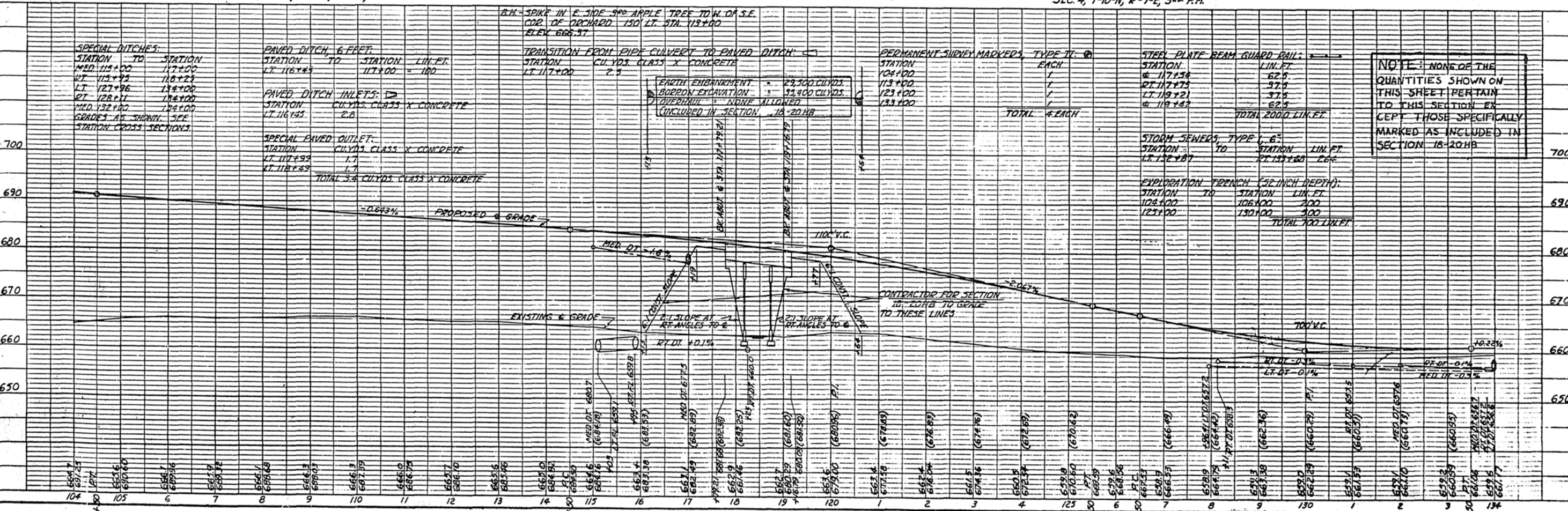
TYPICAL CROSS SECTION OF EXISTING RTE. 45



DESIGNED	EXAMINED
CHECKED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
DRAWN	PASSED
CHECKED	APPROVED
	ENGINEER OF DESIGN
	CHIEF HIGHWAY ENGINEER

INDEX OF SHEETS
&
SUMMARY OF QUANTITIES

Revised: Remove F Sect. Change Erect S.S. to Furn & Erect S.S. Change Code No. from 054003 to 054001. Change Driv. Tim. Piles from 15' to 528 lin. ft. 2-15-63 Change in Quant. Rein. bars 92,670 to 99,804 Lbs. Add Prot. Coat 1460 Sq. Yds. Code No. 052021. Change Furn. & Driv. 1120 lin. ft. of Conc. Piles to 1890 lin. ft. of Steel Piles V.D.S. Add Metal Handrail (Type E) Remove: Furn. Cre. Piles (1008 lin. ft.) & 1-Test Pile Timber. Change 1-Test Pile Conc. to 2-Test Pile Steel & Change code No's accordingly. Added ALT. A & B for Handrail 4-22-63



BM #2 Elev. 666.37
30d Spike in Apple Tree
105' Lx Sta 113.00
No existing structure

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

PILES FOR METHOD II
See Std. 213B-1

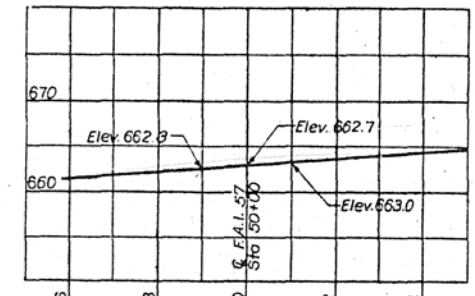
PROJECT NO.	CDL	COUNTY	TOTAL SQUARE FEET	SHEET NO.
F.A.I. 57		Cumberland	78	3
* SEC. 18-20 HB				

GENERAL NOTES

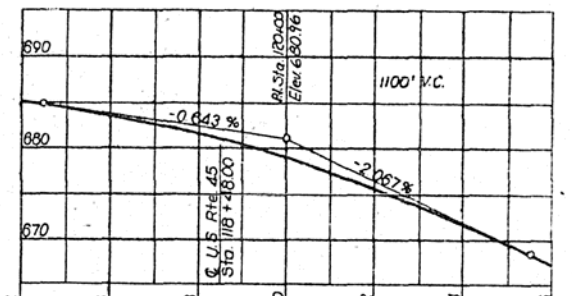
Class X Concrete shall be used throughout.
The concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications.
Slope Wall shall be reinforced with Welded Wire Fabric, 6" x 6" mesh, #4 wires, weighing 58# per 100 sq. ft.
All connections shall be riveted except as noted. Rivets shall be 3/4" and holes 1/2" except as noted.
All holes for splices shall be punched 1/2" and reamed to proper size (1/2" in web and 1/4" in flange) with all stringers assembled in shop in proper position, with or without diaphragms in place, leave assembled in shop for inspection.
Anchor bolts shall be set before riveting diaphragms over supports.
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 for payment as Furnishing and Erecting Structural Steel.
Expansion guards shall be fabricated and erected in accordance with Article 51.13(d) of the Standard Specifications.
Embankments shall be constructed to elevation shown in accordance with Sec. 16 of the Standard Specifications before abutment piles are driven.

The Contractor shall drive two (2) test piles. One steel test pile shall be driven in a permanent location in Pier 1 East Bridge before ordering the remainder of the steel piles. One steel test pile shall be driven in a permanent location before ordering the remainder of the piles in South Abut, West Bridge.
Boring data are shown only as a guide to bidders in estimating soil conditions which may be encountered in the work.
Structural Steel shall receive one shop coat of red lead point after inspection and two field coats of aluminum paint. See Articles 55.1 to 56.5 inclusive of the Standard Specifications. All paint shall be furnished and applied by the Contractor.
The aggregate for the Class X Concrete used in the parapets and end posts shall be free from chert, flint, limonite, lignite, and soft sandstone.
The exposed surfaces of expansion guards shall be given two shop coats of red lead paint.

LOCATION SKETCH



PROFILE ALONG U.S. RTE. 45



PROFILE ALONG F.A.I. RT. 57

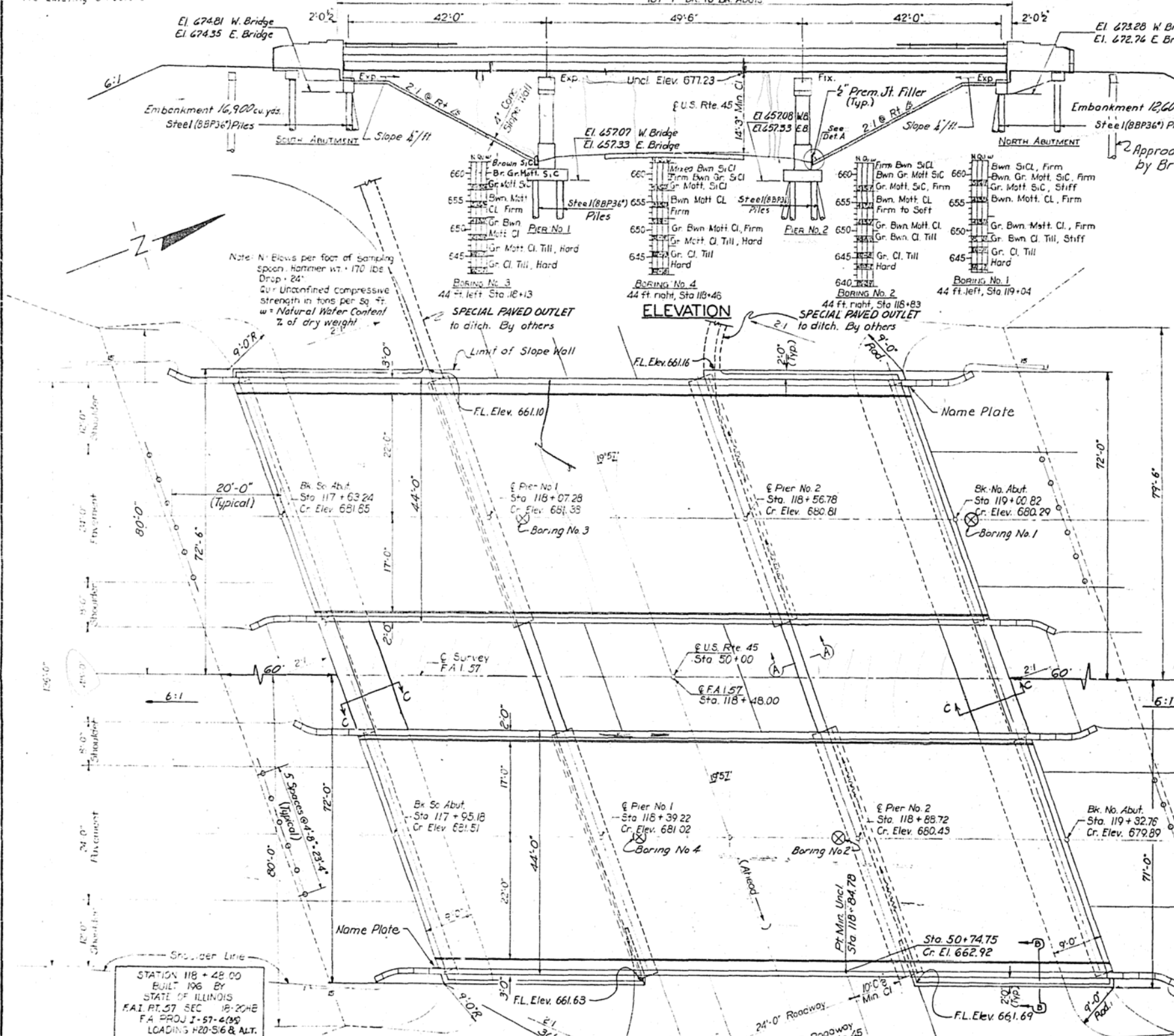
TOTAL BILL OF MATERIAL SEC. 18-20HB

ITEM	SUPER	SUB	TOTAL
Class X Concrete	Cu Yds. 327.6	351.1	678.7
Reinforcement Bars	Lbs. 66,764	33,040	99,804
Structural Steel	Lbs. 285,310	-	285,310
Name Plates	Each -	-	2
Creosoted Piles	Lin. Ft. -	528	528
Steel Piles (8BP36")	Lin. Ft. -	1890	1890
Test Piles (Steel-8BP36")	Each -	2	2
Slope Wall, 4"	Sq. Yds. -	1301	1301
Class A Excavation for Structures	Cu. Yds. -	300	300
Borrow Excavation	Cu. Yds. -	35,000	35,000
Protective Coat	Sq. Yds. 1460	-	1460
ALTA Aluminum Handrail - TYPE D	Lin. Ft. 541	-	541
ALTB Metal Handrail - TYPE E	Lin. Ft. 541	-	541

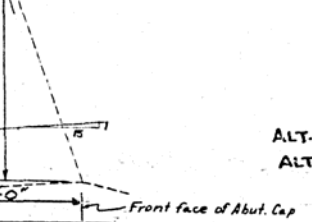
DESIGN STRESSES

$f_c = 14,000$ P.S.I.
 $f_s = 20,000$ P.S.I. (Reinf.)
 $f_s = 20,000$ P.S.I. (Struct.) A36
Max. V in Pier Footings: 759#
 $n = 10$

GENERAL PLAN & ELEVATION
FED. AID INTERSTATE OVER U.S. RTE. 45
PROJ.
F.A.I. ROUTE 57 SEC. 18-20 HB
CUMBERLAND COUNTY
STATION 118+48 (2)



SECTION A-A
(INCLUDED IN QUANTITIES LISTED FOR SLOPE WALL, 4")



SECTION C-C
(INCLUDED IN QUANTITIES)



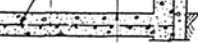
PLAN

1/2" Prem. Jt. Filler including joints between sides of Pier Crush Walls and Slope Walls.

DETAIL A



SECTION B-B

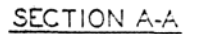


LETTERING FOR NAME PLATE
See Std. 2113

DESIGNED	V.F.S.	EXAMINED	
CHECKED	M.J.R.	PASSED	
DRAWN	D.D.O.	APPROVED	
CHECKED	M.J.R.	CHIEF HIGHWAY ENGINEER	

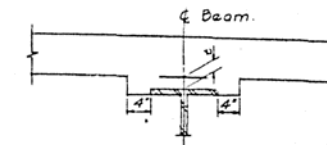
Revised: Add note to Sect. C-C. Add Slope Wall between Bridges. Remove 15' from Cr. Piles. Add Prot. Coat - 1460 Sq. Yd. Remove "F" Section. Change Concrete & Timber Piles to Steel (8BP36") Piles.
2-15-63 Remove 1/2" Jt. Filler between Slope Wall & Abut. Design stresses: change P.S. 18,000 P.S.I. to 20,000 P.S.I. Add Detail A. Change Cr. Piles from 18" to 24" in dia. Change 1/2" Test pile conc. to 2" Test pile steel (8BP36").
V.D.S. Change in Quant. Rein. bars: 51,130 to 66,764 lbs. & 92,670 to 119,804 lbs. Add Metal Handrail (Type E) Steel (8BP36") Piles: 1890 lin. ft. (conc. Piles: 1120 lin. ft. out) REVISE Gen. Notes

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI. 57	*	Cumberland	1A	6
FED. ROAD DIST. NO. 7 ELLINGB. PROJECT				
* SEC. 18-20 HB				

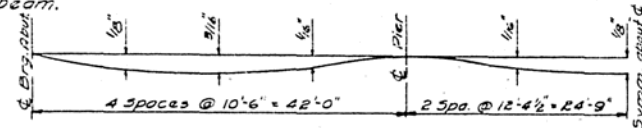


Note:
Order a, a₁, a₂, & a₃ bars
full length. Cut in field to
fit skew and use the remainder
of the bar at opposite end
of bridge.

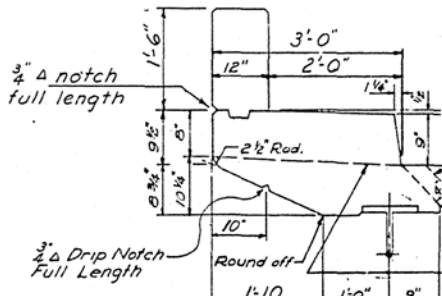
West Bridge Shown East Bridge Similar



After all Structural Steel has been erected, elevations of the top flanges of the beams shall be taken at intervals not to exceed 10 ft. From these elevations subtract the increment of deflection for these points, determined from the D.L. deflection diagram. The elevations so obtained subtracted from the theoretical grade elevations, minus floor thickness, equals the fillet heights above top of beam.



CROSS SECTION



CURB & DRAIN DETAILS

Bar	No.	Size	Length	Weight
0	222	#5	25'-0"	11.5
0	242	#5	25'-0"	11.5
02	216	#5	25'-0"	11.5
02	244	#5	17'-0"	7.5
04	245	#5	17'-0"	7.5
04	220	#5	17'-0"	7.5
0	250	#5	25'-0"	11.5
01	462	#5	25'-0"	11.5
01	428	#5	25'-0"	11.5
01	144	#5	25'-0"	11.5
01	180	#5	25'-0"	11.5
05	40	#5	25'-0"	11.5
06	144	#5	25'-0"	11.5
03	136	#5	25'-0"	11.5
0	230	#5	25'-0"	11.5
01	230	#5	25'-0"	11.5
02	228	#5	25'-0"	11.5

Class X Concrete Cux

Reinforcement Bar: 25' 11.5

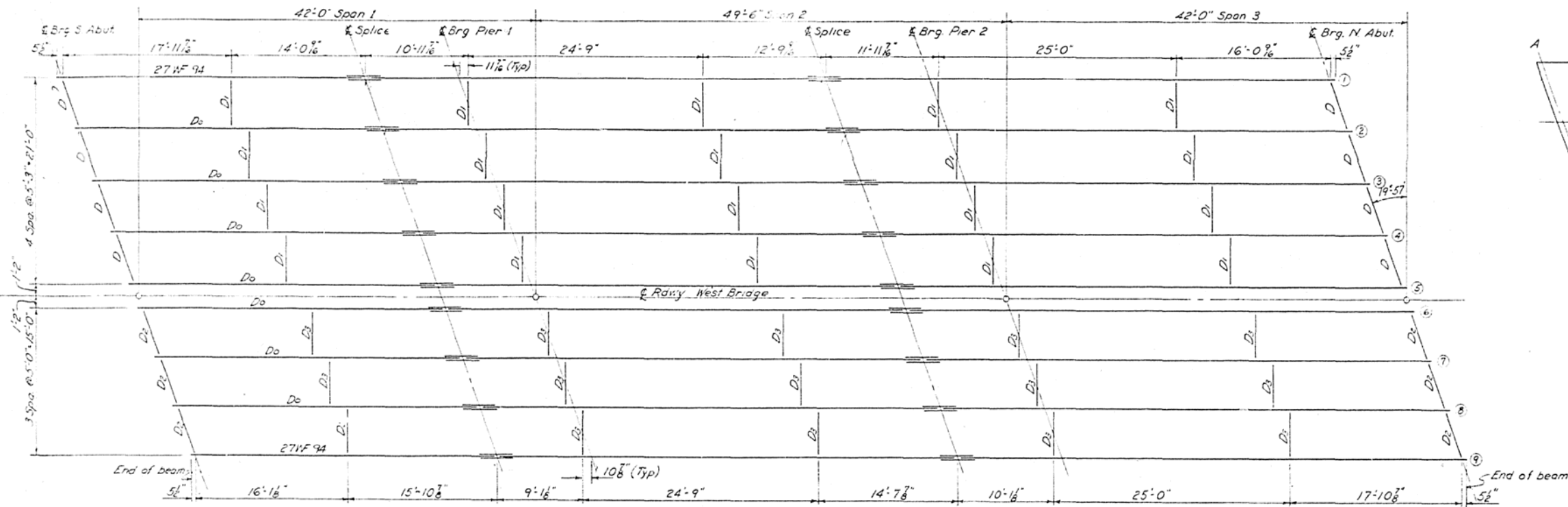
Structure: Steel Ltr: 25' 11.5

SLAB
FED. AID INTERSTATE OVER U.S. RTE. 45
F.A.I. ROUTE 57 SEC. 18-20 HS
CUMBERLAND COUNTY
STATION 118 + 48 (2)

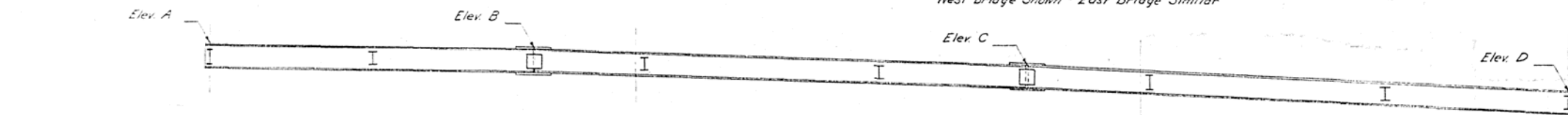
REVISIONS: Changed lb, bs, ss, & d, bars from #4 to #5. Added 136 #5 dg bars.
Revised bar wt from 59,630 lbs. to 66,764 lbs. Revised deck drains
S.E. 2-20-63

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

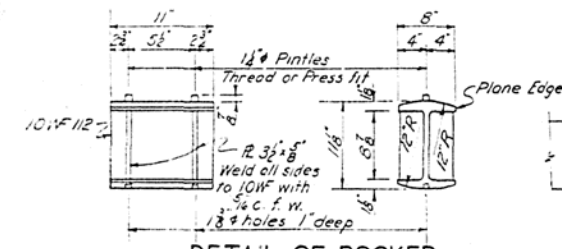
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	18	Cumberland	18	18
FED. ROAD DIST. NO. 1 ILLINOIS PROJECT				
* SEC. 18-20 HB				



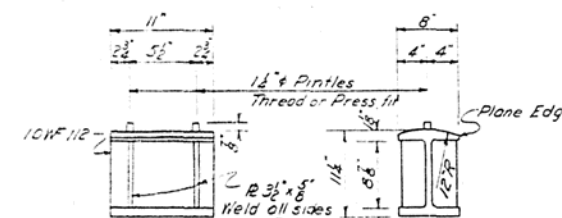
PLAN OF STRUCTURAL STEEL
West Bridge Shown - East Bridge Similar



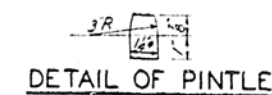
BEAM ELEVATION



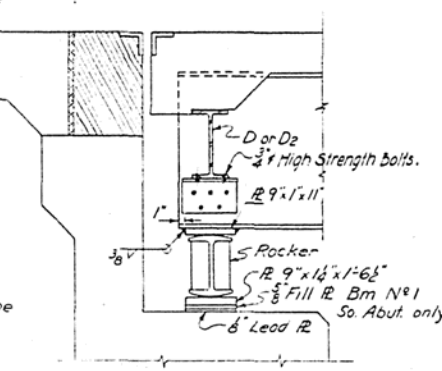
DETAIL OF ROCKER



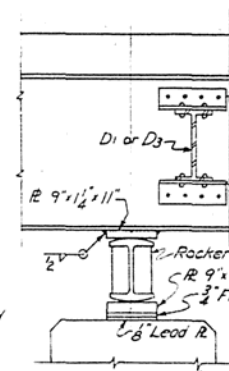
DETAIL OF BOLSTER



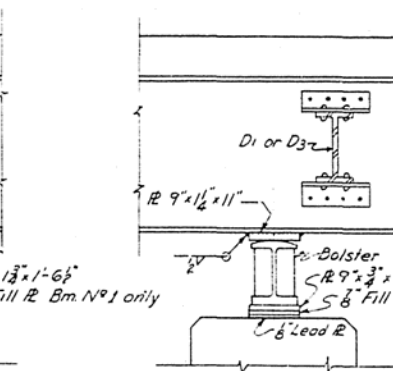
DETAIL OF PINTLE



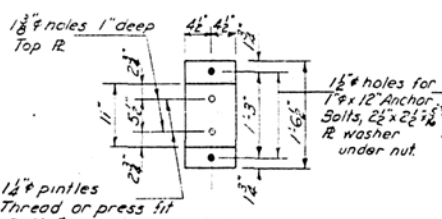
SECTION AT ABUTMENT



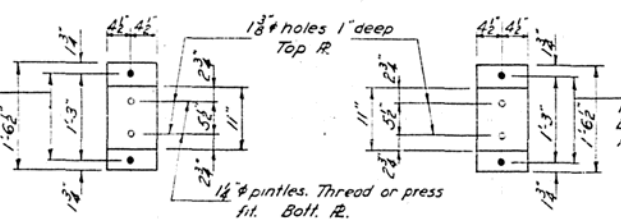
PIER 1



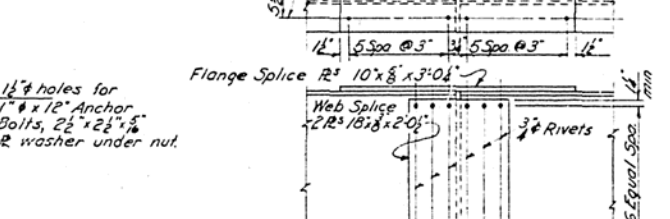
PIER 2



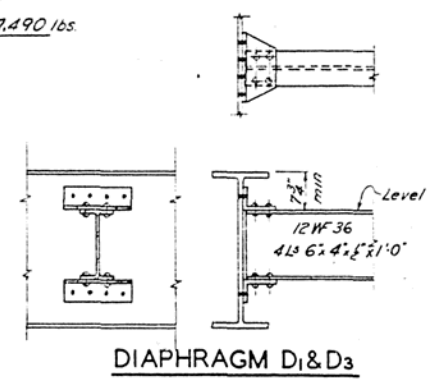
PLAN



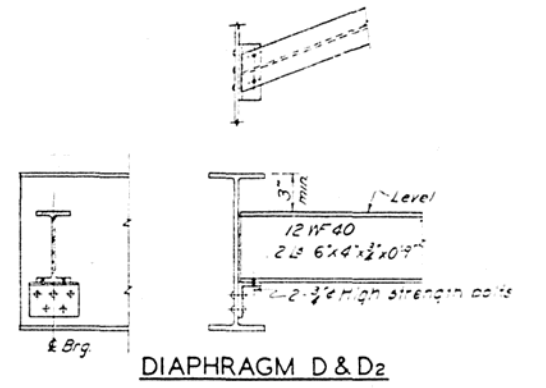
PLAN



DETAIL OF SPLICE



DIAPHRAGM D1 & D3



DIAPHRAGM D & D2

ORIENTATION SKETCH
NOTE: These are top of WF flange elevations. They do not include any allowance for deflection.

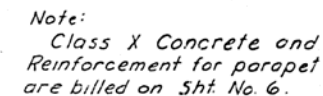
TABLE OF ELEVATIONS (See note above)

Bm	Elev. A	Elev. B	Elev. C	Elev. D
1	681.05	680.66	680.12	679.55
2	681.11	680.72	680.18	679.61
3	681.18	680.78	680.24	679.67
4	681.24	680.85	680.30	679.73
5	681.24	680.85	680.30	679.72
6	681.24	680.85	680.30	679.72
7	681.19	680.80	680.25	679.67
8	681.10	680.70	680.15	679.55
9	681.00	680.60	680.05	679.47
10	680.78	680.37	679.81	679.32
11	680.85	680.44	679.87	679.38
12	680.90	680.49	679.93	679.43
13	680.90	680.49	679.93	679.43
14	680.90	680.49	679.93	679.43
15	680.85	680.44	679.87	679.37
16	680.74	680.33	679.77	679.26
17	680.64	680.23	679.66	679.16
18	680.54	680.12	679.55	679.05

DESIGNED	V.F.S.	EXAMINED	19
CHECKED	H.J.R.	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES	PASSED
DRAWN	V.F.S.	ENGINEER OF DESIGN	APPROVED
CHECKED	A.E.E.	CHEF HIGHWAY ENGINEER	

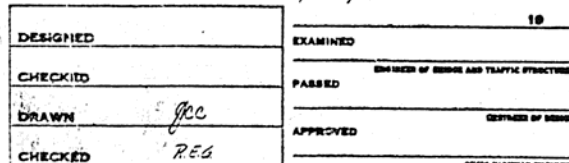
STRUCTURAL STEEL
FED. AID INTERSTATE OVER U.S. RTE. 45
F.A.I. ROUTE 57 SEC. 18-20 HB
CUMBERLAND COUNTY
STATION 118 + 48 (2)

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	Cumberland	18	8
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		
* SEC. 18-20 HB				



West Bridge Shown
East Bridge Similar

F.A.I. ROUTE 57 SEC. 18-20 HB
CUMBERLAND COUNTY
STATION 118 + 48 (2)



5.E.2-20-63

DATE	18-20HB	TOWN	CUMBERLAND	TOTAL SHEETS	18	SHEET NO	8A
FILE NO	1-1-57					SHEETS	



8" Threaded Inserts. Provide 1- Stainless Steel Washer and
5/8" x 2" Stainless Steel Bolt with each Insert
4 - Required each post
Inserts shall be cast in place.

Cast End Cap

A

A

9" 1'-6" 9' 8" 1/2"

This technical drawing shows a cross-section of a mechanical assembly. On the left, a large, irregularly shaped component is labeled "Cast End Cap". To its right is a shaft assembly. The shaft has a diameter of 9 inches. It is supported by a housing or frame. A section line A-A is indicated by two arrows pointing to the right, with the letter "A" at each end. The shaft has a length of 1'-6" (1 foot 6 inches). The housing has a thickness of 9' 8" (9 feet 8 inches). The shaft is positioned within the housing, and the distance from the end of the shaft to the end of the housing is 1/2" (1/2 inch). The drawing is a black and white line drawing with dimensions and labels.

Technical drawing of a mechanical part, likely a bracket or support. The drawing shows a cross-section with a vertical flange on the left and a horizontal base. A dimension line indicates a length of $1/8$ inch. A scale bar is present, labeled 3.00 inches.

Item	Unit	Quantity
METAL HANDRAIL	Lin. Ft.	541

Diagram illustrating the connection between a sloped roof section (labeled "Tubel") and a horizontal parapet wall. The roof section is labeled "W.P.". The parapet wall is labeled "4\" O.D. x 1/8\" Wall". The vertical face of the parapet is labeled "Face of Parapet".

TYPE E
METAL HANDRAIL

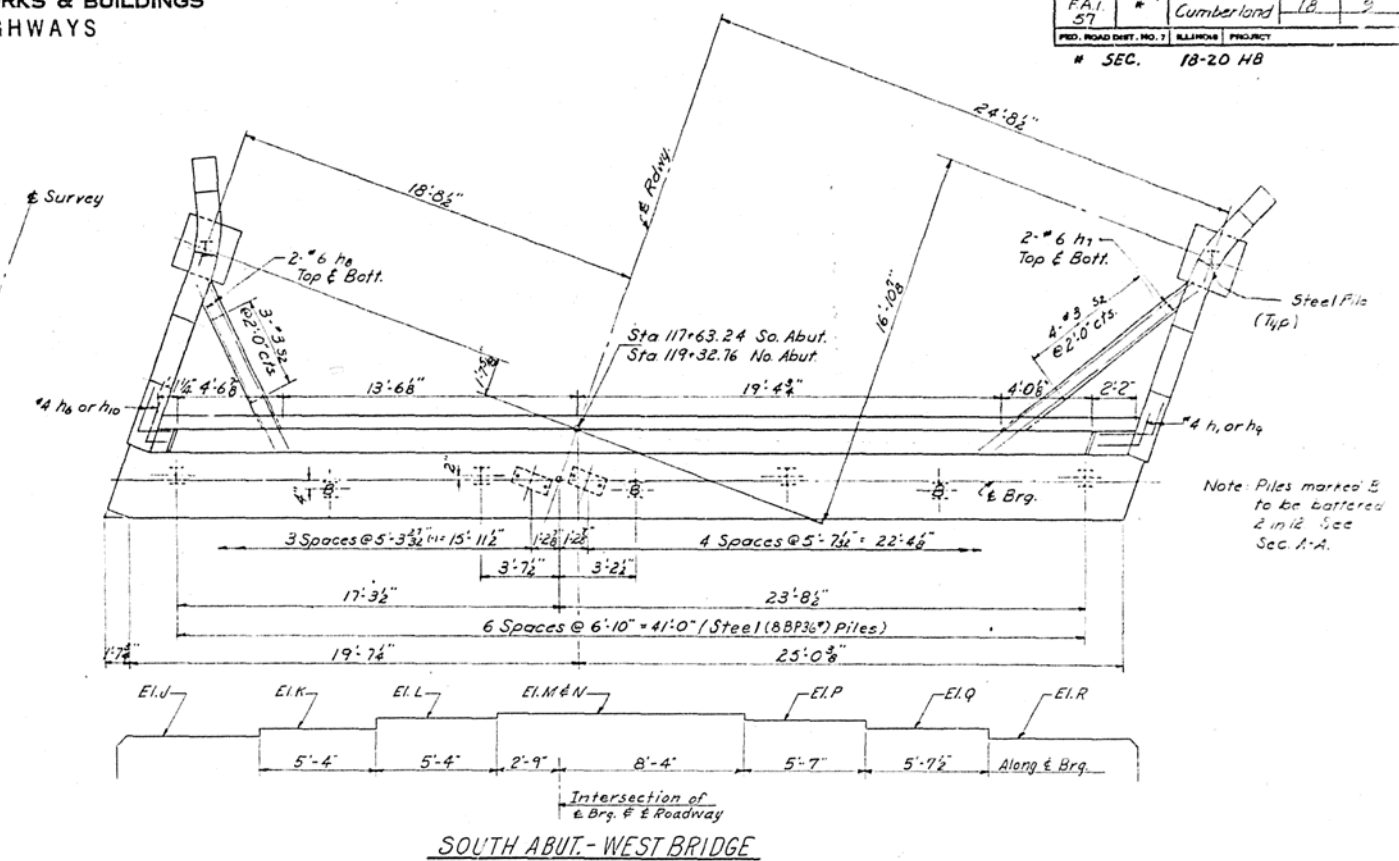
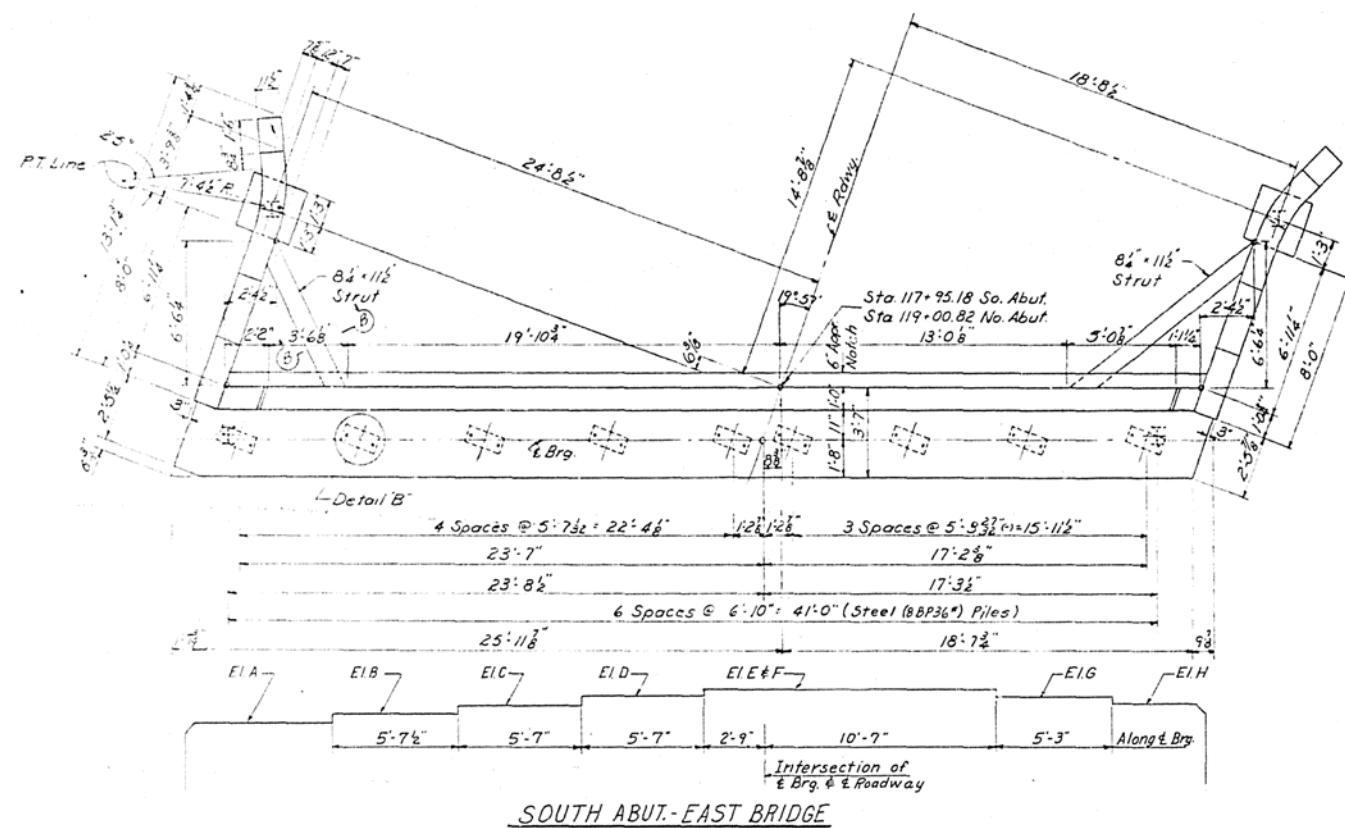
F.A.I. ROUTE 57 SEC. 18-20HB
CUMBERLAND COUNTY
STATION 118 + 48(2)

DESIGNED	EXAMINED
CHECKED	PASSED
DRAWN <i>Wm M Best</i>	APPROVED
CHECKED	

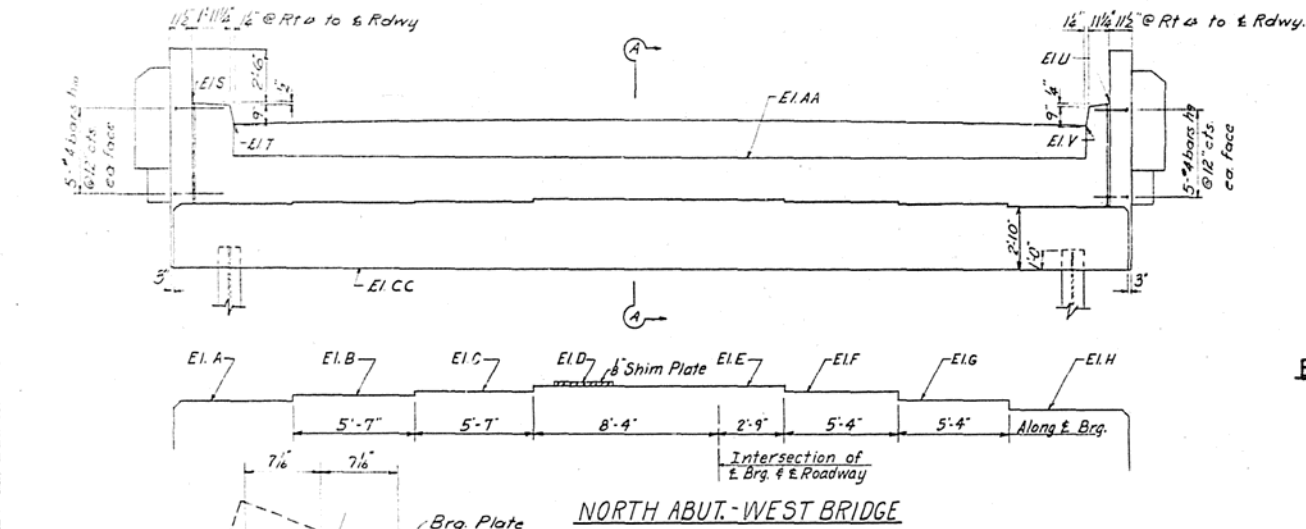
S.E. 2-20-63

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

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	*	Cumberland	18	9
FED. ROAD DIST. NO. 7				
# SEC. 18-20 HB				



2-2
4-0 1/8
19-4 3/4
13-6 1/8
1 1/4
4-6 7/8
44-9 1/8



Note:
Pour steps monolithically
with cap. (Typical)

TABLE OF ELEVATIONS

So. Abut. No. Abut.	So. Abut. No. Abut.	So. Abut. No. Abut.	So. Abut. No. Abut.
E. Bridge W. Bridge	E. Bridge W. Bridge	E. Bridge W. Bridge	E. Bridge W. Bridge
A 677.18 676.19	J 677.64 675.86		
B 677.28 676.25	K 677.74 675.92		
C 677.38 676.31	L 677.83 675.97		
D 677.49 676.37	M 677.88 675.97		
E 677.54 676.36	N 677.88 675.91		
F 677.54 676.31	P 677.82 675.80		
G 677.49 676.22	Q 677.75 675.70		
H 677.42 676.11	R 677.64 675.59		
S 681.93 680.90	W 682.36 680.34		
T 681.14 680.10	X 681.59 679.77		
U 682.15 680.78	Y 681.65 679.50		
V 681.38 680.01	Z 682.45 680.29		
AA 679.77 678.64	BB 680.21 678.13		
CC 674.35 673.28	DD 674.81 672.76		

10 .21
19 .21
24 .32
24 .38
18 .38
11 .33
10.6 .27
2.57
2.54
2.51
2.59
10.21

PILE DATA

Type	Steel Piles (8BP36*)	Wing Wall	Cap
Capacity	30"	30"	30"
Est. Length	32'	32'	32'
No. Req'd (4 Abut.)	8	8	28*

* Includes one test pile to be driven in
So. Abut., West Bridge.

Work this Sheet with Sheet No. 10

ABUTMENTS
FED. AID INTERSTATE OVER U.S. RTE. 45

F.A.I. ROUTE 57 SEC. 18-20 HB
CUMBERLAND COUNTY
STATION 118+48 (2)

1.37 1.44 1.38 1.64
1.61 1.37 1.44 1.37
2.98 2.83 2.82 3.01
2.83
2.98
11.64

6.79 6.82
7.03 6.73
13.82 13.55

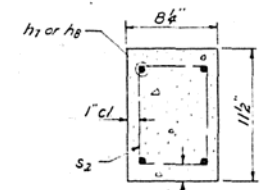
6.18 7.01
6.84 6.74
13.62 13.75

DESIGNED	VFS	EXAMINED	19
CHECKED	M.J.D.	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES	PASSED
DRAWN	DJM	ENGINEER OF DESIGN	
CHECKED	VFS	APPROVED	
		CHIEF HIGHWAY ENGINEER	

REVISIONS: Removed "F" Section.
S.E. 2-20-63

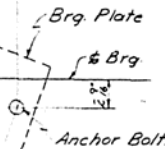
Revised: Remove Brg. Piers. Add details of steps.
3-1-63 change Conc. Piles to Steel (8BP36*) Piles.
VDS change Capacity from 25" to 30".

SECTION B-B

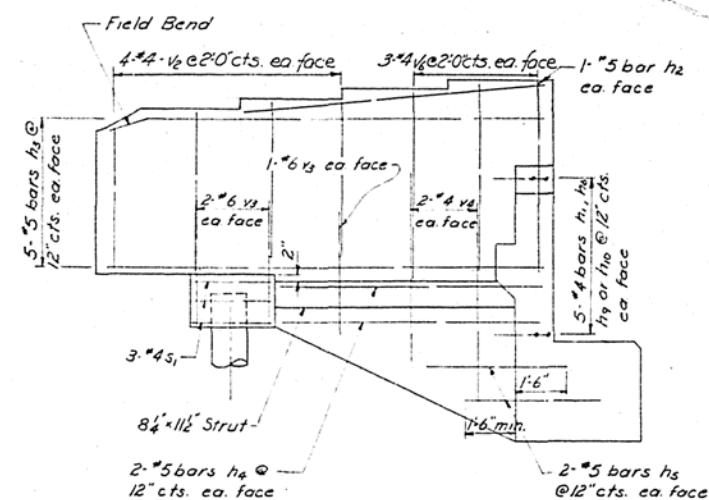


DETAIL B

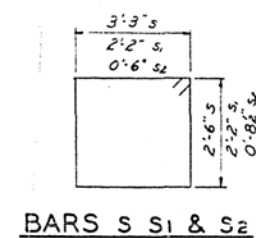
Showing Typ. Anchor Bolt Layout



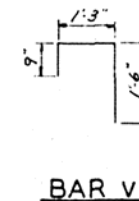
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 1	*	Cumberland	18	12
37				
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	
#	SEC.	18-20 HB		



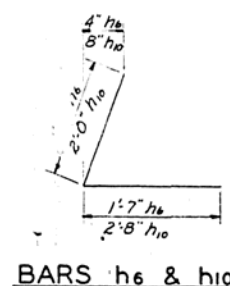
INSIDE ELEVATION OF WING WALL



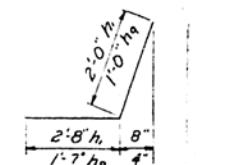
BARS S S_1 & S_2



BAR V



BARS h6 & h10

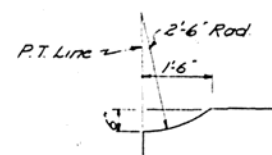


BARS h_1 & h_9

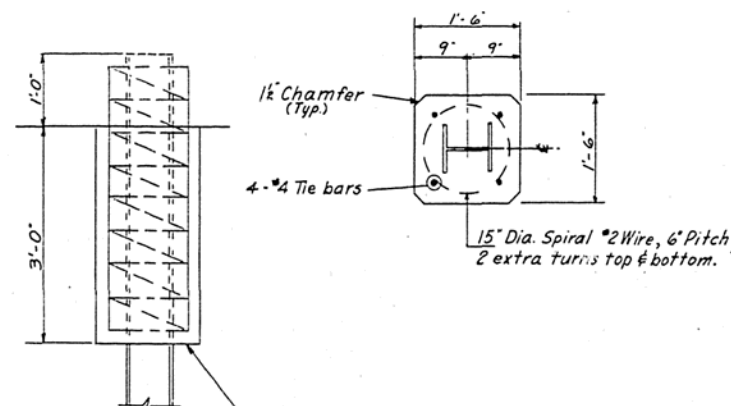
TABLE OF EE ELEVATIONS

South Abutment			
West Bridge		East Bridge	
W. Wing	678.04	W. Wing	677.74
E. Wing	677.94	E. Wing	677.52

North Abutment			
West Bridge		East Bridge	
W. Wing	676.30	W. Wing	675.94
E. Wing	676.18	E. Wing	675.68

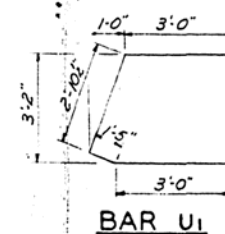


DETAIL A

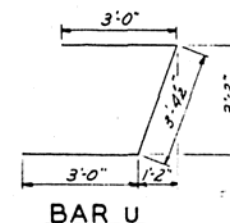


Class X concrete encasement.
The cost of Cl. X concrete encasement and reinforcement is incidental to the cost of furnishing piles.

PILE ENCASEMENT DETAIL



BAR U₁



BAR U

BARS h3

BAR	NO	SIZE	LENGTH	SHAPE
<i>h</i>	56	#4	23'-9"	
<i>h₁</i>	20	#4	4'-8"	┐
<i>h₂</i>	16	#5	8'-6"	
<i>h₃</i>	80	#5	12'-8"	
<i>h₄</i>	32	#5	7'-0"	
<i>h₅</i>	32	#5	4'-0"	
<i>h₆</i>	20	#4	2'-7"	┐
<i>h₇</i>	16	#6	11'-9"	
<i>h₈</i>	16	#6	8'-3"	
<i>h₉</i>	20	#4	2'-7"	┐
<i>h₁₀</i>	20	#4	4'-8"	┐
<i>h_n</i>	16	#4	21'-6"	
<i>p</i>	48	#7	23'-11"	
<i>s</i>	144	#4	12'-3"	□
<i>s₁</i>	24	#4	9'-5"	□
<i>s₂</i>	28	#3	3'-0"	□
<i>u</i>	16	#6	9'-4"	┐
<i>u₁</i>	16	#6	10'-3"	┐
<i>v</i>	164	#4	3'-6"	┐
<i>v₁</i>	336	#4	6'-6"	
<i>v₂</i>	64	#4	4'-3"	
<i>v₃</i>	48	#6	3'-6"	
<i>v₄</i>	32	#4	5'-6"	
<i>v₅</i>	40	#4	7'-3"	
<i>v₆</i>	40	#4	5'-3"	
Class X Concrete			Cu Yds	132.1
Reinforcement Bars			Lbs	11,530
Steel (8BP36") Piles			Lin Ft	110.20
Test Piles Steel (8BP36")			Each	1

Work this Sheet with Sheet No. 9

ABUTMENT DETAILS
FED. AID INTERSTATE OVER U.S. RTE. 45

F.A.I. ROUTE 57 200 18-20 HB
CUMBERLAND COUNTY
STATION 113 + 48 (2)

DESIGNED	V.F.S.	EXAMINED	
CHECKED	M.J.G.	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES	
DRAWN	D.J.M.	PASSED	
CHECKED	V.F.S.	APPROVED	ENGINEER OF DESIGN

REVISIONS: Removed "F" Section.

S.E. 2-20-63

Revised: Add note to Sect. A-A. Bill of Mat'l. Change Conc. Piles to Steel(8BP36) Piles.
3-4-63 Add Pile Encasement Detail.
vps

2'-6"
1'-3" 1'-3"

2'-18"

5'-7"

5'-7 1/2"

5'-7"

3'-2 3/8"

1937

Adwy W. Bridge

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

Detail A

2'-2"

2'-2"

2'-9"

2'-9"

5'-4"

5'-4"

4 Spd @ 5'-7 1/2" = 22'-4 1/2"

25'-8 3/8"

1'-2 1/2" 1'-2 1/2"

3 Spd @ 5'-3 3/8" (-) = 15'-11 1/2"

19'-3 3/8"

2'-14"

45'-0"

Hand-drawn structural drawing of a bridge pier and abutment. The drawing shows a plan view of the structure with various dimensions and reinforcement details. Key features include:

- Pier and Abutment Structure:** The pier is a rectangular structure with a width of 14'-6" and a length of 9'-0". The abutment is a larger structure with a width of 20'-0" and a length of 14'-6".
- Reinforcement Details:** The drawing shows various reinforcement bars (rebar) and their spacing. For example, the pier has 10 #8 bars in the column (V6 Pier 1, V7 Pier 2) and 32 #5 bars in the base (U2 @ 12" cts). The abutment has 22 #4 bars in the base (S3 @ 18" cts) and 32 #5 bars in the base (N @ 12" cts).
- Dimensions:** The drawing includes numerous dimensions for the structure and its components. For example, the pier is 14'-6" wide and 9'-0" long. The abutment is 20'-0" wide and 14'-6" long.
- Elevation Data:** The drawing includes elevation data for various points. For example, the pier has elevations of 664.32 and 664.33. The abutment has elevations of 677.07 and 676.58.
- Section Lines:** The drawing includes section lines A-A and B-B, indicating the locations of cross-sections A and B.

Technical drawing of a bridge pier cross-section. The drawing shows a rectangular pier with a width of 33'-0" and a height of 7'-6". The pier is divided into two main sections by a vertical line. The left section is labeled "6 Spa @ 5'-0" 30'-0"" and contains six vertical bars, each labeled "B". The right section is labeled "33'-# 6 bars @ 12" cts. Bott. of Footing" and contains 33 vertical bars. A diagonal line representing the "Rely W. Bridge" is shown on the right side of the pier. The pier is supported by a foundation labeled "Sta. 118+07.28 Pier #1" and "Sta. 118+54.78 Pier #2". The drawing includes various dimensions and labels for the pier and its components.

Note:
Piles marked "B" to
be bolted as shown
in end view for Pier 2 only.

[illegible]

Diagram illustrating a four-step monolithically formed capacitor with a top plate. The structure is shown in cross-section, with dimensions and labels indicating its construction:

- Dimensions:**
 - Top plate width: $2''$
 - Top plate thickness: $2''$
 - Top plate height: $2''$
 - Top plate depth: $2''$
 - Top plate width (inner): $2''$
 - Top plate height (inner): $2''$
 - Top plate depth (inner): $2''$
 - Top plate width (outer): $2''$
 - Top plate height (outer): $2''$
 - Top plate depth (outer): $2''$
- Labels:**
 - p_1 or p_2 : Top plate
 - p_5 : Bottom plate
 - s_3 : Dielectric layer
 - p_6 : Bottom plate
- Text:**
 - Four steps monolithically with cap.

Showing typ.

Diagram illustrating the plan view of the bridge structure and surrounding area. The diagram shows two rectangular bridge piers, labeled Pier #1 and Pier #2, situated on a road. The road is labeled "Rdwy. West Bridge" and "Rdwy. East Bridge". A survey line is shown, labeled "Survey Ahead". The distance between the piers is marked as 44'-0". A north arrow is indicated by a line labeled "N".

Hand-drawn architectural drawing of a building facade, showing dimensions and labels. The drawing is oriented vertically on the page.

Dimensions (Vertical):

- Top section: 2'-6"
- Below top section: 2'-3"
- Below 2'-3": 1'-0"
- Below 1'-0": 2'-0"
- Below 2'-0": 3'
- Below 3': 5'-3"
- Bottom section: 2'-0"
- Total height: 7'-6"

Dimensions (Horizontal):

- Top section: 2'-6"
- Below top section: 3' (left), 2'-0" (center), 3' (right)
- Below 3': 2'-6" (left), 2'-6" (center), 2'-6" (right)
- Bottom section: 1'-3" (left), 5'-0" (center), 1'-3" (right)

Labels and Notes:

- Top left: "Verres" (vertical text)
- Left side: "9'-6" Pier 1" and "9'-6" Pier 2" (vertical text)
- Right side: "v₆ Pier 1" and "v₇ Pier 2" (vertical text)
- Center: "u₃" (vertical text)
- Below center: "h₁₃", "h₁₂", and "n₁" (vertical text)
- Bottom left: "n₂" (vertical text)
- Bottom right: "w" (vertical text)
- Bottom right: "12" (vertical text)

$\frac{7}{1-1}$ $\frac{3'-4''}{4'-11''} n$
 BARS n & n_1

Pier 1		Pier 2
Steel(88P36)	Type	Steel(88P36)
30Ton	Capacity	30Ton
14 Ft.	Est. Length	14 Ft.
14	No. Req'd	14

53	44	#4	10-11"	☐
1	66	#6	7'-2"	☐
u2	64	#5	12'-4"	☐
u3	120	#4	7'-4"	☐
u4	12	#6	5'-1"	☐
u5	32	#4	6'-4"	☐
u6	16	#4	6'-8"	☐

V6	30	#8	12'-6"	_____
V7	30	#8	12'-0"	_____
W	10	#9	32'-2"	_____

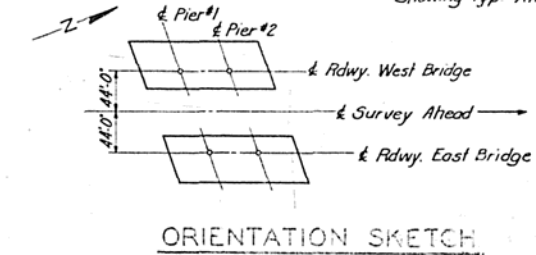
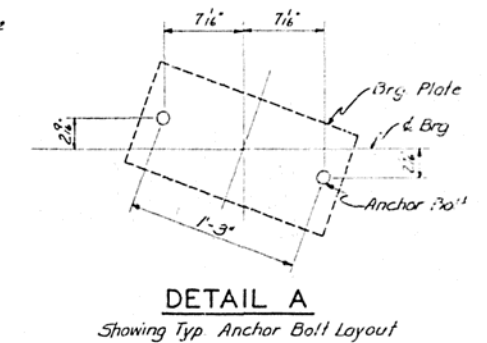
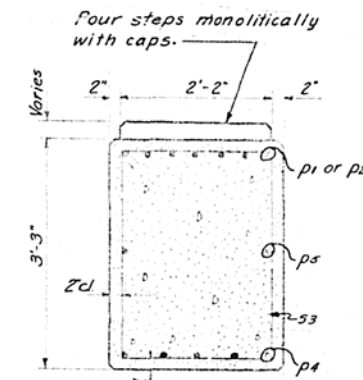
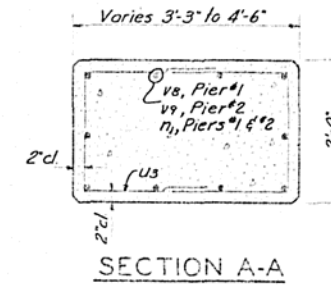
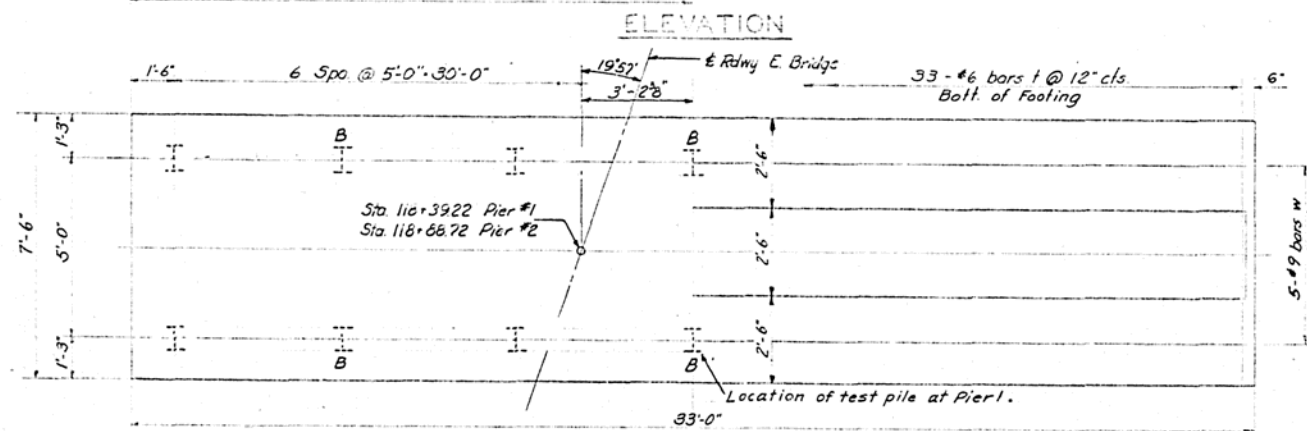
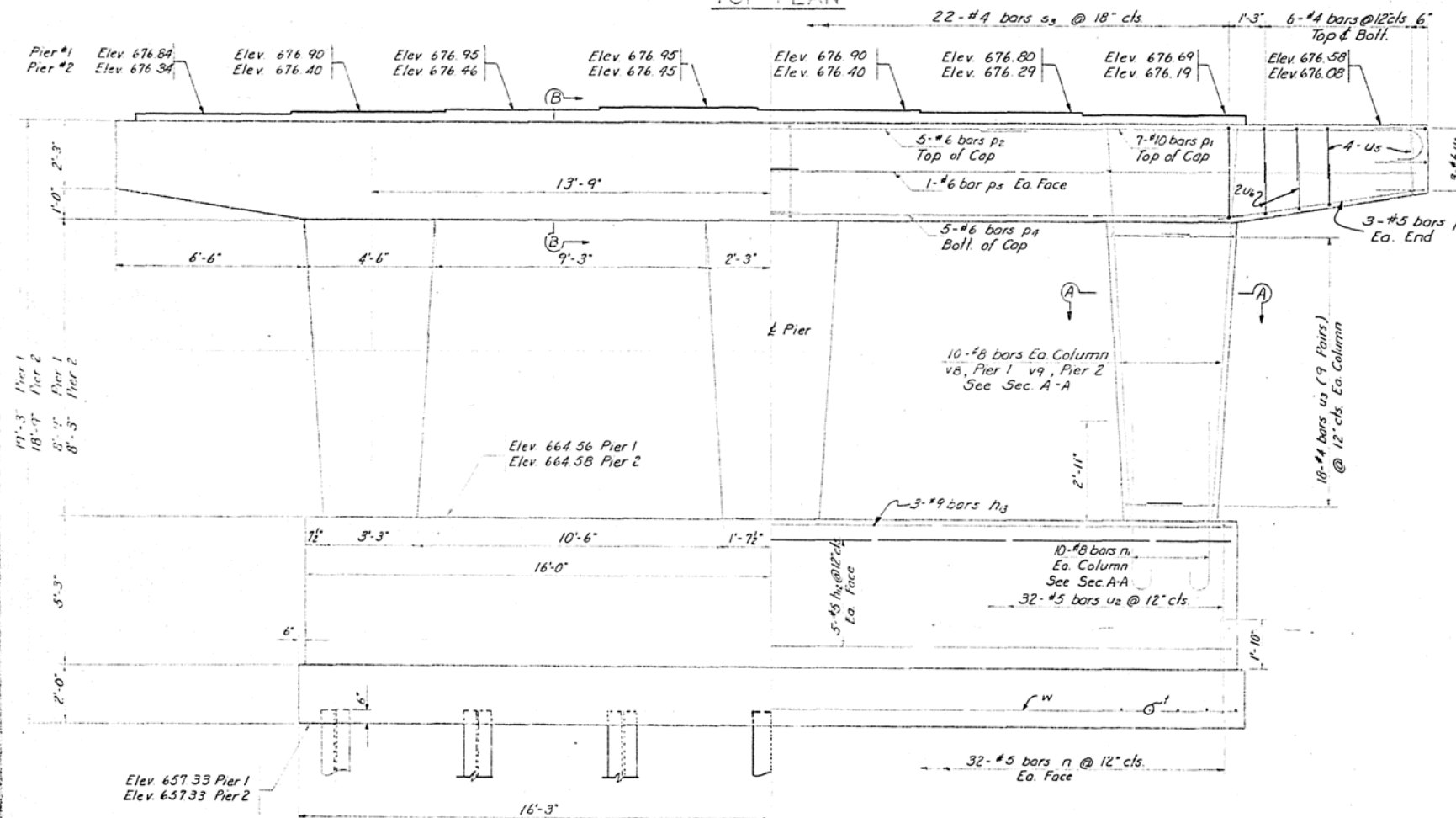
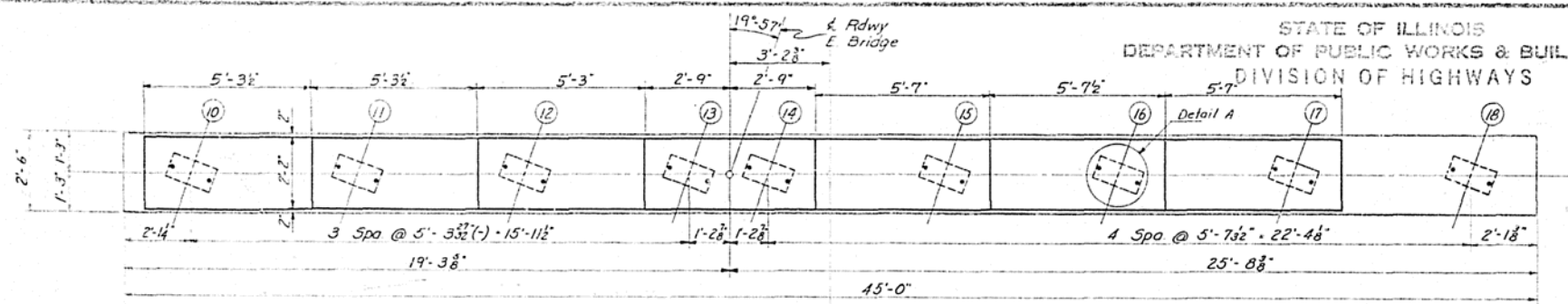
Class X Concrete	Cu Yds	109.9
Reinforcement Bars	Lbs.	11,440
Steel Piles (8BP36)	Lin Ft.	392

Class A Excavation
for Structures Cu Yds 155

F.A.I. ROUTE 57 SEC. 18-20 HB
CUMBERLAND COUNTY
STATION 118 + 48 (2)

Revised: Pile Data: Change 18-20 Ton-Cre Piles to 1' 30 Ton-Steel (88P36) Piles. Change brg. pads to steps.
3-4-63 Revise Footing Plan. Change Bill of Mat'l: 504 lin. ft. Cre Piles to 392 lin. ft. Steel Piles.
VDS

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



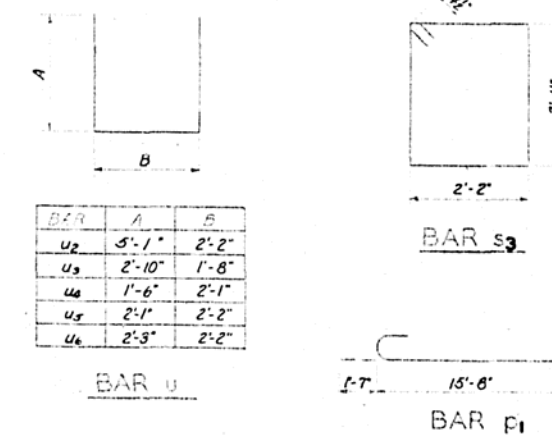
PILE DATA

Pier #1	Type	Pier #2
Steel (A36)	30 Ton	Steel (A36)
14 Ft. Est. Length	14 Ft.	14 Ft. Est. Length
* 14 No. Reg.	14	* 14 No. Reg.

* Includes 1 Steel Test Pile in permanent location at Pier 1.

BILL OF MATERIAL
EAST BRIDGE - PIERS 1 & 2

Item	Quantity	Unit	Notes
h ₁₂	20	#5	31'-8"
h ₁₃	6	#9	31'-8"
n	128	#5	3'-11"
n ₁	60	#8	6'-0"
p ₁	28	#10	17'-3"
p ₂	10	#6	16'-10"
p ₃	12	#5	7'-0"
p ₄	20	#6	17'-0"
p ₅	8	#6	23'-0"
s ₃	44	#4	10'-11"
t	6	#6	7'-2"
u ₂	64	#5	12'-4"
u ₃	108	#4	7'-4"
u ₄	12	#6	5'-1"
u ₅	32	#4	6'-4"
u ₆	16	#4	6'-8"
v ₈	30	#8	11'-9"
v ₉	30	#8	11'-3"
w	10	#9	32'-2"
Class X Concrete	Cu Yds	109.1	
Reinforcement Bars	Lbs.	11,270	
Steel (A36) Piles	Ln Ft.	378	
Test Piles (Steel-A36) Each		1	
Class A Excavation for Structures	Cu Yds	145	



Note: Piles marked 'B' to be battered as shown in end view for Pier 2 only.

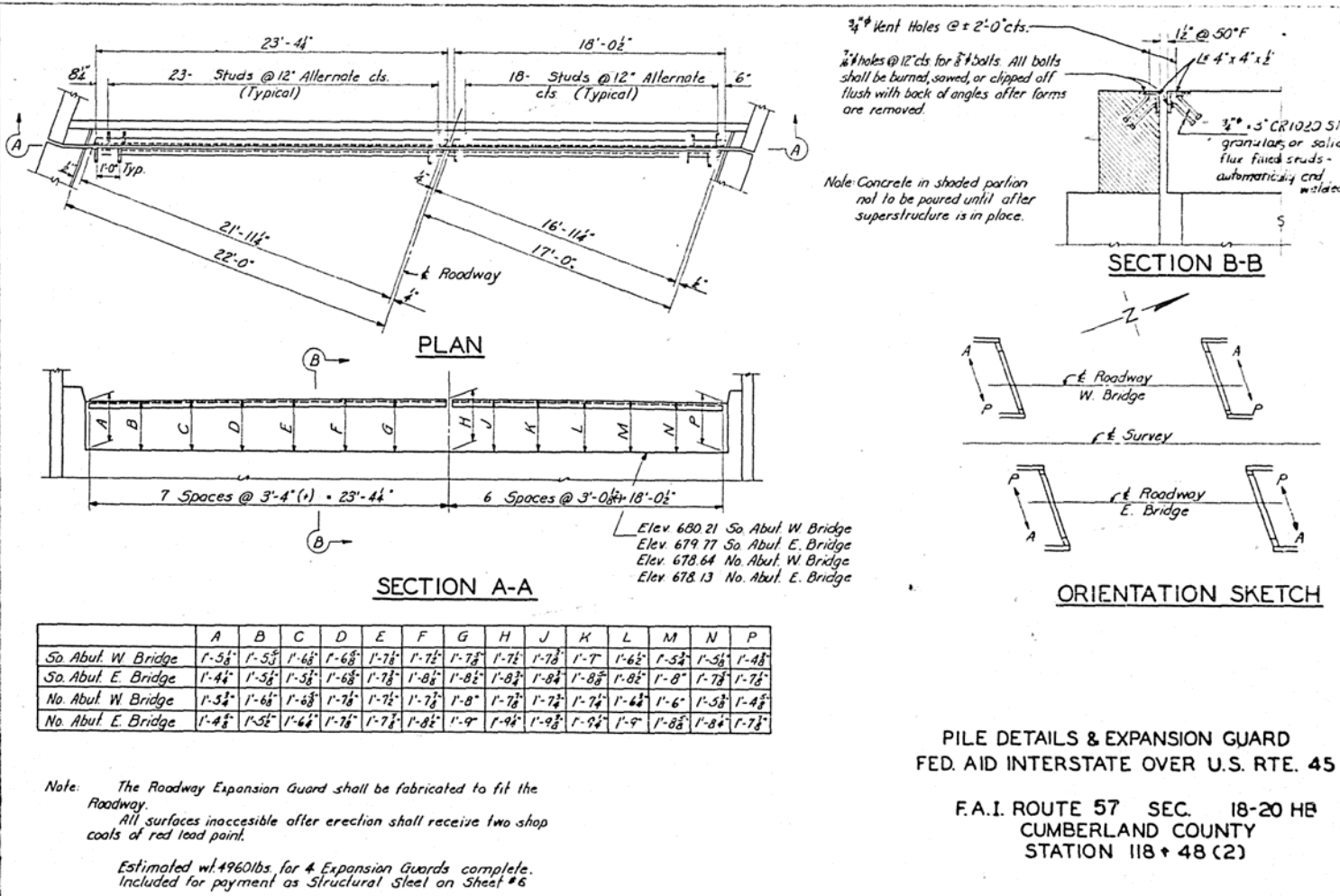
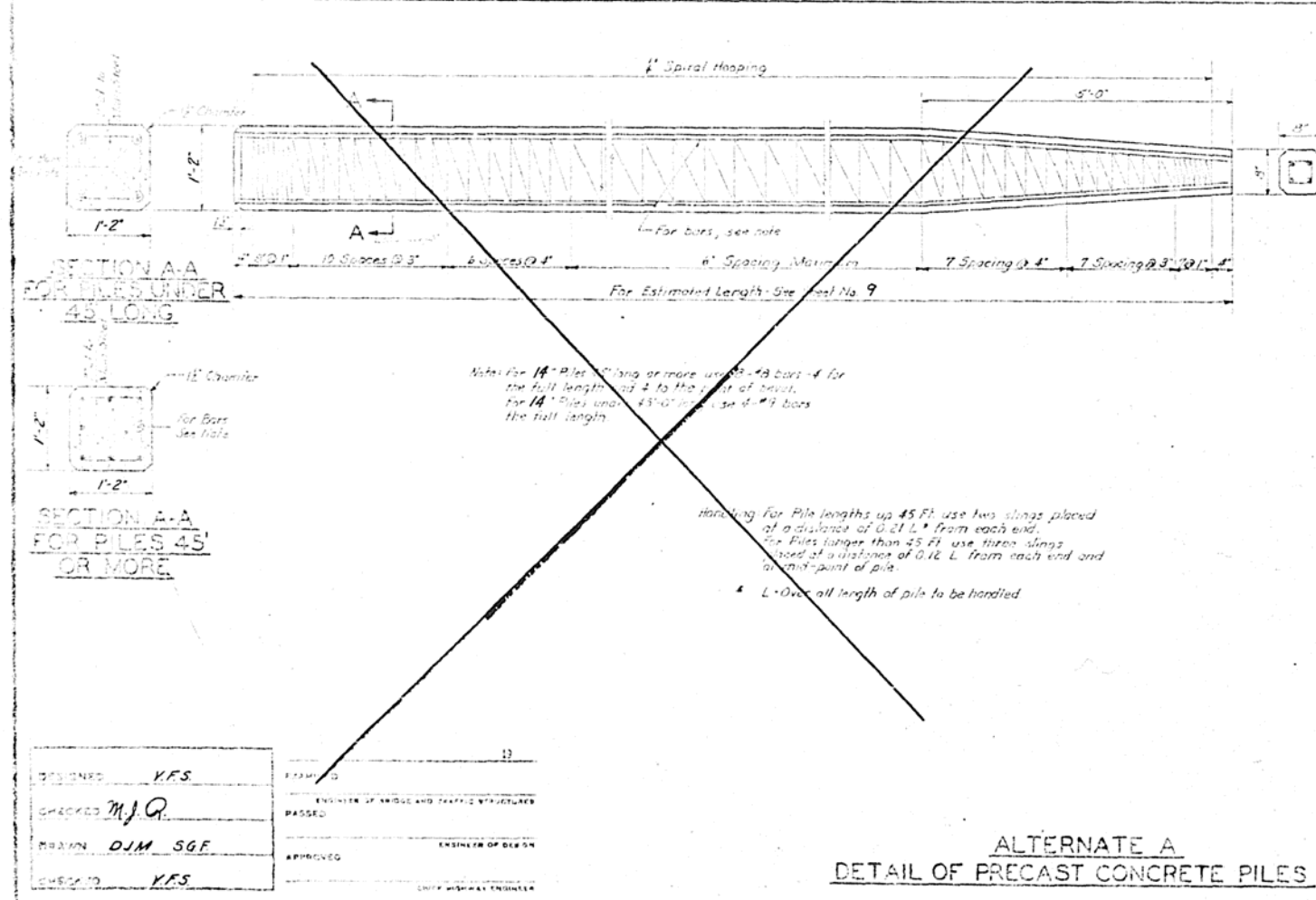
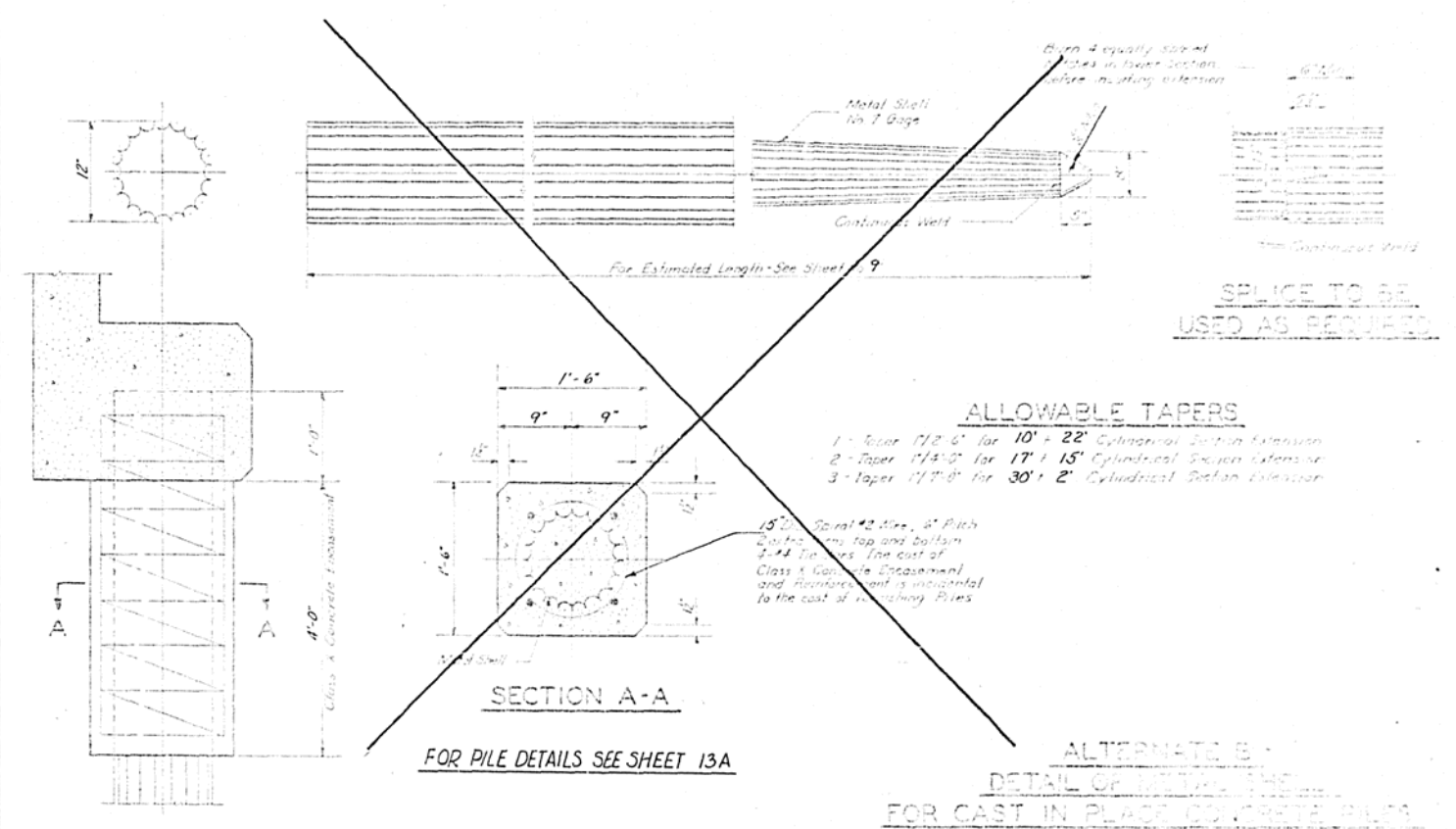
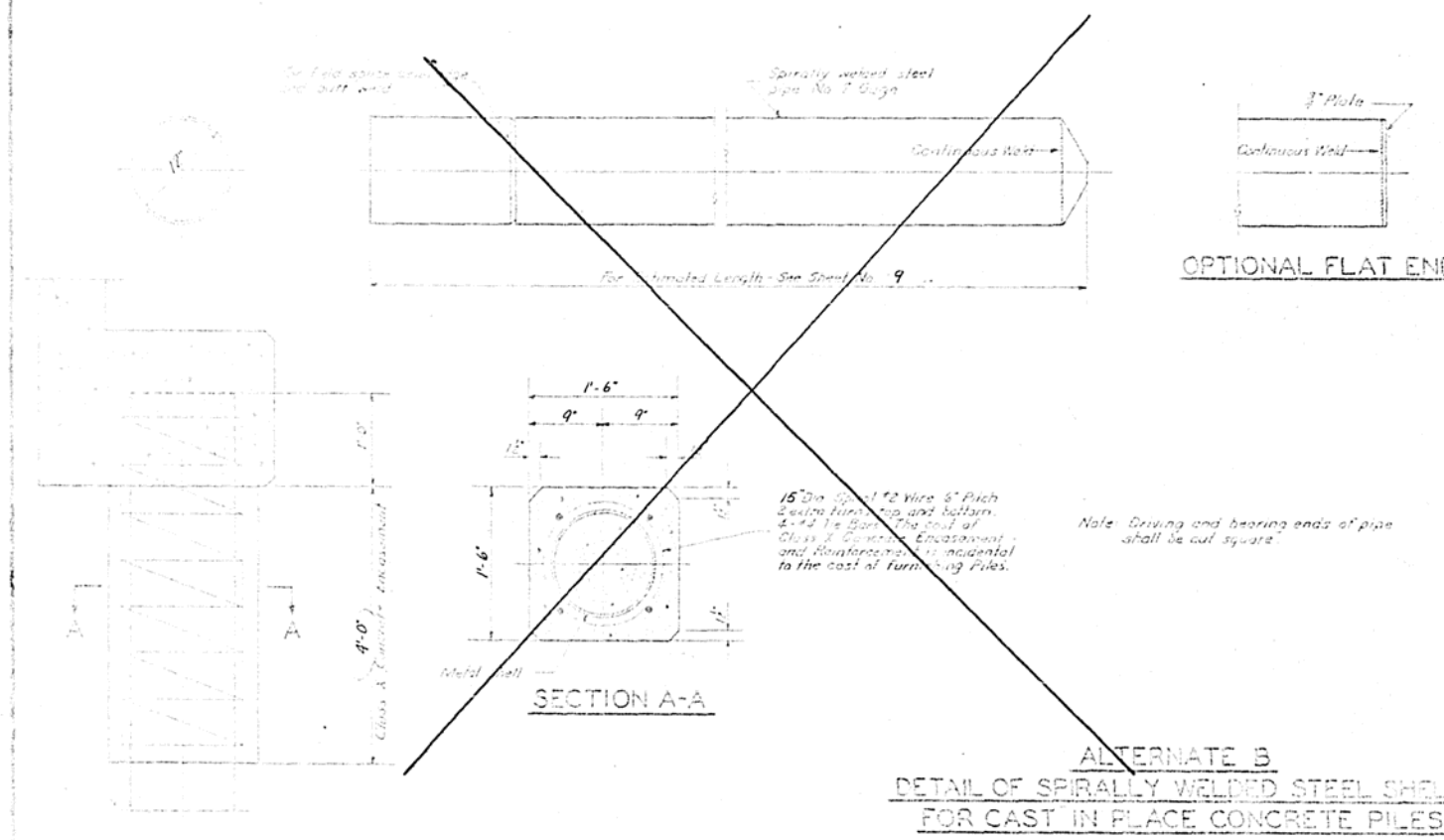
DESIGNED	EXAMINED
V.F.S.	
CHECKED M.J.D.	
DRAWN V.F.S. S.G.F.	
CHECKED D.J.M.	

Revised: Revise Pile Data; Change 18-20 Ton Cre. Piles to 14-30 Ton Steel Piles.
3-4-63 Change Bill of Mat'l. 504 Ln. Ft. Cre. Piles to 378 Ln. Ft. Steel Piles.

EAST BRIDGE - PIERS 1 & 2
FED. AID INTERSTATE OVER U.S. RTE. 45
F.A.I. ROUTE 57 SEC. 18-20 HB
CUMBERLAND COUNTY
STATION 118 + 48 (2)

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

PROJECT: 18-20 HB
STATION: 118+48.2
SHEET: 13

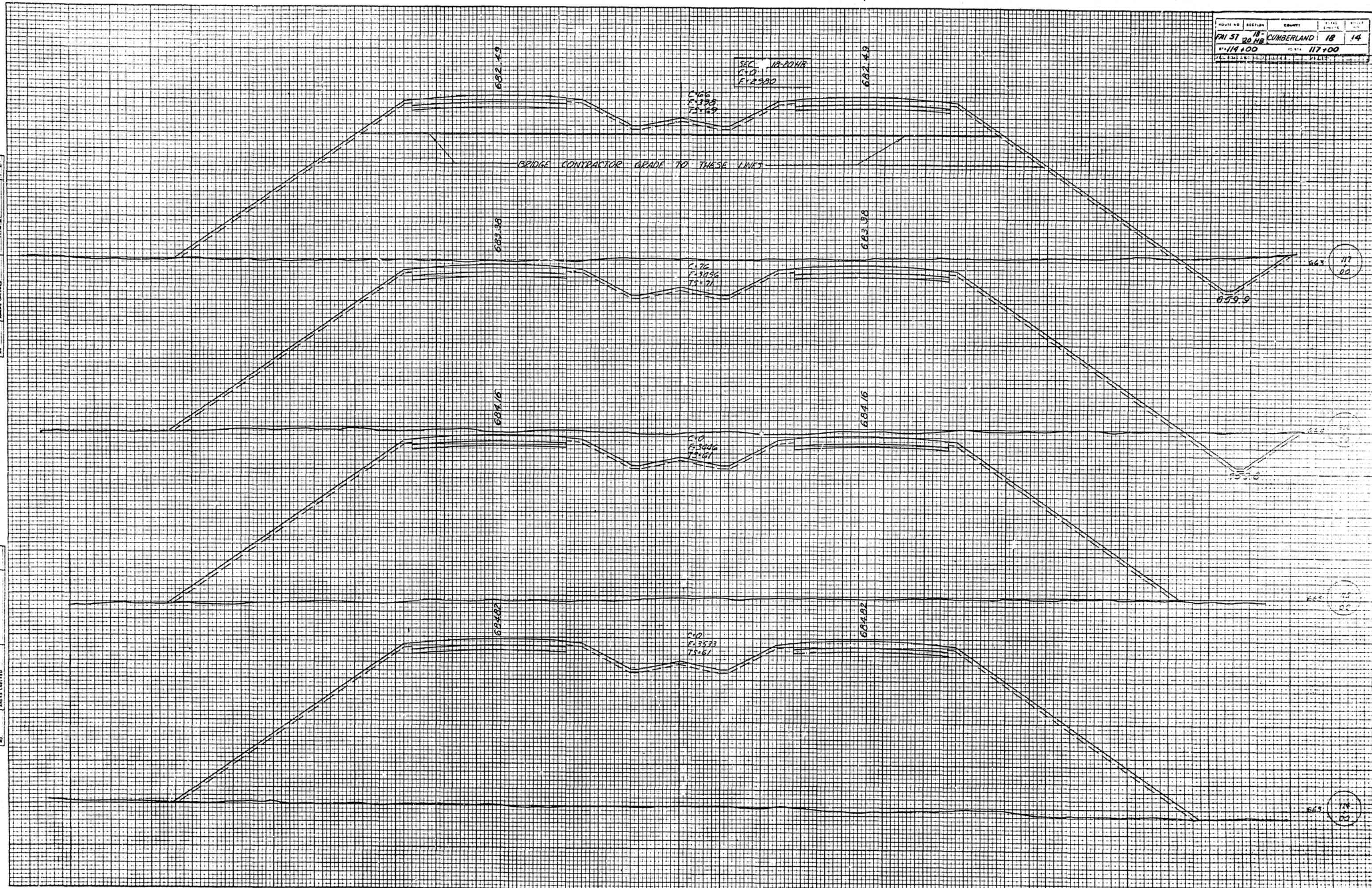


	A	B	C	D	E	F	G	H	J	K	L	M	N	P
So. Abut. W. Bridge	1'-5 1/2"	1'-5 3/8"	1'-6 1/8"	1'-6 3/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-6 1/8"	1'-5 3/8"	1'-5 1/2"	1'-4 1/8"
So. Abut. E. Bridge	1'-4 1/2"	1'-5 1/8"	1'-5 3/8"	1'-6 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-6 1/8"	1'-5 3/8"	1'-5 1/2"	1'-4 1/8"
No. Abut. W. Bridge	1'-3 1/2"	1'-6 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-6 1/8"	1'-5 3/8"	1'-5 1/2"	1'-4 1/8"
No. Abut. E. Bridge	1'-4 1/8"	1'-5 1/2"	1'-6 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-7 1/8"	1'-6 1/8"	1'-5 3/8"	1'-5 1/2"	1'-4 1/8"

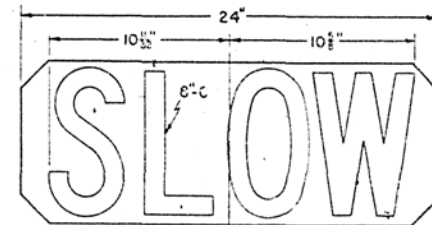
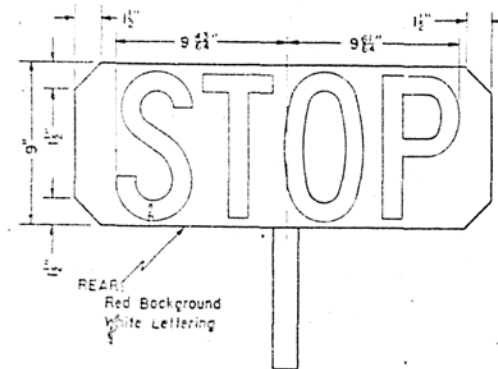
Note: The Roadway Expansion Guard shall be fabricated to fit the Roadway.
All surfaces inaccessible after erection shall receive two shop coats of red lead paint.
Estimated wt. 4960 lbs. for 4 Expansion Guards complete.
Included for payment as Structural Steel on Sheet #6.

PILE DETAILS & EXPANSION GUARD
FED. AID INTERSTATE OVER U.S. RTE. 45
F.A.I. ROUTE 57 SEC. 18-20 HB
CUMBERLAND COUNTY
STATION 118+48 (2)

ORIGINAL SURVEY	SUNSHINE	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	ARLIS		
NO.	AREAS CHECKED		



STANDARD DESIGN FOR FLAGMAN TRAFFIC CONTROL SIGN



-NOTE-
The paddle type sign used by the flagmen to direct traffic shall be constructed with "STOP" on one side and "SLOW" on the reverse side.

Signs may be constructed with a short handle or a long staff which rests on the ground.

The material for the sign shall be 1/4" Exterior-Grade A-A Plywood or Exterior D.F.P.A.-2 sides sound.

These signs shall be furnished by the Contractor and shall be used by the flagmen in lieu of red flags or other signaling devices.

The cost of furnishing and maintaining the signs will be considered incidental to the contract and no additional compensation will be allowed.

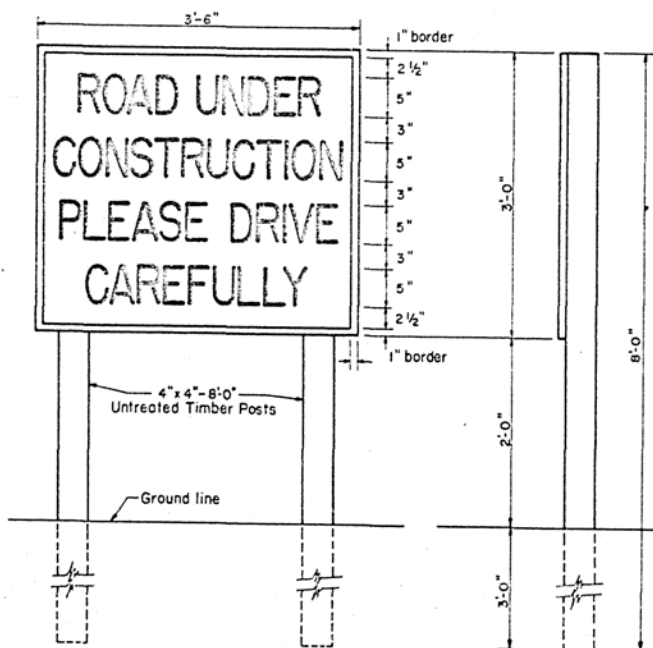
STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BLDGS DIVISION OF HIGHWAYS		REVISIONS	
PASSED	DATE	BY	DATE
APPROVED	1954		
ENGINEER OF ROAD PLANS AND CONTRACTS			
APPROVED	1954		
ENGINEER OF DESIGN			

STANDARD 2114

STANDARD DESIGN SIGN FOR ROAD UNDER CONSTRUCTION

GENERAL NOTES

Signs shall be made of wood (1" lumber rigidly cleated); or of metal (18 gage); or of B-B Exterior, High Density Overlay (both sides) Douglas Fir Plywood conforming to the requirements set forth in Commercial Standard C54-55 published by the U.S. Department of Commerce (5/8" thick). When plywood is used, the four edges shall be sealed with aluminum paint conforming to the requirements of Article 126.22 of the Standard Specifications. The Contractor shall furnish all material and labor for constructing and erecting the signs. The signs shall be placed prior to the starting of actual construction operations at each end of the construction section, or as directed by the Engineer. Before any sign is erected, it shall be approved by the Engineer as to its appearance and quality of construction. The signs shall remain in place and shall be maintained in a satisfactory condition until the project is accepted by the Department. The Contractor shall then remove the signs and the material will become his property. The border shall be black and the letters printed black on a white background. The letters, width of stroke, width of letters, and shape shall be Series C of the Standard Alphabets for Highway Signs, Public Roads Administration, Federal Works Agency, 1952. The cost of the signs, the erection and later removal of the signs shall be incidental to the cost of construction.



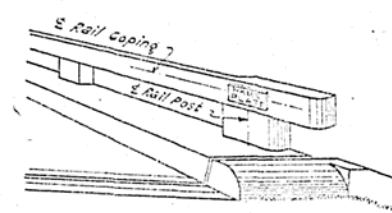
STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS		REVISIONS	
PASSED	DATE	BY	DATE
APPROVED	NOVEMBER 28, 1951	I.B.	5-10-56
ENGINEER OF ROAD PLANS AND CONTRACTS		J.F.L.	11-15-58
APPROVED	NOVEMBER 29, 1951	W.H.F.	4-28-61
ENGINEER OF DESIGN			

STANDARD 1971-3

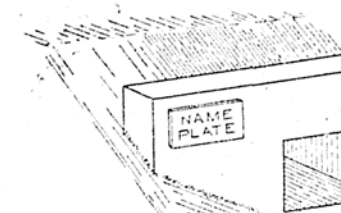
Redrawn W.H.F. 4-28-61

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

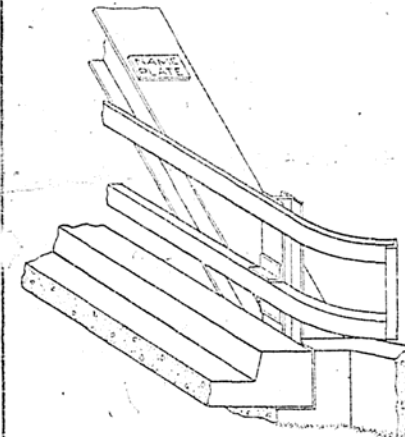
Sheet 1 of 1



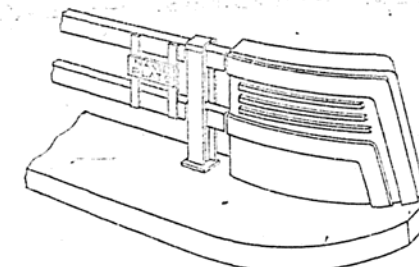
FOR CONCRETE RAILS



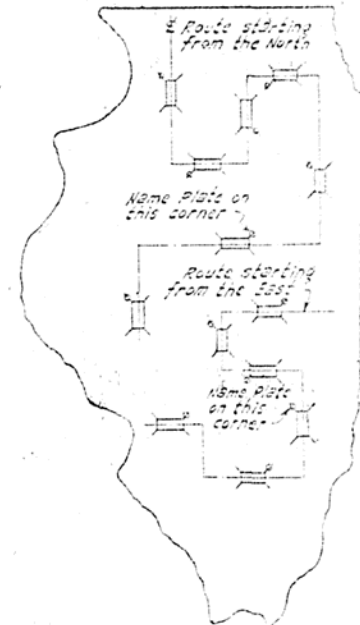
FOR CULVERT HEADWALLS



FOR TRUSSES



FOR STEEL RAILS



SEE DESIGN PLANS
FOR
LETTERING

EXAMINED	OCT 5 1955
ENGINEER OF BRIDGE TRAFFIC STRUCTS	
PASSED	
ENGINEER OF DESIGN	
APPROVED	
CHIEF HIGHWAY ENGINEER	

MATERIAL: Best quality brass or bronze.
BORDER & LETTERING: Raised 1/8 inch. Square cut and not tapered. Top surface polished.
FOR CONCRETE RAILS: Four Jugs of at least three inches long, cast on
FOR CULVERT HEADWALLS: Back of plate.
FOR STEEL TRUSS SPAN: Plate to be fastened on steel member of fabricating shop by
FOR STEEL RAILS: Being ground entire perimeter of plate.
FOR CONCRETE RAILS: Plate to be bolted on with 4 x 4 x 1/2 inch or bronze hex heads 5/16
FOR STEEL TRUSS SPAN: Bolt to be centered on 1/2 of rail post and 1/2 of span's coding.
FOR STEEL RAILS: Bolt to end post above five feet above roadway.
FOR SUBWAYS: Place midway between horizontal rail members.
FOR SUBWAYS: See design plans for location.

SEC. A-A

DETAIL OF
NAME PLATE FOR BRIDGES

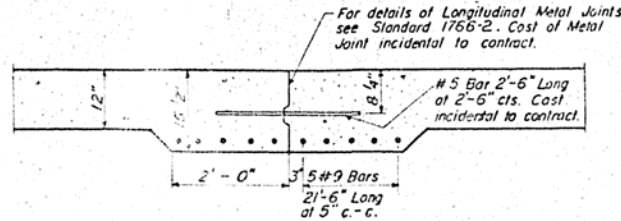
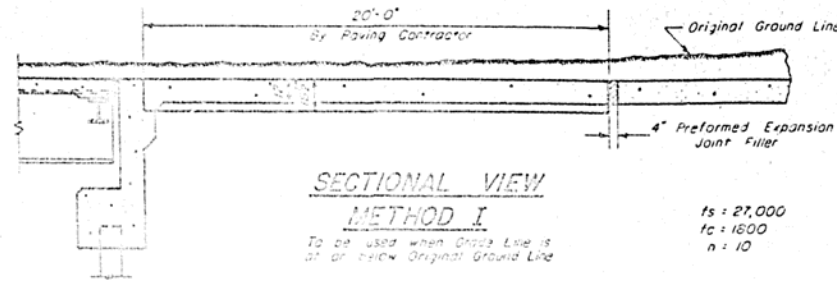
2-27-53-J.S.M.

Sign's. Rev. Nov '58

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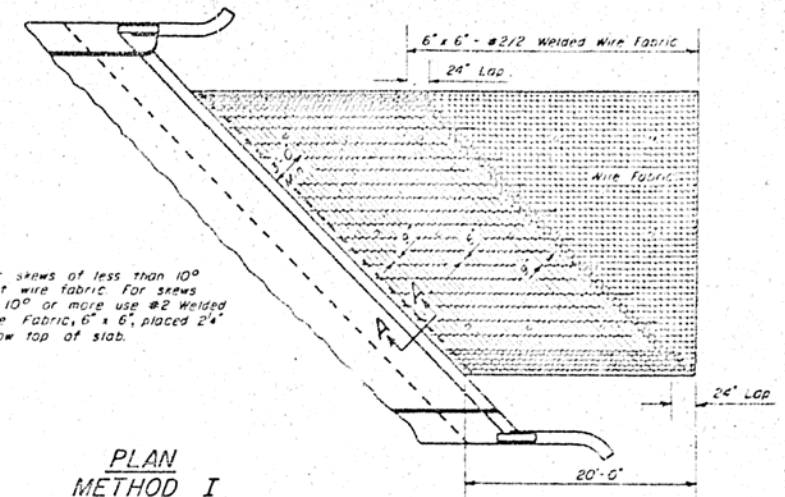
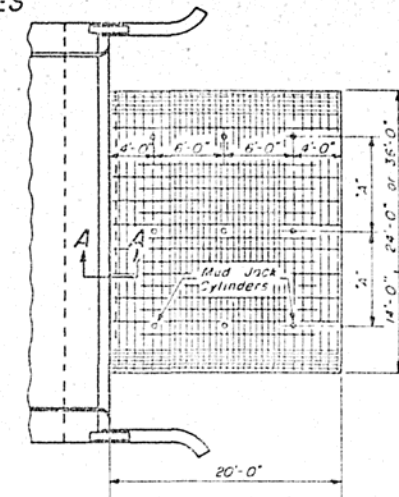
STD. No. 2113

DETAILS OF BRIDGE APPROACHES FOR FEDERAL AID INTERSTATE ROUTES



OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joint shall be located at the edge of Traffic Lane.

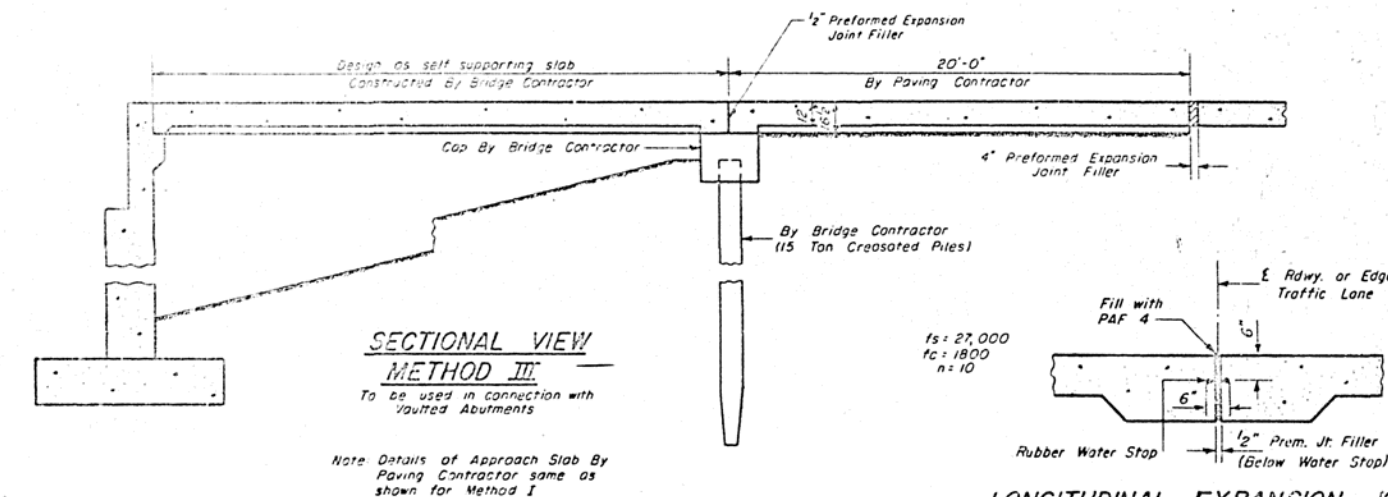
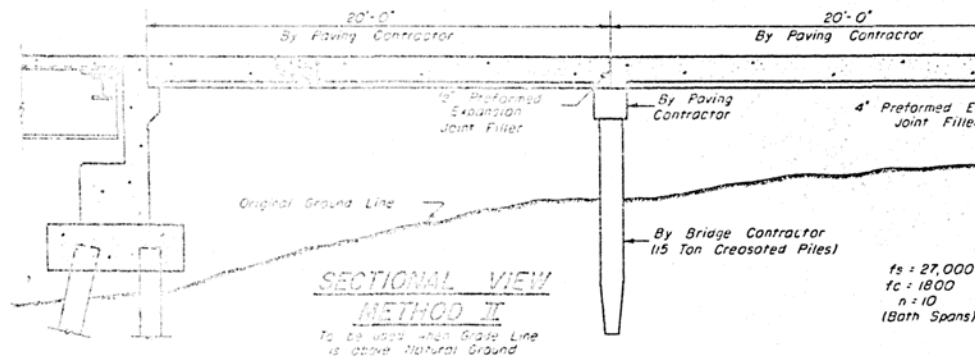


PLAN METHOD I

TABLE OF "A" DIMENSIONS

Width of Approach Slab	Dimension "A" (Spacing of Mud Jack Cylinders)
14'	6'-0"
24'	8'-0"
36'	2 Spaces at 8'-0"

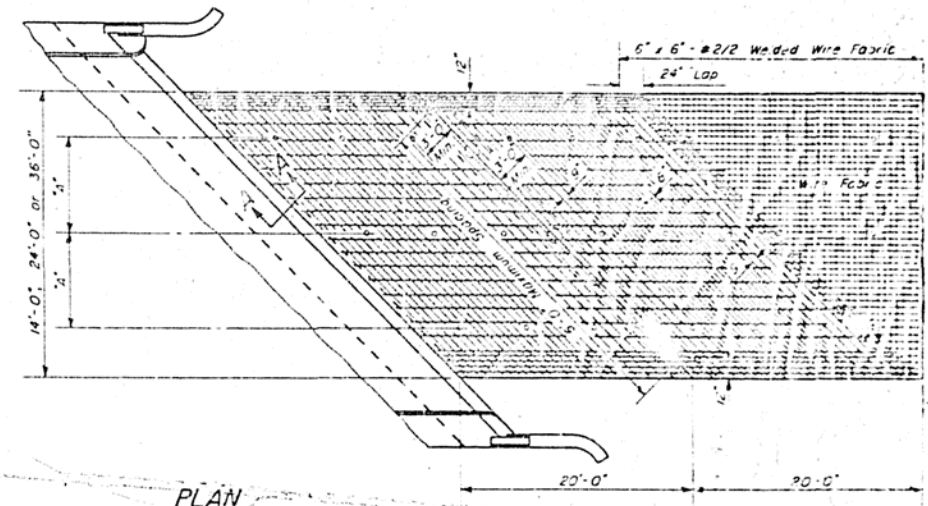
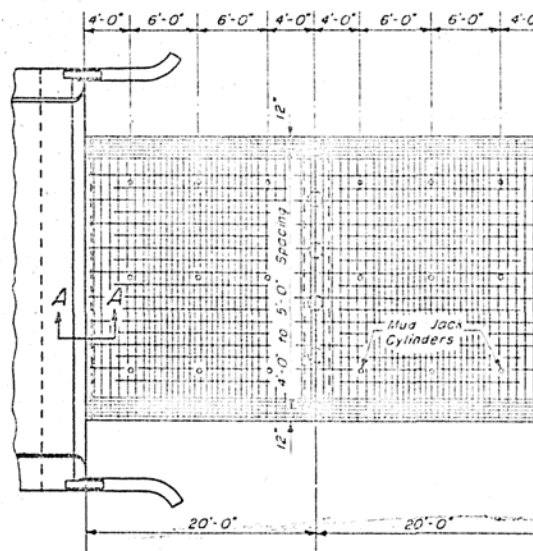
Expanded Metal weighing not less than 78 Lbs. per 100 sq ft. or a welded wire mat weighing not less than 78 Lbs. per 100 sq ft. having members of equal size in both directions and spaced not over 8" apart may be used instead of the #2 Welded Wire Fabric, 6" x 6", provided the expanded metal or bar mat is furnished at no additional cost to the State.



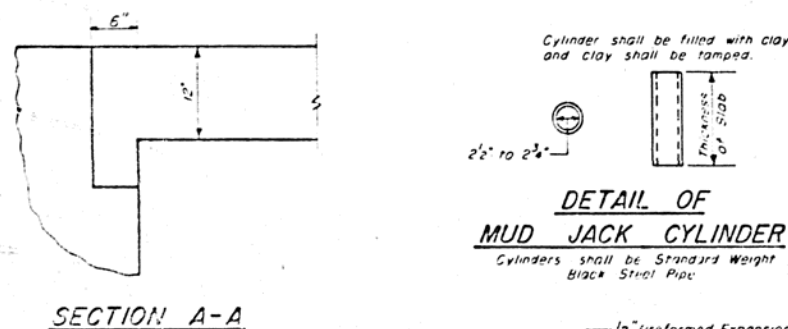
Note Details of Approach Slab By Paving Contractor same as shown for Method I

LONGITUDINAL EXPANSION JOINT

To be used when Approach Slabs are greater than 36'-0" wide. Joint shall be placed at edge of Traffic Lane nearest to the E of the total width of Approach Slab.

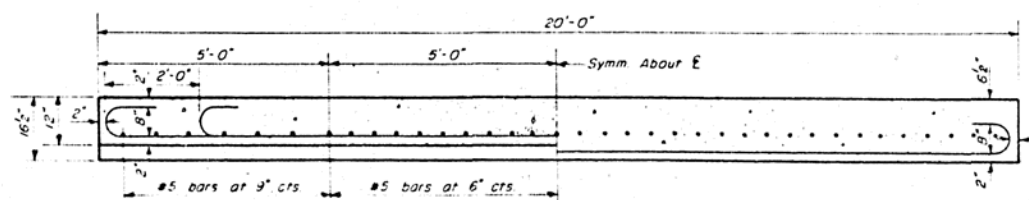


PLAN METHOD II



DETAIL OF MUD JACK CYLINDER

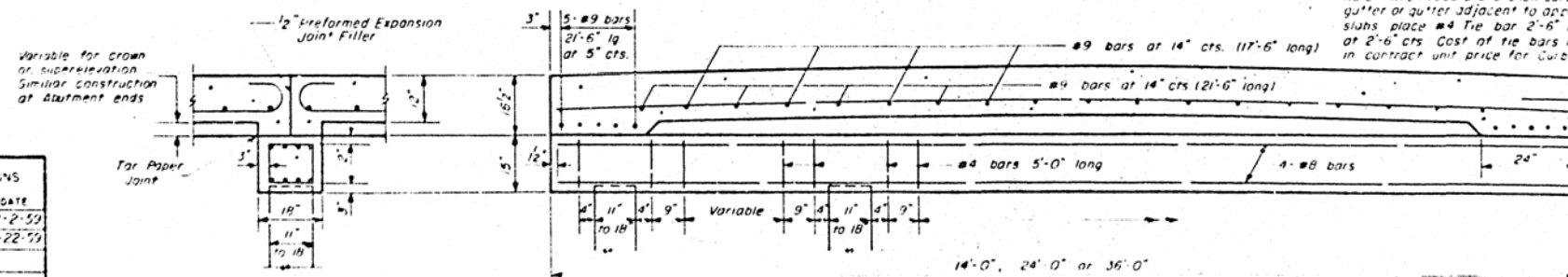
Cylinders shall be Standard Weight Black Steel Pipe



LONGITUDINAL SECTION THRU CENTER OF SLAB

LONGITUDINAL SECTION THRU THICKENED EDGE OF SLAB

Note: When road plans show curb and gutter or gutter adjacent to approach slabs place #4 tie bar 2'-6" long at 2'-6" cts. Cost of tie bars included in contract unit price for Curb & Gutter or Gutter.



SECTIONAL VIEW OF CONCRETE SLAB AND CAP

GENERAL NOTES

The slab or slabs shall be paid for at the contract unit price for PORTLAND CEMENT CONCRETE PAVEMENT (18" x 12" x 18"). The concrete cap shall be paid for at the contract unit price for CLASS X CONCRETE.

Reinforcement Bars, except tie bars for curb and gutter or gutter, shall be paid for at the contract unit price for REINFORCEMENT BARS.

The Welded Wire Fabric, Mud Jack Cylinders and Preformed Expansion Joint Filler shall be included in the unit price bid for PORTLAND CEMENT CONCRETE PAVEMENT (18" x 12" x 18").

Preformed Expansion Joint Filler shall conform to Section 19 of the Standard Specifications.

Width of Bridge Approach Slab pours shall be determined before the reinforcement bars are fabricated.

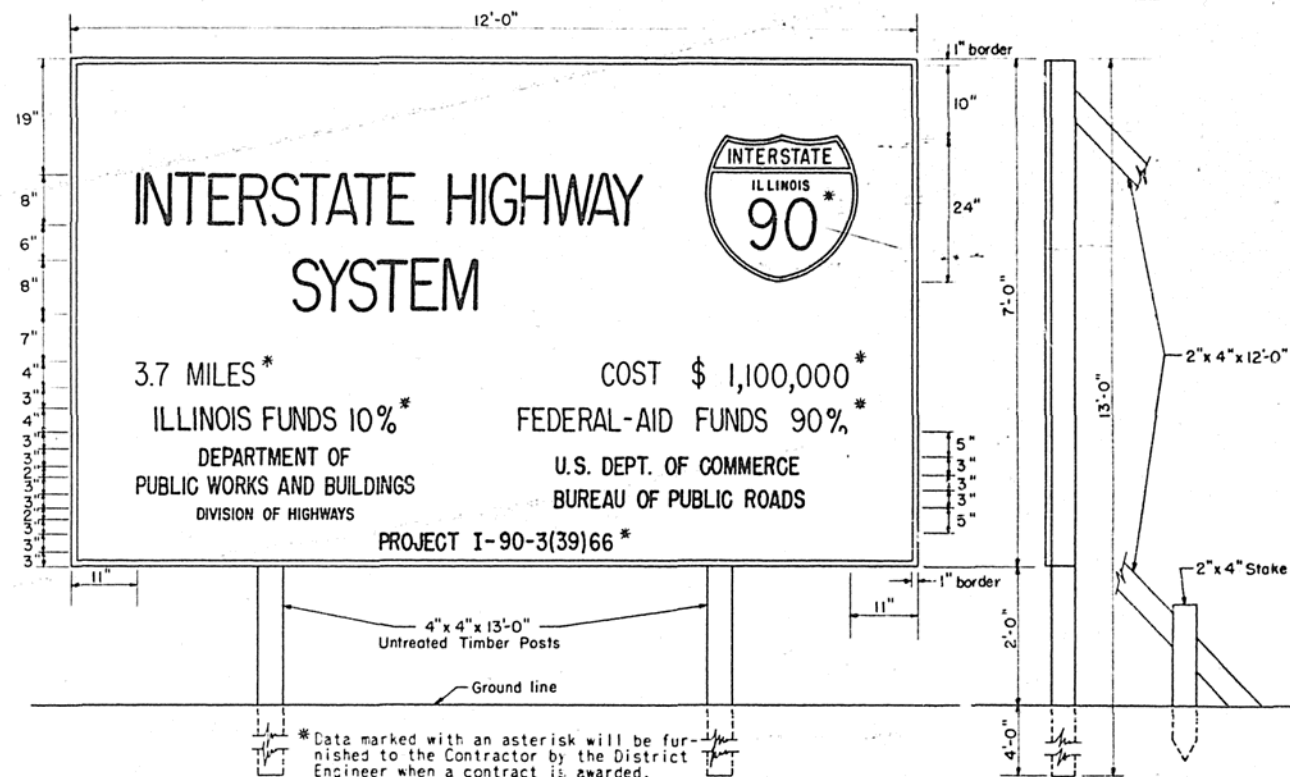
Quantities shown for Reinforcement Bars are for two (2) thickened edges only.

STATE OF ILLINOIS	REVISIONS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS	BY DATE
DIVISION OF HIGHWAYS	BY DATE
DESIGNED BY <i>WAS</i> 2-2-59	BY DATE
CHECKED BY <i>CET</i> 4-22-59	BY DATE
APPROVED BY <i>WAS</i> 2-2-59	BY DATE
ENGINEER <i>WAS</i>	BY DATE

STANDARD DESIGN

SIGN FOR INTERSTATE SYSTEM PROJECT

(FEDERAL AND STATE)



*Data marked with an asterisk will be furnished to the Contractor by the District Engineer when a contract is awarded.

Signs shall be made of wood (1" lumber rigidly cleated); or of metal (18 gage); or of B-9 Exterior, High Density Overlay (both sides) Douglas Fir Plywood conforming to the requirements set forth in Commercial Standard CS 45-55 published by the U.S. Department of Commerce (5/8" thick). When plywood is used, the four edges shall be sealed with aluminum paint conforming to the requirements of Article 126.22 of the Standard Specifications.

The Contractor shall furnish all material, including shields, and labor for constructing and erecting the signs. The signs shall be placed prior to the starting of actual construction operations. Before any sign is erected, it shall be approved by the Engineer as to its appearance and quality of construction. The signs shall remain in place and shall be maintained in a satisfactory condition until the project is accepted by the Department. The Contractor shall then remove the signs and the material, including shields, will become his property.

The border shall be black and the letters printed black on a white background. The letters, width of stroke, width of letters, and shape shall be Series C of the "Standard Alphabets for Highway Signs," Public Roads Administration, Federal Works Agency, 1952.

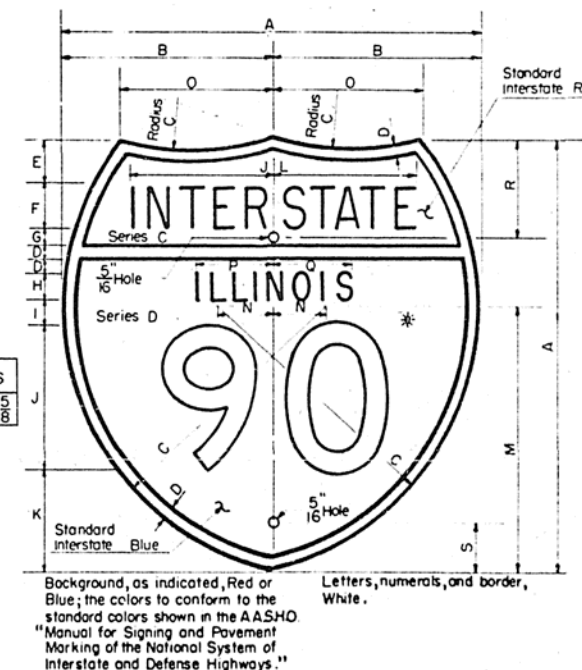
The number of signs and their location will be shown on the plans. The cost of the signs, the erection and later removal of the signs shall be incidental to the cost of construction.

SHIELD FOR SIGN

Shields shall be made of Aluminum Alloy Sheet and Plate, A.S.T.M. Designation B 209, Alloy G.S. 11A-T6; or of steel (18 gage); or of B-9 Exterior, High Density Overlay (both sides) Douglas Fir Plywood conforming to the requirements set forth in Commercial Standard CS 45-55 published by the U.S. Department of Commerce (5/8" thick). When plywood is used, the edge of the shield shall be sealed with aluminum paint conforming to the requirements of Article 126.22 of the Standard Specifications.

Reflectorized material shall not be used. Mounting hardware shall be rust proof.

NO	Shield Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
M-101	24	24	12	15	3/4	2 3/8	2 1/2	1	1 1/2	1 3/8	8	5 3/4	8 1/4	14 3/8	3	8 3/4	4 1/8	4 9/16	5 1/4	12 1/2



STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS		REVISIONS	
PASSED	DATE	BY	DATE
PASSED	November 30, 1960	W.H.F.	2-1-61
APPROVED	November 30, 1960	W.H.F.	4-25-61

STANDARD 2153-2

WHF 11-18-60