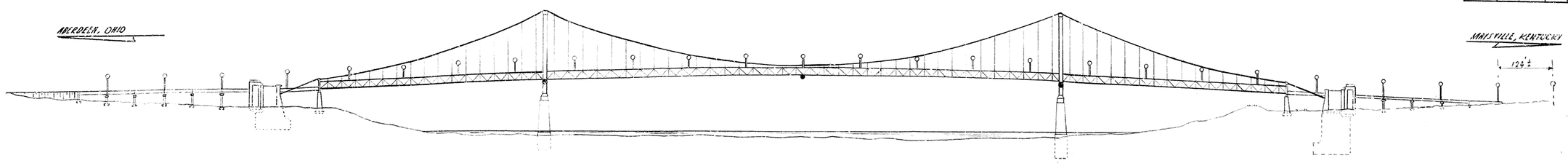
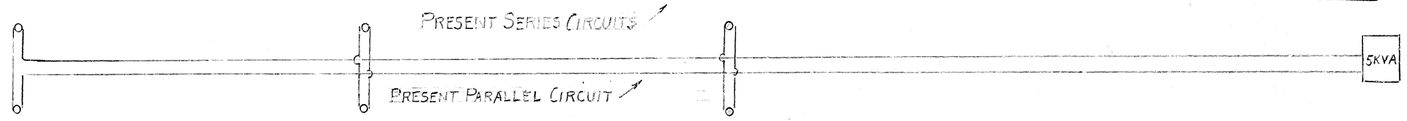
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



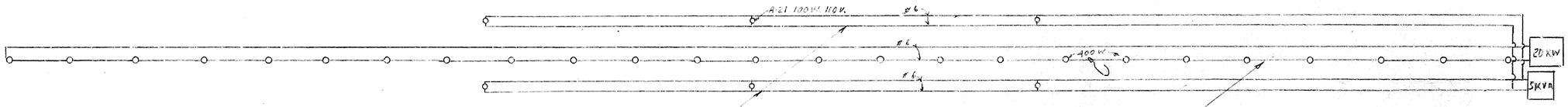
ELEVATION

LIGHTING LAYOUT FOR 400W. MERCURY VAPOR LIGHTS

PRESENT SERIES CIRCUITS

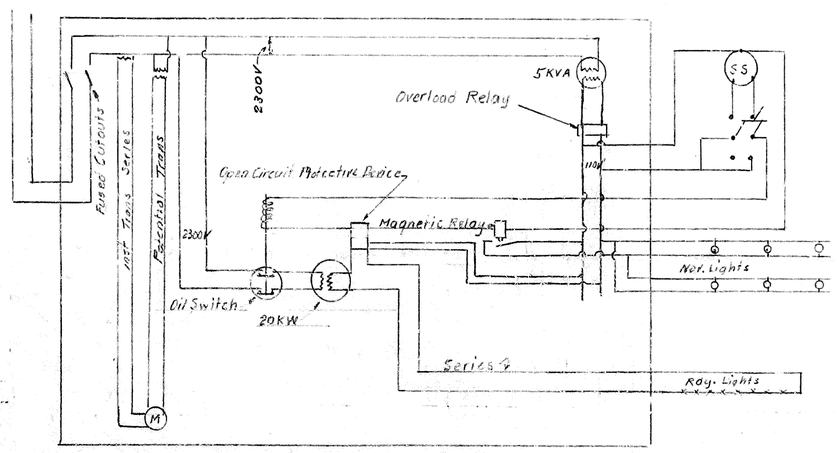


PRESENT PARALLEL CIRCUIT

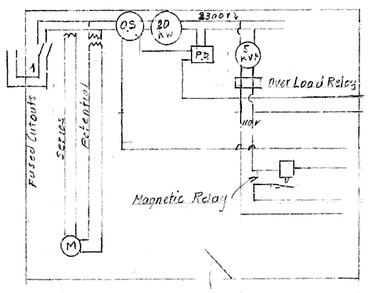


PROPOSED PARALLEL CIRCUIT

PROPOSED SERIES CIRCUIT



SUB-STATION WIRING



Place all equipment in back of cage. Change wiring to make instruments more accessible. Bottom of cage very dirty. Clean.

ESTIMATE OF QUANTITIES

FURNISH & INSTALL LIGHTING SYSTEM COMPLETE WITH ALL *ACCESSORIES	LUMP SUM
1000' NO. 10 FLAMENOL WIRE, 5000 v	LUMP SUM

* IT IS ASSUMED THAT THERE IS SUFFICIENT 5000 v WIRE IN GOOD CONDITION ON THE BRIDGE TO REWIRE ACCORDING TO THIS PLAN. THE LUMP SUM BIDS FOR THIS PROJECT ASSUMES THAT NO ADDITIONAL 5000 v WIRE WILL BE REQUIRED. IF ADDITIONAL WIRE IS REQUIRED IT IS TO BE PAID FOR EXTRA, AT A PRICE BID PER 1000' FOR 5000 v FLAMENOL WIRE.

SHEET 1 OF 27

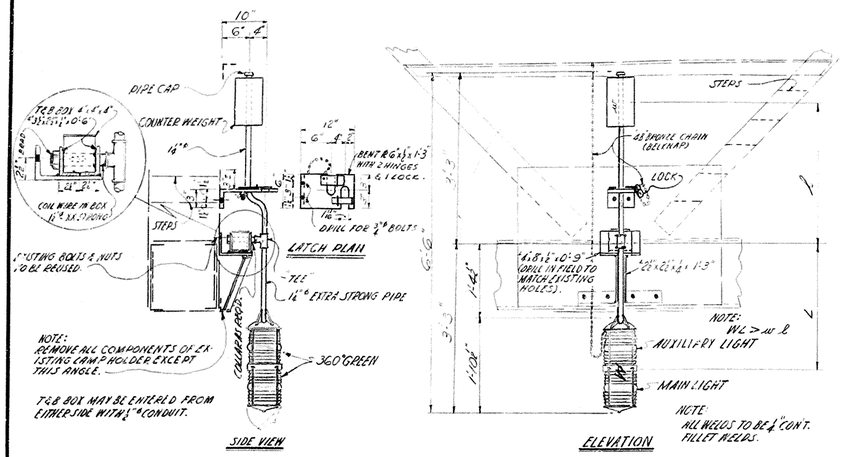
NAVIGATION & ROADWAY LIGHTS FOR BRIDGE OVER OHIO RIVER

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
MASON
MAYSVILLE KY.–ABERDEEN OHIO
ROAD

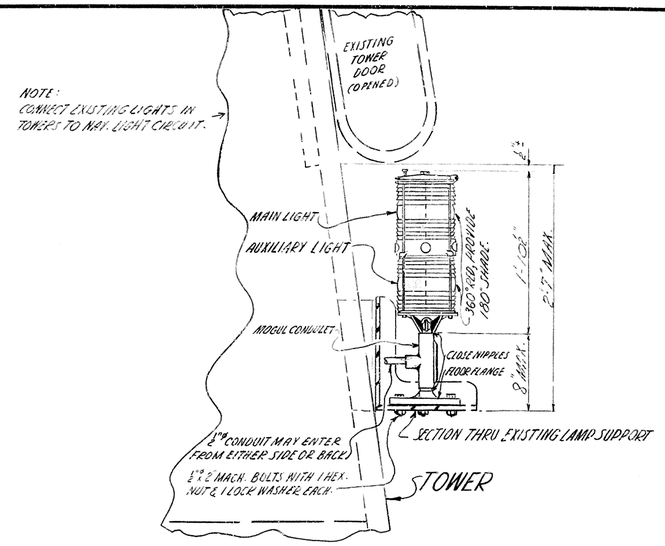
STATION	PROJECT NO.		
BRIDGE NUMBER M.P. 81-4015-1		DRAWING NO. 13708	INDEX

DESIGNED BY	CHECKED BY	REVISED	DATE
DETAILED BY	CHECKED BY	REVISED	DATE
TRACED BY	CHECKED BY	REVISED	DATE

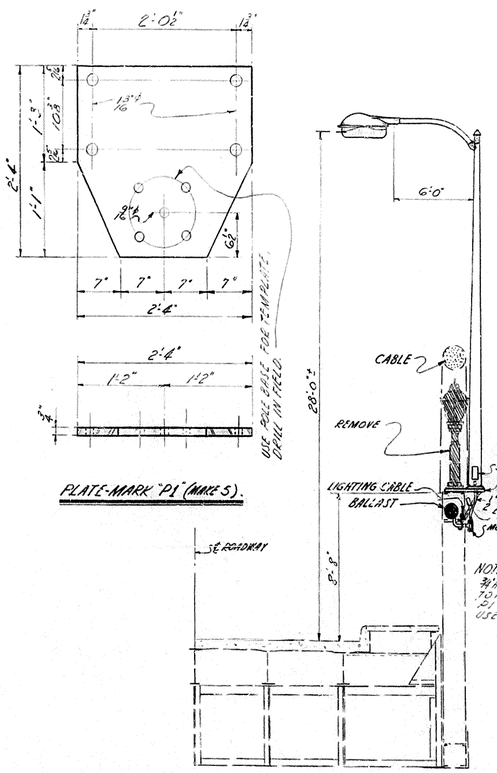
FED. ROAD DIST.	STATE	FED. AID PRO. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



CHANNEL MARKER

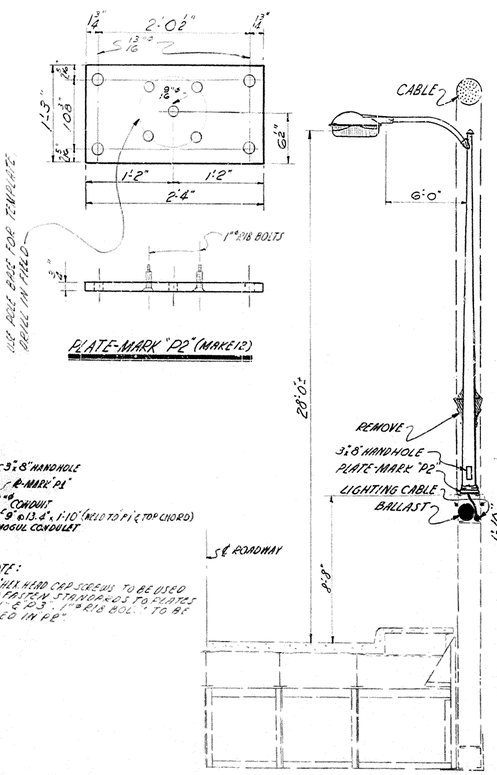


PIER MARKER (SIDE VIEW)



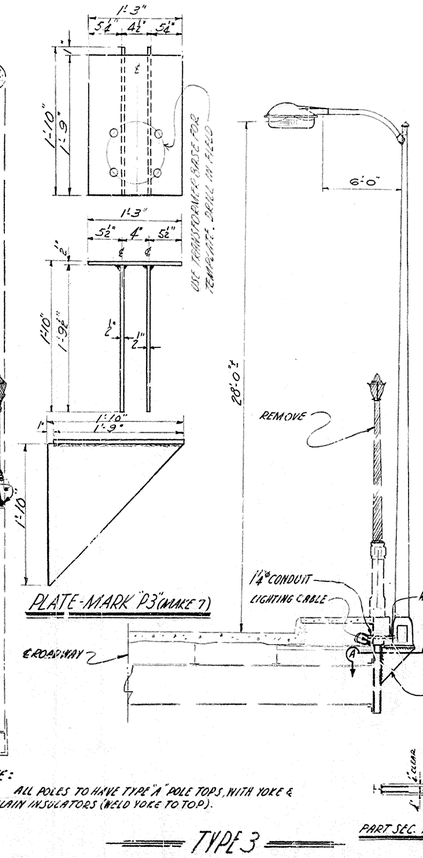
TYPE 1

TYPICAL INSTALLATION AT LIGHTS 6-13-14-15 & 22



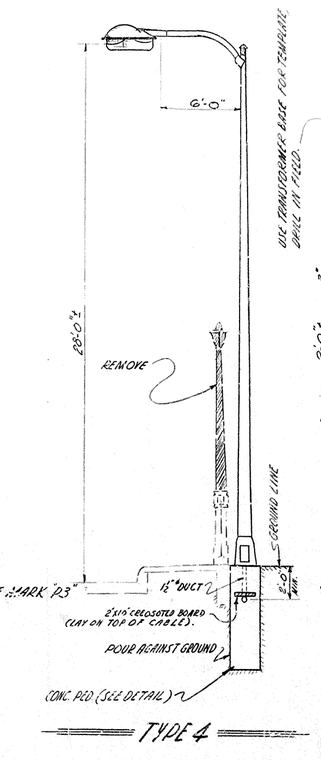
TYPE 2

TYPICAL INSTALLATION AT LIGHTS 7 THRU 12 & 16 THRU 21



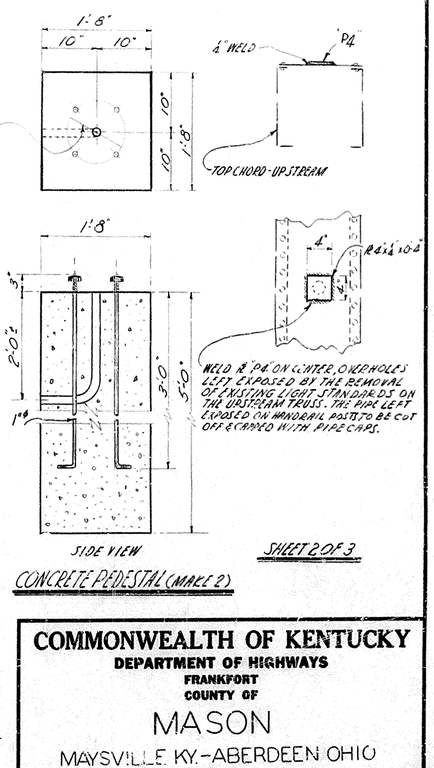
TYPE 3

TYPICAL INSTALLATION AT LIGHTS 3-4-5 & 23 THRU 26



TYPE 4

TYPICAL INSTALLATION AT LIGHTS 1 AND 2.



SHEET 2 OF 3

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
MASON
MAYSVILLE, KY.-ABERDEEN, OHIO
ROAD
STATION PROJECT NO.
BRIDGE NUMBER M.P. 81-4015-1
DRAWING NO. 13788
INDEX

DESIGNED BY DATE 11-52 REVISED
DETAILED BY CHECKED BY DATE REVISED
TRACED BY CHECKED BY DATE REVISED

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

GENERAL NOTE

SPECIFICATIONS: KENTUCKY DEPARTMENT OF HIGHWAYS, 1956 EDITION WITH AMENDMENTS.

SCOPE OF WORK: REVISE PRESENT ROADWAY AND NAVIGATION LIGHTING SYSTEMS OF THE SUSPENSION BRIDGE. THE PRESENT ROADWAY LIGHTING SYSTEM CONSIST OF TWO SERIES CIRCUITS WITH EACH CIRCUIT CONNECTED TO A 10 K W TRANSFORMER. ALTERNATE LIGHTS ON EACH SIDE ON ALTERNATE SERIES SYSTEMS. PLANS ARE PREPARED TO ELIMINATE ONE SERIES SYSTEM AND PUT 26 400 W. MERCURY VAPOR LAMPS ON DOWN STREAM SIDE (SIDEWALK SIDE). ALL OLD LIGHT STANDARDS ON BOTH SIDES TO BE REMOVED AND ALL HOLES IN TOP CHORD UPSTREAM SIDE TO BE COVERED WITH A METAL COVER TO PREVENT WATER ENTERING TOP CHORD. (SEE PLANS FOR DETAIL). USE 20 KW TRANSFORMER FROM C. & O. BRIDGE CINCINNATI. OIL SHOULD BE TESTED BEFORE NEW INSTALLATION.

WIRE: ALL WIRE IS ARMORED CABLE, ASSUMED TO BE GOOD. SOME TWO YEARS AGO THE CABLE WAS CHECKED WITH A MEGGER AND FOUND TO BE SATISFACTORY. THIS CABLE TO BE CHECKED AGAIN BY A MEGGER AND IF FOUND TO BE SATISFACTORY TO BE USED. DEFECTIVE WIRE ON SERIES CIRCUIT TO BE REPLACED WITH 5000 VOLT SUPER CORONEL GEOPRENE. PARALLEL CIRCUIT TO BE 600 V FLAMENOL WIRE. WIRE FROM BALLAST TO LIGHTS TO BE #12 FLAMENOL.

SUB-STATION: THIS STATION TO BE REARRANGED ACCORDING TO SKETCH TO MAKE IT MORE ACCESSIBLE. FLOOR TO BE THOROUGHLY CLEANED.

MATERIAL SPECIFICATIONS: REFERENCE TO MANUFACTURER'S BRAND NAME AND TYPE OF MATERIAL SPECIFIED HEREIN IS MADE FOR THE PURPOSE OF OBTAINING GOOD STANDARD MATERIAL. ANY OTHER MAKE OR BRAND OF SIMILAR DESIGN AND EQUAL QUALITITY MAY BE USED PROVIDED THAT, IF SUBSTITUTIONS ARE MADE, WRITTEN CONSENT MUST BE HAD FROM THE DEPARTMENT OF HIGHWAYS BEFORE WORK BEGINS. THE CONTRACTOR SHALL FURNISH IN TRIPLICATE, FOR APPROVAL BY THE DEPARTMENT OF HIGHWYAS, DRAWINGS, CUTS, OR CATOLOG SHOWING ALL MATERIALS TO BE USED.

CROSSOVERS: EXISTING CROSSOVER CIRCUITS AT NAVIGATION LIGHTS TO BE REMOVED. OLD SERIES SYSTEM BEYOND NAVIGATION LIGHTS TO BE REMOVED.

STRUCTURAL STEEL: ALL STRUCTURAL STEEL TO MEET A.S.T.M. A7-56T SPECIFICATIONS. THE CONTRACTOR TO FURNISH IN TRIPLICATE NOTARIZED STATEMENTS THAT ALL STEEL MEETS THESE SPECIFICATIONS.

NAVIGATIONS LAMPS: TO BE ADELAKE NO. 1331 AND TO HAVE ALUMINUM FRAMES. LENS TO BE 8" FRESNEL. EACH LAMP TO BE EQUIPPED WITH A RELAY TO SWITCH CURRENT FROM MAIN LIGHT TO AUXILIARY LIGHT WHEN MAIN LIGHT FAILS. RELAY TO BE OF SUCH A CAPACITY THAT IT WILL CARRY 100 W 120 V LAMP INDEFINITELY WITHOUT BURNING, STICKING OR OVERHEATING THE COIL. GLOBES TO BE A 21 100 WATT WITH A LAMP CENTER OF 3-7/8".

POLE HEIGHT: ALL 400 W MERCURY VAPOR LUMINAIRES TO BE MOUNTED OF 28'-0" ± OVER ROADWAY.

OLD MATERIALS TO BE REUSED: WIRE, IF IN GOOD CONDITION AFTER MEGGER TESTED, 5 KVA TRANSFORMER, OIL SWITCH, METER TRANSFORMERS, FUSED CUTOUTS, AND SUN SWITCH.

PAINT: ALL NEW STEEL, BURNT OR ABRAZED PLACES TO BE CLEANED AND GIVEN ONE COAT OF #1 RED LEAD PAINT AND ONE OF ALUMINUM PAINT.

TEST: AFTER NEW INSTALLATION THERE SHALL BE A MEGGER TEST FOR SHORTS AND GROUNDS.

OLD MATERIAL: ALL OLD MATERIAL NOT REUSED, SUCH AS WIRE, OIL SWITCHES, TRANSFORMERS, CUTOUTS, LAMP POSTS, ETC, TO BE REMOVED AND TURNED OVER TO THE DEPARTMENT OF HIGHWAYS.

WELDING: HOLES IN TOP CORD UPSTREAM SIDE TO HAVE 1/4" PLATES WELDED OVER ALL HOLES AT OLD STANDARD LOCATIONS. ALL WELDING TO BE DONE IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS FOR WELDING HIGHWAY AND RAILWAY BRIDGES OF THE AMERICAN WELDING SOCIETY.

DAMAGE TO BRIDGE: CONTRACTOR SHALL NOT IMPAIR STRENGTH OF BRIDGE BY DRILLING OR CUTTING WITHOUT WRITTEN CONSENT OF THE ENGINEER EXCEPT AS SHOWN ON PLANS.

NAVIGATION LIGHTS: THE CONTRACTOR SHALL KEEP THE PARALLEL LIGHTING SYSTEM IN WORKING CONDITION EVERY NIGHT FROM TIME HE COMMENCES WORK UNTIL ACCEPTED BY THE DEPARTMENT.

LIGHT STANDARD: A NEW LIGHT STANDARD TO BE ERECTED AT LIGHT #1 APPROXIMATELY 120 FEET FROM LIGHT #2. A CONCRETE BASE 1'-8" × 1'-8" × 3'-0" TO BE POURED FOR THIS BASE, WITH BOLTS PLACED IN CONCRETE TO ANCHOR POLE AND A 2" DUCT FOR WIRE TO ENTER POLE BASE. WIRE FOR #2 TO #1 TO BE #6 SUPER CORONOL GEOPRENE 5000 V. WIRE TO BE BURIED DIRECTLY IN GROUND. NO. CONDUIT. EXCESS MATERIAL AND EQUIPMENT IN SUB-STATION TO BE REMOVED AND TURNED OVER TO THE DEPARTMENT OF HIGHWAYS.

LUMP SUM BID: THE LUMP SUM BID FOR THIS ITEM OF WORK SHALL BE FULL COMPENSATION FOR ALL MATERIAL, FABRICATION, ERECTION, WELDING, FITTING, EQUIPMENT, TOOLS AND ALL LABOR AND INCIDENTALS NOT CALLED FOR, FOR A COMPLETE REVISING ROADWAY AND NAVIGATION LIGHTS ACCORDING TO PLANS AND SPECIFICATIONS.

WORKMANSHIP: ALL WORK TO BE DONE IN A WORKMANSHIP LIKE MANNER.

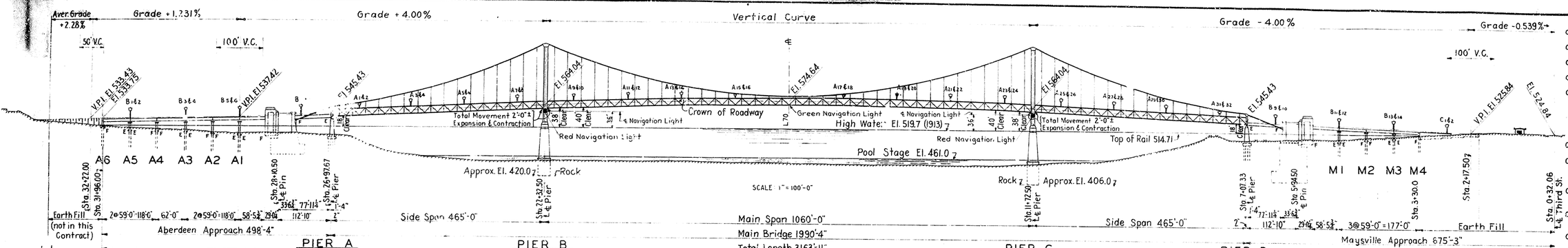
APPROXIMATE BILL OF MATERIAL

No.	Description
26	Mercury Vapor Luminaires IES Type II
26	400 Watt E1 Globes
26	Ballast. G.E. I.L.H. No. 9SA20J1
1	Open Circuit Protective Device G.E. Cat. No. 3PR12B1
1	Magnetic Relay Square D Class 8502, AG-11, NEMA Type 1
1	Overload Relay Square D Class 9065 Type 30-1
300'	No 6 - 5000 V. Super Corinol Geoprene Wire
6	Aluminum Navigation Lamps, Adams & Westlake Co's Adelake Electric Bridge Lamps No. 1331 With 8" Fresnel Lenses.
12	A-21, 10 W - 115/125 V Filament Globes with 3 3/4" Light Centers, Clear
2000'	No 12 600 V Flamenol Wire (Ballast to Lights)
1	20 KW. Series Transformer from C. & O. Bridge at Cincinnati.
5	Type 1 Light Standards
12	" 2 " "
7	" 3
2	" 4
2	Con. Pole Base 1'-8" x 1'-5" x 3'-0" with Anchor Bolts
5	Plates P1 (see detail)
12	" P2 " "
7	" P3 " "
16	" P4 " "
16	Pipe caps for 2 1/2" ø pipe

SHEET 3 OF 3

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
MASON
MAYSVILLE KY-ABERDEEN OHIO
ROAD
STATION **PROJECT NO.**
BRIDGE NUMBER M.P. 81-4015-1
DRAWING No. 13788
INDEX

DESIGNED BY F.C. Moses CHECKED BY DATE 11/53
DETAILED BY CHECKED BY DATE
TRACED BY CHECKED BY DATE
REVISED DATE
REVISED DATE
REVISED DATE



ELEVATION

DESCRIPTION OF CIRCUITS

Circuit No.1 - Bridge Lights, 20 amp. series circuit. Total lamps - 26

Circuit No.1c - 115 volt multiple circuit controlling the oil switch on circuit No.1

Circuit No.2 - Bridge Lights, 20 amp. series circuit. Total lamps - 22

Circuit No.2c - 115 volt multiple circuit controlling the oil switch on circuit No.2

Circuit No.3 - Multiple 3 wire 115-230 volt single phase 60 cycle circuit supplying 6 Navigation lights, each fixture containing 2 bulbs. Bulbs medium base multiple lamps 100 watts, 115 volts, 1350 lumen, 135 C.P. also 2 lights and power plug located as shown inside each tower.

Circuit No.3c - Control circuit operating remote control for Navigation Lights.

Circuit M - 3 wire 115-230 volt, single phase, 60 cycle supply circuit running from Transformer Room under Maysville Approach to panel in Toll House.

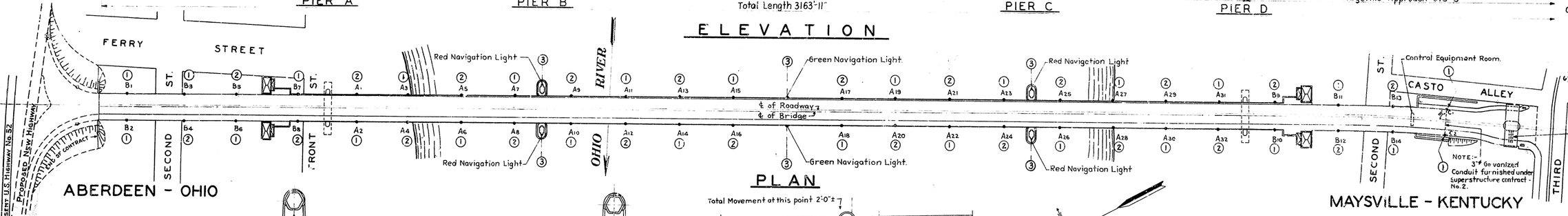
Circuit No.4 - 2 wire 115 volt circuit running from panel in Toll House for sidewall lighting.

Circuit No.5 - 2 wire 115 volt circuit running from panel in Toll House for exterior Toll House lighting.

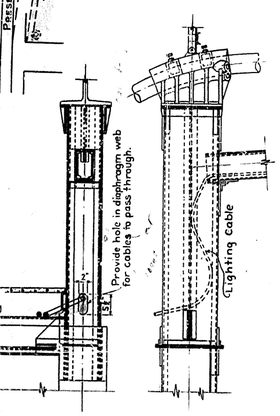
Circuit No.6 - 2 wire 115 volt circuit for interior Toll House lighting.

Circuit No.7 - Two wire 115 volt baseboard circuit for interior and exterior of Toll House.

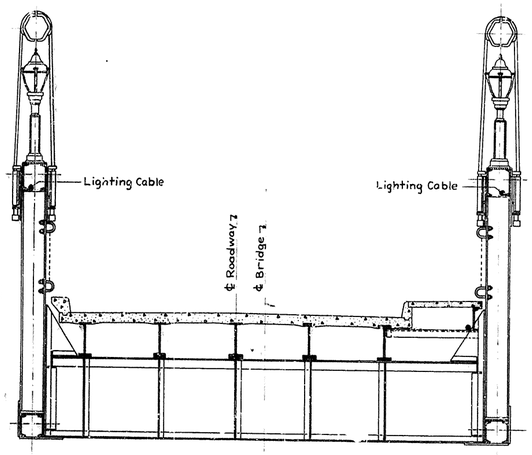
Roadway lamp bulbs 4000 lumen 20 amp. P.S. 35 for base down burning.
Toll House lamps as noted on Sheet No. 2.



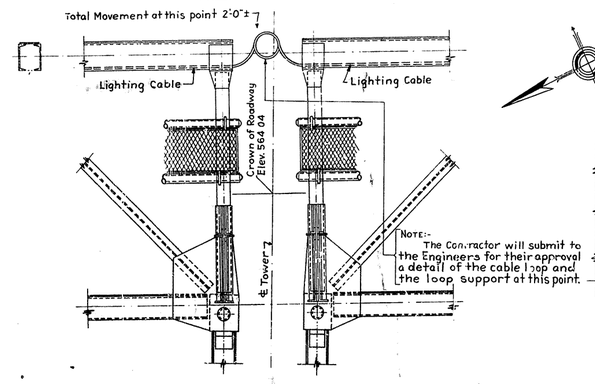
PLAN



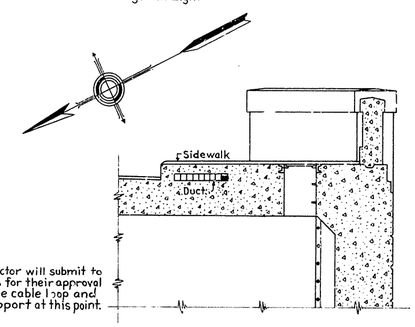
ATION OF CABLE BENT AT PIERS A & D
SCALE: 1/4" = 1'-0"



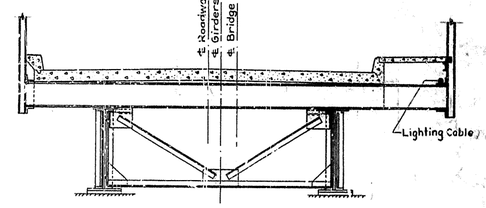
TYPICAL SECTION THRU MAIN BRIDGE
SCALE: 1/4" = 1'-0"



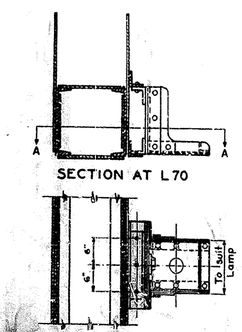
ELEVATION OF STIFFENING TRUSS AT TOWERS
SCALE: 1/4" = 1'-0"



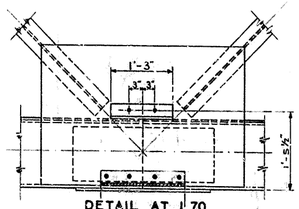
SECTION THRU ANCHORAGE
(Ducts as shown on sidewalk side of Bridge only)
SCALE: 1/4" = 1'-0"



TYPICAL SECTION THRU GIRDER SPANS
SCALE: 1/4" = 1'-0"

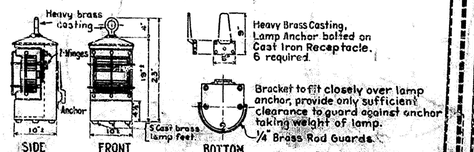


SECTION AT L70

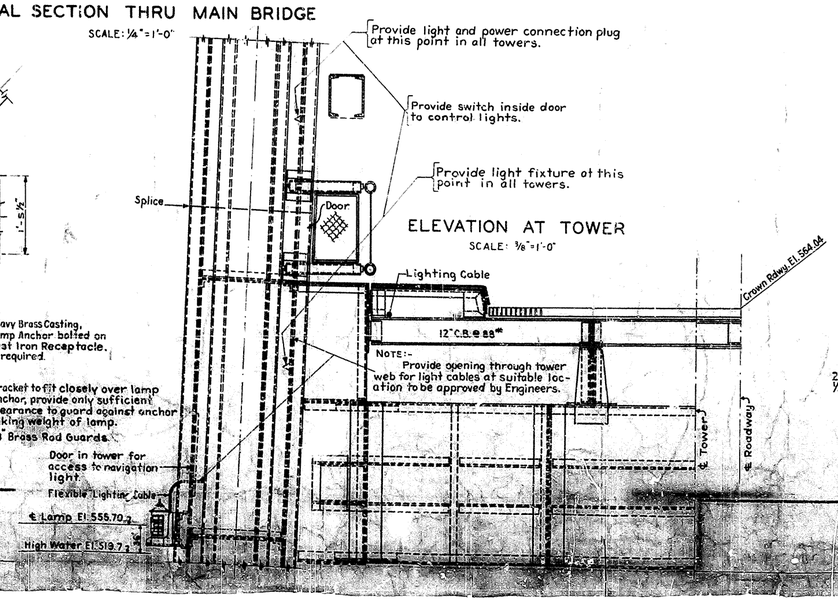


DETAIL AT L70

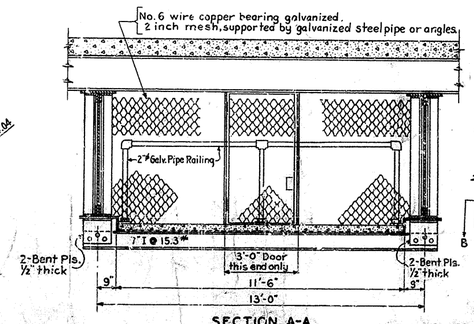
SECTION A-A



DETAIL OF NAVIGATION LIGHT
SCALE: 3/4" = 1'-0"

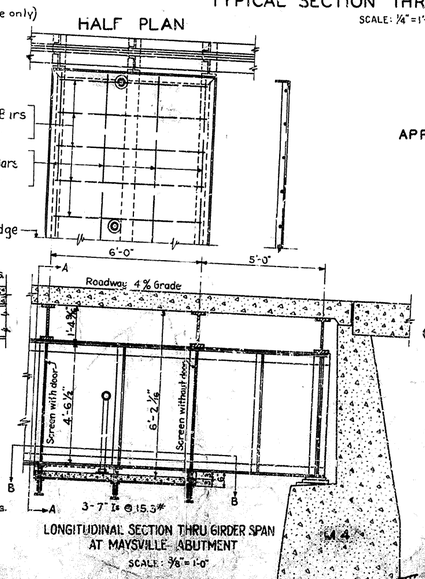


ELEVATION AT TOWER
SCALE: 1/8" = 1'-0"

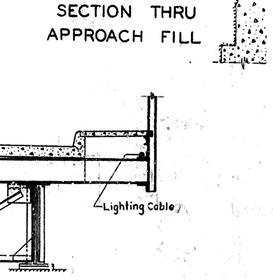


SECTION A-A

Note: Provide stout wooden ladder for access to Equipment Room. Ladder to be kept in Toll House.



LONGITUDINAL SECTION THRU GIRDER SPAN AT MAYSVILLE ABUTMENT
SCALE: 3/8" = 1'-0"



SECTION THRU APPROACH FILL

APPROVED: — MODJESKI & MASTERS

F. M. Masters

Dwg # 13788

Sheet 4

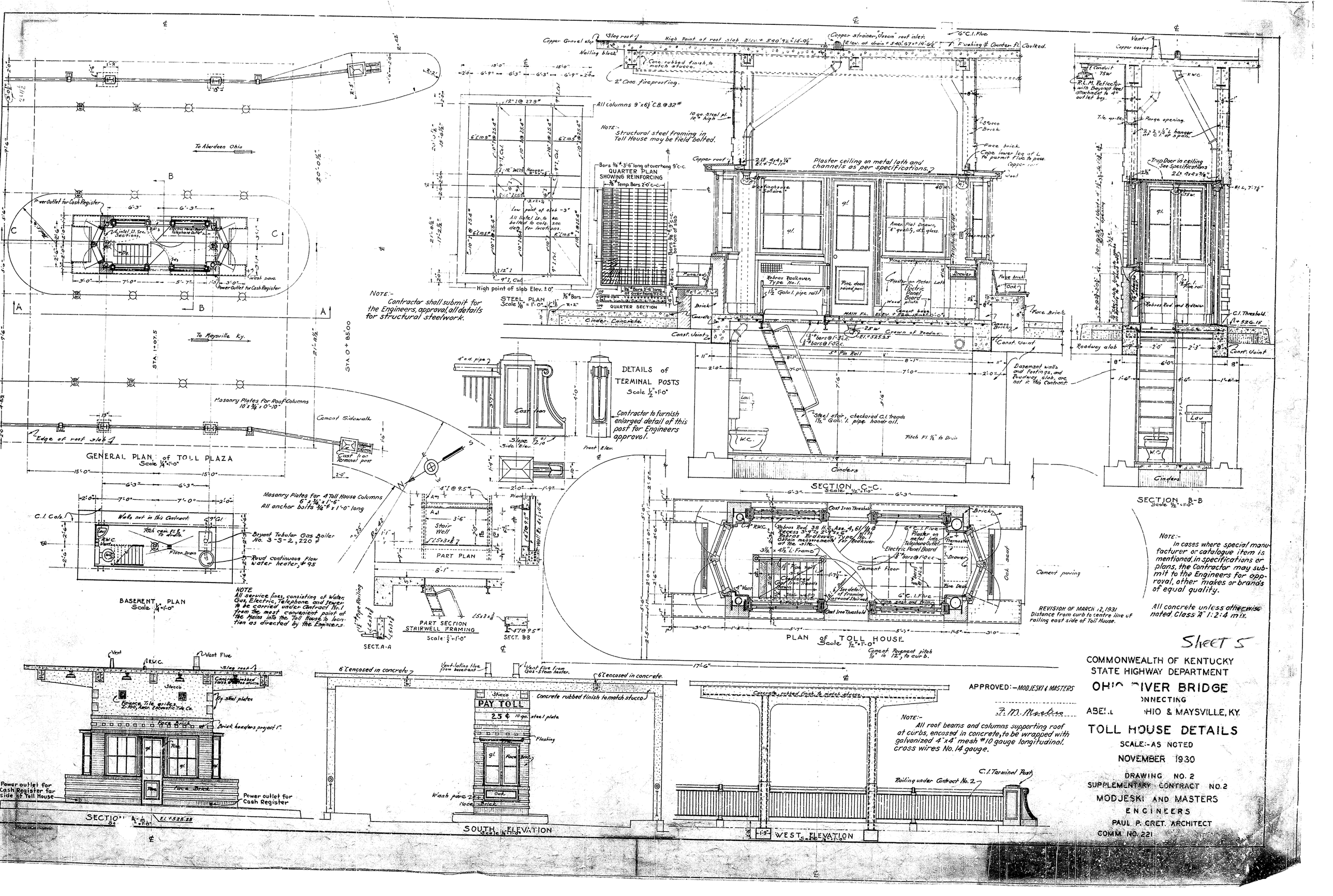
COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

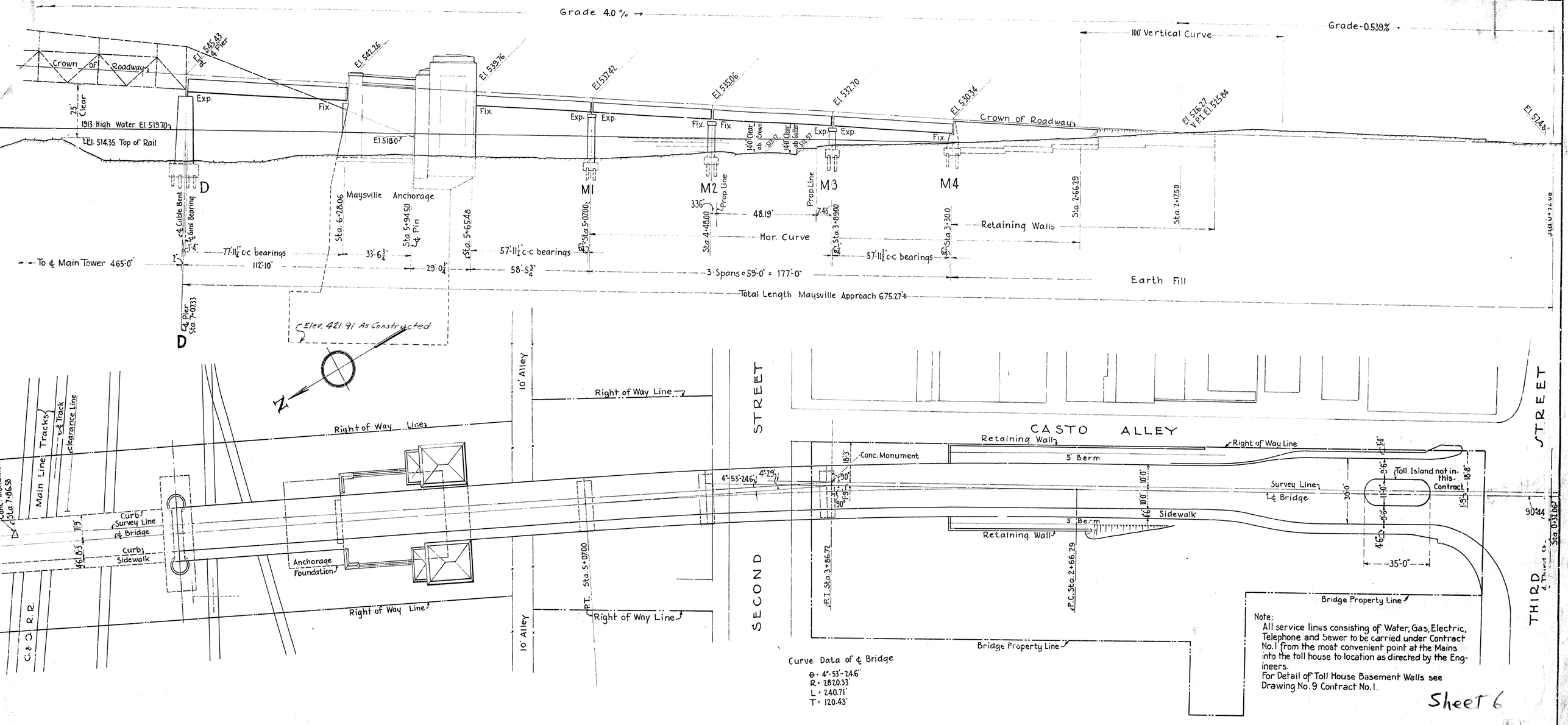
OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

LIGHTING LAYOUT

SCALE: AS SHOWN
DECEMBER 1930
DRAWING NO. 1
SUPPLEMENTARY CONTRACT NO. 2
MODJESKI AND MASTERS
ENGINEERS


GENERAL PLAN of TOLL PLAZA
Scale 1/4"=1'-0"
To Aberdeen Ohio
To Maysville Ky.
STA. 1+07.5
STA 0+85.00
Masonry Plates For Roof Columns 10"x3/4"x0'-10"
Cement Sidewalk
Edge of roof slab
Cast Iron Terminal post
Power Outlet for Cash Register
Telephone Outlet
Wash bowl
BASEMENT PLAN
Scale 1/4"=1'-0"
Walls not in this Contract
Bryant Tubular Gas Boiler No. 3-S-2, 220 #
Ruud continuous flow water heater, # 95
Floor drain
Masonry Plates for 4 Toll House Columns 6"x3/4"x1'-6"
All anchor bolts 3/4"ø x 1'-0" long
NOTE
All service lines, consisting of Water, Gas, Electric, Telephone and Sewer to be carried under Contract No. 1 from the most convenient point at the mains into the Toll House, to location as directed by the Engineers.
STEEL PLAN
Scale 1/8"=1'-0"
All columns 9"x6 1/2" C.B. @ 32#
10 ga. steel pl. 10" high
NOTE:- Structural steel framing in Toll House may be field bolted.
High point of slab Elev. ±0"
QUARTER PLAN SHOWING REINFORCING
QUARTER SECTION
Cinder Concrete
Contractor shall submit for the Engineers, approval, all details for structural steelwork.
DETAILS of TERMINAL POSTS
Scale 1/2"=1'-0"
Contractor to furnish enlarged detail of this post for Engineers approval.
Cast Iron
Slope 1/8" to 1'-0"
Side Elev.
Front Elev.
Plan
PART PLAN
Stair Well
PART SECTION STAIRWELL FRAMING
Scale 1/2"=1'-0"
SECT. A-A
SECT. B-B
Slag roof
Copper Gravel stop
Nailing block
Conc. rubbed finish, to match stucco.
2" Conc. fireproofing.
Copper roof
Plaster ceiling on metal lath and channels as per specifications.
Robras Radiator Type No. 1.
1 1/2" Galv. I. pipe rail
Amer. Flat Drawn, 4" quality, 25 glass.
Pine door reset per
Plaster on Metal Lath
Electric Panel Board plate
Cement base
Cinders
Const. Joint
Crown of Roadway
5" Pipe Rail
Steel stair, checkered C.I. treads 1 1/2" Galv. I. pipe hand rail.
Pitch Fl. 1/2" to Drain
W.C.
Lav.
SECTION C-C.
Scale 1/2"=1'-0"
Cast Iron Threshold
Robras Rad. 38 ft. S. Ass. A, 61 Recess 3'-9 1/2"x1'-7"x6" Robras Radiator, Type No. 1. Obtain measurements for Radiator at the Site.
3 1/2"x4 1/2" L. Frame
Cement Floor
Electric Panel Board
Fire Desk
Oak seat
Cement paving
Cement Pavement pitch 1/8" in 12" to curb.
PLAN of TOLL HOUSE
Scale 1/2"=1'-0"
REVISION OF MARCH 12, 1931
Distance from curb to centre line of railing east side of Toll House.
Note:- In cases where special manufacturer or catalogue item is mentioned in specifications or plans, the Contractor may submit to the Engineers for approval, other makes or brands of equal quality.
All concrete unless otherwise noted. Class "A" 1:2:4 mix.
Vent
Copper casing
6" C.I. Flue
Flashing & Counter Fl. Caulked.
Stucco
Brick
Face brick
Copper lower leg of L to permit flue to pass.
Trap Door in ceiling See Specifications
Roadway slab
Basement walls and footings, and Roadway slab, are not in this Contract.
C.I. Threshold
Const. Joint
SECTION B-B
Scale 1/2"=1'-0"
Vent
R.W.C.
Vent Flue
Slag roof
Stucco
Copper gutter
Brick headers project 1"
Power outlet for Cash Register
Power outlet for Cash Register for side of Toll House
Face Brick
SECTION A-A
6" encased in concrete
Vent-lating flue from basement
Vent flue from Gas-Steam heater.
PAY TOLL
2.5¢
10 ga. steel plate
Flashing
Concrete rubbed finish to match stucco
Wash pave
SOUTH ELEVATION
Scale 1/4"=1'-0"
Concrete rubbed finish to match stucco
Railing under Contract No. 2
C.I. Terminal Post
WEST ELEVATION
Scale 1/4"=1'-0"
Note:- All roof beams and columns supporting roof at curbs, encased in concrete, to be wrapped with galvanized 4"x4" mesh #10 gauge longitudinal, cross wires No. 14 gauge.
APPROVED:- MODJESKI & MASTERS
F. M. Masters
Sheet 5
COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT
OHIO RIVER BRIDGE
CONNECTING
ABERDEEN OHIO & MAYSVILLE, KY.
TOLL HOUSE DETAILS
SCALE:- AS NOTED
NOVEMBER 1930
DRAWING NO. 2
SUPPLEMENTARY CONTRACT NO. 2
MODJESKI AND MASTERS
ENGINEERS
PAUL P. CRET. ARCHITECT
COMM. NO. 221



Curve Data of ℄ Bridge

θ = 4°-53'-24.6"
R = 2820.33'
L = 240.71'
T = 120.43'

Note:
All service lines consisting of Water, Gas, Electric, Telephone and Sewer to be carried under Contract No. 1 from the most convenient point at the Mains into the toll house to location as directed by the Engineers.
For Detail of Toll House Basement Walls see Drawing No. 9 Contract No. 1.

Sheet 6

APPROVED
Ray L. Mudjeski
F. H. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

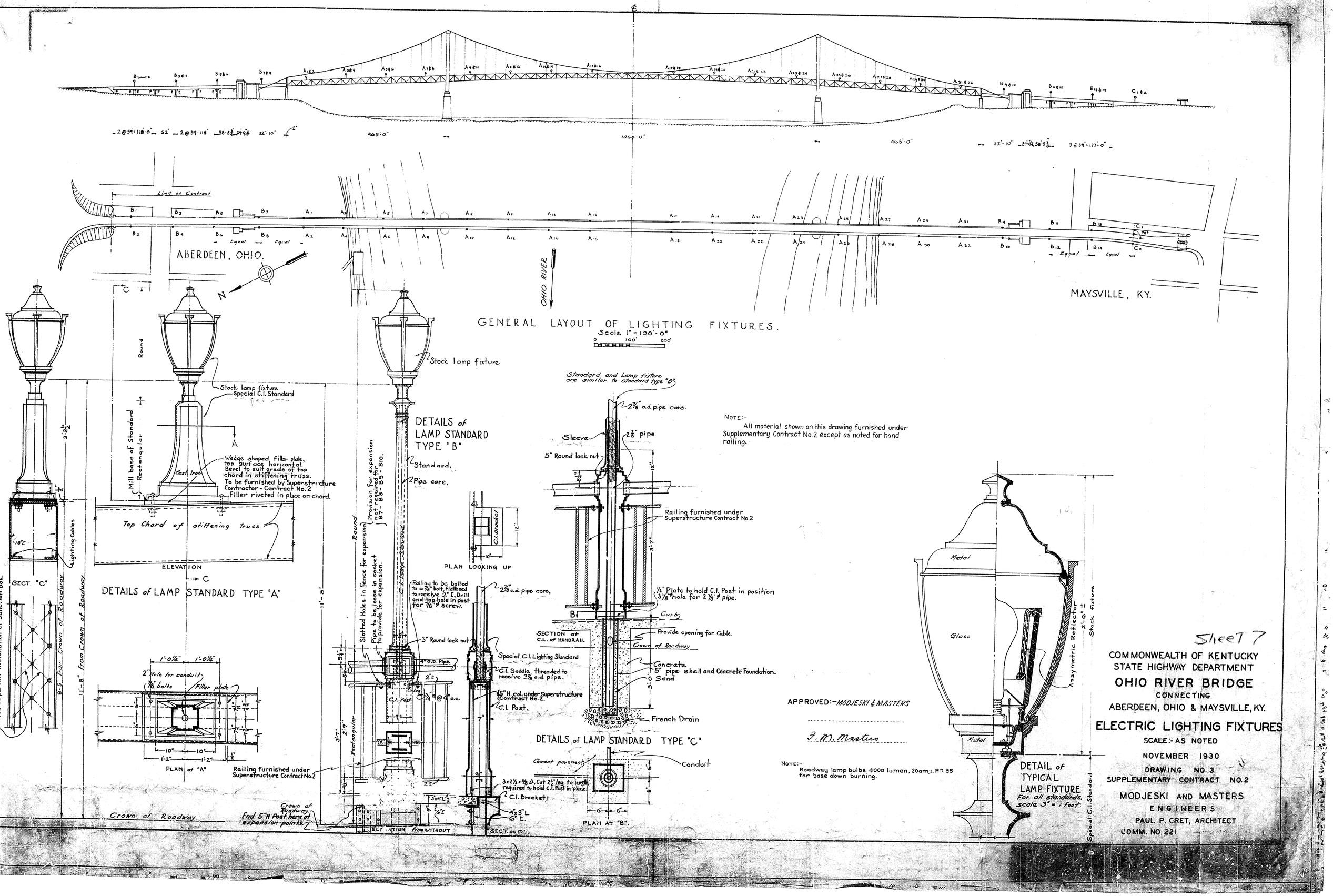
GENERAL PLAN & ELEVATION
MAYSVILLE APPROACH

SCALE IN FEET
5 0 10 20 30

JULY 1930

DRAWING NO. 2
CONTRACT NO. 1&2

MODJESKI AND MASTERS
ENGINEERS



NOTE:-
All material shown on this drawing furnished under Supplementary Contract No. 2 except as noted for hand railing.

APPROVED:- MODJESKI & MASTERS

J. M. Mastus

NOTE:-
Roadway lamp bulbs 4000 lumen, 20amp. B.T. 35 for base down burning.

Sheet 7

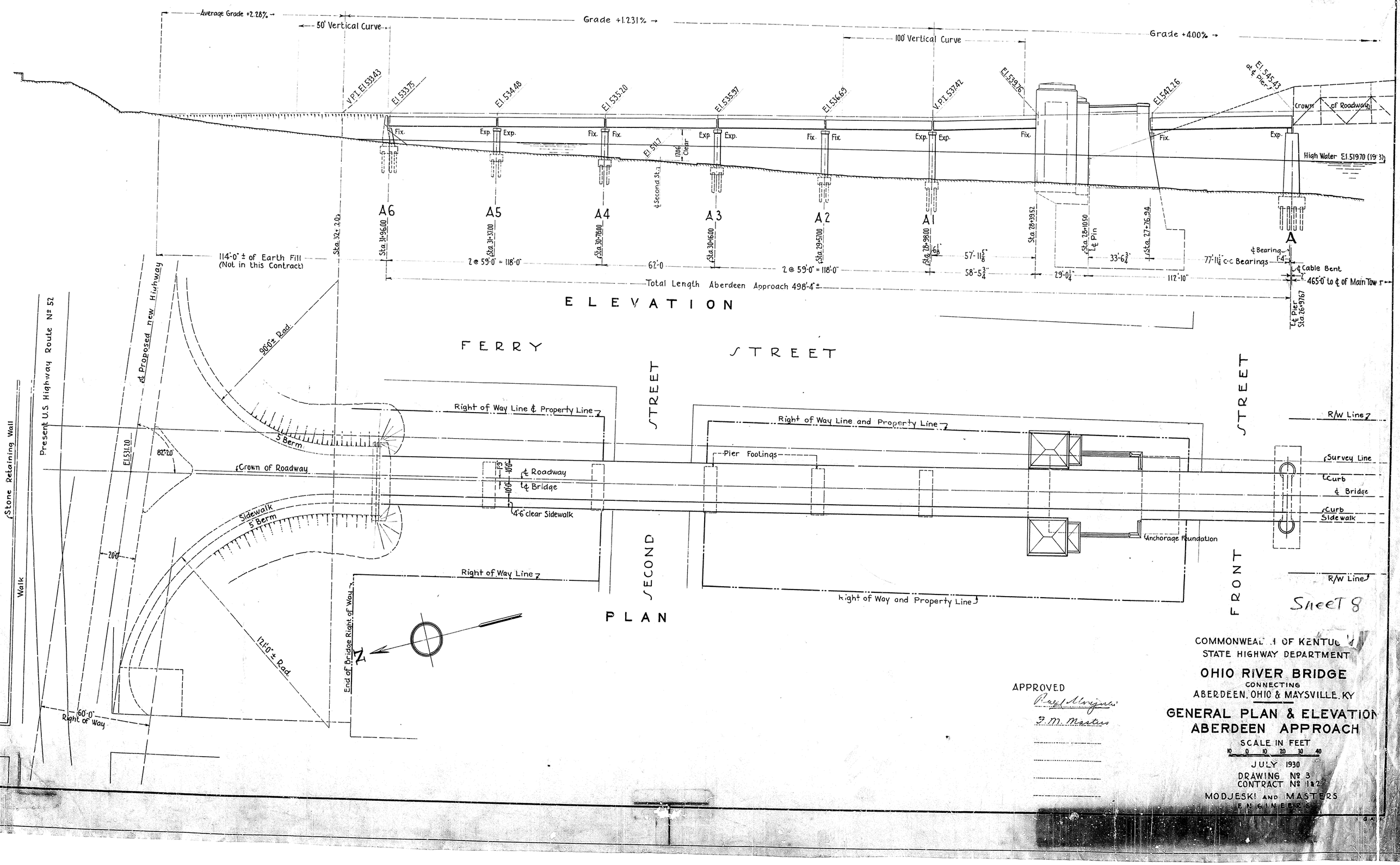
COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

ELECTRIC LIGHTING FIXTURES

SCALE:- AS NOTED
NOVEMBER 1930
DRAWING NO. 3
SUPPLEMENTARY CONTRACT NO. 2
MODJESKI AND MASTERS
ENGINEERS
PAUL P. CRET, ARCHITECT
COMM. NO. 221



Sheet 8

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY

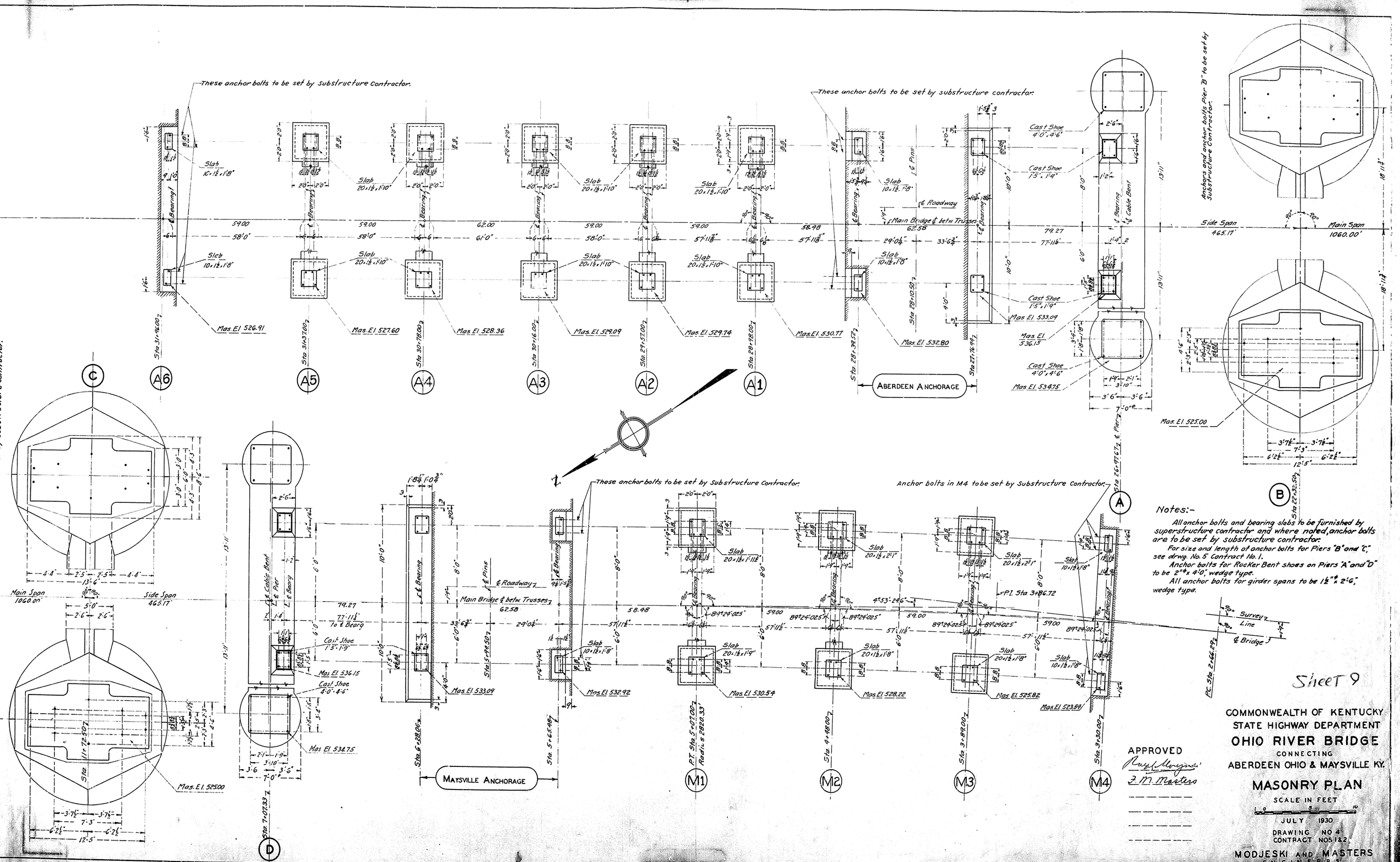
GENERAL PLAN & ELEVATION
ABERDEEN APPROACH

SCALE IN FEET
10 0 10 20 30 40

JULY 1930
DRAWING Nº 3
CONTRACT Nº 1&2

MODJESKI AND MASTERS
ENGINEERS

APPROVED
Rudolph Modjeski
F. M. Masters



Notes:-

All anchor bolts and bearing slabs to be furnished by superstructure contractor and where noted, anchor bolts are to be set by substructure contractor.

For size and length of anchor bolts for Piers "B" and "C," see drwg. No. 5 Contract No. 1.

Anchor bolts for Rocker Bent shoes on Piers "A" and "D" to be 2"⅝ x 4'0" wedge type.

All anchor bolts for girder spans to be 1½"⅝ x 2'6" wedge type.

Sheet 9

APPROVED
Rufus Mengel
J. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT
OHIO RIVER BRIDGE
CONNECTING
ABERDEEN OHIO & MAYSVILLE KY.

MASONRY PLAN

SCALE IN FEET
0 5 10

JULY 1930

DRAWING NO 4
CONTRACT NOS 1 & 2

MODJESKI AND MASTERS
ENGINEERS

BACK STAY

Max Stress - Case A = +5200 K
65 - 1½"φ - 51 Wire Galvanized Strands

ANCHORAGE

Per Cable
Grillage - 4 - 30" CB 115# 14'-0" Carbon
18 - Bars 12" x 3/8" Carbon
65 - Strand Anchorage

CABLE ROCKER AT L0

	Stress	
L	-348	2 - Cov 40" x ½" 24" CB 94#
D	-838	4 L's 4" x 4" x ½" Carbon
Total	-1186	

TRUSS ROCKERS AT L32 & L34

16" CB 58# Carbon

HAND ROPE (2 Ropes per Cable)

⅝"φ Galv Strand
Min Ult Strength = 39 K

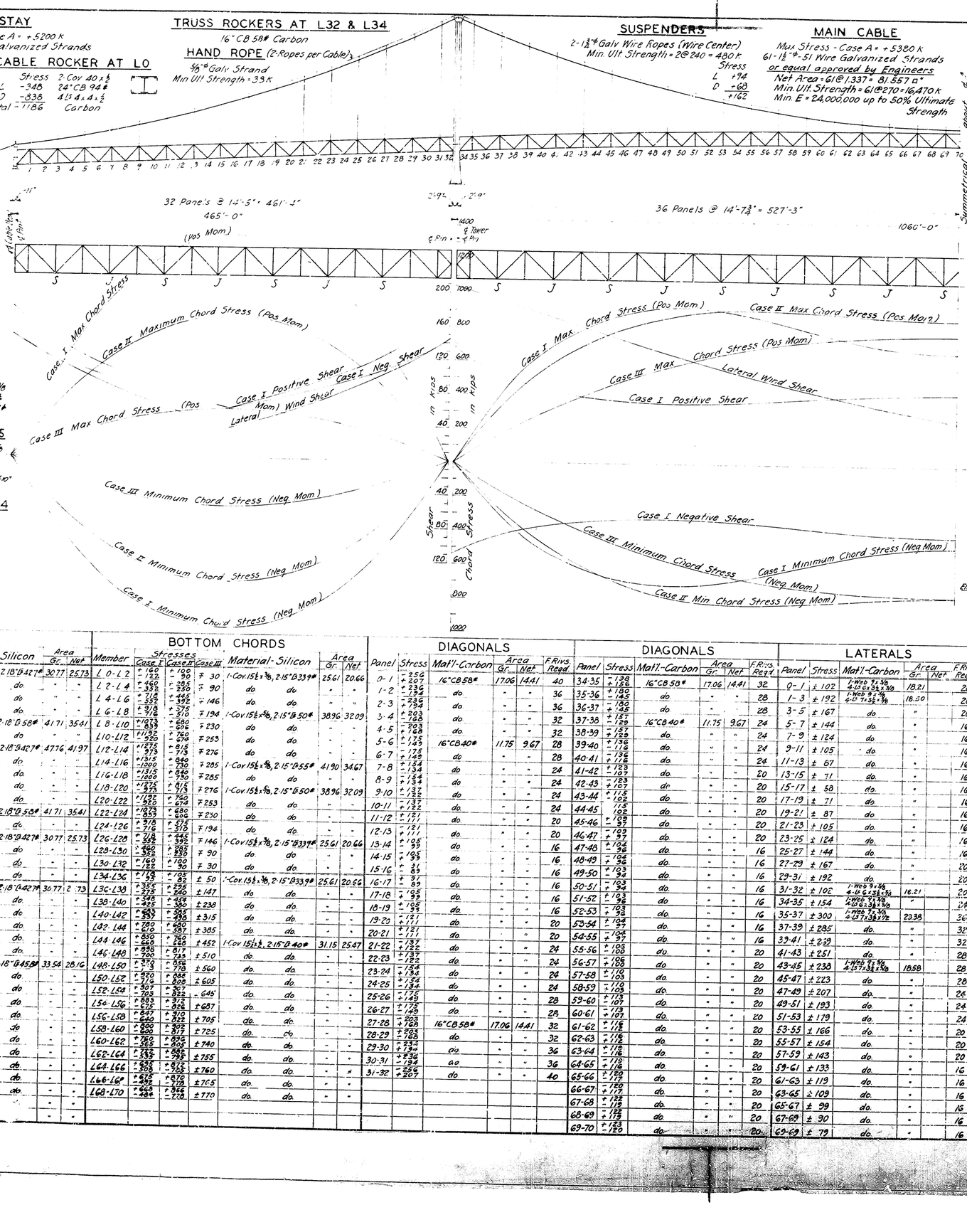
SUSPENDERS

2 - 1½"φ Galv Wire Ropes (Wire Center)
Min Ult Strength = 2 @ 240 = 480 K

	Stress
L	+94
D	-68
	+162

MAIN CABLE

Max Stress - Case A = +5380 K
61 - 1½"φ - 51 Wire Galvanized Strands
or equal approved by Engineers
Net Area = 61 @ 1.337 = 81.557 □"
Min. Ult Strength = 61 @ 270 = 16,470 K
Min. E = 24,000,000 up to 50% Ultimate Strength



STRINGERS

	Shear	Moment	
L	38.0	251	2 - CB 55#
D	7.3	54	S.M. 117
Total	45.3	305	Carbon
	75% = 229		

TYPICAL FLOOR BEAMS

	Shear	Moment	
L	94	780	Web 54" x 3/8"
D	48	380	4 L's 6" x 4" x ½"
Total	142	1160	Carbon

FLOOR BEAM AT L0

	Shear	Stress	Moment	
L	88		733	Web 66" x 3/8"
D	18		120	4 L's 6" x 4" x ½"
W		-144		2 - 18" B 42.7#
Total	106	-144	853	Carbon

FLOOR BEAMS AT L1 - L31 & L35

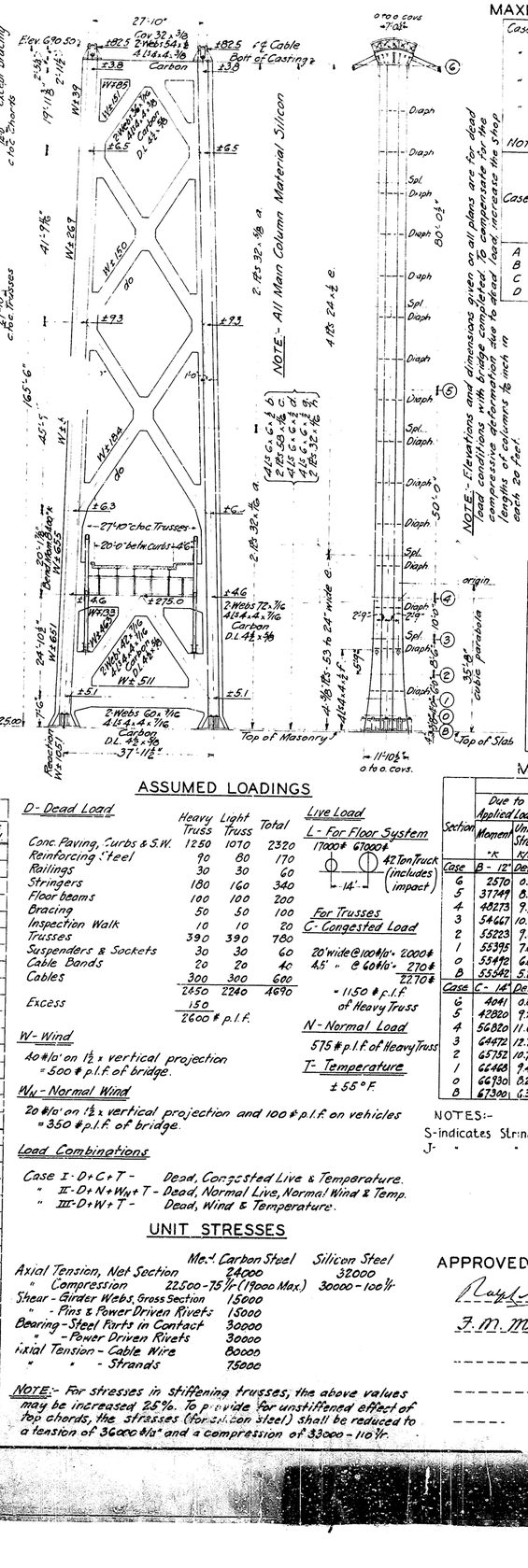
	Shear	Stress	Moment	Web 54" x 3/8"
L	94		780	4 L's 6" x 4" x ½"
D	36		295	Both Cov
W		±97	155	14" x 3/8" x 22'-10"
Total	130	±97	1220	Carbon

FLOOR BEAMS AT L32 & L34

	Shear	Moment	
L	90	752	Web 44" x 3/8"
D	16	120	4 L's 6" x 4" x 3/8"
Total	106	872	Carbon

TRUSS VERTICALS

	Stress	
L	+94	
D	+60	16" CB 58# Carbon
Total	+154	



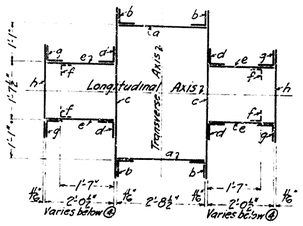
MAXIMUM CONDITIONS OF TOWER DEFLECTION

Case A - Maximum Vertical Reaction - All Spans Loaded - Minimum Temperature.
" B - Maximum Riverward Deflection - Center and Far Side Spans Loaded - Maximum Temperature.
" C - Maximum Shoreward Deflection - Near Side Span Loaded - Minimum Temperature.
" D - Maximum Wind Stresses - No Spans Loaded - Minimum Temperature.

NOTE - Tower in Normal Position is Deflected 3" Shoreward

Case	Max. Defl. from Normal ft.	Normal Position from Vert. ft.	Max. Defl. from Vert. ft.	Max. Defl. from Vert. in.	Horiz. Forces at Top of Tower: Balanced H K(t)	Unbal. P K	At Top of Tower: Vs K	Vm K	Total K	Stiff. Tr. Reactions: Js K	Sj K
		(+ Denotes Riverward) Horizontal Deflections					(+ Denotes Downward) Vertical Forces				
A	+0.220	-0.250	-0.030	-1"	4877					+96	+0
B	+1.179	-0.250	+0.929	+12"	4677	+1.04	2061	1946	4007	-130	+13
C	-0.700	-0.250	-1.150	-14"	3558	-8.45	1720	1385	3105	+163	-4
D					3503						

NOTE - Elevations and dimensions given on all plans are for dead load conditions with bridge completed. To compensate for the compressive deformation due to dead load increase the shop lengths of columns ⅛ inch in each 20 feet.



COLUMN PROPERTIES

Section	Area □"	About Transverse Axis: I in⁴	c in.	S.M. in³	About Longitudinal Axis: I in⁴	c in.	S.M. in³
6	280.76	194700	42.125	4625			
5	"	"	"	"			
Splice	"	"	"	"			
Splice	284.76	195000	"	4630	72500	29.00	2500
	296.76	205800	"	4880			
4	"	"	"	"			
3	300.68	221500	43.69	5065			
2	328.80	298300	48.93	6100			
1	346.92	396500	56.19	7055			
0	364.28	511600	63.125	8100			
B	384.66	760000	71.25	10560			

TOP CHORDS

Member	Stresses: Case I	Case II	Case III	Material - Silicon	Area: Gr.	Net
0-U1	0	0	0	1-Cov 15½" x 3/8", 2-18" B 42.7#	30.77	25.73
1-U3	+312	+509	± 62	do do	"	"
3-U5	+595	+972	± 120	do do	"	"
5-U7	+845	+1380	± 172	do do	"	"
7-U9	+904	+1477	± 215	1-Cov 15½" x ½", 2-18" B 58#	41.71	35.41
9-U11	+1040	+1700				
	+805	+1315	± 240	do do	"	"
11-U13	+792	+1295	± 264	1-Cov 15½" x 3/8", 2-18" B 42.7#	47.76	41.97
	+930	+1492				
13-U15	+92	+150				
	+592	+967		do do	"	"
15-U17	+1310	+2140				
	+1040	+1700		do do	"	"
17-U19	+1300	+2125				
	+972	+1590	- 261	do do	"	"
19-U21	+1340	+2190				
	+930	+1520	± 264	do do	"	"
21-U23	+1360	+2220				
	+802	+1310	± 240	1-Cov 15½" x ½", 2-18" B 58#	41.71	35.41
23-U25	+1064	+1740				
	+935	+1528				
25-U27	+820	+1340				
	+645	+1055	± 215	do do	"	"
27-U29	+465	+760	± 172	1-Cov 15½" x 3/8", 2-18" B 42.7#	30.77	25.73
	+238	+390	± 120	do do	"	"
29-U31	+312	+510				
	+240	+392	± 62	do do	"	"
31-U32	0	0	0	do do	"	"
34-U35	0	0	0	1-Cov 15½" x 3/8", 2-18" B 42.7#	30.77	25.73
35-U37	+232	+379	± 100	do do	"	"
	+465	+760				
37-U39	+465	+760	± 195	do do	"	"
	+330	+540				
39-U41	+525	+858				
	+238	+390	± 215	do do	"	"
41-U43	+737	+1205				
	+577	+945	± 355	do do	"	"
43-U45	+843	+1378				
	+755	+1235	± 425	do do	"	"
45-U47	+877	+1434				
	+686	+1122	± 485	1-Cov 15½" x 3/8", 2-18" B 45.8#	33.54	28.16
47-U49	+910	+1488				
	+738	+1205	± 535	do do	"	"
49-U51	+912	+1490				
	+717	+1172	± 585	do do	"	"
51-U53	+916	+1500				
	+700	+1145	± 630	do do	"	"
53-U55	+937	+1530				
	+630	+1029	± 665	do do	"	"
55-U57	+862	+1410				
	+538	+880	± 695	do do	"	"
57-U59	+862	+1410				
	+620	+1015	± 715	do do	"	"
59-U61	+780	+1275				
	+590	+965	± 735	do do	"	"
61-U63	+740	+1210				
	+547	+895	± 745	do do	"	"
63-U65	+706	+1155				
	+520	+850	± 755	do do	"	"
65-U67	+683	+1115				
	+493	+805	± 765	do do	"	"
67-U69	+656	+1070				
	+468	+765	± 770	do do	"	"
69-U69	+670	+1095				
	+483	+790	± 770	do do	"	"

BOTTOM CHORDS

Member	Stresses: Case I	Case II	Case III	Material - Silicon	Area: Gr.	Net
L0-L2	+160	+261				
	-122	-90	∓ 30	1-Cov 15½" x 3/8", 2-15" B 33.9#	25.61	20.66
L2-L4	+460	+751				
	-352	-290	∓ 90	do do	"	"
L4-L6	+715	+1165				
	-547	-392	∓ 146	do do	"	"
L6-L8	+918	+1495				
	-716	-510	∓ 194	1-Cov 15½" x 3/8", 2-15" B 50#	38.96	32.09
L8-L10	+1073	+1750				
	-859	-626	∓ 230	do do	"	"
L10-L12	+1192	+1940				
	-920	-670	∓ 253	do do	"	"
L12-L14	+1275	+2075				
	-973	-715	∓ 276	do do	"	"
L14-L16	+1315	+2140				
	-1000	-730	∓ 285	do do	"	"
L16-L18	+1315	+2140				
	-1000	-730	∓ 285	do do	"	"
L18-L20	+1275	+2075				
	-973	-715	∓ 276	1-Cov 15½" x 3/8", 2-15" B 50#	38.96	32.09
L20-L22	+1192	+1940				
	-920	-670	∓ 253	do do	"	"
L22-L24	+1073	+1750				
	-859	-626	∓ 230	do do	"	"
L24-L26	+918	+1495				
	-716	-510	∓ 194	do do	"	"
L26-L28	+715	+1165				
	-547	-392	∓ 146	1-Cov 15½" x 3/8", 2-15" B 33.9#	25.61	20.66
L28-L30	+460	+751				
	-352	-290	∓ 90	do do	"	"
L30-L32	+160	+261				
	-122	-90	∓ 30	do do	"	"
L34-L36	+78	+127				
	-59	-52	± 50	1-Cov 15½" x 3/8", 2-15" B 33.9#	25.61	20.66
L36-L38	+365	+595				
	-278	-240	± 147	do do	"	"
L38-L40	+548	+894				
	-425	-350	± 238	do do	"	"
L40-L42	+692	+1128				
	-559	-490	± 315	do do	"	"
L42-L44	+780	+1270				
	-610	-587	± 385	do do	"	"
L44-L46	+850	+1385				
	-644	-685	± 452	1-Cov 15½" x 3/8", 2-15" B 40#	31.15	25.47
L46-L48	+898	+1463				
	-700	-733	± 510	do do	"	"
L48-L50	+929	+1515				
	-710	-770	± 560	do do	"	"
L50-L52	+907	+1478				
	-710	-822	± 605	do do	"	"
L52-L54	+907	+1478				
	-703	-822	- 645	do do	"	"
L54-L56	+883	+1439				
	-675	-826	± 657	do do	"	"
L56-L58	+847	+1380				
	-640	-810	± 705	do do	"	"
L58-L60	+800	+1303				
	-595	-765	± 725	do do	"	"
L60-L62	+760	+1238				
	-565	-905	± 740	do do	"	"
L62-L64	+735	+1198				
	-535	-935	± 755	do do	"	"
L64-L66	+695	+1133				
	-505	-975	± 760	do do	"	"
L66-L68	+675	+1100				
	-495	-1110	± 765	do do	"	"
L68-L70	+665	+1085				
	-484	-1118	± 770	do do	"	"

DIAGONALS

Panel	Stress	Mat'l - Carbon	Area: Gr.	Net	F. Rivs. Reqd.
0-1	+256 / -207	16" CB 58#	17.06	14.41	40
1-2	+236 / -192	do	"	"	36
2-3	+236 / -192	do	"	"	36
3-4	+794 / -645	do	"	"	32
4-5	+903 / -768	do	"	"	32
5-6	+775 / -749	16" CB 40#	11.75	9.67	28
6-7	+775 / -749	do	"	"	28
7-8	+154 / -144	do	"	"	24
8-9	+154 / -134	do	"	"	24
9-10	+137 / -122	do	"	"	24
10-11	+137 / -122	do	"	"	24
11-12	+121 / -109	do	"	"	20
12-13	+121 / -109	do	"	"	20
13-14	+105 / -99	do	"	"	16
14-15	+105 / -99	do	"	"	16
15-16	+91 / -89	do	"	"	16
16-17	+91 / -89	do	"	"	16
17-18	+99 / -96	do	"	"	16
18-19	+105 / -99	do	"	"	16
19-20	+121 / -109	do	"	"	20
20-21	+121 / -111	do	"	"	20
21-22	+137 / -122	do	"	"	24
22-23	+137 / -122	do	"	"	24
23-24	+154 / -134	do	"	"	24
24-25	+154 / -134	do	"	"	24
25-26	+173 / -149	do	"	"	28
26-27	+175 / -149	do	"	"	28
27-28	-203 / +168	16" CB 58#	17.06	14.41	32
28-29	+208 / -168	do	"	"	32
29-30	+234 / -194	do	"	"	36
30-31	+236 / -194	do	"	"	36
31-32	-256 / +207	do	"	"	40

DIAGONALS

Panel	Stress	Mat'l - Carbon	Area: Gr.	Net	F. Rivs. Reqd.
34-35	-138 / +156	16" CB 58#	17.06	14.41	32
35-36	+180 / -185	do	"	"	28
36-37	+180 / -185	do	"	"	28
37-38	+151 / -129	16" CB 40#	11.75	9.67	24
38-39	-157 / +129	do	"	"	24
39-40	-136 / +116	do	"	"	24
40-41	-136 / +116	do	"	"	24
41-42	+123 / -107	do	"	"	20
42-43	-123 / +107	do	"	"	20
43-44	+115 / -102	do	"	"	20
44-45	115 / 102	do	"	"	20
45-46	+109 / -99	do	"	"	20
46-47	+109 / -97	do	"	"	20
47-48	+104 / -96	do	"	"	16
48-49	+104 / -96	do	"	"	16
49-50	+103 / -94	do	"	"	16
50-51	+103 / -94	do	"	"	16
51-52	+103 / -96	do	"	"	16
52-53	+103 / -96	do	"	"	16
53-54	+104 / -97	do	"	"	20
54-55	+104 / -97	do	"	"	20
55-56	+106 / -100	do	"	"	24
56-57	+106 / -100	do	"	"	24
57-58	+110 / -103	do	"	"	24
58-59	+110 / -103	do	"	"	24
59-60	+113 / -107	do	"	"	28
60-61	+113 / -107	do	"	"	28
61-62	+116 / -116	do	"	"	20
62-63	+116 / -116	do	"	"	20
63-64	+116 / -116	do	"	"	20
64-65	+116 / -116	do	"	"	20
65-66	+120 / -117	do	"	"	20
66-67	+120 / -117	do	"	"	20
67-68	+122 / -119	do	"	"	20
68-69	+122 / -119	do	"	"	20
69-70	+123 / -120	do	"	"	20

LATERALS

Panel	Stress	Mat'l - Carbon	Area: Gr.	Net	F. Rivs. Reqd.
0-1	± 102	1-Web 9" x 3/8", 4 L's 6" x 3½" x 3/8" Carbon	18.21		20
1-3	± 192	1-Web 9" x 3/8", 4 L's 7" x 3½" x 3/8"	18.50		20
3-5	± 167	do	"	"	20
5-7	± 144	do	"	"	16
7-9	± 124	do	"	"	16
9-11	± 105	do	"	"	16
11-13	± 87	do	"	"	16
13-15	± 71	do	"	"	16
15-17	± 58	do	"	"	16
17-19	± 71	do	"	"	16
19-21	± 87	do	"	"	16
21-23	± 105	do	"	"	16
23-25	± 124	do	"	"	16
25-27	± 144	do	"	"	16
27-29	± 167	do	"	"	20
29-31	± 192	do	"	"	20
31-32	± 102	1-Web 9" x 3/8", 4 L's 6" x 3½" x 3/8"	16.21		20
34-35	± 154	1-Web 9" x 3/8", 4 L's 6" x 3½" x 3/8"	"		24
35-37	± 300	1-Web 9" x 3/8", 4 L's 7" x 3½" x 7/16"	23.38		36
37-39	± 285	do	"	"	32
39-41	± 239	do	"	"	32
41-43	± 251	do	"	"	28
43-45	± 238	1-Web 9" x 3/8", 4 L's 7" x 3½" x 3/8"	18.58		28
45-47	± 223	do	"	"	28
47-49	± 207	do	"	"	28
49-51	± 193	do	"	"	24
51-53	± 179	do	"	"	24
53-55	± 166	do	"	"	20
55-57	± 154	do	"	"	20
57-59	± 143	do	"	"	20
59-61	± 133	do	"	"	16
61-63	± 119	do	"	"	16
63-65	± 109	do	"	"	16
65-67	± 99	do	"	"	16
67-69	± 90	do	"	"	16
69-69	± 79	do	"	"	16

ASSUMED LOADINGS

D - Dead Load

	Heavy Truss	Light Truss	Total
Conc. Paving, Curbs & S.W.	1250	1070	2320
Reinforcing Steel	90	80	170
Railings	30	30	60
Stringers	180	160	340
Floor beams	100	100	200
Bracing	50	50	100
Inspection Walk	10	10	20
Trusses	390	390	780
Suspenders & Sockets	30	30	60
Cable Bands	20	20	40
Cables	300	300	600
	2450	2240	4690
Excess	150		
	2600 # p.l.f.		

W - Wind

40 #/□' on 1½ x vertical projection
= 500 # p.l.f. of bridge.

W_N - Normal Wind

20 #/□' on 1½ x vertical projection and 100 # p.l.f. on vehicles
= 350 # p.l.f. of bridge.

Live Load

L - For Floor System

17000# 6700#
42 Ton Truck (includes impact)
14'

For Trusses

C - Congested Load

20' wide @ 100 #/□' = 2000 #
4.5' " @ 60 #/□' = 270 #
2270 #
= 1150 # p.l.f. of Heavy Truss

N - Normal Load

575 # p.l.f. of Heavy Truss

T - Temperature

± 55° F.

Load Combinations

Case I - D + C + T - Dead, Congested Live & Temperature.
" II - D + N + W_N + T - Dead, Normal Live, Normal Wind & Temp.
" III - D + W + T - Dead, Wind & Temperature.

UNIT STRESSES

	Mat'l Carbon Steel	Silicon Steel
Axial Tension, Net Section	24000	32000
" Compression	22500 - 75 l/r (19000 Max.)	30000 - 100 l/r
Shear - Girder Webs, Gross Section	15000	
" - Pins & Power Driven Rivets	15000	
Bearing - Steel Parts in Contact	30000	
" - Power Driven Rivets	30000	
Axial Tension - Cable Wire	80000	
" " - Strands	75000	

NOTE:- For stresses in stiffening trusses, the above values may be increased 25%. To provide for unstiffened effect of top chords, the stresses (for silicon steel) shall be reduced to a tension of 36000 #/□" and a compression of 33000 - 110 l/r.

MOMENTS AND STRESSES IN TOWER

Section	Bending: Due to Applied Loads: Moment "K	Unit Stress K/□"	Bending: Due to Dead Load of Tower: Moment "K	Unit Stress K/□"	Bending: Total Bending: Moment "K	Unit Stress K/□"	Direct: Due to Applied Loads: Load K	Unit Stress K/□"	Direct: Due to Dead Load of Tower: Load K	Unit Stress K/□"	Direct: Total Direct: Load K	Unit Stress K/□"
Case B - 12" Deflection Riverward												
6	2570	0.56	0	0.	2570	0.56	4007	14.27	0	0.	4007	14.27
5	37749	8.16	462	0.10	38211	8.26	4007	14.27	132	0.47	4139	14.74
4	48273	9.70	871	0.18	49144	10.08	4007	13.50	218	0.74	4225	14.24
3	54667	10.78	920	0.18	55587	10.96	4007	13.32	236	0.79	4243	14.19
2	55223	9.05	943	0.16	56171	9.21	3910	11.88	252	0.77	3162	12.65
1	55395	7.85	957	0.14	56352	7.99	3910	11.26	264	0.76	4174	12.02
0	55492	6.85	960	0.12	56452	6.97	3910	10.71	273	0.75	4183	11.46
B	55542	5.26	960	0.09	56502	5.35	3910	10.15	281	0.73	4191	10.88
Case C - 14" Deflection Shoreward												
6	4041	0.87	0	0.	4041	0.87	3105	11.05	0	0.	3105	11.05
5	42820	9.26	539	0.12	43359	9.38	3105	11.05	132	0.47	3237	11.52
4	56820	11.62	1013	0.21	57833	11.83	3105	10.46	218	0.74	3323	11.20
3	64472	12.71	1070	0.22	65542	12.93	3254	10.80	236	0.77	3490	11.59
2	65752	10.78	1104	0.18	66856	10.96	3254	9.88	252	0.77	3506	10.65
1	66448	9.42	1112	0.16	67560	9.58	3254	9.38	264	0.76	3518	10.14
0	66930	8.24	1118	0.14	68048	8.40	3254	8.93	273	0.75	3527	9.68
B	67300	6.37	1118	0.11	68418	6.48	3254	8.46	281	0.73	3535	9.19

NOTES:-
S - indicates Stringer Splice
J - " " Exp. Joint

In all cases where CB or other special sections are shown the contractor may substitute, subject to the Engineers approval, sections of equal weight and strength.

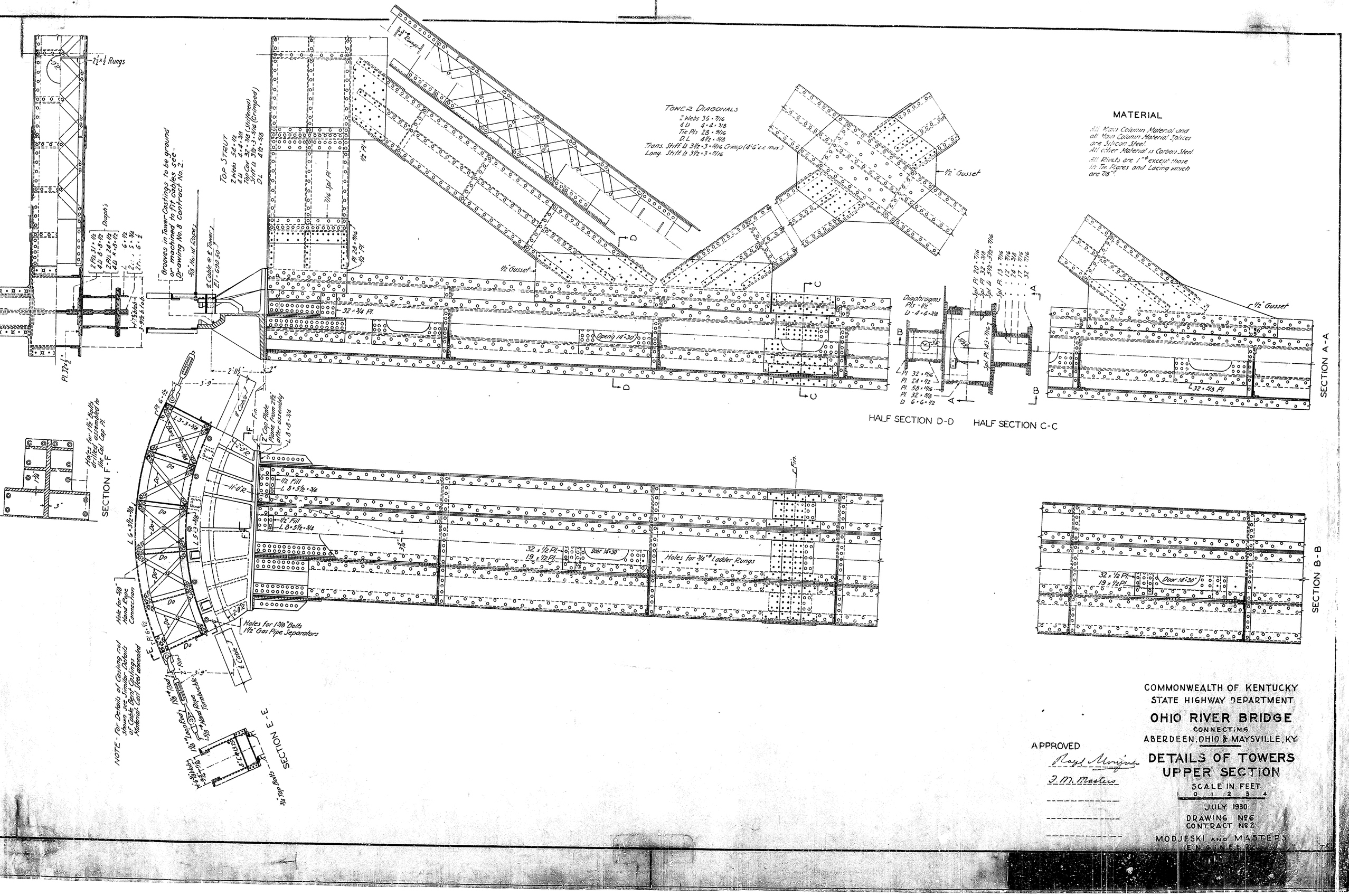
APPROVED
Raymond Morgan
F. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT
OHIO RIVER BRIDGE
CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

STRESS SHEET

SCALES IN FEET
20 0 20 40 60 80 100
10 0 10 20 30 40 50

JULY 1930
DRAWING NO. 5
CONTRACT NO. 2
MODJESKI AND MASTERS
ENGINEERS



COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

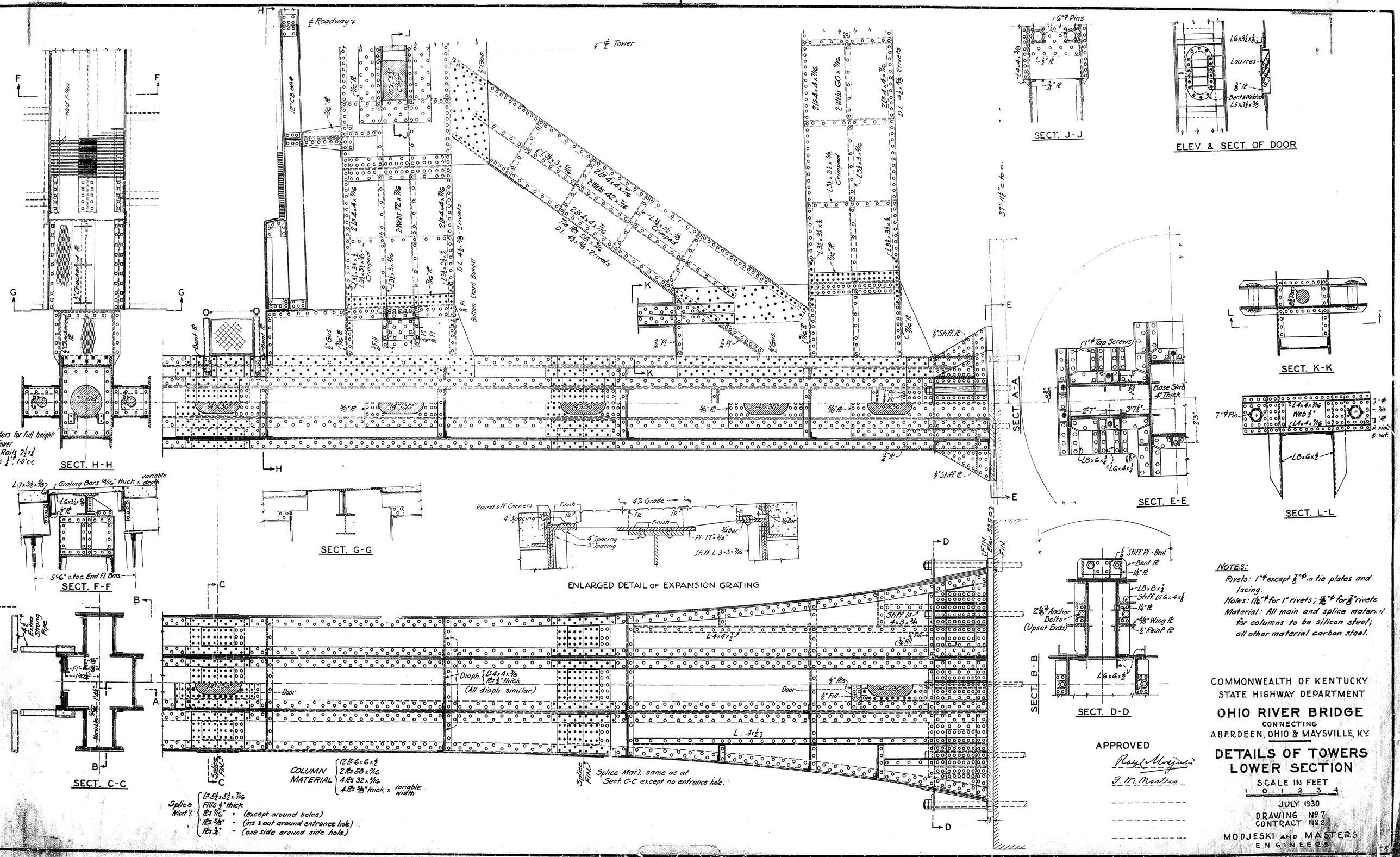
DETAILS OF TOWERS UPPER SECTION

SCALE IN FEET
0 1 2 3 4

JULY 1930
DRAWING No 6
CONTRACT No 2

MODJESKI AND MASTERS
ENGINEERS

APPROVED
Lloyd Morrison
J. M. Masters

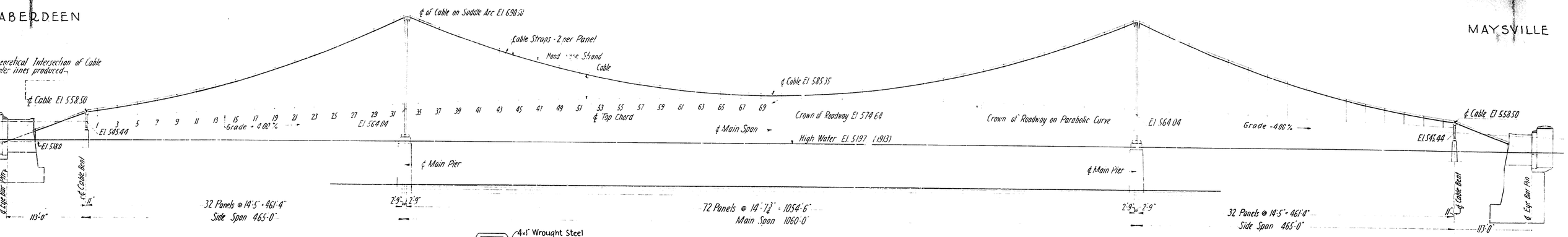


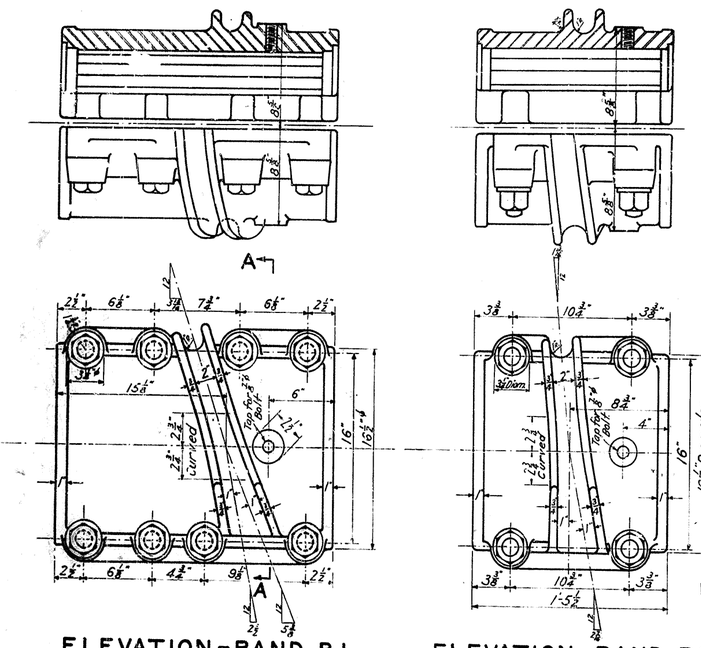
NOTES:

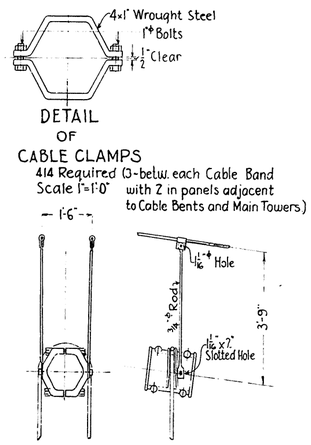
Rivets: 1" ϕ except ⅞" ϕ in tie plates and lacing.

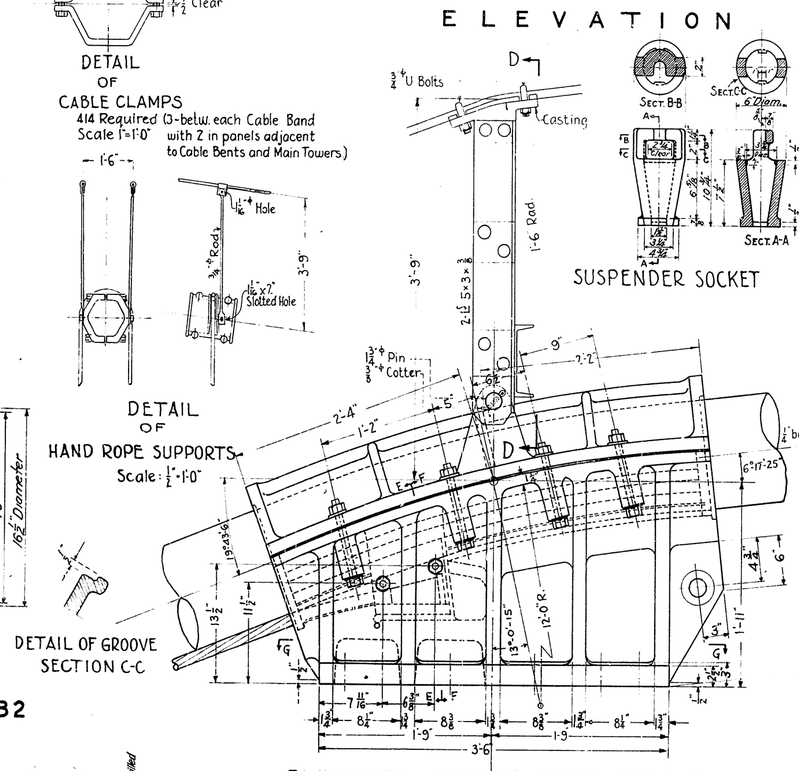
Holes: 1 1/16" ϕ for 1" rivets; 15/16" ϕ for ⅞" rivets

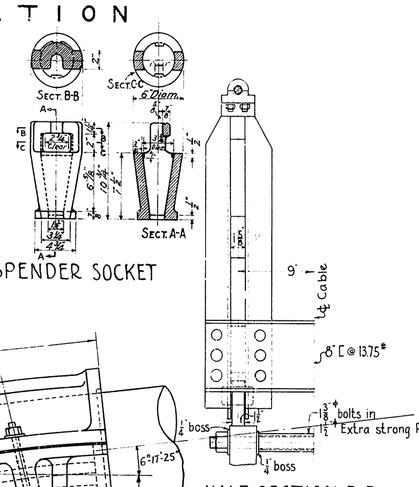
Material: All main and splice material for columns to be silicon steel; all other material carbon steel.

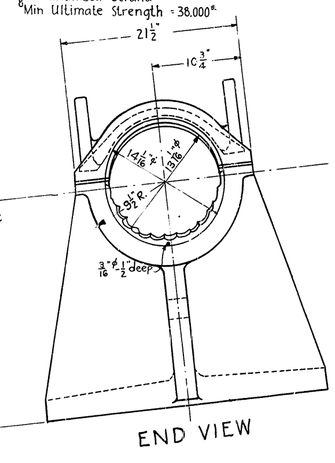












SUSPENDERS

One 1 3/8" ϕ Galvanized Wire Rope looped over Cable Band at Panel Points as shown
Min. Ultimate Strength of each Rope = 240,000#

HAND ROPES

Two Ropes per Cable
5/8" ϕ Galvanized Strand
Min Ultimate Strength = 38,000#

CABLES

Max Stress per Cable = + 5,380,000# Dead, Congested Live over all spans and lowest Temperature
Two Cables, each 61 - 1½" ϕ 51 wire Galvanized Strands (or equal approved by Engrs.) with 4 extra Strands between Cable Bent and Anchorage
Net Area = 61 @ 1.337 = 81.557 □"
Min Ultimate Strength = 61 @ 270,000 = 16,470,000#
Min E = 24,000,000 ⅌ up to 50% of ultimate strength

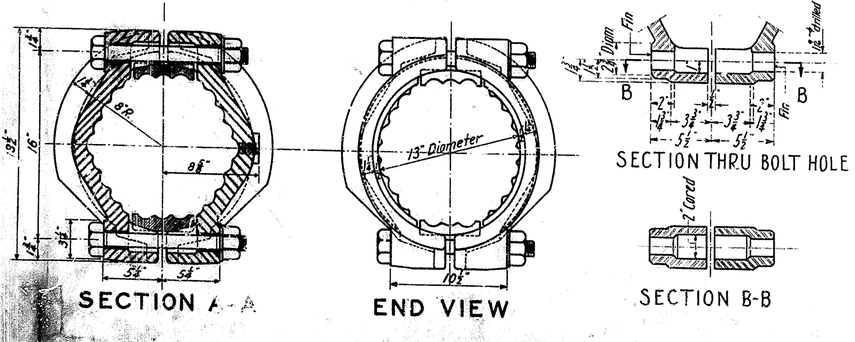
NOTES:-

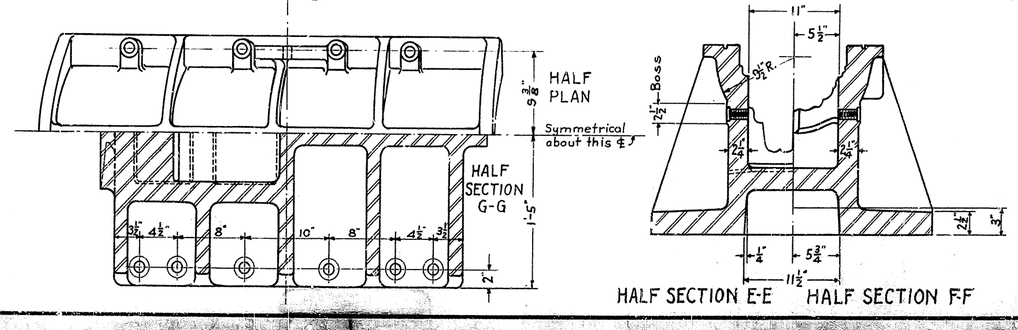
Elevations of Cables given are for the condition of full Dead Load and normal Temperature
Normal Temperature = +55° Fahrenheit
Under full Dead Load and normal Temperature the top of main Towers are to be deflected shoreward 3" from vertical - and Top of Cable Bents to be deflected shoreward ¾" from vertical. -

Material for Cable Bands and Cable Bent Castings to be cast Steel
Bolts for Cable Bands to be high tensile Steel
Internal diameter given for Cable Bands is approximate. Actual diameter to be determined from experiment upon compacted Cable Section

Location of Cable Bands -
Bands B1 at Panel Points 9 to 51
Bands B2 at Panel Points 1 to 7 & 53 to 69

All Corners of Castings to be filleted or rounded to ⅜" radius. -
Cable Bands are to be grooved to fit individual strands and shall maintain, by an approved method, a uniform pressure on all sides of the cable - Grooves in Cable Bands and Rocker Bent Castings to be ground or machined to templet to fit Cables.





APPROVED
Rex Mudgett
J. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

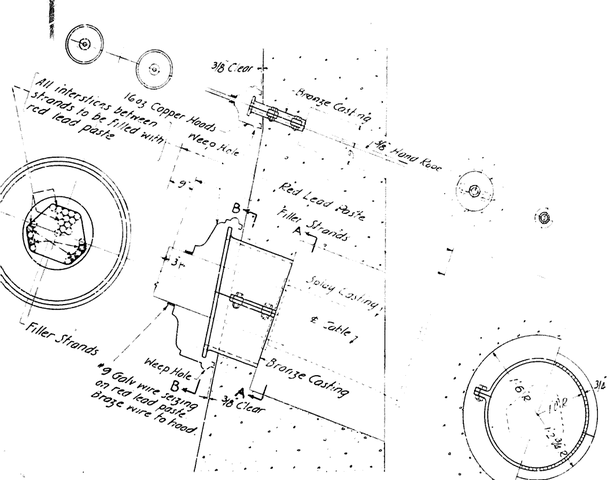
OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY

CABLES & CABLE CASTINGS

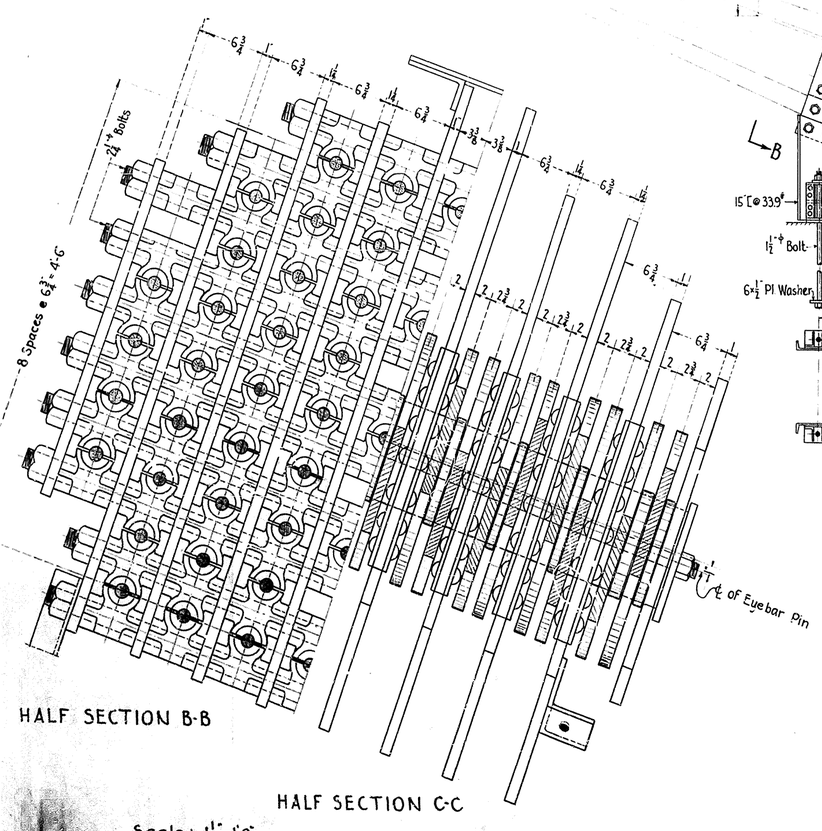
SCALE IN FEET
10 0 50 100
EXCEPT AS NOTED
DRAWING No 8
CONTRACT No 2
JULY 1930

MODJESKI AND MASTERS
ENGINEERS



CABLE COLLARS & HOODS

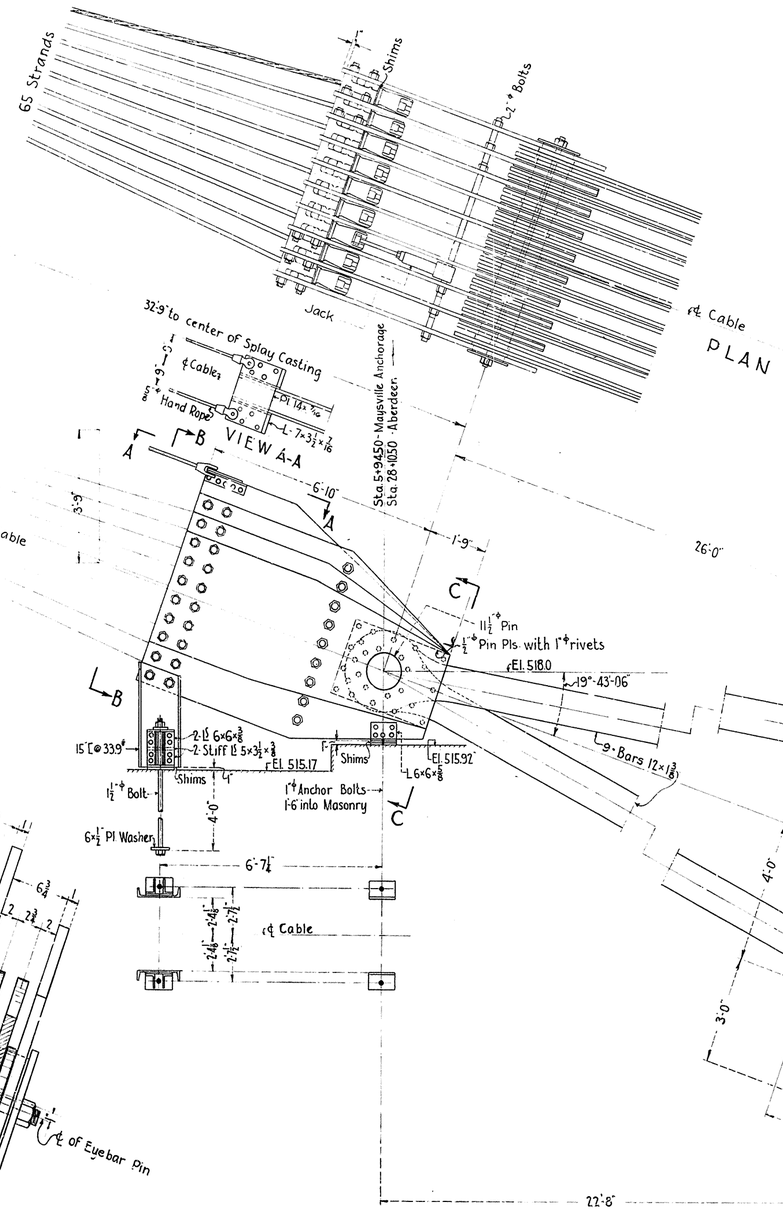
Scale : 3/4" = 1'-0"



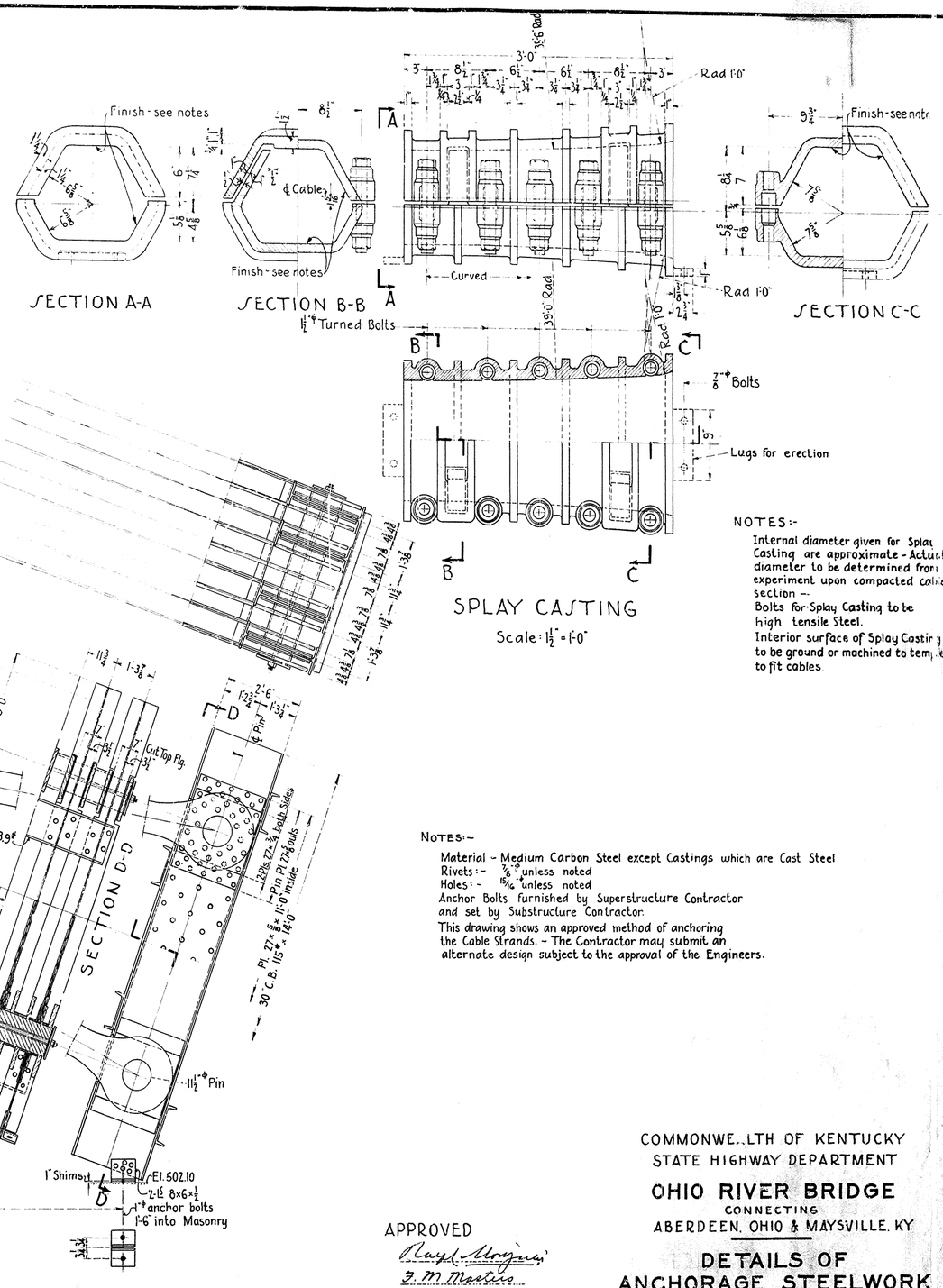
HALF SECTION B-B

HALF SECTION C-C

Scale : 1 1/2" = 1'-0"



Scale : 1/2" = 1'-0"



NOTES:-

Internal diameter given for Splay Casting are approximate - Actual diameter to be determined from experiment upon compacted cable section.-

Bolts for Splay Casting to be high tensile Steel.

Interior surface of Splay Casting to be ground or machined to template to fit cables.

NOTES:-

Material - Medium Carbon Steel except Castings which are Cast Steel

Rivets:- 7/8" ϕ unless noted

Holes:- 15/16" unless noted

Anchor Bolts furnished by Superstructure Contractor and set by Substructure Contractor.

This drawing shows an approved method of anchoring the Cable Strands. - The Contractor may submit an alternate design subject to the approval of the Engineers.

APPROVED

Lloyd Morgan

J. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING

ABERDEEN, OHIO & MAYSVILLE, KY.

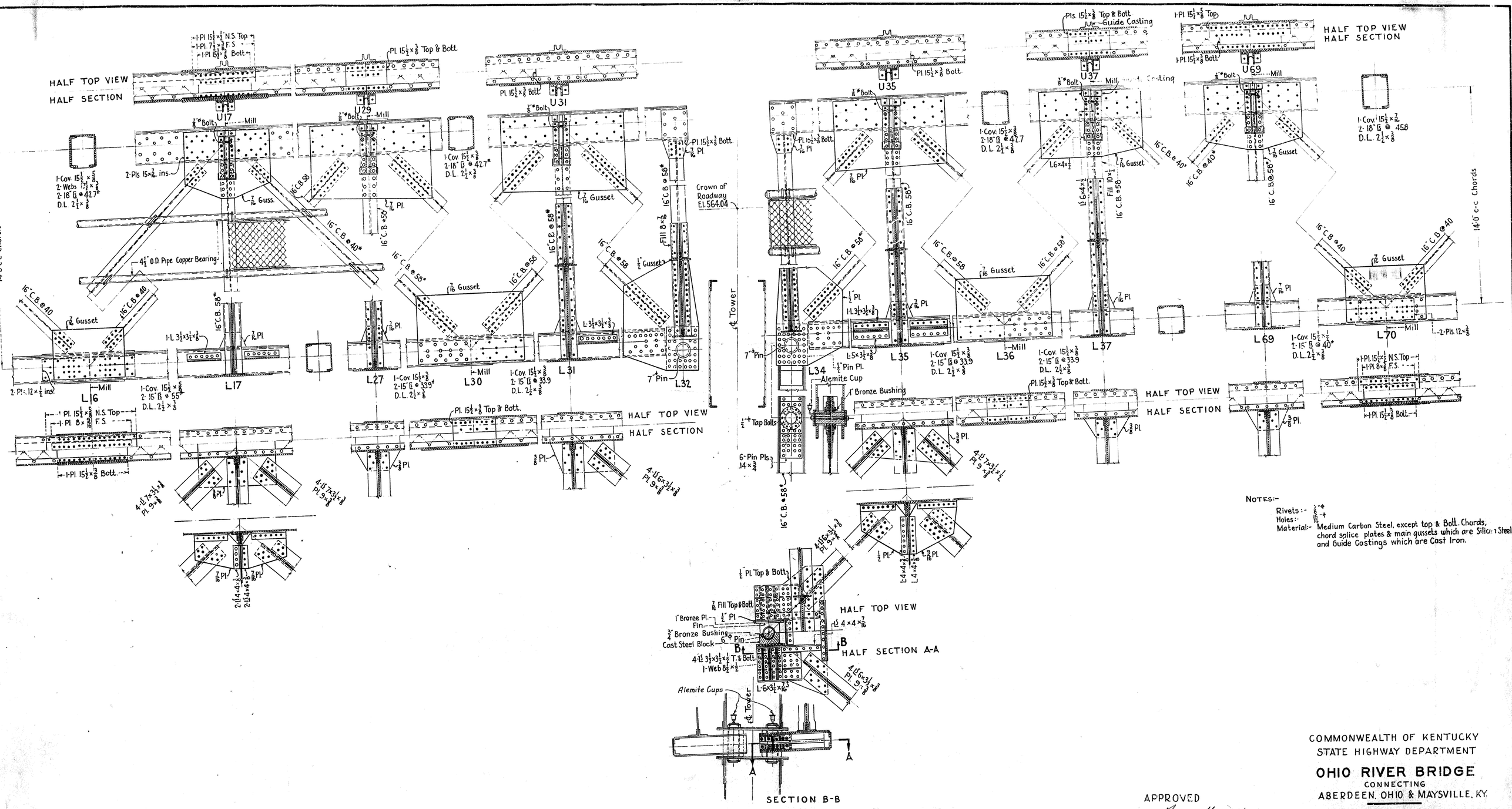
DETAILS OF ANCHORAGE STEELWORK

SCALES AS NOTED.

JULY 1930

DRAWING Nº 9
CONTRACT Nº 2

MODJESKI AND MASTERS
ENGINEERS



NOTES:-

Rivets :- $\frac{7}{8}$"

Holes :- $\frac{15}{16}$"

Material:- Medium Carbon Steel, except top & Bott. Chords, chord splice plates & main gussets which are Silicon Steel and Guide Castings which are Cast Iron.

APPROVED

Roy S. Morgan

F. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

TYPICAL DETAILS STIFFENING TRUSSES

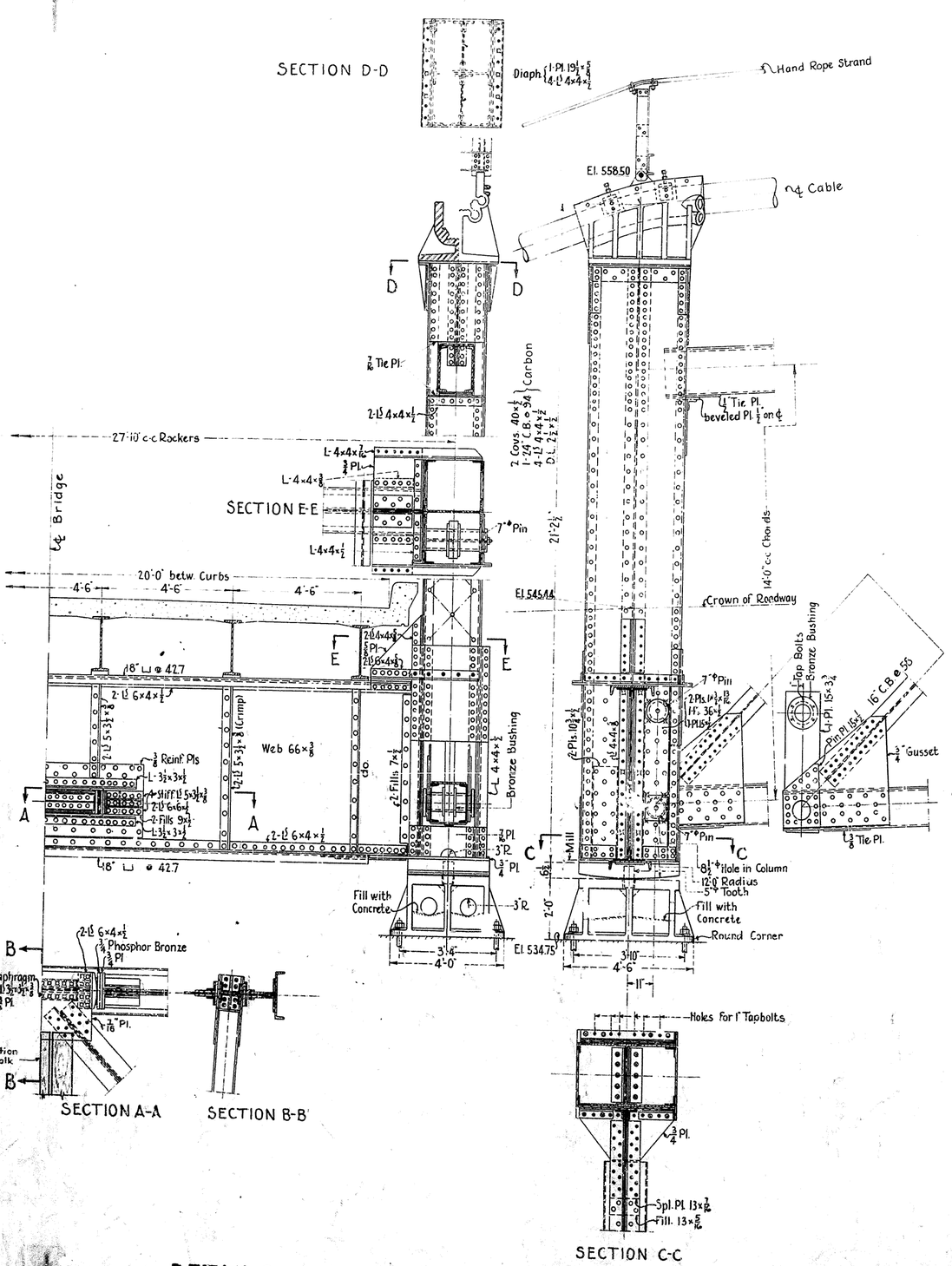
SCALE IN FEET
1 0 1 2 3 4

JULY 1930

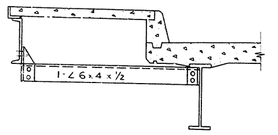
DRAWING Nº 10
CONTRACT Nº 2

MODJESKI AND MASTERS
ENGINEERS

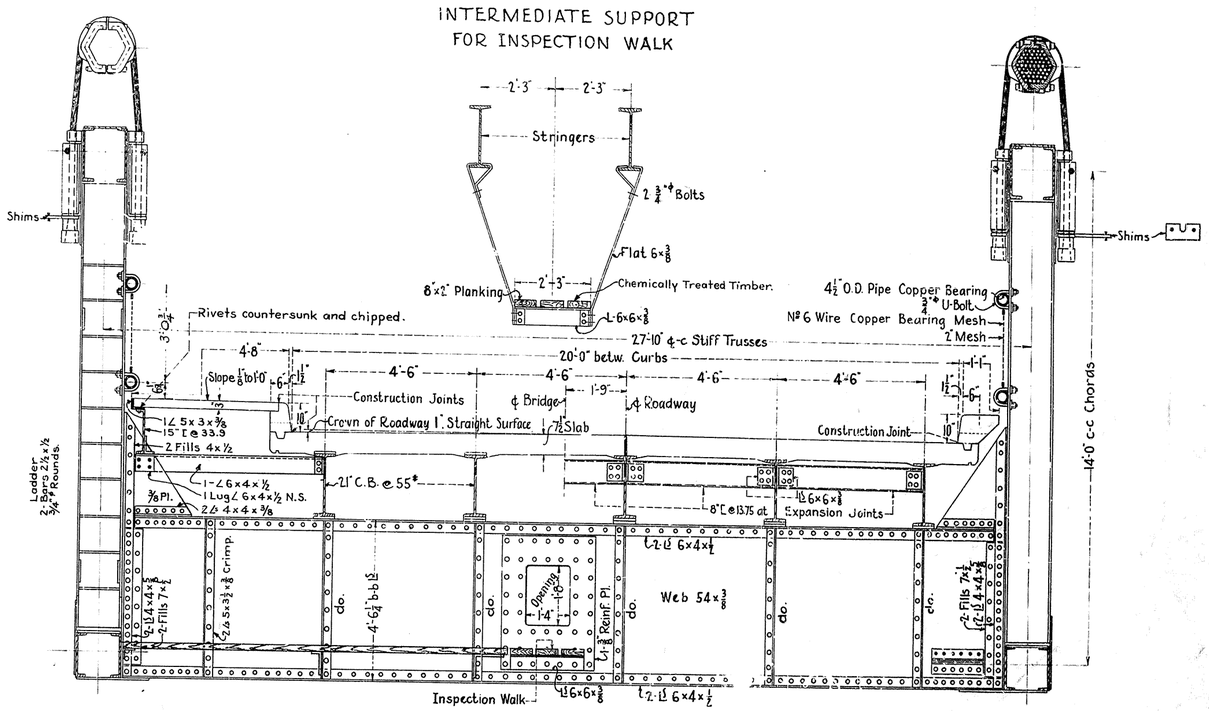
Sheet 15



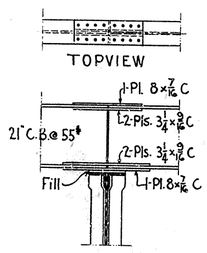
DETAILS AT PIER A & D



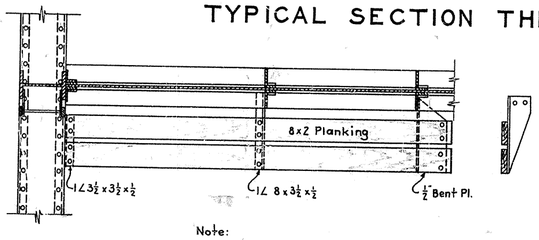
INTERMEDIATE SUPPORT
FOR CABLES 3 PER PANEL



TYPICAL SECTION THRU SUSPENDED SPANS



DETAIL
OF
STRINGER SPLICE



Note:
Ladder and Walkway required only at points L1 and L35 for access to Inspection Footwalk.

NOTES:-
Rivets:- 7/8" ϕ
Holes:- 13/16" ϕ less noted
Material:- Medium Carbon Steel, except top & bott. chords, chord splice plates & main gussets which are silicon
Castings:- Cast Steel annealed.

APPROVED
Lloyd Morgan
F. M. Martin

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

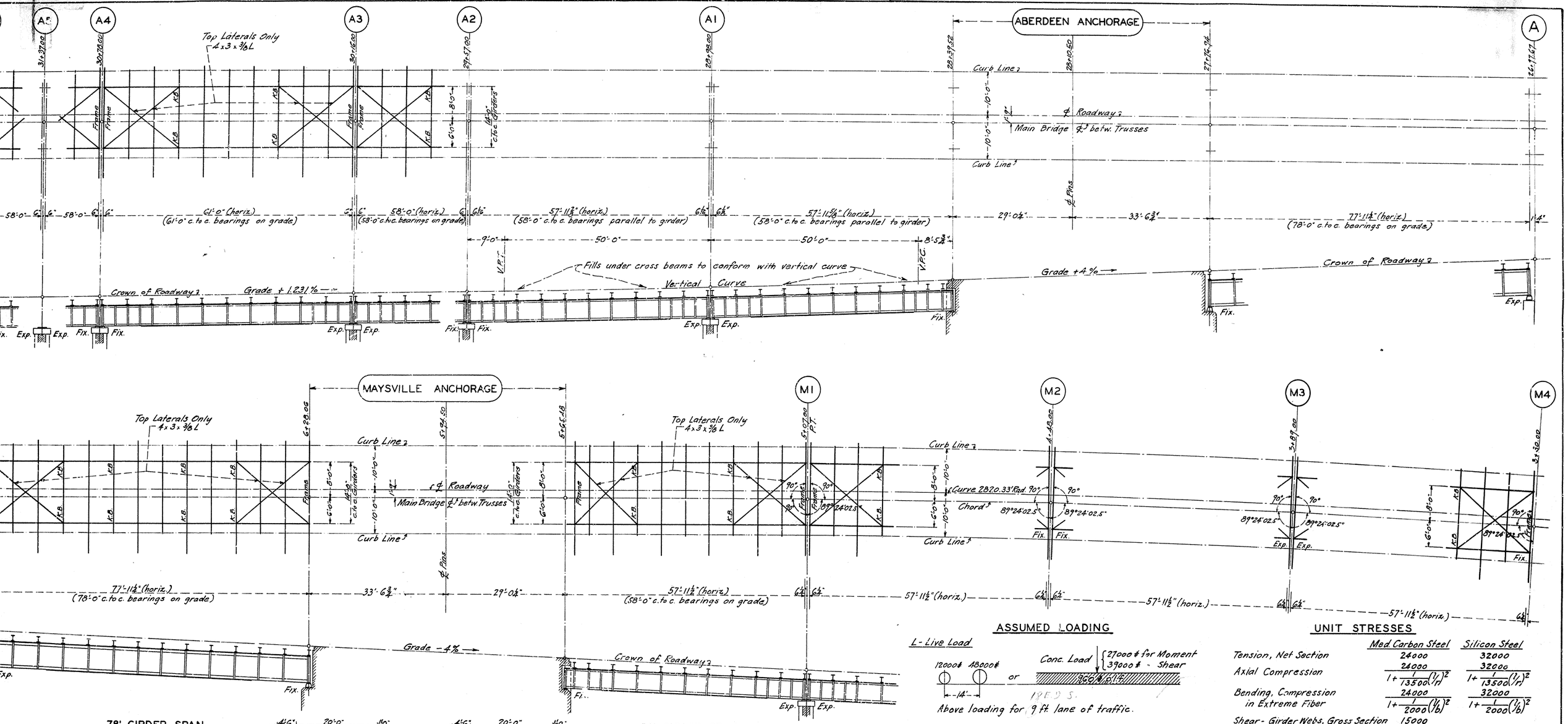
CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

TYPICAL DETAILS STIFFENING TRUSSES

SCALE IN FEET
1 0 1 2 3 4

JULY 1930
DRAWING Nº 11
CONTRACT Nº ?

MODJESKI AND MASTERS



78' GIRDER SPAN

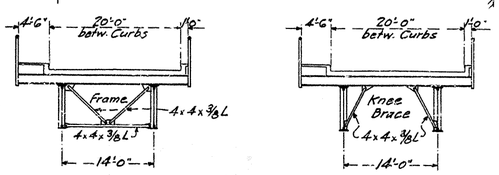
	Reaction	Shear	Moment
L	96	88	1570
I	24	22	388
D	74	68	1410
Total	194	178	3368

Web 72 x 7/16
4 Ls 6 x 6 x 5/8
2 Covs 16 x 5/8 x 50'-0" Bott.-F.L. Top Carbon

61' GIRDER SPAN

	Reaction	Shear	Moment
L	86	77	1073
I	23	21	289
D	55	50	831
Total	164	148	2193

Web 54 x 3/8
4 Ls 6 x 4 x 5/8
2 Covs 16 x 7/16 x 44'-0" Bott.-F.L. Top Carbon



CROSS BEAMS

	Reaction	Moments At Support	Moments At Center
L	62	60	124
I	23	22	45
D	8	8	8
Total	93	90	177

16" CB 43# Silicon
S.M. = 65.7

58' GIRDER SPAN

	Reaction	Shear	Moment
L	83	71	985
I	23	20	269
D	53	48	750
Total	159	139	2004

Web 54 x 3/8
4 Ls 4 x 5/8
2 Covs 16 x 7/16 x 40'-0" Bott.-F.L. Top Carbon

NOTE

Stresses in thousands of pounds.
Moments in thousands of foot pounds.

In all cases where CB or other special sections are shown, the contractor may substitute, subject to the Engineers approval, sections of equal weight and strength.

ASSUMED LOADING

L - Live Load

Above loading for 9 ft. lane of traffic.

Sidewalk :- For Cross Beams 100 #/□'
For Girders $P = (40 + \frac{3000}{L})(\frac{55-W}{50})$
Where P = Load, #/□'
L = Loaded length, ft.
W = Width of S.W., ft.

I - Impact

$I = \frac{50}{L+125}$ Where I = Impact fraction of Live Load stress
L = Loaded length, ft.

D - Dead Load

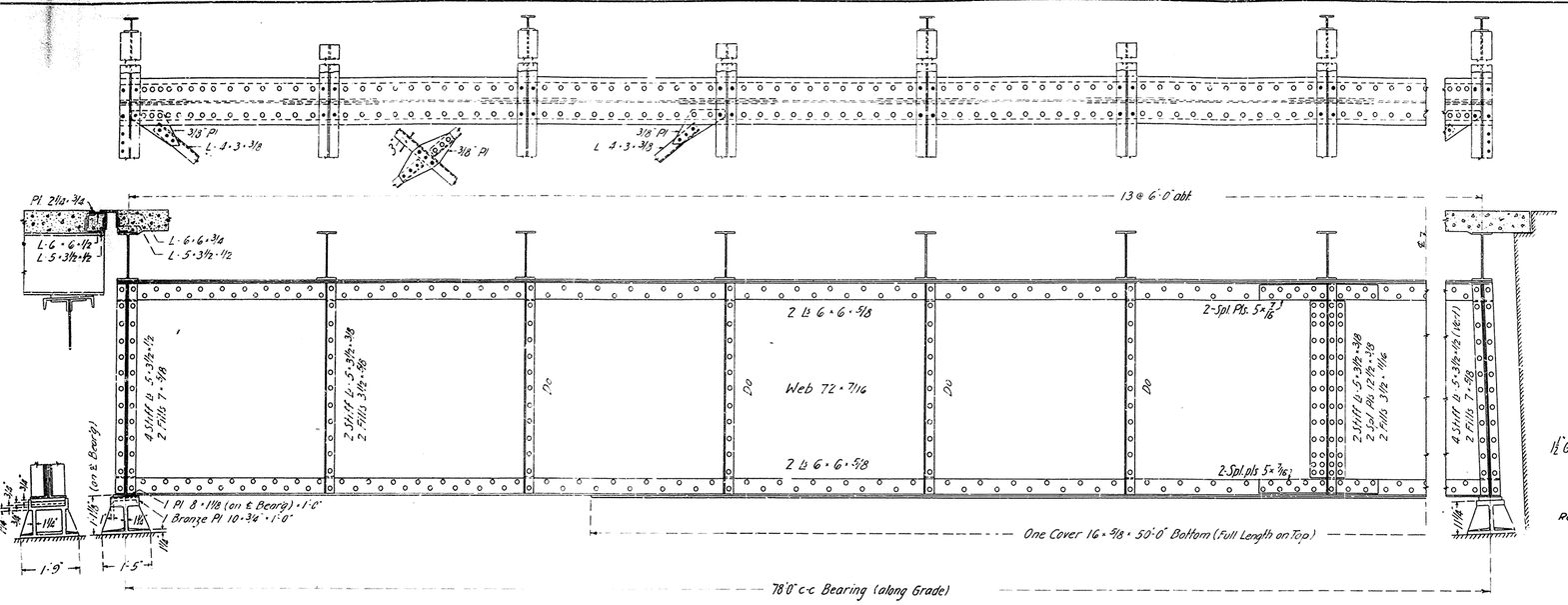
	78' Spans	61' & 58' Spans
Future Paving	300	300
Concrete Paving & Curbs	2150	2150
Sidewalk	170	170
Reinforcing Steel	170	170
Railings	100	100
Cross Beams	180	180
Cross Frames	40	40
Girders	590	450
	3700 #p.l.f.	3560 #p.l.f.

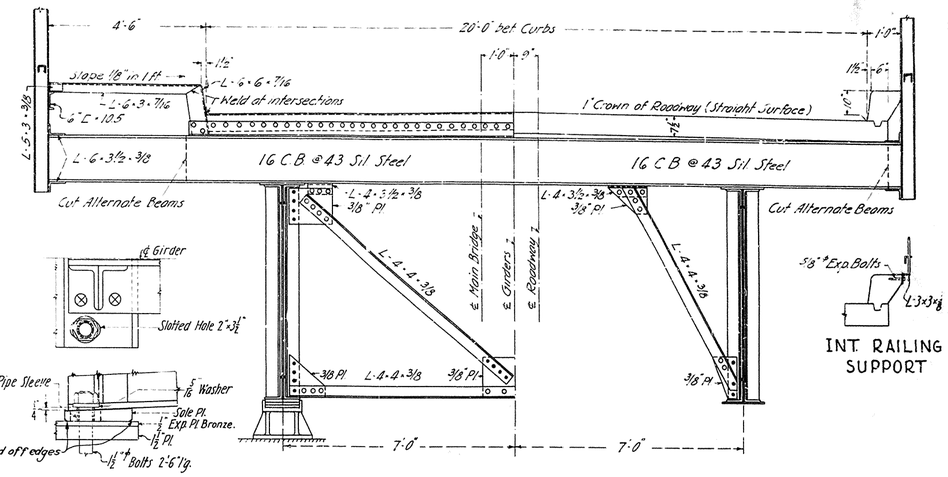
UNIT STRESSES

	Med. Carbon Steel	Silicon Steel
Tension, Net Section	24000	32000
Axial Compression	$\frac{24000}{1+\frac{1}{13500}(l/r)^2}$	$\frac{32000}{1+\frac{1}{13500}(l/r)^2}$
Bending, Compression in Extreme Fiber	$\frac{24000}{1+\frac{1}{2000}(l/b)^2}$	$\frac{32000}{1+\frac{1}{2000}(l/b)^2}$
Shear - Girder Webs, Gross Section	15000	
Power Driven Rivets	15000	
Bearing - Steel Parts in Contact	30000	
Power Driven Rivets	30000	

APPROVED
Lloyd Wright
J. N. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT
OHIO RIVER BRIDGE
CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.
STRESS SHEET
APPROACHES
SCALE IN FEET
10 0 10 20
JULY 1930
DRAWING NO. 12
CONTRACT NO. 2
MODJESKI AND MASTERS
ENGINEERS



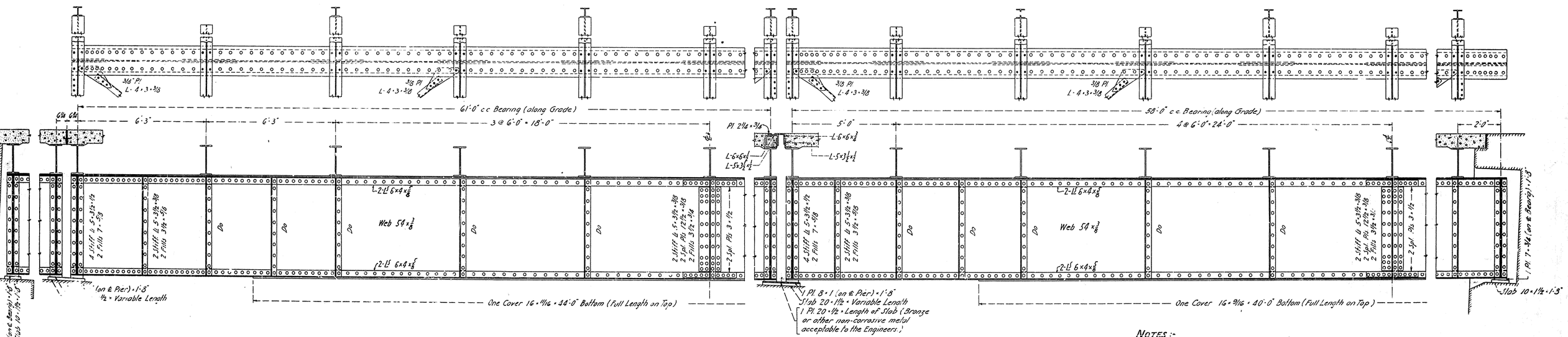


DETAIL OF EXPANSION AT GIRDER BEARINGS

END SECTION

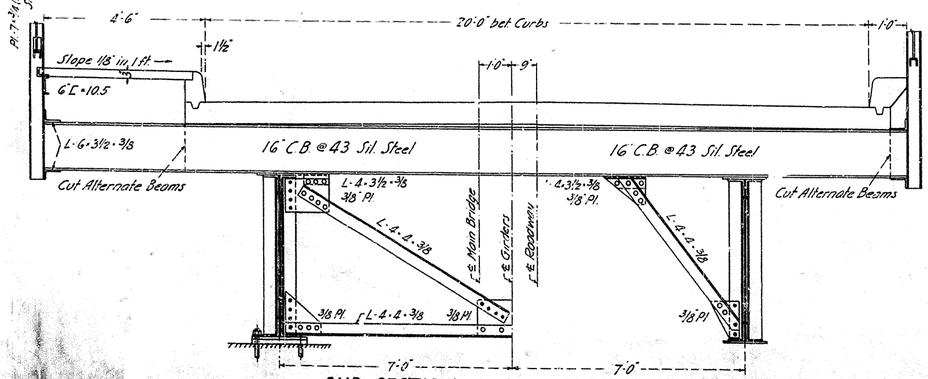
INTERMEDIATE SECTION

INT. RAILING SUPPORT



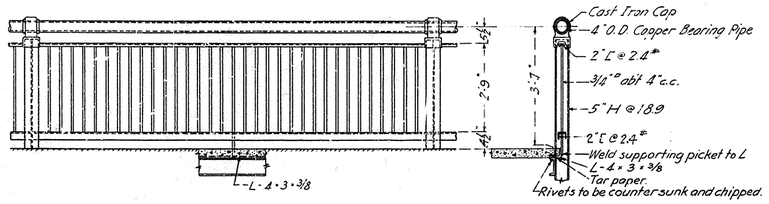
NOTES :-

Material :- Medium Carbon Steel except as noted
Rivets :- 7/8"φ
Anchor Bolts :- 1 1/2"φ × 2'-6", wedge type



END SECTION

INTERMEDIATE SECTION



DETAILS OF RAILING

APPROVED
Rand Modjeski
F. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

APPROACH STEELWORK

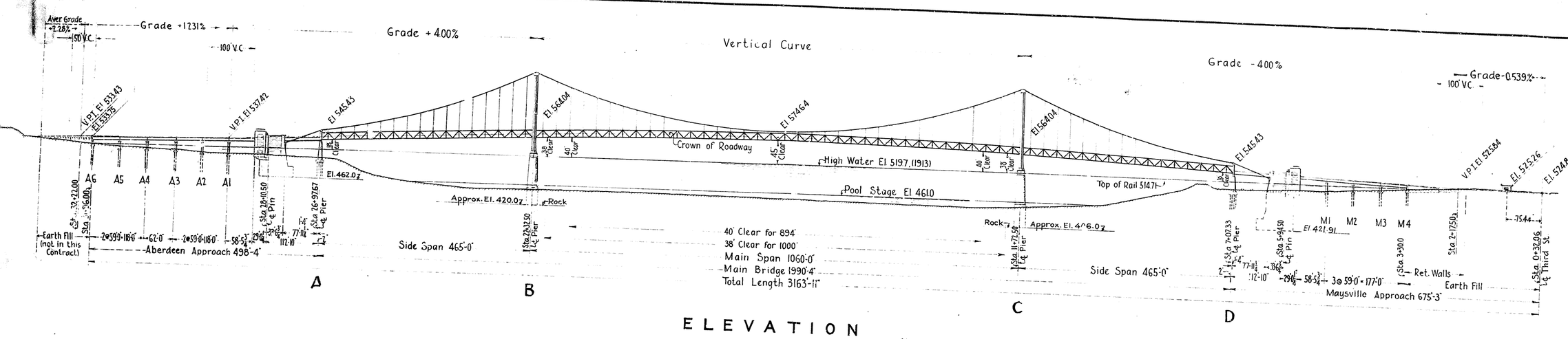
SCALE IN FEET
0 1 2 3

JULY 1930

DRAWING NO 13
CONTRACT NO 2

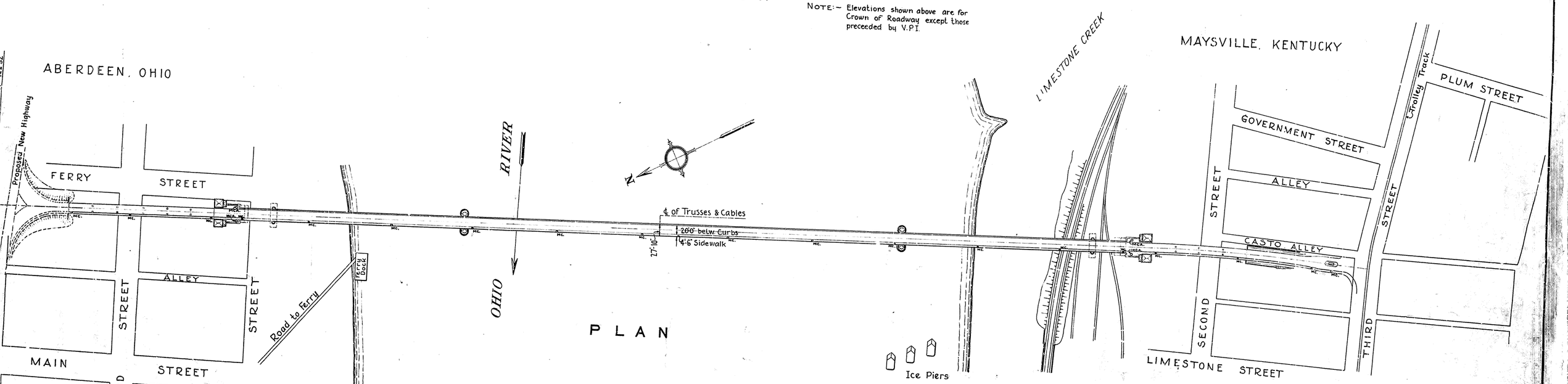
MODJESKI AND MASTERS
ENGINEERS

Sheet


Aver Grade +2.28%
Grade +12.31%
50' V.C.
100' V.C.
Grade +4.00%
Vertical Curve
Grade -4.00%
Grade -0.539%
100' V.C.
V.P.I. El 53.43
El 53.75
V.P.I. El 53.742
El 54.543
El 56.404
El 57.464
El 56.404
El 54.543
V.P.I. El 52.584
El. 52.526
El. 52.484
A6
A5
A4
A3
A2
A1
Sta. 32+22.00
Sta. 25+00.
Sta. 26+10.50
℄ Pin
Sta. 26+97.67
℄ Pier
El. 462.07
Approx. El. 420.07
Rock
Crown of Roadway
High Water El 519.7 (1913)
Pool Stage El 461.0
Top of Rail 514.71
Rock
Approx. El. 416.07
Earth Fill (not in this Contract)
2@59'-0" = 118'-0"
62'-0"
2@59'-0" = 118'-0"
58'-5¾"
29'-0"
32'-0"
77'-11¼"
112'-10"
Aberdeen Approach 498'-4"
Side Span 465'-0"
Sta. 29+32.50
℄ Pier
40' Clear for 894'
38' Clear for 1000'
Main Span 1060'-0"
Main Bridge 1990'-4"
Total Length 3163'-11"
Sta. 11+72.50
℄ Pier
Side Span 465'-0"
Sta. 7+07.33
℄ Pier
Sta. 5+94.50
℄ Pin
M1
M2
M3
M4
El. 421.91
Sta. 3+30.0
Sta. 2+17.50
75.44
Sta. 0+32.06
℄ Third St.
Ret. Walls
Earth Fill
Maysville Approach 675'-3"
A
B
C
D

ELEVATION

NOTE:- Elevations shown above are for Crown of Roadway except those preceeded by V.P.I.


ABERDEEN, OHIO
MAYSVILLE, KENTUCKY
Proposed New Highway
FERRY STREET
ALLEY
MAIN STREET
SECOND STREET
FRONT STREET
Road to Ferry
Ferry Dock
OHIO RIVER
℄ of Trusses & Cables
200' betw. Curbs
4'-6" Sidewalk
27'-10"
MC.
MCA.
Ice Piers
LIMESTONE CREEK
GOVERNMENT STREET
ALLEY
CASTO ALLEY
LIMESTONE STREET
SECOND STREET
THIRD STREET
Trolley Track
PLUM STREET

PLAN

LIST OF DRAWINGS

CONTRACT NO. 1
SUBSTRUCTURE

Drawing No.	Title
1	General Plan & Elevation
2	Maysville Approach - General Plan & Elevation
3	Aberdeen Approach - " " " "
4	Masonry Plan
5	Main River Piers
6	Anchorages
7	Anchorages
8	Approach Piers
9	Abutments & Retaining Walls
10	Details of Roadway

SUPPLEMENTARY DRAWINGS

Drawing No.	Title
1	General Survey & Foundation Data.
2	Hydrograph of Ohio River at Maysville, Ky.

CONTRACT NO. 2
SUPERSTRUCTURE

Drawing No.	Title
1	General Plan & Elevation
2	Maysville Approach - General Plan & Elevation
3	Aberdeen " " " "
4	Masonry Plan
5	Main Bridge - Stress Sheet
6	Details of Towers - Upper Section
7	" " " Lower Section
8	Cables & Cable Castings
9	Details of Anchorage Steelwork
10	Typical Details - Stiffening Trusses
11	" " " "
12	Approaches - Stress Sheet
13	Approach Steelwork
14	Details of Roadway

MC. = Manhole Cover in Sidewalk.
MCA. = Manhole Cover in Anchorages.

Submitted by Modjeski & Masters
CONSULTING ENGINEERS
Recommended for Approval _____
BRIDGE ENGINEER
Recommended for Approval _____
STATE HIGHWAY ENGINEER
Approved Kentucky State Highway Commission
By _____
CHAIRMAN
Date _____ Book No. _____ Page _____

APPROVED
Ray Morgan
F. M. Martin

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

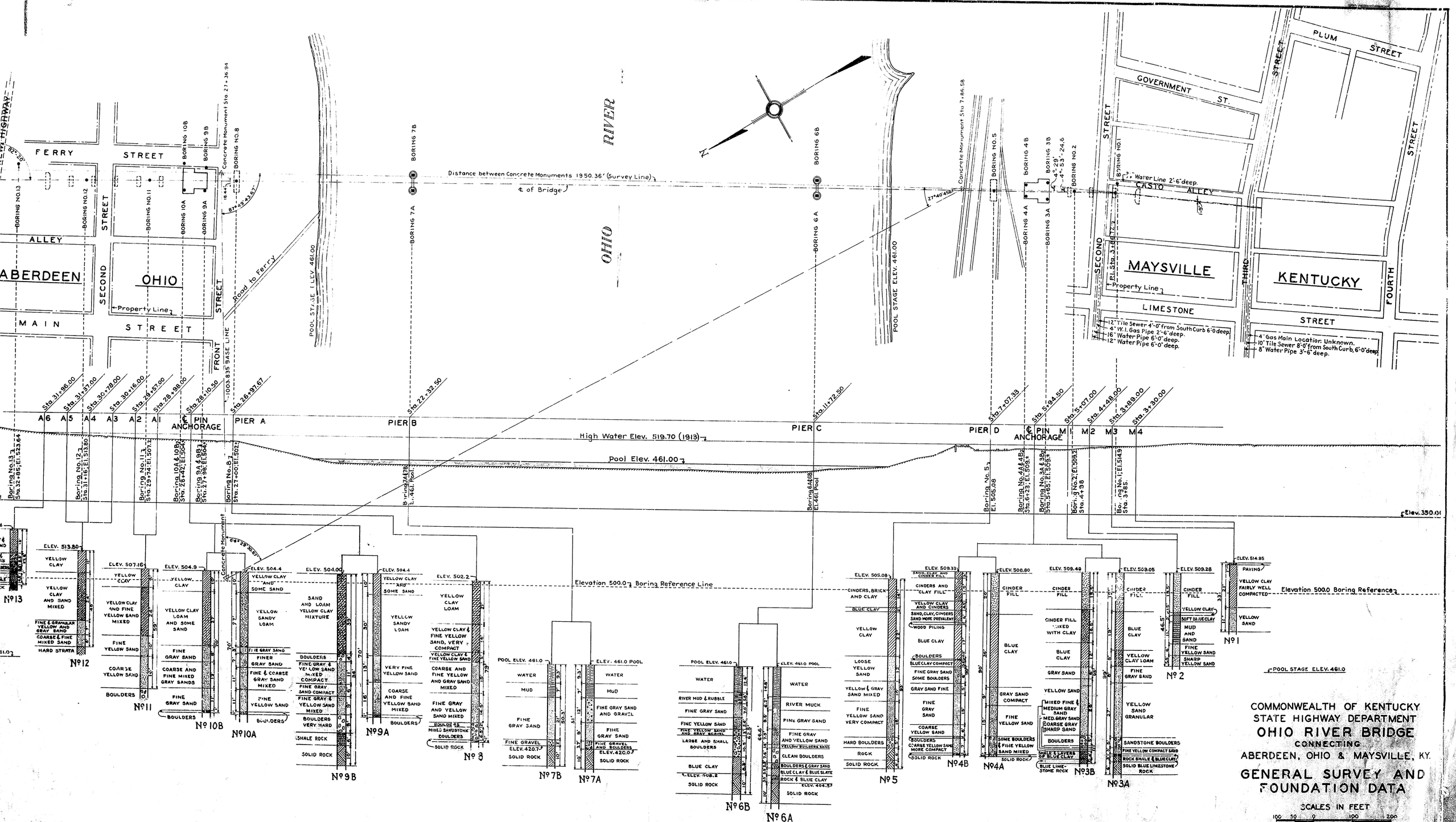
GENERAL PLAN & ELEVATION

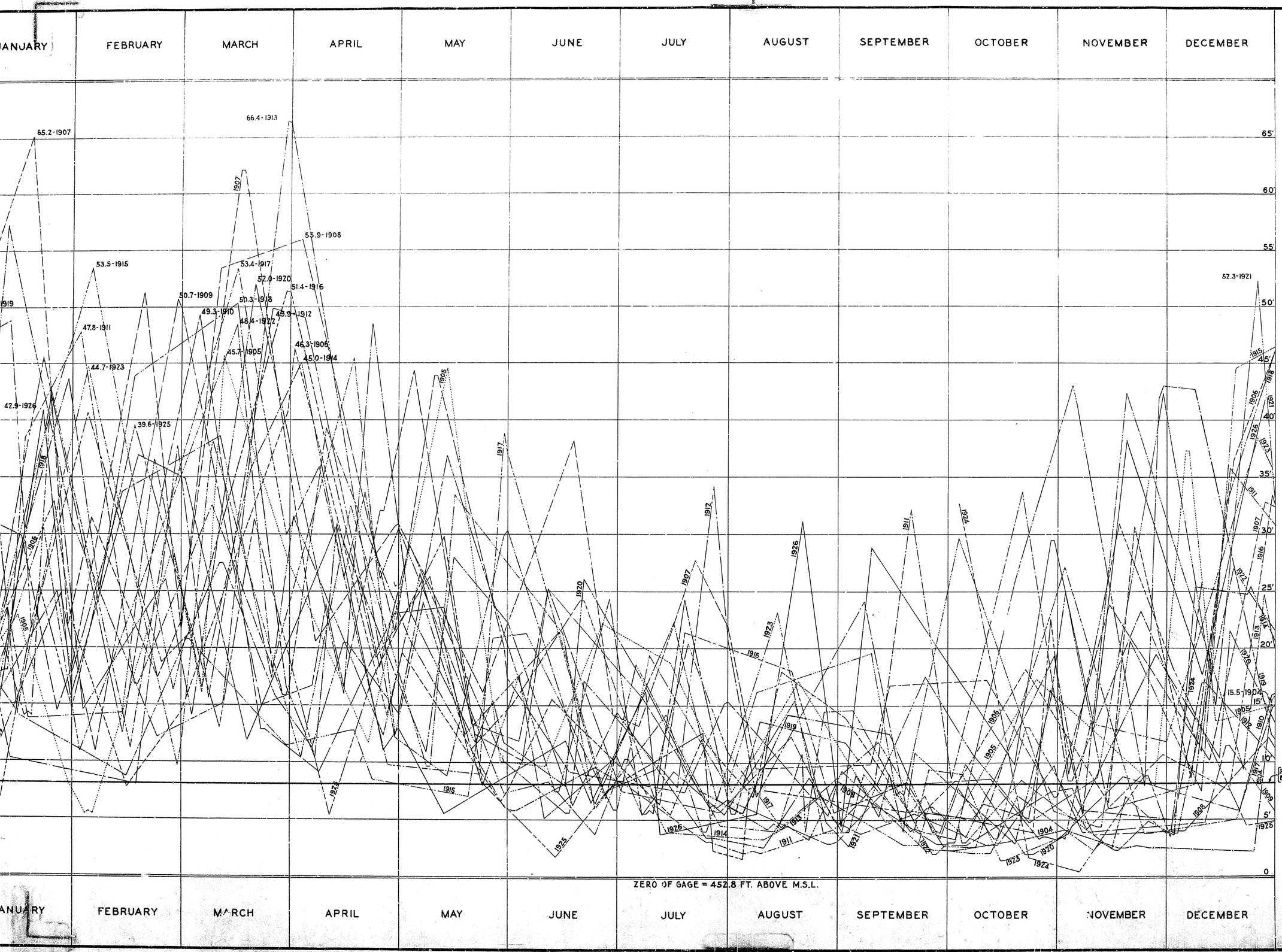
SCALE IN FEET
50 0 50 100 150

JULY 1930

DRAWING NO. 1

Sheet 19


COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT
OHIO RIVER BRIDGE
CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.
GENERAL SURVEY AND FOUNDATION DATA
SCALES IN FEET
APRIL 1930
SUPPLEMENTARY DRAWING No. 1
MODJESKI AND MASTERS
ENGINEERS
OHIO RIVER
ABERDEEN
OHIO
MAYSVILLE
KENTUCKY
FERRY STREET
MAIN STREET
ALLEY
SECOND STREET
FRONT STREET
Road to Ferry
GOVERNMENT ST.
PLUM STREET
THIRD STREET
FOURTH STREET
CASTO ALLEY
LIMESTONE STREET
Distance between Concrete Monuments 1950.36' (Survey Line)
℄ of Bridge
POOL STAGE ELEV. 461.00
High Water Elev. 519.70 (1913)
Pool Elev. 461.00
Elevation 500.0 Boring Reference Line
℄ PIN ANCHORAGE
PIER A
PIER B
PIER C
PIER D
Property Line
12" Tile Sewer 4'-0" from South Curb 6'-0" deep.
4" W.I. Gas Pipe 2'-6" deep.
16" Water Pipe 6'-0" deep.
12" Water Pipe 6'-0" deep.
4" Gas Main Location Unknown.
10" Tile Sewer 8'-0" from South Curb, 6'-0" deep.
8" Water Pipe 3'-6" deep.
3/4" Water Line 2'-6" deep.
Concrete Monument Sta. 21+36.94
Concrete Monument Sta. 7+86.58
Nº 13
Nº 12
Nº 11
Nº 10B
Nº 10A
Nº 9B
Nº 9A
Nº 8
Nº 7B
Nº 7A
Nº 6B
Nº 6A
Nº 5
Nº 4B
Nº 4A
Nº 3B
Nº 3A
Nº 2
Nº 1
ELEV. 513.80
ELEV. 507.16
ELEV. 504.9
ELEV. 504.4
ELEV. 504.00
ELEV. 502.2
ELEV. 461.0 POOL
ELEV. 508.08
ELEV. 509.33
ELEV. 508.80
ELEV. 509.49
ELEV. 509.05
ELEV. 509.28
ELEV. 514.95
YELLOW CLAY
YELLOW CLAY AND SAND MIXED
FINE & GRANULAR YELLOW AND GRAY SAND
COARSE & FINE MIXED SAND
HARD STRATA
YELLOW CLAY AND FINE YELLOW SAND MIXED
FINE YELLOW SAND
COARSE YELLOW SAND
BOULDERS
YELLOW CLAY LOAM AND SOME SAND
FINE GRAY SAND
COARSE AND FINE MIXED GRAY SANDS
YELLOW CLAY AND SOME SAND
YELLOW SANDY LOAM
FINER GRAY SAND
FINE & COARSE GRAY SAND MIXED
FINE YELLOW SAND
SAND AND LOAM YELLOW CLAY MIXTURE
FINE GRAY & YELLOW SAND MIXED COMPACT
FINE GRAY SAND COMPACT
FINE GRAY & YELLOW SAND MIXED
BOULDERS VERY HARD
SHALE ROCK
SOLID ROCK
YELLOW CLAY LOAM
YELLOW CLAY & FINE YELLOW SAND, VERY COMPACT
YELLOW CLAY & FINE YELLOW SAND
COARSE AND FINE YELLOW AND GRAY SAND MIXED
FINE GRAY AND YELLOW SAND MIXED
MIXED SANDSTONE BOULDERS
VERY FINE YELLOW SAND
COARSE AND FINE YELLOW SAND MIXED
WATER
MUD
FINE GRAY SAND
FINE GRAVEL
ELEV. 420.0
FINE GRAY SAND AND GRAVEL
FINE GRAY SAND AND BOULDERS
RIVER MUD & RUBBLE
FINE YELLOW SAND
FINE YELLOW SAND AND GRAY GRAVEL
LARGE AND SMALL BOULDERS
BLUE CLAY
ELEV. 408.8
RIVER MUCK
FINE GRAY AND YELLOW SAND
YELLOW BOULDERS & SANE
CLEAN BOULDERS
BOULDERS & GRAY SAND
BLUE CLAY & BLUE SLATE
ROCK & BLUE CLAY
ELEV. 404.5
CINDERS, BRICK AND CLAY
BLUE CLAY
LOOSE YELLOW SAND
YELLOW & GRAY SAND MIXED
FINE YELLOW SAND VERY COMPACT
HARD BOULDERS
ROCK
SAND, CLAY AND CINDER FILL
CINDERS AND CLAY FILL
YELLOW CLAY AND CINDERS
SAND, CLAY, CINDERS SAND MORE PREVALENT
WOOD PILING
BLUE CLAY COMPACT
FINE GRAY SAND SOME BOULDERS
GRAY SAND FINE
FINE GRAY SAND
COARSE YELLOW SAND
BOULDERS COARSE YELLOW SAND MORE COMPACT
CINDER FILL
GRAY SAND COMPACT
FINE YELLOW SAND
SOME BOULDERS & FINE YELLOW SAND MIXED
CINDER FILL MIXED WITH CLAY
GRAY SAND
YELLOW SAND
MIXED FINE & MEDIUM GRAY SAND
MED. GRAY SAND
COARSE GRAY SHARP SAND
SHALE & LAYERS OF BLUE CLAY
BLUE LIME-STONE ROCK
SANDSTONE BOULDERS
FINE YELLOW COMPACT SAND
ROCK SHALE & BLUE CLAY
SOLID BLUE LIMESTONE ROCK
YELLOW SAND GRANULAR
SOFT BLUE CLAY
MUD AND SAND
SHARP YELLOW SAND
PAVING
YELLOW CLAY FAIRLY WELL COMPACTED
YELLOW SAND
Elevation 500.0 Boring Reference
℄ POOL STAGE ELEV. 461.0



EXTREME HIGH AND LOW LEVELS				
YEAR	HIGH		LOW	
	MONTH	ELEV.	MONTH	ELEV.
1904	DEC.	15.5	DEC.	2.2
1905	MAR.	45.7	SEPT.	4.9
1906	APR.	46.3	SEPT.	5.0
1907	JAN.	65.2	OCT.	7.0
1908	APR.	55.9	OCT.	2.8
1909	FEB.	50.7	OCT.	2.8
1910	MAR.	49.3	AUG.	2.9
1911	FEB.	47.8	AUG.	2.3
1912	MAR.	49.9	DEC.	5.0
1913	MAR.	66.4	SEPT.	2.8
1914	APR.	45.0	OCT.	2.1
1915	FEB.	53.5	NOV.	4.4
1916	MAR.	51.4	SEPT.	3.4
1917	MAR.	53.4	OCT.	2.6
1918	MAR.	50.3	OCT.	2.9
1919	JAN.	50.0	OCT.	3.3
1920	MAR.	52.0	OCT.	2.0
1921	DEC.	52.3	SEPT.	2.7
1922	MAR.	48.4	SEPT.	2.0
1923	FEB.	44.7	OCT.	1.4
1924	OCT.	32.7	NOV.	0.4
1925	FEB.	39.6	AUG.	1.6
1926	JAN.	42.9	JULY	3.7

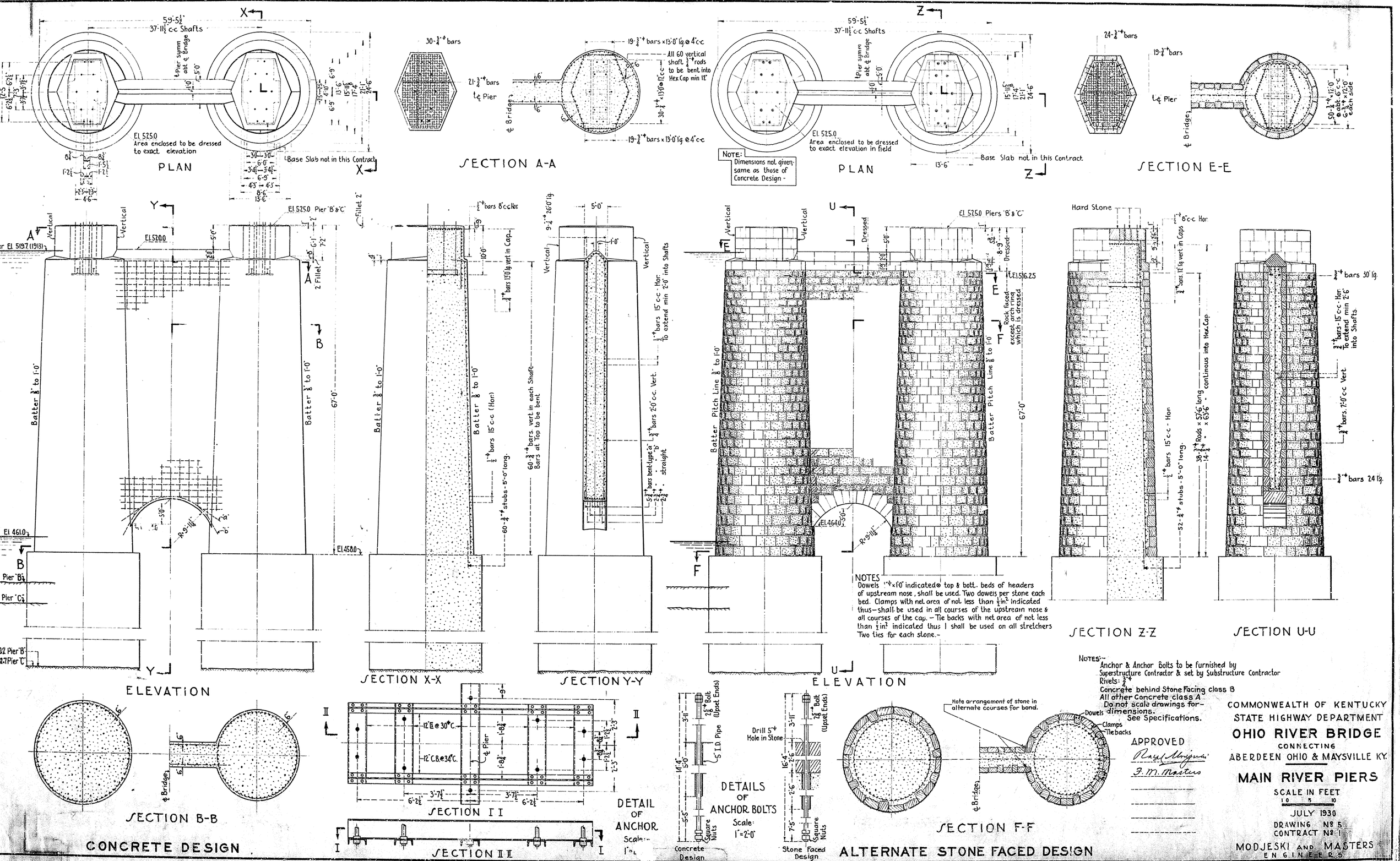
River Gage location, according to U.S. Department of Agriculture Weather Bureau Records, about 26' west of the foot of Market St. in Maysville, Ky.

HYDROGRAPH OF THE OHIO RIVER AT MAYSVILLE, KY.

MODJESKI & MASTERS
CONSULTING ENGINEERS
HARRISBURG, PA.

SUPPLEMENTARY DRAWING No. 2

Made by G.M.G.
Chk. by F.A.S.



NOTES
Dowels 1"ϕ × 1'-0" indicated ⊗ top & bott. beds of headers of upstream nose, shall be used. Two dowels per stone each bed. Clamps with net area of not less than ½ in² indicated thus — shall be used in all courses of the upstream nose & all courses of the cap. — Tie backs with net area of not less than ½ in² indicated thus | shall be used on all stretchers Two ties for each stone.-

NOTES:-
Anchor & Anchor Bolts to be furnished by Superstructure Contractor & set by Substructure Contractor
Rivets: ¾"ϕ
Concrete behind Stone Facing class B
All other Concrete class A
Do not scale drawings for dimensions. See Specifications.

APPROVED
Royal Meigs
F. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN OHIO & MAYSVILLE KY.

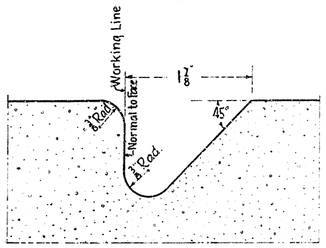
MAIN RIVER PIERS

SCALE IN FEET
1.0 5 10

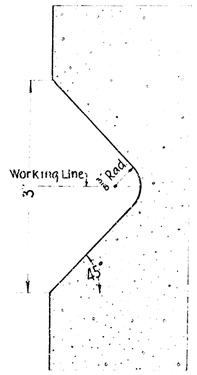
JULY 1930

DRAWING Nº 5
CONTRACT Nº 1

MODJESKI AND MASTERS
ENGINEERS

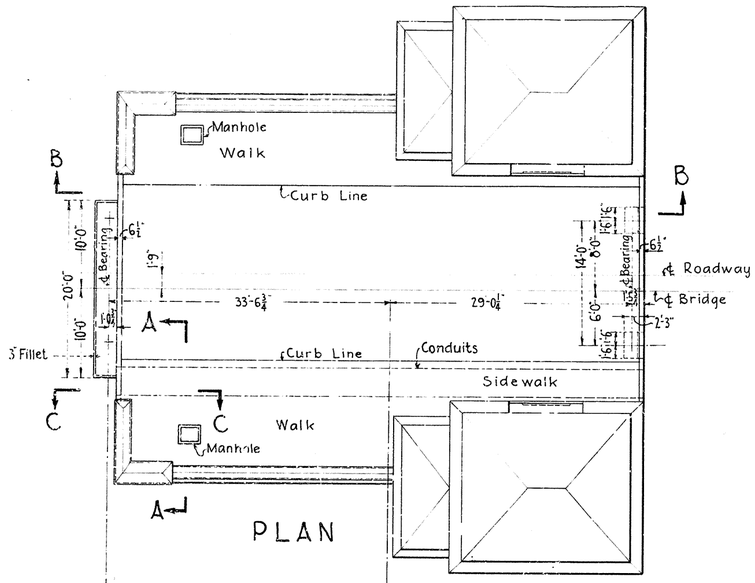


SECTION F-F
At Edges of Panels only

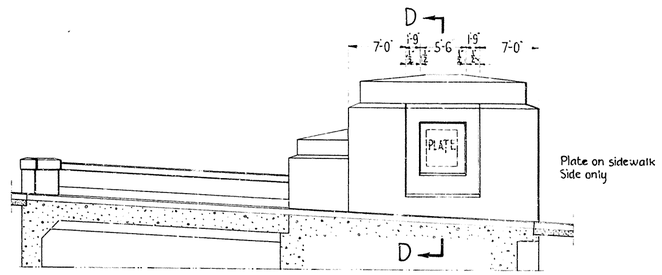


SECTION E-E

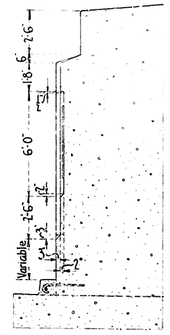
DETAILS OF RUSTICATION
Full Scale



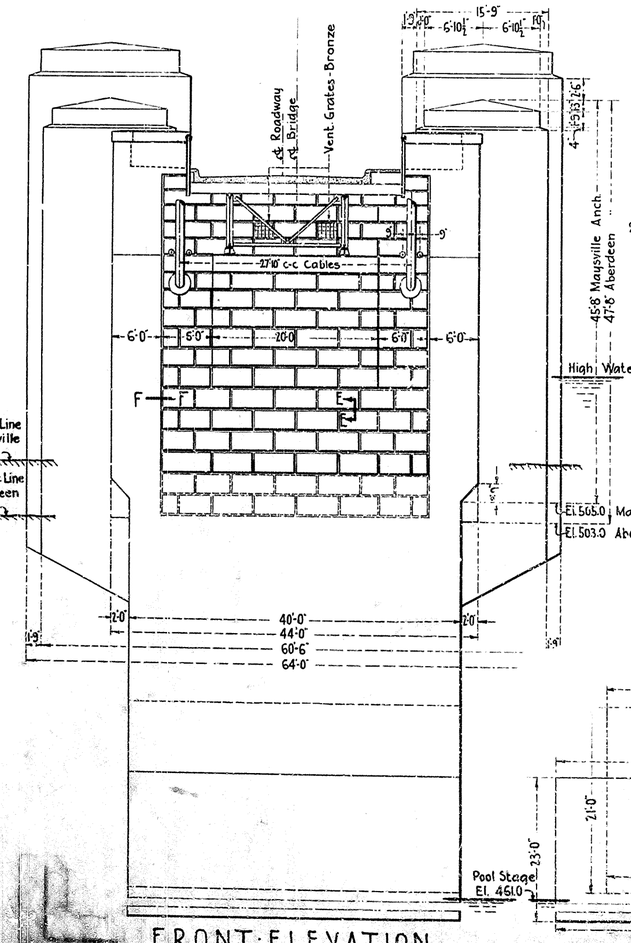
PLAN



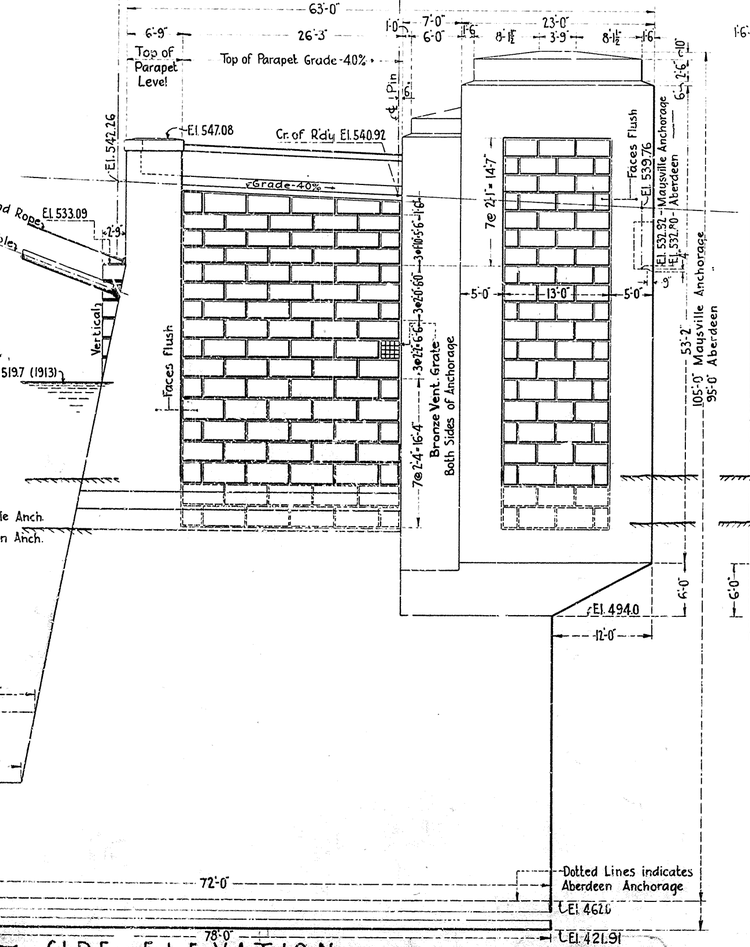
SECTION B-B



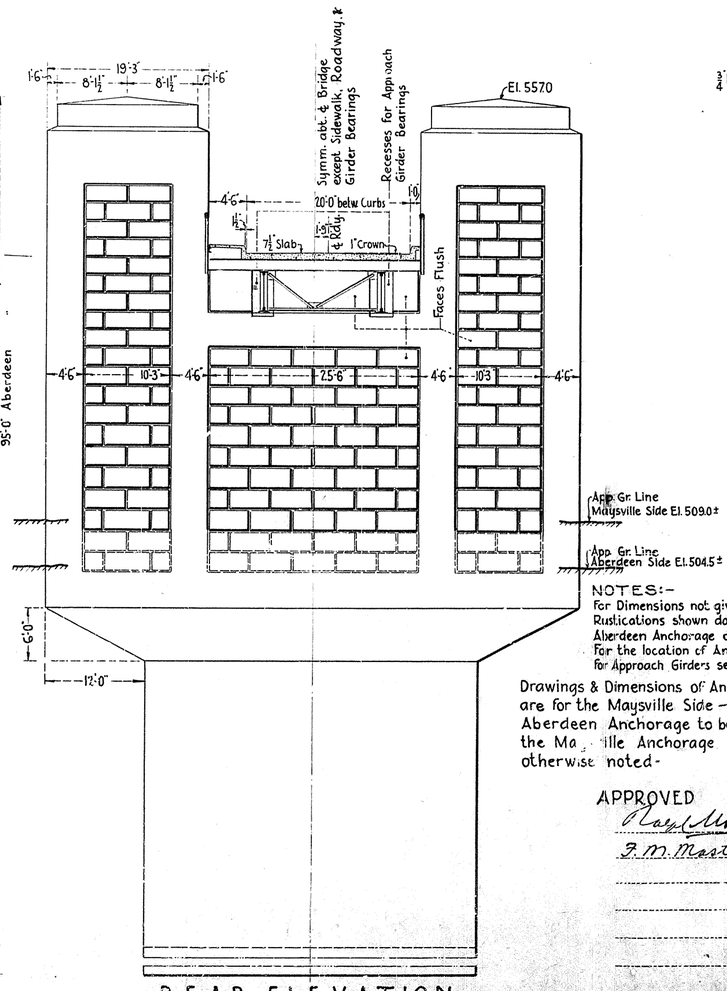
SECTION D-D
Scale ¼" = 1'-0"



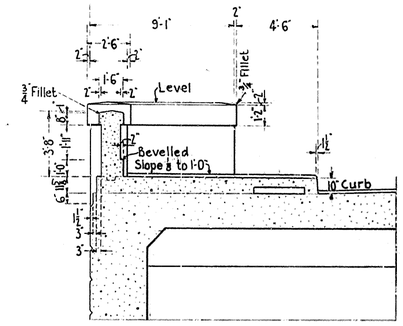
FRONT ELEVATION



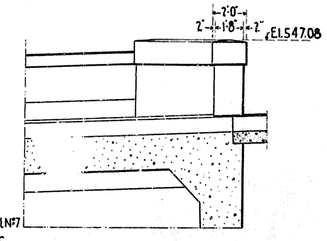
SIDE ELEVATION



REAR ELEVATION



SECTION A-A
Scale ¼" = 1'-0"



SECTION C-C
Scale ¼" = 1'-0"

NOTES:-
For Dimensions not given see Sheet No 7
Rustications shown dotted are for Aberdeen Anchorage only -
For the location of Anchor Bolts for Approach Girders see Drwg. No 4 Cont. No 162

Drawings & Dimensions of Anchorage shown are for the Maysville Side - Aberdeen Anchorage to be opposite of the Maysville Anchorage except as otherwise noted -

APPROVED
Ray Morgan
J. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE
CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

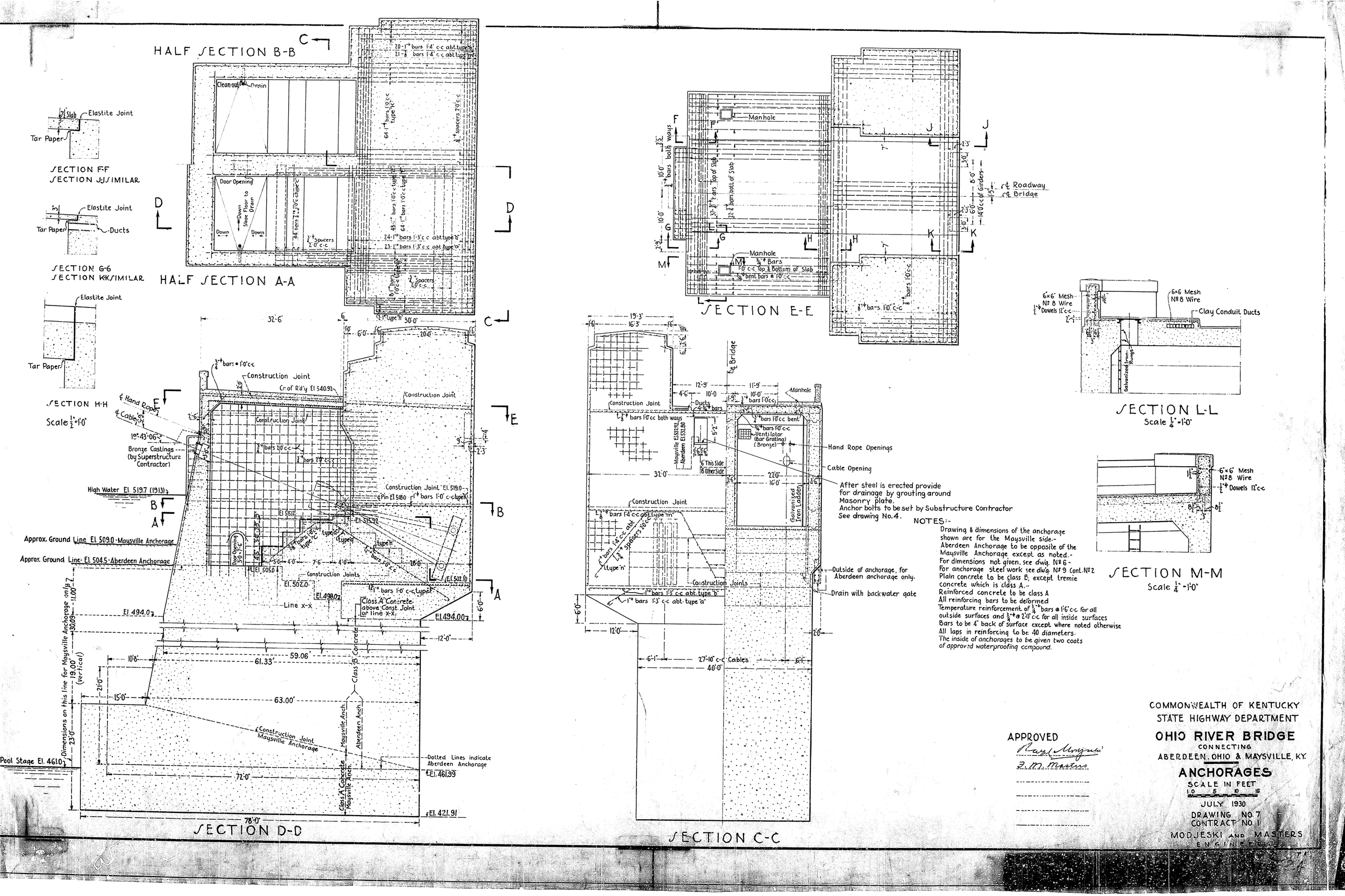
ANCHORAGES

SCALE IN FEET
1 0 5 10 15

JULY 1930
DRAWING NO. 6
CONTRACT NO. 1

MODJESKI AND MASTERS
ENGINEERS

Sheet 23



NOTES:-

Drawing & dimensions of the anchorage shown are for the Maysville side.-
Aberdeen Anchorage to be opposite of the Maysville Anchorage except as noted.-
For dimensions not given, see dwg. No. 6 -
For anchorage steel work see dwg. No. 9 Cont. No. 2
Plain concrete to be class B, except tremie concrete which is class A.-
Reinforced concrete to be class A
All reinforcing bars to be deformed
Temperature reinforcement of ¾" bars @ 1'-6" c-c for all outside surfaces and ¾" @ 2'-0" c-c for all inside surfaces
Bars to be 4" back of surface except where noted otherwise
All laps in reinforcing to be 40 diameters.
The inside of anchorages to be given two coats of approved waterproofing compound.

APPROVED
Boyd Mounce
F. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

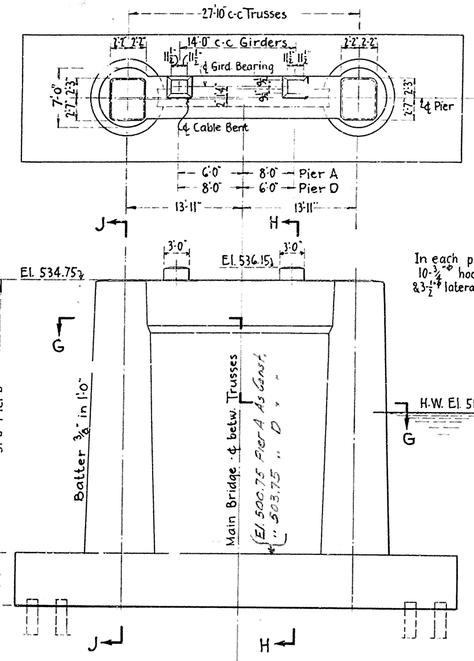
OHIO RIVER BRIDGE

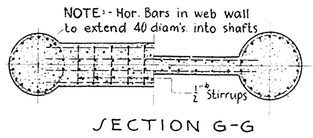
CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

ANCHORAGES

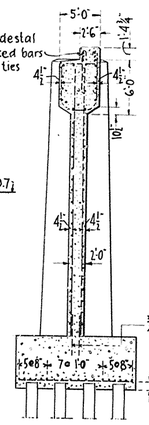
SCALE IN FEET
10 5 0 10 15

JULY 1930
DRAWING NO. 7
CONTRACT NO. 11
MODJESKI AND MASTERS
ENGINEERS

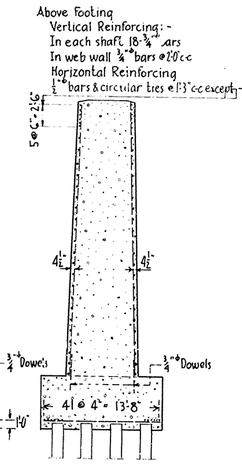




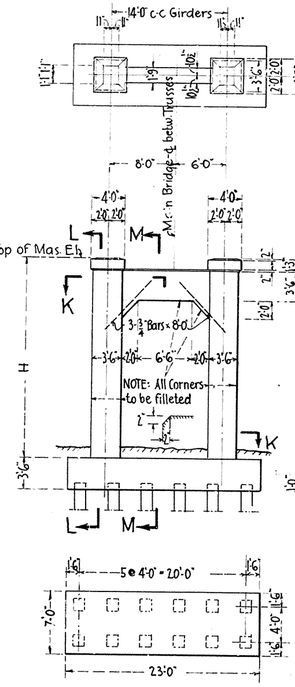
SECTION G-G



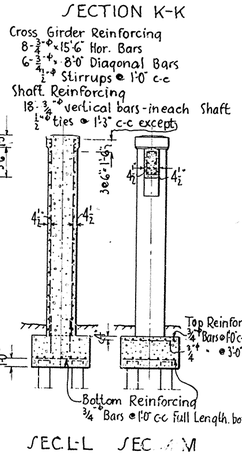
SECTION H-H



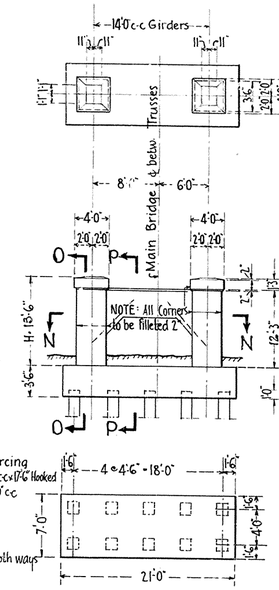
SECTION J-J



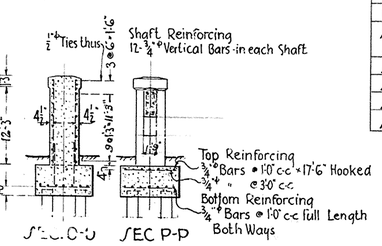
SECTION K-K



SEC. L-L SEC. M-M



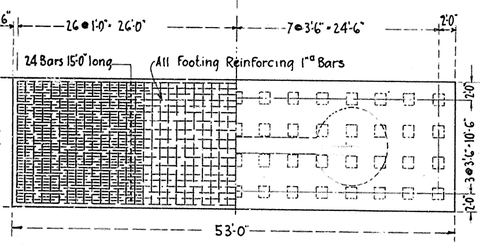
SECTION N-N



SEC. O-O SEC. P-P

PIER M3

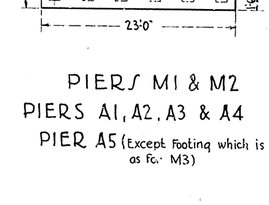
APPROACH PIERS					
Pier	Station	Top of Mas. El.	Height "H"	Number of Piles	Min. Pile Length
Maysville Approach					
M1	5+07.00	530.54	22'-6"	12	35'-0"
M2	4+48.00	528.22	16'-6"	12	30'-0"
M3	3+89.00	525.82	13'-6"	10	25'-0"
Aberdeen Approach					
A1	28+98.00	530.77	27'-0"	12	35'-0"
A2	29+57.00	529.74	24'-6"	12	35'-0"
A3	30+16.00	529.09	19'-6"	12	35'-0"
A4	30+78.00	528.36	16'-6"	12	35'-0"
A5	31+37.00	527.60	14'-0"	10	35'-0"



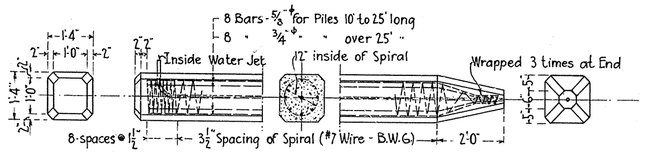
Min. Length of Piles in
Pier A = 40'-0"
Pier D = 40'-0"

HALF REINFORCING PLAN HALF PILE PLAN

PIERS A & D



PIERS M1 & M2
PIERS A1, A2, A3 & A4
PIER A5 (Except footing which is same as for M3)



CONCRETE PILE

NOTES:-

Anchor bolts to be furnished and set by Superstructure Contractor.
For location of anchor bolts, see Masonry Plan Dwg. No. 4
Class "D" concrete in Piles
All other concrete class A
Length of concrete piles to be determined in the field by test piles to support a min. load of 50 tons

APPROVED
Lloyd Morgan
F. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN OHIO & MAYSVILLE, KY.

APPROACH PIERS

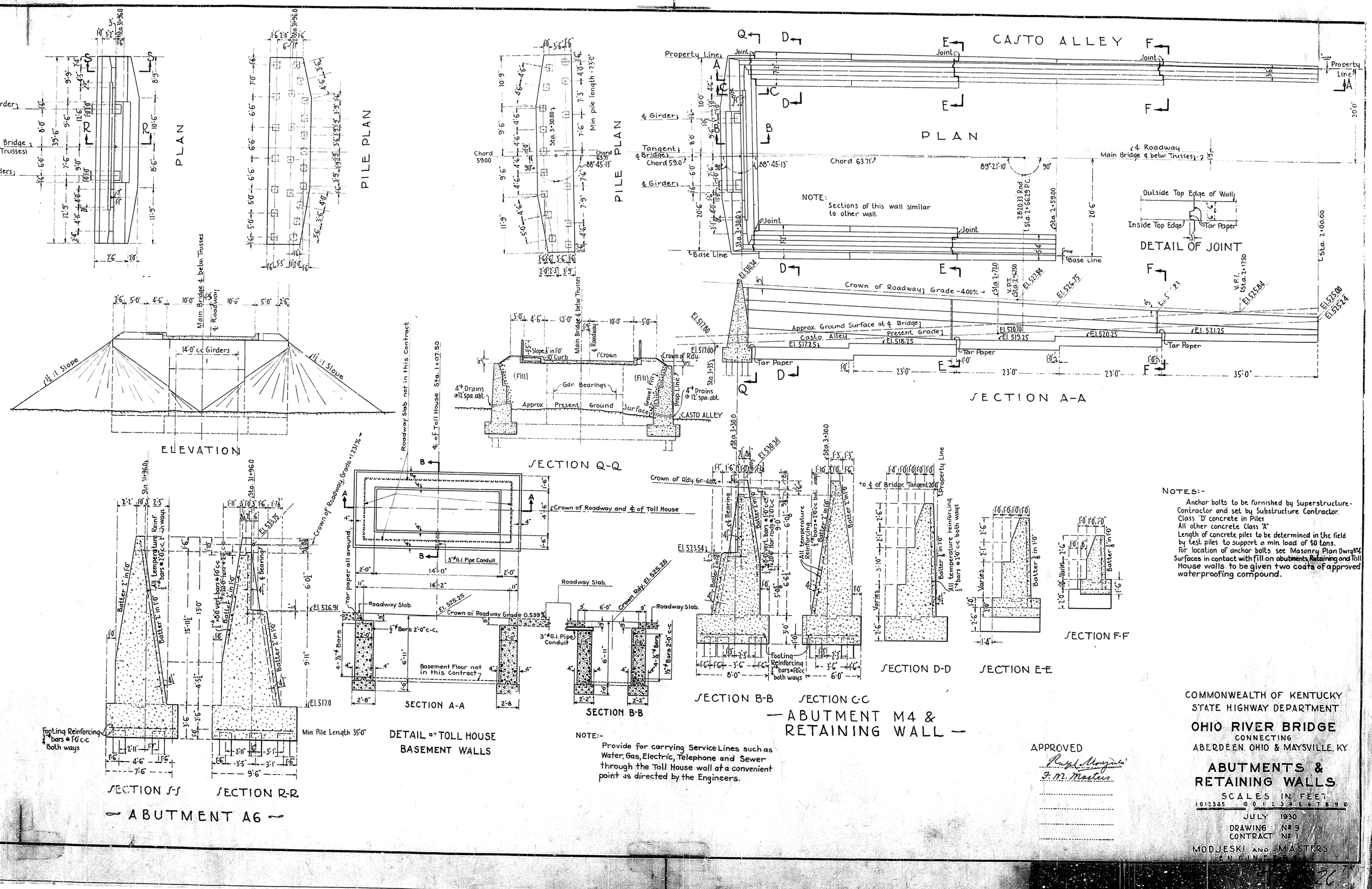
SCALE IN FEET
10 5 10 15

JULY 1930
DRAWING NO. 8
CONTRACT NO. 1

MODJESKI AND MASTERS
ENGINEERS

T.K.

Sheet 3



NOTE:-

Provide for carrying Service Lines such as Water, Gas, Electric, Telephone and Sewer through the Toll House wall at a convenient point as directed by the Engineers.

NOTES:-

Anchor bolts to be furnished by Superstructure-Contractor and set by Substructure Contractor.
Class "D" concrete in Piles
All other concrete Class "A"
Length of concrete piles to be determined in the field by test piles to support a min. load of 50 tons.
For location of anchor bolts see Masonry Plan Dwg. No. 4.
Surfaces in contact with fill on abutments, Retaining and Toll House walls to be given two coats of approved waterproofing compound.

APPROVED
Lloyd Morgan
F. M. Masters

COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT

OHIO RIVER BRIDGE

CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.

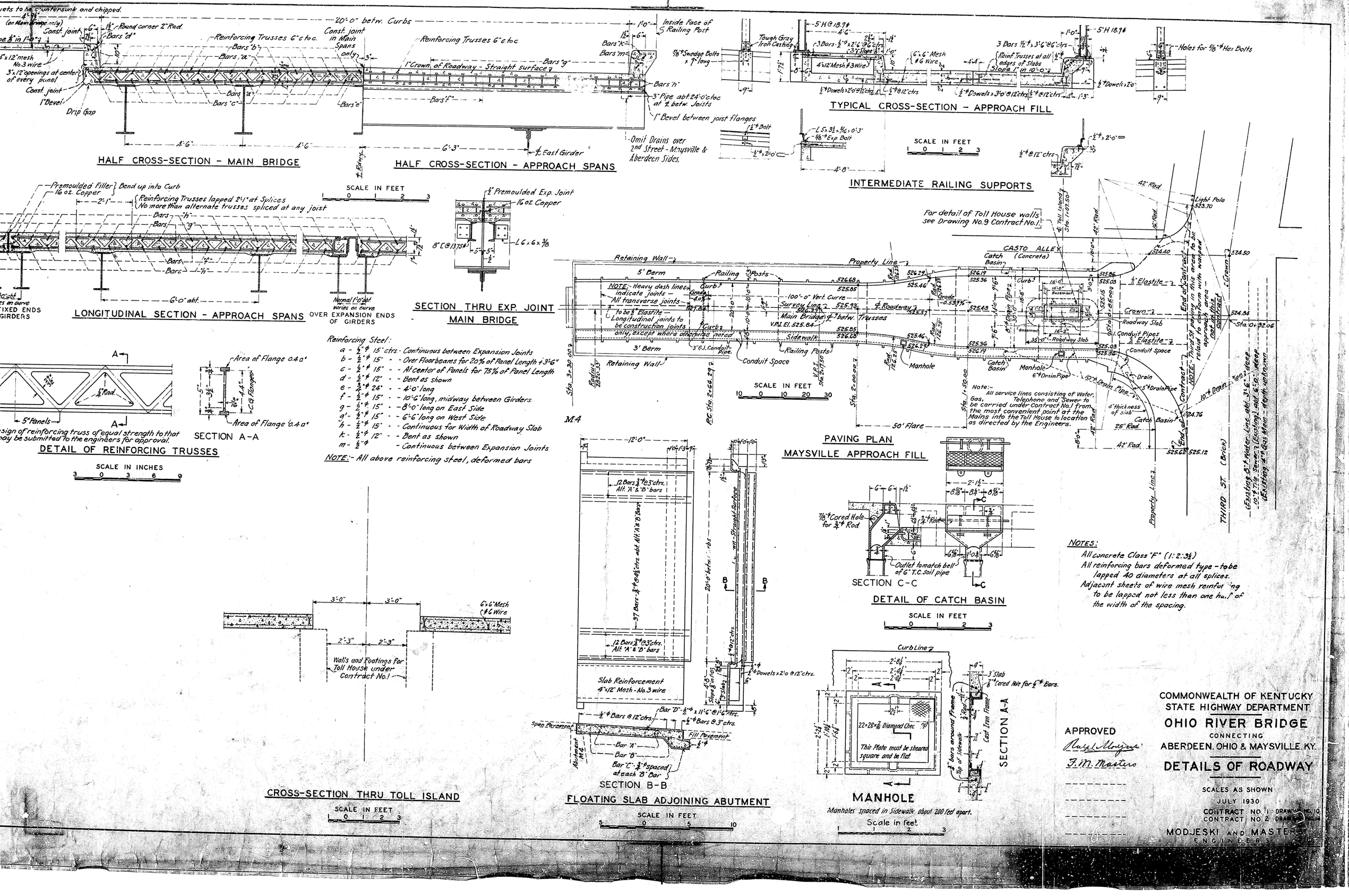
ABUTMENTS & RETAINING WALLS

SCALES IN FEET
1 0 1 2 3 4 5 10 0 1 2 3 4 5 6 7 8 9 10

JULY 1930
DRAWING No. 9
CONTRACT No. 1

MODJESKI AND MASTERS
ENGINEERS

26


HALF CROSS-SECTION - MAIN BRIDGE
HALF CROSS-SECTION - APPROACH SPANS
TYPICAL CROSS-SECTION - APPROACH FILL
INTERMEDIATE RAILING SUPPORTS
SCALE IN FEET
LONGITUDINAL SECTION - APPROACH SPANS OVER EXPANSION ENDS OF GIRDERS
SECTION THRU EXP. JOINT MAIN BRIDGE
Reinforcing Steel:
a - 1/2"φ 15" ctrs. - Continuous between Expansion Joints
b - 1/2"φ 15" - - Over Floorbeams for 20% of Panel Length + 3'-6"
c - 1/2"φ 15" - - At center of Panels for 75% of Panel Length
d - 1/2"φ 12" - - Bent as shown
e - 3/4"φ 24" - - 4'-0" long
f - 1/2"φ 15" - - 10'-6" long, midway between Girders
g - 1/2"φ 15" - - 8'-0" long on East Side
g' - 1/2"φ 15" - - 6'-6" long on West Side
h - 1/2"φ 15" - - Continuous for Width of Roadway Slab
k - 1/2"φ 12" - - Bent as shown
m - 1/2"φ - Continuous between Expansion Joints
NOTE:- All above reinforcing steel, deformed bars
DETAIL OF REINFORCING TRUSSES
SECTION A-A
SCALE IN INCHES
PAVING PLAN
MAYSVILLE APPROACH FILL
SECTION C-C
DETAIL OF CATCH BASIN
CROSS-SECTION THRU TOLL ISLAND
SECTION B-B
FLOATING SLAB ADJOINING ABUTMENT
MANHOLE
Manholes spaced in Sidewalk about 200 feet apart.
SECTION A-A
Note:- All service lines consisting of Water, Gas, Telephone and Sewer to be carried under Contract No.1 from the most convenient point at the Mains into the Toll House to location as directed by the Engineers.
NOTES:
All concrete Class "F" (1:2:3½)
All reinforcing bars deformed type - to be lapped 40 diameters at all splices.
Adjacent sheets of wire mesh reinforcing to be lapped not less than one half of the width of the spacing.
APPROVED
COMMONWEALTH OF KENTUCKY
STATE HIGHWAY DEPARTMENT
OHIO RIVER BRIDGE
CONNECTING
ABERDEEN, OHIO & MAYSVILLE, KY.
DETAILS OF ROADWAY
SCALES AS SHOWN
JULY 1930
CONTRACT NO. 1 DRAWING NO. 10
CONTRACT NO. 2 DRAWING NO.
MODJESKI AND MASTERS
ENGINEERS