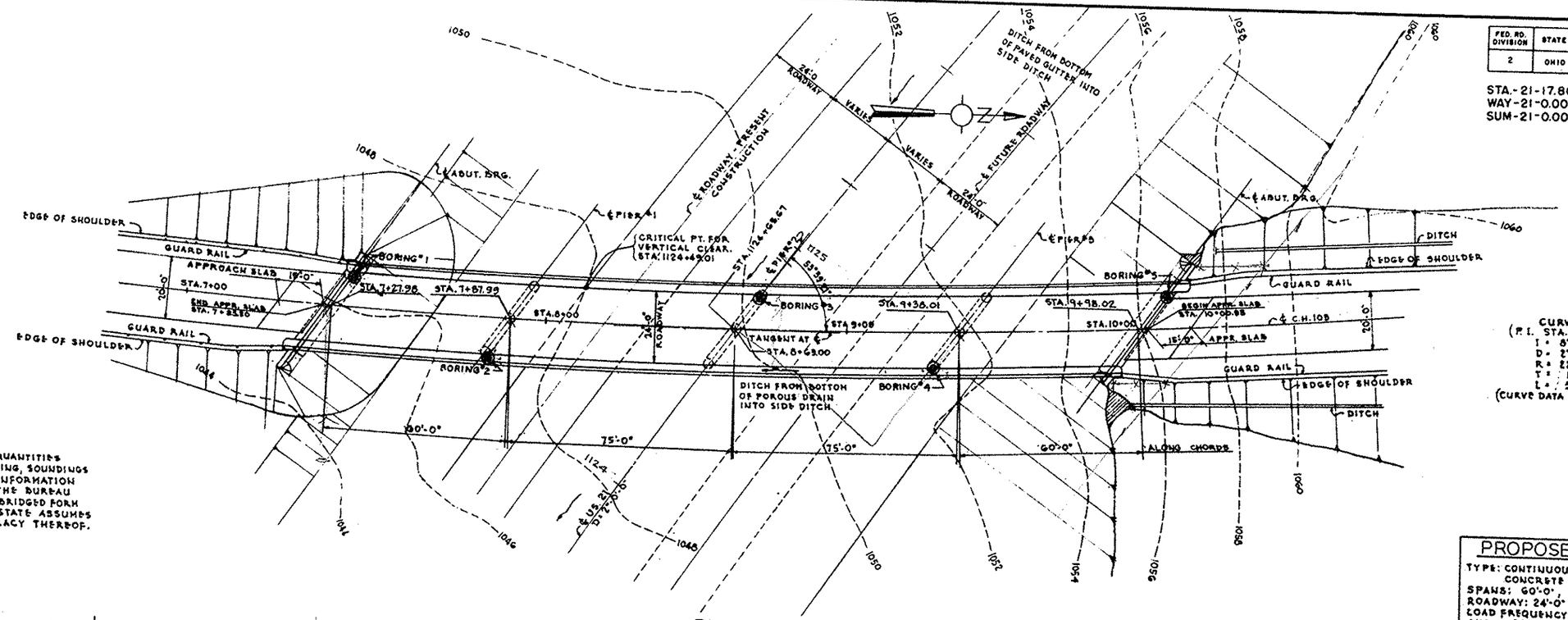
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

278
329

STA.-21-17.80
WAY-21-0.00
SUM-21-0.00



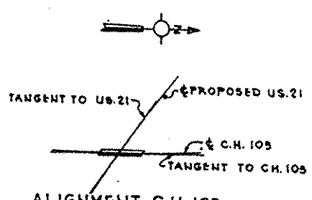
PLAN

CURVE DATA
(P.I. STA. 8+93.86)
I = 6°-59'-55"
D = 2°-30'-0"
R = 2291.83'
T = 178.24
L = 355.75'
(CURVE DATA ALONG ℄ OF CH 103)

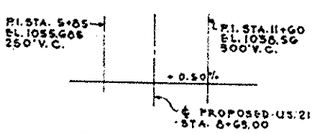
FOUNDATION SOUNDINGS:
FOUNDATION DESIGN AND FOUNDATION QUANTITIES ARE BASED ON A STUDY OF SOIL SAMPLING, SOUNDINGS MADE AT THE SITE. THIS SOUNDING INFORMATION MAY BE INSPECTED IN THE OFFICE OF THE BUREAU OF BRIDGES IN COLUMBUS OR IN AN ABRIDGED FORM IN THE DIVISION OFFICE, BUT THE STATE ASSUMES NO RESPONSIBILITY FOR THE ACCURACY THEREOF.

PROPOSED STRUCTURE

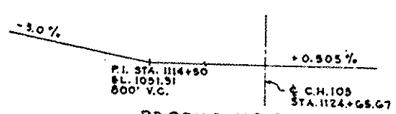
TYPE: CONTINUOUS STEEL BEAMS WITH REINF. CONCRETE DECK AND SUBSTRUCTURE
SPANS: 60'-0", 75'-0", 75'-0" AND 60'-0"
ROADWAY: 24'-0" F.-F. CURBS; 2'-0" SAFETY CURBS
LOAD FREQUENCY RATING: C.F. 80
SKEW: 39°-20'-35"
SURFACE COURSE: ASPHALTIC CONCRETE
APPROACH SLAB: AS SHOWN
ALIGNMENT: ON 2°-30' CURVE



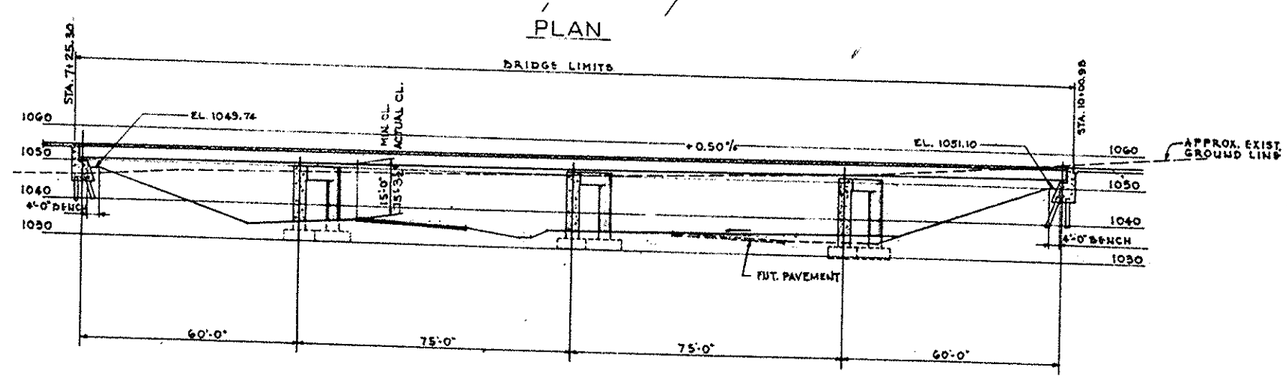
ALIGNMENT C.H. 103



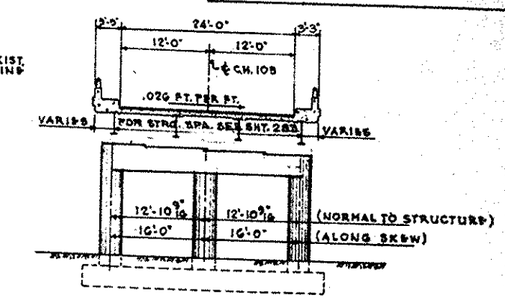
PROFILE C.H. 103



PROFILE U.S. 21



SECTION AT ℄ OF BRIDGE



CROSS SECTION OF BRIDGE
(LOOKING SOUTH)

NOTE
PILING 12 BP 53
EST. AVERAGE N. ABUT. 25'-0"
PAY LENGTH S. ABUT. 25'-0"

B.M.# 215 EL. 1048.91
R.R. SPIKE IN 10" WILD CHERRY
300' RIGHT, STA. 1127+00.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

SITE PLAN

BRIDGE NO. STA.-21-2130
U.S. 21 UNDER CH 103

STARK CO.
SEC. STA.-21

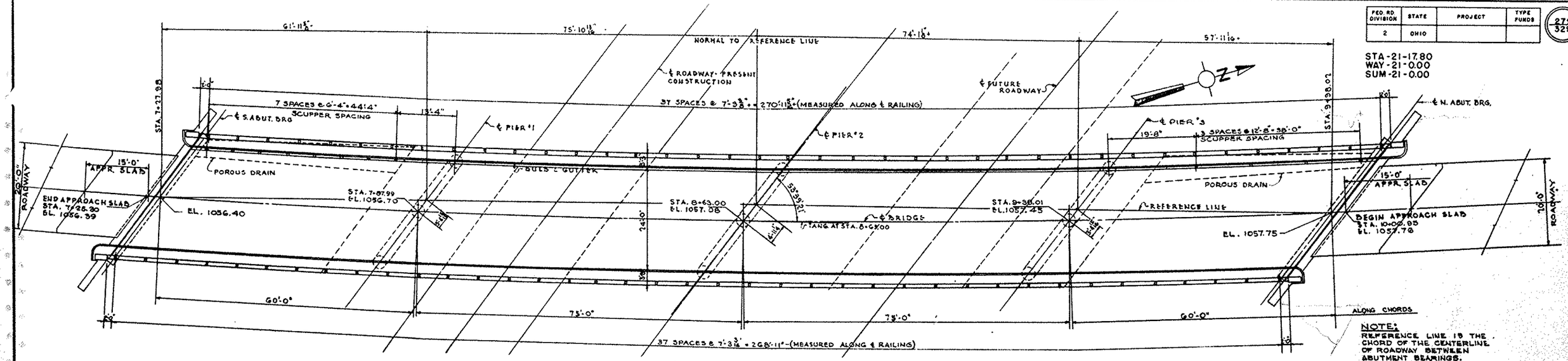
STA. 1124+65.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.T.N.	A.L.B.		R.S.	L.N.R.	5-24-56	

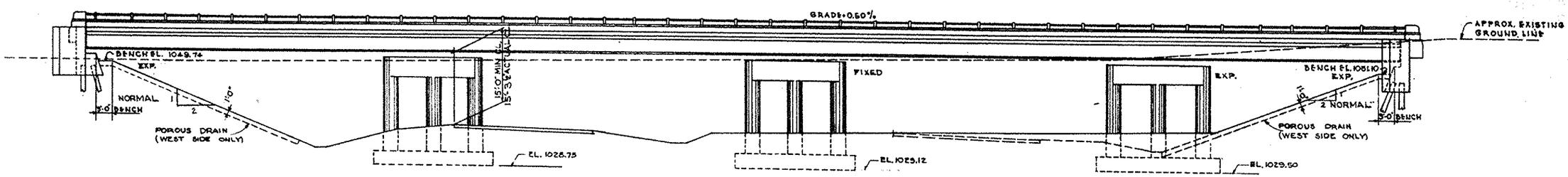
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

279/329

STA-21-17.80
WAY-21-0.00
SUM-21-0.00



PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GENERAL		
E-2	LUMPSUM		COFFERDAMS, CRIBS AND SHEETING				LUMP SUM		
E-2	391	C.Y.	UNCLASSIFIED EXCAVATION	114	277				
S-1	222	C.Y.	CLASS "C" CONCRETE, SUPERSTRUCTURE & PYLONS	2		220			
S-1	89	C.Y.	CLASS "C" CONCRETE, PIERS ABOVE FOOTINGS.		89				
S-1	109	C.Y.	CLASS "E" CONCRETE, ABUTMENTS.	109					
S-1	114	C.Y.	CLASS "E" CONCRETE, PIER FOOTINGS		114				
S-3	734	S.Y.	TYPE "C" WATERPROOFING			734			
S-4	113,542	LBS.	REINFORCING STEEL.	10,101	41,702	61,579	160		
S-7	218,500	LBS.	STRUCTURAL STEEL.			218,500			
S-8	218,500	LBS.	FIELD PAINTING OF STRUCTURAL STEEL			218,500			
S-14	548	L.F.	RAILING (ALUMINUM RAIL, SUPPORTS & CONC. PARAPET)			548			
S-16	LUMP SUM		FIRST TEST PILE				LUMP SUM		
S-18	500	L.F.	STEEL PILES 12 BP @ 53#	500					
S-29	273	L.F.	SUBDRAINAGE FOR WEARING SURFACE COURSE			273			
S-29	18	C.Y.	POROUS DRAINS ON EMBANKMENT SLOPES				18		
S-29	52	C.Y.	POROUS BACKFILL				52		
T-35	51	C.Y.	ASPHALTIC CONC. SURFACE COURSE TYPE "A" OR "C" (70-80)			51			

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWING NO. RB-1-55 DATED 3-1-55 AND TO SUPPLEMENTAL SPECIFICATIONS NO. S-114 DATED AUG. 30, 1955.

SPECIFICATIONS: THIS WORK SHALL BE GOVERNED BY THE "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS INCLUDING REVISIONS THRU FEB. 1, 1955 AND BY THE "CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED JANUARY 1, 1955.

PILING SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS PER PILE FOR THE ABUTMENT. THE LENGTH OF PENETRATION OF EVERY PILE SHALL BE AT LEAST 80% OF ESTIMATED AVERAGE PAY LENGTH OF THE PILES AS INDICATED ON THE PLANS, UNLESS A LESSER PENETRATION IS APPROVED BY THE DIRECTOR. THE DESIGN LOAD FOR THE ABUTMENT PILES IS 30 TONS PER PILE.

FOUNDATION PRESSURE: MAX. SOIL PRESSURE = 5000 LBS. PER SQ. FT. UNDER PIERS.

WELDING OF STRUCTURAL STEEL SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN.

PAINT. BOTH SHOP AND FIELD SHALL BE APPLIED BY BRUSHING. SPRAY APPLICATION WILL NOT BE PERMITTED.

SURFACE FINISH OF CONCRETE: RAILING END POSTS, RAILING PARAPETS, CURB FACES, FASCIAS OF DECK AND EXPOSED SURFACE OF PIERS, ABUTMENTS AND WING-WALLS SHALL RECEIVE A RUBBED SURFACE FINISH. ALL OTHER EXPOSED SURFACES SHALL BE GOVERNED BY THE PROVISIONS OF ITEM S-1.

POROUS DRAINS EXTENDING FROM FACE OF ABUTMENT TO EL. 1036.8 - N.W. EL. 1037.0 - S.W. SHALL BE PLACED ON AND FLUSH WITH EMBANKMENT SLOPES AT THE N.W. AND S.W. CORNERS OF THE STRUCTURE. THE DRAINS SHALL BE 7'-0" WIDE AT THE LOW END, TAPERING TO 4'-0" WIDE AT FACE OF ABUTMENT AND ONE FT. THICK. THEY SHALL BE CENTERED UNDER THE SCUPPERS.

GRAVEL, IF USED AS THE COURSE AGGREGATE, SHALL BE ACCORDING TO SEC. M-3.95 INSTEAD OF M-3.91 FOR CLASS "C" CONCRETE, SUPERSTRUCTURE. GRAVEL MEETING THE REQUIREMENTS OF SEC. M-3.98 ALSO MAY BE USED FOR OTHER CONCRETE IN THIS STRUCTURE INCLUDING CONCRETE FOR PYLONS.

SPLICE OF REINFORCING STEEL: REINFORCING STEEL SHALL BE SPLICED BY LAPPING BARS A MIN. OF 30 TIMES THE DIAMETER OF THE SMALLER BAR CONCERNED.

NOTE:
REFERENCE LINE IS THE CHORD OF THE CENTERLINE OF ROADWAY BETWEEN ABUTMENT BEARINGS.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

GENERAL PLAN & ELEVATION NOTES & ESTIMATED QUANTITIES

BRIDGE NO. STA. 21-2130
U.S. 21 UNDER CH 103

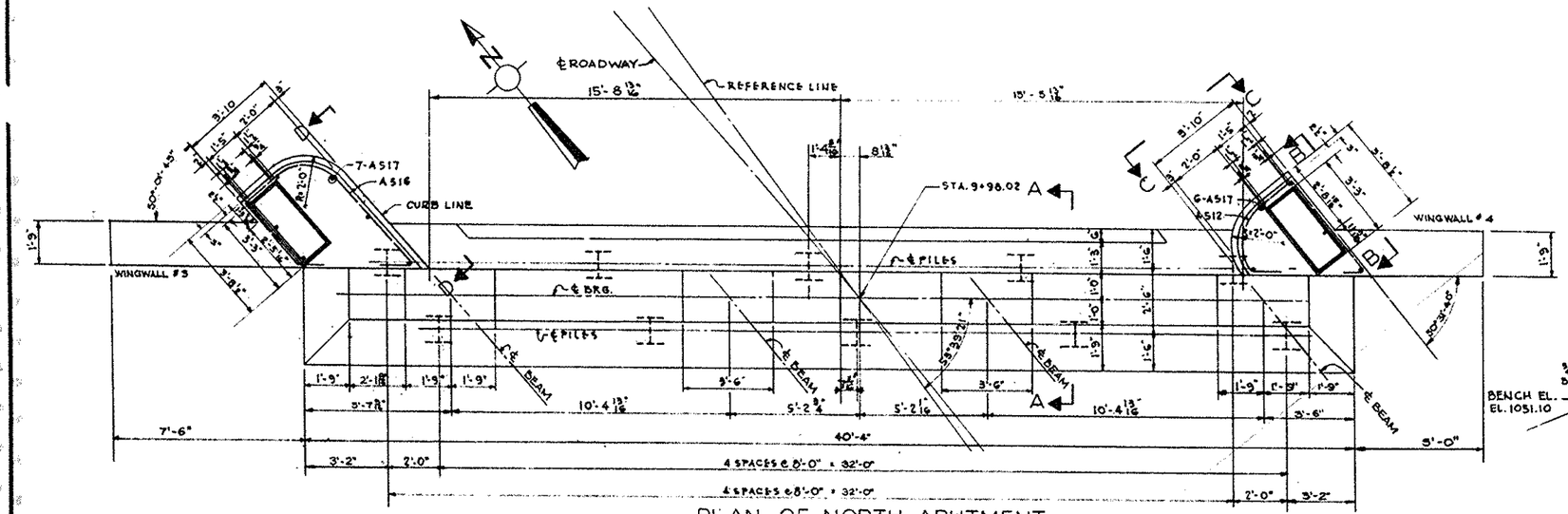
STARK CO.
SEC. STA.-21
STA. 1124+65.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.T.N.	A.L.B.		R.S.	L.N.R.	5-24-56	

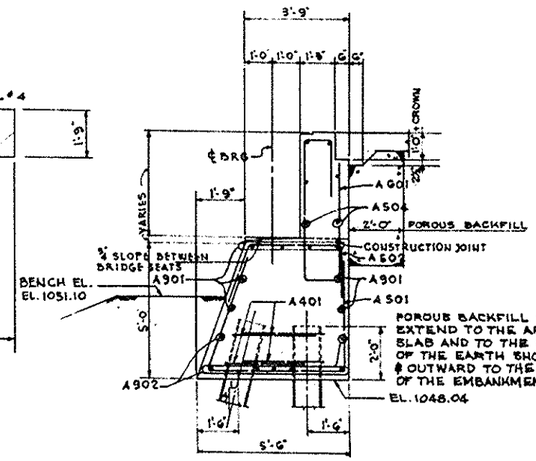
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

280/329

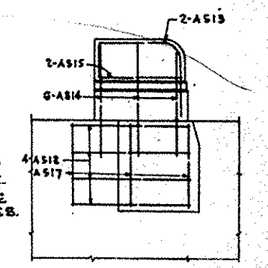
STA-21-17.80
WAY-21-0.00
SUM-21-0.00



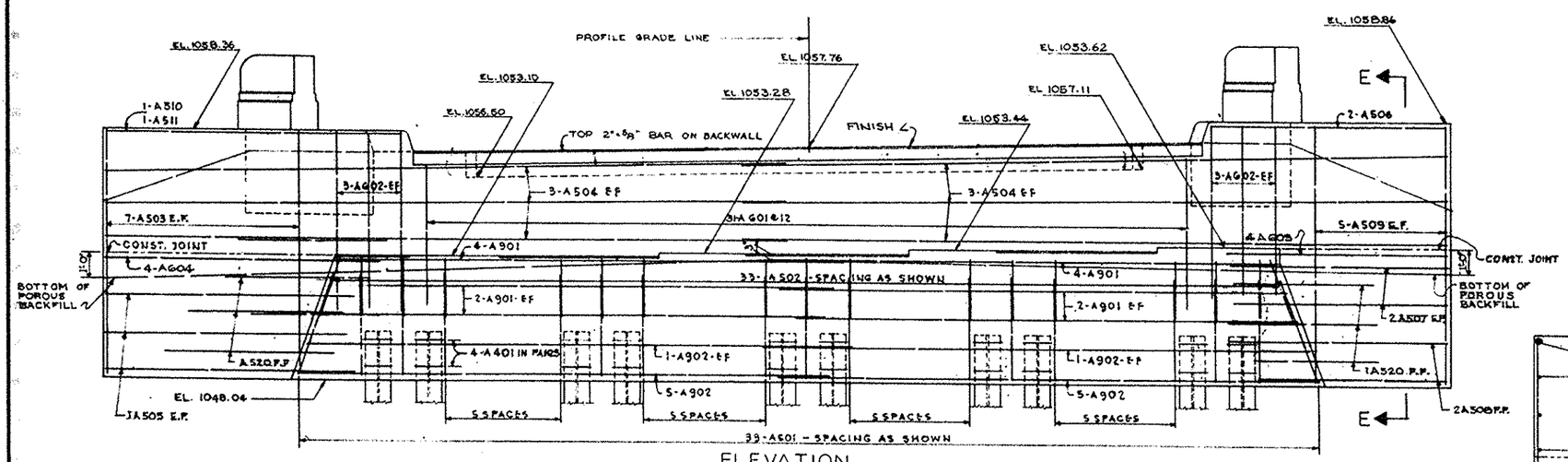
PLAN OF NORTH ABUTMENT



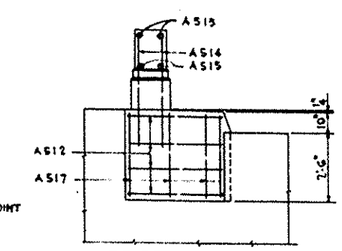
SECTION A-A



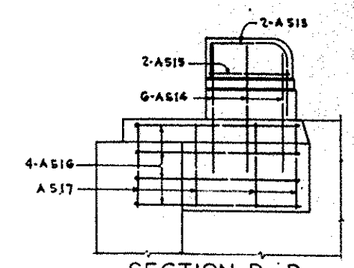
SECTION B-B



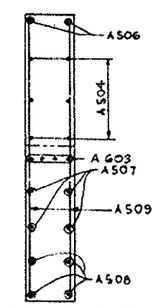
ELEVATION



SECTION C-C



SECTION D-D



SECTION E-E

NOTES:
REINFORCING STEEL SHALL BE 2" CLEAR FROM SURFACE OF CONCRETE UNLESS OTHERWISE NOTED. CONCRETE IN PYLONS TO BE INCLUDED IN ITEM S-1, CLASS "C" CONCRETE, SUPERSTRUCTURE. REINFORCING STEEL IN TOP OF ABUTMENT BRIDGE SEAT TO BE PLACED TO CLEAR ANCHOR BOLTS.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

NORTH ABUTMENT DETAILS

BRIDGE NO. ST-21-2130
U.S. 21 UNDER CH. 103

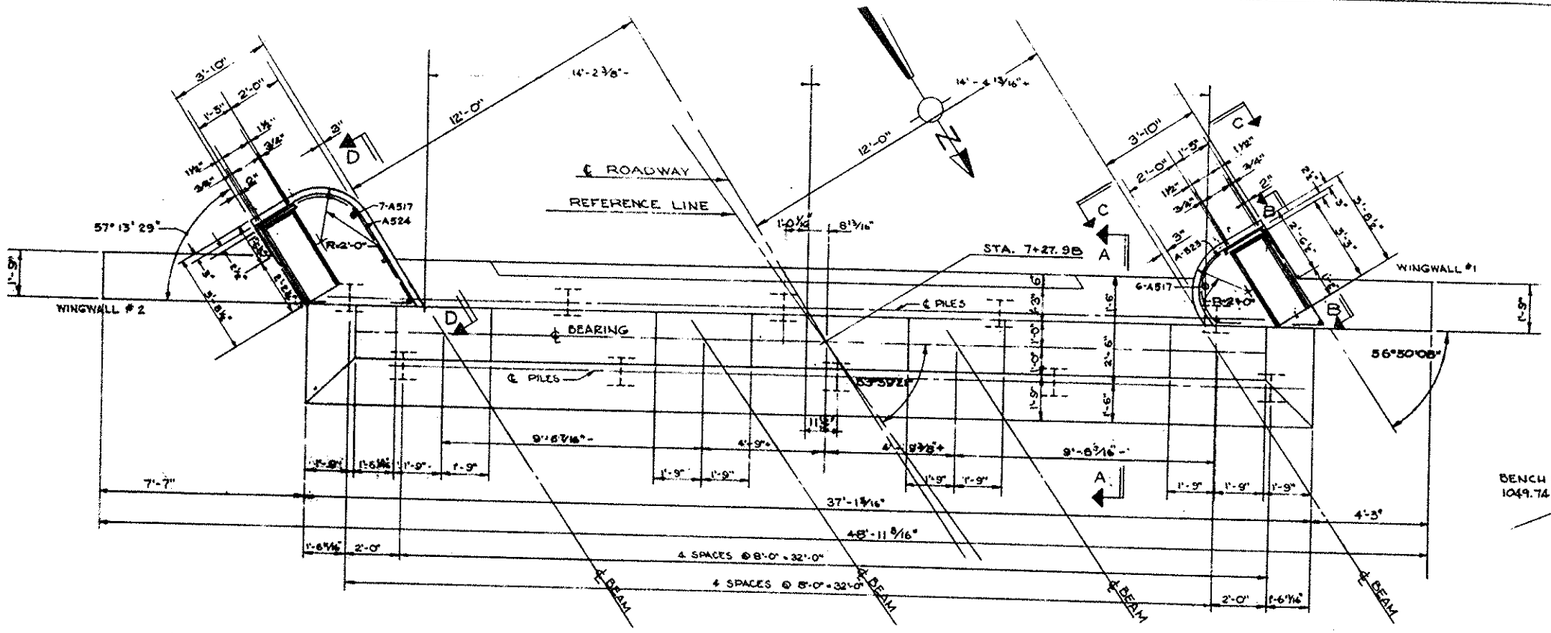
STARK CO. STA. 1124+65.67
SEC. STA.-21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.T.N.	W.J.C.		R.S.	L.N.R.	5-24-56	

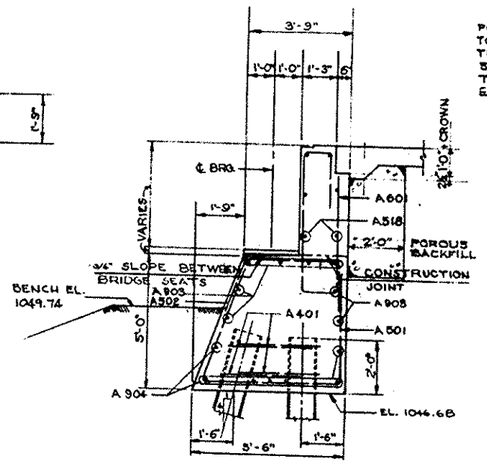
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

281
329

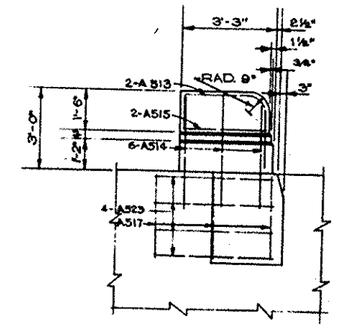
STA-21-17.80
WAY-21-0.00
SUM-21-0.00



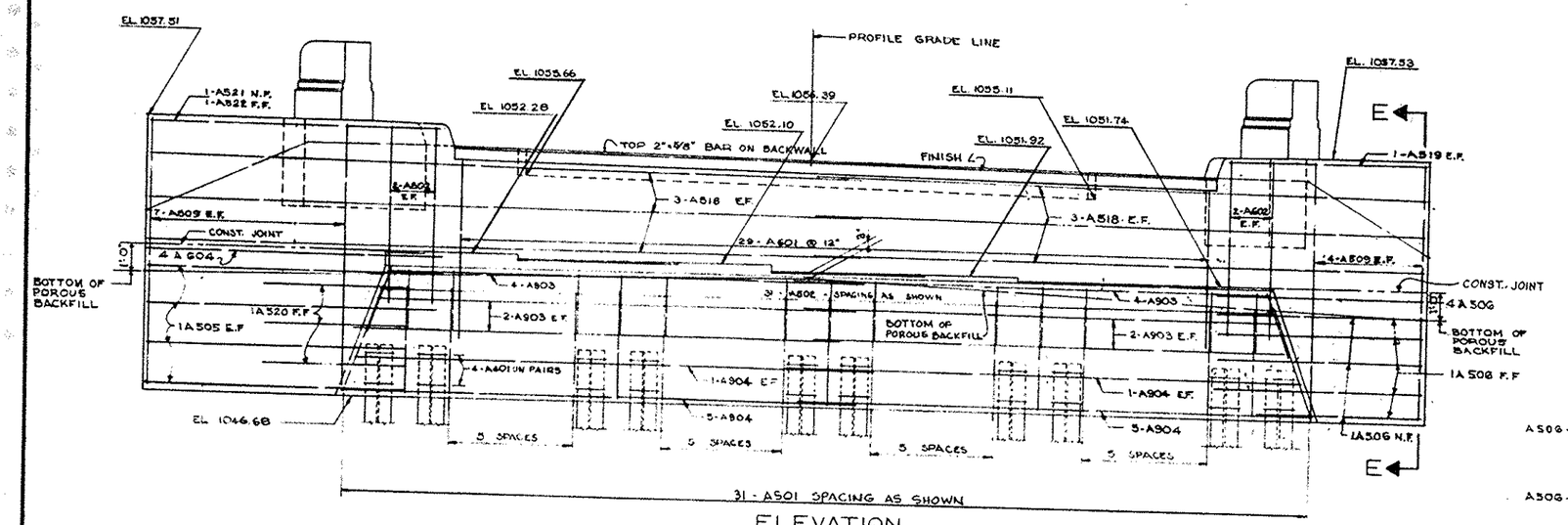
PLAN OF SOUTH ABUTMENT



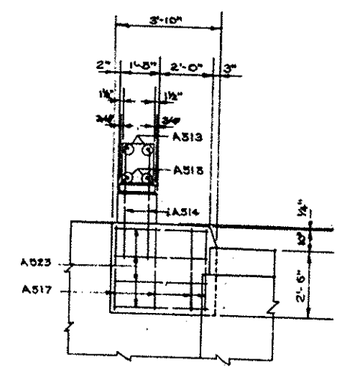
SECTION A-A



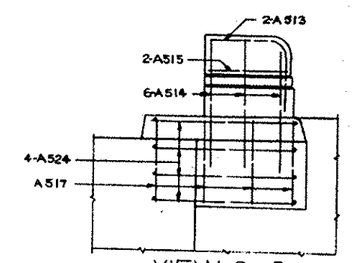
VIEW B-B



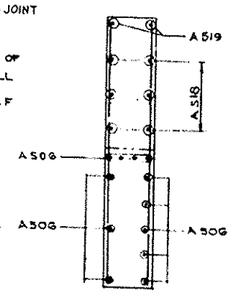
ELEVATION



VIEW C-C



VIEW D-D



SECTION E-E

NOTES:

REINFORCING STEEL SHALL BE 2" CLEAR FROM SURFACE OF CONCRETE UNLESS OTHERWISE NOTED. CONCRETE IN PYLONS TO BE INCLUDED IN ITEM 511, CLASS "C" CONCRETE, SUPERSTRUCTURE. REINFORCING STEEL IN TOP OF ABUTMENT BRIDGE SEAT TO BE PLACED TO CLEAR ANCHOR BOLTS.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

SOUTH ABUTMENT DETAILS

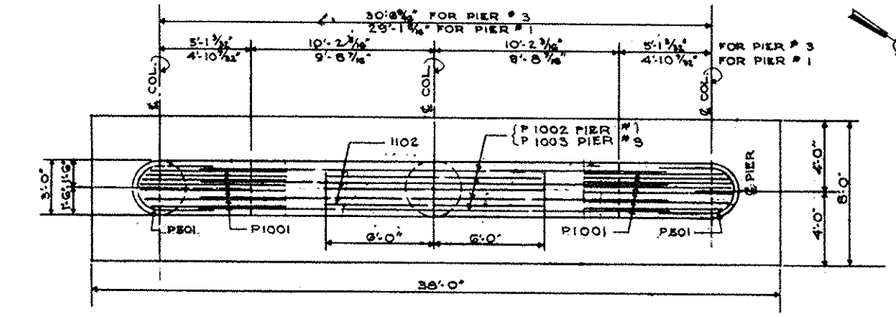
BRIDGE NO. STA-21-2130
U.S. 21 UNDER CH 103
STARK CO.
SEC. STA.-21
STA. 1124+65.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
I.T.N.	W.J.C.		R.S.	L.N.R.	5-24-56	

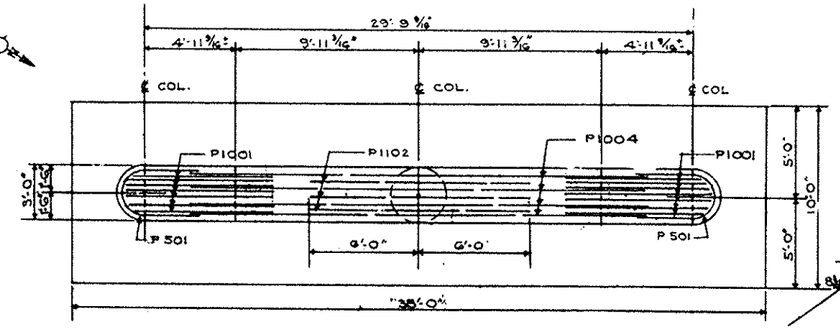
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

282/329

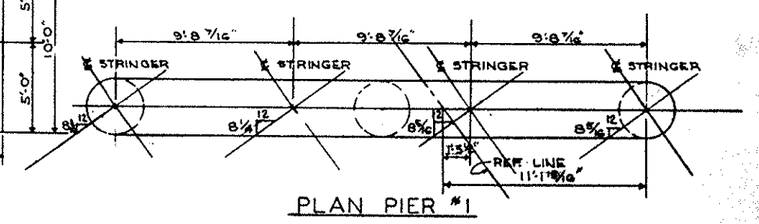
STA-21-17.80
WAY-21-0.00
SUM-21-0.00



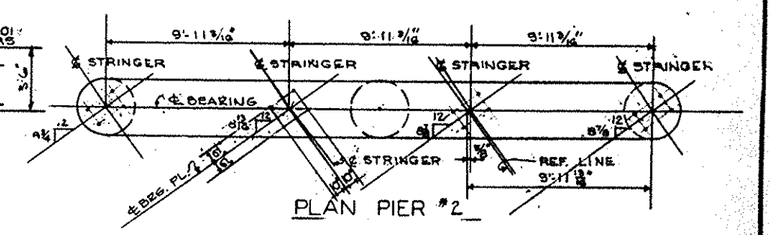
PLAN - PIERS #1 & #3
SHOWING TOP REINFORCING



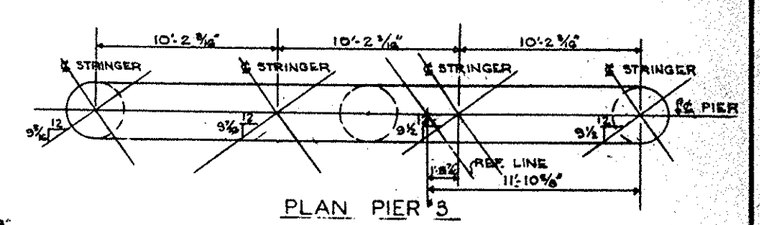
PLAN - PIER #2
SHOWING TOP REINFORCING



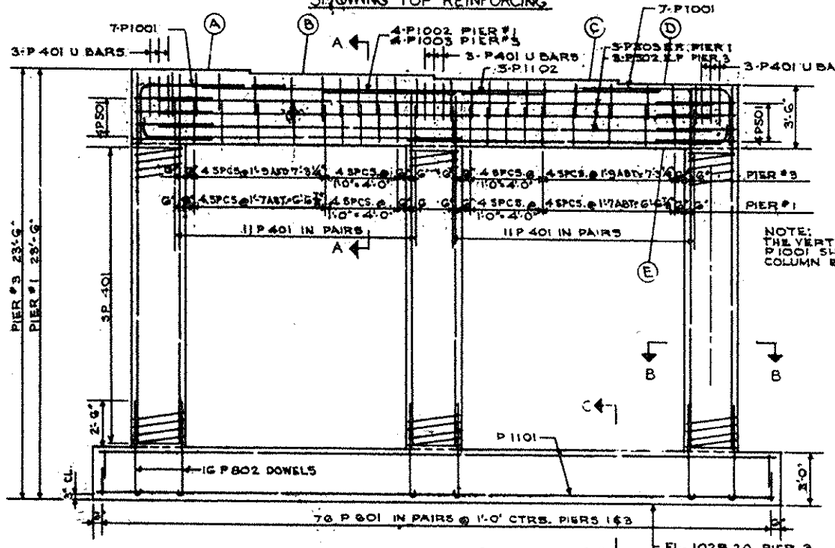
PLAN PIER #1



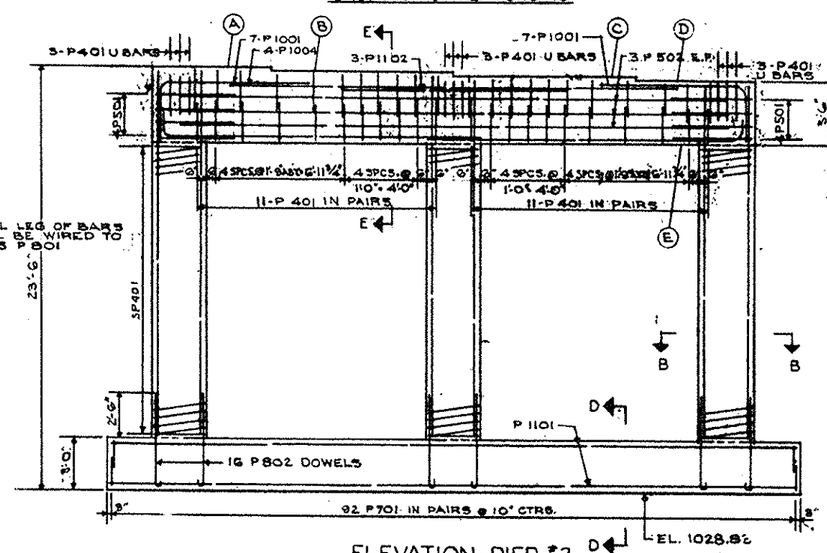
PLAN PIER #2



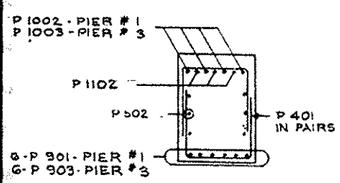
PLAN PIER #3



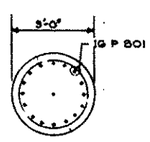
ELEVATION - PIERS #1 & #3



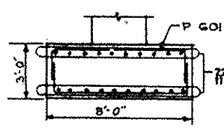
ELEVATION - PIER #2



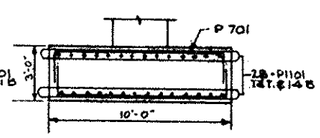
SECTION A-A



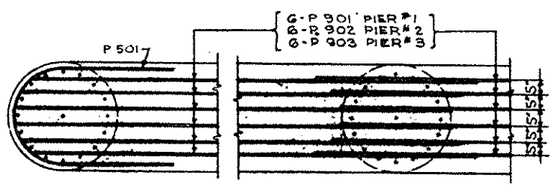
SECTION B-B



SECTION C-C

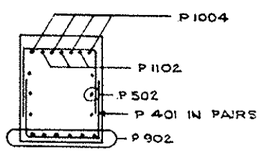


SECTION D-D



END COLUMN MIDDLE COL.

HORIZONTAL SECTION AT BASE OF PIER CAP FOR ALL PIERS



SECTION E-E

	ELEV. "A"	ELEV. "B"	ELEV. "C"	ELEV. "D"	ELEV. "E"
PIER #1	1051.96	1051.78	1051.60	1051.42	1047.92
PIER #2	1052.33	1052.15	1051.98	1051.80	1048.30
PIER #3	1052.70	1052.52	1052.36	1052.18	1048.68

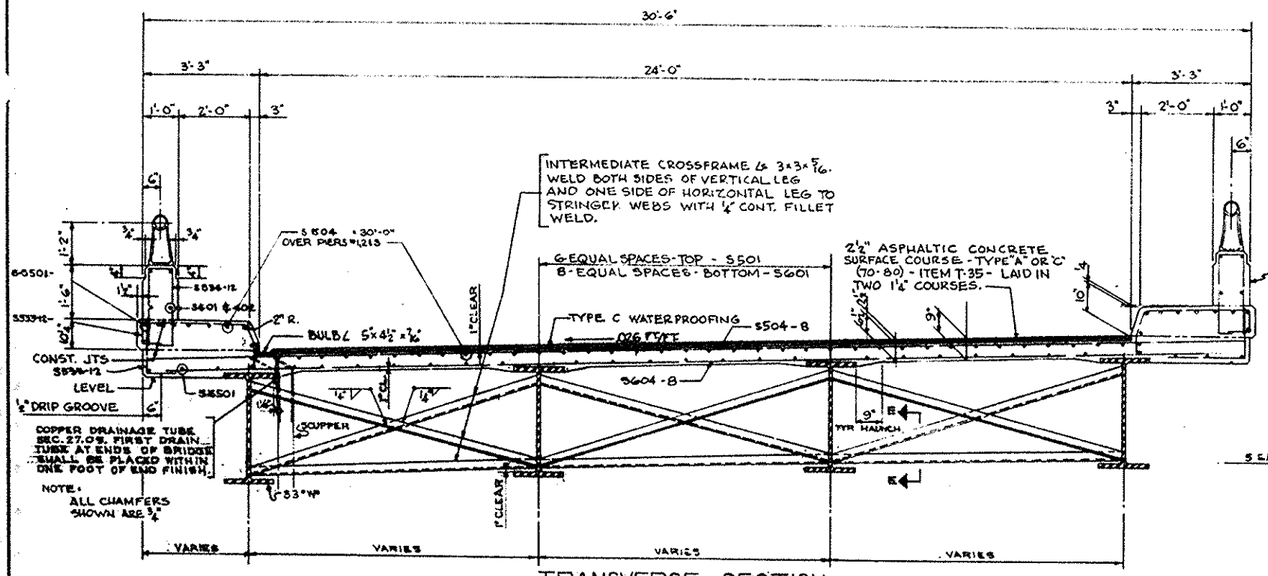
CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

DETAILS OF PIERS NO. 1, 2 & 3
BRIDGE NO. STA-21-2130
U.S. 21 UNDER CH 103
STARK CO.
SEC. STA.-21 STA. 1124+68.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
N.S.W.	J.N.		R.S.	L.N.R.	3-24-36	

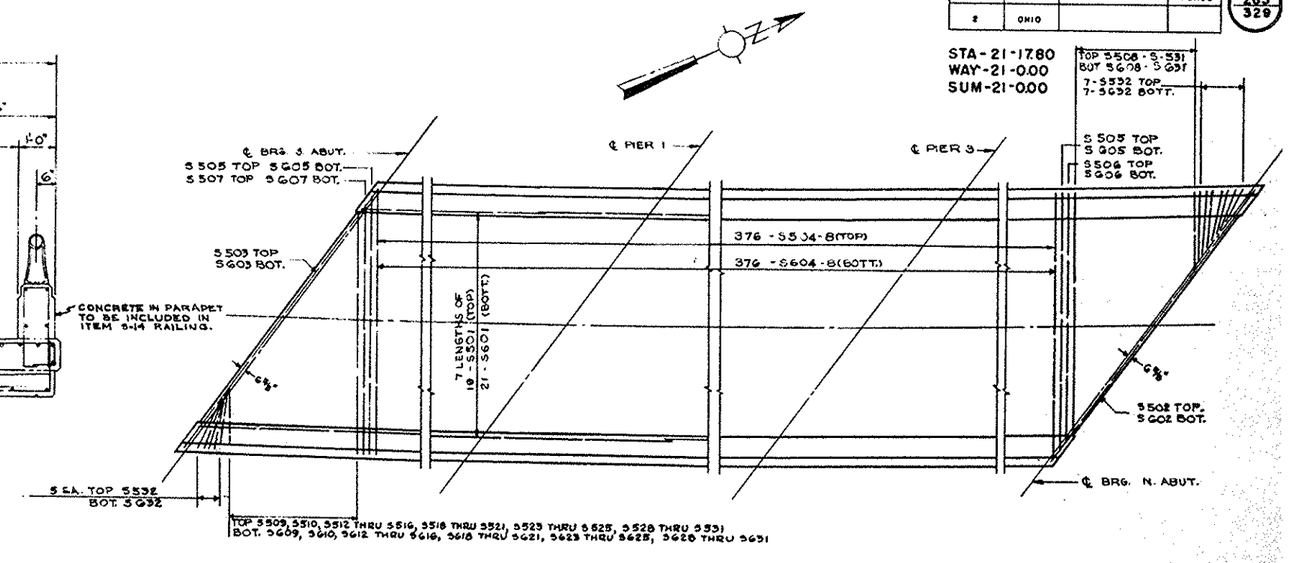
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

283
329

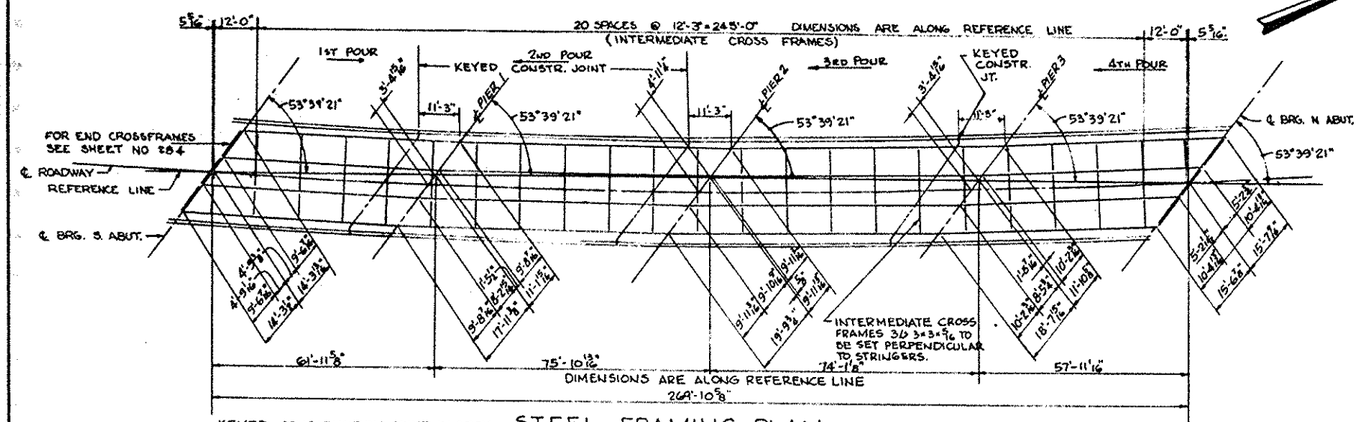


TRANSVERSE SECTION

STA-21-17.80
WAY-21-0.00
SUM-21-0.00



DECK SLAB REINFORCING PLAN



KEYED CONSTRUCTION JOINT IN DECK SLAB SHALL BE NORMAL TO THE CENTERLINE OF ROADWAY FOR 2'-0" INSIDE OF THE EDGE OF THE SLAB.

STEEL FRAMING PLAN

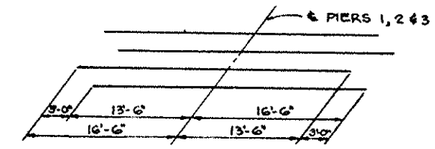


DIAGRAM SHOWING STAGGER OF S504 BARS OVER PIERS #1, 2, & 3

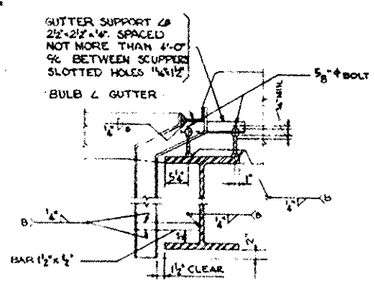
ROCKERS AND BOLSTERS		
	ROCKER	BOLSTER
WEST ABUTMENT	R-75	
PIER NO. 1	R-200	
PIER NO. 2		B-200
PIER NO. 3	R-200	
EAST ABUTMENT	R-75	

FOR DETAILS SEE DWG. NO. R51-58

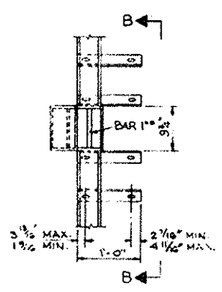
MOMENT PLATE SIZES			
LOCATION		INTERIOR BEAMS 33WF 141	EXTERIOR BEAMS 33WF141
PIERS #1,3	TOP PL	10×11/16×17'-0"	10×11/16×17'-0"
	BOTT. PL	13×9/16×17'-0"	13×9/16×17'-0"
PIER #2	TOP PL	10×11/16×17'-0"	10×11/16×17'-0"
	BOTT. PL	13×9/16×17'-0"	13×9/16×17'-0"

DEFLECTION AND CAMBER				
	INTERIOR STRINGER		FASCIA STRINGER	
	END SPAN	MIDDLE SPAN	END SPAN	MIDDLE SPAN
DEFLECTION DUE TO WEIGHT OF STEEL	.0481"	.0653"	.0481"	.0653"
DEFLECTION DUE TO REMAINING D.L.	.2910"	.3950"	.5230"	.7100"
CAMBER REQ'D. FOR VERT. CURVE	0	0	0	0
SUM OF DEF. AND CAMBER	.3391"	.4603"	.5711"	.7753"
REQUIRED CAMBER	0*	0*	0*	3/4"

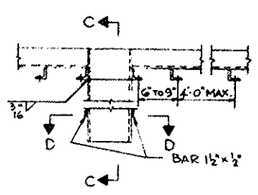
* CAMBER: NO CAMBERING OF BEAMS IS REQUIRED BUT THE BEAMS SHALL BE SO FABRICATED THAT ANY CURVED BEAMS WILL BE PLACED WITH THE CONVEX FLANGE UP.



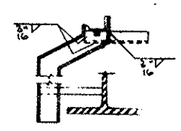
GUTTER SUPPORT AND SCUPPER



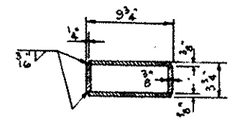
PART PLAN



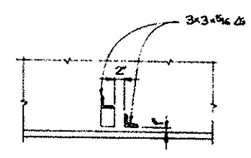
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

SUPERSTRUCTURE DETAILS

BRIDGE NO. ST-21-2130
U.S. 21 UNDER CH 103

STARK CO
SEC. STA-21

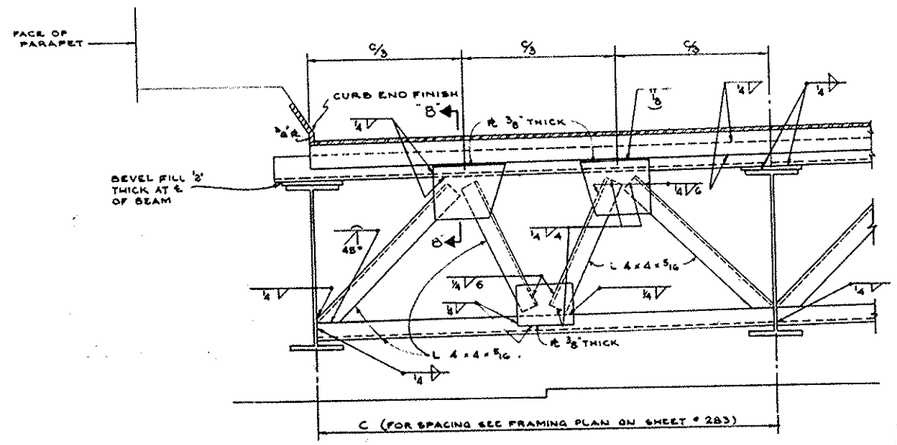
STA. 1124+65.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.E.	W.J.C.		D.J.L.	L.N.R.	5-24-56	

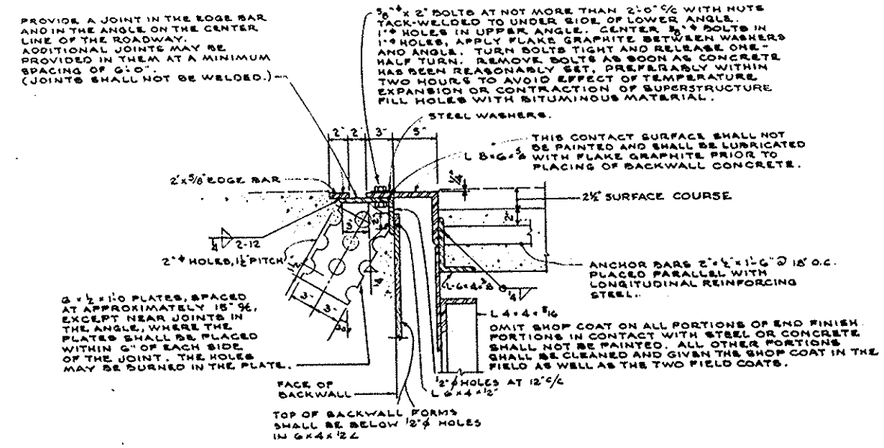
FED RD DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

284
329

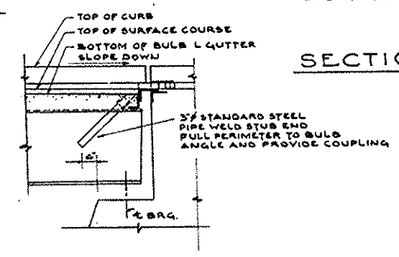
STA.-21-17.80
WAY.-21-0.00
SUM.-21-0.00



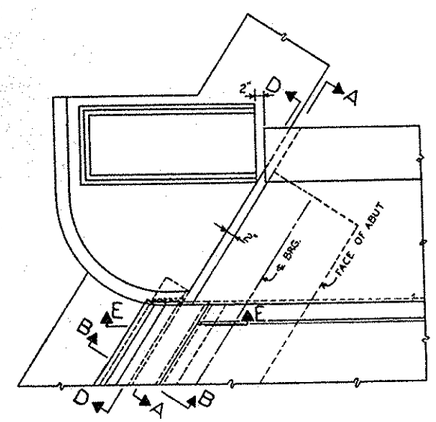
SECTION "A-A"



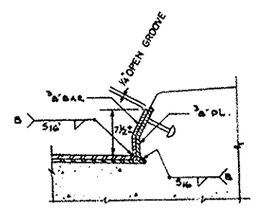
SECTION "B B"



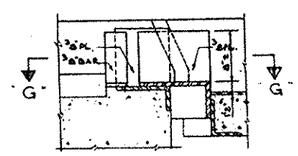
TYPICAL SECTION FOR GRADE SLOPING DOWN TO END FINISH



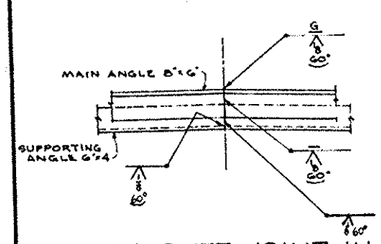
PARTIAL PLAN AT ABUTMENT



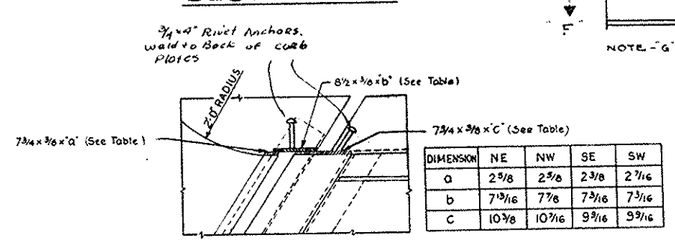
SECTION "D-D"



SECTION "E-E"

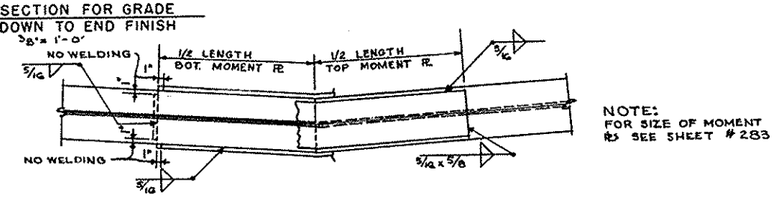


WELDED BUTT JOINT IN SUPERSTRUCTURE END FINISH ANGLES AT ℄ OF ROADWAY.



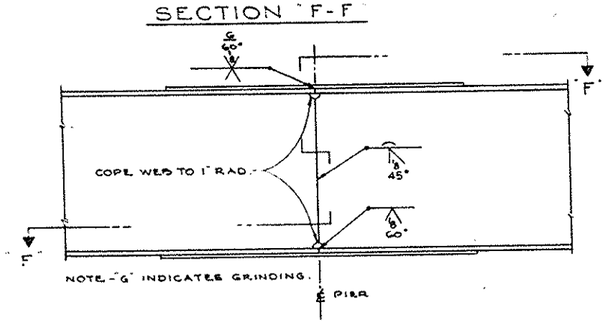
DIMENSION	NE	NW	SE	SW
a	2 5/8	2 5/8	2 3/8	2 7/16
b	7 13/16	7 7/8	7 3/16	7 3/16
c	10 3/8	10 7/16	9 9/16	9 9/16

SECTION "G-G"



NOTE:
FOR SIZE OF MOMENT PL SEE SHEET # 283

SECTION "F-F"



BEAM SPLICE DETAILS

BEAM SPLICE WELDING PROCEDURE

1. RAISE END OF BEAM 2"±1/2" AT PIER 2.
* 2. BUTT WELD BEAM FLANGES AND WEB AT PIER 1.
3. WELD TOP AND BOTTOM FLANGE MOMENT PLATES AT PIER 1.
4. LOWER END OF BEAM AT PIER 2.
5. MAKE SPLICE AT SECOND AND SUCCEEDING PIERS IN THE SAME MANNER, RAISING THE END OF THE BEAMS 2 1/16" @ PIER 3, AND 1 9/16" AT THE ABUTMENT.

* WELDING SEQUENCE: MAKE ONE PASS IN EACH FLANGE, THEN ONE PASS IN THE WEB; REPEAT UNTIL WELDS ARE COMPLETED.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

SUPERSTRUCTURE DETAILS
BRIDGE NO.WAY.-21-2130
U.S. 21 UNDER CH 103

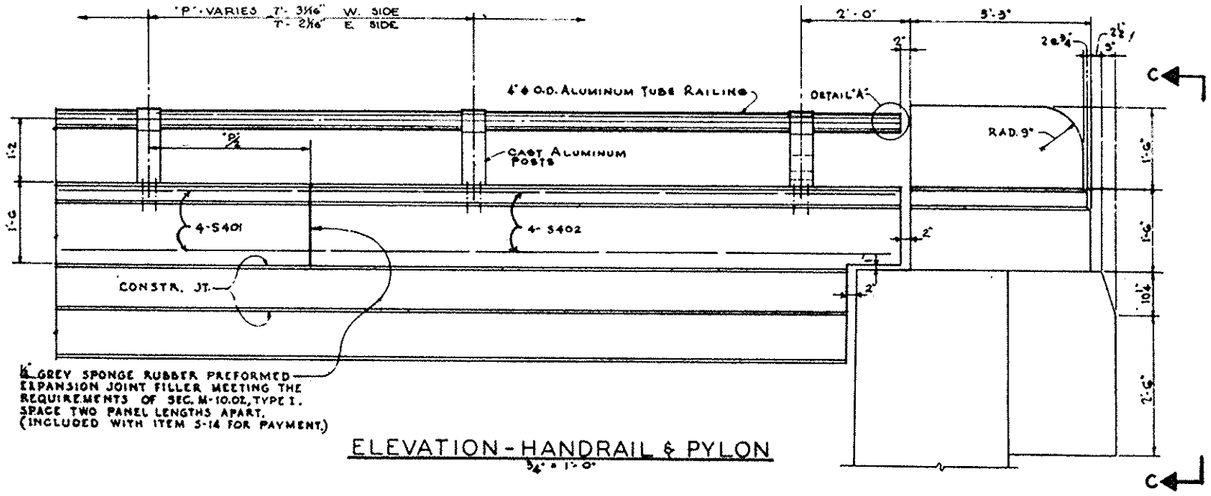
STARK CO. STA. 1124+65.67
SEC.STA-21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISE
J.E.	J.N.		R.S.	L.N.R.	5-24-56	

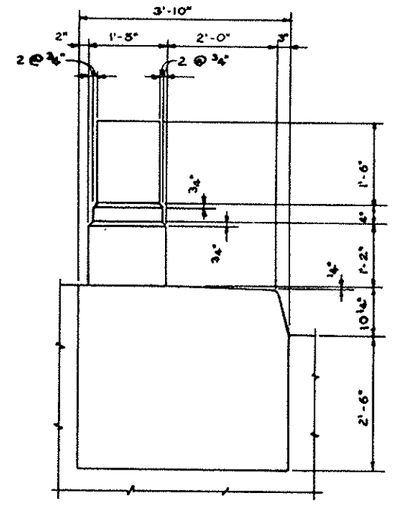
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

285/329

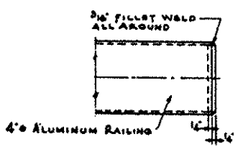
STA.-21-17.80
WAY-21-0.00
SUM-21-0.00



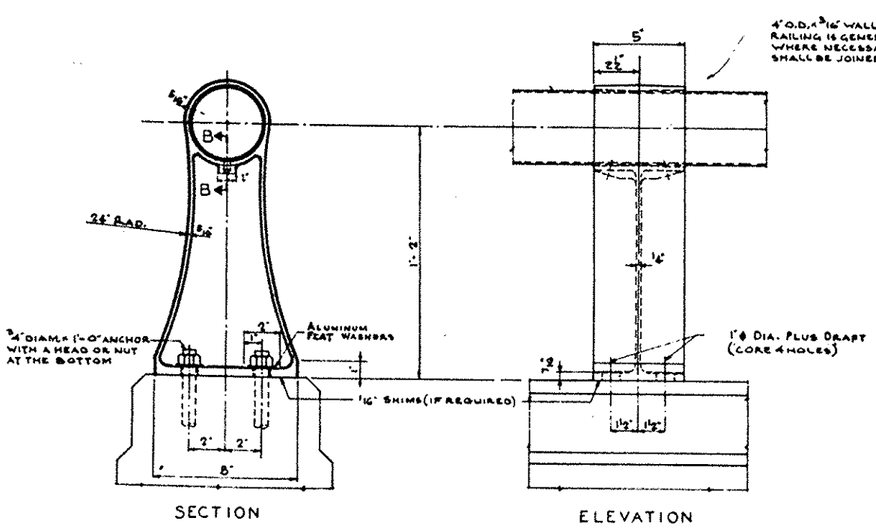
ELEVATION - HANDRAIL & PYLON
3/4" = 1'-0"



VIEW C-C
3/4" = 1'-0"

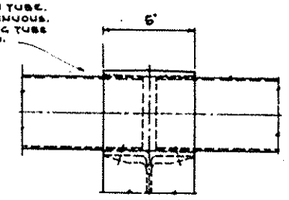


DETAIL A
3" = 1'-0"

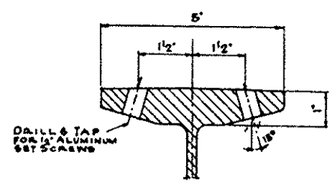


SECTION ELEVATION

HANDRAIL DETAILS
3" = 1'-0"



TYPICAL PIPE JOINT
3" = 1'-0"



SECTION B-B
6" = 1'-0"

NOTE:
FOR FURTHER DETAILS SEE SUPPLEMENTAL SPECIFICATIONS NO. S-114 ALUMININUM FOR BRIDGE RAILING, DATED AUGUST 30, 1955

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

HANDRAIL AND PYLON DETAILS
BRIDGE NO. STA.-21-2130
U.S. 21 UNDER CH 103

STARK CO.
SEC. STA.-21 STA. 1124+65.67

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.C.	R.N. AL.B.		R.S.	L.N.R.	5-24-56	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

286/329

STA-21-17.80
WAY-21-0.00
SUM-21-0.00

REINFORCING STEEL LIST

SUPERSTRUCTURE

MARK	NO.	LENGTH	WEIGHT	SHP.
S601	147	40'-3"	8887	S
S602	1	37'-9"	57	
S603	1	34'-8"	52	
S604	376	29'-0"	16378	
S605	2	28'-3"	85	
S606	1	27'-6"	41	
S607	1	27'-0"	41	
S608	1	26'-3"	39	
S609	2	25'-3"	76	
S610	2	24'-6"	74	
S611	1	23'-9"	36	
S612	2	23'-0"	69	
S613	2	22'-0"	66	
S614	2	21'-3"	64	
S615	2	20'-6"	62	
S616	2	19'-6"	58	
S617	1	18'-9"	28	
S618	2	18'-0"	54	
S619	2	17'-3"	52	
S620	2	16'-3"	49	
S621	2	15'-6"	47	
S622	1	14'-9"	22	
S623	2	14'-0"	42	
S624	2	13'-0"	39	
S625	2	12'-3"	38	
S626	1	11'-6"	17	
S627	2	10'-8"	32	
S628	2	9'-9"	29	
S629	2	9'-0"	27	
S630	2	8'-3"	25	
S631	2	7'-3"	22	
S632	12	6'-6"	117	S
			26726	
S501	287	40'-0"	11673	S
S502	1	38'-9"	40	
S503	1	35'-9"	37	
S504	445	30'-0"	13924	
S505	2	28'-9"	60	
S506	1	28'-0"	29	
S507	1	27'-6"	29	
S508	1	26'-9"	28	
S509	2	25'-9"	54	
S510	2	25'-0"	52	
S511	1	24'-3"	25	
S512	2	23'-6"	49	
S513	2	22'-6"	47	
S514	2	21'-9"	45	
S515	2	21'-0"	44	
S516	2	20'-0"	42	
S517	1	19'-3"	20	
S518	2	18'-6"	39	
S519	2	17'-9"	37	
S520	2	16'-9"	35	
S521	2	16'-0"	34	
S522	1	15'-3"	16	S

SUPERSTRUCTURE (CONT.)

MARK	NO.	LENGTH	WEIGHT	SHP.
S523	2	14'-6"	31	S
S524	2	13'-6"	29	
S525	2	12'-9"	26	
S526	1	12'-0"	13	
S527	2	11'-3"	24	
S528	2	10'-3"	21	
S529	2	9'-6"	20	
S530	2	8'-9"	19	
S531	2	7'-9"	17	
S532	12	7'-0"	88	S
S533	540	6'-3"	3520	B
S534	540	3'-3"	2057	B
			33424	
S401	136	14'-3"	1295	S
S402	16	12'-6"	134	S
			1429	

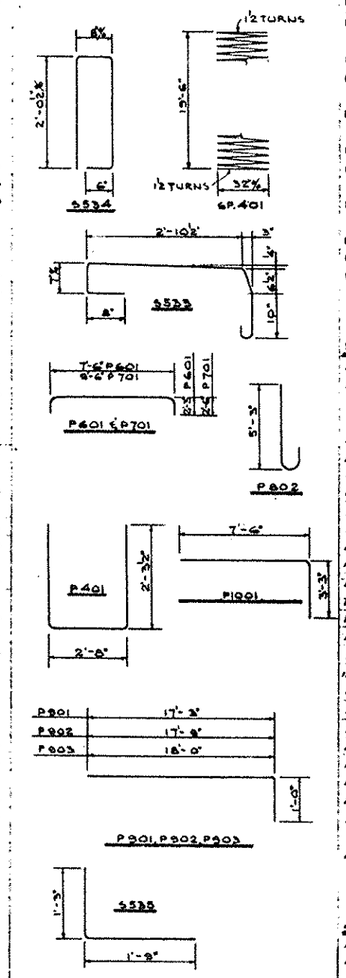
PIER NO.1

MARK	NO.	LENGTH	WEIGHT	SHP.
P1101	22	37'-6"	4383	S
P1102	3	12'-0"	151	S
P1001	14	10'-9"	948	B
P1002	4	23'-6"	404	S
P901	12	18'-3"	745	B
P801	48	22'-3"	2852	S
P802	48	6'-6"	833	B
P601	76	12'-0"	1370	B
P501	8	9'-0"	75	B
P502	4	29'-0	182	S
P401	53	7'-3"	257	B
			11840	

PIER NO.2

MARK	NO.	LENGTH	WEIGHT	SHP.
P1101	28	37'-6"	5578	S
P1102	3	12'-0"	151	S
P1001	14	10'-9"	948	B
P1004	4	24'-3"	417	S
P902	12	18'-9"	765	B
P801	48	22'-3"	2852	S
P802	48	6'-6"	833	B
P701	92	14'-6"	2727	B
P501	8	9'-0"	75	B
P502	4	29'-0"	182	S
P401	53	7'-3"	257	B
			14326	

BENDING DIAGRAMS



PIER NO.2

MARK	NO.	LENGTH	WEIGHT	SHP.
P1101	22	37'-6"	4383	S
P1102	3	12'-0"	151	S
P1001	14	10'-9"	948	B
P1003	4	25'-0"	430	S
P903	12	19'-0"	775	B
P801	48	22'-3"	2852	S
P802	48	6'-6"	833	B
P601	76	12'-0"	1370	B
P501	8	9'-0"	75	B
P502	4	29'-0"	182	S
P401	53	7'-3"	257	B
			11996	

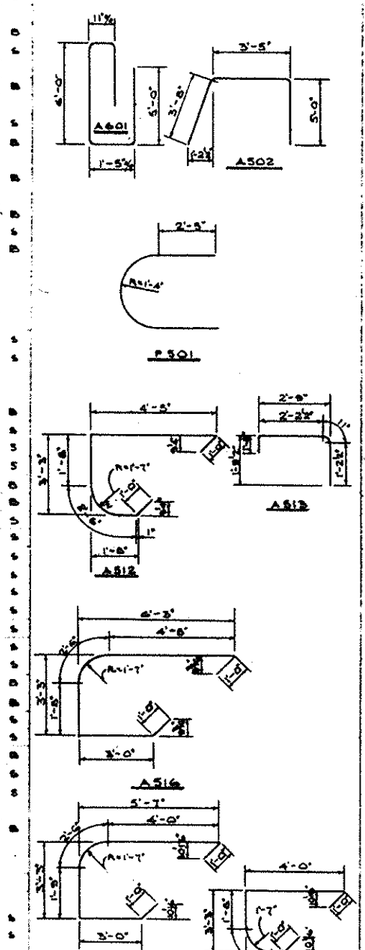
NORTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	SHP.
A901	16	22'-0"	1200	S
A902	14	23'-0"	1092	S
A601	31	15'-4"	718	B
A602	12	7'-9"	140	S
A603	4	8'-8"	52	S
A604	4	11'-3"	68	S
A501	33	12'-3"	422	B
A502	33	10'-7"	364	B
A503	14	10'-0"	146	S
A504	13	27'-0"	358	S
A505	6	11'-0"	69	S
A506	6	9'-0"	57	S
A507	7	8'-3"	61	S
A508	4	7'-3"	30	S
A509	10	10'-6"	110	S
A510	1	11'-9"	12	S
A511	1	10'-8"	11	S
A512	4	10'-7"	44	B
A513	4	5'-8"	24	B
A514	12	4'-3"	54	S
A515	4	2'-10"	12	S
A516	4	12'-10"	68	B
A517	13	3'-0"	41	S
A520	6	5'-9"	36	S
A401	40	7'-4"	196	B
			5352	

SOUTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	SHP.
A903	16	18'-9"	1020	S
A904	14	19'-9"	940	S
A601	29	15'-4"	667	B

BENDING DIAGRAMS



SOUTH ABUTMENT (CONT.)

MARK	NO.	LENGTH	WEIGHT	SHP.
A602	8	7'-9"	93	S
A604	4	11'-3"	92	S
A501	31	12'-3"	396	B
A502	31	10'-7"	342	B
A505	6	11'-0"	69	S
A506	12	7'-6"	94	S
A509	22	10'-6"	241	S
A513	4	5'-8"	44	B
A514	12	4'-3"	54	S
A515	4	2'-10"	12	S
A517	13	3'-0"	41	S
A518	12	25'-3"	316	S
A519	2	7'-9"	16	S
A520	4	5'-9"	24	S
A521	1	11'-3"	12	S
A522	1	10'-2"	11	S
A523	4	10'-5"	44	B
A524	4	13'-2"	55	B
A401	40	7'-4"	196	B
			4749	

REPLACEMENT BARS

MARK	NO.	LENGTH	WEIGHT	SHP.
R1101	1	7'-7"	41	S
R1001	1	7'-3"	31	S
R901	1	6'-10"	23	S
R801	1	6'-6"	18	S
R701	1	6'-3"	13	S
R601	2	5'-11"	18	S
R501	2	5'-7"	12	S
R401	1	3'-3"	4	S
			160	

SPIRAL REINFORCING STEEL

MARK	NO.	COREDIA. O.-O. SPIRAL	LENGTH	PITCH	NO. OF TURNS	WEIGHT
SP401	8	3'2"	19'-6"	4'2"	55	3240

NOTE:
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE: A 700 IS A NUMBER 7 BAR AND A1014 IS A NUMBER 10 SIZE.

SPIRAL REINFORCING BARS

THE "LENGTH" SHOWN IN THE STEEL LIST FOR THE SPIRAL BAR IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP.

THE "NO. OF TURNS" SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE "LENGTH" DIVIDED BY THE PITCH PLUS 3 TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER.

SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 6-4

1½ CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT.

FOUR STEEL CHANNEL TEE OR ANGLE SPACERS WEIGHING APPROXIMATELY 0.66 LB. PER LIN. FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF THE COIL. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 0.66 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

REINFORCING STEEL LIST
BRIDGE NO. STA-21-2130
U.S. 21 UNDER CH 103

STARK CO. STA. 1124+88.67
SEC. STA-21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	J.G.		R.S.	L.N.R.	6-24-66	