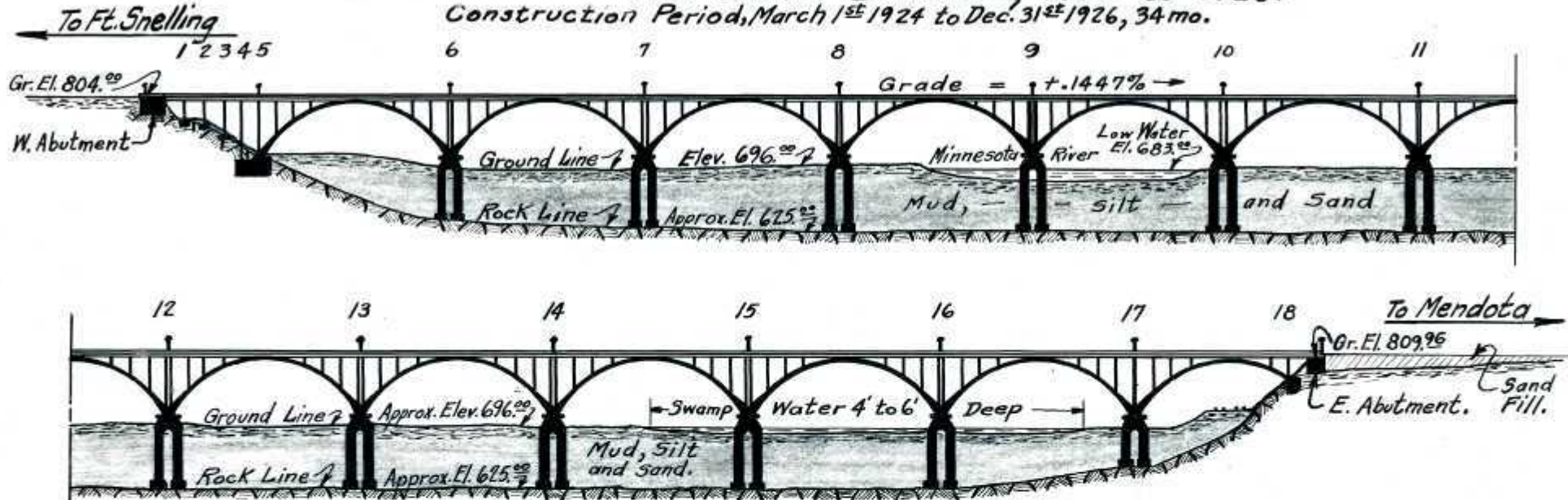


# MENDOTA BRIDGE, 1924 to 1926.

Construction Period, March 1<sup>st</sup> 1924 to Dec. 31<sup>st</sup> 1926, 34 mo.



Length out to out = 4119 Feet. 13 Spans 283'-8" clear - 304'-0" c. to c. of Piers. Rise of Arch 80'-0". Width out to out = 60'-8". Roadway = 45'-0". Two Sidewalks @ 6'-0". Arch Section 5'-6" sq. at Crown, 8'-6" at Sp.L. Height over all = 200 Feet. 80' from foundation to Ground Line. 120' from Ground Line to Roadway Grade. Roadway Slab is "Turner" Flat Slab construction with columns spaced 30'-5" Long. and 36'-0" Trans. Foundations #6 to #17, Four caissons per Pier, Average depth 70'-0". Shoes for Piers #9, 15+16 were supported when poured. Arch Centers, 3 sets of Steel Three Hinged Arches weighing 400 Tons each, handled and moved in quarters. Caisson Forms, Blaw Knox Slip Steel Forms. Caisson Shoe Forms, Sectional Steel Forms, 50% left in the ground. Forms for Both Abutments and Piers #5+18 were 1" wood built in place. All other Forms 2" Wood Sectional, 4"x6" Studs. Standard Gauge Construction Trestle, 4000' long at Elev. of Sp. L. and 39' from E. Bridge, 16 spans, 5-70' piles per Bent, driven 45'. Three -30 Ton "American" Locomotive Cranes and One 25 Ton Brown Hoist used for Excavation and Handling Materials. Concrete Plant at Mendota end, 2 Electrically operated Smith 3/4 yd. Mixers, 2-50 Ton Blaw Knox Suspension Bins. Pier and Arch Concrete handled by Crane from Trestle, Deck and Columns from Industrial Track 12' above Floor. Four 3 Ton Plymouth Locomotives and Insley Controllable Form Buckets and Side Dump Hopper Cars used for Concrete. Deck supported on Wood Bents on Arch Ring and 60' I-Beams at Elevation of Bottom of Concrete Brackets.

BUILT FOR  
HENNEPIN COUNTY MINNESOTA  
By  
KOSS CONSTRUCTION CO.  
GENERAL CONSTRUCTORS  
DES MOINES IOWA

Material Prices.  
Piling --- --- --- 32¢ per ft.  
Lumber, 4"x6" down \$35.00 per M.  
" , 4"x8" up \$45.00 per M.  
Frank Kratoska, Genl. Supt of Const.

Labor Prices.  
Struct Iron Wkrs. --- \$1.00 per hr.  
Carpenters --- 75¢ " "  
Common Labor --- 50¢ " "

COST DATA - MENDOTA BRIDGE.

Sheet #2 of 4.

Items.	Description.	Quantities.	Labor.		Material.		Total.
			Rate.	Amount	Rate.	Amount.	
<b>PLANT.</b>							
Unload + Load Out Equip. - Freight.		—	—	4100	Freight	6557	10657
Build Bldgs (Exclus. Conc. Plant.)		50 M.B.M.	—	7638	\$30.00	1500	9138
Build + Remove Sidings.	Labor Laying Track	2500 lin. ft.	48¢ per ft.	1196	—	—	1196
Conc. Plant (Build + Wreck.)		50 M.B.M.	—	23413	\$30.00	1500	24913
Concrete Trestle.		60 M.B.M.	—	2783	\$30.00	1800	4583
" Chutes		40 M.B.M.	—	2332	\$30.00	1200	3532
Crane Trestle - Drive Piling.	70' long - 45' penetration	90,000 lin. ft.	.08	7200	32¢	28800	36000
Place Timbers		867 M.B.M.	\$12.49	10748	\$30.00	26010	36758
Hardware		—	—	—	—	3380	3380
Lay Rail	Rent on Track Metal	4100 lin. ft.	15¢	615	—	1200	1815
" Indus. Track	24" Ga. Koppel Track	4200 " "	10¢	420	—	—	420
Clean up - Wreck + Load out.	Includes Loading Lumber	—	—	7570	—	—	7570
					TOTAL	PLANT	139,962
<b>EXCAVATION.</b>							
Abuts. + Piers #1, 2, 3, 5 + 18. (Dry.)	50% Dirt, 50% Rock.	3027 cu. yds	\$1.05	3180	—	—	3180
Caisson - Excavation	Mud, Silt and Sand	45000 " "	46¢	20750	—	—	20750
Cofferdams	3"x6"x10'-0"	100 M.B.M.	\$21.27	2127	\$30.00	3000	5127
Clean off Rock	12 Unwatered, 36 Wet.	48 Caissons	\$150.00	7209	—	—	7209
Lowering Device - Tackle	Winches, Blocks + Cable	12 "	\$208.00	2500	—	10127	12627
Lumber		10 M.B.M.	\$20.00	200	\$30.00	300	500
Piling	70' Piling driven 45 ft.	4000 lin. ft.	34¢	1360	26¢	1040	2400
					TOTAL	EXCAVATION	51793
<b>FALSEWORK.</b>							
Arch Span 18-17 Timber.	50M. Bought, 50M. used.	50 M.B.M.	\$18.23	912	\$30.00	1500	2412
" " 17-16 to 6-5 "	215M. " , 650M. "	650 M.B.M.	\$11.80	7670	\$30.00	6450	14120
" " " " " Piling	70' long, 45' penetration.	55000 lin. ft.	15¢	8250	26 1/2¢	14575	22825
West Approach - Timber	100M. Bought, 100M. used	100 M.B.M.	\$35.10	3510	\$30.00	3000	6510
Deck 18-17 to 6-5 - Timber	200M. " , 850M. "	850 M.B.M.	\$5.65	4800	\$30.00	6000	10800
" " " " - I-Beams.	888,300# " , 3,850,000# "	3,850,000#	1/10¢ per #	3750	81¢ per #	7214	10964
Arch Centers - Erect 1 <sup>st</sup> Steel	Erected in place	400 Tons.	\$18.60	7440	4¢ per #	31470	38910
Take Down + Re-Erect 1 <sup>st</sup> Steel		400 "	\$16.56	6825	—	—	6825
Erect 2 <sup>nd</sup> + 3 <sup>rd</sup> Steel		800 "	\$18.72	14977	4¢ per #	62941	77918
Raise + Lower 12 Spans		12 Spans	\$197.00	2360	—	—	2360
Move 9 Spans		9 Spans	\$208.40	18756	—	—	18756
Rig for Raising - Tackle	Labor included in Centers	12 Spans.	—	—	—	18786	18786
Lumber		30 M.B.M.	\$40.00	1200	\$30.00	900	2100
Wedges	Labor included in Centers.	52 Tons.	—	—	8¢ per #	8267	8267
Wreck + Load out Centers	About 1000 Gross Tons	1000 G.T.	\$1.275 per G.T.	1275	—	—	1275
Pier Head - Piling	18-50' Piles @ 12 Piers	10000 lin. ft.	20¢	2000	30¢	3000	5000
Timber	Labor Shown in Pier Forms	20 M.B.M.	—	—	\$30.00	600	600
					TOTAL	FALSEWORK	248428

COST DATA - MENDOTA BRIDGE.

Sheet #3 of 4.

Items.	Description.	Quantities.	Labor.		Material.		Total.
			Rate	Amount.	Rate.	Amount.	
<b>FORMS.</b>							
Caisson Shoes	Steel Sectional	657 Sqs.	\$ 3.80	2500	\$17.85	11731	14231
" Forms	BlawKnox Slip Steel	1828 "	\$ 11.94	21818	\$ 3.41	6228	28046
Pier Tops, Wood Sectional	70M. bought, 455M. handled.	1000 "	\$ 19.72	19716	—	—	19716
Pier Cols, " " (40M. Bracing)	83M. " , 540M. "	1350 "	\$ 14.78	19938	\$30.00	1200	21138
Arch " , " "	35M. " , 227M. "	600 "	\$ 8.78	5265	—	—	5265
Deck " " "	177M. " , 1150M. "	3225 "	\$ 6.20	20000	—	—	20000
Arch + Struts, " "	70M. used 455M. handled	1000 "	\$ 19.30	19300	—	—	19300
" + " Bulkheads + Logging	75M. " 200M. "	900 "	\$ 21.40	19300	\$30.00	2250	21550
Deck, Curb, Track, " , etc.	40M. " 80M. "	150 "	\$ 22.80	3419	\$30.00	1200	4619
" Supports	245M. " 585M. "	245 M.B.M.	\$ 14.30	35000	\$ 30.00	7350	42350
Abuts. + Piers #5+18, 1" Wood	50M. " 50M. "	200 Sqs.	\$ 6.36	1273	\$ 30.00	1500	2773
Sectional Forms	125,000" " , 117500" "	435 M. B.M.	\$ 28.15	12248	\$ 30.00	13050	25298
						TOTAL FORMS	224286
<b>REINFORCING.</b>							
Rods, Unload, Bend + Place.	Furnished Cut and Bent	4,900,000 #	.006	27500	—	—	27500
Struct. Steel, Exp. Plates	13 Sets. Exp. Angles.	70,000 #	\$ 37.00 each.	490	57¢ per #	4000	4490
Caisson Shoes	Struct. Steel for 48 Caissons	691,400 #	1/8¢ per #	7800	49¢ per #	34000	41800
Scuppers	3" Gas Pipe.	272 Pcs.	37¢ each	100	\$ 3.11 each	928	1028
Trolley Pole Bases	8" " "	82 Pcs.	\$ 1.50 "	123	\$ 18.20 "	1491	1614
Bar Bands + U-Bolts.	Labor carried in Reinfq.	48 Caissons.	—	—	—	3872	3872
						TOTAL REINFORCING	80304
<b>CONCRETE</b>							
Material - Unload Sand.	Unload to Stock Pile	54823 Tons.	—	3436	66¢	36329	39765
" Gravel.	" " " "	81568 Tons.	—	5120	\$ 1.75	143000	148120
" Rubble.	Labor in Place Conc.	1600 "	—	—	\$ 2.00	3200	3200
" Cement.	" " " "	105739 Bbls.	—	—	\$ 2.52 1/2	266673	266673
Mix + Place Concrete - Caissons.	1:2:4 + 1:3:5 Concrete	21400 cu. yds.	71¢	15157	—	—	15157
Pier Tops.	1:2:4 Concrete.	15000 " "	45¢	6707	—	—	6707
" Cols.	" " "	3100 " "	\$ 1.26	3905	—	—	3905
Abutments.	" " "	680 " "	74¢	499	—	—	499
Piers #5+18.	" " "	1100 " "	64¢	702	—	—	702
Approach Figs. + Cols.	" " "	280 " "	\$ 1.69	473	—	—	473
Arches + Struts.	" " "	16000 " "	94¢	15083	—	—	15083
Arch Cols.	" " "	1300 " "	\$ 1.25	1624	—	—	1624
Decks.	" " "	17088 " "	\$ 1.23	21090	—	—	21090
Surface Concrete.	Used "Berg" Surfacers.	3000 Squares	\$ 1.67	5000	—	—	5000
Grout Footing - Build Rig	Force Account.	—	—	536	—	—	536
Operate "	" " "	250 Bbls. Cement	60¢	150	—	—	150
						TOTAL CONCRETE	528684

COST DATA - MENDOTA BRIDGE.

Items.	Description.	Quantities.	Labor		Material.		Total.
			Rate.	Amount.	Rate.	Amount.	
<b>MISCELLANEOUS.</b>							
Hand Rail - Unload + Erect Metal.	Gas Pipe + C.S. Panels	330,000 #	1/6¢ per #	544	3 1/2¢ per #	28294	28838
Paint Metal.	" " " "	330,000 #	1/6¢ " #	550	\$1.25 per T.	200	750
Build Concrete Posts.	Labor includes Setting Panels.	425 cu. yds.	#13.00	5493	—	—	5493
Conduit - Unload + Place.	3+6 Hole Clay Conduit	12357 lin. ft.	10¢	1268	21¢ per ft.	2651	3919
Lamp Posts - " " + Paint	C.I. - 8'-8" high, weight 650*	30 pcs.	\$3.00	89	\$42.00 each.	1264	1353
Electrical Material. (Contract)	Except Lamp Posts.	—	—	—	—	4293	4293
Borings - (Contract)	Unit Price \$3.50 per ft.	1590 ft.	\$3.50	5554	—	—	5554
Paving East Approach	Includes Guard Rail etc	1683 sq. yds.	—	1648	Bars.	452	2100
Milwaukee R.R. Span - Timber	Centered 120' High Truss	20 M.B.M	\$44.00	869	\$30.00	600	1469
- Piling	Removed both Batter	1500 lin. ft.	13¢	200	26¢	390	590
Steel Work	Posts and 1/2 Top Chord	15 Tons.	\$13.80	207	—	—	207
Waterproofing (Contract.)	2 Coats "Minwax."	175,000 " "	—	—	2.8¢	4900	4900
Lay Conduit for Tri State (Contract.)	3 1/2" Fibre Conduit	8238 lin. ft.	6 3/4¢	550	—	—	550
Wilson Swan-Work on Approach ( " )	Rubble Gutter, etc.	—	—	—	—	2503	2503
					TOTAL	MISCELLANEOUS	62519
<b>TOTAL LABOR AND MATERIALS</b>					499750	836226	1335976
<b>SUPPLIES</b>		<b>INCIDENTALS.</b>					
Oil and Gas =	4589	Supplies =	54834	Incidentals			111323
Coal and Fuel =	22027	R.R. Fare =	439	Depreciation			90881
Bolts =	5690	Foremans Exp. =	178	Overhead			54523
Wire =	4641	Tar Felt Roofing =	782	Bond			28205
Nails =	4039	Tools =	12168	Insurance			45242
Electricity =	3951	Pipe =	2418	<b>Total Cost = \$1,666,150</b>			
Powder =	530	Wire Rope =	5959				
Oxygen =	907	Hemp Rope =	1431				
Miscellaneous =	8460	Hose =	1253				
Total Supplies =	54834	Boots =	242				
		Leases =	2225				
		Repairs =	13355				
		Freight =	847				
		Misc. Chgs =	12864				
		Wall Ties =	2328				
		Total Incidentals =	111323				