FEDERAL-AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
42	3128-Z (VB,HB)	COOK	36	1
B. P. R. REG. NO. 4	ILLINOIS	PROJECT U-UG-4(56)		

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

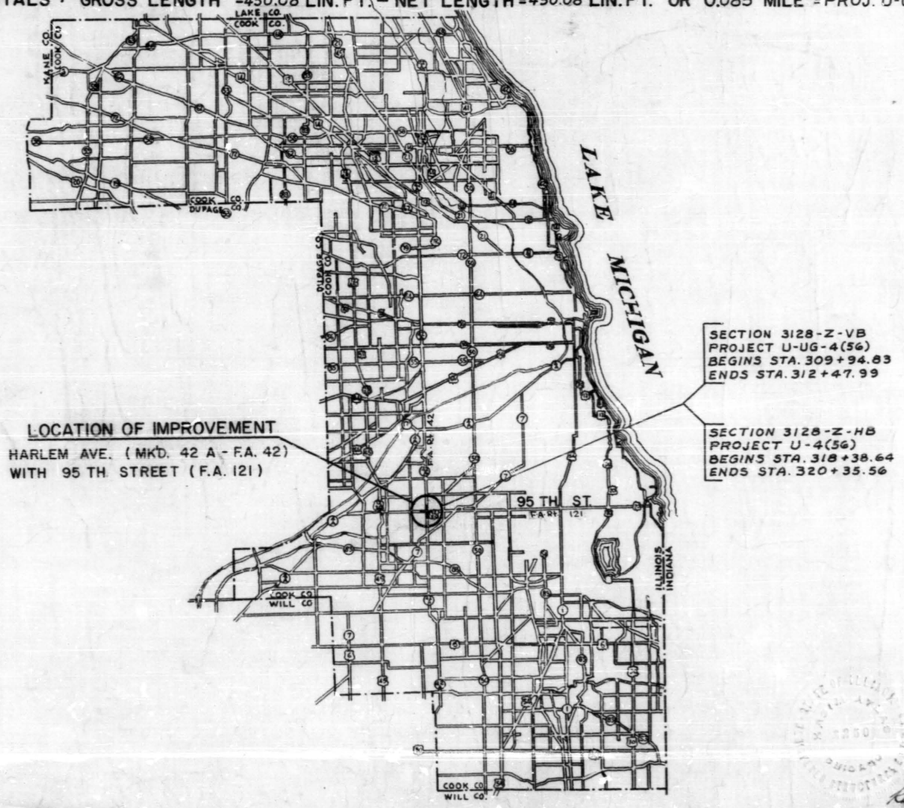
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALES		
PLAN	1 INCH	FT.
PROFILE, HOR.	1 INCH	FT.
PROFILE, VERT.	1 INCH	FT.
CROSS-SECTIONS	1 INCH	FT.

DISTRICT 10
(MARKED ROUTE 42A) F.A. ROUTE 42
SECTION 3128-Z(VB,HB)
HARLEM AVE. & 95TH ST. INTERCHANGE
PROJECT U-UG-4 (56)
COOK COUNTY

3128-Z-VB : GROSS LENGTH =253.16 LIN. FT. – NET LENGTH =253.16 LIN. FT.
3128-Z-HB : GROSS LENGTH =196.92 LIN. FT. – NET LENGTH =196.92 LIN. FT.
TOTALS : GROSS LENGTH =450.08 LIN. FT. – NET LENGTH =450.08 LIN. FT. OR 0.085 MILE = PROJ. U-UG-4(56)

LOCATION OF SECTION INDICATED THUS:– ▬▬



SECTION 3128-Z-VB
PROJECT U-UG-4(56)
BEGINS STA. 309+94.83
ENDS STA. 312+47.99

SECTION 3128-Z-HB
PROJECT U-4(56)
BEGINS STA. 318+38.64
ENDS STA. 320+35.56

SECTION 3128-Z-VB INCLUDES THE CONSTRUCTION OF A 4-SPAN CONTINUOUS WF - BEAM STRUCTURE (CARRYING HARLEM AVE. OVER B. & O.C.T. R.R. ON OPEN ABUTMENTS AND PIERS, SPANS 53'-1", 63'-2", 74'-1" AND 57'-10" AT STA. 311+53.94 IN THE TOWNSHIPS OF PALOS & WORTH WITH THE EXCEPTION OF FURNISHING, FABRICATING, SHOP PAINTING AND DELIVERY OF THE STRUCTURAL STEEL.

SECTION 3128-Z-HB INCLUDES THE CONSTRUCTION OF A 4-SPAN CONTINUOUS WF - BEAM STRUCTURE (CARRYING HARLEM AVE. OVER 95TH ST.) ON OPEN ABUTMENTS AND PIERS, SPANS 40'-6", 57'-8-1/2", 56'-11" AND 38'-2-1/2" AT STA. 319+38.64 IN THE TOWNSHIPS OF PALOS & WORTH WITH THE EXCEPTION OF FURNISHING, FABRICATING, SHOP PAINTING AND DELIVERY OF STRUCTURAL STEEL.

PLANS FOR STRUCTURES EXAMINED Nov 18 1960
W. E. Baumann
ENGINEER OF BRIDGE & TRAFFIC STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
SUBMITTED 10-10-60 (W) Butterfield DISTRICT ENGINEER
EXAMINED January 12 1961 ENGINEER OF ROAD PLANS AND CONTRACTS
PASSED January 12 1961 ENGINEER OF DESIGN
APPROVED January 12 1961 CHIEF HIGHWAY ENGINEER
APPROVED January 13 1961 DIRECTOR

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

Kevin Atkins 9/27/60

Revised 3-21-61

Job No. 20704

TENT MORLMSTR

F.A. 42	3128-Z (VB, HB)	COOK	36	2	

PLANS PREPARED BY BUREAU OF DESIGN — DATE 4-26-60
EXAMINED BY BUREAU OF CONSTRUCTION — DATE 7-7-60
EXAMINED BY BUREAU OF MAINTENANCE — DATE 7-7-60
EXAMINED BY BUREAU OF TRAFFIC — DATE 7-7-60
ENTIRE SECTION INSPECTED AND APPROVED AS TO POLICY
DISTRICT ENGINEER — DATE 10-10-60.

INDEX OF SHEETS

SHEET NO.

SUMMARY OF QUANTITIES

ITEM	UNIT	3128-Z-VB	3128-Z-HB	TOTAL	CODE NUMBER
EARTH EXCAVATION	CU YD	155	1,667	1,822	011001
EMBANKMENT	CU YD	48,184	8,259	56,443	016001
CLASS A EXCAVATION FOR STRUCTURES	CU YD	771	540	1,311	050001
CLASS "X" CONCRETE	CU YD	1,546.5	1,158.6	2,705.1	052003
ERECTING STRUCTURAL STEEL	POUND	716,865	545,011	1,261,876	054003
REINFORCEMENT BARS	POUND	220,140	199,180	419,320	059001
FURNISHING CREOSOTED PILES UP TO 20 FEET	LIN FT	2,629	680	3,309	060004
FURNISHING CREOSOTED PILES 20.1 TO 38 FEET	LIN FT	875		875	060005
TEST PILE (TIMBER)	EACH	3		3	060007
DRIVING TIMBER PILES	LIN FT	3,504	680	4,184	060008
DRIVING CONCRETE PILES	LIN FT	2,543	1,292	3,835	060043
FURNISHING CONCRETE PILES	LIN FT	2,543	1,292	3,835	060044
TEST PILE (CONCRETE)	EACH	2	2	4	060047
NAME PLATES	EACH	2	2	4	061001
PAVEMENT REMOVAL	SQ YD	256	1,709	1,965	082001
SLOPE WALL, 4 INCH	SQ YD	1,483	975	2,458	083002
ALUMINUM HANDRAIL	LIN FT	497	389	886	Z00004
CRUSHED STONE, GRADE 8 (COMPACTED)	TON	528	401	929	Z00088

BREAKDOWN PERCENTAGE SEC. 3128Z-VB
UG=88 %
U=9 %
Non Participating=3 %

ARW

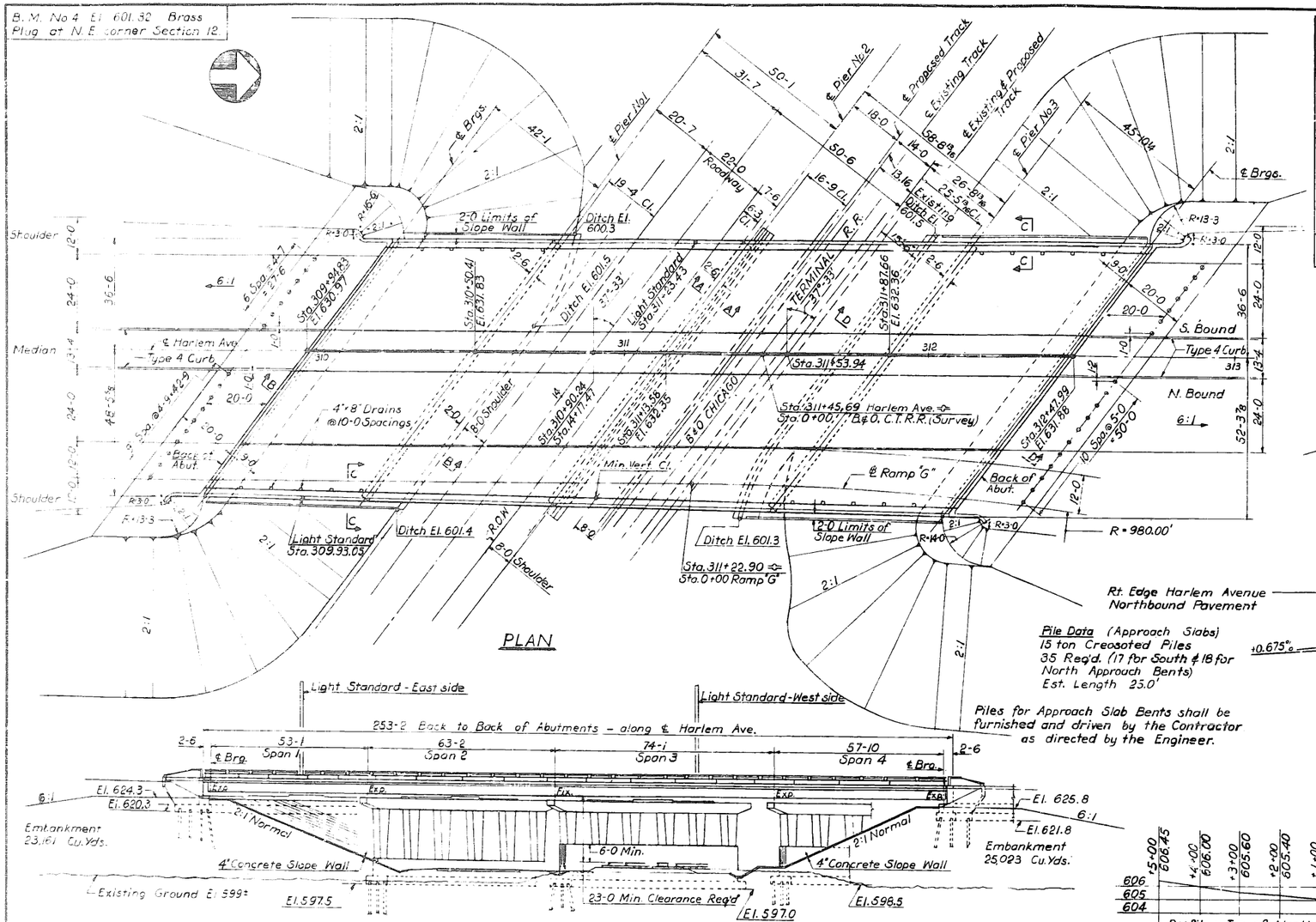
NOTE: THE "STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION" ADOPTED JANUARY 2, 1958, SHALL GOVERN THE CONSTRUCTION OF THIS WORK.

AXLE LOAD LIMITS: SINGLE-18,000 LBS TANDEM-24,000 LBS

DHV-20 CLASSIFICATION

DESIGN SPEED

B. M. No 4 El. 601.32 Brass Plug at N.E. corner Section 12

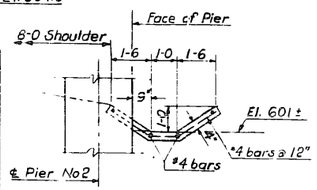


PLAN

ELEVATION

Pile Data (Approach Slabs)
15 ton Creosoted Piles
35 Req'd. (17 for South & 18 for North Approach Bents)
Est. Length 25.0'

Piles for Approach Slab Bents shall be furnished and driven by the Contractor as directed by the Engineer.



SECTION A-A

NOTES:
5.8 Cu. Yds. of Class "X" Concrete and 562 lbs. of Reinforcement Bars for Ditch are included in Total Bill of Material. Reinforcement Bars quantity based on 40'-0" long bars.
For Sections B-B, C-C and D-D see sheet 9.

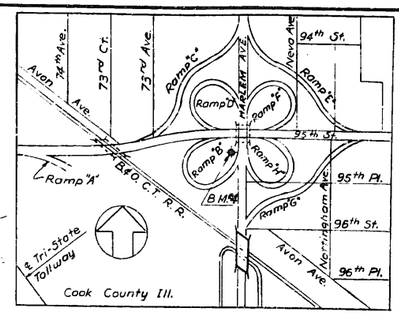
TOTAL BILL OF MATERIAL

ITEM	UNIT	SECTION 3128-Z-VB SUPER	SUB	TOTAL	SEC. 3128-Z-VF TOTAL
Class "X" Concrete	Cu. Yds.	638.9	907.6	1,546.5	
Reinforcement Bars	Lbs.	136,950	83,190	220,140	
Structural Steel	Lbs.	716,865		716,865	716,865
Aluminum Handrail	Lin. Ft.	497		497	
Name Plates	Each	2		2	
Concrete Piles	Lin. Ft.		2,543	2,543	
Test Piles (Concrete)	Each		2	2	
Creosoted Piles (up to 20.0')	Lin. Ft.		2,629	2,629	
Creosoted Piles (20.1 to 38.0')	Lin. Ft.		875	875	
Test Piles (Creos. Timber)	Each		3	3	
Embankment*	Cu. Yds.		48,184	48,184	
Class 'A' Excavation for Structures	Cu. Yds.		771	771	
Slope Wall (4")	Sq. Yds.		1,483	1,483	
Earth Excavation	Cu. Yds.		155	155	
Crushed Stone Grade 6	Tons		528	528	

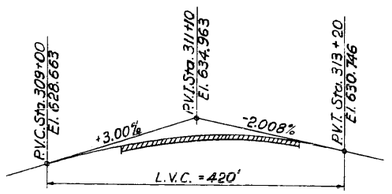
STA 311+53.94
BUILT 196 BY
STATE OF ILLINOIS
F.A. Rt. 42 SEC 3128-Z-VB
APPROVED 4(56)
LOADING H20-S16

NAME PLATE
Std Standard 2113
For location see sheet 17

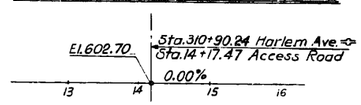
DESIGNED BY H.N.
DRAWN BY
CHECKED BY H.N.



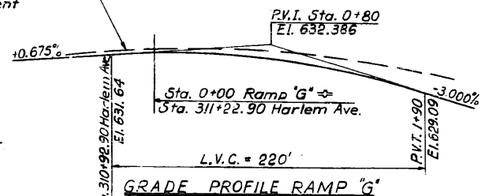
LOCATION PLAN



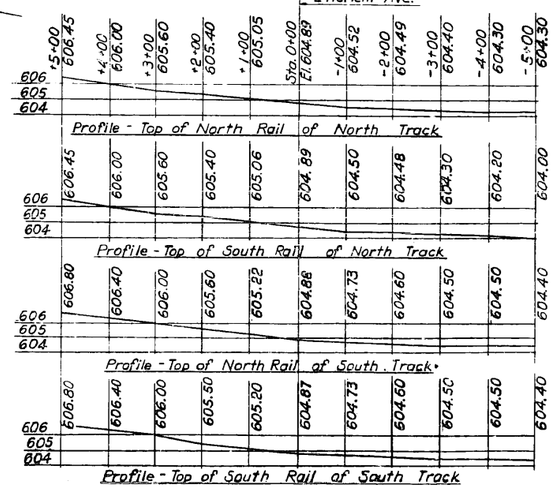
GRADE PROFILE HARLEM AVENUE



GRADE PROFILE ACCESS ROAD



GRADE PROFILE RAMP "G"



TOP OF RAIL PROFILES

LOADING H20-S16-44

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.Rt. 42	3128-Z-VB	COOK	36	8
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

GENERAL NOTES

Class 'X' Concrete shall be used throughout.
Coarse aggregate in end posts & parapets shall be absolutely free of chert, flint, limonite, lignite & soft sandstone.
The concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications.
Slope Walls shall be reinforced with welded wire fabric 6"x6" mesh, #4 wires, weighing 58# per 100 sq. ft.

Rivets ¾"ϕ, Open Holes 13/16"ϕ unless noted.

All bolsters, rockers, bearing plates, lead plates, pintles and anchor bolts shall be fabricated and set in accordance with Article 51.15 of the Standard Specifications and are included in quantity of Structural Steel.
Anchor bolts shall be set before connecting diaphragms over supports.

The roadway expansion plates shall be fabricated and erected to fit the crown of roadway.
Roadway expansion guards shall be assembled in the shop in proper position with the adjacent ends in place and shall be left assembled for shop inspection.
Plates shall be flame cut as provided in Article 54.5(1) of the Standard Specifications.
All exposed surfaces of expansion guards shall be given two shop coats of red led paint.
Expansion guards are included in quantity of Structural Steel (Est. Weight 26,515 Lbs.)
Except as otherwise provided all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Articles 56.1 to 56.5 incl. of the Standard Specifications.
All paint shall be furnished and applied by the Contractor involved.
The Contractor shall drive 2 test piles (concrete) and 3 test piles (creosoted timber) in permanent locations as directed by the Engineer before ordering or casting remainder of piles.
Test piles shall be located one each at South Abutment, Pier No1, No2 and No3 and at North Abutment.
All timber piles shall be creosoted.
The Contractor shall precore holes for concrete piles in accordance with Article 60.9(c) of the Standard Specifications.
The cost of furnishing and installing the Rubber Waterstop and ½" premoulded Joint Filler as shown on plans or ordered by the Engineer shall be included in the contract unit price per cubic yard for Class 'X' Concrete.
The cost of furnishing and installing 1"ϕ anchor bolts and 2½" steel conduit elbow shall be included in the contract unit price for Class 'X' concrete.

DESIGN STRESSES

f_c = 1,400 p.s.i. Superstructure and Substructure without earth pressure.
f_c = 1,000 p.s.i. Substructure with earth pressure.
f_s = 20,000 p.s.i. Reinforcing Steel.
f_s = 18,000 p.s.i. Structural Steel.
n = 10
v = 75 p.s.i. Pier Footings.

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

GENERAL PLAN

HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94

F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

H. W. LOCKNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 8 of 36

Revised 12-29-60 Changed Special Exc. to Earth Exc. W.S.

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.RT. 42	3128-Z-VB	COOK	36	9
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

2B1

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST. RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³	UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % — STANDARD "N" PENETRATION (BLOWS/FT.)
				SURFACE ELEVATION +602.5'		10 20 30 40 50
	1	SS		Gravel & Cinder Fill-Black-Loose-Moist		
	2	SS				
597.5	3	SS		Cinder Fill-Black-Loose-Moist		
	4	SS				
592.5	5	SS		Silty-Some Clay & Fine Sand-Trace Gravel-Gray-Medium Dense-Wet		20T
587.5	6	SS		Silt-Some Clay-Trace Sand & Gravel-Gray-Very Dense-Moist		
	7	RB		Limestone Boulder with Fine Sand & Silt-Light Gray-Very Dense-Dry		
	8	SS		Silt-Some Fine Sand & Gravel-Trace Clay-Gray-Very Dense-Moist		198
582.5				Silt-Some Fine Sand-Trace Clay & Gravel-Gray-Very Dense-Wet		
580.5	9	SS				123
				END OF BORING 10' NX CASING		

W.L. 595.5' B.C.R.
597.5' A.C.R.

2B3

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST. RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³	UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % — STANDARD "N" PENETRATION (BLOWS/FT.)
				SURFACE ELEVATION +604.8'		10 20 30 40 50
	1	SS		Cinder Fill-Black-Medium Dense-Moist		
	2	SS		Silt-Some Fine Sand & Cinder Fill-Black (Slightly Organic) Medium Dense-Moist		
599.8	3	SS				
	4	SS		Silt-Some Fine Sand & Cinder Fill-Black-(Slightly Organic) Loose-Dry		
594.8	5	SS		Silt-Some Clay & Fine Sand-Gray-Brown-Loose-Moist		
589.8	6	SS		Fine to Medium Sand-Some Silt-Dark Brown-Medium Dense-Wet		
	7	SS		Silt-Some Fine Sand & Gravel-Trace Clay-Gray-Very Dense-Moist		63 154
579.8	8	SS				
576.8	9	SS		Silt & Sand-Some Gravel-Gray-Very Dense-Moist		140
				END OF BORING 15' NX CASING		

W.L. 595.8 B.C.R.
592.8 A.C.R.

2B4

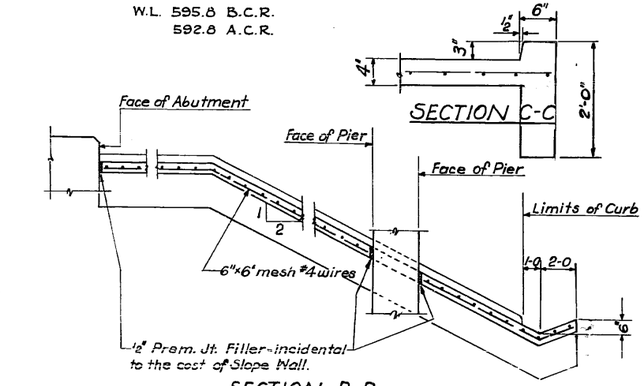
DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST. RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³	UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % — STANDARD "N" PENETRATION (BLOWS/FT.)
				SURFACE ELEVATION +604.5'		10 20 30 40 50
	1	SS		Gravel & Cinder Fill-Black-Loose-Moist		
	2	SS		Gravel & Cinder Fill-Black-Medium Dense-Moist		
599.5	3	SS		Gravel Fill-Gray-Dense-Dry		
	4	SS		Silt-Sand & Cinder Fill-Some Gravel-Black-Very Dense-Moist		68
594.5	5	SS		Fine to Medium Sand-Some Silt & Clay-Trace Gravel-Brown-Loose-Moist		
589.5	6	SS		Silty-Some Fine Sand-Trace Clay & Gravel-Gray-Very Dense-Moist (Presence of Boulders)		140 76
	7	SS				
	8	SS		Silt & Fine Sand-Some Gravel-Trace Clay-Gray-Very Dense-Moist		191/6" 125/2"
580.4	9	SS				
				END OF BORING 15' NE CASING 20' BX CASING REFUSAL		

W.L. 594.5'

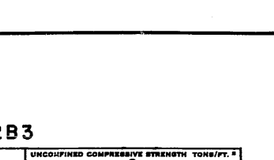
2B2

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST. RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³	UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % — STANDARD "N" PENETRATION (BLOWS/FT.)
				SURFACE ELEVATION +604.3'		10 20 30 40 50
	1	SS		Topsoil & Cinder Fill-Dark Brown-Medium Dense-Dry		
	2	SS				
599.3	3	SS		Cinder & Gravel Fill-Black-Medium Dense-Moist		
	4	SS				
594.3	5	SS		Silt-Some Sand & Gravel-Trace Clay-Brown-Medium Dense-Moist		
589.3		SS		Coarse Gravel-Some Fine to Coarse Sand-Trace Silt-Brown-Very Dense-Moist		71
584.3	7	SS		Silty-Some Fine Sand-Trace Clay & Gravel-Gray-Very Dense-Moist		76
580.3	8	SS				126
				END OF BORING 10' NX CASING		

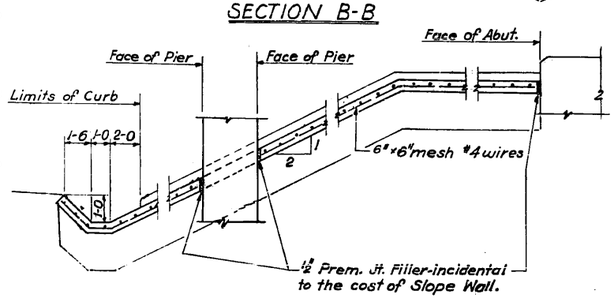
W.L. 594.3'



SECTION B-B



SECTION C-C



SECTION D-D

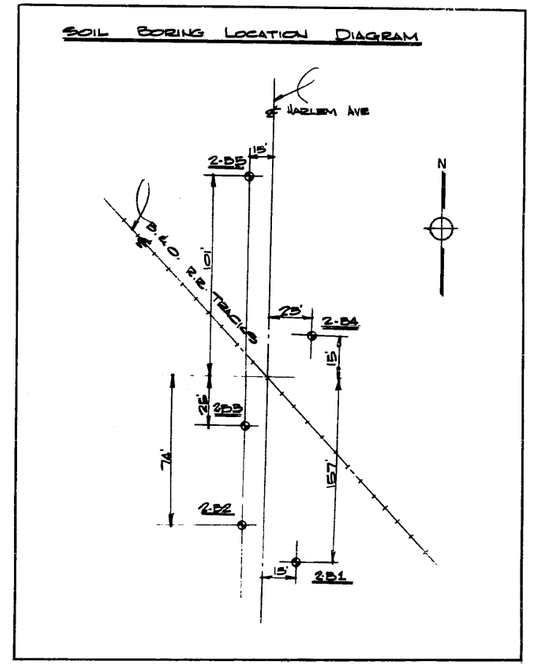
2B5

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST. RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³	UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % — STANDARD "N" PENETRATION (BLOWS/FT.)
				SURFACE ELEVATION +603.0'		10 20 30 40 50
	1	SS		Silt-Some Clay & Sand-Black & Brown-Fill-Medium Dense-Moist		
	2	SS		Cinder Fill-Black-Medium Dense-Dry		
598.0	3	SS				
	4	SS		Silt-Some Clay & Sand-Dark Gray-(Slightly Organic) Medium Dense-Moist		
593.0	5	SS		Silt & Sand-Some Fine to Medium Gravel-Trace Clay-Brown-Very Dense-Moist		234/5"
588.0	6	SS		Silt & Sand-Some Fine to Medium Gravel-Trace Clay-Gray-Very Dense-Moist		190/5"
583.0	7	SS				160
				END OF BORING 10' NX CASING		

W.L. 594.0' B.C.R.
588.0' A.C.R.

Note: For location of Sections B-B, C-C and D-D see sheet 8

SOIL BORING LOCATION DIAGRAM



W.L. indicates Water Level
B.C.R. indicates Before Casing Removal
A.C.R. indicates After Casing Removal

Date of Borings 4-23-1959

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

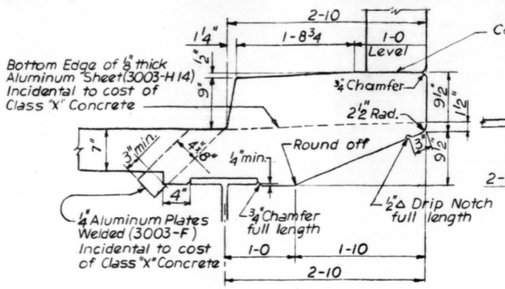
BORING LOGS

HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94
F.A. Rt. 42 COOK CO. SECTION 3128-Z-VB

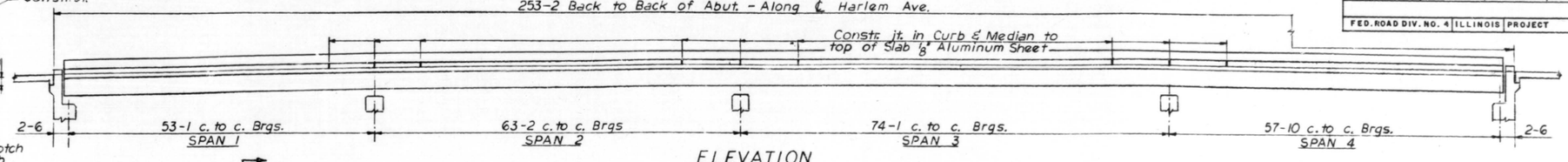
H. W. LOCHNER INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 9 of 36

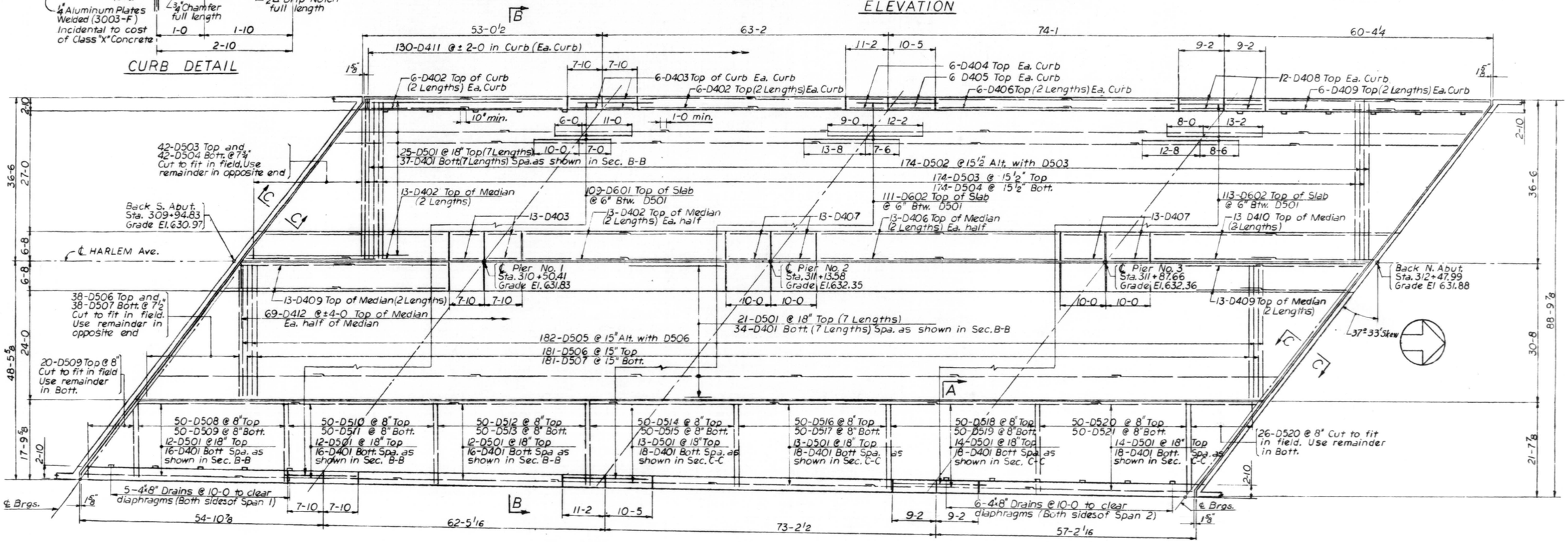
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-VB	COOK	36	10
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



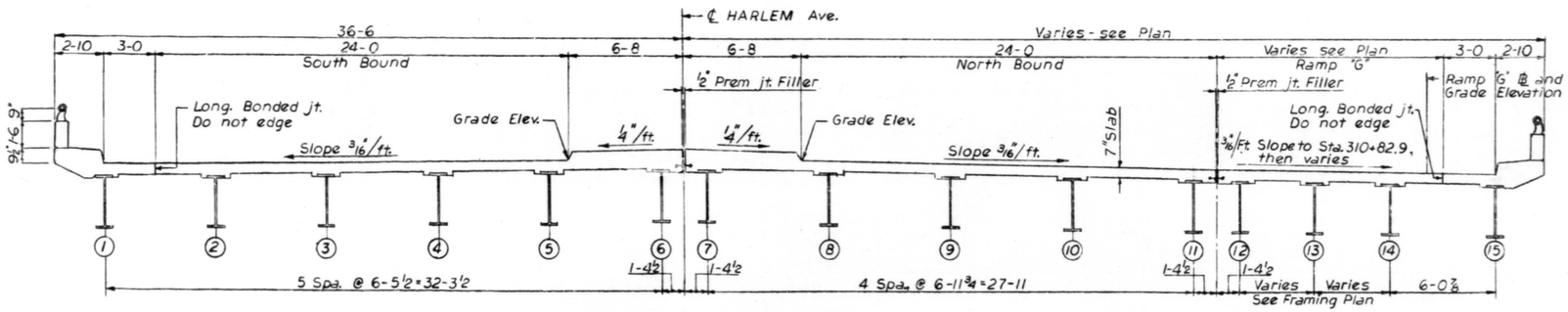
CURB DETAIL



ELEVATION



PLAN



SECTION LOOKING NORTH
SHOWING DIMENSIONS

NOTES:

For Section C-C see sheet 15.
For Sec. A-A, B-B, Median detail, Drain detail, Bill of Materials and Bar Bending Diagrams see sheet 11.
For parapet details see sheet 17

DESIGNED BY	V.B.
DRAWN BY	V.B.
CHECKED BY	HN+EW

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

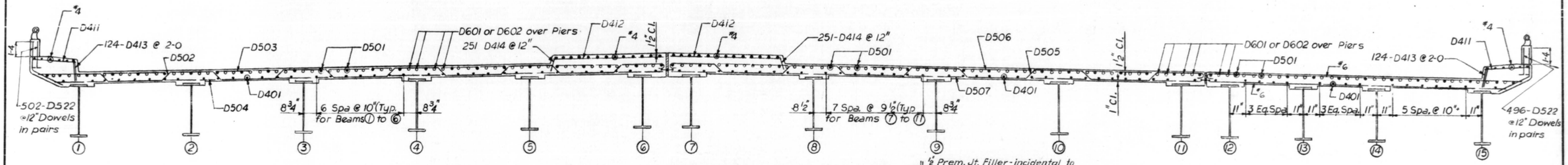
SUPERSTRUCTURE

HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94
F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

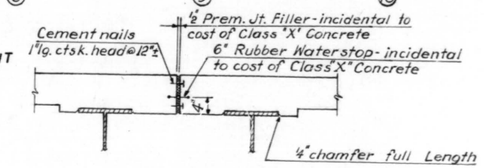
H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 10 of 36

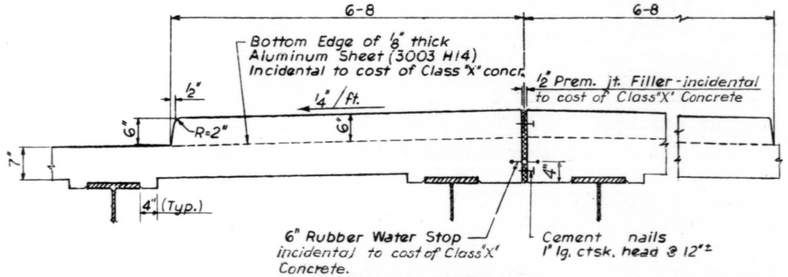
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-VB	COOK	36	11
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



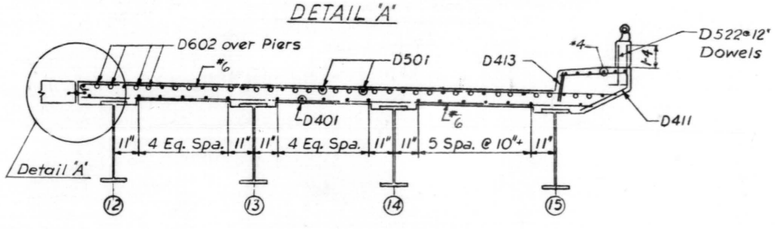
SECTION B-B
SHOWING REINFORCEMENT



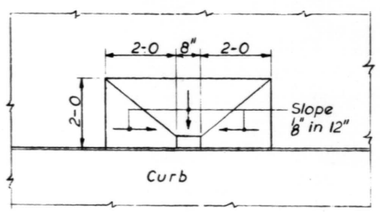
DETAIL 'A'



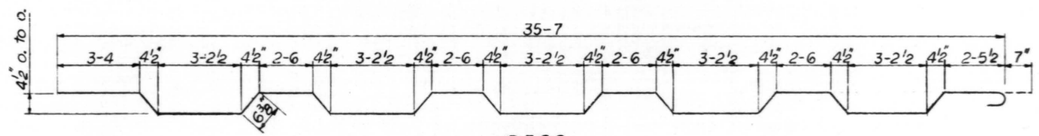
MEDIAN DETAIL



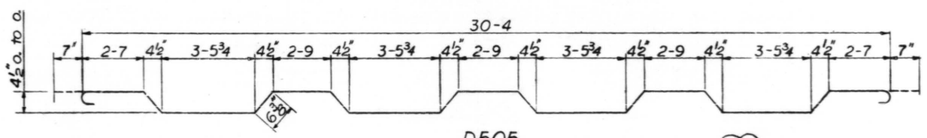
SECTION A-A
SHOWING REINFORCEMENT



DRAIN DETAIL

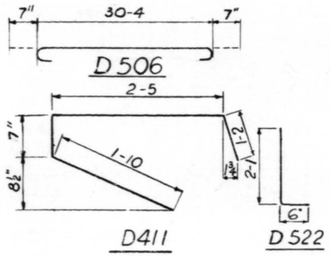


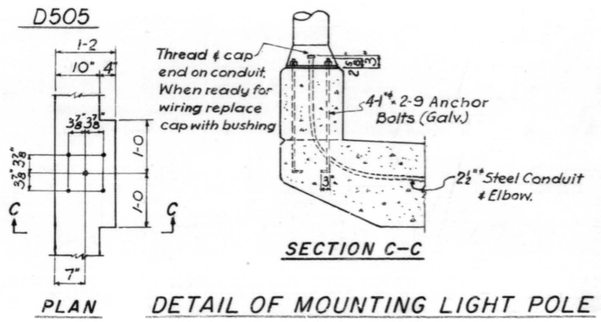
D502



D505

35-7	7"	D503
16-11	7"	D508
17-5	7"	D510
18-0	7"	D512
18-6	7"	D514
19-1	7"	D516
19-7	7"	D518
20-2	7"	D520





DETAIL OF MOUNTING LIGHT POLE ON PARAPET TYPE HANDRAIL

BILL OF MATERIALS

BAR	No.	SIZE	LENGTH	SHAPE
D601	109	#6	17-0	
D602	224	#6	21-2	
D501	412	#5	36-7	
D502	174	#6	37-9	
D503	216		36-2	
D504	216		34-9	
D505	182		32-9	
D506	219		31-6	
D507	219		30-4	
D508	50		17-6	
D509	70		16-1	
D510	50		18-0	
D511	50		16-7	
D512	50		18-7	
D513	50		17-2	
D514	50		19-1	
D515	50		17-8	
D516	50		19-8	
D517	50		18-3	
D518	50		20-2	
D519	50		18-9	
D520	76		20-9	
D521	50	#6	19-4	
D522	998	#5	2-7	
D401	617	#4	36-7	
D402	126		23-0	
D403	76		7-6	
D404	12		10-10	
D405	12		10-1	
D406	76		27-6	
D407	104		9-8	
D408	24		8-10	
D409	76		25-10	
D410	26		27-0	
D411	260		6-0	
D412	138		6-4	
D413	248		1-2	
D414	502	#4	11"	
CLASS 'X' CONCRETE			Cu. Yds.	613.0
REINFORCEMENT BARS			Lbs.	134,690
*STRUCTURAL STEEL			Lbs.	716,865

*Weight of Bolsters, Rockers, Bearing Plates, Lead Plates and Anchor Bolts included as Structural Steel. Est. Weight = 22,365 Lbs.
For Light Standard location see sheet 17.

DESIGNED BY	V.B.
DRAWN BY	V.B.
CHECKED BY	E.W.

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

SUPERSTRUCTURE DETAILS

HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94
F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 11 of 36

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt.42	3128-Z-VB	COOK	36	12
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

D.L. DEFLECTION (FT.)

	℄ BRG. W. ABUT	A1	A2	A3	A4	A5	℄ PIER 1	B1	B2	B3	B4	B5	B6
	.000	.011	.013	.016	.009	.001	.000	.002	.007	.009	.006	.001	.000
	.000	.008	.012	.011	.006	.001	.000	.001	.005	.006	.004	.000	.000

TABLE 1
THEORETICAL ELEVATION TOP OF CONCRETE

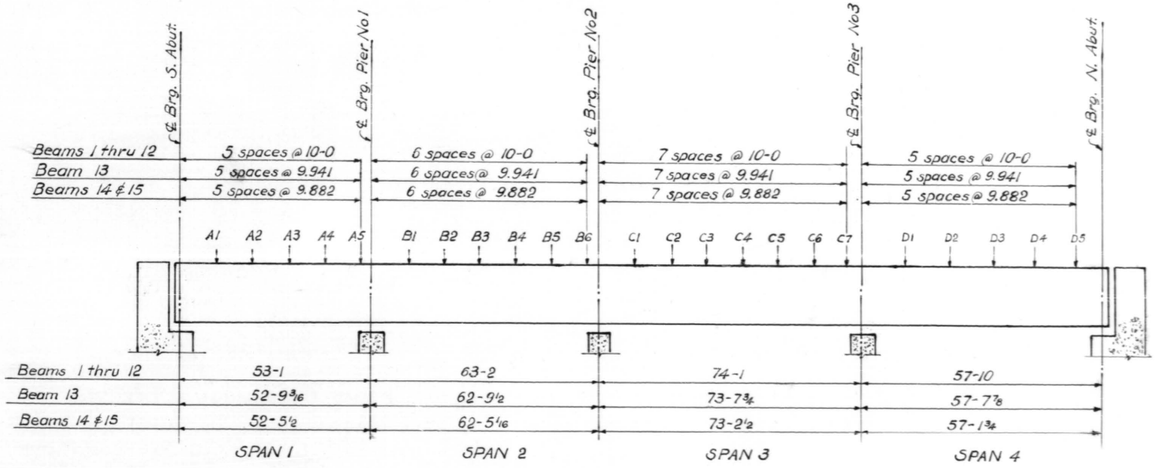
BEAMS													
1	631.033	631.180	631.315	631.438	631.549	631.649	631.677	631.761	631.833	631.893	631.941	631.977	632.001
2	631.056	631.209	631.350	631.479	631.596	631.702	631.732	631.822	631.899	631.965	632.019	632.061	632.092
3	631.076	631.235	631.382	631.517	631.640	631.752	631.784	631.879	631.963	632.035	632.095	632.143	632.179
4	631.094	631.258	631.411	631.552	631.682	631.799	631.832	631.934	632.024	632.101	632.167	632.221	632.263
5	631.108	631.279	631.438	631.585	631.720	631.843	631.878	631.986	632.081	632.165	632.237	632.297	632.345
6	631.120	631.296	631.461	631.614	631.755	631.884	631.921	632.035	632.136	632.226	632.303	632.369	632.423
7	631.081	631.260	631.427	631.583	631.726	631.858	631.896	632.012	632.116	632.208	632.288	632.356	632.413
8	630.871	631.056	631.230	631.392	631.542	631.680	631.720	631.842	631.953	632.051	632.138	632.212	632.275
9	630.657	630.849	631.029	631.198	631.354	631.498	631.540	631.669	631.786	631.891	631.984	632.065	632.134
10	630.441	630.639	630.825	631.000	631.163	631.313	631.357	631.493	631.616	631.727	631.827	631.914	631.989
11	630.220	630.425	630.618	630.799	630.968	631.125	631.171	631.313	631.442	631.560	631.666	631.760	631.842
12	630.133	630.340	630.535	630.719	630.890	631.050	631.097	631.241	631.373	631.493	631.602	631.698	631.782
13	630.010	630.218	630.415	630.600	630.773	630.934	630.982	631.127	631.262	631.384	631.494	631.593	631.680
14	629.886	630.096	630.294	630.480	630.654	630.817	630.865	631.013	631.149	631.273	631.386	631.487	631.576
15	629.690	629.905	630.108	630.300	630.480	630.648	630.697	630.851	630.992	631.122	631.240	631.346	631.441

TABLE 2
THEORETICAL ELEVATION TOP OF CONCRETE + D.L. DEFLECTION

BEAMS													
1	631.033	631.192	631.333	631.455	631.559	631.650	631.677	631.763	631.840	631.902	631.948	631.979	632.001
2	631.056	631.221	631.368	631.496	631.606	631.703	631.732	631.824	631.907	631.975	632.026	632.063	632.092
3	631.076	631.247	631.400	631.534	631.650	631.753	631.784	631.882	631.970	632.044	632.102	632.144	632.179
4	631.094	631.270	631.430	631.569	631.691	631.800	631.832	631.936	632.031	632.111	632.174	632.223	632.263
5	631.108	631.291	631.456	631.602	631.729	631.844	631.878	631.988	632.089	632.174	632.244	632.298	632.345
6	631.120	631.308	631.479	631.631	631.764	631.885	631.921	632.037	632.143	632.235	632.310	632.371	632.423
7	631.081	631.272	631.446	631.600	631.736	631.859	631.896	632.014	632.123	632.217	632.295	632.358	632.413
8	630.871	631.068	631.248	631.409	631.551	631.681	631.720	631.844	631.960	632.060	632.144	632.214	632.275
9	630.657	630.861	631.048	631.215	631.363	631.500	631.540	631.671	631.793	631.900	631.991	632.066	632.134
10	630.441	630.651	630.844	631.017	631.172	631.315	631.357	631.495	631.623	631.736	631.833	631.916	631.989
11	630.220	630.437	630.636	630.816	630.978	631.127	631.171	631.315	631.450	631.569	631.673	631.761	631.842
12	630.133	630.348	630.548	630.731	630.897	631.051	631.097	631.243	631.378	631.500	631.606	631.699	631.782
13	630.010	630.227	630.428	630.612	630.780	630.935	630.982	631.129	631.267	631.391	631.499	631.594	631.680
14	629.886	630.104	630.307	630.492	630.661	630.818	630.865	631.014	631.154	631.280	631.391	631.488	631.576
15	629.690	629.913	630.121	630.312	630.486	630.649	630.697	630.852	630.997	631.128	631.245	631.347	631.441

TABLE 3
THEORETICAL ELEVATION TOP OF CONCRETE + D.L. DEFLECTION – SLAB THICKNES (7")

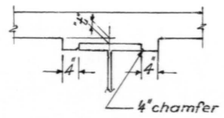
BEAMS													
1	630.449	630.608	630.750	630.872	630.976	631.067	631.094	631.180	631.257	631.319	631.364	631.395	631.418
2	630.472	630.637	630.785	630.913	631.023	631.120	631.149	631.240	631.323	631.391	631.443	631.480	631.508
3	630.493	630.664	630.817	630.951	631.067	631.170	631.200	631.298	631.387	631.461	631.518	631.561	631.595
4	630.510	630.687	630.846	630.986	631.108	631.217	631.249	631.353	631.448	631.527	631.591	631.639	631.680
5	630.525	630.707	630.873	631.018	631.146	631.261	631.295	631.405	631.505	631.591	631.660	631.715	631.761
6	630.536	630.725	630.896	631.048	631.181	631.302	631.338	631.454	631.560	631.652	631.727	631.787	631.840
7	630.497	630.689	630.862	631.016	631.152	631.276	631.312	631.431	631.540	631.634	631.711	631.775	631.829
8	630.287	630.485	630.665	630.825	630.968	631.098	631.136	631.261	631.376	631.477	631.561	631.631	631.692
9	630.074	630.278	630.464	630.631	630.780	630.916	630.957	631.088	631.210	631.317	631.407	631.483	631.551
10	629.857	630.068	630.260	630.434	630.589	630.732	630.774	630.912	631.040	631.153	631.250	631.332	631.406
11	629.637	629.854	630.053	630.233	630.394	630.542	630.588	630.732	630.866	630.986	631.089	631.178	631.258
12	629.548	629.765	629.965	630.147	630.314	630.468	630.513	630.659	630.795	630.917	631.023	631.115	631.198
13	629.427	629.643	629.843	630.028	630.196	630.352	630.398	630.546	630.683	630.807	630.916	631.011	631.096
14	629.303	629.521	629.723	629.908	630.078	630.235	630.282	630.431	630.571	630.696	630.807	630.904	630.992
15	629.107	629.330	629.538	629.729	629.903	630.066	630.114	630.269	630.414	630.545	630.661	630.764	630.857



ELEVATION LOCATION DIAGRAM

METHOD OF DETERMINING FILLET HEIGHTS "b"

After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals as shown on the Elevation Location Diagram for the Tables of Elevations. The difference between the elevation of the top of flange and the elevation in Table No3 equals the fillet height above the beam.



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

TABLES OF ELEVATIONS
SPANS No. 1 AND No. 2
HARLEM AVENUE
OVER B. & O.C.T. R.R.
STATION 311 + 53.94

F.A.Rt. 42 COOK CO. SECTIONS 3128-Z-VB

H.W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 12 of 36

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. Rt. 42	3128-Z-VB	COOK	36	13
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

D.L. DEFLECTION

	℄ PIER 2	C1	C2	C3	C4	C5	C6	C7	℄ PIER 3	D1	D2	D3	D4	D5	D6
	.000	.009	.021	.031	.031	.024	.012	.002	.000	.002	.011	.018	.017	.009	.000
	.000	.007	.016	.023	.024	.018	.009	.001	.000	.002	.009	.015	.014	.008	.000

TABLE 1

THEORETICAL ELEVATION TOP OF CONCRETE

BEAMS															
1	632.006	632.015	632.012	631.996	631.969	631.930	631.879	631.816	631.787	631.707	631.615	631.511	631.396	631.268	631.160
2	632.099	632.113	632.116	632.106	632.085	632.051	632.006	631.949	631.922	631.849	631.763	631.665	631.555	631.434	631.330
3	632.188	632.208	632.217	632.213	632.198	632.170	632.131	632.080	632.055	631.987	631.908	631.816	631.712	631.596	631.497
4	632.274	632.300	632.315	632.317	632.307	632.286	632.253	632.207	632.186	632.123	632.049	631.964	631.866	631.756	631.662
5	632.357	632.389	632.410	632.418	632.414	632.399	632.372	632.332	632.313	632.257	632.188	632.108	632.017	631.913	631.823
6	632.438	632.476	632.502	632.516	632.518	632.509	632.487	632.454	632.437	632.387	632.324	632.250	632.164	632.067	631.982
7	632.428	632.469	632.497	632.514	632.519	632.512	632.493	632.462	632.446	632.398	632.339	632.267	632.184	632.088	632.005
8	632.292	632.339	632.375	632.398	632.409	632.408	632.396	632.371	632.358	632.316	632.263	632.198	632.121	632.032	631.954
9	632.153	632.207	632.248	632.278	632.296	632.301	632.295	632.277	632.266	632.231	632.184	632.126	632.055	631.972	631.899
10	632.011	632.071	632.119	632.155	632.179	632.191	632.191	632.179	632.171	632.143	632.102	632.050	631.985	631.909	631.841
11	631.865	631.931	631.986	632.028	632.052	632.077	632.083	632.078	632.073	632.050	632.016	631.970	631.913	631.843	631.780
12	631.802	631.871	631.929	631.971	632.002	632.022	632.028	632.022	632.018	631.993	631.958	631.909	631.847	631.778	631.725
13	631.699	631.765	631.820	631.862	631.892	631.904	631.903	631.890	631.884	631.852	631.809	631.754	631.688	631.609	631.540
14	631.603	631.660	631.712	631.75	631.779	631.789	631.784	631.766	631.755	631.717	631.667	631.603	631.531	631.446	631.378
15	631.462	631.528	631.582	631.627	631.652	631.660	631.651	631.627	631.617	631.576	631.520	631.453	631.371	631.281	631.204

TABLE 2

THEORETICAL ELEVATION TOP OF CONCRETE + D.L. DEFLECTION

BEAMS															
1	632.006	632.024	632.033	632.027	632.001	631.955	631.891	631.818	631.787	631.710	631.627	631.529	631.413	631.278	631.160
2	632.099	632.122	632.137	632.137	632.117	632.076	632.019	631.952	631.922	631.852	631.774	631.683	631.573	631.443	631.330
3	632.188	632.217	632.238	632.244	632.230	632.195	632.144	632.082	632.055	631.990	631.919	631.834	631.730	631.606	631.497
4	632.274	632.309	632.336	632.348	632.339	632.311	632.265	632.210	632.186	632.126	632.061	631.982	631.884	631.766	631.662
5	632.357	632.399	632.431	632.449	632.446	632.424	632.384	632.334	632.313	632.260	632.200	632.127	632.034	631.922	631.823
6	632.438	632.485	632.524	632.547	632.550	632.534	632.500	632.456	632.437	632.390	632.336	632.269	632.182	632.076	631.982
7	632.428	632.478	632.519	632.545	632.551	632.537	632.505	632.464	632.446	632.401	632.350	632.285	632.201	632.098	632.005
8	632.292	632.349	632.396	632.429	632.441	632.433	632.408	632.374	632.358	632.319	632.275	632.216	632.139	632.042	631.954
9	632.153	632.216	632.270	632.309	632.328	632.326	632.308	632.279	632.266	632.234	632.196	632.144	632.073	631.982	631.899
10	632.011	632.080	632.140	632.186	632.211	632.216	632.204	632.182	632.171	632.146	632.114	632.068	632.003	631.919	631.841
11	631.865	631.940	632.007	632.059	632.090	632.102	632.096	632.080	632.073	632.053	632.028	631.989	631.930	631.853	631.780
12	631.807	631.878	631.945	632.994	632.026	632.040	632.037	632.023	632.018	631.995	631.967	631.924	631.861	631.786	631.725
13	631.705	631.772	631.836	631.885	631.916	631.922	631.912	631.891	631.884	631.854	631.818	631.769	631.702	631.617	631.540
14	631.602	631.667	631.728	631.777	631.803	631.807	631.793	631.767	631.755	631.719	631.676	631.618	631.545	631.454	631.378
15	631.469	631.535	631.598	631.650	631.676	631.678	631.660	631.628	631.617	631.578	631.529	631.468	631.385	631.289	631.204

TABLE 3

THEORETICAL ELEVATION TOP OF CONCRETE + D.L. DEFLECTION − SLAB THICKNES (7")

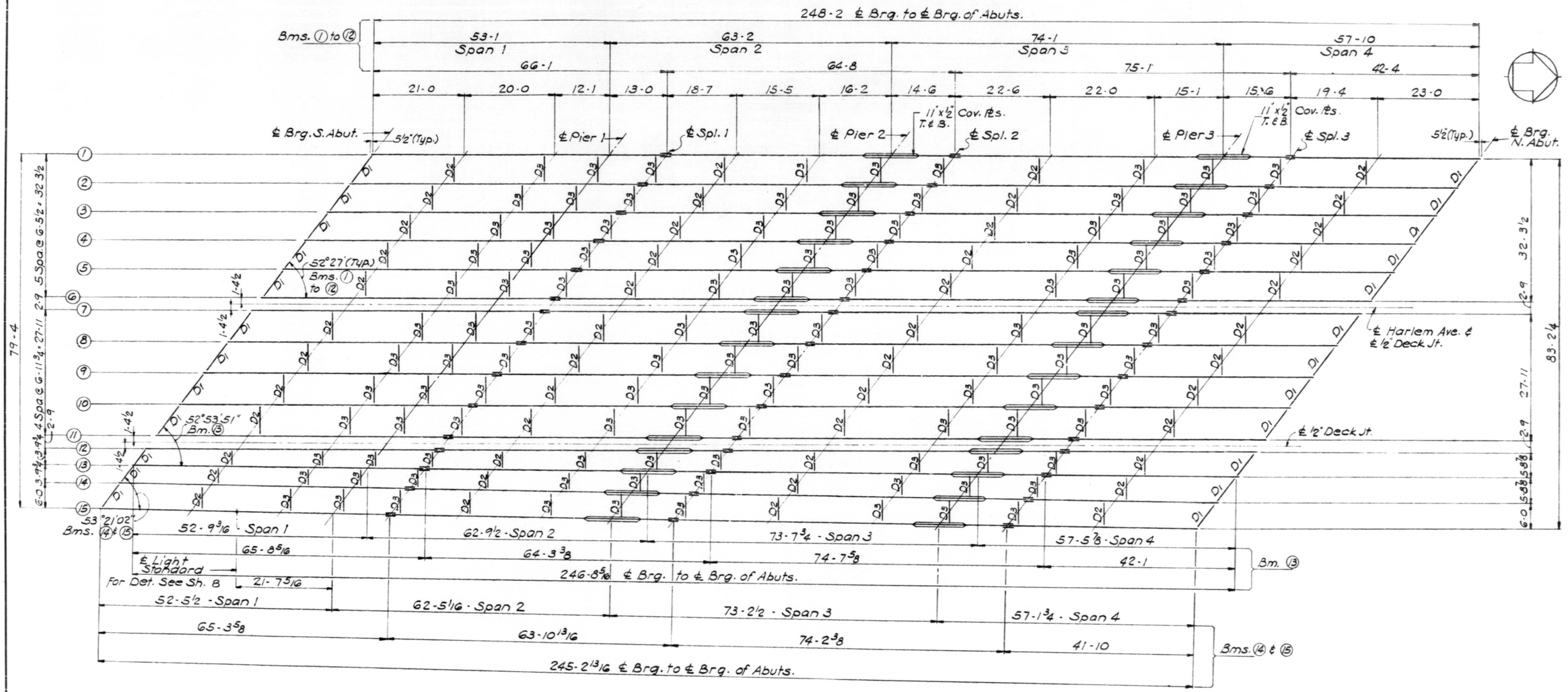
BEAMS															
1	631.423	631.441	631.450	631.444	631.418	631.371	631.398	631.235	631.203	631.126	631.043	630.946	630.830	630.695	630.577
2	631.515	631.539	631.554	631.554	631.533	631.493	631.435	631.368	631.339	631.268	631.191	631.100	630.990	630.860	630.747
3	631.604	631.634	631.655	631.661	631.646	631.612	631.560	631.499	631.472	631.407	631.336	631.251	631.146	631.023	630.914
4	631.691	631.726	631.753	631.765	631.756	631.728	631.682	631.626	631.602	631.543	631.478	631.398	631.300	631.182	631.078
5	631.774	631.815	631.848	631.866	631.863	631.841	631.801	631.751	631.729	631.676	631.617	631.543	631.451	631.339	631.240
6	631.854	631.902	631.940	631.964	631.967	631.951	631.917	631.873	631.854	631.806	631.753	631.685	631.599	631.493	631.398
7	631.845	631.895	631.936	631.962	631.968	631.954	631.922	631.881	631.863	631.818	631.767	631.702	631.618	631.515	631.422
8	631.709	631.765	631.813	631.845	631.858	631.850	631.825	631.790	631.774	631.736	631.692	631.633	631.555	631.458	631.371
9	631.570	631.633	631.687	631.726	631.744	631.743	631.724	631.696	631.683	631.651	631.613	631.560	631.489	631.399	631.316
10	631.428	631.497	631.557	631.602	631.627	631.632	631.620	631.596	631.588	631.562	631.531	631.485	631.420	631.336	631.258
11	631.282	631.357	631.424	631.476	631.507	631.519	631.513	631.497	631.489	631.470	631.445	631.405	631.347	631.269	631.196
12	631.223	631.295	631.362	631.411	631.443	631.457	631.454	631.440	631.435	631.412	631.386	631.341	631.278	631.203	631.142
13	631.122	631.189	631.253	631.302	631.333	631.339	631.329	631.308	631.301	631.271	631.235	631.186	631.119	631.034	630.957
14	631.019	631.084	631.145	631.194	631.220	631.224	631.210	631.184	631.172	631.136	631.093	631.035	630.962	630.873	630.795
15	630.886	630.952	631.015	631.067	631.093	631.095	631.077	631.045	631.034	630.995	630.946	630.885	630.802	631.706	630.621

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
TABLES OF ELEVATIONS
SPANS No. 3 AND No. 4
HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94
F.A. Rt. 42 COOK CO. SECTION 3128-Z-VB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 13 of 36

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-VB	COOK	36	14
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



Note:
All Bms. = 36 WF 150
Diaph. D1 = 12 WF 40
Diaph. D2 & D3 = 16 WF 36
Cov. Pls. at Piers 2 & 3 Only

PLAN

TOP OF TOP FLANGE ELEVATIONS FOR FABRICATION

(DEFLECTIONS NOT INCLUDED)

Loc. \ Bm. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
℄ Brg. S. Abut	630.37	630.39	630.41	630.43	630.44	630.45	630.41	630.21	629.99	629.77	629.55	629.47	629.34	629.22	629.02
℄ Pier 1	631.01	631.07	631.12	631.17	631.21	631.26	631.23	631.05	630.87	630.69	630.51	630.43	630.31	630.20	630.03
℄ Spl. 1	631.17	631.24	631.29	631.35	631.40	631.46	631.43	631.26	631.09	630.92	630.75	630.67	630.55	630.44	630.28
℄ Pier 2	631.31	631.40	631.49	631.58	631.66	631.73	631.73	631.60	631.46	631.31	631.17	631.11	631.01	630.91	630.77
℄ Spl. 2	631.35	631.45	631.55	631.65	631.74	631.81	631.82	631.70	631.57	631.42	631.29	631.24	631.14	631.05	630.91
℄ Pier 3	631.12	631.26	631.39	631.52	631.65	631.77	631.78	631.69	631.60	631.51	631.41	631.35	631.22	631.09	630.95
℄ Spl. 3	631.06	631.21	631.35	631.49	631.63	631.76	631.77	631.69	631.61	631.53	631.44	631.38	631.24	631.10	630.96
℄ Brg. N. Abut.	630.49	630.66	630.83	631.00	631.16	631.32	631.34	631.29	631.23	631.18	631.12	631.06	630.88	630.71	630.54

DESIGNED BY	H.M.
DRAWN BY	R.N.
CHECKED BY	H.M.

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

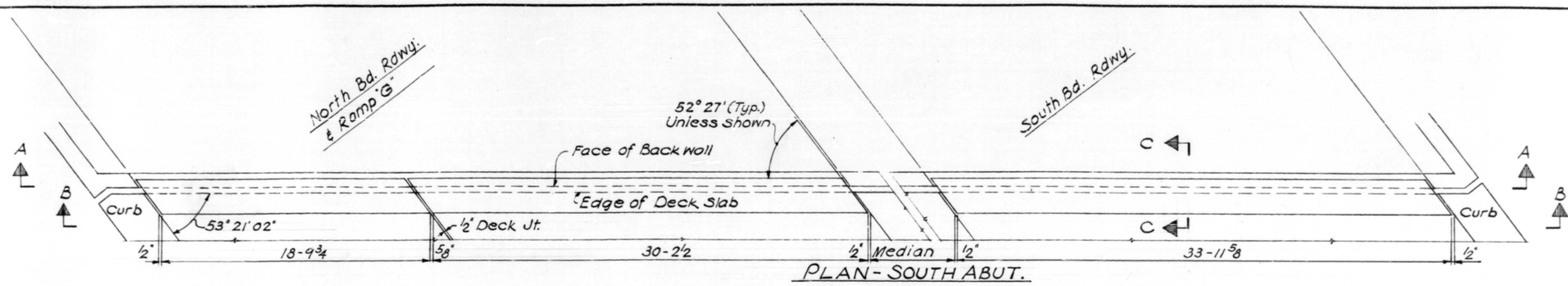
STEEL LAYOUT PLAN

HARLEM AVENUE
OVER B. & O. C. T. R. R
STATION 311 + 53.94
F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

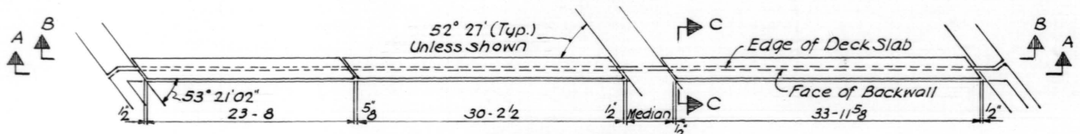
H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 14 of 36

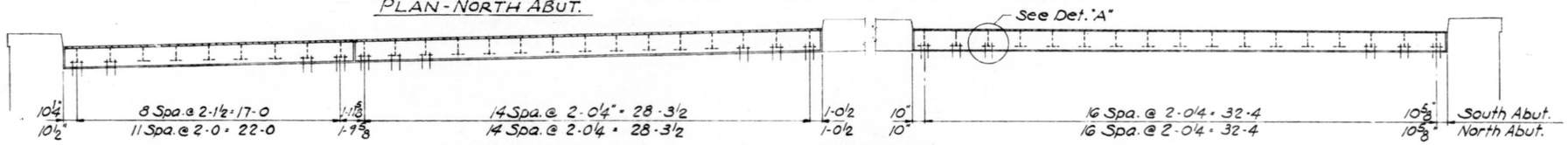
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-VB	COOK	36	15
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



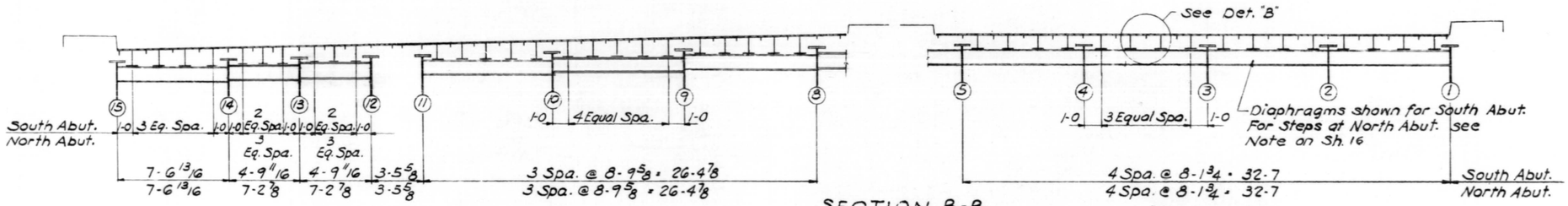
PLAN - SOUTH ABUT.



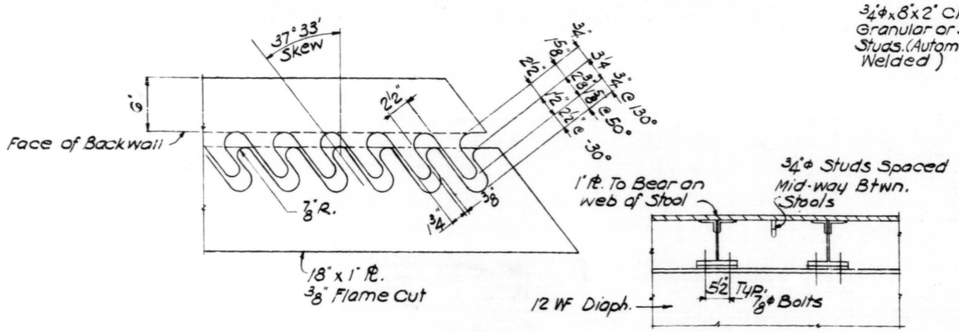
PLAN - NORTH ABUT.



SECTION A-A

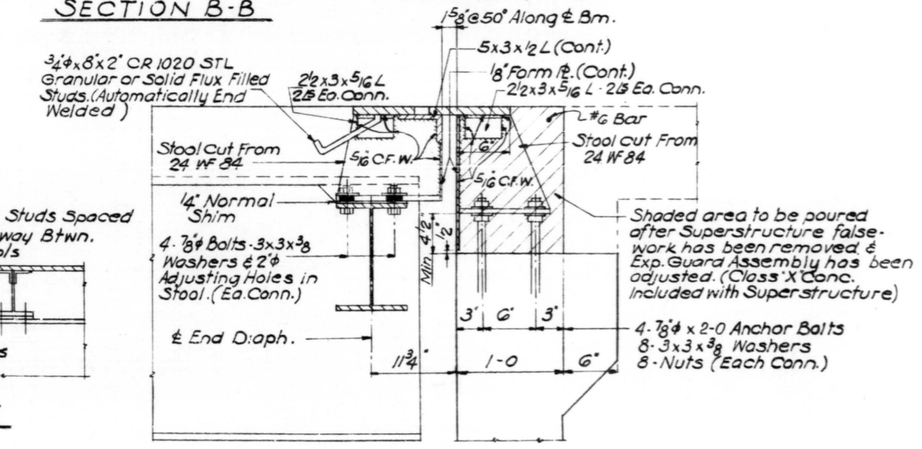


SECTION B-B

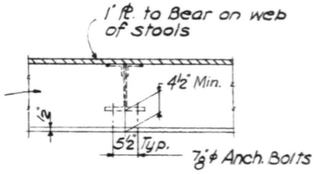


FINGER PLATE DETAIL

DETAIL "B"



SECTION C-C



DETAIL "A"

DESIGNED BY	
DRAWN BY	R.N.
CHECKED BY	H.M.

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

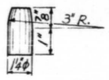
STEEL DETAILS

HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94
F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

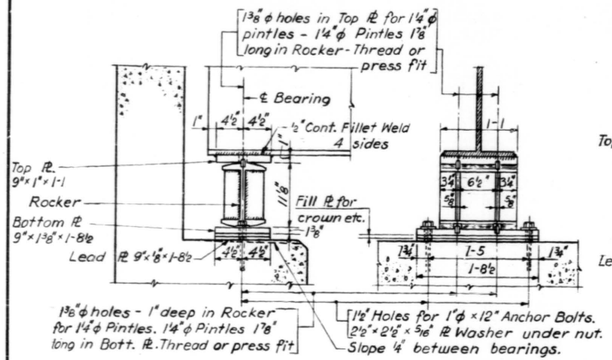
H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 15 of 36

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. Rt. 64	3128-Z-VB	COOK	36	16
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

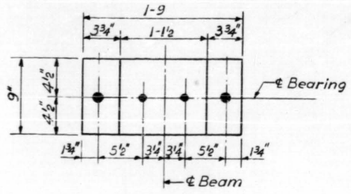


PINTLE DETAIL

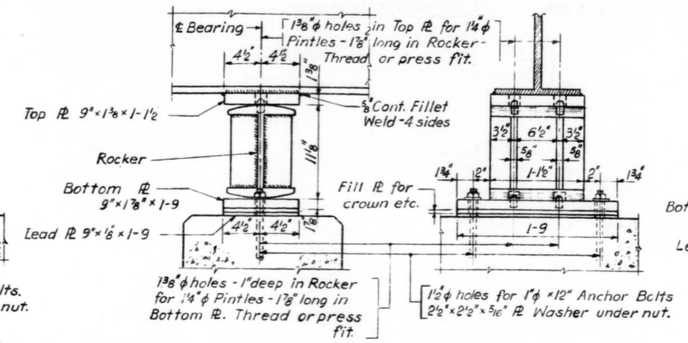


ABUTMENT EXPANSION BEARING

30 REQUIRED

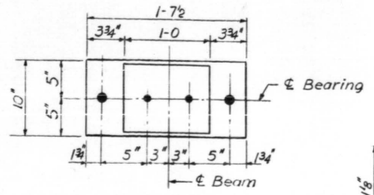


PLAN

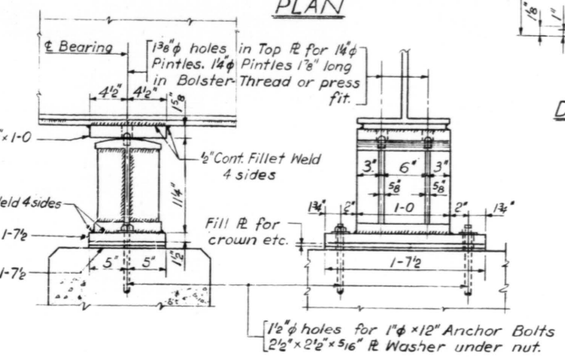


EXPANSION BEARING - PIER No 1

15 REQUIRED

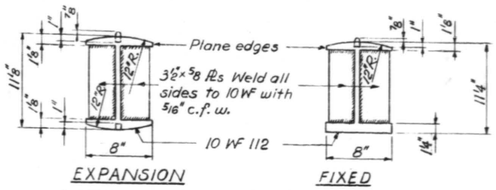


PLAN

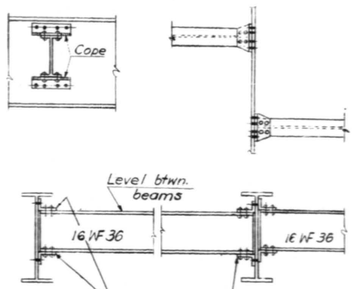


FIXED BEARING - PIER No 2

15 REQUIRED

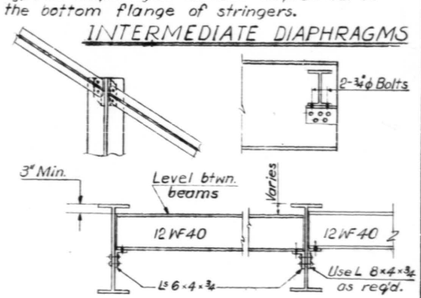


DETAIL OF BEARINGS



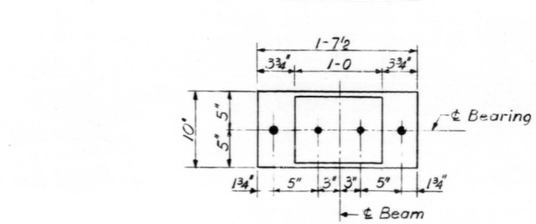
Place type De diaphragms as near as practical to the top flange of stringers & type L3 diaphragms as near as practical to the bottom flange of stringers.

INTERMEDIATE DIAPHRAGMS

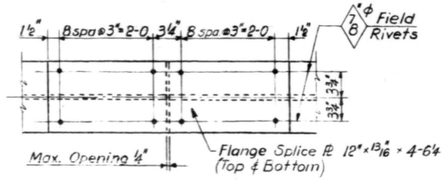


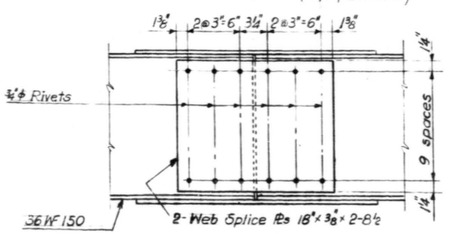
END DIAPHRAGMS

Note: End Diaphragms to be at the same level between beams #1 & #6 only at South Abutment and between beams #7 & #9 and #9 & #11 only at North Abutment.

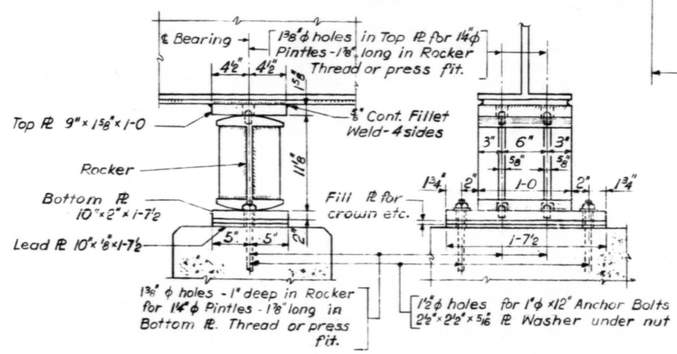


PLAN OF ABUTMENT BEARING



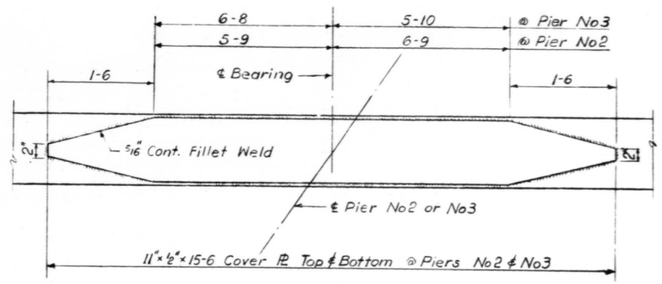


BEAM SPLICE DETAIL



EXPANSION BEARING - PIER No 3

15 REQUIRED



COVER PLATE DETAIL

SHIM PLATE THICKNESS

LOCATION	BEAMS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
South Abutment	0	5/16"	9/16"	3/4"	15/16"	1 1/16"	0	0	0	0	1 1/16"	0	1 3/16"	0	0
Pier No1	0	1 1/16"	1 5/16"	0	1/2"	1 1/16"	3/8"	0	0	0	1 5/16"	0	1 3/8"	0	0
Pier No2	0	1 1/8"	0	1 1/16"	0	0	0	0	0	0	1 1/16"	0	1 3/16"	0	0
Pier No3	0	0	0	0	0	0	1/8"	1 1/16"	0	0	1 1/16"	0	1/2"	0	0
North Abutment	0	0	0	0	0	0	1/4"	5/8"	0	1 1/16"	3/4"	0	0	0	0

DESIGNED BY	F.W.
DRAWN BY	E.W.
CHECKED BY	H.N.

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

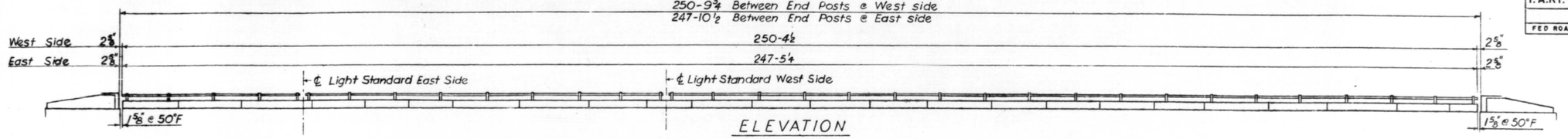
STEEL DETAILS

HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94
F. A. Rt. 42 COOK CO. SECTION 3128-Z-VB

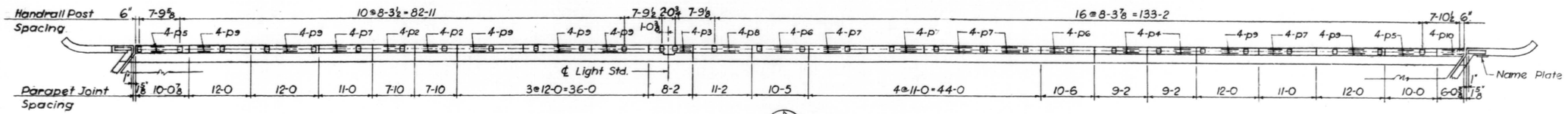
H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

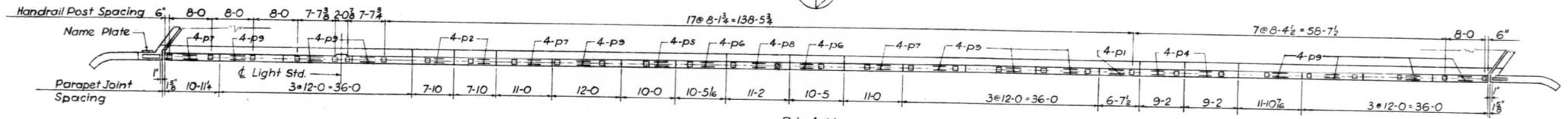
SHEET 16 of 36

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F.A.Rt. 42	3128-Z-VB	COOK	36	17
FED ROAD DIV. No. 4	ILLINOIS	PROJECT		



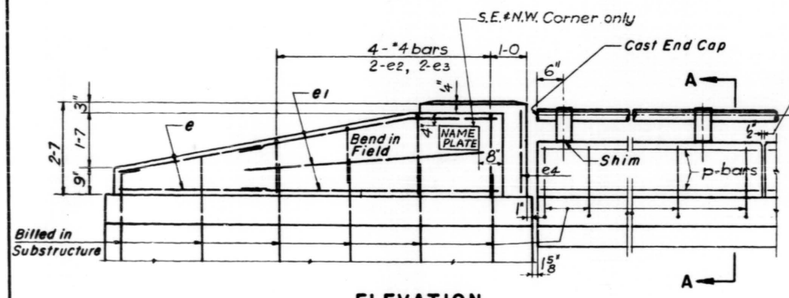
ELEVATION



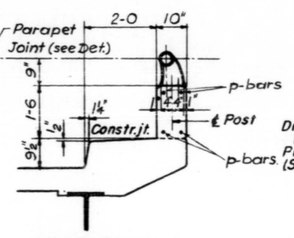


PLAN

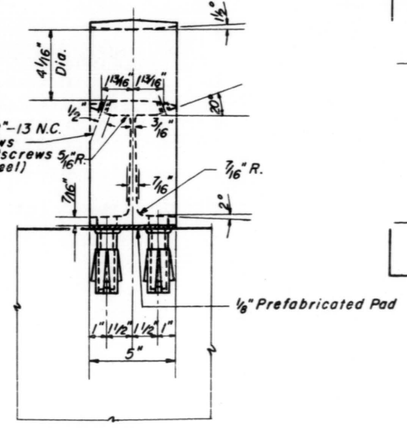
½" Preformed cork-asphalt joint filler A.S.T.M. designation: D 544-49-Type V. Cast incidental.



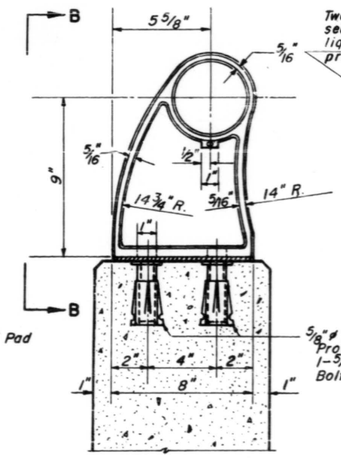
ELEVATION



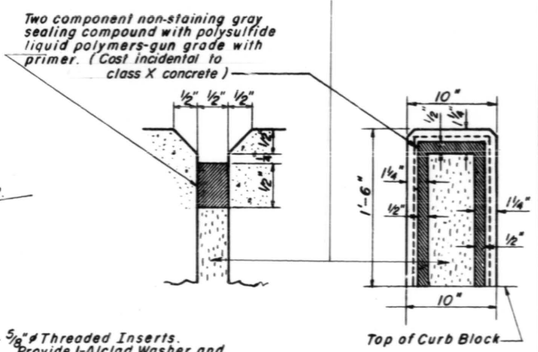
SECTION A-A



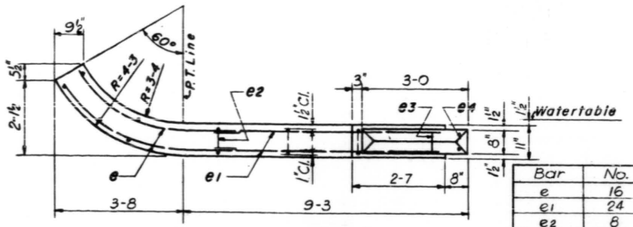
VIEW B-B



SECTION A-A



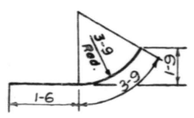
TYPICAL PARAPET JOINT



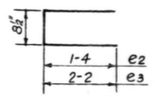
PLAN-END POST

BAR LIST

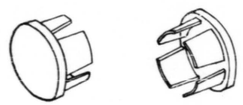
Bar	No.	Size	Length	Shape
e	16	#4	5-3	
e1	24	#4	8-0	
e2	8	#4	3-4	
e3	8	#4	5-0	
e4	8	#4	2-3	
p10	4	#5	5-9	
p1	4	#5	6-4	
p2	16	#5	7-6	
p3	4	#5	7-10	
p4	16	#5	8-10	
p5	12	#5	9-8	
p6	16	#5	10-2	
p7	36	#5	10-8	
p8	8	#5	10-10	
p9	72	#5	11-8	



BAR · e



BAR e2 or e3



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

RAIL POST DETAILS

NOTES

All Posts shall be placed normal to parapet.
All Posts shall be of Aluminum conforming to ASTM Specification B-108 alloy SG-70B-T6.
All Rail Tubing shall be of Aluminum conforming to ASTM Specification B-235 alloy GS-11A-T6.
Alclad Washers shall be made from sheet conforming to ASTM Specification B 209 alloy clad CG-42A-T4.

For material composition of Prefabricated Pad, See Art. 54.9(f), (Bearings and Anchorage), of the Std. Specifications.
Set Screws shall be of Aluminum conforming to ASTM Specification B-211 alloy CG-42A-T4.
For Anchor Bolts for Light Standards see Sheet No. 11
for Curb Detail see Sheet No. 10

BILL OF MATERIAL

Item	Unit	Quantity
Class 'X' Concrete	cu. yds	25.9
Reinforcement Bars	lbs.	2260
Aluminum Handrail	lin. ft.	497
Name Plates	ea.	2

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

ALUMINUM HANDRAIL

HARLEM AVENUE
OVER B. & O. C. T. R. R.

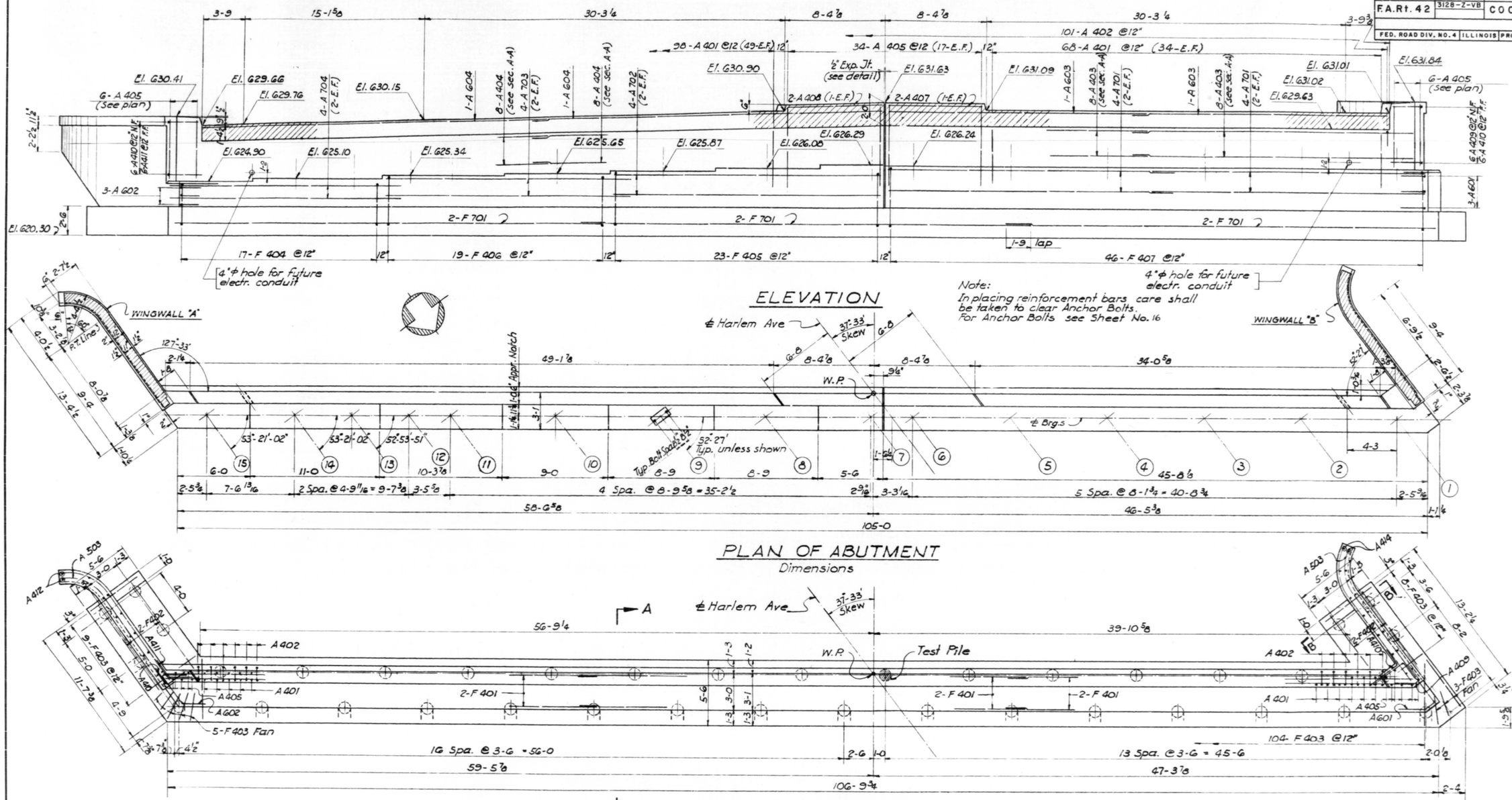
STATION 311 + 53.94

F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 17 OF 36

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-VB	COOK	36	18
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



EXPANSION JOINT DETAIL

½" Prem. Joint filler fastened with cement nails

½" Chamfer

PILE DATA

Concrete Piles		
Capacity Per Pile	:	30 Tons
Estimated Length	:	35 Ft.
Piles Required	:	37

Notes:

For Section A-A, B-B, Wingwall Elevation and Bill of Material see Sheet No. 20

DESIGNED BY	H.M.
DRAWN BY	A.B.
CHECKED BY	H.M.

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

SOUTH ABUTMENT

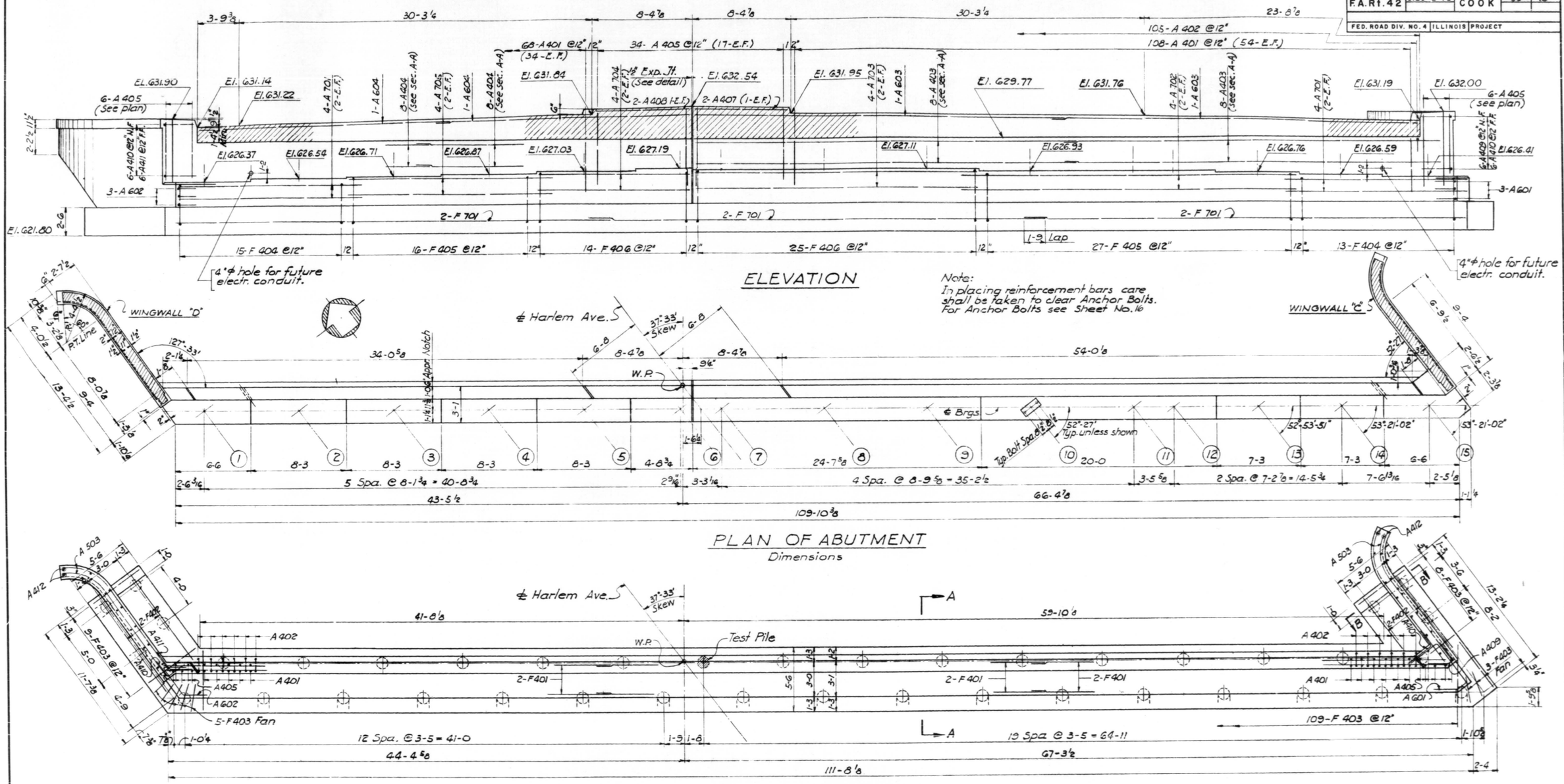
HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94

F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 18 of 36

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-2-VB	COOK	36	19
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



ELEVATION

Note:
In placing reinforcement bars care shall be taken to clear Anchor Bolts. For Anchor Bolts see Sheet No. 16

PLAN OF ABUTMENT
Dimensions

PLAN OF ABUTMENT
Reinforcement and Pile Spacing

½" Prem. Joint filler fastened with cement nails.

½" Chamfer

EXPANSION JOINT DETAIL

PILE DATA

Concrete Piles		
Capacity Per Pile	:	30 Tons
Estimated Length	:	32 Ft.
Piles Required	:	39

Notes:
For Section A-A, B-B, Wingwall Elevation and Bill of Material see Sheet No. 20

DESIGNED BY	H.M.
DRAWN BY	A.B.
CHECKED BY	H.M.

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

NORTH ABUTMENT

HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94
F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

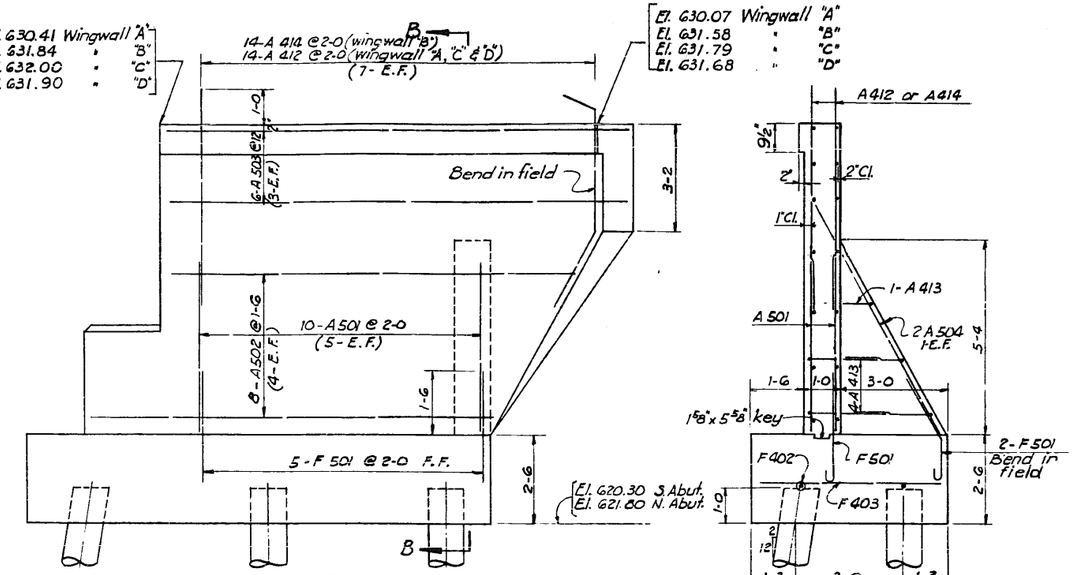
SHEET 19 of 36

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt.42	3128-Z-VB	COOK	36	20
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

El. 630.41 Wingwall "A"
El. 631.84 " "B"
El. 632.00 " "C"
El. 631.90 " "D"

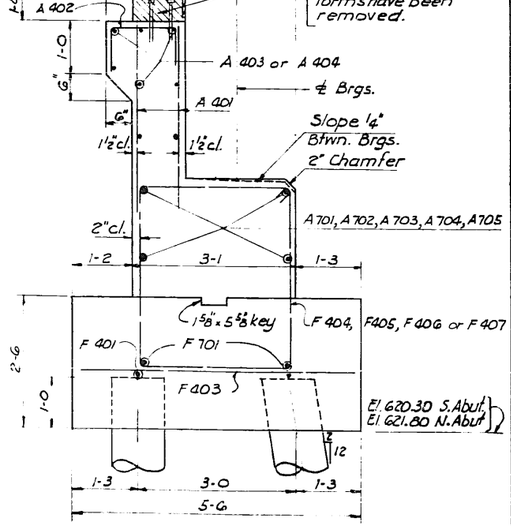
14-A 414 @ 2-0 (wingwall "B")
14-A 412 @ 2-0 (wingwall "A", "C" & "D")
(7-E.F.)

El. 630.07 Wingwall "A"
El. 631.58 " "B"
El. 631.79 " "C"
El. 631.68 " "D"



WINGWALL SIDE ELEVATION

SECTION B-B

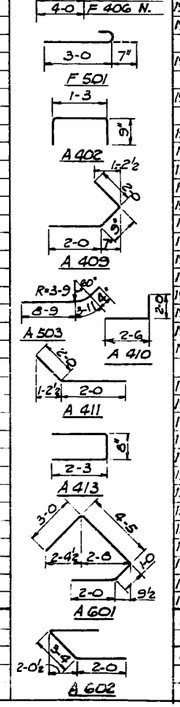


SECTION A-A

BILL OF MATERIAL

SOUTH ABUTMENT

Bar	No.	Size	Length	Shape
18F 401	6	#4	37-6	
18F 402	4		9-6	
18F 403	129		5-0	
18F 404	17		13-0	
18F 405	23		15-0	
18F 406	19		14-0	
18F 407	46	#4	15-8	
18F 501	14	#5	3-7	
18F 701	6	#7	36-3	
18A 401	166	#4	4-6	
18A 402	101		2-9	
18A 403	16		22-9	
18A 404	16		30-9	
18A 405	46		6-5	
18A 406	none			
18A 407	2		7-4	
18A 408	2		8-1	
18A 409	6		4-9	
18A 410	12		4-6	
18A 411	6		4-0	
18A 412	14		5-4	
18A 413	10		5-2	
18A 414	14	#4	6-9	
18A 501	20	#5	4-9	
18A 502	16	#5	10-6	
18A 503	12	#5	13-0	
18A 504	4	#5	6-9	
18A 601	3	#6	10-5	
18A 602	3	#6	7-4	
18A 603	2	#6	21-9	
18A 604	2	#6	29-9	
18A 701	8	#7	23-7	
18A 702	4		22-9	
18A 703	4		20-3	
18A 704	4	#7	18-0	
Class "X" Concrete			Cu.Yds.	123.1
Reinforcement Bars			Lb.	5417
Concrete Piles			Lin. Ft.	1295
Test Pile (Concrete)			Ea.	1



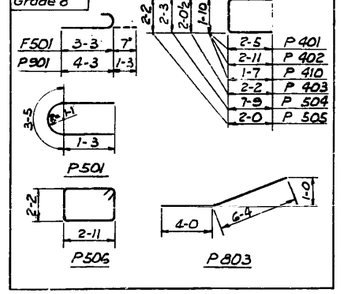
NORTH ABUTMENT

Bar	No.	Size	Length	Shape
19F 401	6	#4	39-3	
19F 402	4		9-6	
19F 403	134		5-0	
19F 404	28		13-0	
19F 405	43		13-8	
19F 406	39	#4	14-4	
19F 501	14	#5	3-7	
19F 701	6	#7	38-0	
19A 401	176	#4	4-6	
19A 402	105		2-9	
19A 403	16		32-6	
19A 404	16		23-0	
19A 405	46		6-5	
19A 406	none			
19A 407	2		7-4	
19A 408	2		8-1	
19A 409	6		4-9	
19A 410	12		4-6	
19A 411	6		4-0	
19A 412	28		5-4	
19A 413	10	#4	5-2	
19A 501	20	#5	4-9	
19A 502	16		10-6	
19A 503	12		13-0	
19A 504	4	#5	6-9	
19A 601	3	#6	10-5	
19A 602	3	#6	7-4	
19A 603	2	#6	31-9	
19A 604	2	#6	21-10	
19A 701	8	#7	16-3	
19A 702	4		28-9	
19A 703	4		24-4	
19A 704	4		12-7	
19A 705	4	#7	18-0	
Class "X" Concrete			Cu.Yds.	119.1
Reinforcement Bars			Lb.	5554
Concrete Piles			Lin. Ft.	1248
Test Pile (Concrete)			Ea.	1

BILL OF MATERIAL FOR PIER No. 1

Bar	No.	Size	Length	Shape
21F 501	182	#5	3-10	
21F 601	111	#6	8-0	
21F 602	27	#6	32-0	
21P 401	96	#4	6-8	
21P 402	84		7-8	
21P 403	18		6-5	
21P 404	2		35-3	
21P 405	4		35-5	
21P 406	2		32-4	
21P 407	2		18-2	
21P 408	2		19-0	
21P 409	2		14-2	
21P 410	88	#4	5-0	
21P 501	16	#5	5-11	
21P 502	42		30-8	
21P 503	2		7-9	
21P 504	90		17-9	
21P 505	60		6-2	
21P 506	112	#5	11-2	
21P 801	12	#8	30-8	
21P 802	6	#8	32-3	
21P 803	6	#8	10-4	
21P 901	96	#9	5-6	
21P 902	96		16-6	
21P 903	9		17-4	
21P 904	6		26-6	
21P 905	9	#9	32-4	
21P 1001	20	#10	35-5	
Class "X" Concrete			Cu.Yds.	206.3
Reinforcement Bars			Lbs.	23,611
Creosoted Piles (up to 20.0')			Lin. Ft.	650
Test Pile (Creos. Timber)			Each	1
Crushed Stone			Tons	206

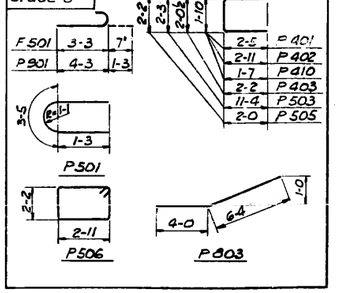
Grade 8



BILL OF MATERIAL FOR PIER No. 2

Bar	No.	Size	Length	Shape
22F 501	184	#5	3-10	
22F 502	27	#5	32-3	
22F 601	113	#6	8-0	
22P 401	84	#4	6-8	
22P 402	72		7-8	
22P 403	18		6-5	
22P 404	4		35-5	
22P 405	2		33-7	
22P 406	2		17-2	
22P 407	2		20-6	
22P 408	2		14-3	
22P 409	2		21-5	
22P 410	87		5-0	
22P 411	2	#4	15-0	
22P 501	24	#5	5-11	
22P 502	2		11-3	
22P 503	91		24-11	
22P 504	66		31-0	
22P 505	60		6-2	
22P 506	114	#5	11-2	
22P 801	12	#8	31-0	
22P 802	6	#8	32-9	
22P 803	6	#8	10-4	
22P 901	96	#9	5-6	
22P 902	96		14-3	
22P 903	6		26-6	
22P 904	9		17-4	
22P 905	9	#9	33-7	
22P 1001	20	#10	35-5	
Class "X" Concrete			Cu.Yds.	232.3
Reinforcement Bars			Lbs.	24,031
Creosoted Piles (up to 20.0')			Lin. Ft.	1139
Test Pile (Creos. Timber)			Each	1
Crushed Stone			Tons	110

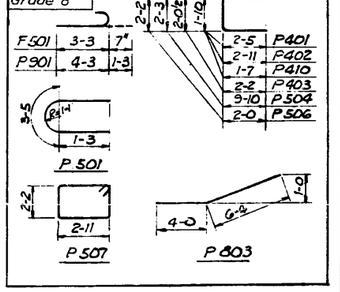
Grade 8



BILL OF MATERIAL FOR PIER No. 3

Bar	No.	Size	Length	Shape
23F 501	186	#5	3-10	
23F 601	114	#6	8-0	
23F 602	27	#6	32-9	
23P 401	84	#4	6-8	
23P 402	72		7-8	
23P 403	16		6-5	
23P 404	4		36-2	
23P 405	2		33-4	
23P 406	4		13-7	
23P 407	4		6-0	
23P 408	2		21-0	
23P 409	6		9-3	
23P 410	83	#4	5-0	
23P 501	20	#5	5-11	
23P 502	36		31-5	
23P 503	18		30-6	
23P 504	92		21-11	
23P 505	2		9-10	
23P 506	60		6-2	
23P 507	119	#5	11-2	
23P 801	12	#8	31-5	
23P 802	6	#8	33-3	
23P 803	6	#8	10-4	
23P 901	96	#9	5-6	
23P 902	96		14-5	
23P 903	6		27-3	
23P 904	9		18-0	
23P 905	9	#9	33-4	
23P 1001	20	#10	36-2	
Class "X" Concrete			Cu.Yds.	221.0
Reinforcement Bars			Lbs.	24015
Creosoted Piles (up to 20.0')			Lin. Ft.	840
Test Pile (Creos. Timber)			Each	1
Crushed Stone			Tons	212

Grade 8



Note - Digit or digits preceding the letter in the reinforcement bar list indicate the sheet number on which the bar is shown. These digits are used in the Bill of Material only.

DESIGNED BY	H.M.
DRAWN BY	R.B.
CHECKED BY	H.M.

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

ABUTMENT DETAILS AND BILL OF MATERIAL FOR ABUTMENTS & PIERS

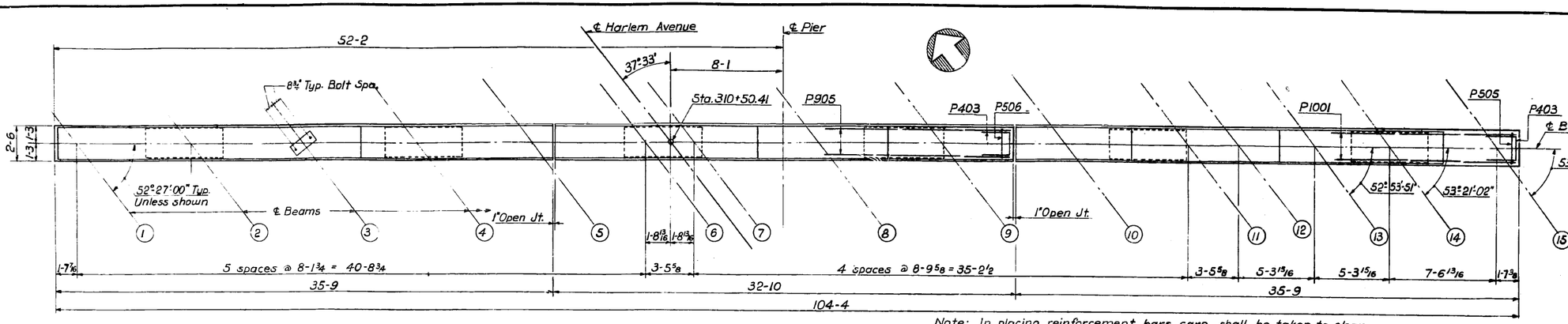
HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94

F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

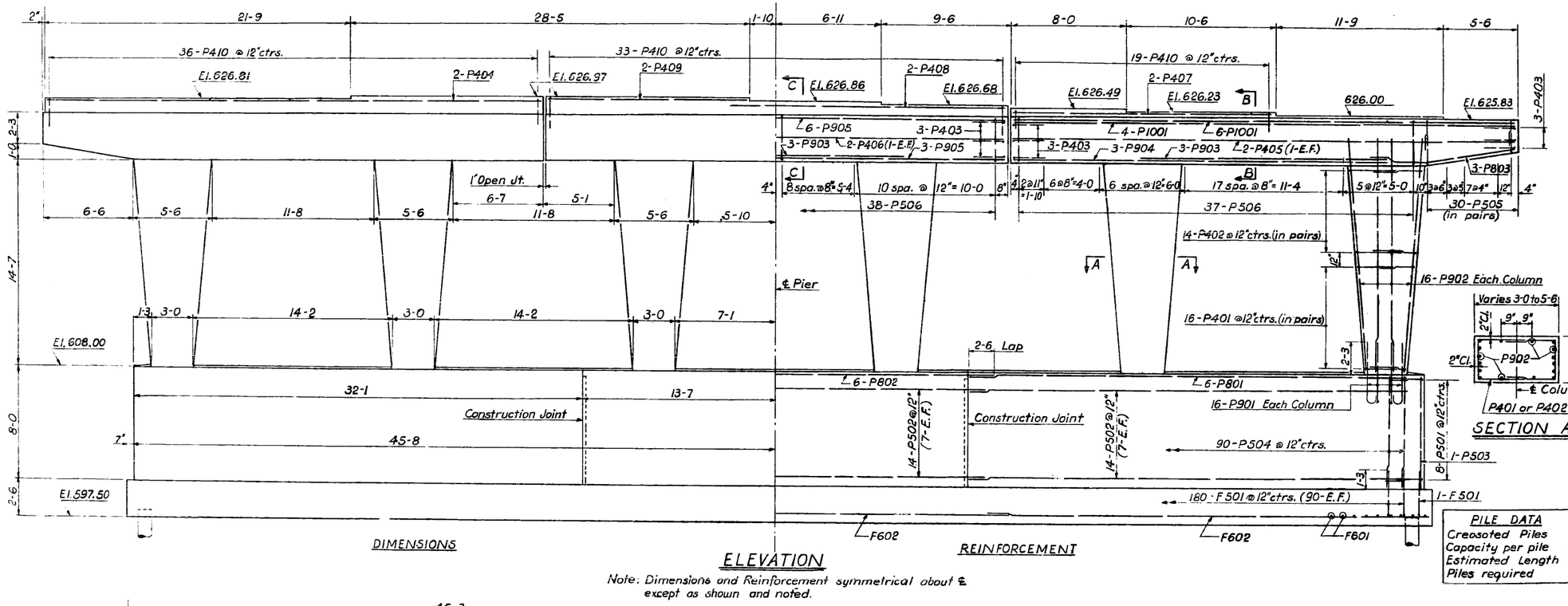
SHEET 20 of 36

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-VB	COOK	36	21
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



TOP PLAN

Note: In placing reinforcement bars care shall be taken to clear anchor bolts. For anchor bolts see sheet 16

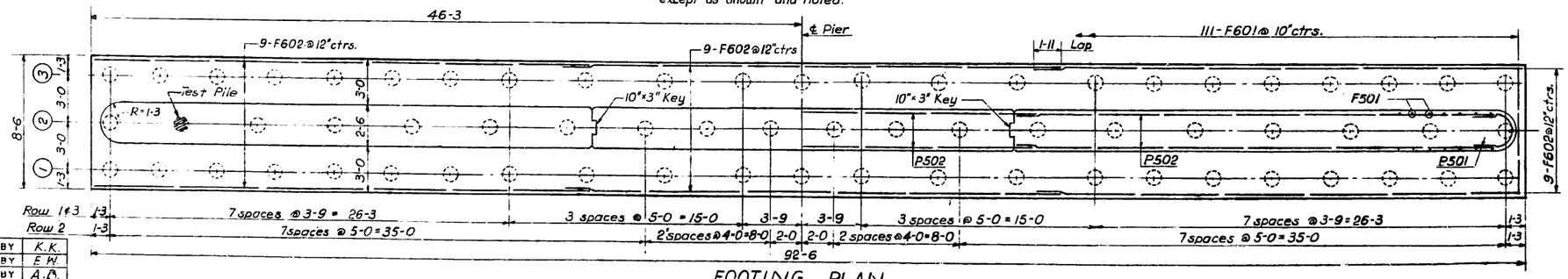


ELEVATION

Note: Dimensions and Reinforcement symmetrical about ℄ except as shown and noted.

Note: All edges shall have standard ¾" chamfer except footing.

Note: For Bar List and Bill of Material see sheet 20



FOOTING PLAN

PILE DATA
Creosoted Piles
Capacity per pile 20T.
Estimated Length 10 Ft.
Piles required 65

DESIGNED BY	K.K.
DRAWN BY	E.W.
CHECKED BY	A.C.

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

PIER No. 1

HARLEM AVENUE
OVER B. & O. C. T. R. R.

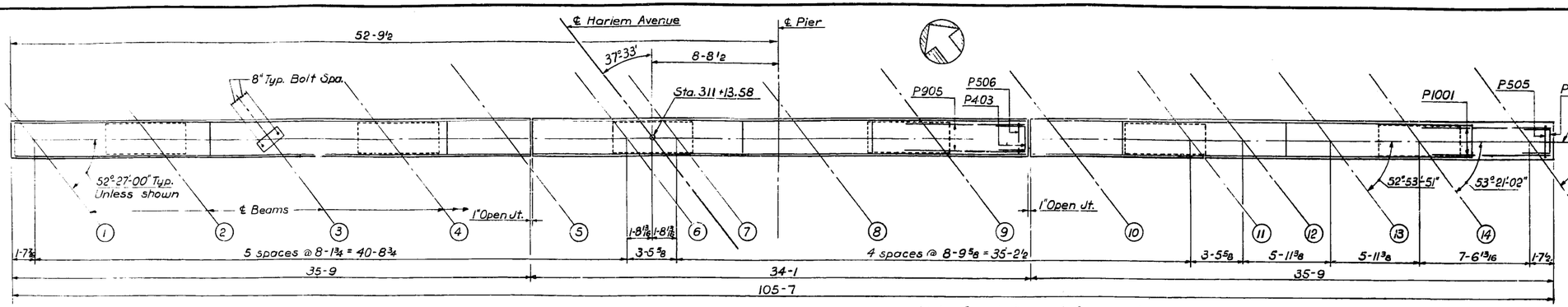
STATION 311 + 53.94

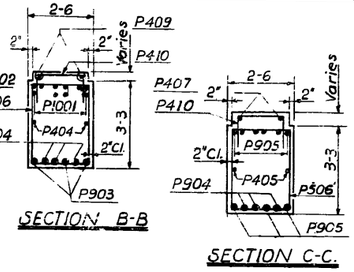
F.A.Rt. 42 COOK CO. · SECTION 3128-Z-VB

H.W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 21 of 36

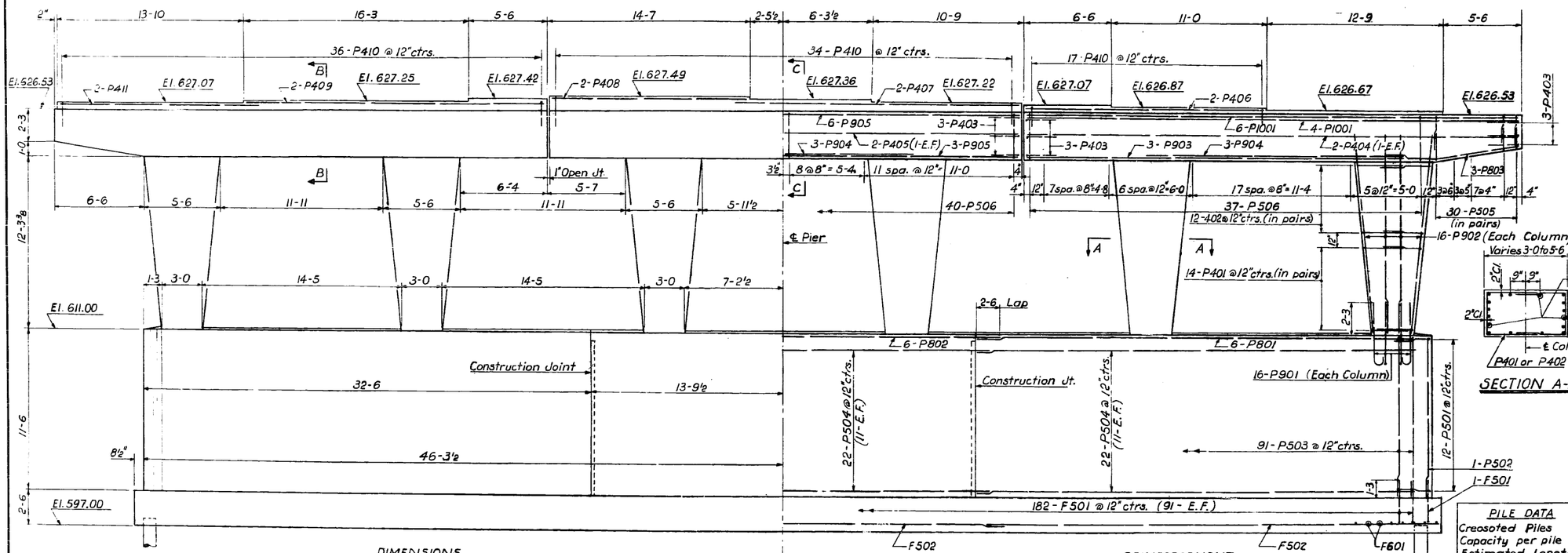
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-2-VB	COOK	36	22
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		





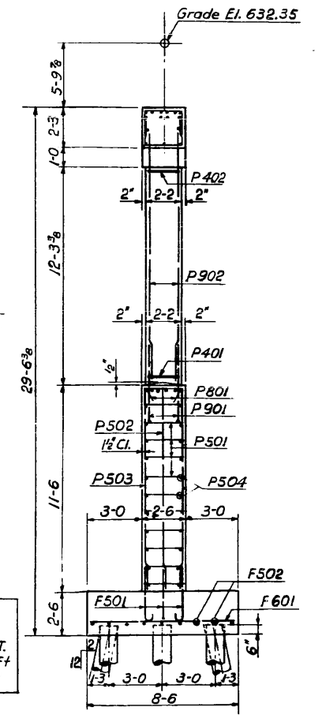
TOP PLAN

Note: In placing reinforcement bars care shall be taken to clear anchor bolts. For anchor bolts see sheet 16



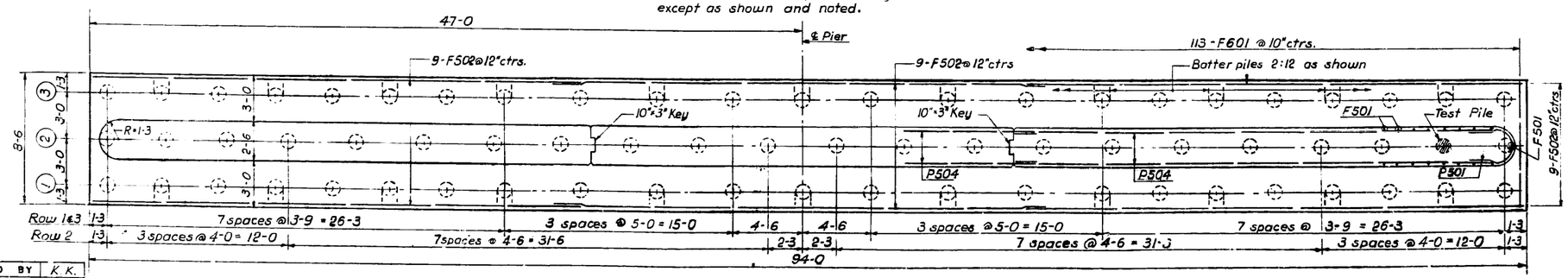
ELEVATION

Note: Dimensions and Reinforcement symmetrical about ℄ except as shown and noted.



END VIEW

Notes: All edges shall have standard ¾" chamfer except footing. For Bar List and Bill of Material see sheet 20



FOOTING PLAN

DESIGNED BY	K.K.
DRAWN BY	E.W.
CHECKED BY	A.B.

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

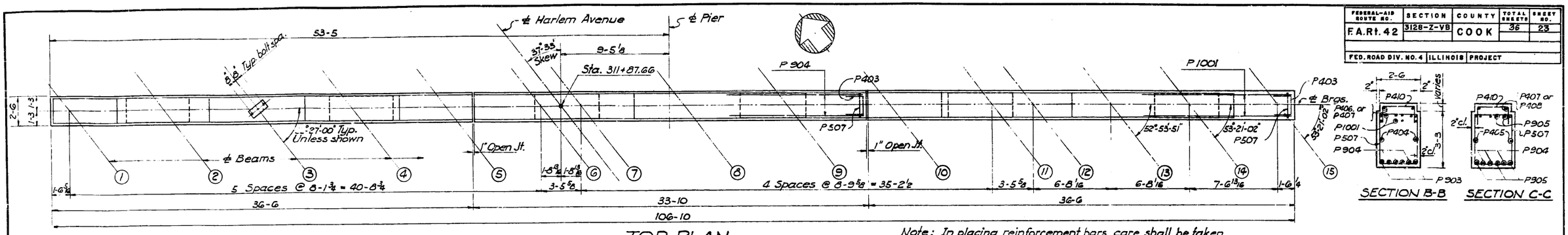
PIER No. 2

HARLEM AVENUE
OVER B. & O. C. T. R.R.
STATION 311 + 53.94
F. A. Rt. 42 COOK CO. SECTION 3128-2-VB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 22 of 36

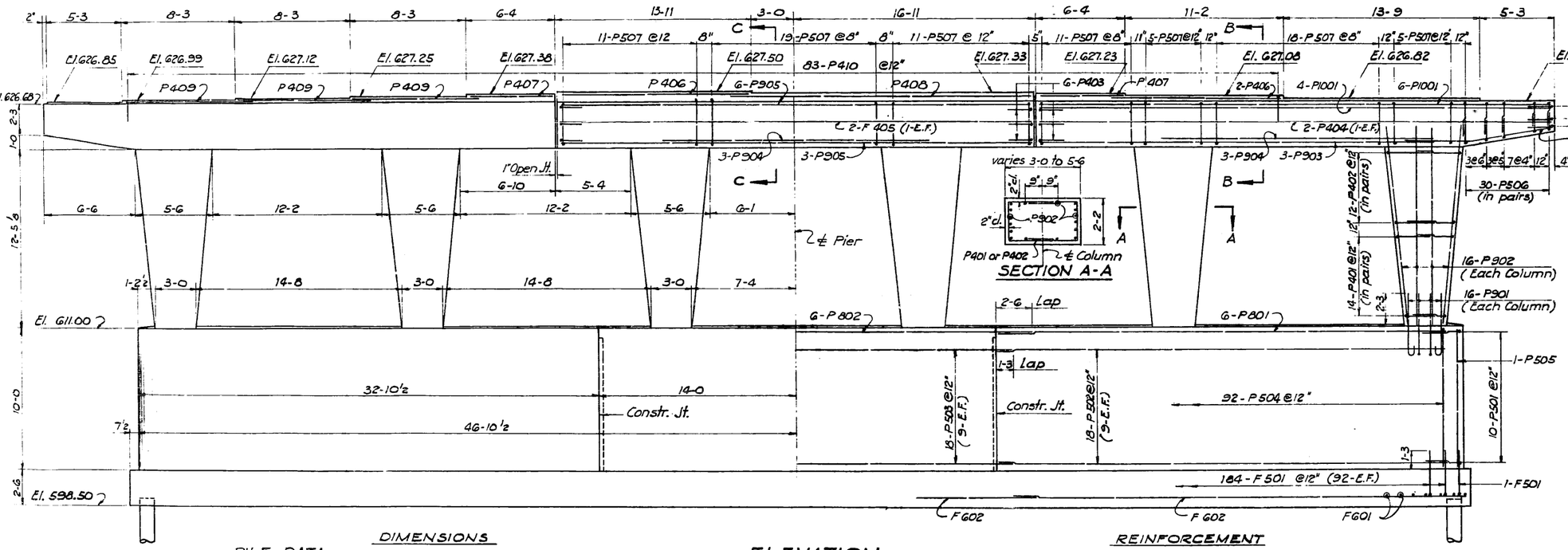
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-VB	COOK	36	23
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



TOP PLAN

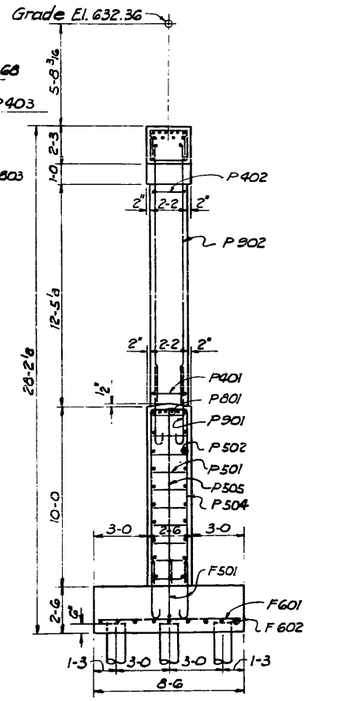
Note: In placing reinforcement bars care shall be taken to clear anchor bolts. For anchor bolts see sheet No. 16

SECTION B-B SECTION C-C



DIMENSIONS

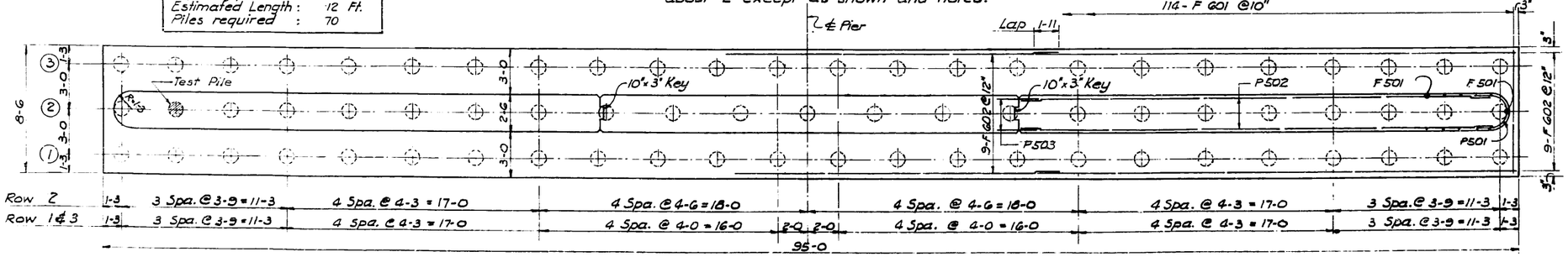
REINFORCEMENT



Note: All edges shall have standard 3/4" chamfer except footing. For Bar List and Bill of Material see Sheet No. 20

PILE DATA

Creosoted Piles :	
Capacity per pile :	20 Tons
Estimated Length :	12 Ft.
Piles required :	70



ELEVATION

Note: Dimensions and Reinforcement symmetrical about ℄ except as shown and noted.

FOOTING PLAN

DESIGNED BY	K.K.
DRAWN BY	A.B.
CHECKED BY	E.W.

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

PIER No. 3

HARLEM AVENUE
OVER B. & O. C. T. R. R.
STATION 311 + 53.94
F.A.Rt. 42 COOK CO. SECTION 3128-Z-VB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 23 of 36 Sheets