FEDERAL-AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (F.A.- 61)	531-2-HB-1	COOK	21	1
B. P. R. REG. NO. 4	ILLINOIS	PROJECT U- 184 (29)		

20

INDEX OF SHEETS ON SHEET NO. 2

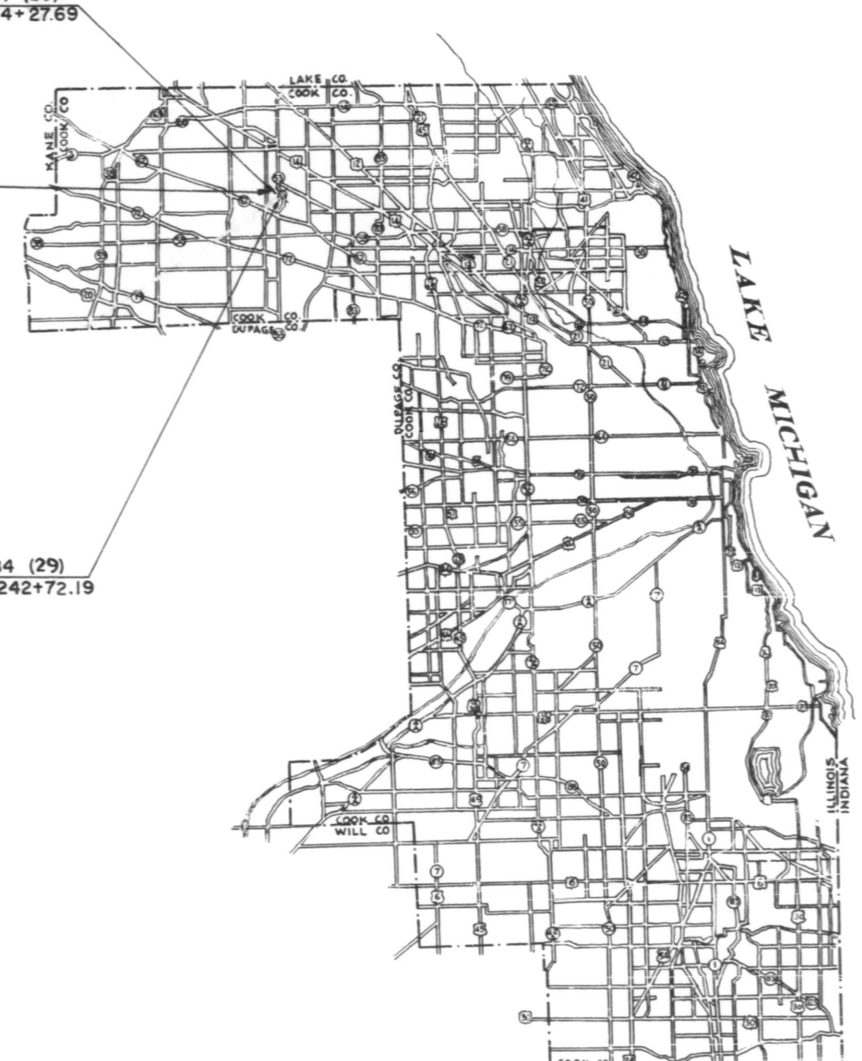
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

DISTRICT 10
RELOCATED S. B. I. ROUTE 53 (F. A. ROUTE 61) SECTION 531-2 HB-1
DUAL STRUCTURES OVER INDUSTRIAL AVENUE
PROJECT U-184 (29)
COOK COUNTY

PROJECT LENGTH 155.50 LIN. FT. (0.029 MILES)

SECTION 531-2-HB-1 INCLUDES THE CONSTRUCTION OF DUAL 3-SPAN CONTINUOUS WIDE FLANGE BEAM GRADE SEPARATION STRUCTURES (TO CARRY RELOCATED ROUTE 53 OVER INDUSTRIAL AVENUE), WITH SPANS 2 AT 45'-2" AND 1 AT 59'-2" ON OPEN R. C. ABUTMENTS AND R. C. PIERS, AT STATION 243+49.94 IN THE CITY OF ROLLING MEADOWS.

PROJECT U-184 (29)
ENDS STA. 244+27.69



PROJECT U-184 (29)
BEGINS STA. 242+72.19

N

10

LOCATION OF SECTION INDICATED THUS:—

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

SUBMITTED 4-5 19 63
[signature]
DISTRICT ENGINEER

EXAMINED April 19 19 63
[signature]
ENGINEER OF ROAD PLANS AND CONTRACTS

PASSED April 19 19 63
[signature]
ENGINEER OF DESIGN

APPROVED April 19 19 63
[signature]
CHIEF HIGHWAY ENGINEER

APPROVED April 19 19 63
[signature]
DIRECTOR

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

DIVISION ENGINEER   DATE

S. KENNEDY

JOB NO 23002

COOK COUNTY   SECTION 531-2-HB-1   F. A. ROUTE 61

PLANS PREPARED BY BUREAU OF DESIGN	[signature]	DATE	4-4-63
APPROVED BY ASS'T DISTRICT ENGINEER — ENGINEERING	[signature]	DATE	4/4/63
EXAMINED BY BUREAU OF CONSTRUCTION		DATE	
EXAMINED BY BUREAU OF MAINTENANCE	[signature]	DATE	4-4-63
EXAMINED BY BUREAU OF TRAFFIC	[signature]	DATE	4-4-63
EXAMINED BY BUREAU OF MATERIALS	[signature]	DATE	4-4-63
ENTIRE SECTION INSPECTED ~~AND~~ APPROVED AS TO POLICY DISTRICT ENGINEER	[signature]	DATE	4-5-63

BOND ISSUE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 F.A. 61	531-2-HB-1	COOK	21	2

STA. TO STA.

U.S. BUR. PUB. ROADS, DIV. 4 | ILLINOIS | F. A. PROJECT

INDEX OF SHEETS

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL
011001	EARTH EXCAVATION	CU.YDS.	50
016001	EMBANKMENT	CU.YDS.	33,720
020001	TRENCH BACKFILL	CU.YDS.	550
050001	CLASS A EXCAVATION FOR STRUCTURES	CU.YDS.	430
052003	CLASS X CONCRETE	CU.YDS.	1,060.7
052021	PROTECTIVE COAT	SQ.YDS.	2,100
054001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUNDS	413,940
059001	REINFORCEMENT BARS	POUNDS	175,580
060004	FURNISHING CREOSOTED PILES UP TO 20 FEET	LIN.FT.	800
060005	FURNISHING CREOSOTED PILES 20.1 TO 38 FEET	LIN.FT.	3,780
060007	TEST PILES, TIMBER	EACH	2
060008	DRIVING TIMBER PILES	LIN.FT.	4,580
060043	DRIVING CONCRETE PILES	LIN.FT.	2,430
060044	FURNISHING CONCRETE PILES	LIN.FT.	2,430
060047	TEST PILES, CONCRETE	EACH	2
061001	NAME PLATES	EACH	2
066030	STORM SEWERS, TYPE 2, 24 INCH	LIN.FT.	400
066420	STORM SEWERS, TYPE 2 EXTRA STRENGTH CLAY PIPE, 18 INCH	LIN.FT.	340
072003	WATER MAIN, 8 INCH	LIN.FT.	385
075081	MANHOLES, TYPE A, 4' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	8
075113	VALVE VAULTS, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	4
083002	SLOPE WALL (4")	SQ.YDS.	1,280
084001	PAVEMENT REPLACEMENT - ENTIRE	SQ.YDS.	20
107001	FIRE HYDRANT TO BE MOVED	EACH	1
072068	WATER MAIN FITTINGS AND VALVES	LUMP SUM	1
	ALTERNATE A		
Z01152	ALUMINUM HANDRAIL TYPE D	LIN.FT.	606
	ALTERNATE B		
055015	METAL HANDRAIL TYPE E	LIN.FT.	606

NOTE: FOR ITEMS OF "WATER MAIN FITTINGS AND VALVES", SEE SHEET No. 5

Two(2) signs conforming to Standard 2158-1 shall be erected at locations shown on Sheet No. 3

NOTE: THE "STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION" ADOPTED JANUARY 2, 1958 AND THE SUPPLEMENTAL SPECIFICATIONS EFFECTIVE APRIL 2, 1962, SHALL GOVERN THE CONSTRUCTION OF THIS WORK

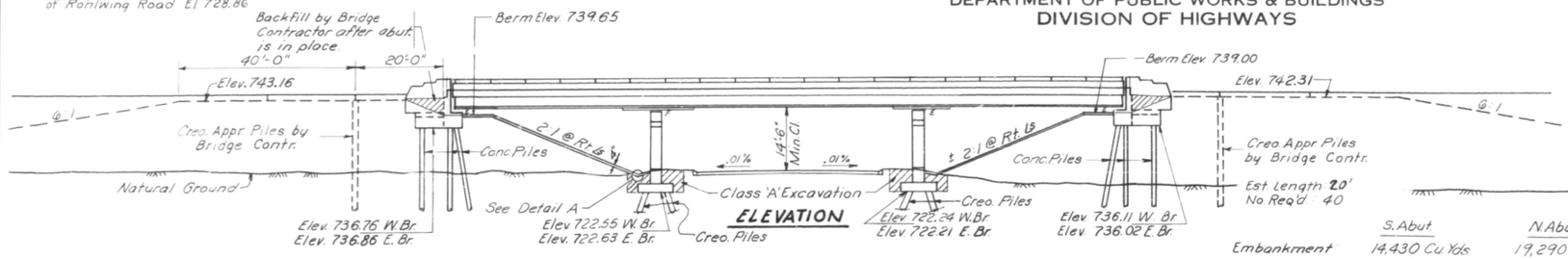
AXLE LOAD LIMITS: SINGLE-18,000 LBS TANDEM-24,000 LBS	DHV-20	CLASSIFICATION	DESIGN SPEED
	6425	M	70

B.M. Cross on North flange bolt fire hydrant on North side Industrial Ave. 500'± West of Rohlwing Road El. 728.86

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

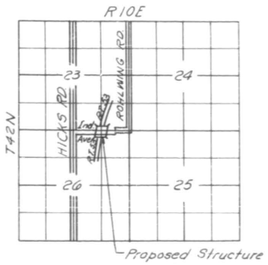
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (F.A. 61)	531-2-HB-1	COOK	21	6
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT: U-184(29)		

SHEET NO. 1
13 SHEETS



ELEVATION

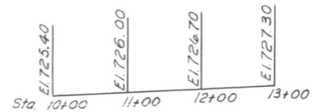
	S. Abut	N. Abut
Embankment	14,430 Cu. Yds.	19,290 Cu. Yds.



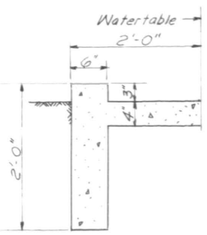
LOCATION SKETCH

SBI RT. 53 HORIZ. CURVE DATA

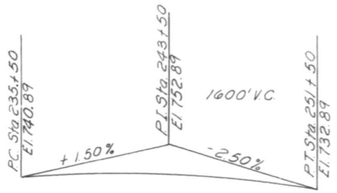
Δ = 77°11'-38"
D = 0°-57'-178"
R = 6000'
L = 8083.72'
T = 4789.21'
E = 1677.02'
P.C. = Sta. 188 + 48.07
P.I. - Sta. 236 + 37.28
P.T. - Sta. 269 + 31.79



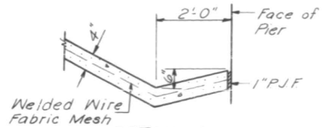
INDUSTRIAL AVE. PROFILE



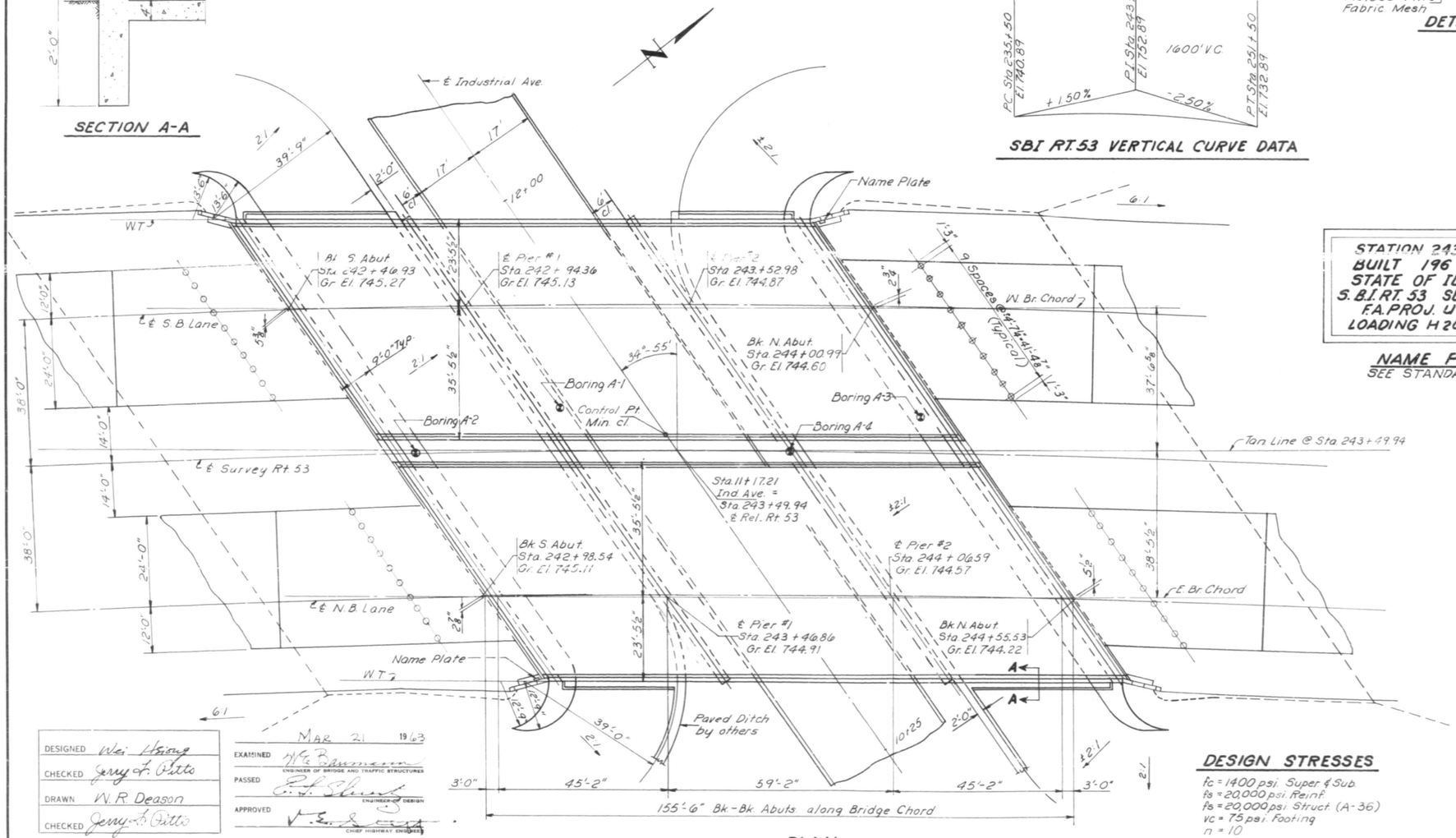
SECTION A-A



SBI RT. 53 VERTICAL CURVE DATA



DETAIL A



PLAN

DESIGNED	Wei Hsiung	
CHECKED	Jerry F. Pitts	
DRAWN	W. R. Deason	
CHECKED	Jerry F. Pitts	
EXAMINED	W. G. Baumann, ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES	MAR 21 1963
PASSED	E. A. Shurtz, ENGINEER OF DESIGN	
APPROVED	V. E. Scott, CHIEF HIGHWAY ENGINEER	

STATION 243+49.94
BUILT 196 BY
STATE OF ILLINOIS
S.B.I. RT. 53 SEC. 531-2-HB-1
F.A. PROJ. U-184(29)
LOADING H20-S16

NAME PLATE
SEE STANDARD 2113

DESIGN STRESSES

fc = 1400 psi. Super & Sub.
fs = 20,000 psi. Reinf.
fs = 20,000 psi. Struct. (A-36)
vc = 75 psi. Footing
n = 10

LOADING H20-S16

GENERAL NOTES

Coarse aggregate to be used in parapet handrails and end post must be absolutely free of chert, flint, limonite, lignite and soft sandstone.

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

The slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft.

All reinforcement bars shall be lapped 20 diameters unless otherwise noted.

Rivets ¾" ϕ, open holes 1⅜" ϕ, unless otherwise noted.

Anchor bolts shall be set before riveting diaphragms over supports.

Roadway expansion devices shall be assembled in the shop in proper position with the end in place and shall be left assembled for shop inspection.

The exposed surfaces of the expansion devices shall be given two shop coats of red lead paint.

Expansion devices are included in the quantity of Structural Steel. Est. Wt = 29,490#.

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

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

The contractor shall drive 2 concrete test piles and 2 timber test piles (for locations see sheet #8411) as directed by the Engineer before ordering remaining piles.

Concrete piles at abutments shall be driven in holes precored through the embankment in accordance with Article 60.9(c) of the Standard Specifications.

All structural steel shall conform to ASTM Designation A-36.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Embankment	Cu. Yds.			33,720
Class A Excav. for Struct.	Cu. Yds.		430	430
Class X Concrete	Cu. Yds.	481.8	577.9	1059.7
Structural Steel	Lbs.	413,940		413,940
Aluminum Handrail	Lin. Ft.	606		606
Reinforcement Bars	Lbs.	119,970	55,610	175,580
Creosoted Piles	Lin. Ft.		3780	4580 *
Test Piles (Timber)	Ea.		2	2
Concrete Piles	Lin. Ft.		2430	2430
Test Piles (Concrete)	Ea.		2	2
Name Plates	Ea.		2	2
Slope Wall (4")	Sq. Yds.			1,280
Protective Coat	Sq. Yds.	2,100		2,100

* Including 800 Lin. Ft. for approach piles.

PROJ. U-184(29)
GENERAL PLAN & ELEVATIONS
RELOCATED S.B.I. RT. 53
OVER INDUSTRIAL AVENUE
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

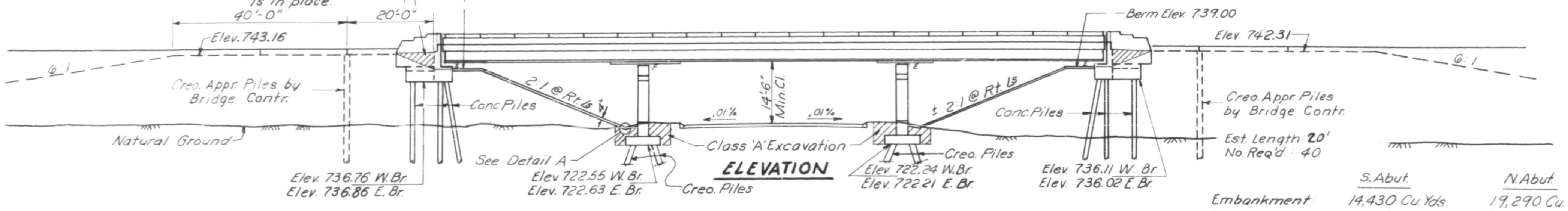
Revised 4-9-63: Borrow Excavation 40,470 Cu. Yds. changed to Embankment 33,720 Cu. Yds. Sta. 11+71.21 changed to Sta. 11+17.21 W.H.

B.M. Cross on North flange bolt fire hydrant on North side Industrial Ave. 500'± West of Rohlwing Road El. 728.86

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

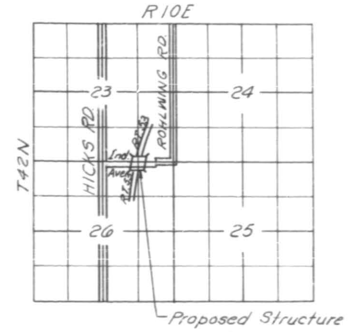
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (F.A. 61)	531-2-HB-1	COOK	21	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT U-184 (29)		

SHEET NO. 1
13 SHEETS



ELEVATION

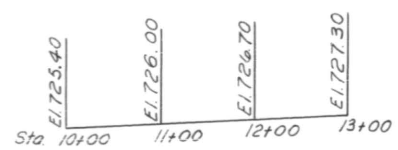
	S. Abut.	N. Abut.
Embankment	14,430 Cu. Yds.	19,290 Cu. Yds.



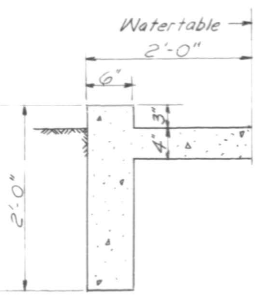
LOCATION SKETCH

SBI RT. 53 HORIZ. CURVE DATA

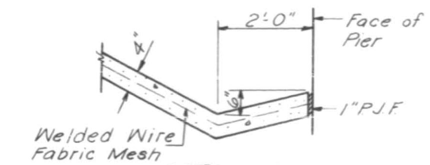
Δ = 77°11'-38"
D = 0°-57'-17.8"
R = 6000'
L = 8083.72'
T = 4789.21'
E = 1677.02'
P.C. = Sta. 188 + 48.07
P.I. - Sta. 236 + 37.28
P.T. - Sta. 269 + 31.79



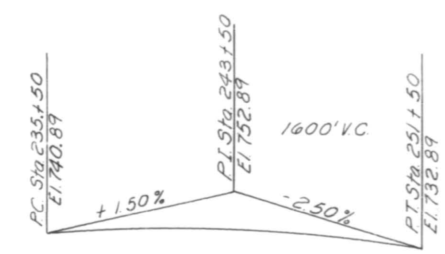
INDUSTRIAL AVE. PROFILE



SECTION A-A



DETAIL A



SBI RT. 53 VERTICAL CURVE DATA

GENERAL NOTES

Coarse aggregate to be used in parapet handrails and end post must be absolutely free of chert, flint, limonite, lignite and soft sandstone.

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

The slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft.

All reinforcement bars shall be lapped 20 diameters unless otherwise noted.

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

Anchor bolts shall be set before riveting diaphragms over supports.

Roadway expansion devices shall be assembled in the shop in proper position with the end in place and shall be left assembled for shop inspection.

The exposed surfaces of the expansion devices shall be given two shop coats of red lead paint.

Expansion devices are included in the quantity of Structural Steel. Est. Wt. = 29,490#.

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

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

The contractor shall drive 2 concrete test piles and 2 timber test piles (for locations see sheet #8 & 11) as directed by the Engineer before ordering remaining piles.

Concrete piles at abutments shall be driven in holes precored through the embankment in accordance with Article 60.9(c) of the Standard Specifications.

All structural steel shall conform to ASTM Designation A-36.

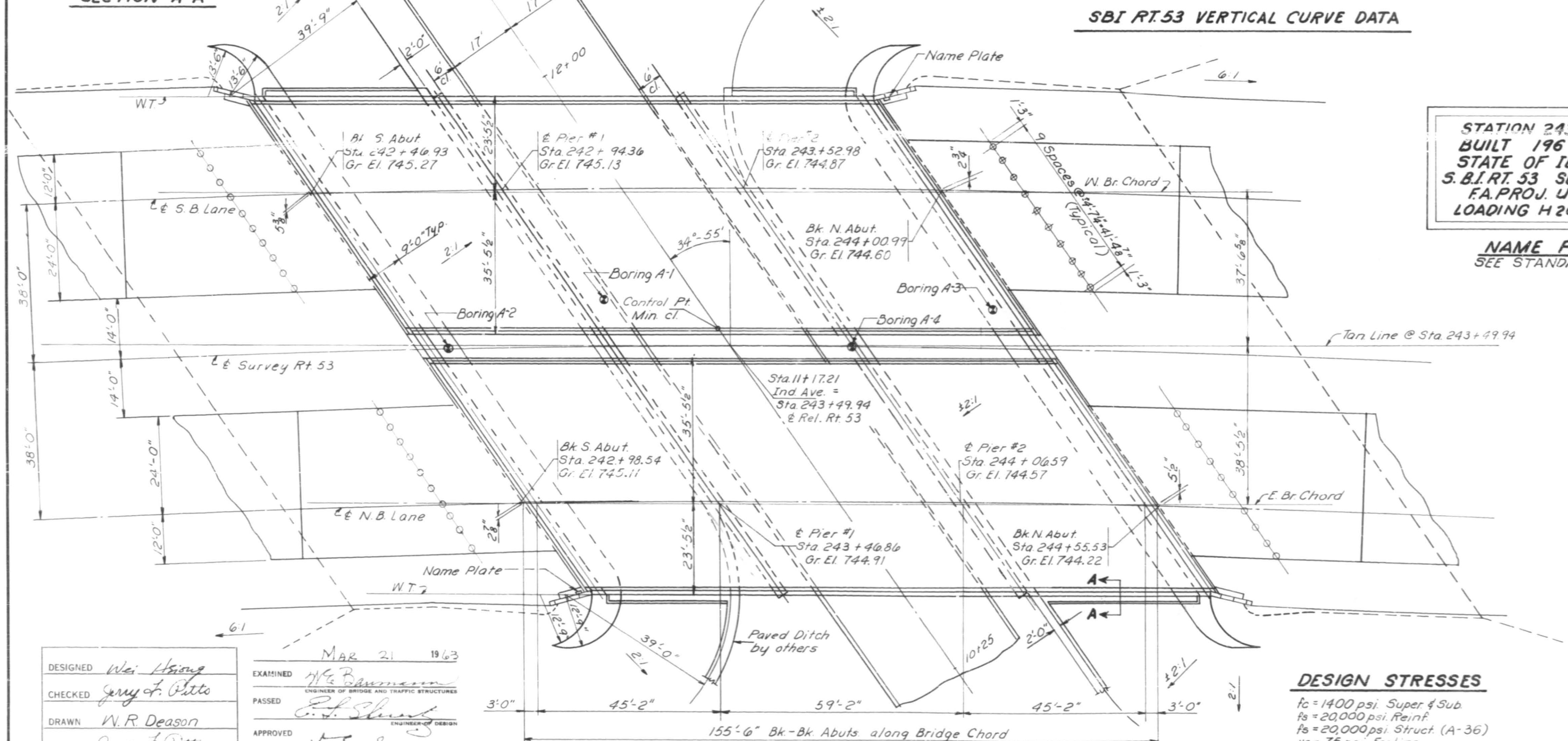
STATION 243 + 49.94
BUILT 196_ BY
STATE OF ILLINOIS
S.B.I. RT. 53 SEC. 531-2-HB-1
F.A. PROJ. U-184 (29)
LOADING H20-S16

NAME PLATE
SEE STANDARD 2113

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Embankment	Cu. Yds.			33,720
Class A Excav. for Struct.	Cu. Yds.		430	430
Class X Concrete	Cu. Yds.	481.8	577.9	1059.7
Structural Steel	Lbs.	413,940		413,940
Aluminum Handrail	Lin. Ft.	606		606
Reinforcement Bars	Lbs.	119,970	55,610	175,580
Creosoted Piles	Lin. Ft.		3780	4580 *
Test Piles (Timber)	Ea.		2	2
Concrete Piles	Lin. Ft.		2430	2430
Test Piles (Concrete)	Ea.		2	2
Name Plates	Ea.		2	2
Slope Wall (4")	Sq. Yds.			1,280
Protective Coat	Sq. Yds.	2,100		2,100

* Including 800 Lin. ft. for approach piles.



PLAN

DESIGNED	Wei Hsiung
CHECKED	Jerry F. Pitts
DRAWN	W. R. Deason
CHECKED	Jerry F. Pitts

MAR 21 1963
EXAMINED — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF DESIGN
APPROVED — CHIEF HIGHWAY ENGINEER

DESIGN STRESSES

fc = 1400 psi. Super. & Sub.
fs = 20,000 psi. Reinf.
fs = 20,000 psi. Struct. (A-36)
vc = 75 psi. Footing
n = 10

LOADING H20-S16

PROJ. U-184 (29)
GENERAL PLAN & ELEVATIONS
RELOCATED S.B.I. RT. 53
OVER INDUSTRIAL AVENUE
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

Revised 4-9-63: Borrow Excavation 40,470 Cu. Yds. changed to Embankment 33,720 Cu. Yds. Sta. 11+71.21 changed to Sta. 11+17.21 W.R.

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (Rt. 61)	331-2-HB-1	Cook	21	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 2
13 SHEETS

Beams	Station	Offset	Theoretical Grade Elevations	Grade El. Adjusted for D. Def.
	24232.255 –	22.051	745.746	745.746
Bk. S. Abut. 1	24236.850 –	15.127	745.598	745.598
2	24241.454 –	8.207	745.450	745.450
3	24246.070 –	1.290	745.300	745.300
Br. Chord 4	24246.633 –	.447	745.282	745.282
5	24250.696	5.622	745.151	745.151
6	24255.332	12.532	745.001	745.001
7	24259.980	19.437	744.850	744.850
8	24264.637	26.340	744.699	744.699
9	24269.306	33.238	744.547	744.547
1	24235.225 –	21.992	745.739	745.739
E. Brg. S. Abut. 2	24239.823 –	15.071	745.591	745.591
3	24244.431 –	8.153	745.442	745.442
Br. Chord 4	24249.050 –	1.239	745.292	745.292
5	24249.614 –	.396	745.274	745.274
6	24253.679	5.671	745.142	745.142
7	24258.319	12.578	744.992	744.992
8	24262.970	19.482	744.841	744.841
9	24267.631	26.382	744.689	744.689
	24272.303	33.278	744.537	744.537
	24245.125 –	21.810	745.713	745.722
	24249.734 –	14.896	745.564	745.573
	24254.354 –	7.986	745.414	745.423
	24258.984 –	1.079	745.263	745.272
	24259.549 –	.237	745.245	745.254
	24263.625	5.823	745.112	745.121
	24268.276	12.723	744.961	744.970
	24272.938	19.618	744.809	744.818
	24277.611	26.510	744.656	744.665
	24282.295	33.399	744.503	744.512
	24255.025 –	21.643	745.685	745.695
	24259.645 –	14.737	745.534	745.545
	24264.276 –	7.834	745.383	745.394
	24268.918 –	.936	745.232	745.242
	24269.485 –	.095	745.213	745.224
	24273.571	5.959	745.080	745.090
	24278.234	12.850	744.927	744.938
	24282.907	19.739	744.774	744.785
	24287.592	26.623	744.621	744.631
	24292.287	33.503	744.467	744.477
	24264.925 –	21.493	745.655	745.662
	24269.557 –	14.595	745.503	745.510
	24274.200 –	7.700	745.351	745.358
	24278.853 –	.809	745.199	745.206
	24279.421	.030	745.180	745.187
	24283.517	6.078	745.046	745.053
	24288.191	12.962	744.892	744.899
	24292.876	19.842	744.738	744.745
	24297.572	26.718	744.583	744.590
	24302.279	33.591	744.428	744.435
	24274.826 –	21.360	745.622	745.625
	24279.470 –	14.469	745.470	745.472
	24284.124 –	7.582	745.317	745.319
	24288.788 –	.699	745.163	745.166
	24289.378	.140	745.144	745.147
	24293.463	6.180	745.009	745.011
	24298.149	13.056	744.855	744.857
	24302.846	19.929	744.699	744.702
	24307.553	26.797	744.544	744.546
	24312.271	33.662	744.388	744.390
E. Brg. Pier 1 1	24279.942 –	21.297	745.605	745.605
2	24284.591 –	14.411	745.452	745.452
3	24289.251 –	7.528	745.298	745.298
4	24293.922 –	.648	745.144	745.144
Br. Chord 5	24294.492 –	.189	745.125	745.125
6	24298.603	6.227	744.989	744.989
7	24303.295	13.099	744.834	744.834
8	24307.997	19.967	744.679	744.679
9	24312.710	26.831	744.522	744.522
	24317.434	33.692	744.366	744.366

Beams	Station	Offset	Theoretical Grade Elevations	Grade El. Adjusted for D. Def.
	24289.844 –	21.189	745.569	745.580
	24294.504 –	14.310	745.415	745.426
	24299.175 –	7.435	745.261	745.271
	24303.857 –	.563	745.105	745.116
	24304.429	.274	745.086	745.097
	24308.550	6.304	744.950	744.960
	24313.253	13.168	744.793	744.804
	24317.967	20.028	744.637	744.647
	24322.692	26.885	744.480	744.490
	24327.427	33.738	744.322	744.332
	24299.746 –	21.097	745.532	745.553
	24304.418 –	14.226	745.376	745.398
	24309.100 –	7.358	745.221	745.242
	24313.793 –	.495	745.065	745.086
	24314.366	.341	745.045	745.067
	24318.497	6.364	744.908	744.929
	24323.212	13.221	744.751	744.772
	24327.937	20.073	744.593	744.614
	24332.673	26.922	744.434	744.456
	24337.420	33.767	744.276	744.297
	24309.648 –	21.022	745.492	745.523
	24314.331 –	14.158	745.336	745.366
	24319.025 –	7.299	745.179	745.210
	24323.729 –	.443	745.022	745.052
	24324.304	.392	745.002	745.033
	24328.445	6.409	744.864	744.895
	24333.171	13.257	744.705	744.736
	24337.907	20.102	744.547	744.577
	24342.655	26.943	744.387	744.418
	24347.413	33.780	744.227	744.258
	24319.550 –	20.963	745.450	745.470
	24324.245 –	14.107	745.293	745.313
	24328.950 –	7.255	745.135	745.155
	24333.666 –	.407	744.976	744.997
	24334.242	.427	744.957	744.977
	24338.392	6.436	744.818	744.838
	24343.130	13.277	744.658	744.678
	24347.878	20.114	744.498	744.519
	24352.636	26.947	744.338	744.358
	24357.406	33.776	744.177	744.197
	24329.453 –	20.920	745.406	745.416
	24334.159 –	14.073	745.248	745.257
	24338.875 –	7.229	745.089	745.098
	24343.602 –	.388	744.929	744.939
	24344.179	.445	744.910	744.919
	24348.340	6.447	744.769	744.779
	24353.088	13.280	744.609	744.619
	24357.848	20.109	744.448	744.458
	24362.618	26.934	744.286	744.296
	24367.399	33.755	744.124	744.134
E. Brg. Pier 2 1	24338.531 –	20.896	745.364	745.364
2	24343.247 –	14.055	745.204	745.204
3	24347.973 –	7.219	745.044	745.044
4	24352.711 –	.385	744.884	744.884
Br. Chord 5	24353.289	.446	744.864	744.864
6	24357.459	6.443	744.723	744.723
7	24362.218	13.268	744.562	744.562
8	24366.987	20.090	744.400	744.400
9	24371.768	26.907	744.237	744.237
	24376.559	33.721	744.074	744.074
	24348.433 –	20.885	745.316	745.320
	24353.161 –	14.052	745.155	745.160
	24357.898 –	7.224	744.994	744.999
	24362.647 –	.399	744.833	744.837
	24363.227	.432	744.813	744.818
	24367.406	6.422	744.671	744.675
	24372.176	13.239	744.508	744.513
	24376.957	20.053	744.345	744.350
	24381.749	26.863	744.181	744.186
	24386.552	33.669	744.017	744.022

Beams	Station	Offset	Theoretical Grade Elevations	Grade El. Adjusted for D. Def.
	24358.336 –	20.891	745.265	745.274
	24363.075 –	14.066	745.104	745.113
	24367.824 –	7.245	744.942	744.951
	24372.583 –	.428	744.779	744.788
	24373.165 –	.402	744.759	744.769
	24377.354	6.384	744.616	744.625
	24382.135	13.194	744.453	744.462
	24386.927	20.000	744.288	744.298
	24391.730	26.801	744.124	744.133
	24396.544	33.599	743.958	743.967
	24368.239 –	20.913	745.213	745.223
	24372.988 –	14.096	745.050	745.061
	24377.749 –	7.283	744.887	744.898
	24382.520 –	.474	744.724	744.734
	24383.102	.365	744.704	744.714
	24387.301	6.330	744.559	744.570
	24392.094	13.132	744.395	744.405
	24396.897	19.930	744.229	744.240
	24401.711	26.723	744.064	744.074
	24406.536	33.513	743.897	743.907
	24378.142 –	20.952	745.158	745.163
	24382.902 –	14.143	744.995	745.000
	24387.674 –	7.338	744.831	744.835
	24392.456 –	.537	744.666	744.671
	24393.039	.292	744.646	744.651
	24397.248	6.260	744.501	744.505
	24402.052	13.053	744.335	744.340
	24406.867	19.843	744.168	744.173
	24411.692	26.629	744.001	744.006
	24416.528	33.411	743.834	743.839
E. Brg. N. Abut. 1	24383.258 –	20.978	745.129	745.129
2	24388.024 –	14.174	744.965	744.965
3	24392.801 –	7.373	744.801	744.801
4	24397.589 –	.575	744.635	744.635
Br. Chord	24398.174 –	.292	744.615	744.615
5	24402.388	6.217	744.469	744.469
6	24407.197	13.006	744.303	744.303
7	24412.017	19.792	744.136	744.136
8	24416.849	26.573	743.968	743.968
9	24421.691	33.351	743.800	743.800
1	24386.229	20.996	745.112	745.112
Bk. N. Abut. 2	24390.998 –	14.193	744.948	744.948
3	24395.779 –	7.395	744.783	744.783
4	24400.570 –	.600	744.617	744.617
Br. Chord	24401.155 –	.227	744.597	744.597
5	24405.372	6.190	744.451	744.451
6	24410.185	12.977	744.284	744.284
7	24415.008	19.760	744.117	744.117
8	24419.843	26.539	743.949	743.949
9	24424.688	33.315	743.781	743.781

DESIGNED	Nei Hsiang	
CHECKED	Jerry F. Pitts	
DRAWN	W.E. Dickerson	
CHECKED	Jerry F. Pitts	

MAR 21 1963

EXAMINED H.C. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED E.F. Shank
ENGINEER OF DESIGN

APPROVED V.E. Shaft
CHIEF HIGHWAY ENGINEER

TOP OF SLAB ELEVATIONS
WEST BRIDGE
S.B.I. RT. 53 SEC. 331-2-HB-1
COOK COUNTY
STA. 243+49.94

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

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B. 53 (I-61)	531-2-HB-1	Cook	21	3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
/3 SHEETS

Beams	Station	Offset	Theoretical Grade Elevations	Grade El. Adjusted for Δ Def.
	24275.708 -	33.333	745.859	745.859
2	24280.402 -	26.443	745.706	745.706
Bk. S. Abut 3	24285.107 -	19.557	745.553	745.553
4	24289.823 -	12.674	745.399	745.399
Br. Chord 5	24294.550 -	5.796	745.245	745.245
6	24298.709 -	.240	745.109	745.109
7	24299.287	1.079	745.090	745.090
8	24304.035	7.950	744.934	744.934
9	24308.795	14.818	744.778	744.778
10	24313.565	21.682	744.622	744.622
	24278.710 -	33.297	745.849	745.849
2	24283.408 -	26.409	745.696	745.696
E. Brg. S. Abut. 3	24288.116 -	19.525	745.542	745.542
4	24292.836 -	12.645	745.388	745.388
Br. Chord 5	24297.566 -	5.769	745.233	745.233
6	24301.728	.265	745.097	745.097
7	24302.307	1.103	745.078	745.078
8	24307.059	7.972	744.922	744.922
9	24311.821	14.838	744.766	744.766
10	24316.595	21.699	744.609	744.609
	24288.718 -	33.187	745.813	745.822
	24293.427 -	26.307	745.659	745.668
	24298.147 -	19.431	745.504	745.513
	24302.878 -	12.558	745.349	745.358
	24307.619 -	5.690	745.193	745.202
	24311.792	.337	745.056	745.065
	24312.372	1.174	745.037	745.046
	24317.136	8.035	744.880	744.889
	24321.910	14.893	744.723	744.732
	24326.696	21.746	744.565	744.574
	24298.725 -	33.093	745.775	745.786
	24303.446 -	26.221	745.620	745.631
	24308.178 -	19.353	745.464	745.475
	24312.920 -	12.488	745.308	745.318
	24317.673 -	5.628	745.151	745.162
	24321.856 -	.392	745.013	745.023
	24322.438	1.228	744.994	745.004
	24327.213	8.082	744.836	744.846
	24331.999	14.931	744.677	744.688
	24336.796	21.777	744.518	744.529
	24308.733 -	33.016	745.735	745.742
	24313.466 -	26.152	745.579	745.586
	24318.209 -	19.292	745.422	745.429
	24322.963 -	12.435	745.265	745.272
	24327.728 -	5.582	745.107	745.114
	24331.920	.431	744.968	744.975
	24332.503	1.266	744.948	744.955
	24337.290	8.111	744.789	744.796
	24342.088	14.953	744.630	744.637
	24346.897	21.790	744.470	744.477
	24318.742 -	32.956	745.893	745.696
	24323.485 -	26.099	745.536	745.538
	24328.240 -	19.247	745.378	745.380
	24333.005 -	12.398	745.219	745.222
	24337.782 -	5.554	745.060	745.063
	24341.985	.452	744.920	744.923
	24342.569	1.287	744.901	744.903
	24347.368	8.124	744.741	744.743
	24352.177	14.957	744.580	744.582
	24356.998	21.787	744.419	744.421
1	24323.813 -	32.931	745.671	745.671
2	24328.662 -	26.079	745.513	745.513
E. Brg Pier 1 3	24333.423 -	19.231	745.354	745.354
4	24338.194 -	12.386	745.195	745.195
Br. Chord 5	24342.977 -	5.545	745.035	745.035
6	24347.185 -	.407	744.895	744.895
7	24347.770	1.291	744.875	744.875
8	24352.574	8.124	744.715	744.715
9	24357.390	14.953	744.553	744.553
10	24362.216	21.778	744.391	744.391

Beams	Station	Offset	Theoretical Grade Elevations	Grade El. Adjusted for Δ Def.
	24333.921 -	32.896	745.625	745.636
	24338.682 -	26.052	745.466	745.477
	24343.454 -	19.211	745.306	745.317
	24348.237 -	12.375	745.146	745.157
	24353.031 -	5.542	744.986	744.996
	24357.249	.453	744.844	744.855
	24357.836	1.286	744.824	744.835
	24362.692	8.111	744.663	744.673
	24367.479	14.932	744.500	744.511
	24372.317	21.750	744.337	744.348
	24343.930 -	32.878	745.577	745.599
	24348.702 -	26.041	745.417	745.438
	24353.486 -	19.209	745.257	745.278
	24358.280 -	12.380	745.095	745.116
	24363.085 -	5.556	744.934	744.955
	24367.314	.433	744.791	744.812
	24367.902	1.264	744.771	744.792
	24372.729	8.081	744.608	744.629
	24377.568	14.895	744.445	744.466
	24382.417	21.704	744.281	744.302
	24353.938 -	32.876	745.528	745.558
	24358.722 -	26.048	745.366	745.397
	24363.517 -	19.223	745.205	745.235
	24368.323 -	12.403	745.042	745.073
	24373.140 -	5.586	744.879	744.910
	24377.378	.395	744.736	744.767
	24377.968	1.226	744.716	744.747
	24382.806	8.035	744.552	744.583
	24387.656	14.840	744.387	744.418
	24392.518	21.641	744.222	744.253
	24363.947 -	32.891	745.476	745.496
	24368.742 -	26.071	745.313	745.334
	24373.548 -	19.254	745.150	745.171
	24378.366 -	12.442	744.987	745.007
	24383.194 -	5.633	744.823	744.843
	24387.442	.341	744.678	744.699
	24388.033	1.171	744.658	744.679
	24392.884	7.972	744.493	744.513
	24397.745	14.769	744.327	744.348
	24402.618	21.562	744.161	744.181
	24373.955 -	32.923	745.422	745.431
	24378.762 -	26.110	745.258	745.268
	24383.579 -	19.302	745.094	745.104
	24388.408 -	12.497	744.929	744.939
	24393.248 -	5.697	744.764	744.774
	24397.508	.270	744.619	744.629
	24398.099	1.099	744.599	744.608
	24402.960	7.892	744.432	744.442
	24407.833	14.681	744.265	744.275
	24412.717	21.466	744.098	744.108
1	24383.129 -	32.966	745.370	745.370
2	24387.946 -	26.161	745.206	745.206
E. Brg Pier 2 3	24392.775 -	19.360	745.040	745.040
4	24397.614 -	12.563	744.875	744.875
Br. Chord 5	24402.464 -	5.770	744.709	744.709
6	24406.732 -	.191	744.562	744.562
7	24407.325	1.018	744.542	744.542
8	24412.197	7.804	744.375	744.375
9	24417.081	14.585	744.207	744.207
10	24421.975	21.363	744.038	744.038
	24393.137 -	33.030	745.312	745.316
	24397.966 -	26.233	745.146	745.151
	24402.805 -	19.440	744.980	744.985
	24407.656 -	12.651	744.813	744.818
	24412.517 -	5.866	744.646	744.650
	24416.795	.088	744.498	744.503
	24417.390	.914	744.478	744.483
	24422.273	7.692	744.309	744.314
	24427.168	14.465	744.140	744.145
	24432.074	21.234	743.971	743.975

Beams	Station	Offset	Theoretical Grade Elevations	Grade El. Adjusted for Δ Def.
	24403.145 -	33.110	745.251	745.280
	24407.985 -	26.321	745.084	745.094
	24412.836 -	19.537	744.917	744.926
	24417.698 -	12.756	744.749	744.759
	24422.570 -	5.979	744.581	744.590
	24426.858 -	.031	744.433	744.442
	24427.454 -	.794	744.412	744.421
	24432.349	7.563	744.242	744.251
	24437.255	14.328	744.072	744.081
	24442.173	21.089	743.901	743.910
	24413.153 -	33.207	745.189	745.199
	24418.004 -	26.427	745.021	745.031
	24422.866 -	19.650	744.852	744.863
	24427.739 -	12.877	744.683	744.694
	24432.623 -	6.108	744.514	744.524
	24436.921 -	.168	744.364	744.375
	24437.518 -	.656	744.344	744.354
	24442.425	7.417	744.173	744.183
	24447.342	14.174	744.001	744.012
	24452.271	20.927	743.829	743.840
	24423.160 -	33.321	745.124	745.129
	24428.022 -	26.548	744.955	744.960
	24432.896 -	19.780	744.785	744.790
	24437.780 -	13.015	744.615	744.620
	24442.675 -	6.254	744.444	744.449
	24446.983 -	.321	744.294	744.299
	24447.582	.502	744.273	744.278
	24452.499	7.254	744.101	744.106
	24457.428	14.003	743.929	743.933
	24462.368	20.748	743.755	743.760
1	24428.331 -	33.386	745.089	745.089
2	24433.199 -	26.618	744.920	744.920
E. Brg. N. Abut. 3	24438.078 -	19.853	744.750	744.750
4	24442.968 -	13.093	744.579	744.579
5	24447.869 -	6.336	744.408	744.408
Br. Chord 6	24452.781 -	.407	744.257	744.257
7	24452.781	.415	744.236	744.236
8	24457.704	7.164	744.063	744.063
9	24462.639	13.908	743.890	743.890
10	24467.585	20.649	743.716	743.716
1	24431.333 -	33.426	745.069	745.069
2	24436.204 -	26.660	744.899	744.899
Bk. N. Abut. 3	24441.086 -	19.898	744.729	744.729
4	24445.980 -	13.140	744.558	744.558
5	24450.884 -	6.386	744.386	744.386
Br. Chord 6	24455.800 -	.459	744.235	744.235
7	24455.800 -	.363	744.214	744.214
8	24460.727	7.109	744.041	744.041
9	24465.665	13.851	743.867	743.867
10	24470.614	20.589	743.693	743.693

DESIGNED Nei Heing
CHECKED Jerry F. Pitts
DRAWN W.E. Dickerson
CHECKED Jerry F. Pitts

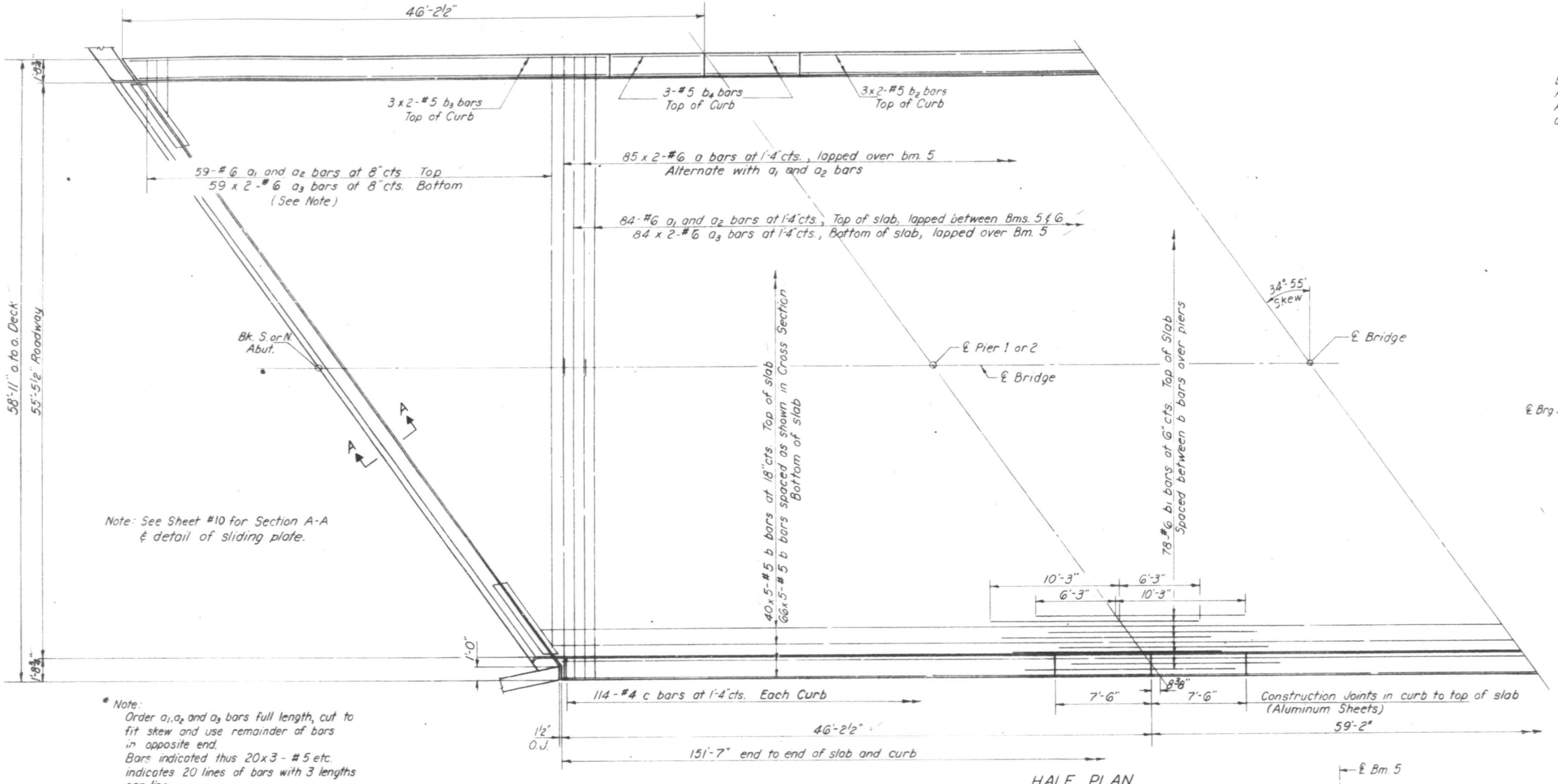
MAR 21 1963
EXAMINED H.C. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

TOP OF SLAB ELEVATIONS
EAST BRIDGE
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

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

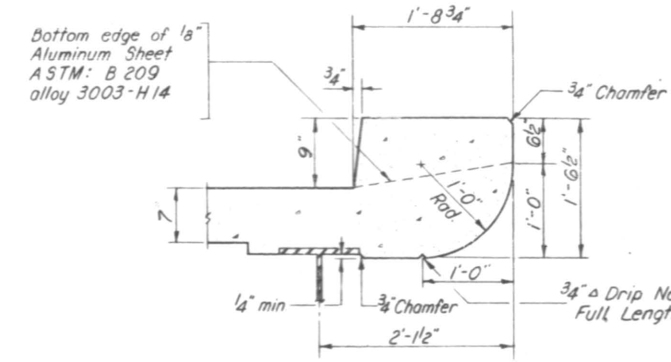
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (F.A. 61)	531-2-HB-1	Cook	21	9
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT.	

SHEET NO. 4
13 SHEETS



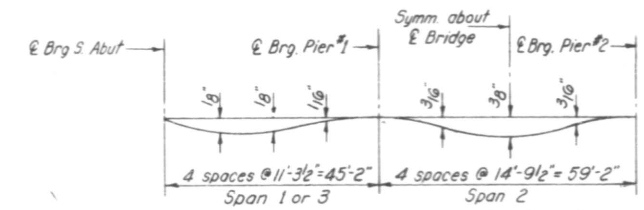
HALF PLAN

* Note:
Order a_1, a_2 and a_3 bars full length, cut to fit skew and use remainder of bars in opposite end.
Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.
Min. bar laps = 20 dia.



CURB DETAIL

Cost of Aluminum Sheets shall be incidental to Class X Concrete



DEAD LOAD DEFLECTION DIAGRAM

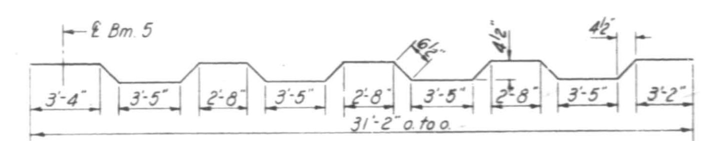
(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets #2 & 3.

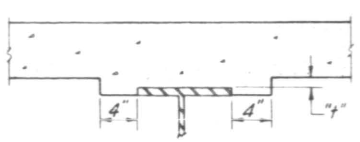
2 - BRIDGES
BILL OF MATERIAL

Bar	No	Size	Length	Shape
a	340	#6	32'-6"	~~~
a_1	286	#6	33'-6"	—
a_2	286	#6	26'-9"	—
a_3	572	#6	29'-9"	—
b	1060	#5	31'-3"	—
b_1	312	#6	16'-6"	—
b_2	24	#5	22'-6"	—
b_3	48	#5	20'-0"	—
b_4	48	#5	7'-3"	—
c	456	#4	4'-6"	⊏
Class X Concrete			Cu. Yds.	450.8
Reinforcement Bars			Lbs.	113,620
* Structural Steel			Lbs.	413,940

* Weight of bearing assemblies with lead plates and anchor bolts are included as Structural Steel. Est. Weight = 17,280 Lbs.

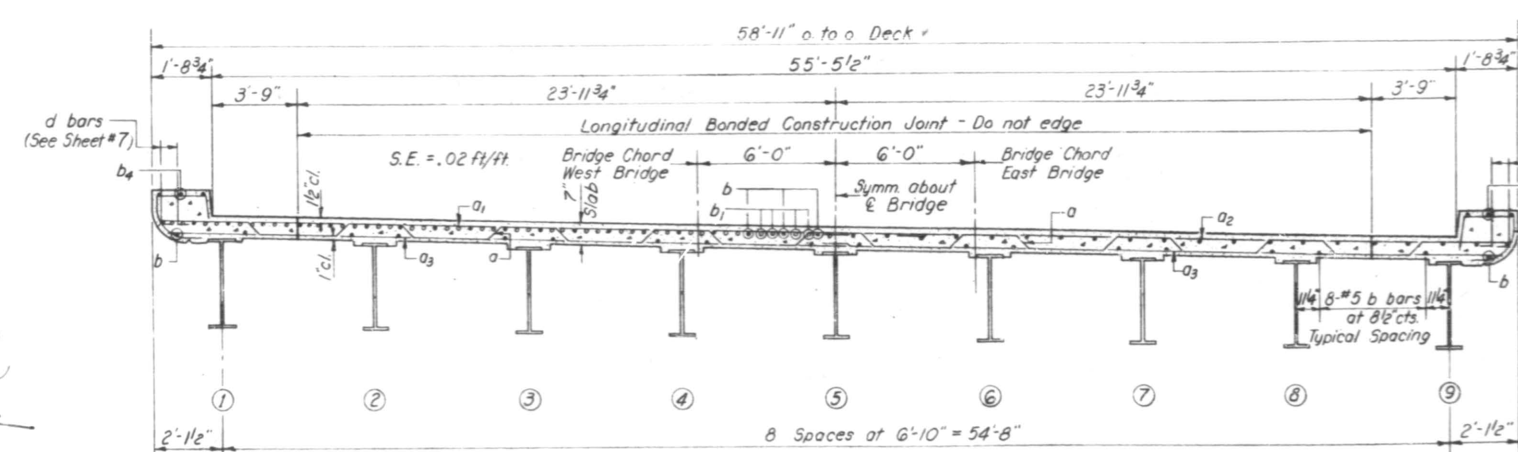


BAR a

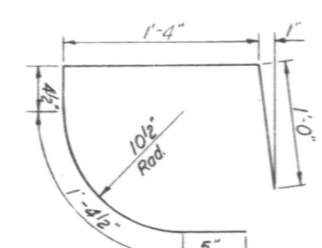


STANDARD FILLET DETAIL

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheets #7 & 8. These elevations subtracted from the "Grade Elevations Adjusted for Dead Load Deflections" shown on sheets #7 & 8 minus slab thickness, equals the fillet heights "t" above top of beams.



CROSS SECTION



BAR c

DESIGNED	Wei Hsiung
CHECKED	Jerry F. Pitts
DRAWN	J. L. Armstrong
CHECKED	Jerry F. Pitts

MAR 21 1963

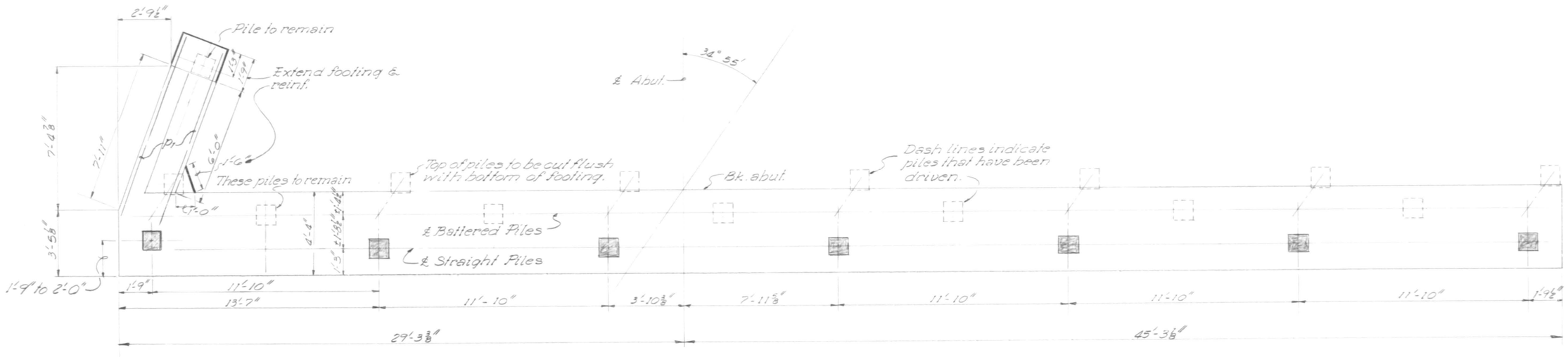
EXAMINED: W. C. Baumann — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED: — ENGINEER OF DESIGN
APPROVED: — CHIEF HIGHWAY ENGINEER

SUPERSTRUCTURE
EAST & WEST BRIDGES
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243 + 49.94

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A.				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 93
SHEE



Note: Shaded piles indicate new piles to be driven.

PLAN- PILE CAP
(Pile relocations)

Added Quantities
Conc. Piles Lin. ft. = 315
Class X Conc. Cu. yds. = 0.5

DESIGNED	
CHECKED	J.C.M.
DRAWN	
CHECKED	

SEPT. 27 1963
EXAMINED W. E. Bauman
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

PILE REVISIONS
S. B. I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.96

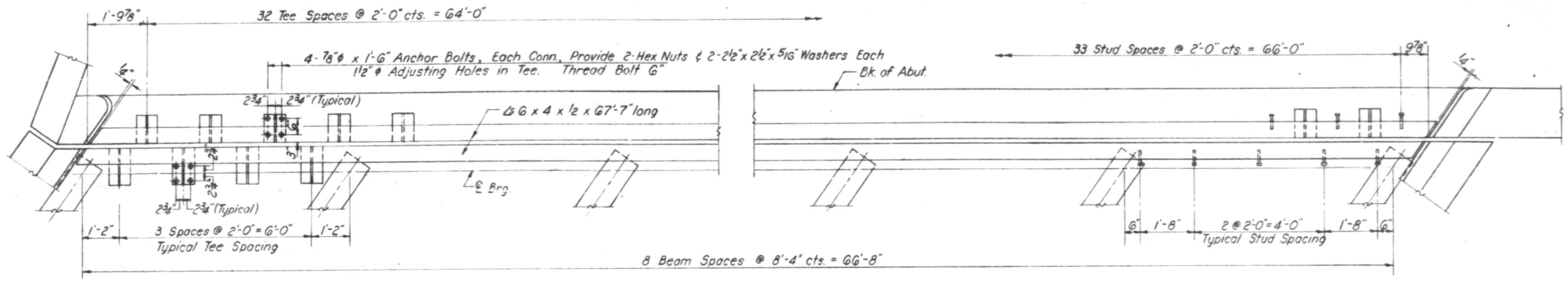
REV. SEPT. 27, 1963

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

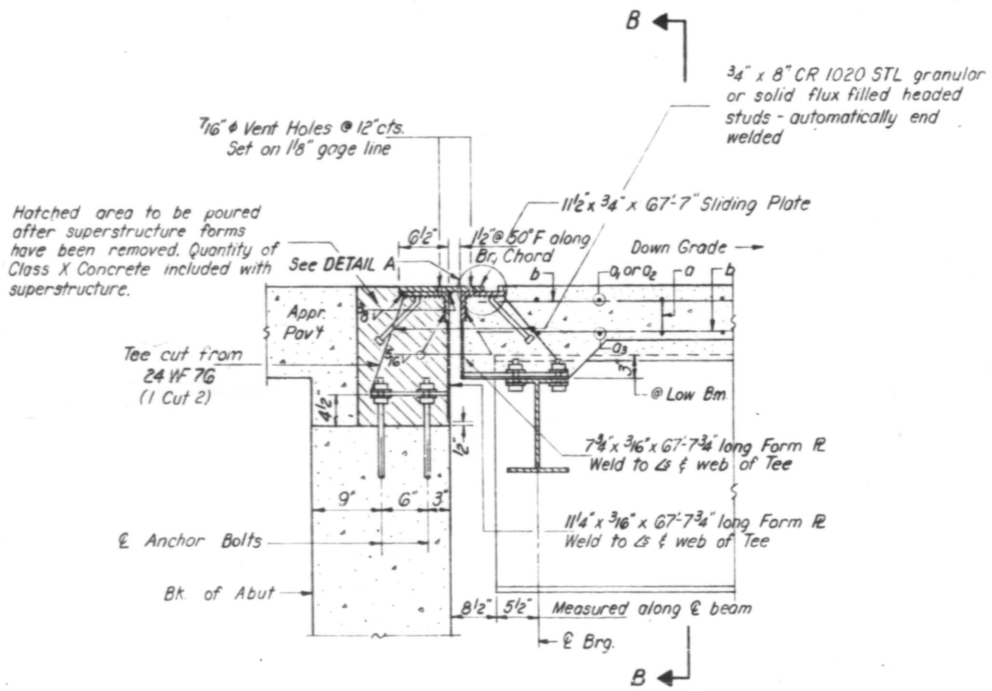
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (1-61)	531-2-HB-1	COOK	21	10

FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT

SHEET NO. 5
13 SHEETS

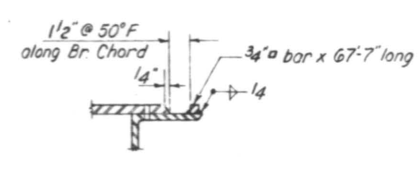


PLAN OF EXPANSION DEVICE

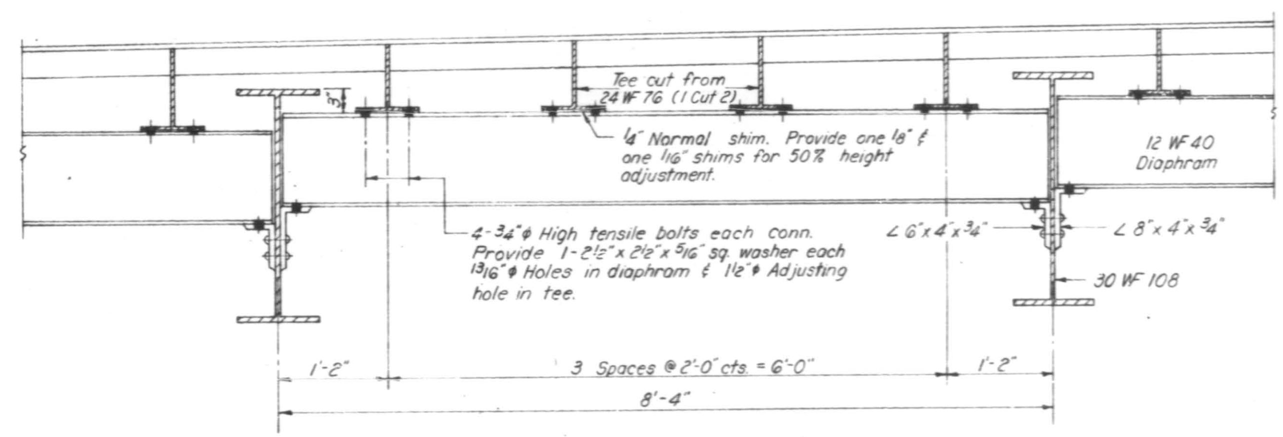


SECTION A-A

Note: The above arrangement of Sliding Plate is for S. Abut. only. For N. Abut. the Sliding Plate should be welded to angles on the Bridge Slab.



DETAIL A



SECTION B-B

DESIGNED	Wei Hsiung
CHECKED	Jerry F. Pitts
DRAWN	W.H. J.L. Armstrong
CHECKED	Jerry F. Pitts

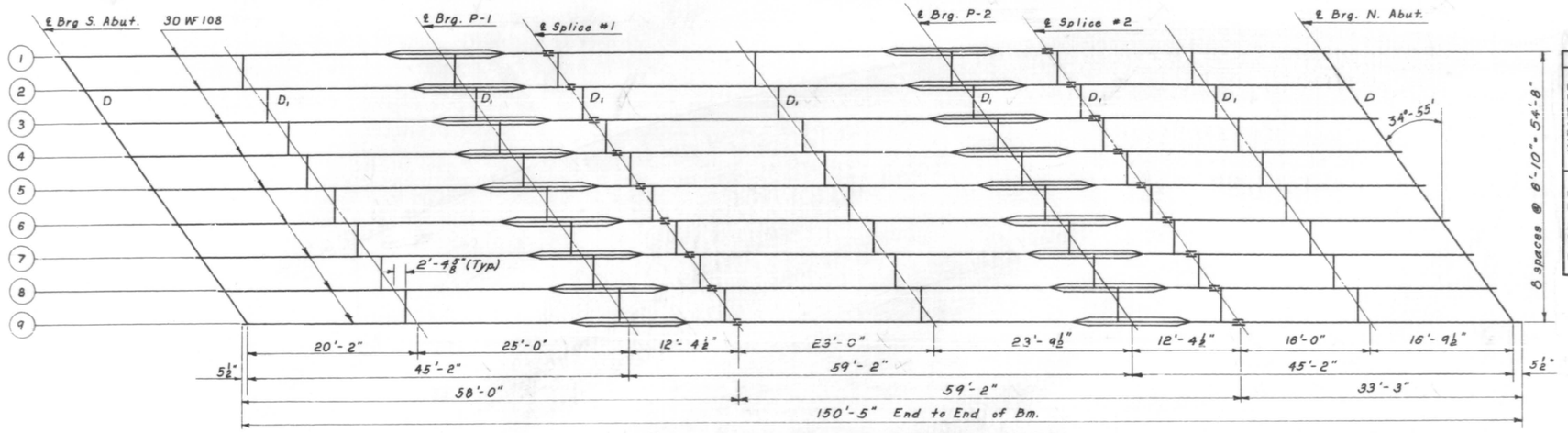
MAR 21 1963
EXAMINED: W.E. Baumann — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED: E.L. Shurtz — ENGINEER OF DESIGN
APPROVED: [signature] — CHIEF HIGHWAY ENGINEER

EXPANSION DEVICE
EAST & WEST BRIDGES
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (F.A. 61)	531-2-HB-1	Cook	21	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

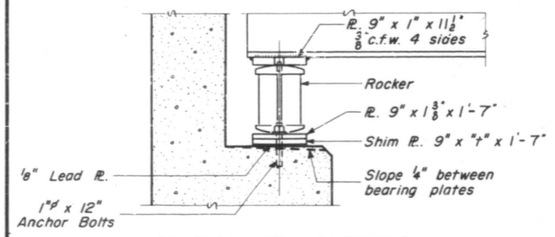
SHEET NO. 6
13 SHEETS



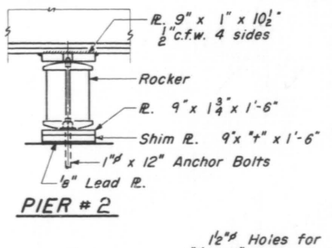
PLAN OF STRUCTURAL STEEL

TOP BEAM ELEVATIONS

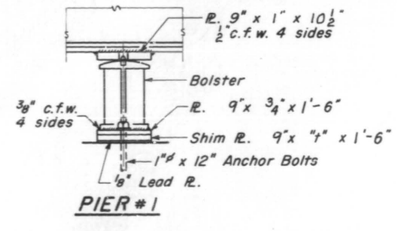
	Beam No	1	2	3	4	5	6	7	8	9
WEST BR.	℄ Brg. S. Abt.	745.17	745.02	744.87	744.72	744.58	744.39	744.26	744.05	743.89
	℄ Brg. P-1	744.96	744.79	744.64	744.49	744.32	744.16	744.03	743.82	743.66
	℄ Spli. # 1	744.88	744.73	744.58	744.43	744.26	744.10	743.97	743.76	743.60
	℄ Brg P-2	744.70	744.55	744.40	744.26	744.08	743.92	743.79	743.58	743.42
	℄ Spli. # 2	744.65	744.50	744.35	744.20	744.03	743.87	743.70	743.53	743.37
	℄ Brg. N. Abt.	744.52	744.37	744.22	744.07	744.90	743.74	743.57	743.40	743.24
EAST BR.	℄ Brg. S. Abt.	745.28	745.13	744.97	744.82	744.67	744.51	744.34	744.16	743.99
	℄ Brg. P-1	745.03	744.88	744.72	744.57	744.42	744.26	744.09	744.91	743.74
	℄ Spli. # 1	744.96	744.81	744.65	744.50	744.35	744.19	744.02	743.84	743.67
	℄ Brg. P-2	744.68	744.53	744.37	744.22	744.07	743.91	743.74	743.56	743.39
	℄ Spli. # 2	744.61	744.46	744.30	744.15	744.00	743.84	743.67	743.49	743.32
	℄ Brg. N. Abt.	744.44	744.29	744.13	743.98	743.83	743.67	743.50	743.32	743.15



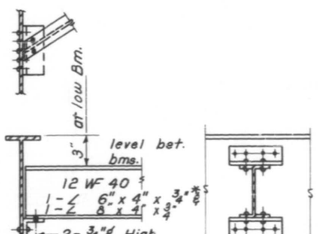
SECTION AT ABUTMENT



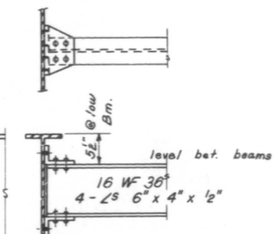
PIER # 2



PIER # 1



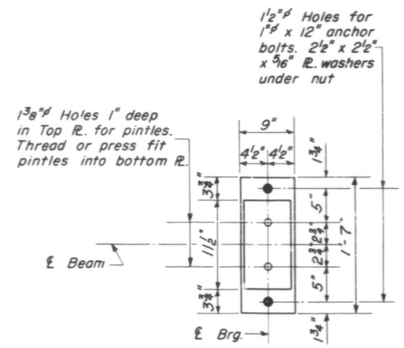
DIAPHRAGM D
32 Required
* See Sec. B-B on Sheet #10



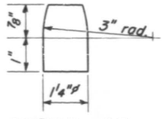
DIAPHRAGM D1
112 Required

VALUE OF "t"

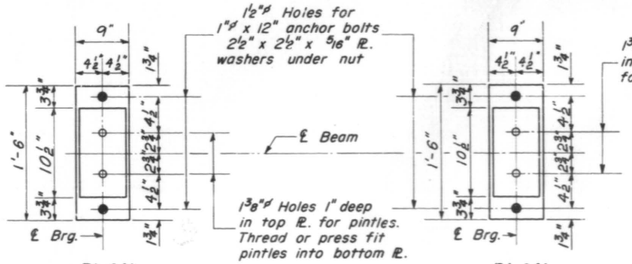
Beam No	1	2	3	4	5	6	7	8	9
West Br.	1/16"	1/16"	0"	0"	0"	0"	1/2"	0"	0"
East Br.	1/4"	1/8"	0"	0"	1/8"	1/4"	3/16"	1/16"	0"



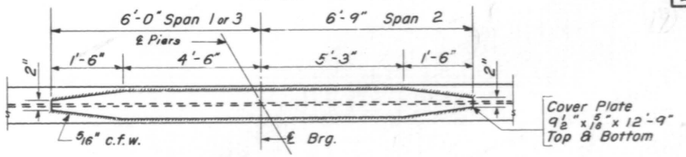
PLAN



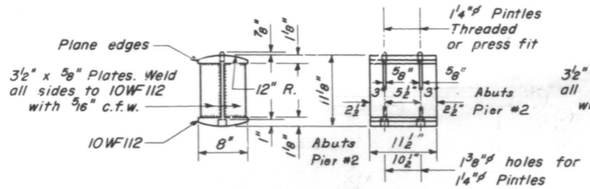
DETAIL OF PINTLE



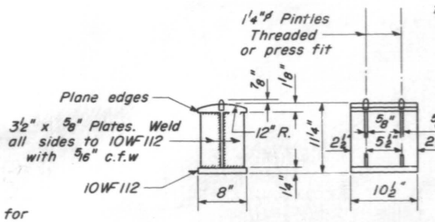
PLAN



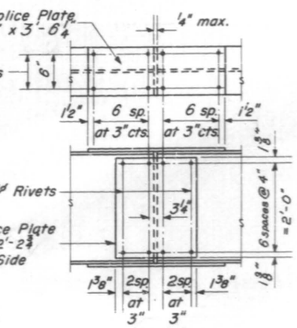
DETAIL OF COVER PLATE



DETAIL OF ROCKER AT ABUTS. & P-2



DETAIL OF BOLSTER AT PIER #1



DETAIL OF SPLICE

DESIGNED	W. Harvey		
CHECKED	Jerry A. Pitts		
DRAWN	W. H. P.G. Barnett, W. A. Sausaman Jr.		
CHECKED	Jerry A. Pitts		

MAR 21 1963

EXAMINED H. E. Bammann, ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED E. P. Smith, ENGINEER OF DESIGN
APPROVED O. E. Sundby, CHIEF HIGHWAY ENGINEER

I-2-C 7-2-62 Rev. 11-9-62

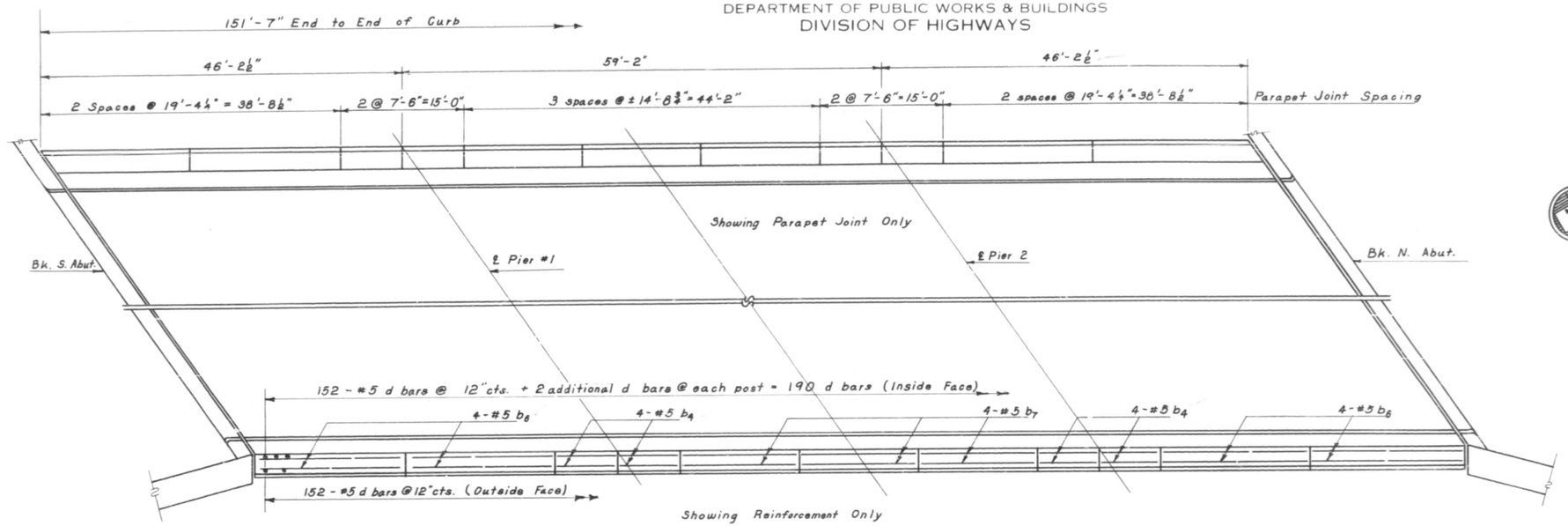
STRUCTURAL STEEL
E. & W. BRIDGES

SBI. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

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

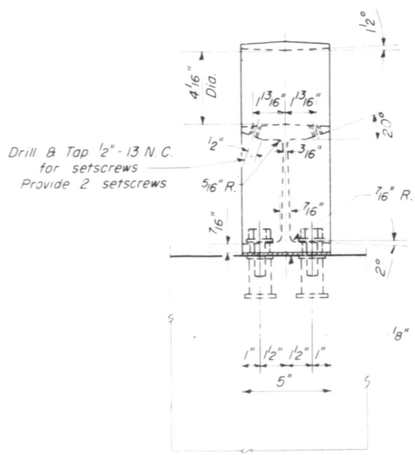
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
(53 GI) 531-2-HB-1	COOK	21	12
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

SHEET NO. 7
13 SHEETS

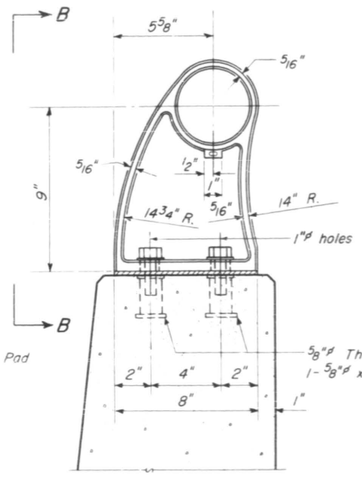


PLAN

South bridge shown - West bridge by rotation thru 180°



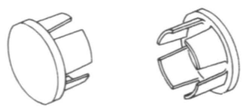
VIEW B-B



SECTION A-A

5/8" ø Threaded Inserts. Provide 1- Stainless Steel Washer and 1- 5/8" ø x 2" Stainless Steel Bolt with each Insert
4 - Required each post

RAIL POST DETAILS

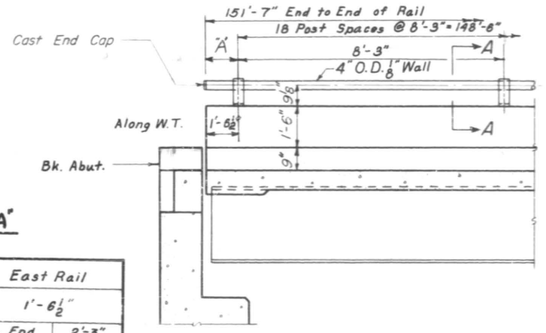


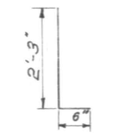
CAST END CAP
DRIVE FIT TYPE
4 - Required
Incidental to item "Aluminum Handrail"

VALUE OF "A"

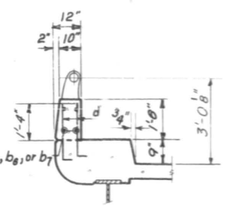
	West Rail		East Rail	
East Br.	S. End	10"	1'-6½"	
	N. End	2'-3"		
West Br.	1'-6½"		S. End	2'-3"
			N. End	10"

ELEVATION - END POST





BAR d



SEC. THRU CURB

BILL OF MATERIAL

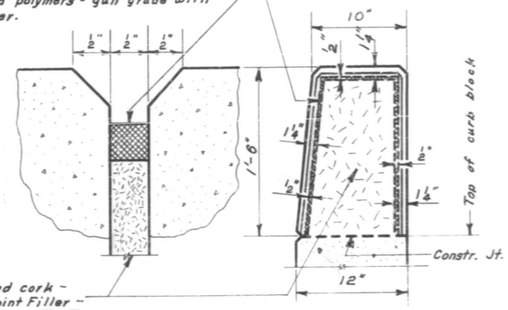
Item	Unit	Quantity
Aluminum Handrail	Lin. Ft.	606
Class X Concrete	Cu. Yds.	31.0
Reinforcement Bars	Lbs.	6350

BAR LIST

BAR	NO.	SIZE	LENGTH	SHAPE
b4	64	#5	7'-3"	——
b5	64	#5	18'-3"	——
b7	48	#5	14'-6"	——
d	1368	#5	2'-9"	⌐

TYPE D
ALUMINUM HANDRAIL

Two component non-staining gray sealing compound with polysulfide liquid polymers - gun grade with primer.



½" Preformed cork - Asphalt Joint Filler - (meets qualifications for ASTM Designation D 1751), cost incidental.

DETAIL OF JOINT IN PARAPET WALL

NOTES

All Posts shall be placed normal to parapet

All Posts shall be of Aluminum conforming to ASTM Specification B-108 alloy 5G-70B-T6.

All Rail Tubing shall be of Aluminum conforming to ASTM Specification B-235 alloy 6061-T6.

Aluminum handrail shall be measured in lineal feet. The length paid for shall be the overall length along the top longitudinal railing member through all post and gaps.

Rail Tubing may be cut to random lengths.

For material composition of Prefabricated Pad, See Art. 54.9 (f), (Bearings and Anchorage), of the Std. Specs.

Set Screws shall be of Aluminum conforming to ASTM Specification B-211 alloy 2024-T4.

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

DESIGNED	Wei Hsiang
CHECKED	Jerry L. Pitts
W. H.	P. G. Barnett
DRAWN	W. A. Sausaman
CHECKED	Jerry L. Pitts

MAR 21 1963
EXAMINED W. E. Baumann
PASSED E. L. Shaw
APPROVED T. E. Stephens

SBI. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

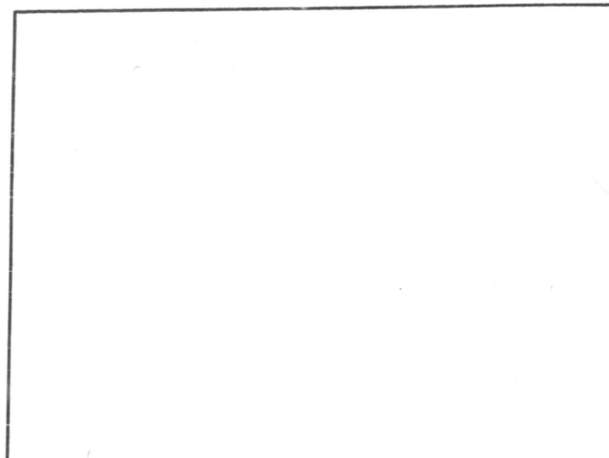
R-10 Drawn 2-16-60 Rev. 11-2-62

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

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
(53 (60)	531-2-HB-1	Cook	21	12A
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO 7A
13 SHEETS

SEE SHEET 7 FOR RAIL PLAN

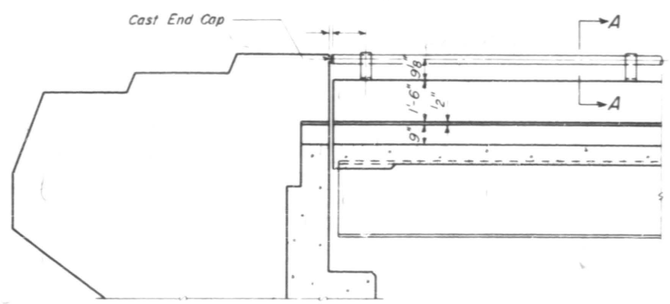


VIEW B-B

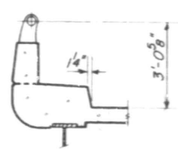
SECTION A-A

RAIL POST DETAILS

CAST END CAP
DRIVE F.I.T. TYPE
4 Required
Galvanize to A.S.T.M. A-153.
Incidental to item "Metal Handrail".



ELEVATION - END POST



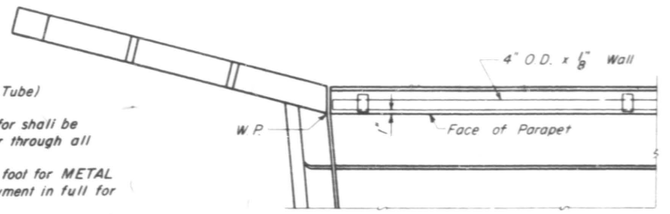
SEC. THRU CURB

BILL OF MATERIAL

Item	Unit	Quantity
METAL HANDRAIL	Lin. Ft.	

NOTES

All Posts shall be placed normal to parapet.
All Posts shall be malleable cast iron conforming to A.S.T.M. A-47, Grade 35018, galvanized to A.S.T.M. A-153.
All Rail Tubing shall conform to A.S.T.M. A-53, Grade B, (Pipe or Tube) galvanized to A.S.T.M. A-120.
Metal handrail shall be measured in lineal feet. The length paid for shall be the overall length along the top longitudinal railing member through all posts and gaps.
Metal handrail will be paid for at the contract unit price per lineal foot for METAL HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation, and erection.
If any of the galvanizing coat is damaged or removed during erection, the affected area shall be painted with one coat of zinc paint in accordance with Military Specification MIL-P-26915 Type I, air-dry cure.
Rail Tubing may be cut to random lengths.
For material composition of Prefabricated Pad, see Art. 549(f), (Bearing and Anchorage), of the Standard Specifications.
Galvanized railing shall not be painted.



PLAN - END POST

TYPE E
METAL HANDRAIL

DESIGNED	
CHECKED	
DRAWN Wm. M. Best	
CHECKED	

19
EXAMINED
ENGINEER OF BRIDGE AND STRUCTURE MAINTENANCE
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
CHIEF HIGHWAY ENGINEER

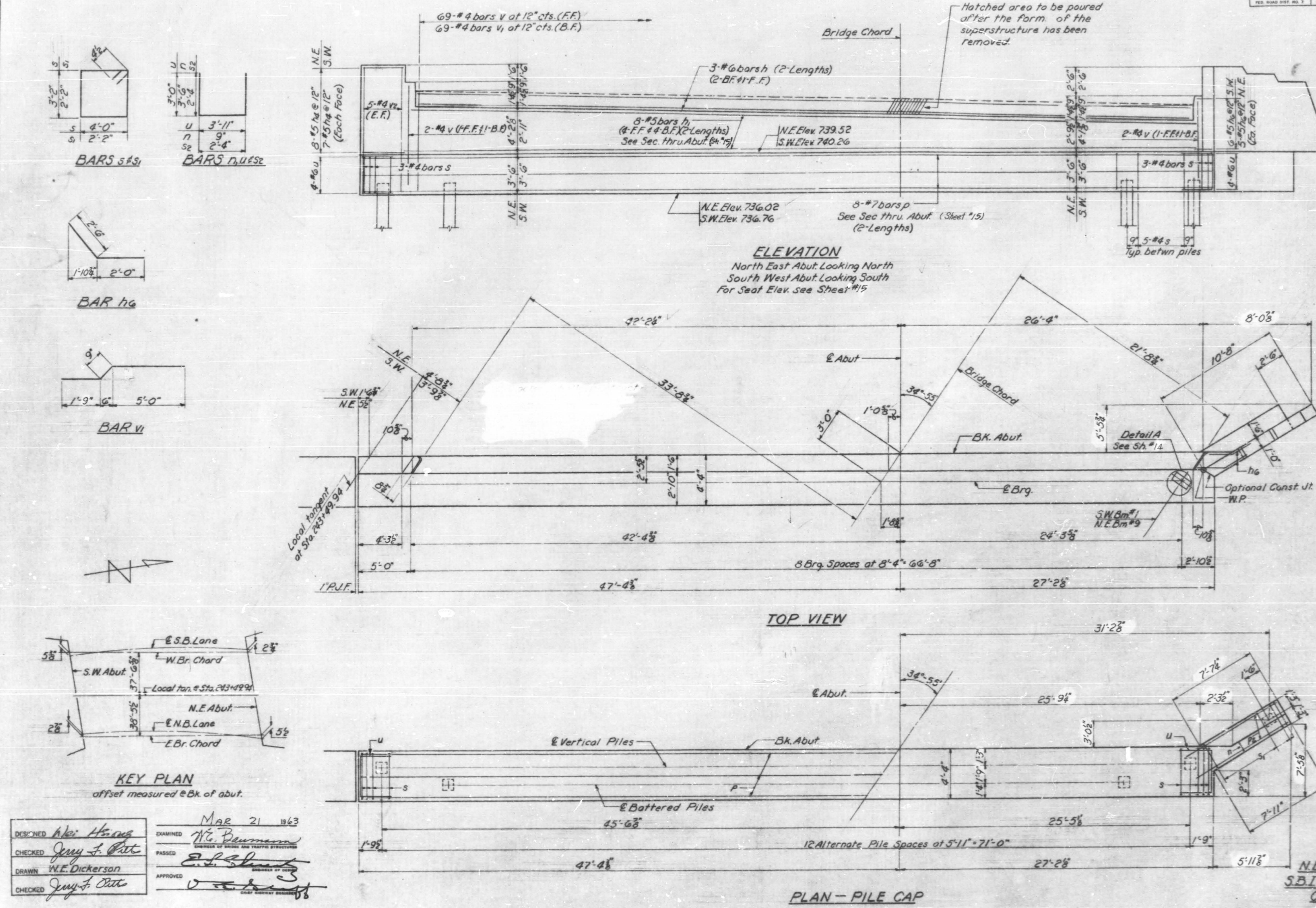
R-14 Drawn 11-2-62

SBI. RT 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+69.94

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (F.A. 61)	531-2-HB-1	Cook	21	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 8
13 SHEETS

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



PILE DATA

Type --------- Concrete
Capacity ----- 30 Tons
Est. Length --- 45'-0"
No. Req'd ---- 26 + 2 test piles
One @ Each Abut.

TWO ABUTMENTS BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h	12	#6	34'-9"	—
	h1	32	#5	36'-0"	—
	h4	30	#5	3'-0"	—
*	h5	4	#4	7'-9"	—
	h6	22	#5	4'-6"	⌐
*	h10	36	#5	9'-3"	—
*	h12	3	#5	6'-9"	—
*	h13	3	#5	6'-9"	—
*	n	16	#4	7'-9"	⊔
	p	32	#7	38'-3"	—
*	p2	12	#7	8'-6"	—
	s	132	#4	15'-1"	▢
*	s1	14	#4	9'-5"	▢
*	s2	116	#4	7'-0	⊓
	u	16	#6	9'-11"	⊔
	v	146	#4	7'-3"	—
	v1	138	#4	7'-6"	⌐
	v2	20	#4	9'-6"	—
**	Class X Concrete			Cu. Yds.	133.4
**	Reinforcement Bars			Lbs.	9320
	Concrete Piles			Lin. Ft.	1170
	Test Piles (Concrete)			Ea.	2

* For spacing see sheet #15
** Including the quantity of wing wall

DESIGNED	Wei Hsing
CHECKED	Jerry L. Pitt
DRAWN	W.E. Dickerson
CHECKED	Jerry L. Pitt

MAR 21 1963
EXAMINED W.C. Baumann
PASSED E.L. Schmidt
APPROVED

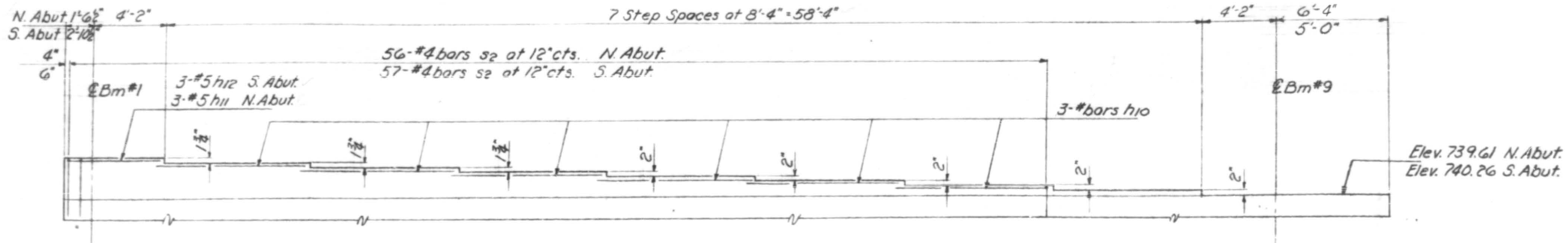
N.E. & S.W. ABUTMENTS
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

REVISED 4-9-63: Note Concerning Curb Radius Removed. W.H.

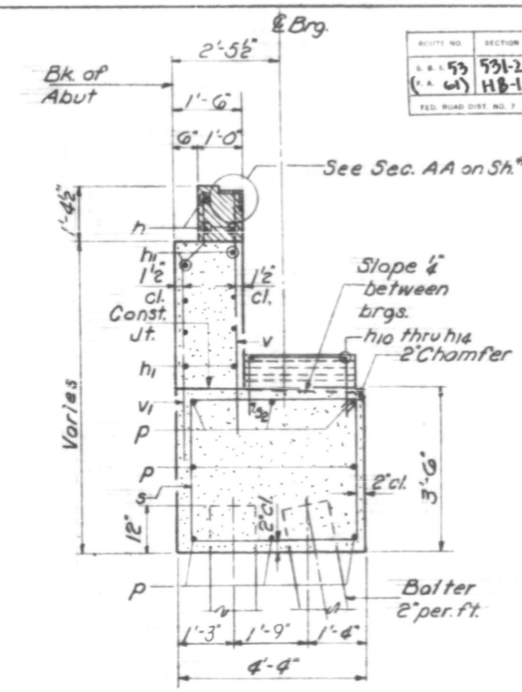
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

Route No.	Section	County	Total Sheets	Sheet No.
S.B.I. 53 (U.S. 41)	531-2-HB-1	Cook	21	15
Fed. Road Dist. No. 7	Illinois	Fed. Aid Project		

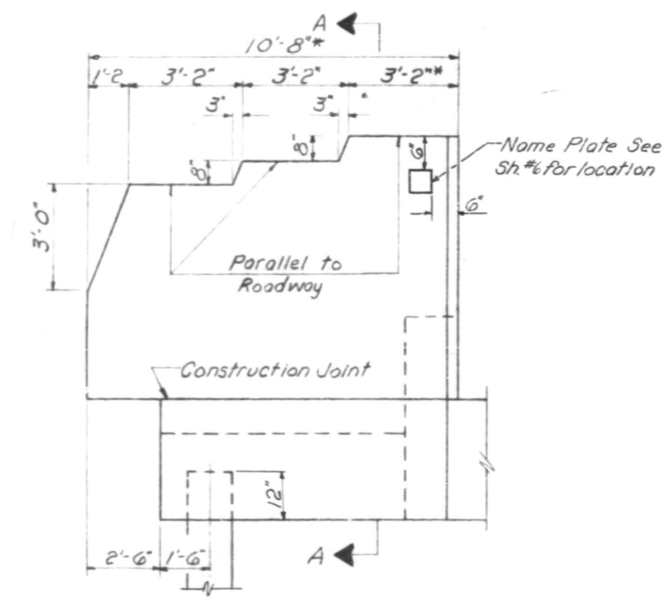
SHEET NO. 10
13 SHEETS



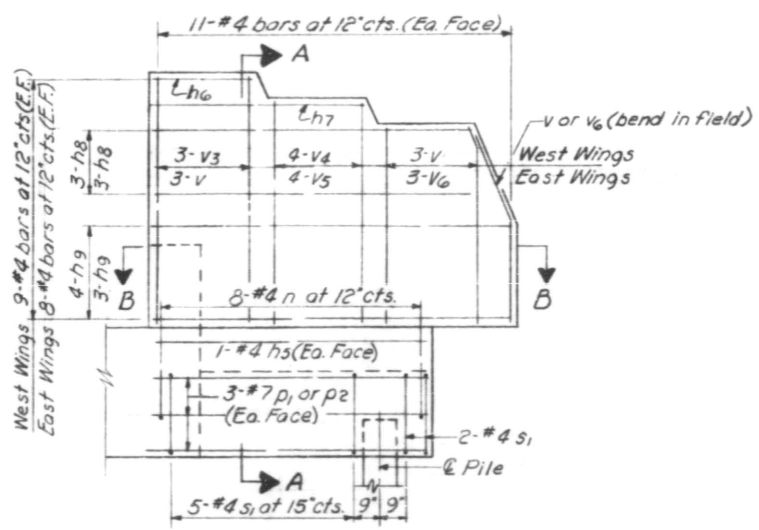
STEP ELEVATION
West Bridge Only
Bars h10 thru h12 & s2 billed with abut.



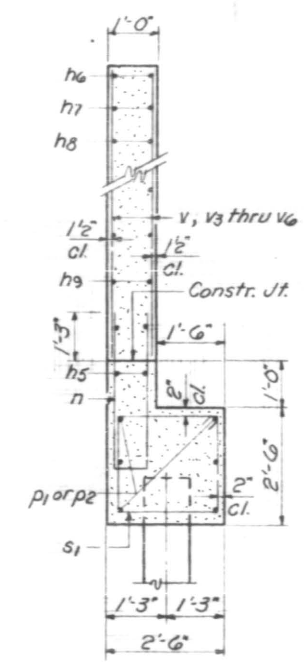
SECTION THRU. ABUTMENT
Space v bars to miss Tees



WING WALL ELEVATION
Dimensions
*Measured along inside face



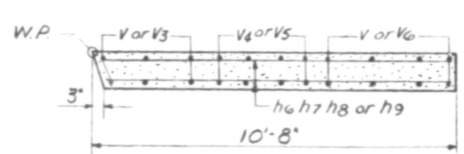
WING WALL ELEVATION
Reinforcement
Bars n, h5, p1, p2 & s1 billed with Abuts.



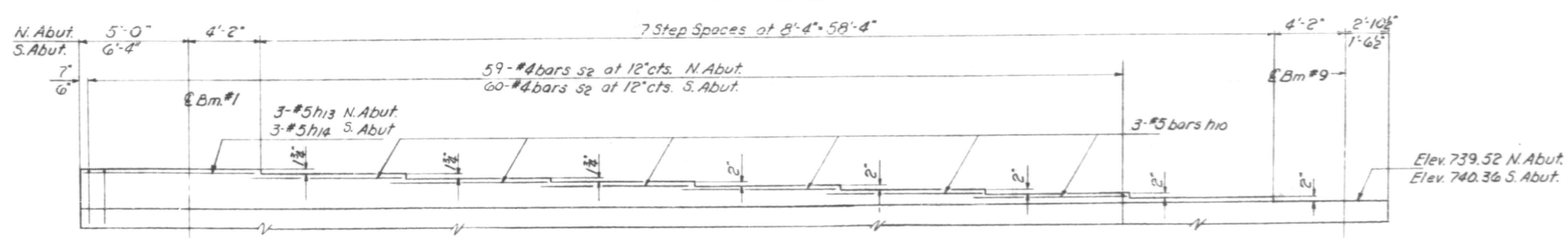
SECTION A-A

4-WINGS
BAR LIST

Bar	No.	Size	Length	Shape
h6	8	#4	2'-9"	——
h7	8	#4	5'-9"	——
h8	24	#4	9'-0"	——
h9	28	#4	10'-3"	——
v	28	#4	7'-3"	——
v3	12	#4	8'-6"	——
v4	16	#4	7'-9"	——
v5	16	#4	6'-6"	——
v6	16	#4	6'-0"	——



SECTION B-B



STEP ELEVATION
East Bridge Only
Bars h10, h13, h14 & s2 billed with abuts.

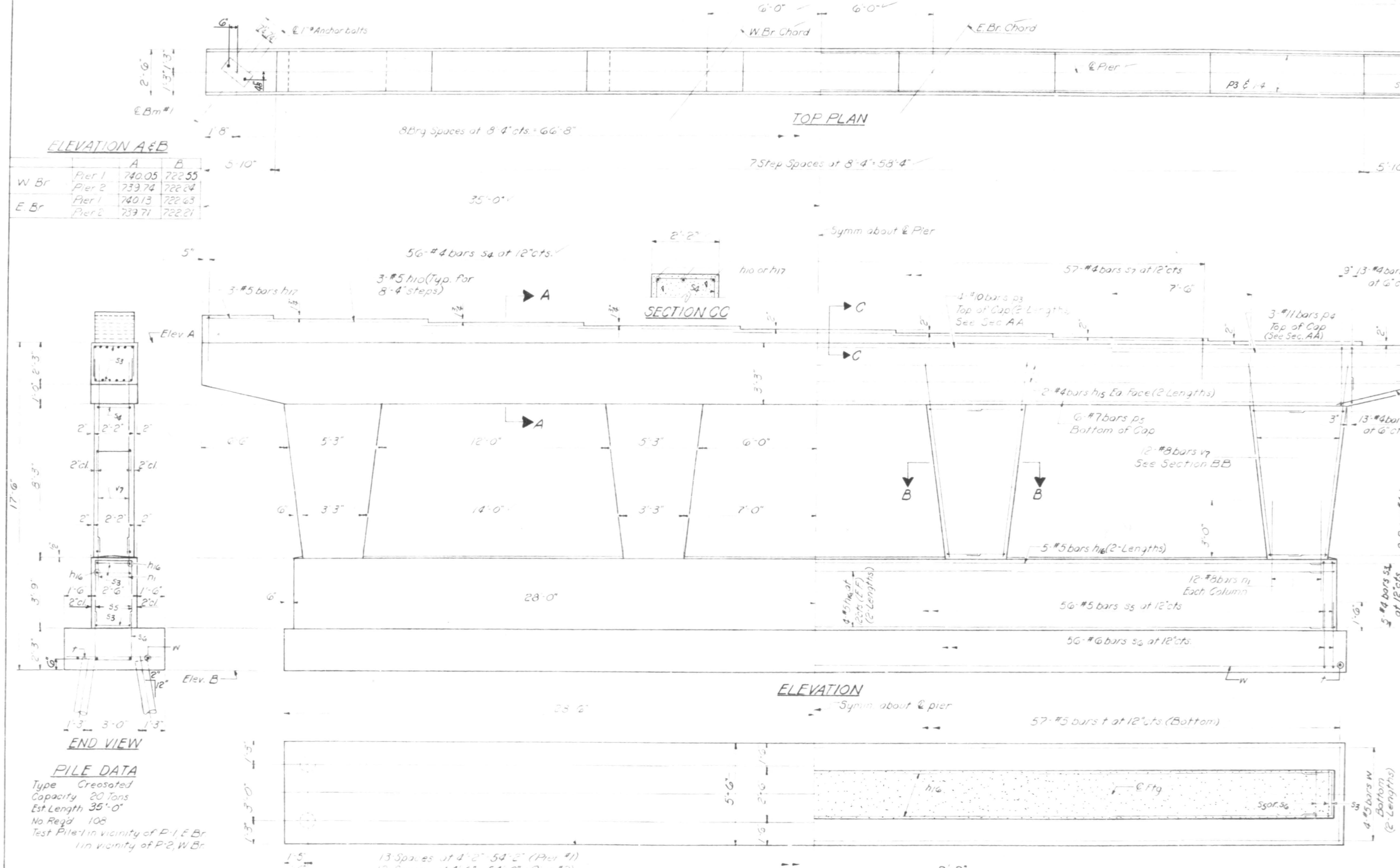
Designed	W.E. Hess
Checked	Jerry F. Pitts
Drawn	W.E. Dickerson
Checked	Jerry F. Pitts

Mar 21 1963
Examined: W.E. Baumann — Engineer of Bridge and Traffic Structures
Passed: E.F. Shurtz — Engineer of Design
Approved: [signature] — Chief Highway Engineer

WING WALLS
EAST & WEST BRIDGES
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

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

(53 531-2-61) HB-1	COOK	21	16	SHEET NO. 11 / 13 SHEETS



ELEVATION A & B

		A	B
W. Br.	Pier 1	740.05	722.55
	Pier 2	739.74	722.24
E. Br.	Pier 1	740.13	722.63
	Pier 2	739.71	722.21

PILE DATA

Type Creosoted
Capacity 20 Tons
Est. Length 35'-0"
No. Req'd 108
Test Pile-1 in vicinity of P-1, E. Br.
1 in vicinity of P-2, W. Br.

BAR u_2 — BARS s — BAR s_7

A & B DIMENSIONS

Bar	A	B
s3	2'-2"	1'-11"
s4	1'-10"	3'-0"
s5	2'-2"	3'-6"
s6	2'-2"	3'-3"

REINFORCEMENT

NOTE:
Space reinforcement in cap to miss anchor bolts.
All edges shall have standard ¾" chamfers except as noted.
Pour steps monolithically with cap.

4-PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10	72	#5	9'-3"	——
h15	32	#4	35'-6"	——
h16	104	#5	28'-9"	——
h17	12	#5	5'-6"	——
n1	192	#8	6'-9"	——
p3	32	#10	36'-0"	——
p4	24	#11	19'-0"	——
p5	24	#7	56'-0"	——
p6	32	#5	7'-6"	——
s3	248	#4	6'-0"	⊓
s4	512	#4	7'-10"	⊓
s5	224	#5	9'-2"	⊓
s6	224	#6	8'-8"	⊓
s7	228	#4	10'-11"	⊡
t	228	#5	5'-3"	——
u2	24	#6	8'-1"	——
v7	192	#8	11'-0"	——
w	32	#5	29'-3"	——

Class A Exc. For Stru.	Cu. Yds.	430.0
Class X Concrete	Cu. Yds.	312.9
Reinforcement Bars	Lbs.	37,030
Creosoted Piles	Lin. Ft.	3780
Test Piles (Timber)	Ea.	2

DESIGNED	W. E. Hovey
CHECKED	Jerry F. Patto
DRAWN	W. E. Dickerson
CHECKED	Jerry F. Patto

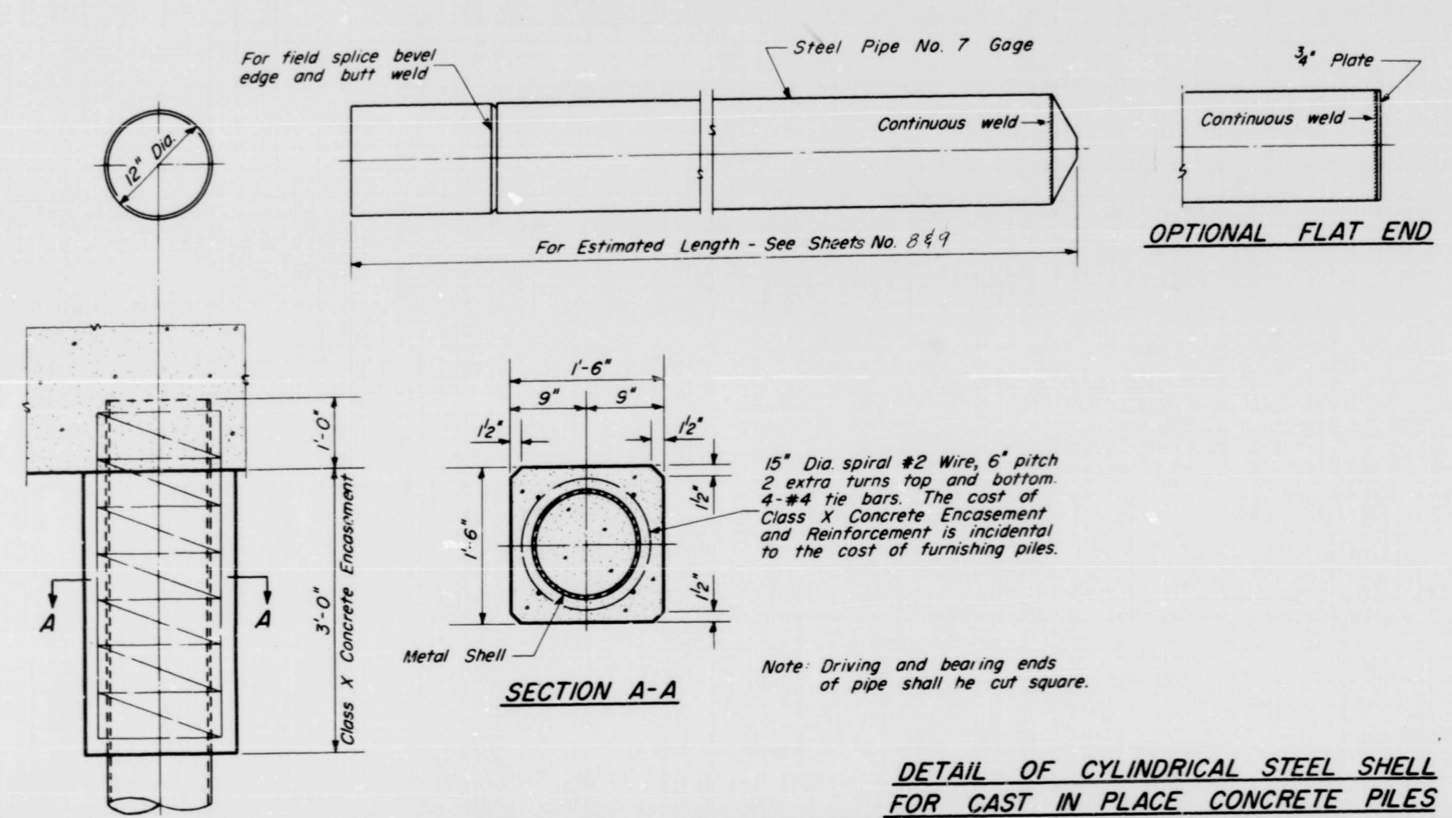
MAR 21 1963
EXAMINED W. E. Baumann — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED E. S. Sheetz — ENGINEER OF DESIGN
APPROVED V. E. Stoff — CHIEF HIGHWAY ENGINEER

PIERS
EAST & WEST BRIDGE
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243+49.94

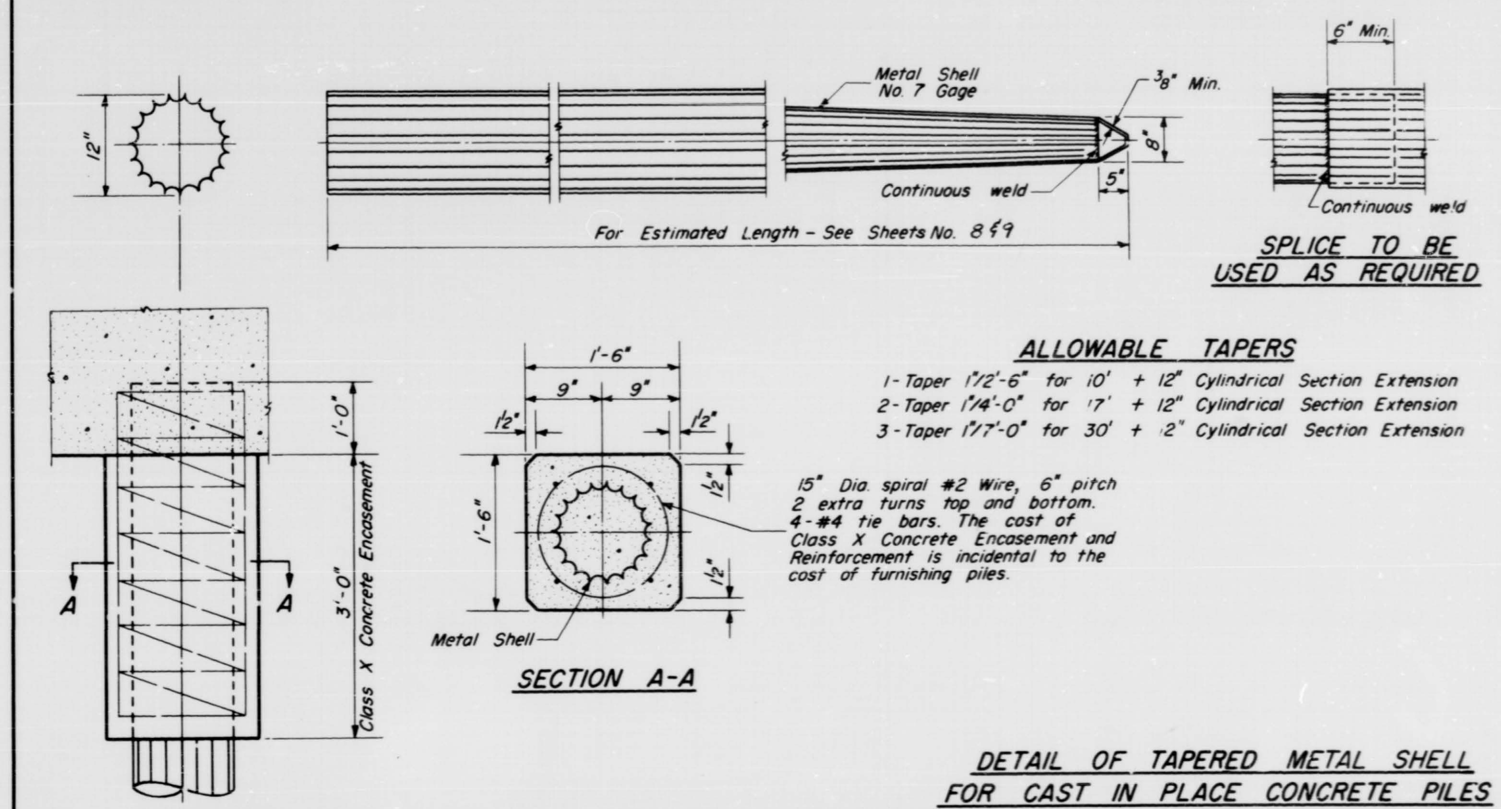
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 53 (F.A. 61)	531-2-HB-1	Cook	21	17

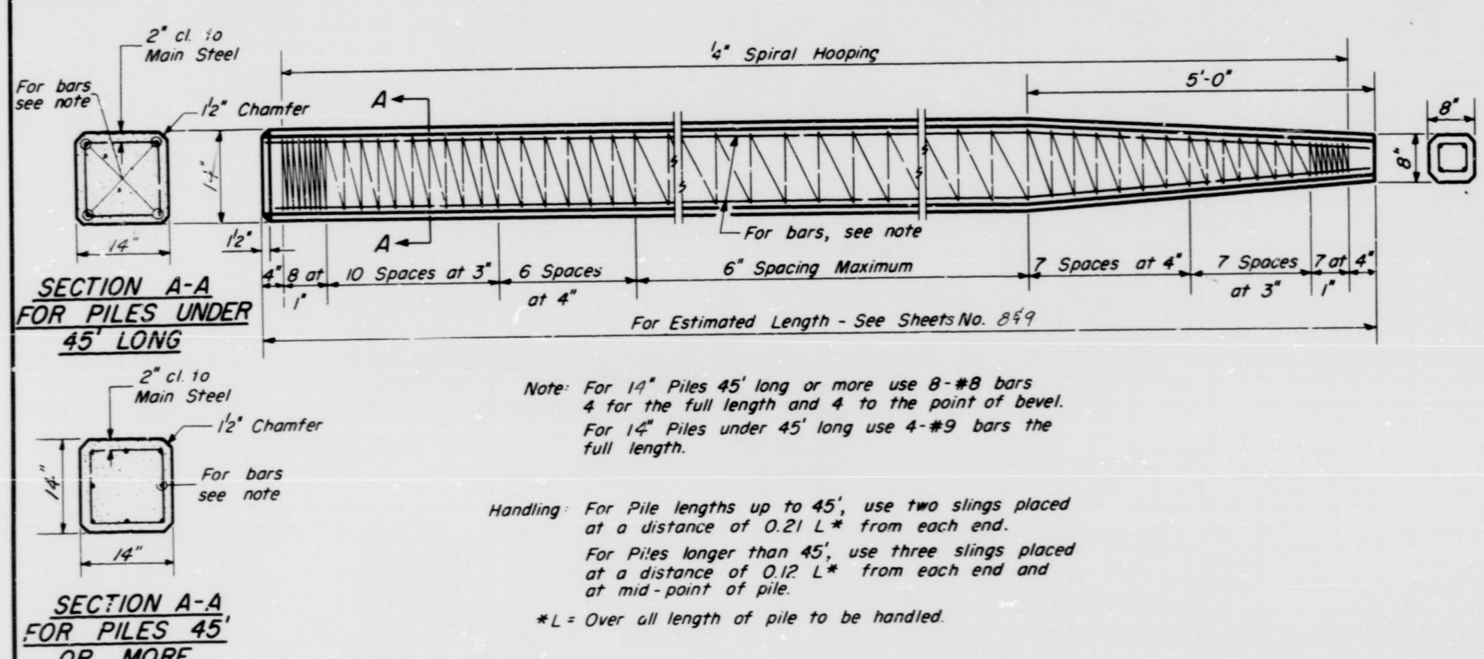
SHEET NO. 12
13 SHEETS



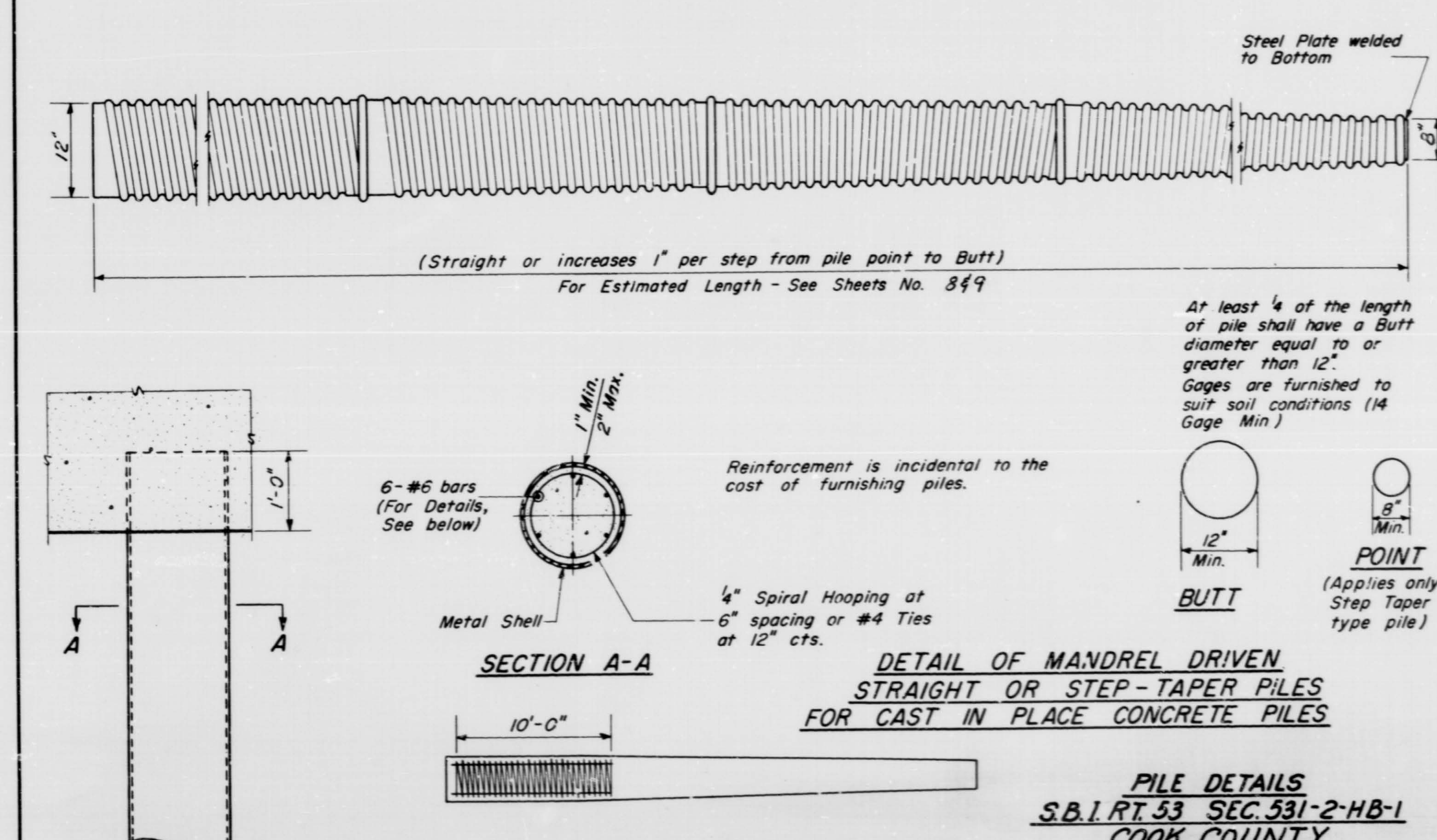
12" Dia.
For field splice bevel edge and butt weld
Steel Pipe No. 7 Gage
Continuous weld
For Estimated Length - See Sheets No. 8 & 9
3/4" Plate
Continuous weld
OPTIONAL FLAT END
1'-0"
3'-0"
Class X Concrete Encasement
A
A
1'-6"
9"
9"
1 1/2"
1 1/2"
Metal Shell
SECTION A-A
15" Dia. spiral #2 Wire, 6" pitch 2 extra turns top and bottom. 4-#4 tie bars. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles.
Note: Driving and bearing ends of pipe shall be cut square.
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



12"
Metal Shell No. 7 Gage
3/8" Min.
8"
5"
Continuous weld
For Estimated Length - See Sheets No. 8 & 9
6" Min.
Continuous weld
SPLICE TO BE USED AS REQUIRED
ALLOWABLE TAPERS
1 - Taper 1'1/2"-6" for 10' + 12" Cylindrical Section Extension
2 - Taper 1'1/4"-0" for 17' + 12" Cylindrical Section Extension
3 - Taper 1'7"-0" for 30' + 12" Cylindrical Section Extension
1'-0"
3'-0"
Class X Concrete Encasement
A
A
1'-6"
9"
9"
1 1/2"
Metal Shell
SECTION A-A
15" Dia. spiral #2 Wire, 6" pitch 2 extra turns top and bottom. 4-#4 tie bars. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles.
DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONCRETE PILES



2" cl. to Main Steel
For bars see note
1 1/2" Chamfer
14"
SECTION A-A FOR PILES UNDER 45' LONG
1/4" Spiral Hooping
5'-0"
A
A
8"
For bars, see note
4" 8 at 1" 10 Spaces at 3" 6 Spaces at 4" 6" Spacing Maximum 7 Spaces at 4" 7 Spaces at 3" 7 at 1" 4"
For Estimated Length - See Sheets No. 8 & 9
2" cl. to Main Steel
1 1/2" Chamfer
For bars see note
14"
SECTION A-A FOR PILES 45' OR MORE
Note: For 14" Piles 45' long or more use 8-#8 bars 4 for the full length and 4 to the point of bevel. For 14" Piles under 45' long use 4-#9 bars the full length.
Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L* from each end. For Piles longer than 45', use three slings placed at a distance of 0.12 L* from each end and at mid-point of pile.
*L = Over all length of pile to be handled.
DETAIL OF PRECAST CONCRETE PILES



Steel Plate welded to Bottom
12"
8"
(Straight or increases 1" per step from pile point to Butt)
For Estimated Length - See Sheets No. 8 & 9
At least 1/4 of the length of pile shall have a Butt diameter equal to or greater than 12". Gages are furnished to suit soil conditions (14 Gage Min.)
1'-0"
A
A
1" Min. 2" Max.
6-#6 bars (For Details, See below)
Metal Shell
SECTION A-A
Reinforcement is incidental to the cost of furnishing piles.
1/4" Spiral Hooping at 6" spacing or #4 Ties at 12" cts.
12" Min.
BUTT
8" Min.
POINT
(Applies only to Step Taper type pile)
DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES
10'-0"

DESIGNED	Wei Hsiung
CHECKED	Jerry F. Pitts
DRAWN	F. R. Deason / W. A. Sausaman
CHECKED	Jerry F. Pitts

MAR 21 1963
EXAMINED: W. E. Baumann — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED: E. J. [illegible] — ENGINEER OF DESIGN
APPROVED: [illegible] — CHIEF HIGHWAY ENGINEER

PILE DETAILS
S.B.I. RT. 53 SEC. 531-2-HB-1
COOK COUNTY
STA. 243 + 49.94

X-1 Rev. 5-12-61 5-27-62