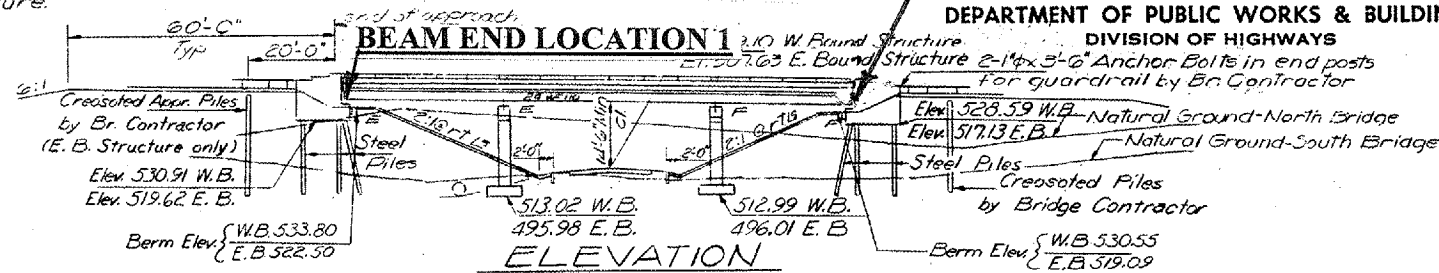


B.M. #20 R.R. Spike in 15" Oak
140' Lt. Eastbound Lane
Sta. 259+57 El. 518.63
No existing structure.

BEAM END LOCATION 2

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



Notes:
Deck shall be poured commencing at the West Abutments and shall continue to the East Abutments.

FAI 24
D9 BRIDGE PAINTING FY 08-1
JOHNSON & WILLIAMSON COUNTIES
CONTRACT 78020
SHEET 20 OF 35

All rebar diameters as shown.
Rivets 3/4" φ, open holes 1/16" φ, unless otherwise noted.
Diaphragm connections may be adapted to shop welding subject to approval by the Engineer.
The basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.
Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
Anchor bolts shall be set before riveting diaphragms over support.

STATION 620+29.36 BUILT BY STATE OF ILLINOIS F.A.I. RT. 24 SEC. 44-6HB-1 F.A. PROJ. I-24-1(30) LOADING HS20-44 & ALT.

STATION 258+93.67 BUILT BY STATE OF ILLINOIS F.A.I. RT. 24 SEC. 44-6HB-1 F.A. PROJ. I-24-1(30) LOADING HS20-44 & ALT.

NAME PLATES

See Std. 2113-1

STRESS TABLE - W. BOUND STRUCTURE

Table of Moments and Reactions-Interior Beam									
Moments (Ft. Kips)					Reactions (Kips)				
4.Sp.1	Pier 1	5.Sp.2	Pier 2	4.Sp.3	W.Abut.	Pier 1	Pier 2	E.Abut.	
D.L.	93.9	-218.8	131.7	-190.0	57.0	15.36	57.30	52.72	11.49
L.L.	215.2	-175.8	228.5	-173.8	178.1	34.66	45.41	45.92	32.31
Imp.	64.5	-52.8	68.5	-52.1	53.4	10.39	13.62	13.78	9.69
Total	373.6	-447.4	428.7	-415.9	231.5	60.41	116.33	112.42	53.49

STRESS TABLE - E. BOUND STRUCTURE

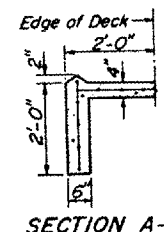
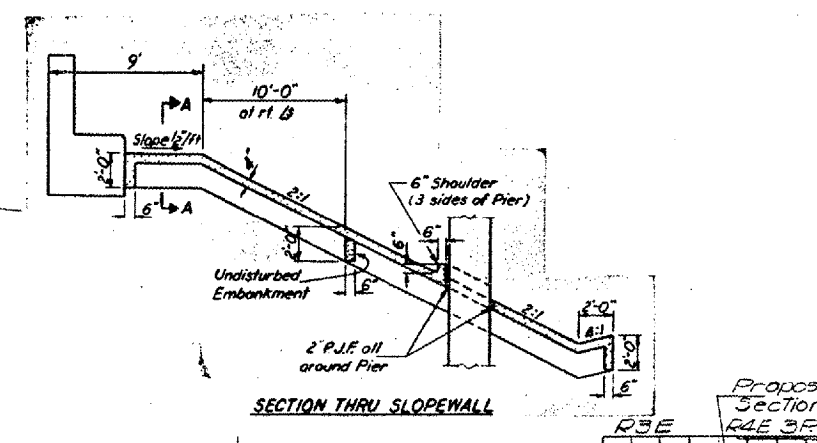
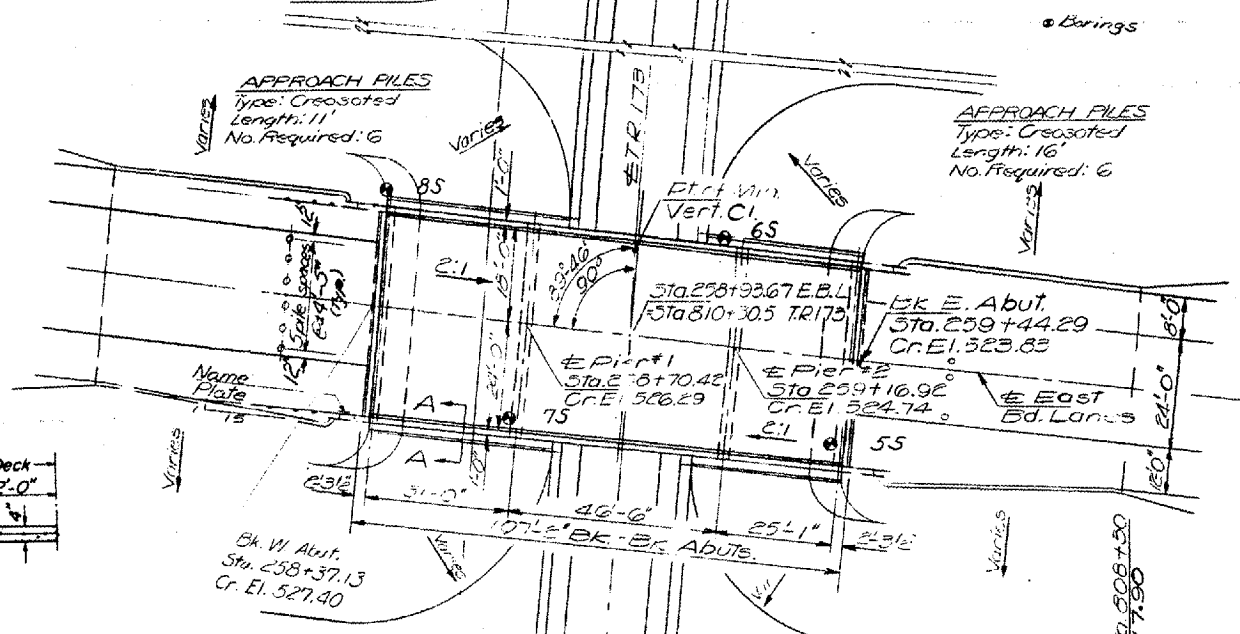
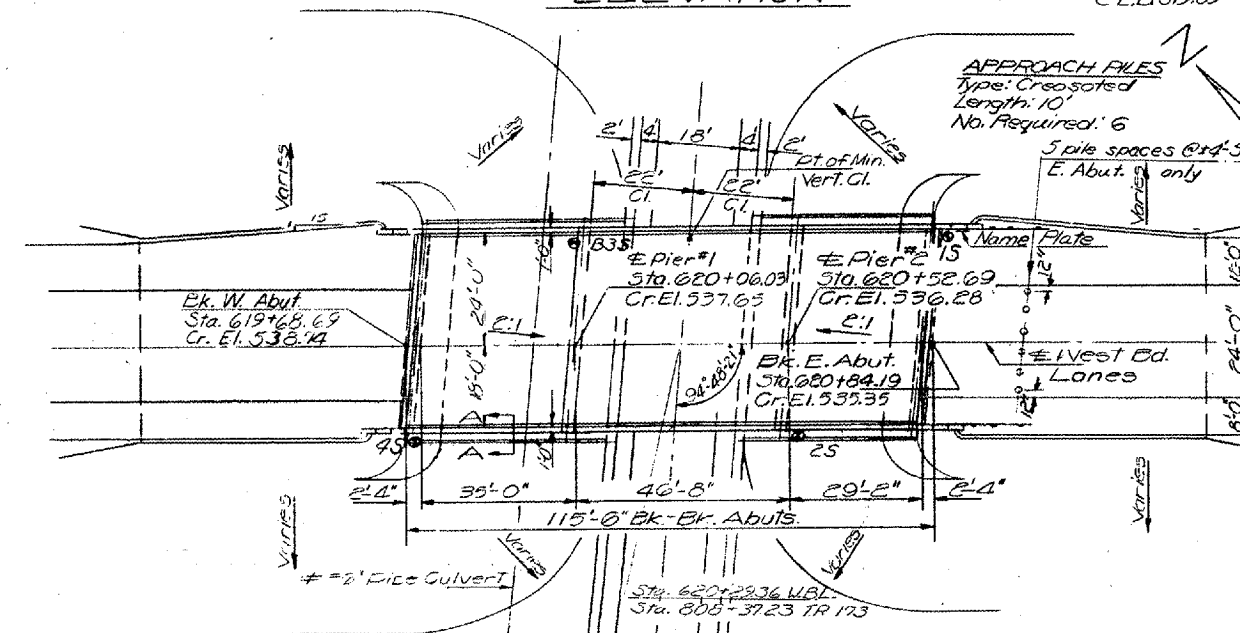
Table of Moments and Reactions-Interior Beam									
Moments (Ft. Kips)					Reactions (Kips)				
4.Sp.1	Pier 1	5.Sp.2	Pier 2	4.Sp.3	W.Abut.	Pier 1	Pier 2	E.Abut.	
D.L.	60.7	-204.2	139.4	-104.5	19.4	12.55	54.87	51.13	8.13
L.L.	189.3	-164.3	220.8	-180.4	151.2	33.15	44.84	46.15	32.31
Imp.	56.8	-49.3	66.3	-54.1	45.4	9.95	13.45	13.85	9.94
Total	306.8	-417.8	426.5	-419.0	216.0	55.65	113.16	111.13	48.60

Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft.
Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer.
The Contractor shall drive 1 steel test pile each in permanent locations at west abutment carrying west bound lanes and at the east abutment carrying east bound lanes as directed by the Engineer before ordering the remainder of piles.

Class A Excavation for structures includes excavation for slope wall.
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
The concrete rail section above the mandatory construction joint at the top of the pile shall be constructed of Class X Conc. except the aggregates shall conform to the requirements of Handrail Conc.

BILL OF MATERIAL

Item	Unit	Sub	Super	Total
Class A Excavation for Structures	Cu. Yds.	830		830
Rock Excavation for Structures	Cu. Yds.	80		80
Protective Coat	Sq. Yds.		1,160	1,160
Class X Concrete	Cu. Yds.	446.7	309.2	755.9
Aluminum Railing	Lin. Ft.		435	435
Reinforcement Bars	Pounds	32,230	76,990	109,220
Steel Piles (8 BP36)	Lin. Ft.	1,062		1,062
Test Piles Steel (8 BP36)	Each	2		2
Name Plates	Each	2		2
Creasoted Files (up to 20')	Lin. Ft.	222		222
Slope Wall 4"	Sq. Yds.	1,000		1,000
* Structural Steel	L. Sum.		1	1
Preformed Joint Sealer	Lin. Ft.		84	84



PLAN

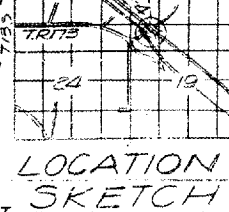
PROFILE - E. W. E. LANES

PROFILE - TR. 173

DESIGN STRESSES

$f_c = 1200$ psi, Deck Slab
 $f_c = 1400$ psi, Curb
Parapet, Sub
 $f_s = 20,000$ psi, Reinf.
 $f_s = 20,000$ psi, Struct.
 $w_c = 75$ psi, Ftgs.
 $n = 10$
Allowable $F_u/TMS 25^{1/2}$
Allowable Δ Non-Comp.
LOADING HS20-44 & ALT

LOCATION SKETCH



BRIDGE NO. 4
S.N. 044-0050
FOR INFORMATION ONLY

GENERAL PLAN & ELEVATION
F.A.I. RT. 24 OVER TR. 173
F.A.I. ROUTE 24
SECTION 44-6HB-1
JOHNSON COUNTY
STATION 620+29.36 W.B.L.
STATION 258+93.67 E.B.L.

DESIGNED: Karim M. Omer, S.E.
CHECKED: J. S. Patel
DRAWN: J. Sutherland
CHECKED: [Signature]

EXAMINED: [Signature]
PASSED: [Signature]
APPROVED: [Signature]