60028

COOK & WILL

JAR

#139

3-7-08 Letting, Item 139

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2007-040I	COOK / WILL	19	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 60028		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

FOR INDEX OF SHEETS, SEE SHEET NO. 5

IMPROVEMENTS ARE LOCATED IN THE CITY OF CHICAGO, AND IN THE VILLAGES OF BURR RIDGE, MONEE, RICHTON PARK, SKOKIE, & TINLEY PARK

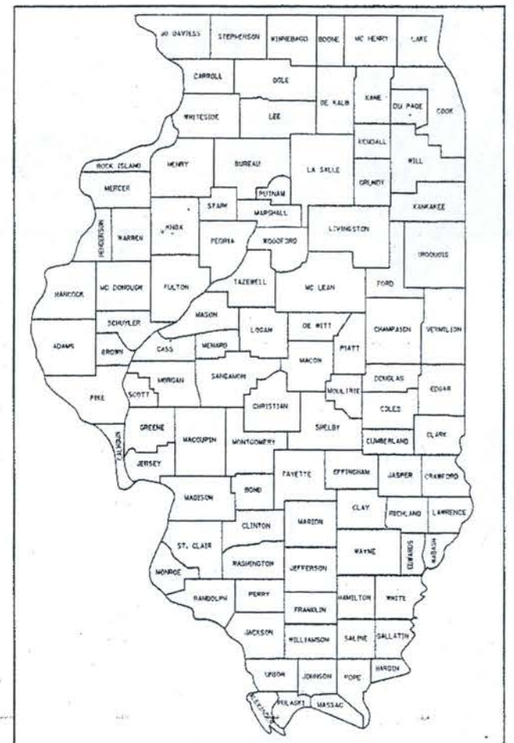
98%
8-2-2008

VARIOUS ROUTES
VARIOUS LOCATIONS
SECTION: 2007–040 I
PERMANENT PROTECTIVE SHIELDING
COOK & WILL COUNTIES
C–91–372–07

LOC 1	SN	016–0823
LOC 2	SN	016–2070, –2071
LOC 3	SN	016–0587
LOC 4	SN	016–0927
LOC 5	SN	016–0575
LOC 6	SN	099–0192
LOC 7	SN	099–0159
LOC 8	SN	099–0177

FOR LOCATION MAPS SEE SHEETS 2 – 4

D-91-372-07



LOCATION OF SECTION INDICATED THUS: – ■ –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Dec 24 2007
C. Dave Ok
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
February 1 2008
Eric E. Harm /D
ENGINEER OF DESIGN AND ENVIRONMENT
February 1 2008
Christine M. Reed /D
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1–800–892–0123 OR 811
C.U.A.N:
CHICAGO UTILITY ALERT NETWORK
1–312–744–7000

PROJECT ENGINEER ROBERT BORO (847) 705–4178
PROJECT MANAGER KEN ENG

CONTRACT NO. 60D28 016-0927

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

016-0927

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2007-040 I	COOK / WILL	19	6
FED. ROAD DIST. NO. 1	ILLINOIS	HIGHWAY PROJECT		

CONTRACT 60D28

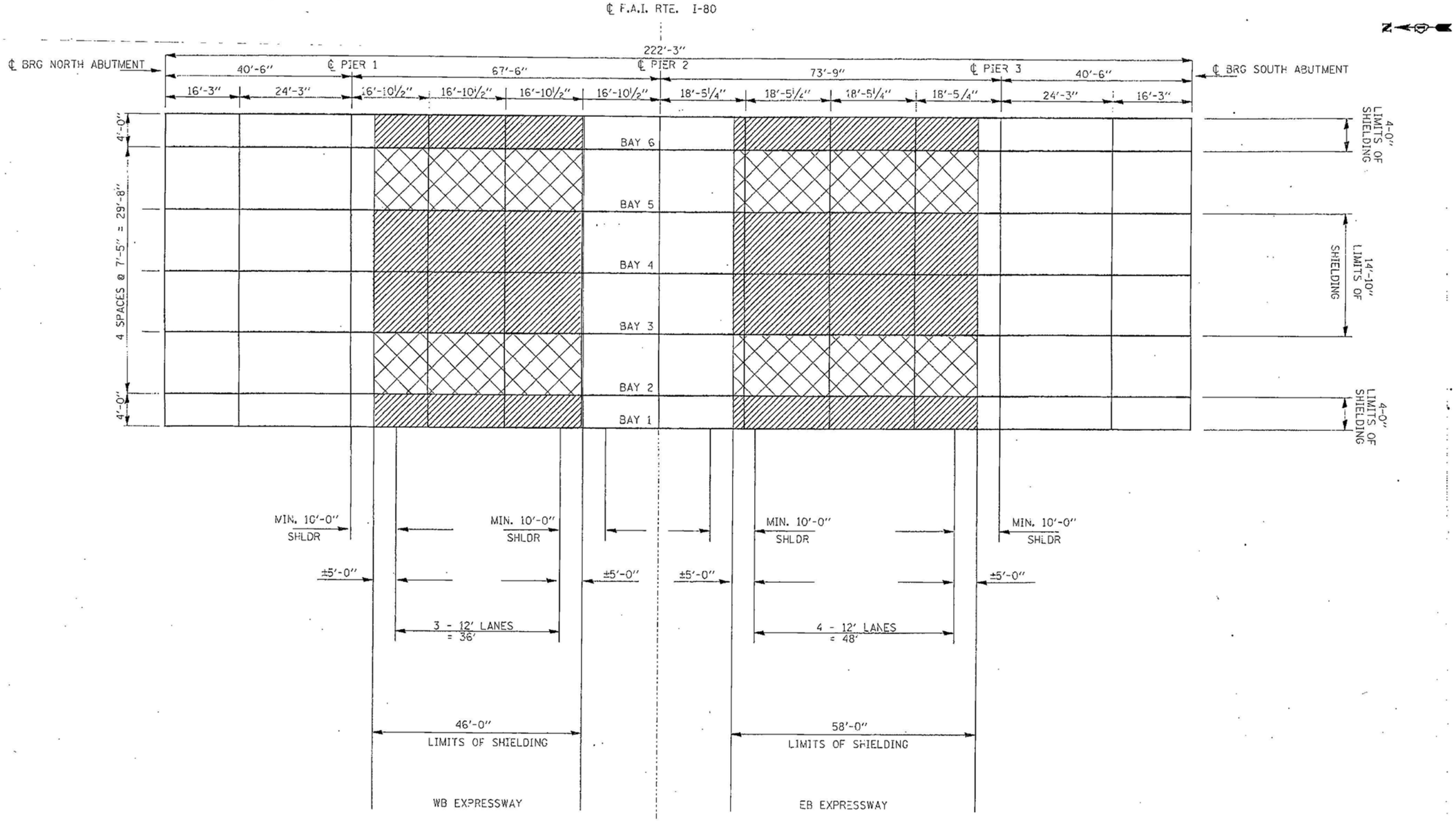
SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SFTY - 2A							
				COOK COUNTY					WILL COUNTY		
CODE NO	ITEM	UNIT		LOC 1 016-0823	LOC 2 016-2070, 2071	LOC 3 016-0587	LOC 4 016-0927	LOC 5 016-0575	LOC 6 099-0159	LOC 7 099-0192	LOC 8 099-0177
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3	0.40	0.83	0.73	0.16	0.50	0.13	0.13	0.12
67100100	MOBILIZATION	L SUM	1	0.13	0.13	0.13	0.12	0.13	0.12	0.12	0.12
50157300	PROTECTIVE SHIELD	SQ YD	5052	676	1404	1238	264	832	211	225	202
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	0.14	0.18	0.14	0.14	0.1	0.1	0.1	0.1
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	0	1	0	0	0	0	0	0

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

PLOT DATE: 12/26/2007



FRAMING PLAN

NOTE:
- ALL BAYS NUMBERED WEST TO EAST
- EXISTING SHIELDING IN BAY'S 2 & 5 TO REMAIN
- INDICATES PROTECTIVE SHIELDING

FILE NAME = c:\projects\d137287\designaa.dgn	USER NAME = hamdanah	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 12/21/2007	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE PLAN
OAK PARK AVE OVER I-80
LOCATIONS 4: SN 016-0927

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	2007-040 I	COOK / WILL	19	11
		CONTRACT NO. 60D28		

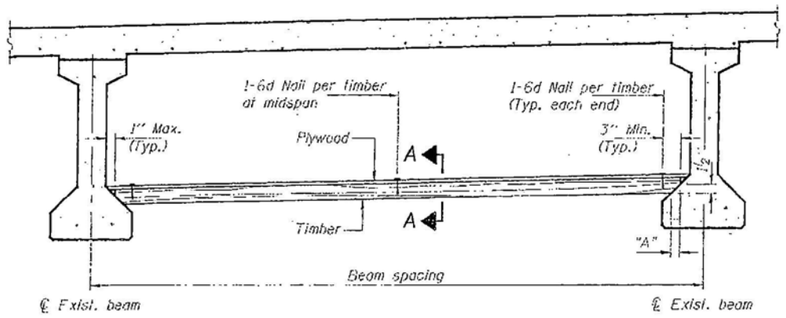
FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

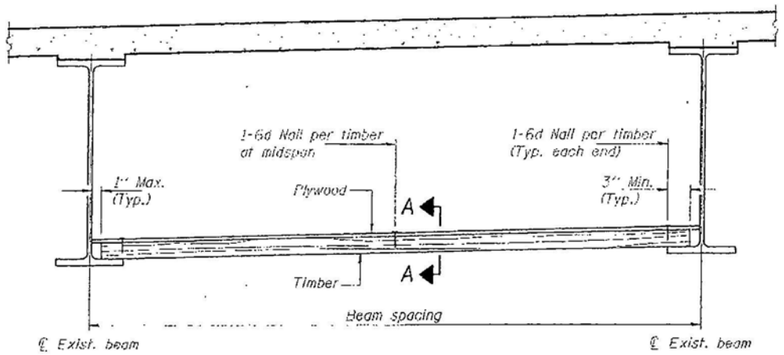
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2007-040I	COOK/WILL	19	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO.
SHEETS

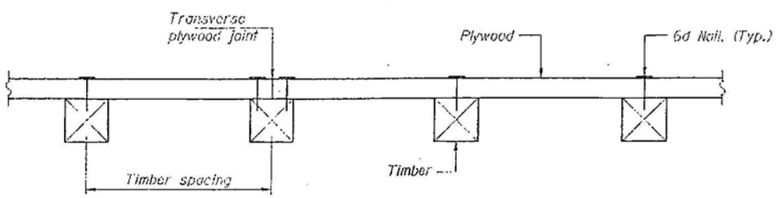
Contract Number: 60D28



PPC I-BEAMS AND BULB-T's



STEEL BEAMS



SECTION A-A

TIMBER SPACING

Beam Spacing (ft.)	Timber Sizes (in.) 4" x 4" with min. Fb=775 psi Fv=135 psi	4" x 6" with min. Fb=775 psi Fv=135 psi	6" x 6" with min. Fb=575 psi Fv=125 psi
	Maximum Timber Spacing (in.)		
4.5	16	16	16
4.75	16	16	16
5.0	16	16	16
5.25	16	16	16
5.5	16	16	16
5.75	16	16	16
6.0	16	16	16
6.25	12	16	16
6.5	12	16	16
6.75	12	16	16
7.0	8	16	16
7.25	8	16	16
7.5	8	16	16
7.75	8	16	16
8.0	8	12	16
8.25	8	12	16
8.5	6	12	12
8.75	6	12	12
9.0	6	8	12

PPC I-BEAMS AND BULB-T's

BEAM	"A"
36" I-Beam	$1\frac{1}{2}$"
42" I-Beam	$1\frac{1}{2}$"
48" I-Beam	$1\frac{1}{2}$"
54" I-Beam	$1\frac{5}{8}$"
63" Bulb-T	$3\frac{3}{8}$"
72" Bulb-T	$3\frac{3}{8}$"

Notes: See special provision for Permanent Protective Shield System.
Timber sizes shown are nominal sizes. Rough sawn timber of the dimensions shown will also be considered acceptable.
The minimum Fb and Fv values shown are the tabulated design values given in the National Design Specification for Wood Construction for No. 2 Spruce-Pine-Fir without adjustment factors applied. Better grades or other species with equal or higher allowable stresses will also be considered acceptable.
The timber spacings shown have been determined using allowable stresses with all adjustment factors necessary for the anticipated service conditions.
All timber shall be treated.
Plywood shall be $\frac{5}{8}$" Exterior type plywood.
Plywood shall be placed such that the face grain is perpendicular to the timber supports. When less than a full sheet (4' width) of plywood is used, the width of the strip used shall not be less than 2'.
Transverse plywood joints shall be supported by timbers.
When 4" x 6" timbers are used, they shall be placed such that the wide face is horizontal and the narrow face is vertical.
Design load = 200 psf.

BILL OF MATERIAL

Item	Unit	Total
Protective Shield (Permanent)	Sq. Yd.	5052

PERMANENT PROTECTIVE SHIELD

#82277 #2 11-22-96 COOK I&R copy 1213-825HBK, 1315-821... #2

2

99.9%
6-7-98

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FOR INDEX OF SHEETS, SEE SHEET NO. (2)

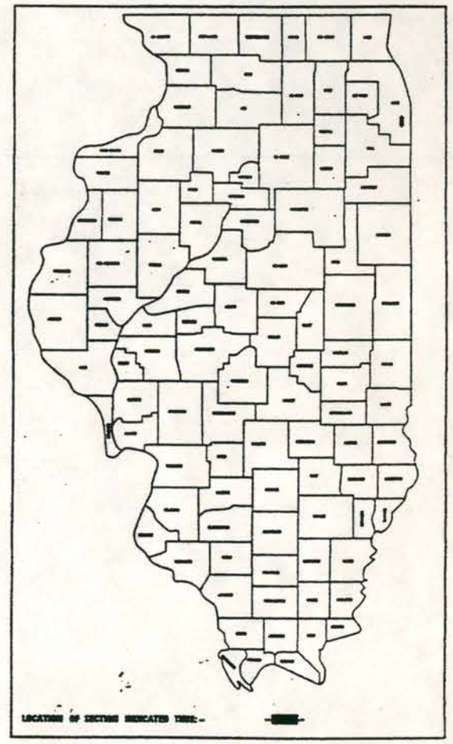
F.A.I. ROUTE 80
SECTION: (1213–825HBK, 1315–821, 1516–822, 1617–823, 1819–824)RS–1 & (1516–804HB, 1516–805HB, 1718–807)R
ILLINOIS ROUTE 43 TO I–294
RESURFACING, BRIDGE REHABILITATION AND LIGHTING
PROJECT: ACIM-80-4(171)150
COOK COUNTY
C–91–041–93

PROJECT LOCATED IN THE VILLAGES OF TINLEY PARK, COUNTRY CLUB HILLS AND HAZEL CREST.

* (1213-825HBK, 1315-821, 1516-822, 1617-823, 1819-824)RS-1 & (1516-804HB, 1516-805HB, 1718-807)R

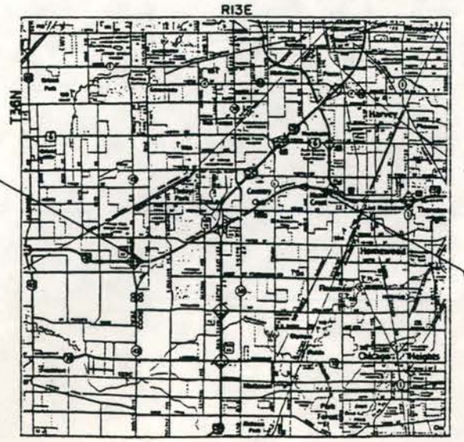
FAI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	1

D-91-041-93



LOCATION OF SECTION INDICATED THUS:- ———

N



PROJECT BEGINS
STA. 1305+00

STA. 1466+99.412 BACK =
STA. 1468+50 AHEAD ℄

STA. 1574+10.314 E.B. BACK =
STA. 1574+57.251 W.B. BACK =
STA. 1574+33.788 AHEAD

PROJECT ENDS
STA. 1614+77 WESTBOUND

PROJECT ENDS
STA. 1615+00 EASTBOUND

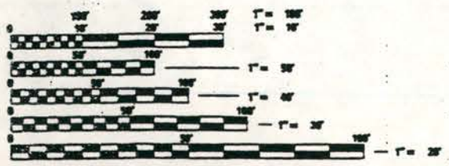
OAK PARK AVE. BRIDGE OVER F.A.I-80
STRUCTURE NO. 016-0927

F.A.I.-80 BRIDGE OVER CICERO AVE.
STRUCTURE NO. 016-0074(EB); NO. 016-0075(W.B.)

F.A.I.-80 BRIDGE OVER 175TH ST.
STRUCTURE NO. 016-0077(EB); NO. 016-0076(W.B.)

F.A.I.-80 BRIDGE OVER KEDZIE AVE.
STRUCTURE NO. 016-0078(EB); NO. 016-0079(W.B.)

SCOPE OF WORK:
BRIDGE DECK REMOVAL AND REPLACEMENT
BRIDGE DECK GROOVING AND SCARIFICATION
CONCRETE LATEX OVERLAY, CLEANING AND PAINTING STEEL BRIDGE, AND BEARING REMOVAL AND REPLACEMENT, APPROACH SLAB REMOVAL & REPAIRS, SLOPE WALL REMOVAL & REPAIRS, FURNISHING ERECTING STRUCTURAL STEEL, CONCRETE STRUCTURES AND SUPERSTRUCTURES, LUG SYSTEM REMOVAL AND REPLACEMENT, ETC.



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

TRAFFIC DATA
1994 ADT = 50,800
SPEED LIMIT = 65 MPH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUBMITTED Sept 17 19 96
EXAMINED ____ 19 ____
PASSED October 25 19 96
APPROVED October 25 19 96

0-310

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

GROSS AND NET LENGTH OF PROJECT = 31,025.646 LIN. FT. 5.876 MI.

FOR UTILITY INFORMATION CALL J.U.L.I.E. 1-800-892-0123

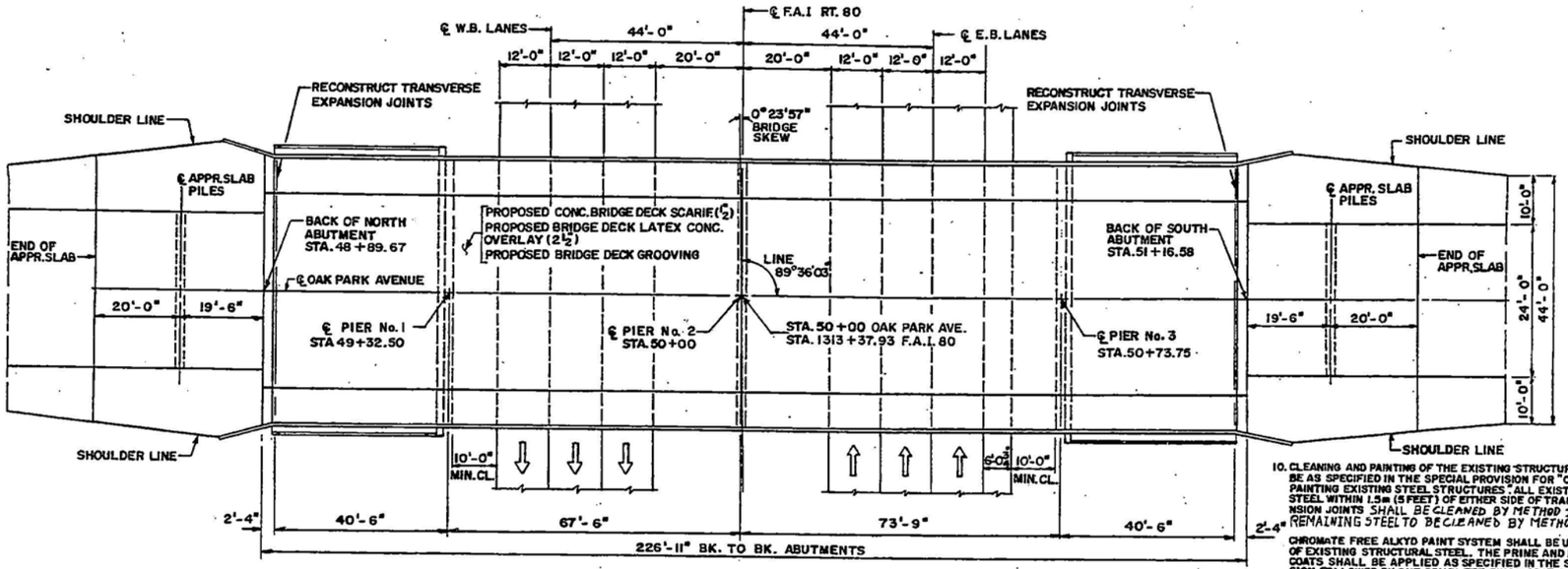
CONTRACT NO. 82277 016-0927

Tue Sep 9 12:48:42 1997
/usr/projects/d104193/d104193pl.dgn LVol-63
PLANS PREPARATION ENGINEER: M. DEYOUNG /L. PIZARRO (847) 705-4432

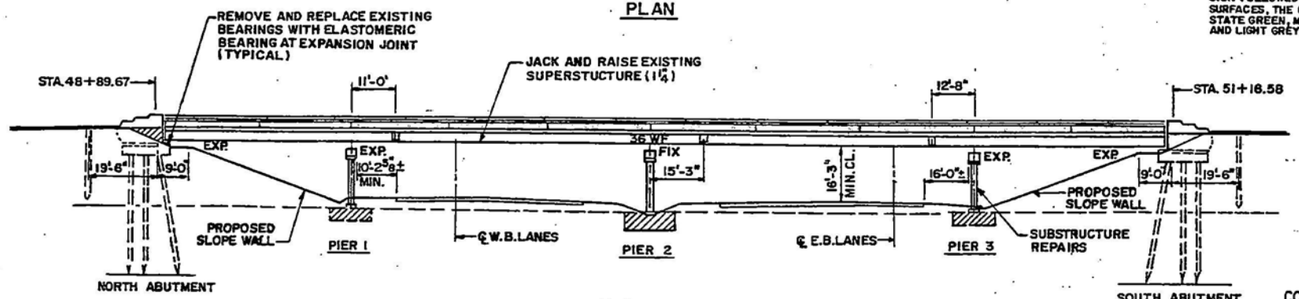
VH=COY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	75
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

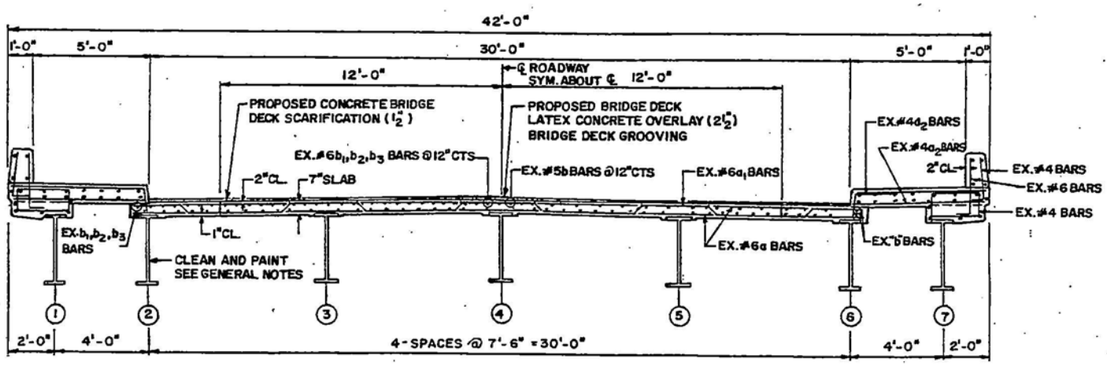
*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824IRS-1 & 1516-804HB, 1516-805HB, 1718-807IR



PLAN



ELEVATION



CROSS SECTION

GENERAL NOTES:

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSION AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS.
   SUCH VARIATION SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE ACTUAL QUANTITY FURNISHED AT THE UNIT BID PRICE FOR THE WORK.
2. THE CONTRACTOR MUST USE EXTREME CARE DURING CONCRETE REMOVALS AS NOT TO NICK, CUT, OR DAMAGE ANY OF THE STRUCTURAL STEEL AND NOT TO DAMAGE OR CUT ANY EXISTING REINFORCEMENT BARS THAT ARE TO BE INCORPORATED INTO THE NEW CONSTRUCTION. ANY DAMAGE SHALL BE REPAIRED AT CONTRACTORS EXPENSE.
3. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCIDENTAL TO "CONCRETE REMOVAL".
4. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42, OR M-53 GRADE 60.
5. ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M-270, GR.36 UNLESS OTHERWISE SPECIFIED.
6. ALL NEW FASTENERS SHALL BE HIGH STRENGTH BOLTS. HOLES SHALL BE SUBPUNCHED OR SUBDRILLED 7/8" DIA. AND REAMED IN THE FIELD TO 7/8" DIA. FOR 3/4" DIA. HIGH STRENGTH BOLTS (EXCEPT AS NOTED ON THE PLANS) AFTER NEW STRUCTURAL STEEL SECTIONS ARE PROPERLY FITTED INTO POSITION.
7. PRIOR TO POURING THE NEW CONCRETE FOR THE DECK, ALL LOOSE RUST, LOOSE MILL SCALE, AND ALL OTHER FOREIGN MATERIAL SHALL BE REMOVED FROM THE EMBEDDED PORTIONS OF FLANGES OF BEAMS. THE REMOVAL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SSPC SURFACE PREPARATION SPECIFICATIONS SP3 FOR POWER TOOL CLEANING OR SP2 FOR HAND TOOL CLEANING. COST SHALL BE INCIDENTAL TO CONCRETE REMOVAL.
8. THE INORGANIC ZINC RICH PRIMER/ACRYLIC/ACRYLIC PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED. THE COLOR OF THE ACRYLIC FINISH COAT SHALL BE "LIGHT GREY", MUNSELL NO. 10Y 7/1. SEE SPECIAL PROVISIONS.
9. THE PAINT ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD. PRECAUTIONS SHALL BE TAKEN TO PROTECT WORKERS AND THE ENVIRONMENT AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
10. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL EXISTING STRUCTURAL STEEL WITHIN 1.5m (5 FEET) OF EITHER SIDE OF TRANSVERSE EXPANSION JOINTS SHALL BE CLEANED BY METHOD 1. ALL OF THE REMAINING STEEL TO BE CLEANED BY METHOD 2.
    THE LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM SHALL BE USED FOR PAINTING OF EXISTING STRUCTURAL STEEL. THE PRIME AND INTERMEDIATE COATS SHALL BE APPLIED AS SPECIFIED IN THE SPECIAL PROVISION FOLLOWED BY ONE COMPLETE FINAL COAT OVER ALL STEEL SURFACES. THE COLOR OF THE FINAL FINISH COAT SHALL BE INTERSTATE GREEN, MUNSELL No. 7.5G 4/8 ON THE EXTERIOR GIRDERS AND LIGHT GREY, MUNSELL No. 10Y 7/1 ON INTERIOR GIRDERS.

CONSTRUCTION SEQUENCE

1. TRAFFIC STAGING.
2. BEAM REPLACEMENT.
3. DECK SLAB REPAIRS.
4. CONCRETE BRIDGE DECK SCARIFICATION.
5. SUBSTRUCTURE REPAIRS / SLOPE WALL REPAIRS.
6. JACK EXISTING SUPERSTRUCTURE 1 1/4" AND REPLACE BEARINGS AT ABUTMENT AND REPLACE TOP PLATE AT THE PIERS.
7. RECONSTRUCT TRANSVERSE JOINTS.
8. BRIDGE DECK LATEX CONCRETE OVERLAY (2 1/2").
9. DECK DRAIN EXTENSION.
10. BRIDGE CLEANING AND PAINTING.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOTAL BILL OF MATERIALS - BRIDGE

Item	Unit	Quantity
Concrete Superstructure	Cu. Yd.	75.6
Reinforcement Bars (Epoxy Coated)	Pound	4020
Deck Slab Repair (Partial)	Sq. Yd.	70
Deck Slab Repair (Full Depth - Type I)	Sq. Yd.	20
Deck Slab Repair (Full Depth - Type II)	Sq. Yd.	10
Preformed Joint Seal 4"	Foot	90
Concrete Structures	Cu. Yd.	7.3
Bar Splicers	Each	32
Concrete Bridge Deck Scarification (1/2")	Sq. Yd.	760
Bridge Deck Latex Concrete Overlay (2 1/2")	Sq. Yd.	760
Protective Shield	Sq. Yd.	660
Concrete Removal	Cu. Yd.	20.2
Formed Concrete Repair (≤ 5")	Sq. Ft.	45
Formed Concrete Repair (> 5")	Sq. Ft.	15
Epoxy Crack Sealing	Foot	3
Furnishing And Erecting Of Structural Steel	Pound	15380
Jack Existing Superstructure.	L.S.	1
Elastomeric Bearing Assembly Type II	Each	14
SLOPE WALL REMOVAL	SQ.YD.	425
SLOPE WALL 4"	SQ.YD.	474
Cleaning and Painting Steel Bridge Structure 1	L. Sum	1
Blasting Residue Containment Disposal	L. Sum	1
Power Tool Cleaning Residue Containment and Disp.	L. Sum	1
Floor Drain Extensions	Each	16
Temporary Slab Support System	L. Sum	1
Bridge Deck Grooving	Sq.Yd.	760

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
PLAN, ELEVATION AND CROSS SECTION
S.N. 016-0927

SCALE: VERT.
HORIZ.
DATE

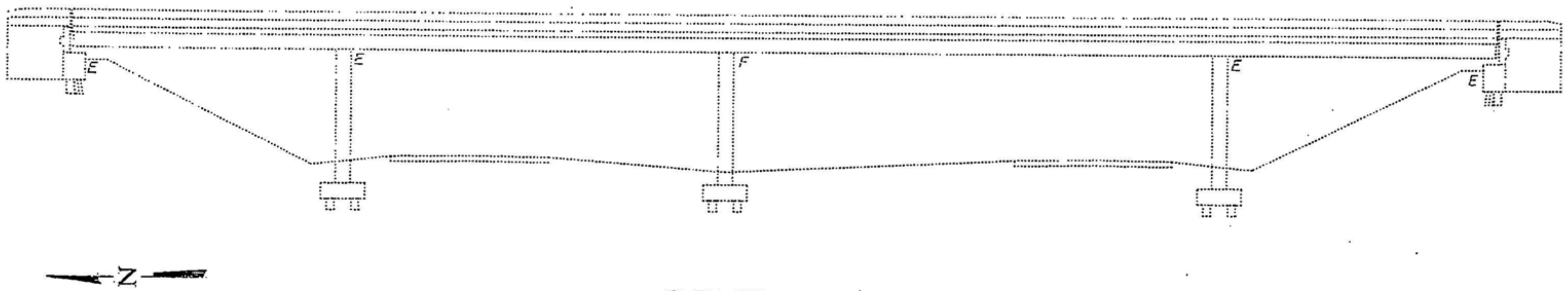
DRAWN BY M.V.T.
CHECKED BY J.A.F.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 80	•	COOK	359	75A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

• SEC. (1213-825HBK,1315-821,1516-822, 1216-823,1819-824)RS-1&(1516-884HR, 1516-885HB,1718-887)R

SHEET NO. S1-A
S17 SHEETS



ELEVATION

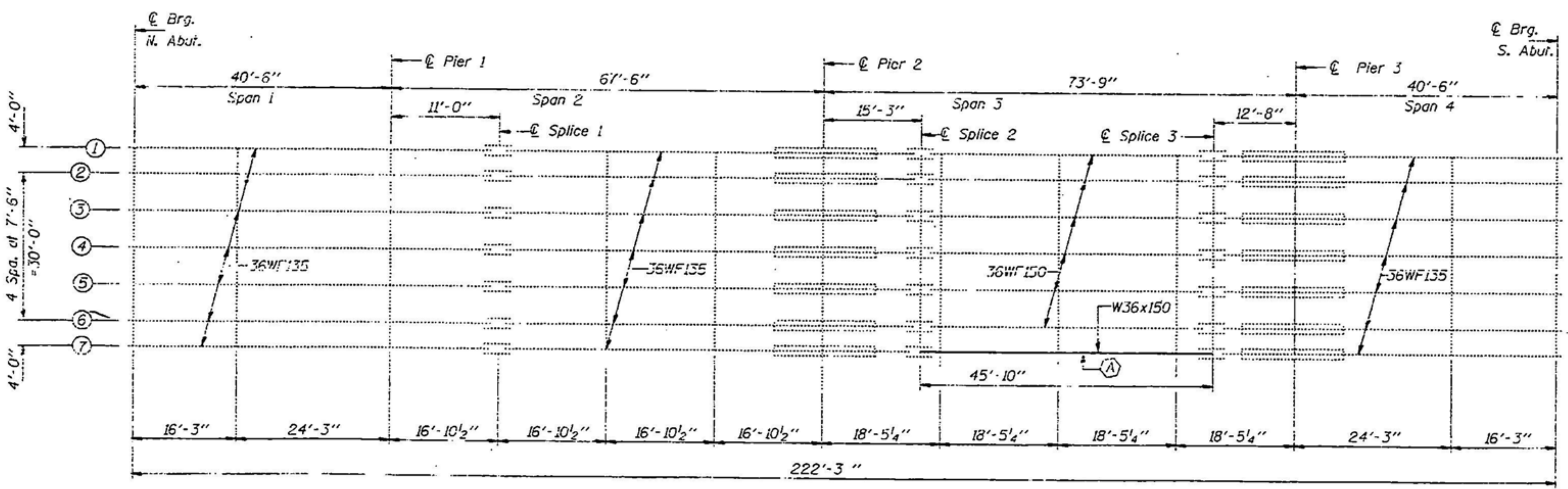
NOTES

The Contractor shall provide support and/or shoring systems for the beam in the area of existing splice removal and at other locations as required in order to maintain the "as-built" deck profile. See Special Provisions for "Temporary Slab Support System".

Grind existing nicks, gouges and shallow cracks in the damaged beams as shown by the detail on sheet 2. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam straightening operations. Any cracks that cannot be removed by grinding approximately $\frac{1}{4}$" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition.

Removal of all damaged members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be considered incidental to Furnishing and Erecting Structural Steel.

After the new beam is in its final position and/or beam straightening operations have been completed, the Engineer in the field shall check to see that the top flange is tight against the slab. If not, the Contractor shall inject epoxy between the existing concrete deck and the top flange of the beam. See Special Provision "Epoxy Injection".



PLAN

(A) Existing Beam to be replaced.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	7080
Temporary Slab Support System	L.S.	1
Concrete Removal	Cu. Yd.	2.9
Concrete Superstructure	Cu. Yd.	2.9

DESIGNED	Glen T. Bell
CHECKED	Victor H. Veliz
DRAWN	J. March
CHECKED	GTB VHV

October 11, 1996

EXAMINED Todd E. Ahrens
ENGINEER OF STRUCTURAL SERVICES

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

BEAM REPLACEMENT
F.A.I. RT. 80 SEC. 1313-811 HB
COOK COUNTY
STA. 1313+37.93
STR. No. 016-0927

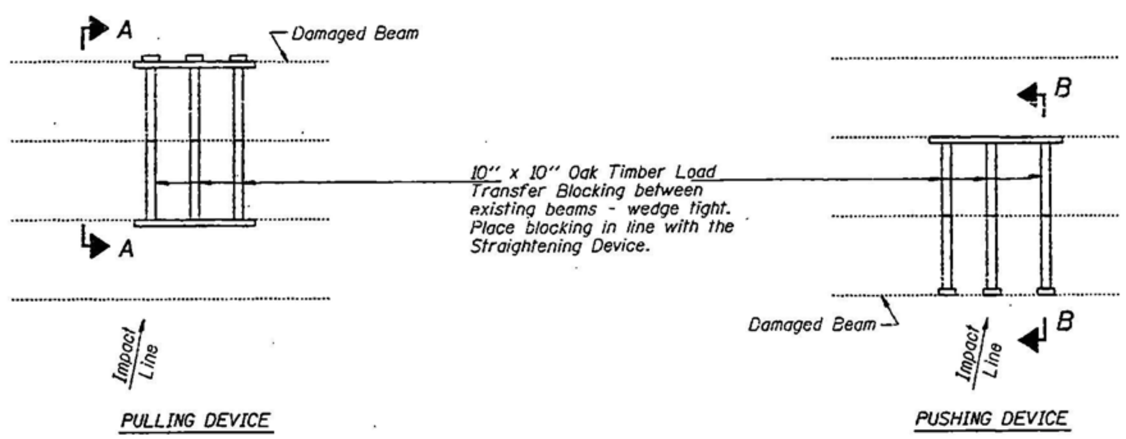
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 80	*	COOK	359	758
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. S1-B

S17 SHEETS

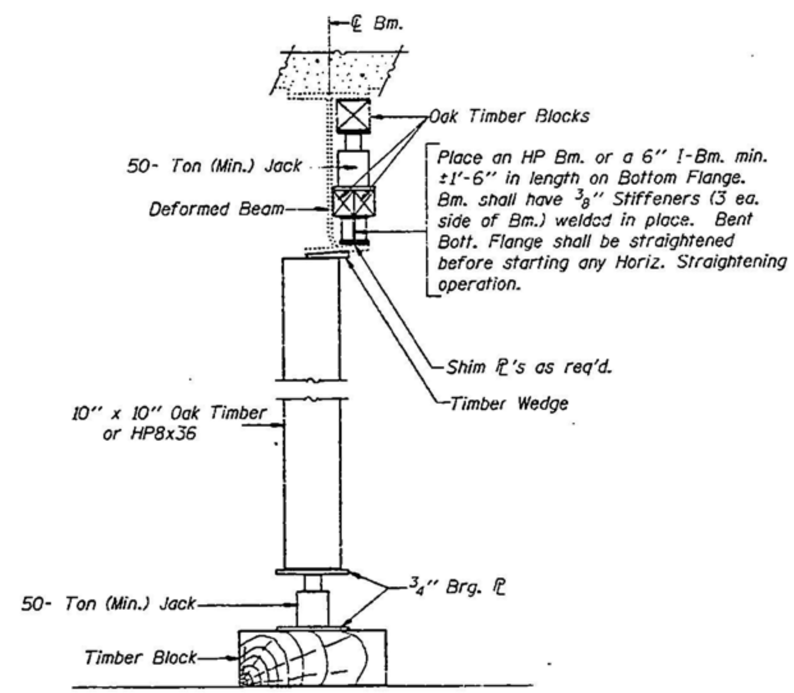
* SEC. 1313-825HHR, 1315-821, 1516-827, 1216-823, 1219-824 RS-1, 1516-804HB, 1516-805HR, 1718-807R

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

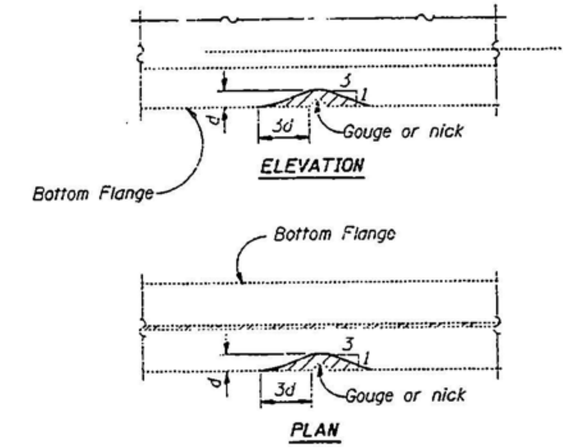


PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS

Straightening force shall be maintained on all load transfer blocking during beam straightening.

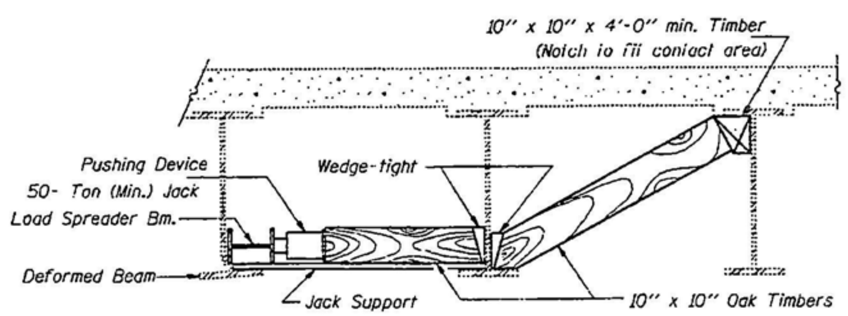


VERTICAL STRAIGHTENING DETAIL

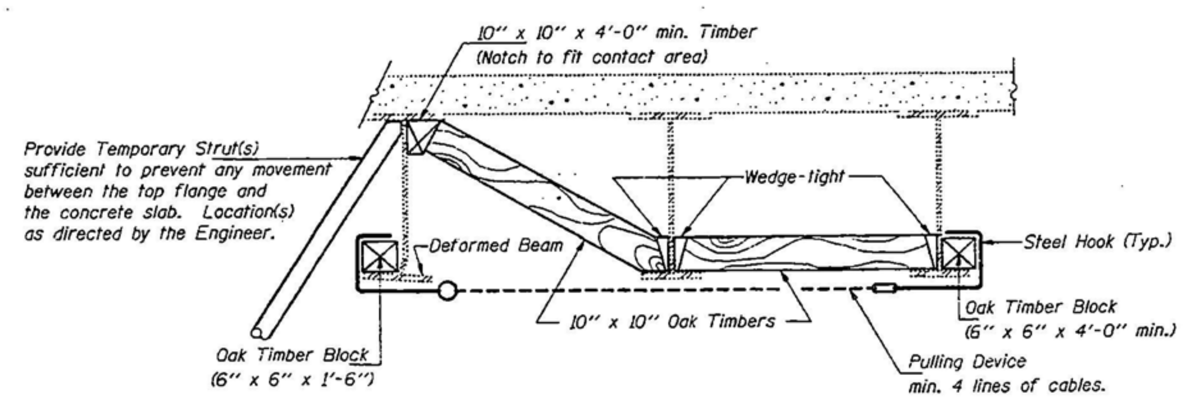


GRINDING DETAIL

Note: All beam straightening will be as required by the Engineer. All work included will be paid for in accordance with Article 109.04 of Standard Specifications.



SECTION B-B



SECTION A-A

DESIGNED	G.T.B.
CHECKED	V.H.V.
DRAWN	J. March
CHECKED	G.T.B. V.H.V.

October 11, 1996

EXAMINED [signature]
ENGINEER OF STRUCTURAL SERVICES

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

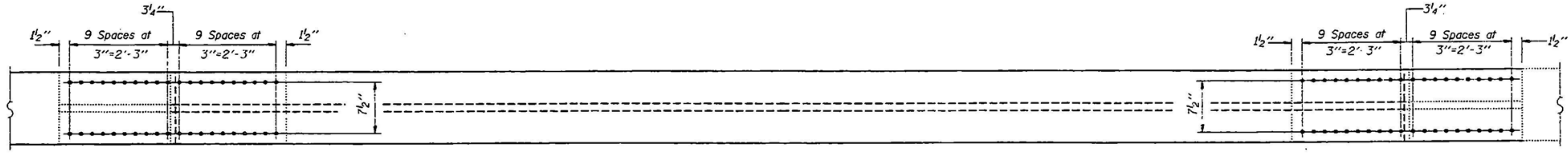
BEAM REPLACEMENT
F.A.I. RT. 80 SEC. 1313-811 HB
COOK COUNTY
STA. 1313+37.93
STR. No. 016-0927

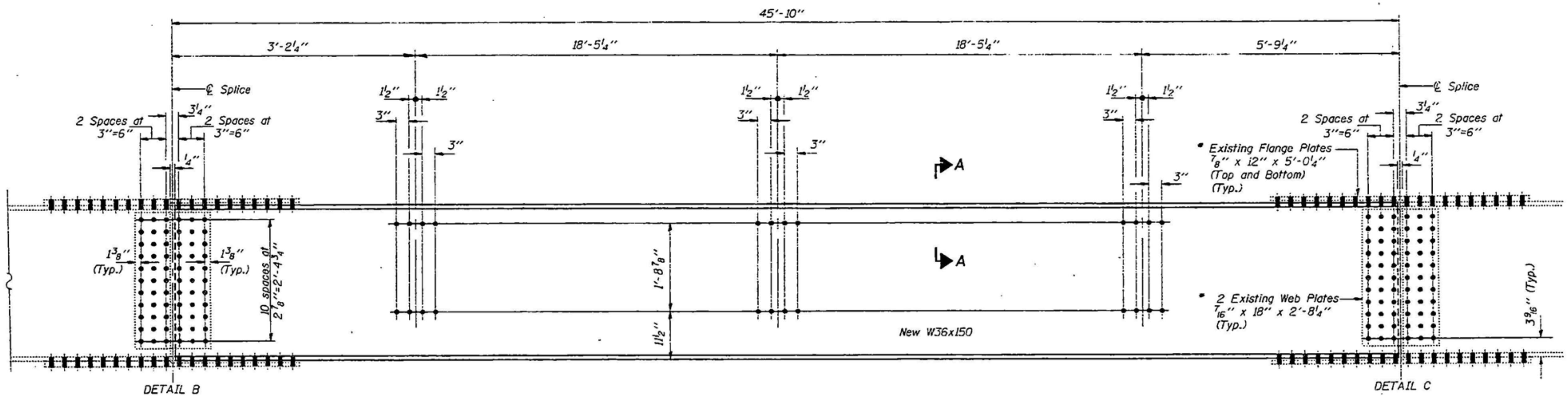
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 80	*	COOK	359	75C

SHEET NO. S1-C
S17 SHEETS

* SEC. (1213-825HBK,1315-821,1516-822, 1216-823,1819-824)RS-1&(1516-804HB, 1516-805HB,1718-807)R

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





ELEVATION BEAM 7

Required: One (1) W36 x 150 x 45'-10"

Notes: Natural camber of new beam shall be placed upward for fabrication.

All existing Splice Connection Bolts to be replaced with new H.S. Bolts.

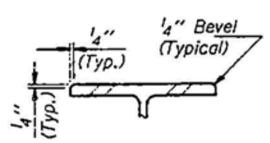
All 13/16"ϕ bolt hole for new ¾"ϕ H.S. Bolts for web splices shall be drilled in the field using the existing web splice plates as templates after the new structural steel is fitted into position.

All 15/16"ϕ bolt hole for new ¾"ϕ H.S. Bolts for all diaphragm connections shall be drilled in the field using existing clip angles as templates after the new structure steel is fitted into position.

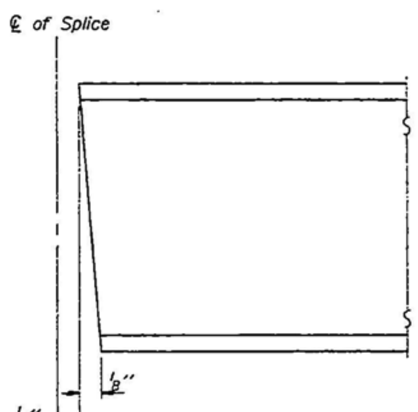
Two hardened washers shall be required at diaphragm connections

All 15/16"ϕ bolt hole for new ⅞"ϕ H.S. Bolts for flange splices shall be drilled in the field using the existing flange splice plates as templates after the new structure steel is fitted into position.

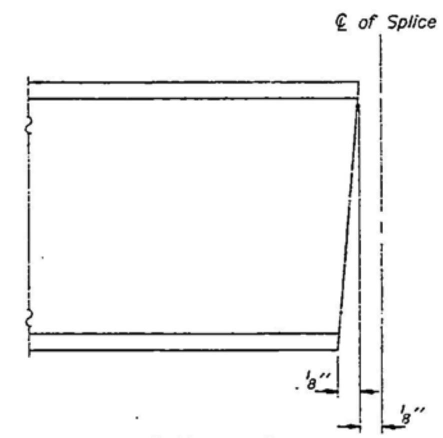
* Existing Plates to be matched, marked, removed and reused.



SECTION A-A



DETAIL B



DETAIL C

DESIGNED	G.T.B.
CHECKED	V.H.V.
DRAWN	J. March
CHECKED	G.T.B. V.H.V.

October 11, 1996

EXAMINED Todd E. Ahlum
ENGINEER OF STRUCTURAL SERVICES

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

BEAM REPLACEMENT
F.A.I. RT. 80 SEC. 1313-811 HB
COOK COUNTY
STA. 1313+37.93
STR. No. 016-0927

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

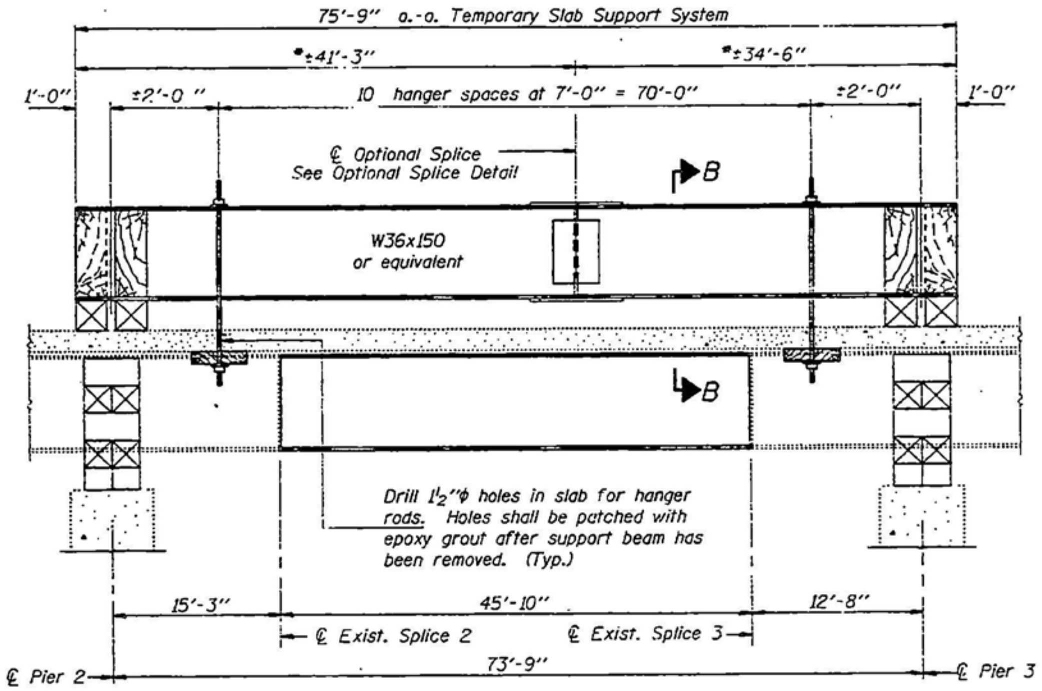
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 80	*	COOK	359	750
		ILLINOIS	FED. AID PROJECT-	

SHEET NO. S1-D

S17 SHEETS

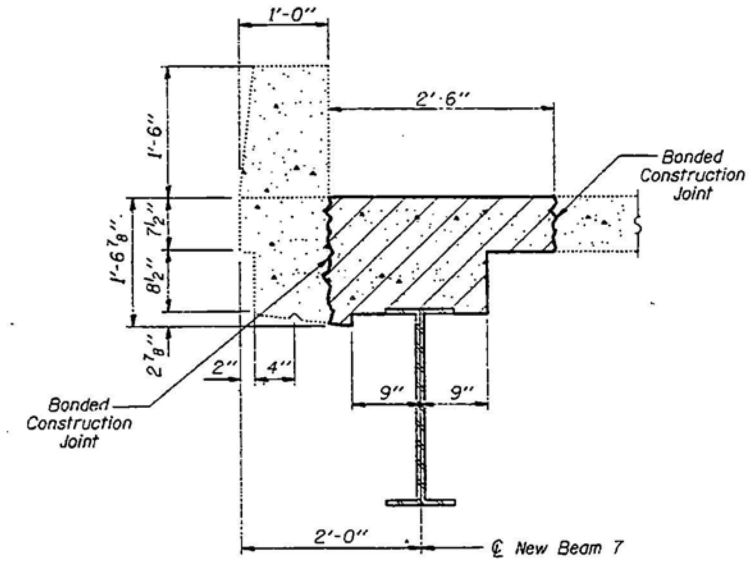
* SEC. (1213-825HBK,1315-821,1516-822, 1216-823,1819-824)RS-1&(1516-804HB, 1516-805HB,1718-807)R

* These dimensions may vary for available beams in stock.

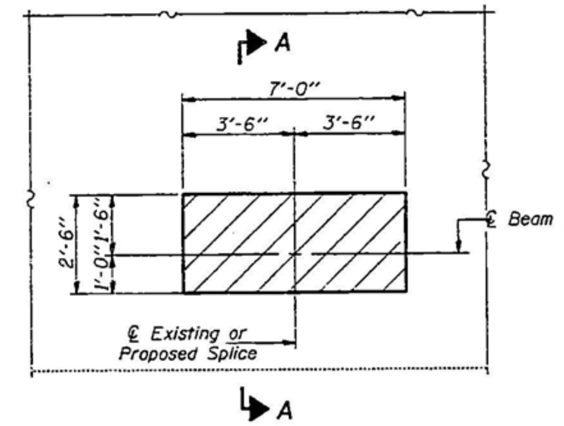


LONGITUDINAL SECTION

SUGGESTED TEMPORARY SLAB SUPPORT SYSTEM

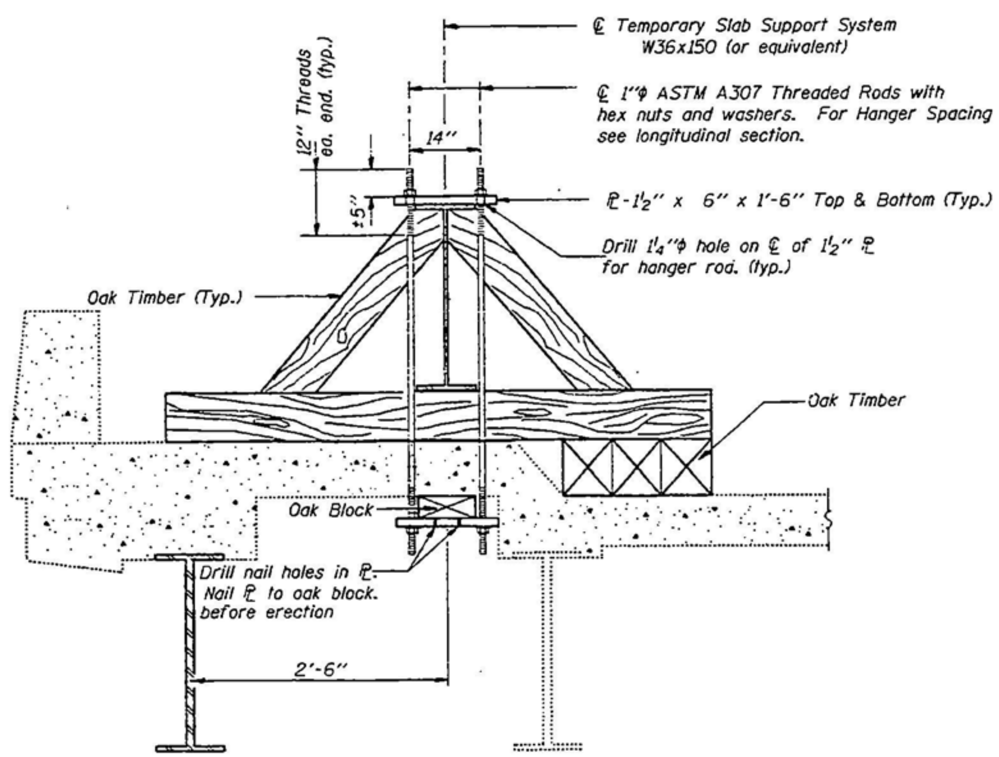


SECTION A-A

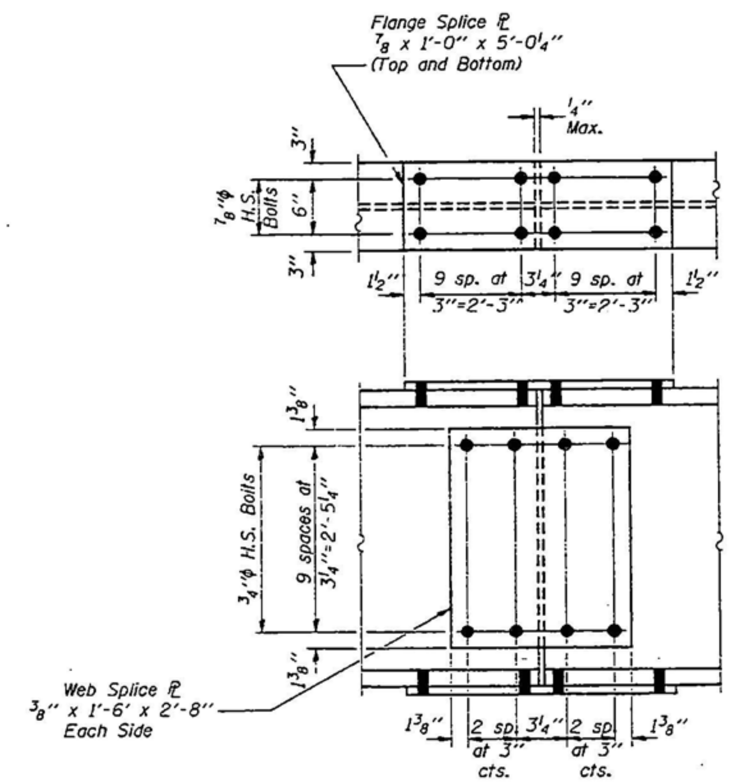


TYPICAL CONCRETE REMOVAL AND REPLACEMENT

Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut ¾" prior to the removal of concrete. Reinforcement shall be cut only if required for fitting bolts. Cut reinforcement shall be spliced as directed by the engineer. Cost incidental to "Concrete Removal".



SECTION B-B



SPLICE

DESIGNED	G.T.B.
CHECKED	V.H.V.
DRAWN	J. March
CHECKED	G.T.B. V.H.V.

October 11 1996

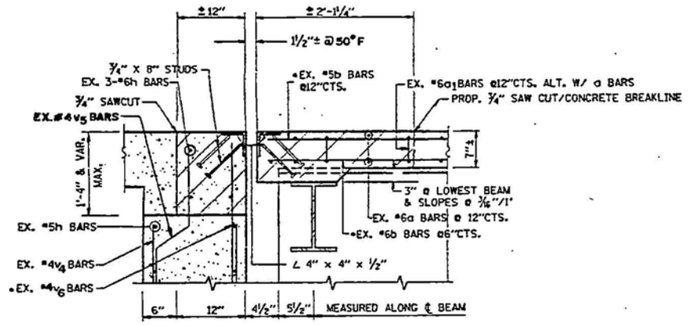
EXAMINED [signature]
ENGINEER OF STRUCTURAL SERVICES

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

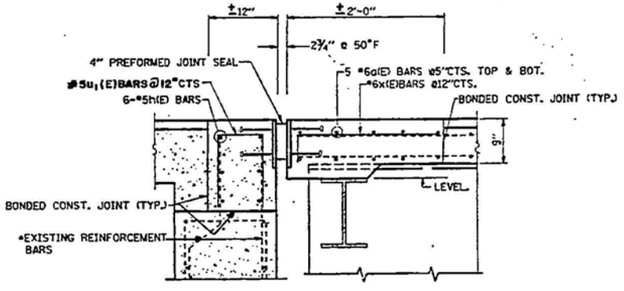
BEAM REPLACEMENT
F.A.I. RT. 80 SEC. 1313-811 HB
COOK COUNTY
STA. 1313+37.93
STR. No. 016-0927

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	76
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

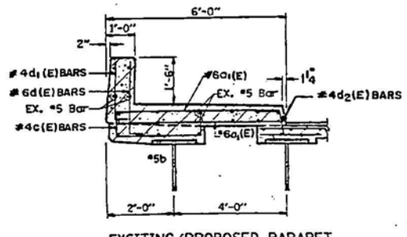
*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824)RS-1 & (1516-804HB, 1516-805HB, 1718-807)R



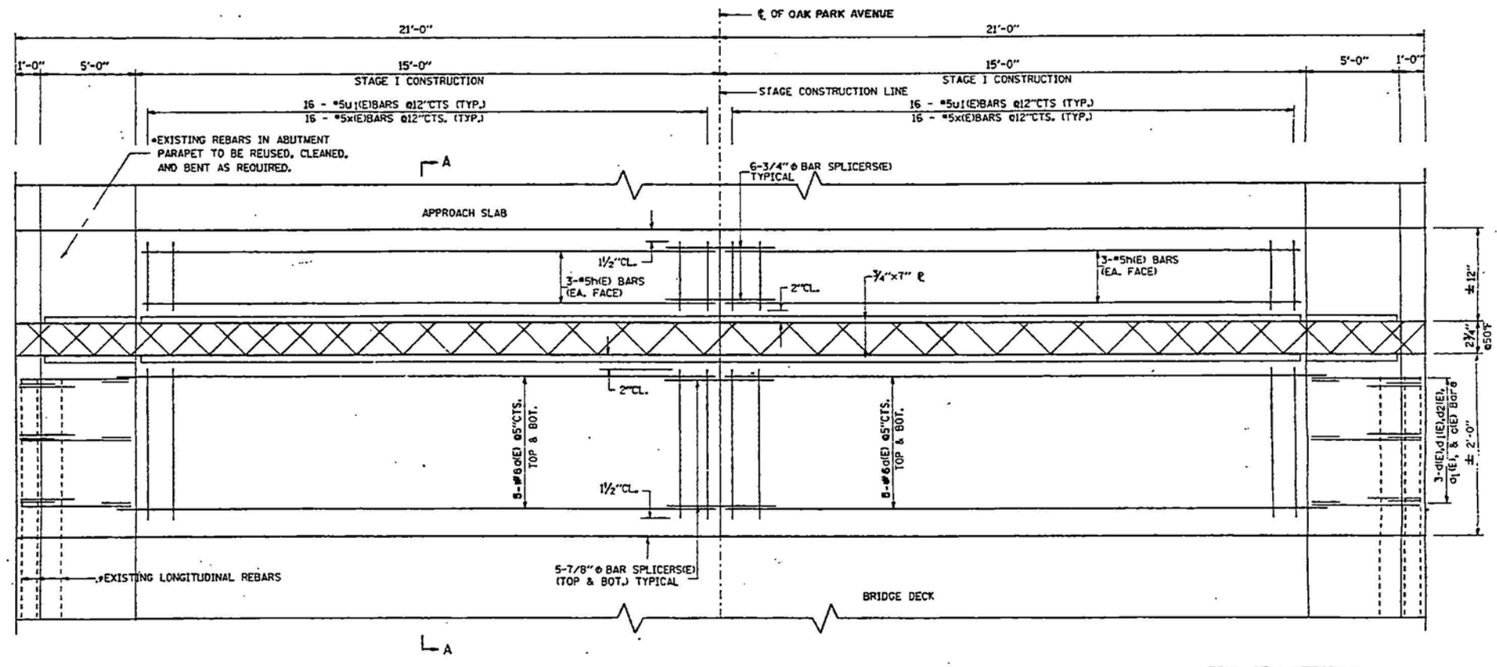
EXISTING EXPANSION JOINT



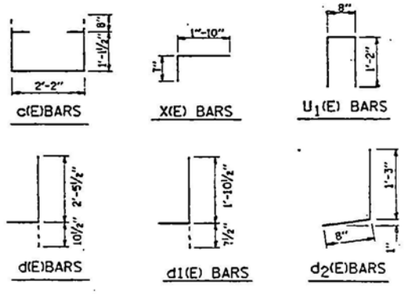
SECTION A-A
PROPOSED EXPANSION JOINT



EXSITING/PROPOSED PARAPET
AT EXPANSION JOINT



BRIDGE DECK EXPANSION JOINT @ ABUTMENT
PLAN



NOTES:
*EXISTING REINFORCEMENT BARS EXTENDING INTO NEW CONSTRUCTION SHALL BE CLEANED, STRAIGHTENED, AND INCORPORATED INTO THE NEW CONCRETE. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING EXISTING CONCRETE SO AS TO NOT DAMAGE EXISTING REINFORCEMENT.
FIELD CUTS OF PROPOSED REINFORCEMENT BARS TO FIT FIELD CONDITIONS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF REINFORCEMENT BARS (EPOXY COATED).
BONDED CONSTRUCTION JOINT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ARTICLE 503.09(a)(2) OF THE STANDARD SPECIFICATIONS.
SEE SHEET FOR BAR SPLICER DETAILS.

LEGEND

CONCRETE REMOVAL

4" PREFORMED JOINT SEAL

BILL OF MATERIALS

Bar	No.	Size	Length	Shape
d(E)	40	#6	15'-8"	
a1(E)	24	#6	5'-6"	
c(E)	12	#6	3'-4"	
d1(E)	12	#4	2'-6"	
d2(E)	12	#4	1'-11"	
c(E)	12	#4	5'-9"	
u1(E)	64	#5	3'-0"	
h(E)	24	#5	14'-10"	
x(E)	64	#6	2'-5"	

Item	Unit	Quantity
Reinforcement Bars (Epoxy Coated)	Pound	3050
Concrete Removal	Cu. Yds.	14.6
Concrete Superstructure	Cu. Yds.	12.7
Preformed Joint Seal (4")	Foot	90
Furn. And Erect. Structural Steel	Pound	3200
Bar Splicers	Each	32

REVISIONS	
NAME	DATE

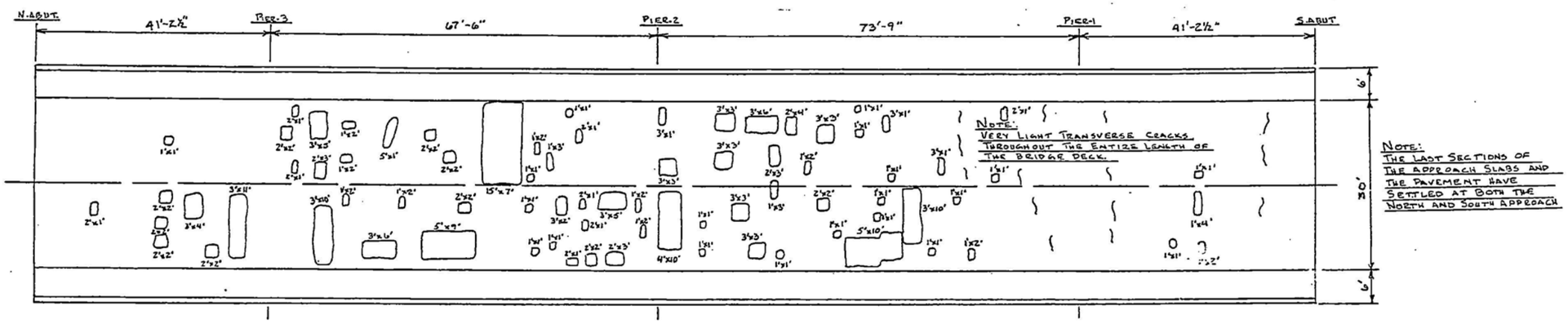
ILLINOIS DEPARTMENT OF TRANSPORTATION
OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
TRANSVERSE EXPANSION JOINT DETAIL
S.N.016-0927

SCALE: NONE — DRAWN BY JAF
DATE 11/17/95 — CHECKED BY MVT

Fri Nov 17 08:20:50 1995
/usr/project/dti7393/dti7393bl.srp LV=1-63

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	A	COOK	359	77
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

#11213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824RS-1 & (1516-804HB, 1516-805HB, 1718-807IR

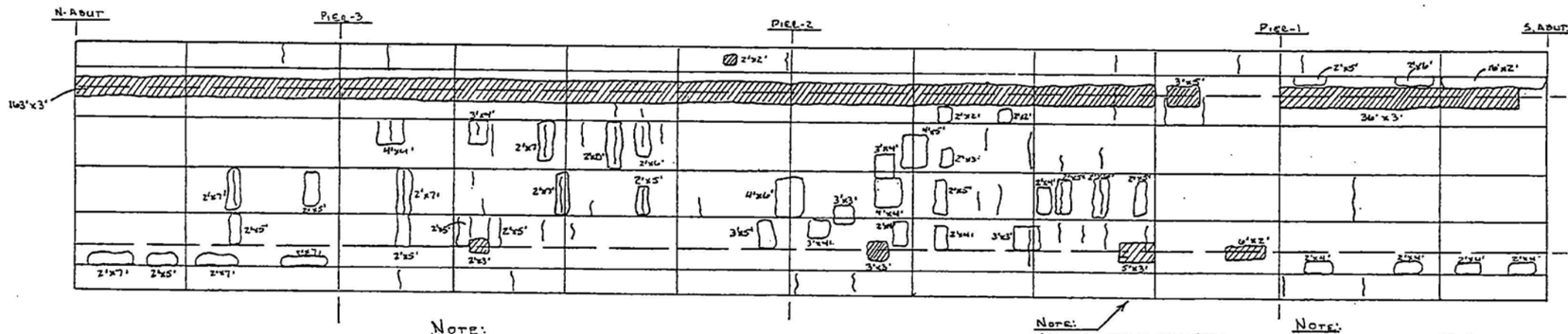


NOTE:
VERY LIGHT TRANSVERSE CRACKS THROUGHOUT THE ENTIRE LENGTH OF THE BRIDGE DECK.

NOTE:
THE LAST SECTIONS OF THE APPROACH SLABS AND THE PAVEMENT HAVE SETTLED AT BOTH THE NORTH AND SOUTH APPROACH

NOTE:
000 - PARTIAL DEPTH AREAS = 617 SQ FT = 69 SQ. YD.
111 - TRANSVERSE CRACKS

TOP DECK SURVEY
OAK PARK AVE/I-80
BRIDGE No. 016-0927
UPDATED ON 11/9/95
BY: LME



NOTE:
THE CONCRETE SLOPEWALL AT BOTH ABUTMENTS HAVE LARGE VOIDS. THEY HAVE BROKEN AND SETTLED.

NOTE:
- SPALL AREAS = 658 SQ.FT = 73 SQ.YDS.
- LEACHING AREAS = 507 SQ.FT = 56 SQ YDS.
- LEACHING CRACKS

NOTE:
IMPACT DAMAGE TO WEST FASCIA BEAM OVER LANE #3

NOTE:
FILLED ALONG FASCIA BEAMS AND FIRST BEAM IN FROM FASCIA ARE IN DANGER OF SPALLING. MOST OF THESE, IN SPANS 1 AND 4, HAVE ALREADY FALLEN.

BOTTOM DECK SURVEY
OAK PARK AVE/I-80
BRIDGE No. 016-0927
UPDATED ON 11/9/95
BY: LME

BILL OF MATERIALS

Item	Unit	Total
Deck Slab Repair (Partial)	Sq. Yds.	70
Deck Slab Repair (Full Depth, Type I)	Sq. Yds.	20
Deck Slab Repair (Full Depth, Type II)	Sq. Yds.	10

NOTE:
DECK SLAB REPAIRS SHALL BE DETERMINED IN THE FIELD AT THE RESIDENT ENGINEER'S DISCRETION.

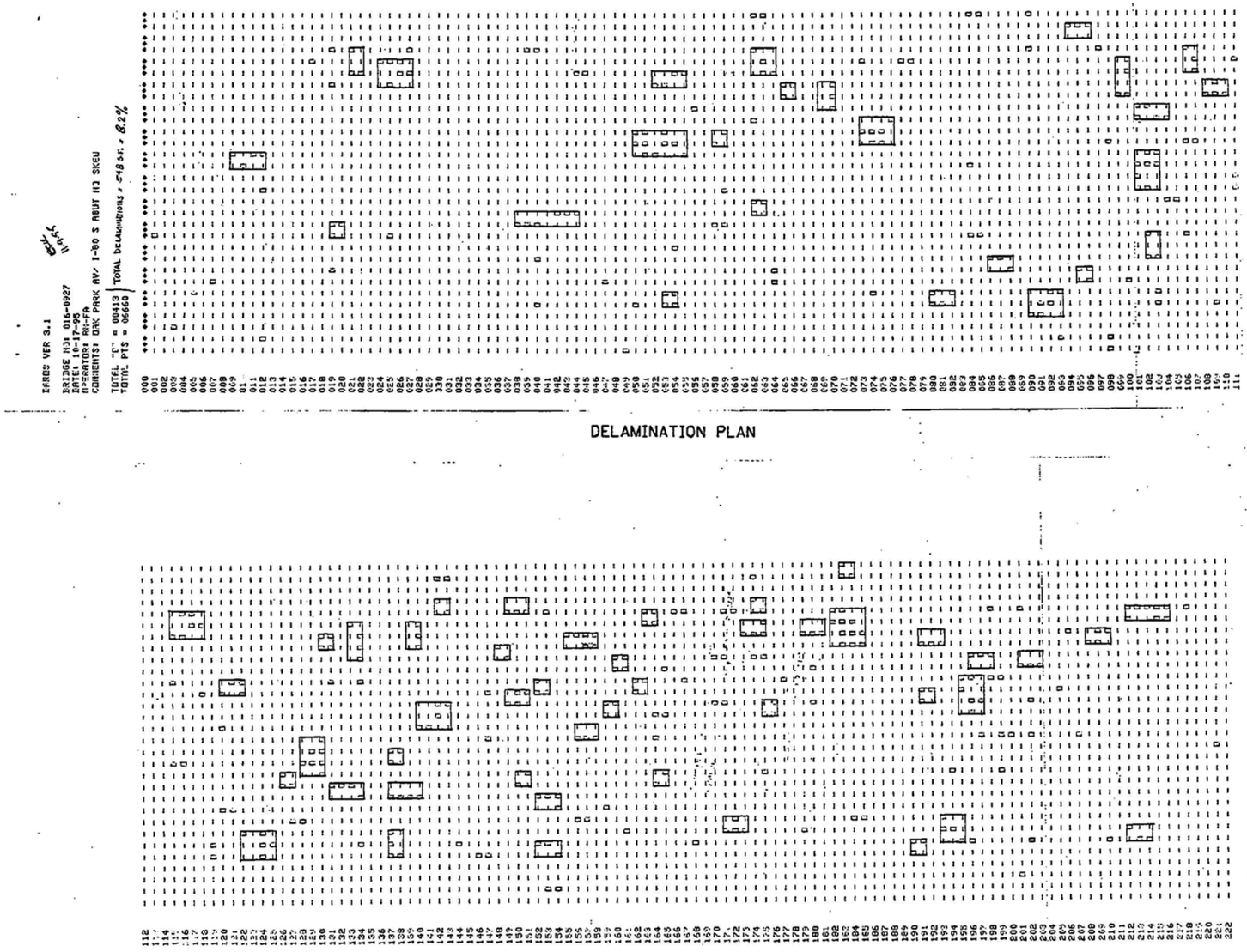
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
OAK PARK AVENUE OVER INTERSTATE ROUTE 80
S.N.016-0927
DECK REPAIR PLAN

SCALE: NONE — DRAWN BY JAF
DATE 10-13-95 — CHECKED BY MVT

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	78
STA.		TO STA.		
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT		

*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824RS-1 & (1516-804HB, 1516-805KB, 1718-807NR



DELAMINATION PLAN

NOTE:
DELAMINATION PLAN HAS BEEN INCLUDED FOR INFORMATION ONLY.

REVISIONS	
NAME	DATE

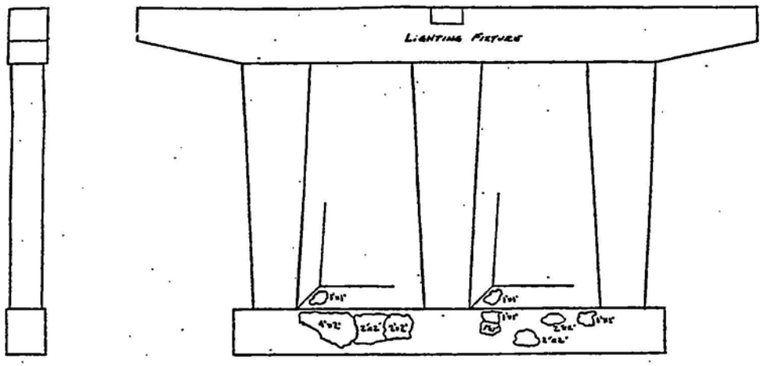
ILLINOIS DEPARTMENT OF TRANSPORTATION

OAK PARK AVENUE OVER
INTERSTATE ROUTE 80
S.N.016-0927
DELAMINATION PLAN

SCALE: NONE — DRAWN BY JAF
DATE 10-13-95 — CHECKED BY MVT

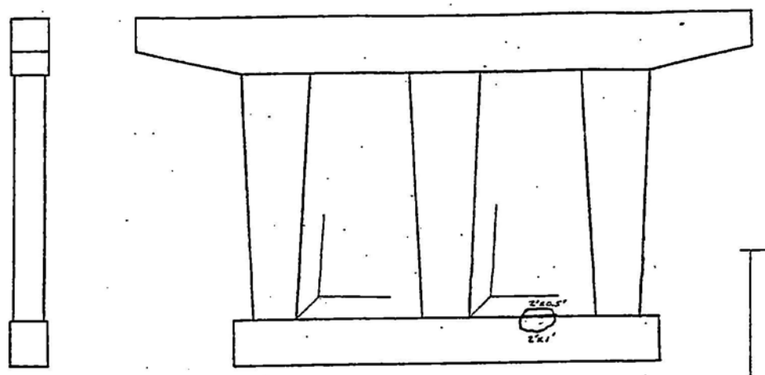
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	79
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824IRS-1 & (1516-804HB, 1516-805HB, 1718-807IR



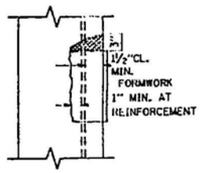
NOTE:
⬭ ⬭ - SPALL AREAS = 29 SQ.FT.

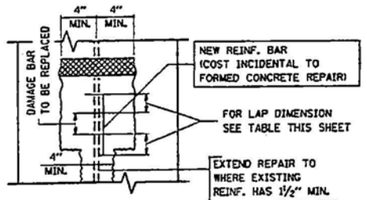
PIER #1 - NORTH SIDE



NOTE:
⬭ - SPALL AREAS = 3 SQ.FT.

PIER #1 - SOUTH SIDE





NOTE:
EXISTING REINFORCEMENT HAVING 10% OR MORE OF CROSS SECTIONAL AREA LOST DUE TO CORROSION OR DAMAGED DURING CONC. REMOVAL SHALL BE REPLACED BY NEW REINFORCEMENT LAPPED AS SHOWN OR NOTED.

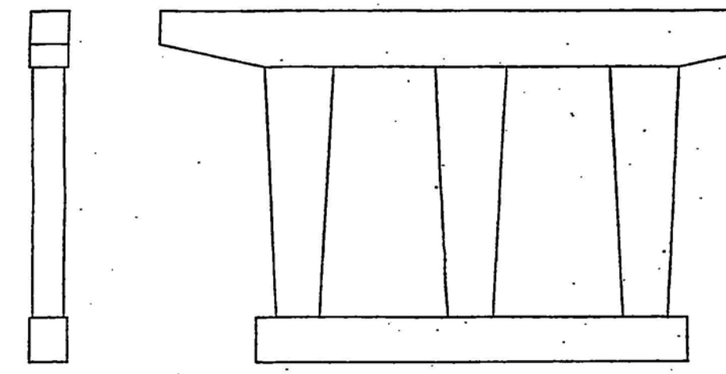
LAP DIMENSIONS

BAR SIZE	LAP LENGTH
#4	1'-8"
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"

FORMED CONCRETE REPAIR DETAIL WITH REINFORCEMENT

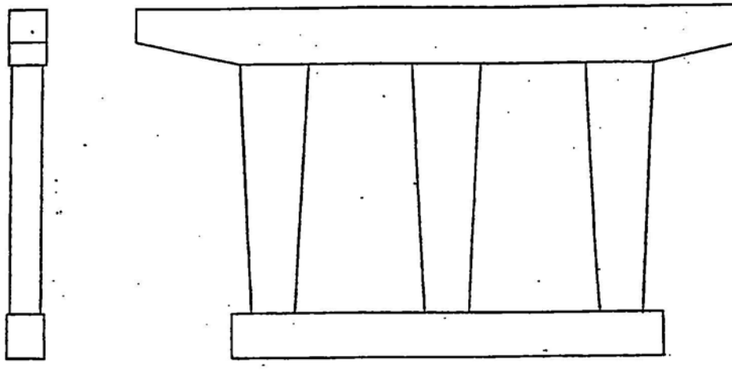
LEGEND

▨ INDICATES FORMED CONCRETE REPAIR



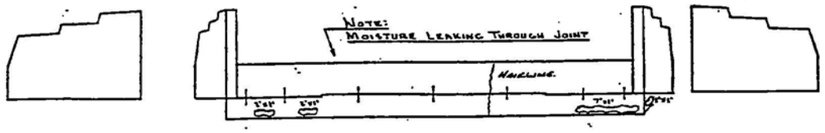
NOTE:
NO VISIBLE SPALLS OR CRACKS.

PIER #2 - NORTH SIDE

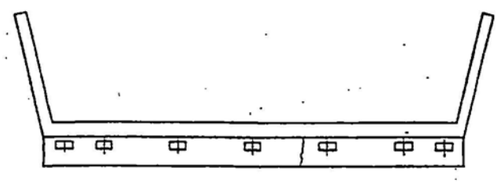


NOTE:
NO VISIBLE SPALLS OR CRACKS.

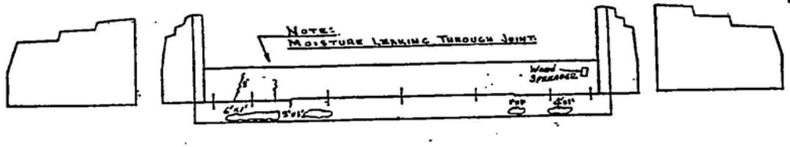
PIER #2 - SOUTH SIDE



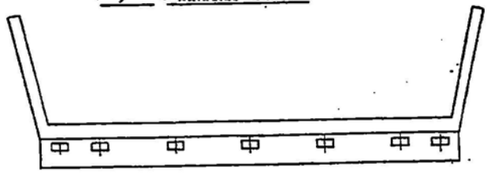
NOTE:
VOIDS UNDER SLOPE PAVEMENT
⬭ - SPALL AREAS = 12 SQ.FT.



SOUTH ABUTMENT



NOTE:
VOIDS UNDER SLOPE PAVEMENT
AND SETTLED.
⬭ - SPALL AREAS = 16 SQ.FT.
- EPOXY INJECT CRACK = 5' LIN.FT.
- HAIRLINE CRACK



NORTH ABUTMENT

SUBSTRUCTURE SURVEY
OAK PARK AVE./I-80
BRIDGE NO. 016-0927

BILL OF MATERIALS

Item	Unit	Total
Formed Concrete Repair ≤ 5" Depth	Sq. Ft.	45
Formed Concrete Repair > 5" Depth	Sq. Ft.	15
Epoxy Crack Sealing	Foot	5

NOTE:
FORMED CONCRETE REPAIR < 5" OR > 5" IS TO BE DETERMINE IN THE FIELD AT THE RESIDENT ENGINEER'S DISCRETION.
FIELD DATA BY M.J.J.

REVISIONS	
NAME	DATE

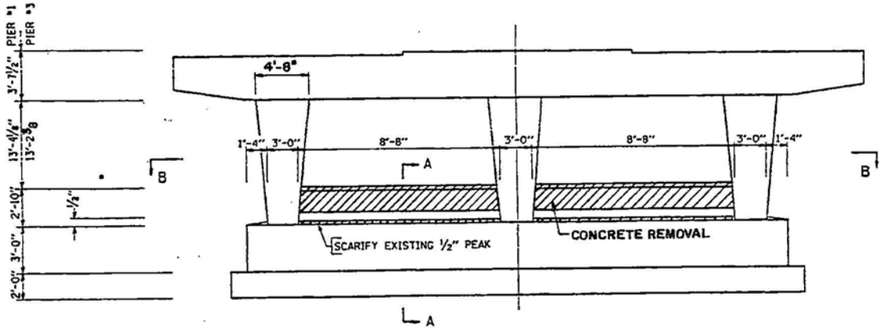
ILLINOIS DEPARTMENT OF TRANSPORTATION
OAK PARK AVE. OVER
INTERSTATE ROUTE 80
S.N.016-00927
SUBSTRUCTURE REPAIR PLANS

SCALE: VERT.
HORIZ.
DATE

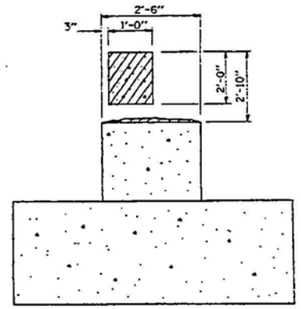
DRAWN BY CADD
CHECKED BY JAF

F. A. I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
80	*	COOK	359	80
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

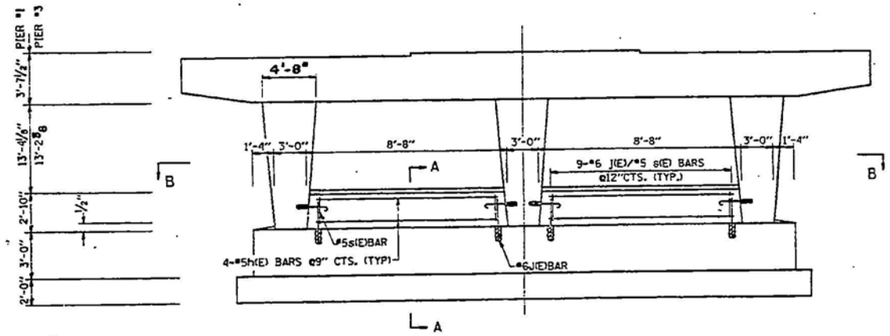
*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824RS-1 & (1516-804HB, 1516-805HB, 1718-807IR



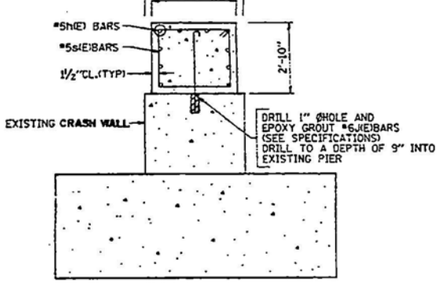
EXISTING PIER #1 ELEVATION (LOOKING NORTH)
EXISTING PIER #3 ELEVATION (LOOKING SOUTH)
(HATCHED AREA INDICATES CONCRETE REMOVAL.)



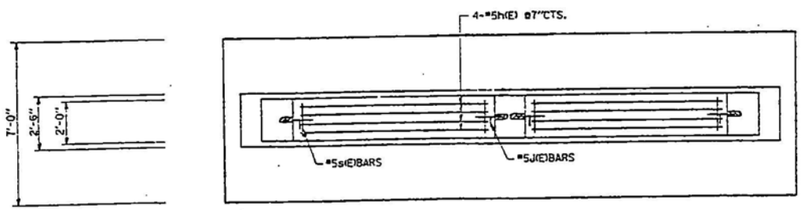
SECTION A-A
(EXISTING)



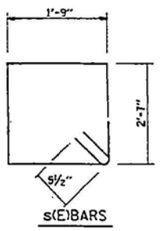
PROPOSED PIER #1 ELEVATION (LOOKING NORTH)
PROPOSED PIER #3 ELEVATION (LOOKING SOUTH)



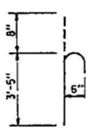
SECTION A-A
(PROPOSED)



SECTION B-B



s(E)BARS



J(E)BARS

BILL OF MATERIALS

Bar	No.	Size	Length	Shape
J(E)	44	#6	4'-1"	C
h(E)	40	#5	8'-0"	
s(E)	36	#5	9'-7"	

Item	Unit	Quantity
Concrete Removal	Cu. Yds.	2.7
Reinforcement Bars(Epoxy Coated)	Pound	970
Concrete Structures	Cu. Yds.	7.3

NOTES:
DRILLING AND EPOXY GROUTING OF THE #6 J BARS IS TO BE CONSIDERED INCIDENTAL TO THE COST OF REINFORCEMENT BARS (EPOXY COATED).
THE SCARIFICATION OF THE ½" PEAK ON THE EXISTING PIER BASE WALL SHALL BE PAID FOR AS CONCRETE REMOVAL.
ALL EDGES SHALL HAVE ¾" CHAMFER.

DESIGN STRESSES
f'c = 3,500psi
fy = 60,000psi

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

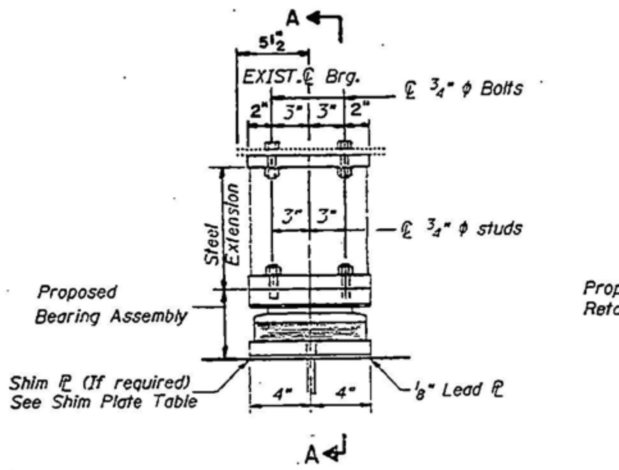
OAK PARK AVENUE OVER INTERSTATE ROUTE 80
PIER #1 & #3-BASE WALL EXTENSION
S.N. 016-0927

SCALE: NONE — DRAWN BY CADD
DATE 11/28/95 — CHECKED BY JAF

Tue Nov 28 09:28:58 1995
/usr/project/structl/dl1139s00.srp LV:1-63

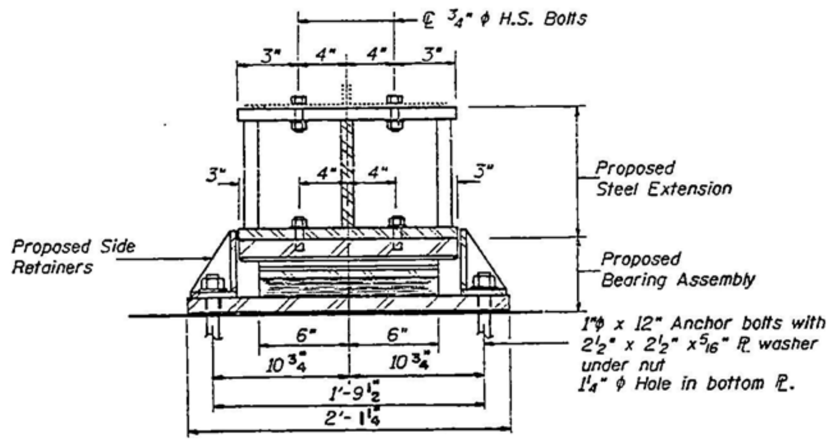
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	81
STA.		TO STA.		

*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824)RS-1 & (1516-804HB, 1516-805HB, 1718-807)R



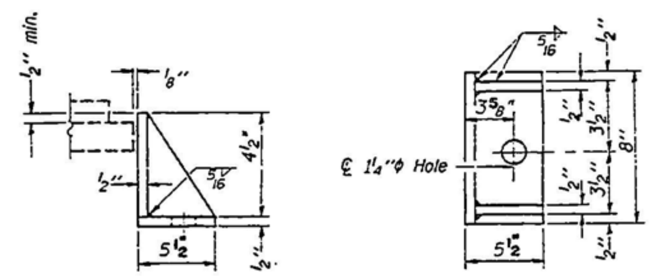
ELEVATION AT NORTH /SOUTH ABUTMENT

(14 Required)



SECTION A-A

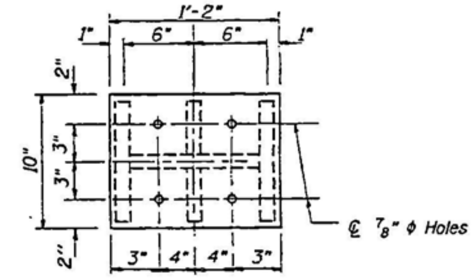
TYPE II ELASTOMERIC EXP. BRG.



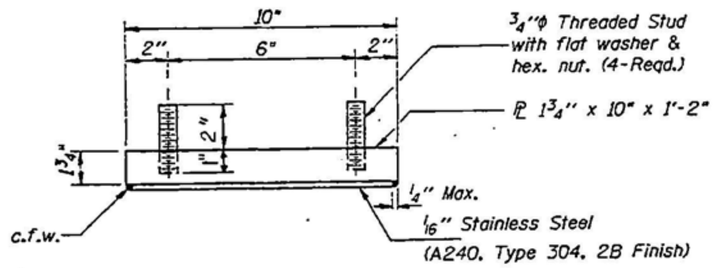
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates: Weight included with Structural Steel.

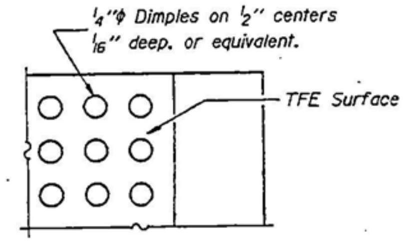
(28 REQUIRED)



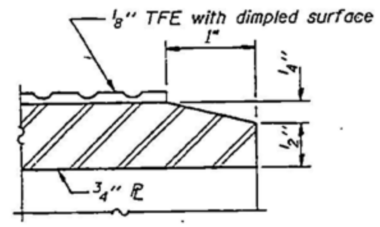
PLAN TOP PLATE



TOP BEARING ASSEMBLY

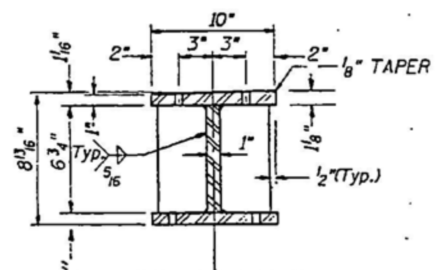


PLAN-TFE SURFACE

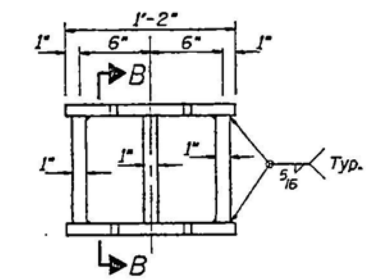


SECTION THRU TFE

GIRDER REACTIONS		
	NO. ABUT.	SO. ABUT.
R_{DL} (K)	15.3	12.7
R_{LL} (K)	36.0	35.8
R_{IMP} (K)	10.8	10.8
R_{TOTAL} (K)	62.1	59.3



SECTION B-B

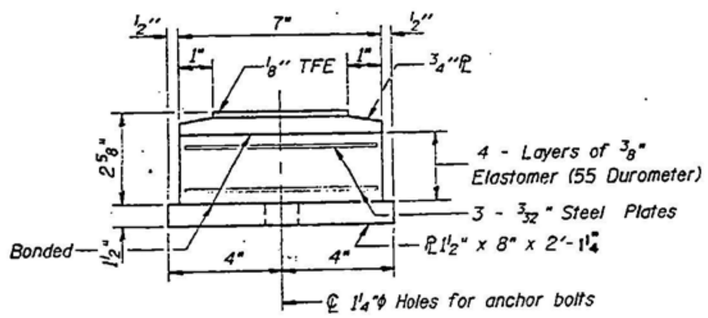


STEEL EXTENSION DETAIL

NOTES:

Before installing the new bearing, remove the top plate of the existing bearing assembly from the bottom flange using the air-arc method and grind smooth all weld material remaining on the existing bottom flange. Burn existing anchor bolts flush with existing concrete epoxy. Grind smooth and seal with epoxy. The cost is included with F&E Structural Steel. See Existing Bearing Removal Detail.

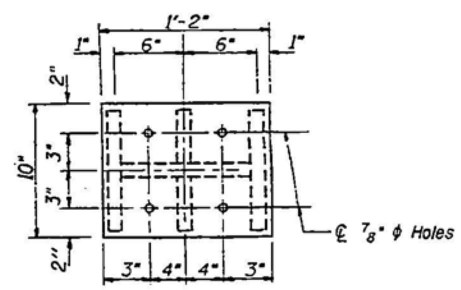
New side retainers, shim plates, connection bolts, and anchor bolts are included in Furnishing and Erecting Structural Steel.



BOTTOM BEARING ASSEMBLY

Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



PLAN BOTTOM PLATE

For the details of existing bearings see sheet S10 thru S12

Contractor shall submit jacking details for approval by the bridge office.

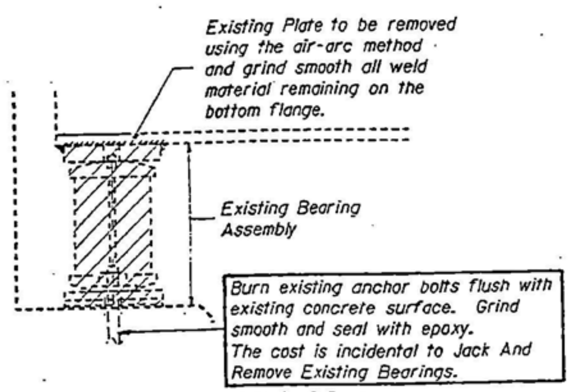
For anchor bolt details see sheet S16.

Prior to ordering any material, the contractor shall verify in the field all bearing heights and shim plate thickness dimensions

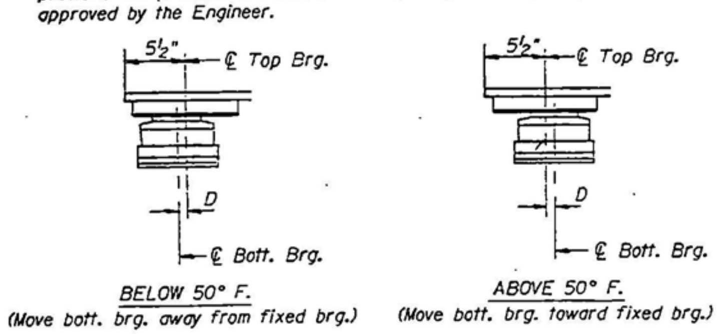
Diaphragm removal and replacement may be required to facilitate drilling holes in the bottom flange for bearing attachment. Cost incidental to Furnishing and Erecting Structural Steel.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	14
Furnishing And Erecting Structural Steel	Pound	2960



EXISTING BEARING REMOVAL



SETTING ANCHOR BOLTS AT EXP. BRG.

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

Table Of Dimension "T" For Shim Plates

Beam No.	1	2	3	4	5	6	7
So. Abutment	0	0	0	⅜"	0	0	0
No. Abutment	0	0	0	⅜"	0	0	0

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

OAK PARK AVENUE OVER INTERSTATE ROUTE 80 NORTH / SOUTH ABUTMENTS ELASTOMERIC BEARING DETAIL S.N. 016-0927

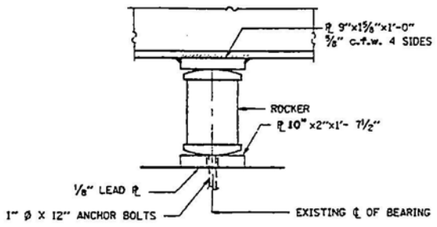
SCALE: NONE — DRAWN BY CADD

DATE 11/15/95 — CHECKED BY JAF

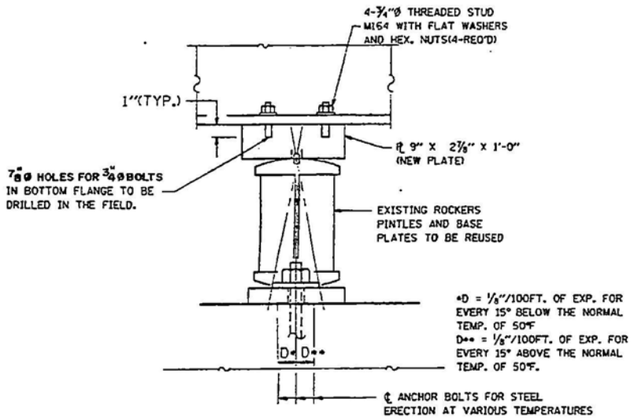
I-2-E2 2-26-93

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	82
STA.		TO STA.		
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT		

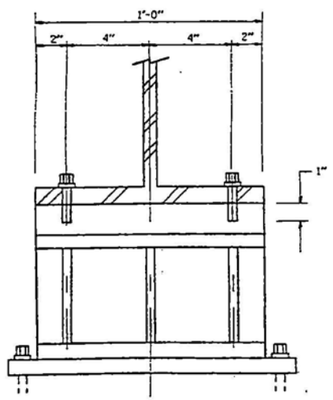
*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824RS-1 & (1516-804HB, 1516-805HB, 1718-807IR



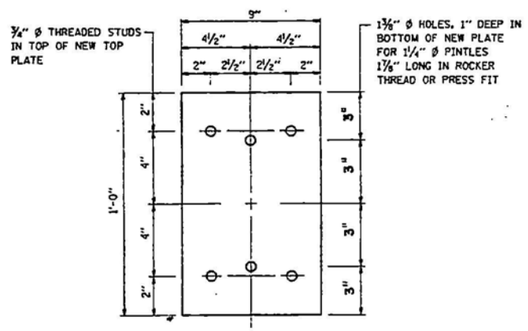
EXISTING SECTION AT PIER #3



PROPOSED SECTION AT PIER #3



PROPOSED SECTION AT PIER #3



NEW TOP PLATE-PIER #3

BILL OF MATERIALS

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	630

NOTES:

PROPOSED PLATES TO BE ALIGNED ABOVE EXISTING ℄ OF BEARING.
PROPOSED PLATE SHALL BE AASHTO, M-270, GR-36.
FOR JACKING INFORMATION, SEE SHEETS S10 - S12
CONTRACTOTS SHALL SUBMIT JACKING DETAILS FOR APPROVAL BY THE BRIDGE OFFICE.

BROKEN, RUSTED OUT OR MISALIGNED BOLTS, PINTLES AND ANCHOR BOLTS WHICH NEED TO BE REPLACED OR REALIGNED, THE COST SHALL BE CONSIDERED AND PAID FOR AS FURNISHING AND ERECTING STRUCTURAL STEEL.

EXISTING ROCKERS AND BASE PLATES TO BE CLEANED AND PAINTED AND REUSED. SEE SPECIAL PROVISIONS.

USE THE AIR-ARC METHOD TO CUT EXISTING SOLE PLATES FROM THE BOTTOM FLANGE. GRIND SMOOTH ALL WELD MATERIAL REMAINING ON THE BOTTOM FLANGE. COST INCIDENTAL TO FURNISHING & ERECTING STRUCTURAL STEEL.

DRILLING TO BE DONE IN THE FIELD IS INCIDENTAL TO THE COST OF FURNISHING AND ERECTING STRUCTURAL STEEL.

GIRDER REACTIONS	
	PIER 3
R_{DL} (K)	75.1
R_{LL} (K)	49.3
R_{IMP} (K)	13.5
R_{TOTAL} (K)	138

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

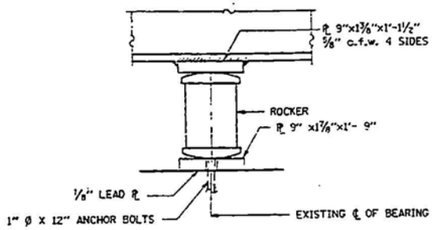
OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
BEARING DETAILS
S.N. 016-0927

SCALE: 50"=1" DRAWN BY CADD
DATE: 11/17/95 CHECKED BY JAF

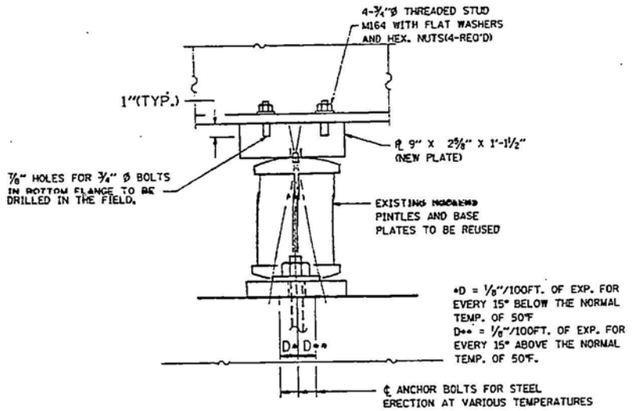
Fri Nov 17 13:39:08 1995
/usr/project/dl17393/dl17393b5.srp LY=1-63

F. A. I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	M	COOK	359	83
STA.		TO STA.		
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT		

*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824RS-1 & (1516-804HB, 1516-805HB, 1718-807IR

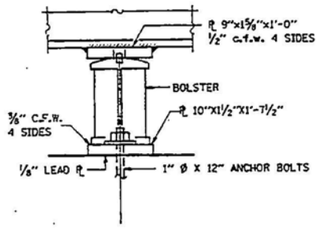


EXISTING SECTION AT PIER #1

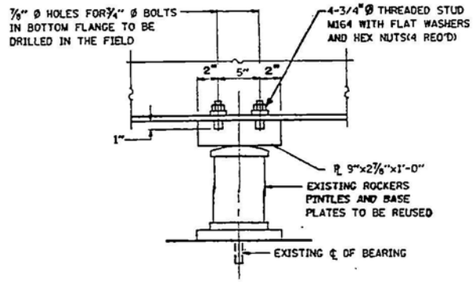


PROPOSED SECTION AT PIER #1

GIRDER REACTIONS		
	PIER 1	PIER 2
R_{DL} (K)	66.5	87.3
R_{LL} (K)	47.5	52.4
R_{IMP} (K)	13.3	13.4
R (K)	127.3	153.1



EXISTING SECTION AT PIER #2



PROPOSED SECTION AT PIER #2

BILL OF MATERIALS

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	1280

NOTES:

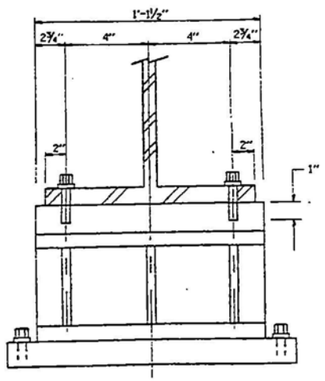
PROPOSED PLATES TO BE ALIGNED ABOVE EXISTING ℄ OF BEARING.
PROPOSED PLATE SHALL BE AASHTO, M-270, GR-36.
FOR JACKING INFORMATION, SEE SHEETS S .
CONTRACTOTS SHALL SUBMIT JACKING DETAILS FOR APPROVAL BY THE BRIDGE OFFICE.

BROKEN, RUSTED OUT OR MISALIGNED BOLTS, PINTLES AND ANCHOR BOLTS WHICH NEED TO BE REPLACED OR REALIGNED, THE COST SHALL BE CONSIDERED AND PAID FOR AS FURNISHING AND ERECTING STRUCTURAL STEEL.

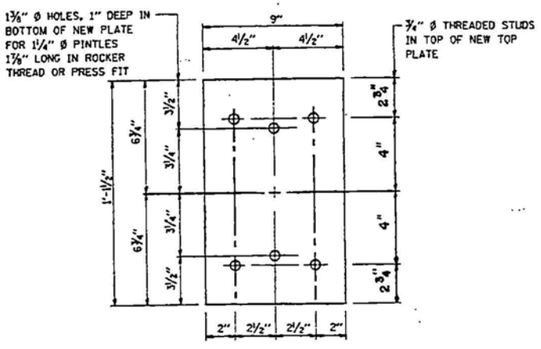
EXISTING ROCKERS AND BASE PLATES TO BE CLEANED AND PAINTED AND REUSED. SEE SPECIAL PROVISIONS.

USE THE AIR-ARC METHOD TO CUT EXISTING SOLE PLATES FROM THE BOTTOM FLANGE. GRIND SMOOTH ALL WELD MATERIAL REMAINING ON THE BOTTOM FLANGE. COST INCIDENTAL TO FURNISHING & ERECTING STRUCTURAL STEEL.

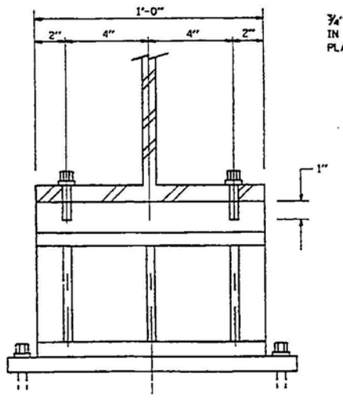
DRILLING TO BE DONE IN THE FIELD IS INCIDENTAL TO THE COST OF FURNISHING AND ERECTING STRUCTURAL STEEL.



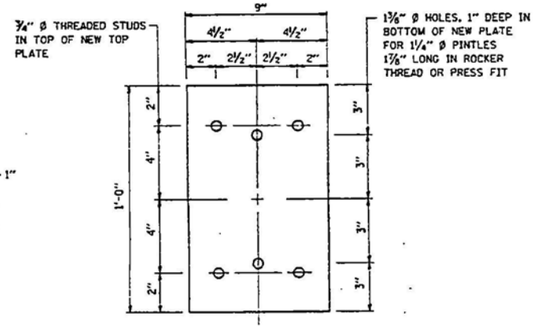
PROPOSED SECTION AT PIER #1



NEW TOP PLATE-PIER #1



PROPOSED FRONT FACE AT PIER #2



NEW TOP PLATE AT PIER #2

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
BEARING DETAILS
S.N. 016-0927

SCALE: 50'=1" DRAWN BY CADD
DATE 11/17/95 CHECKED BY JAF

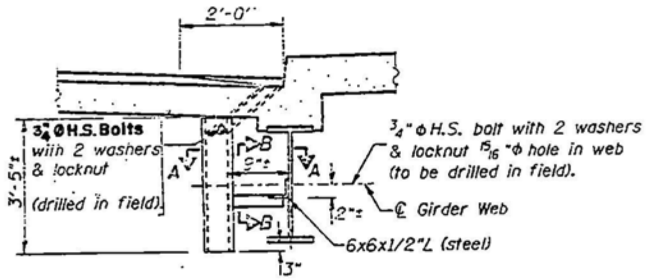
Fri Nov 17 13:28:59 1995
/usr/project/dlt1393/dlt1393b5.snp LV=1-63

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	87

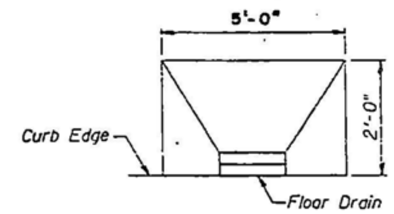
STA. TO STA.

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

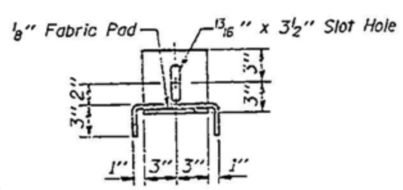
*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824)RS-1 & (1516-804HB, 1516-805HB, 1718-807)R



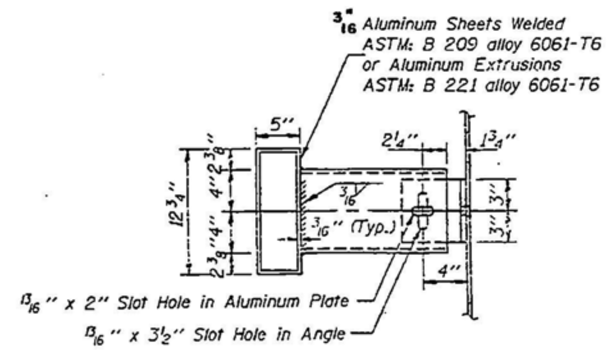
SECTION AT SIDEWALK



PLAN
EXISTING FLOOR DRAIN TAPER



SECTION B-B



SECTION A-A

NOTES:

THE EXTERIOR SURFACES OF THE FLOOR DRAINS SHALL BE PAINTED WITH THE FINISH COAT AS SPECIFIED IN THE SPECIAL PROVISIONS FOR CLEANING AND PAINTING METAL STRUCTURES.

THE EXTERIOR SURFACES OF THE DRAIN SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 AND SSPC PAINT 27 PRIOR TO PAINTING.

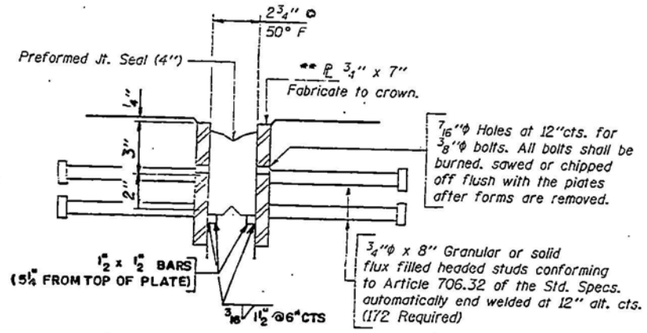
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
BRIDGE DECK DRAIN EXTENSION
DETAIL
S.N. 016-0927

SCALE: 50'=1" DRAWN BY CADD
DATE 11/28/95 CHECKED BY JAF

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	88
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824)RS-1 & (1516-804HB, 1516-805HB, 1718-807)R



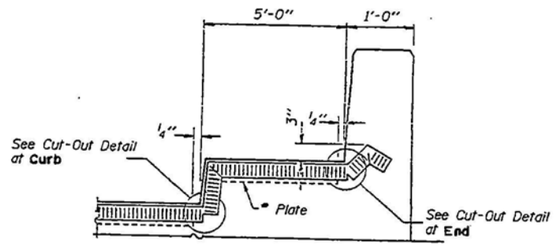
4" PREFORMED JOINT SEAL

DETAIL "A"

NOTES:

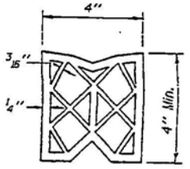
** Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.

After fabrication all surface of the steel plates sall be given one shop coat of paint specified for structural steel. No field painting required.

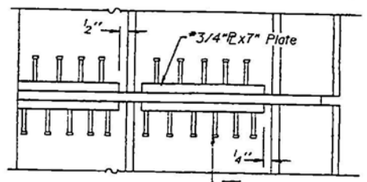


TYPICAL END OF SEAL TREATMENT

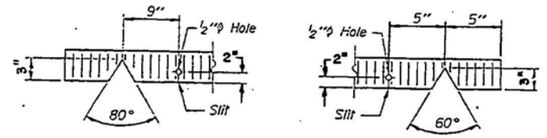
*Cut retainer bars in sidewalk 6" short of curb face



PREFORMED JOINT SEAL (4")



PLAN



AT CURB

AT END

SEAL CUT-OUT DETAIL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
PREFORMED JOINT SEAL DETAIL
S.N. 016-0927

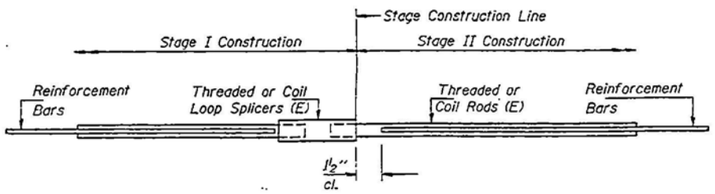
SCALE: 50"=1" DRAWN BY CADD

DATE 11/28/95 CHECKED BY JAF

Tue Nov 29 10:29:37 1995
/usr/projects/structl1/dll/393b4.srp L7-1-63

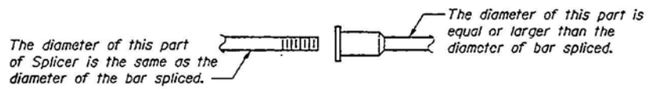
F.A. Rte. No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	COOK	359	89
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824)RS-1 & (1516-804HB, 1516-805HB, 1718-807)R



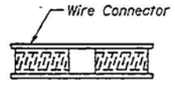
SPLICER DETAIL

Bar Size	No. Req'd. (Splicers)	Location
#6	10	N. Abut. Tr. Exp. Jt.
#5	6	N. Abut. Tr. Exp. Jt.
#6	10	S. Abut. Tr. Exp. Jt.
#5	6	S. Abut. Tr. Exp. Jt.



ROLLED THREAD DOWEL BAR

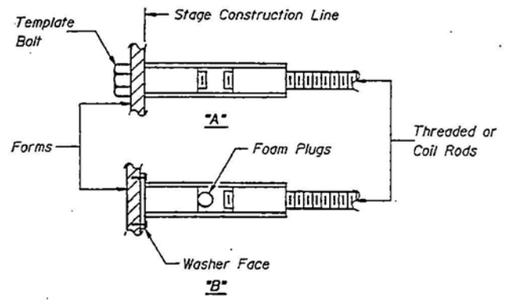
** ONE PIECE



WELDED SECTIONS

SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods.

Splicer (coupler) assembly shall be epoxy coated in accordance with the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

#5 bar lap with $\frac{3}{4}$"ϕ Splicer (Coupler) x 2'-0" Splicer Rods — Minimum Capacity = 23.0 kips-tension; Minimum Pull-out Strength = 9.2 kips-tension

#6 bar lap with $\frac{7}{8}$"ϕ Splicer (Coupler) x 2'-7" Splicer Rods — Minimum Capacity = 33.1 kips-tension; Minimum Pull-out Strength = 13.3 kips-tension

#7 bar lap with 1"ϕ Splicer (Coupler) x 3'-5" Splicer Rods — Minimum Capacity = 45.1 kips-tension; Minimum Pull-out Strength = 18.0 kips-tension

#8 bar lap with $1\frac{1}{4}$"ϕ Splicer (Coupler) x 4'-6" Splicer Rods — Minimum Capacity = 58.9 kips-tension; Minimum Pull-out Strength = 23.6 kips-tension

Bar splicer assemblies shall be in accordance with Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

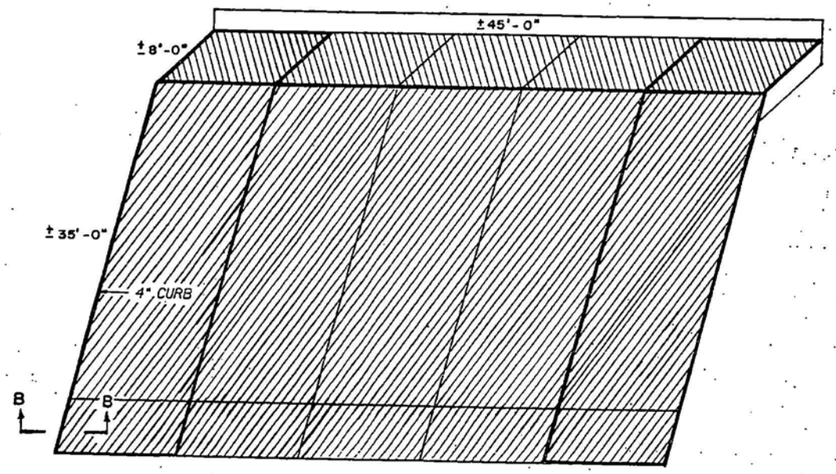
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
BAR SPLICER (COUPLER) DETAILS

S.N. 016-0927

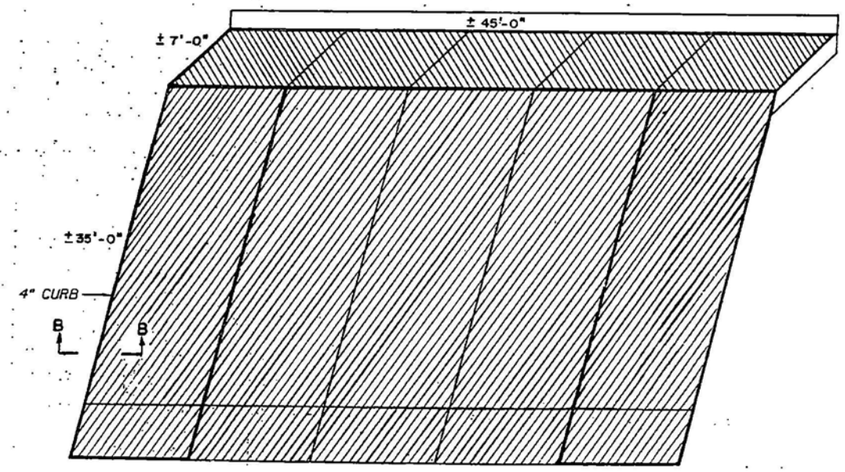
SCALE: NONE — DRAWN BY CADD
DATE 11/28/95 — CHECKED BY JAF

Tue Nov 28 12:23:03 1995
/usr/project/structl/dl1739b4.snp LVd-63



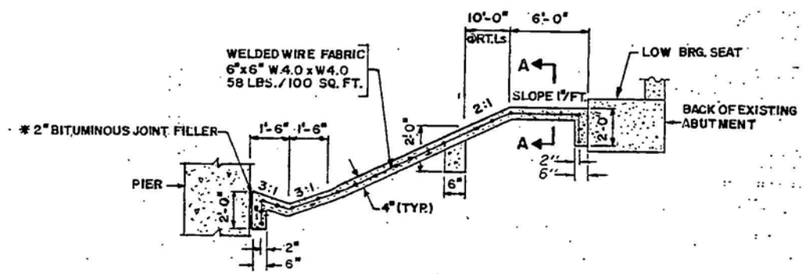
EXISTING EASTBOUND SLOPE WALL

AREA TO BE REMOVED



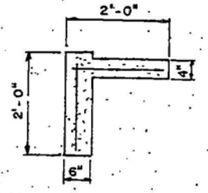
EXISTING WESTBOUND SLOPE WALL

AREA TO BE REMOVED

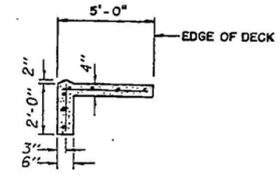


SECTION THRU PROPOSED SLOPEWALL

SEE SHEET S1 OF S17 FOR THE LOCATION AND LIMITS OF THE PROPOSED SLOPE WALL



SECTION B-B
EXISTING SLOPE WALL



SECTION A-A

NOTES:

* *The space between the slope wall and pier shall be filled with Two inch bituminous joint filler. The preformed joint filler shall be in accordance with the requirements of article 751.03 of the Standard Specifications. Seal the top 1/4" with hot poured joint sealer as per article 750.02 of the Standard Specifications. This work shall be considered incidental to the pay item "Slope Wall 4".*

SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6"x6" - W4.0 x 4.0 WEIGHING 58 LBS PER 100 SQ. FT.

BILL OF MATERIAL

Item	Unit	Quantity
Slope Wall Removal	Sq. Yd.	425
Slope Wall 4"	Sq. Yd.	474

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
SLOPE WALL DETAIL
S.N. 016-0927

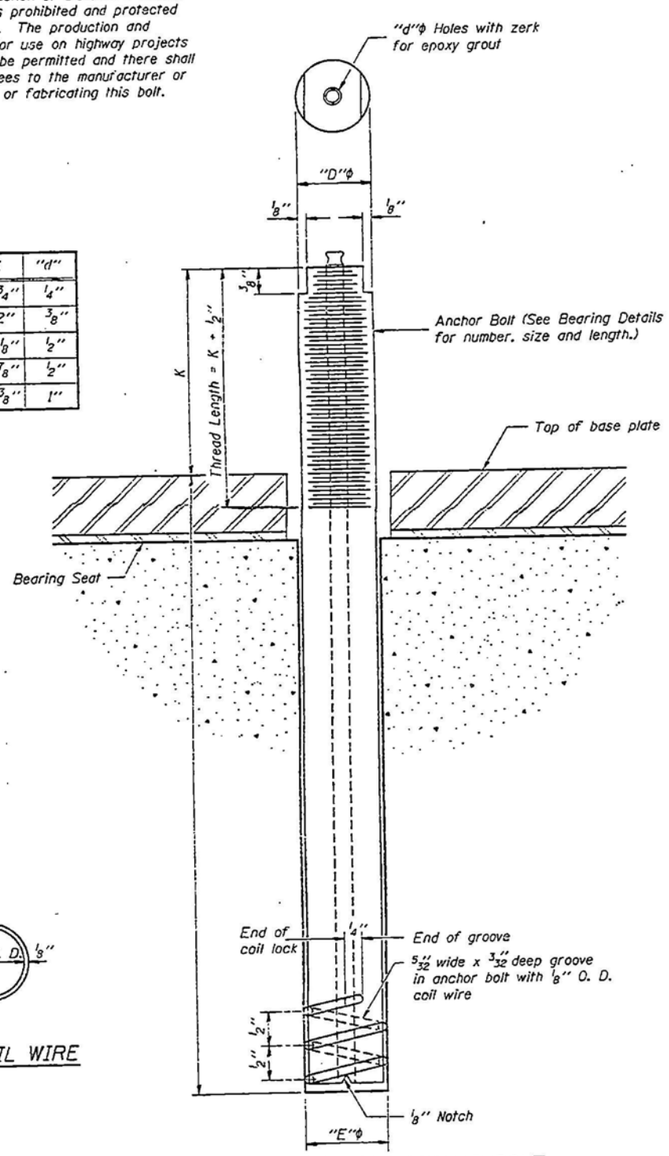
SCALE: NONE — DRAWN BY JAF

DATE — CHECKED BY MVT

F. A. S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	-	COOK	359	91
STA.		TO STA.		
	ILLINOIS	FED. AID PROJECT		

*(1213-825HBK, 1315-821, 1516-822, 1216-823, 1819-824IRS-1 & (1516-804HB, 1516-805HB, 1718-807IR

D	E	H	K	"d"
1"	1 1/8"	13/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system comforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place,the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnishes and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
OAK PARK AVENUE
OVER INTERSTATE ROUTE 80
ANCHOR BOLT DETAILS
FOR BEARINGS
S.N. 016-0927

SCALE: NONE — DRAWN BY CADD
DATE 11/28/95 — CHECKED BY JAF

Tue Nov 28 10:45:41 1995
/usr/project/structl1/dl17393s4.srp LV=1-63

ASB-1 7-1-91

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	1313-811 HB	COOK	44	1
FED ROAD DIST. NO 7	ILLINOIS	PROJECT I-80-4(77)150		

P-91-110-00

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

SCALES

PLAN	1 INCH	
PROFILE HOR.	1 INCH	
PROFILE VERT.	1 INCH	
CROSS-SECTIONS	1 INCH	VERT.
CROSS-SECTIONS	1 INCH	HOR.

INDEX OF SHEETS ON SHEET No. 3

F.A.I. ROUTE 80 SECTION 1313-811 HB

COOK COUNTY PROJECT I-80-4(77)150

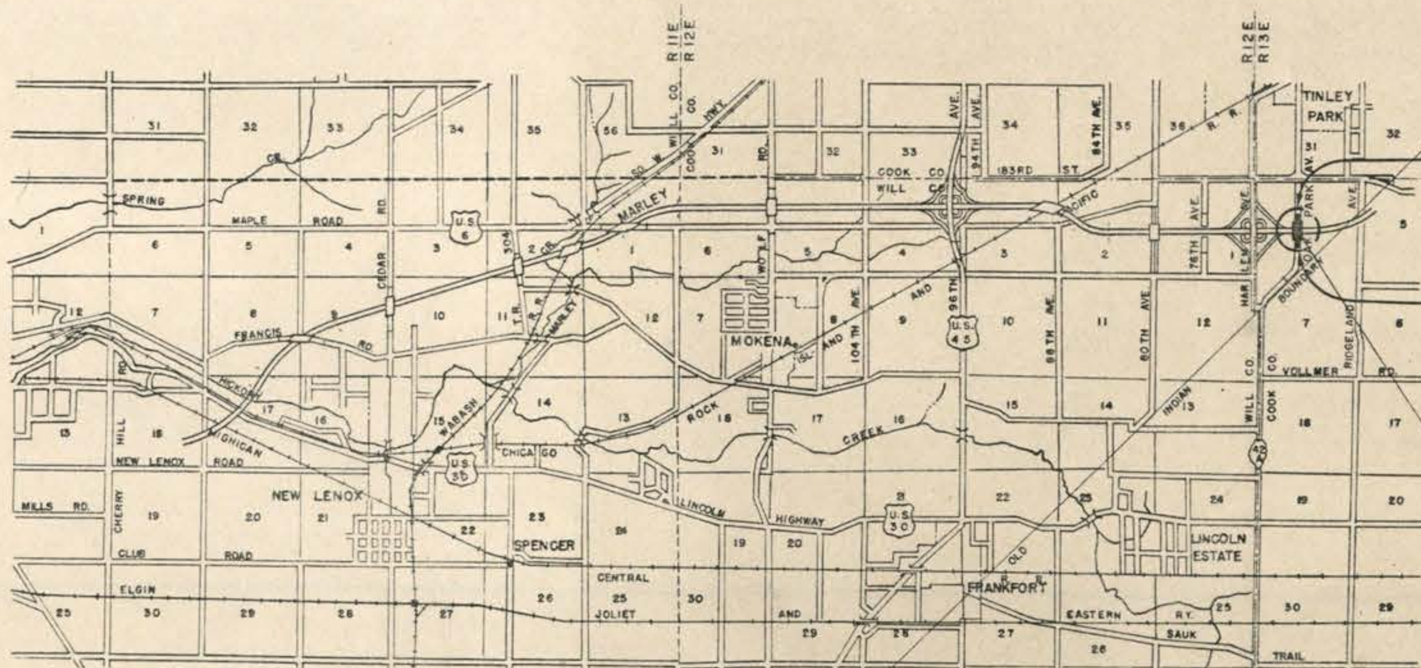
OAK PARK AVENUE

C-90-512-65

FILE COPY
#38
7-1-66

LOCATION OF SECTION INDICATED THUS:

HIGHWAY CLASSIFICATION
F.A.I. ROUTE 80 8100-T-60
OAK PARK AVE. 1000-T-45



OAK PARK AVE.
BEGIN CONSTRUCTION
STA. 40+65

OAK PARK AVE.
END CONSTRUCTION
STA. 58+75

PROJECT I-80-4(77)150, SECTION 1313-811 HB INCLUDES A 4-SPAN WF-BEAM GRADE SEPARATION STRUCTURE (CARRYING OAK PARK AVENUE OVER F.A.I. ROUTE 80) SPANS 2 AT 40'-6", 1 AT 67'-6" AND 1 AT 73'-9" ON R.C. OPEN PIERS AND CONCRETE PILE BENT ABUTMENTS AT STATION 1313+37.93. ALSO INCLUDES CONCRETE PAVED APPROACHES.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Carl E. Thunman
Engineer of Bridge & Traffic Structures

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

SUBMITTED April 15 1966
C. A. Benowrey
DISTRICT ENGINEER

EXAMINED May 6 1966
C. W. Van Arsdall
ENGINEER OF ROAD PLANS & CONTRACTS

PASSED May 6 1966
H. J. Allen
ENGINEER OF DESIGN

APPROVED May 6 1966
[illegible]
CHIEF HIGHWAY ENGINEER

APPROVED May 6 1966
Francis S. Lorenz
DIRECTOR

0-70

NET LENGTH OF IMPROVEMENT = 1810 L.F. = 0.343 Miles
NET LENGTH OF PROJECT = 0.00 L.F. = 0.000 Miles

SCALE: 1" = 5000'

PREPARED BY: Henry M. Yamanaka 4-14-66
DISTRICT DESIGN ENGINEER
EXAMINED BY: [illegible] 4-14-66
ASS'T DIST. ENG'R ENGINEERING
ENTIRE SECTION INSPECTED
AND APPROVED AS TO POLICY
BY: C.A. Benowrey
DISTRICT ENGINEER

CONTRACT NO. 24617

Francis E. Hansen Bauer
REGISTERED STRUCTURAL ENGINEER STATE OF ILLINOIS NO. 81-2547

THESE PLANS PREPARED BY
Chas. W. Cole & Son
Engineers & Architects
South Bend, Indiana

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

160927

REEL 0-70

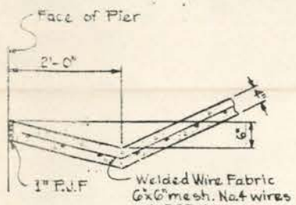
B.M.=G5 El. G 95.034 Reinforcing Rod buried 6', 146' Rt. of Sta. 1313+19 on FAI-80

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

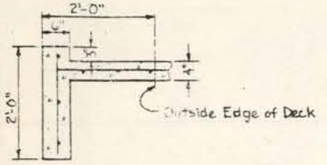
Note: Hatched Area behind Abutment Parapet to be placed after Abutment is in place.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	1313-811-HB	COOK	44	10
FED. ROAD DIST. NO. ?	ILLINOIS	FED. AID PROJECT: I-80-4(77)150		

SHEET NO. SHEETS



Sect A-A



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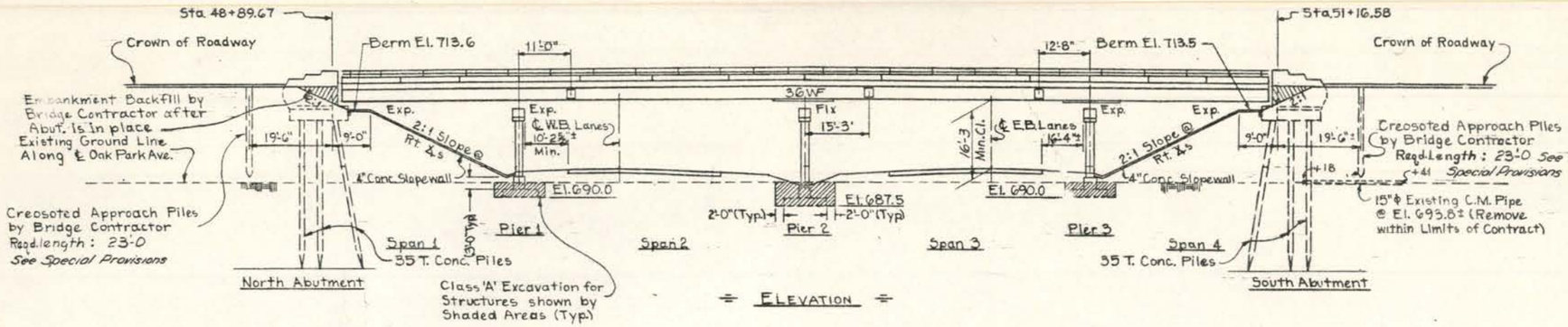
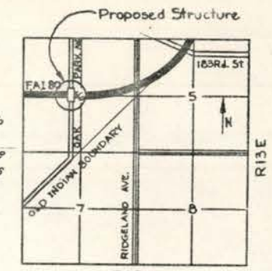
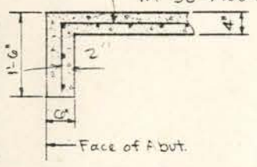


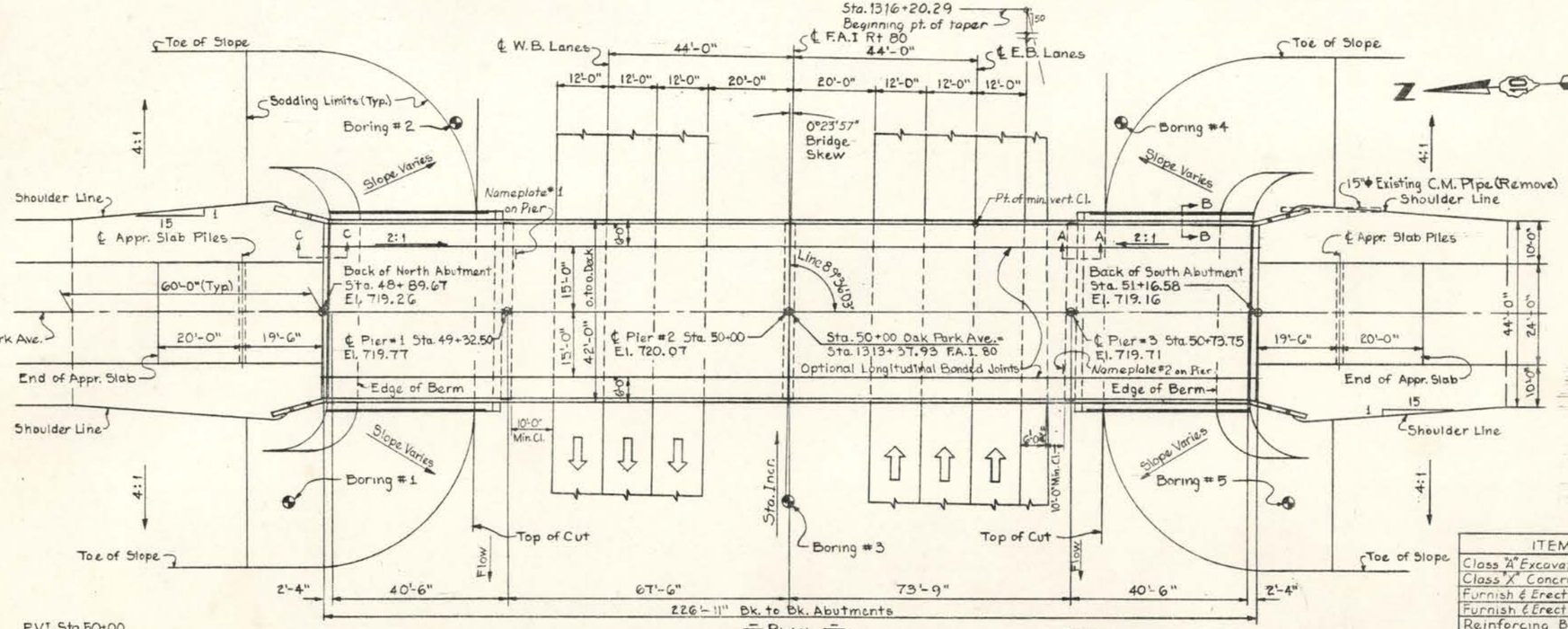
ELEVATION



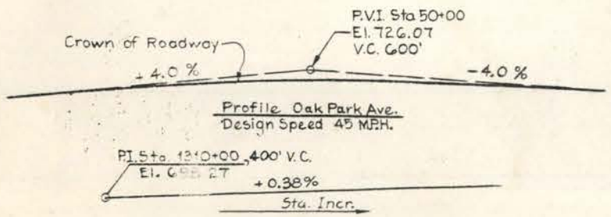
LOCATION SKETCH



Sect C-C

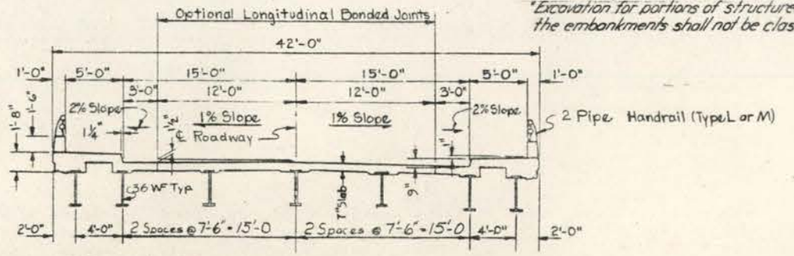


PLAN



Highway Classification

	D.H.V.	A.D.T.	Class	M.P.H.
Rte 42A	1000 (1985)	8000 (1985)	B-3	45



CROSS-SECTION

Note:
Excavation for Slope Wall shall be Considered Incidental to the Cost of the Slope Wall.
For Nameplate Details See Sht. 24
"Excavation for portions of structures in the embankments shall not be classified."

Design Stresses
f_c = 1400 p.s.i.
V_{ftgs} = 75 p.s.i.
f_s = 20,000 p.s.i. Reinforcing Steel
f_s = 20,000 p.s.i. Structural Steel (A36)
n = 10
Loading: A.A.S.H.O.: M S 20-44
Allow. live load defl. = 1/1000 (non-composite)

Foundation
Abutments: 35 T. Conc. Piles
Piers: Max. Allowable Soil Pressure = 2.5 T/S.F.
Approx. Length of Piles = 50' @ Abutments

Approach Pile Data
Creosoted Timber Piles
Capacity – 15 Tons
Estimated Lengths – 25 Feet
Number Req'd. – 12

SHEET INDEX TO BRIDGE PLANS

STRUCTURAL QUANTITIES

ITEM	UNIT	SUPER	SUB.	TOTAL
Class "A" Excavation for structures	Cu.yd.		300	300
Class "X" Concrete	Cu.yd.	290.8	266.9	557.7
Furnish & Erect Str. steel	Lb.	250,700		250,700
Furnish & Erect Handrail	Lin. Ft.	447.33		447.33
Reinforcing Bars	Lb.	73,350	44,260	117,610
Furnish Conc. Piles	Lin. Ft.		850	850
Driving Conc. Piles	Lin. Ft.		850	850
Test Piles (conc.)	Each		1	1
Furnishing Creosoted Piles	Lin. Ft.			276
Driving Timber Piles	Lin. Ft.			276
Name Plates	Each		2	2
Slopewall	Sq. yd.			498
Sodding	Sq. yd.			1949
Protective Coat	Sq. Yd.	1054		1054
Bridge Seat Sealant *	L.S.		1	1

* Abutments Only

GENERAL PLAN & ELEVATION
OAK PARK AVENUE OVER
F.A.I. RT. 80 SEC. 1313-811 HB
PROJECT I-80-4(77)150
COOK COUNTY – STA. 1313+37.93

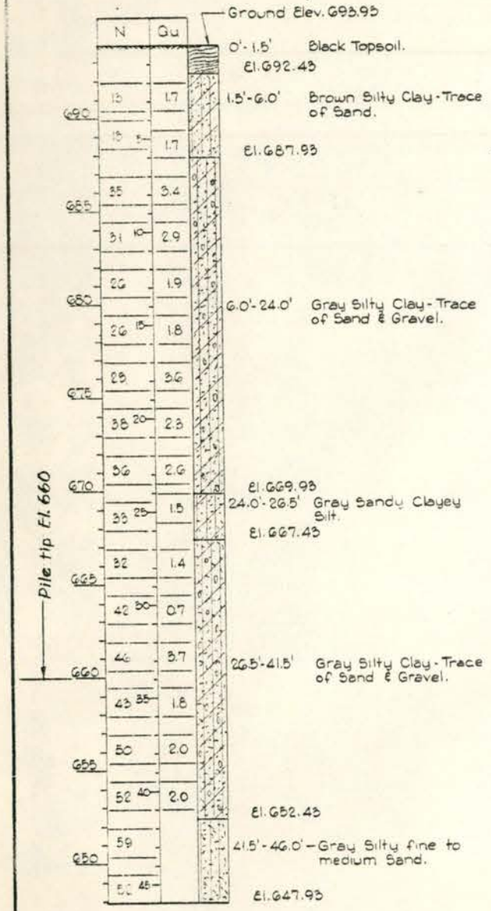
James E. Hannenbaum 4/1/66
REGISTERED STRUCTURAL ENGINEER STATE OF ILLINOIS NO. 81-2547

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 80	1313-811-HB	COOK	44	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO.
SHEETS

BORING No.1



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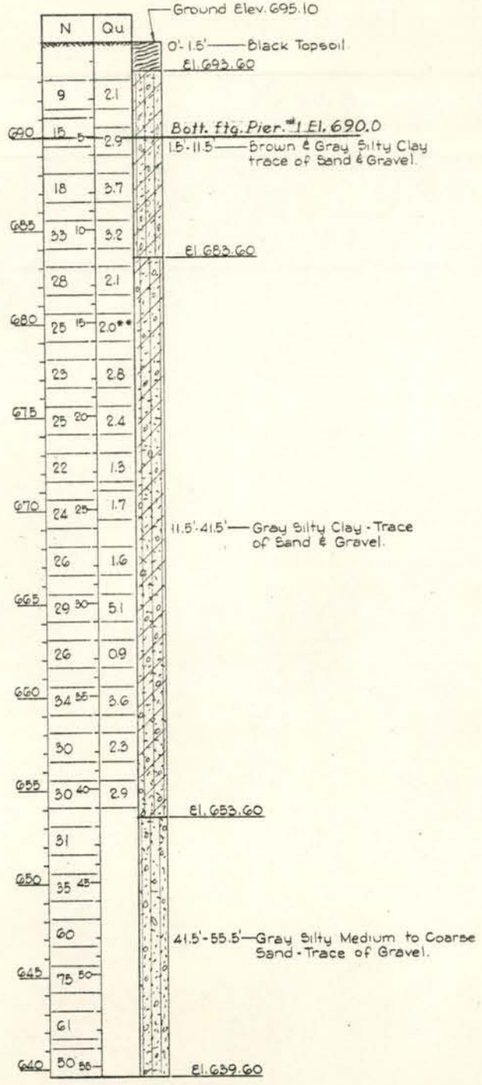
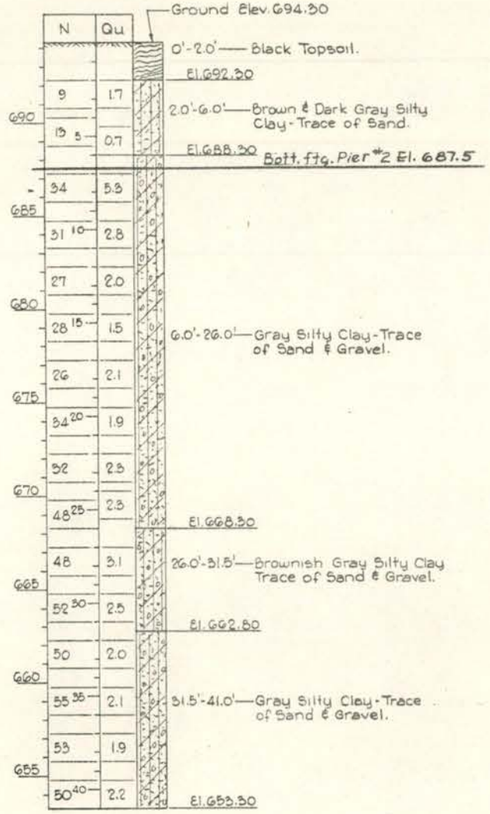


BORING No.3



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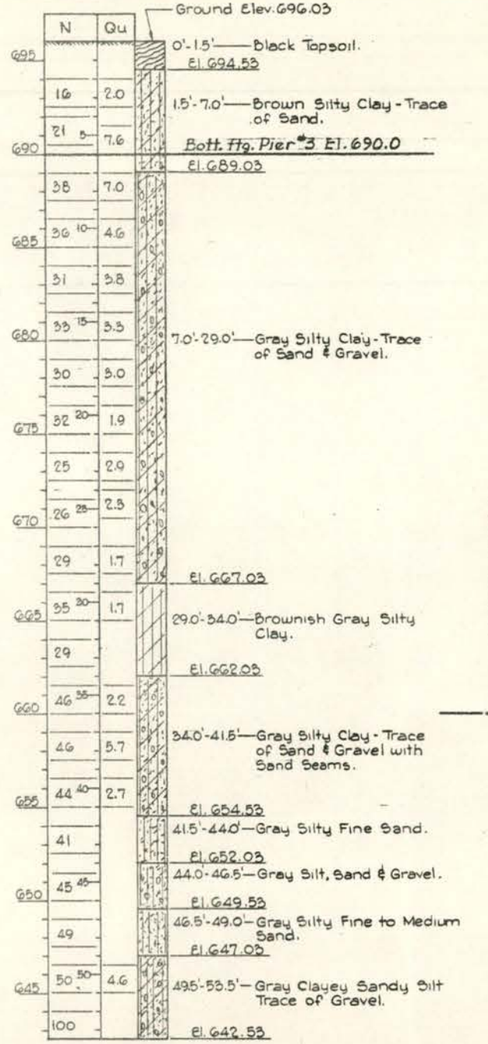

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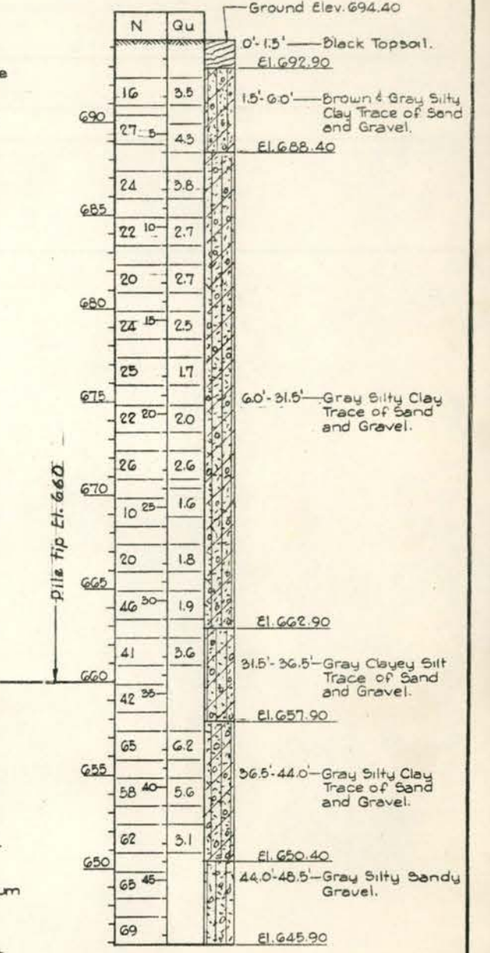


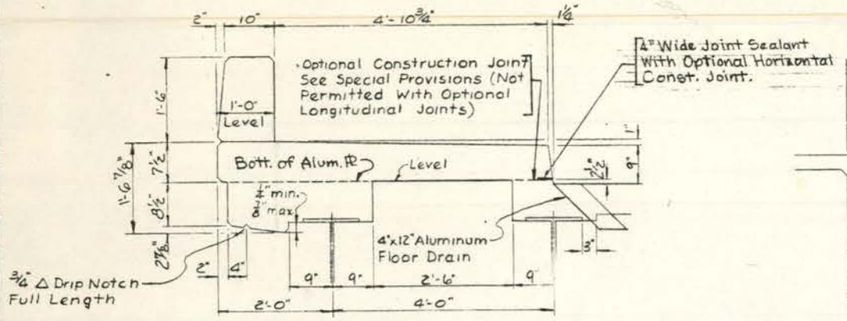
NOTE:-
N = Blows per foot of penetration of Sampling spoon.
Hammer weight = 140 Lb., drop = 30 inches.
Qu = Unconfined compressive strength in tons per square foot.
See Art. 2.3 of Specifications regarding Test Pit Data.
** Based on pocket penetrometer measurements, maximum range of penetrometer = 4.5

BORING DATA

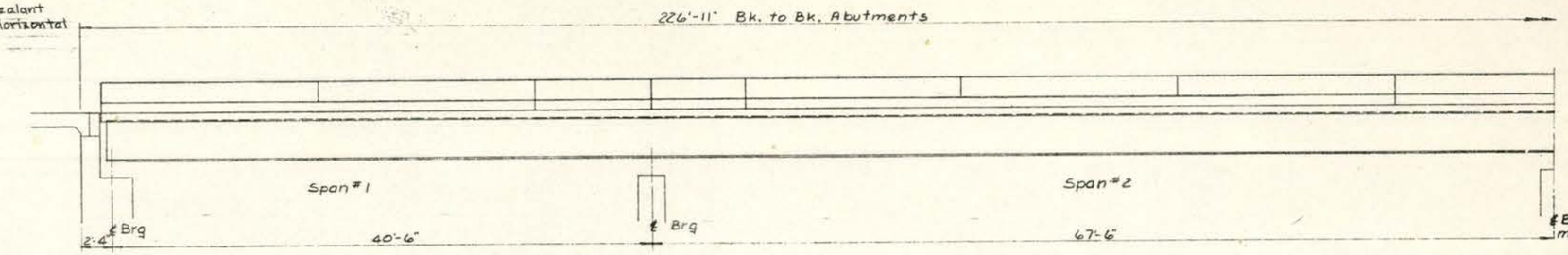
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

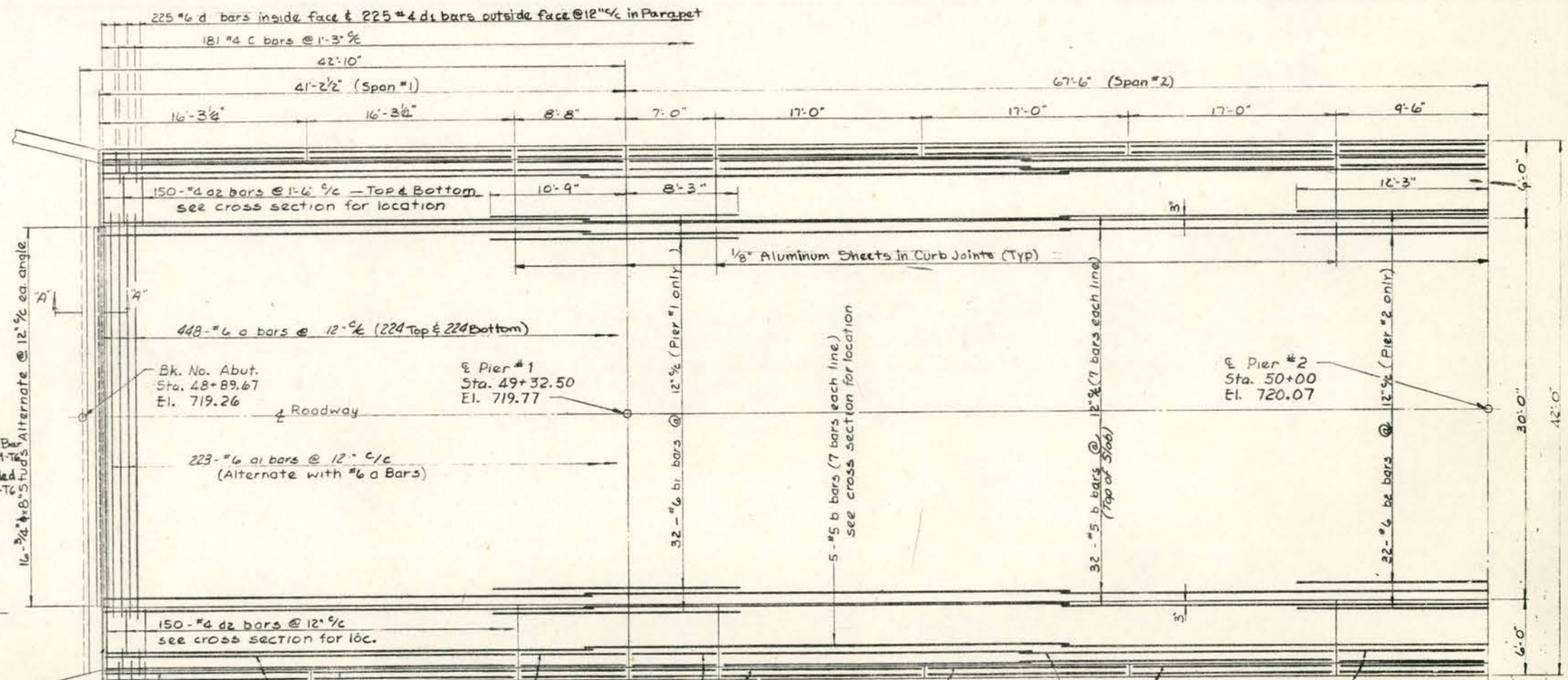
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	1313-811-HB	COOK	44	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

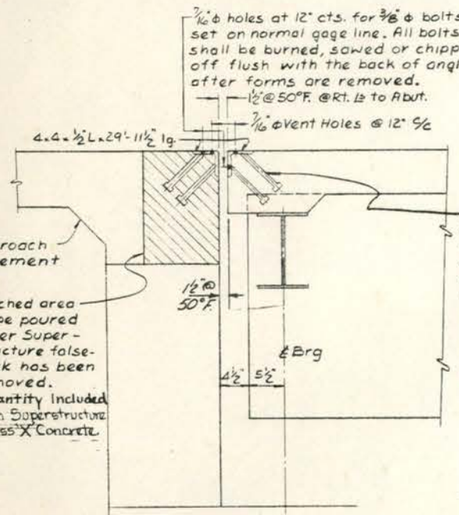
SHEET NO.
SHEETS



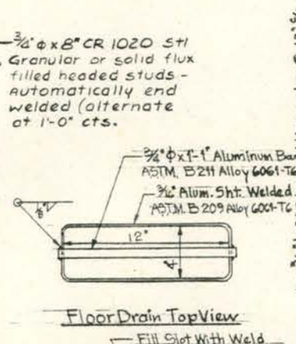
Section Thru Curb



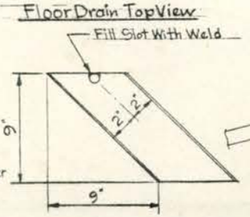




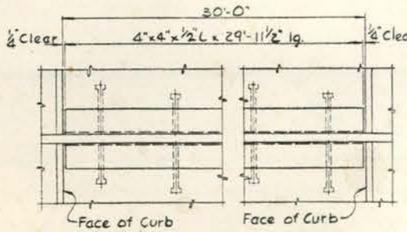
SECTION "A-A"
ROADWAY EXPANSION GUARD



Floor Drain TopView

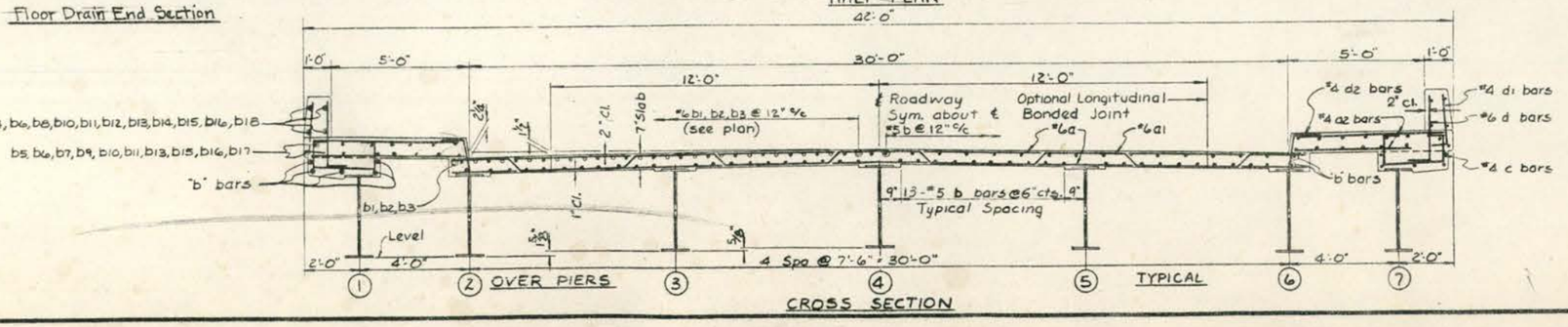


Floor Drain End Section



Plan of Roadway Expansion Guard

HALF PLAN



CROSS SECTION

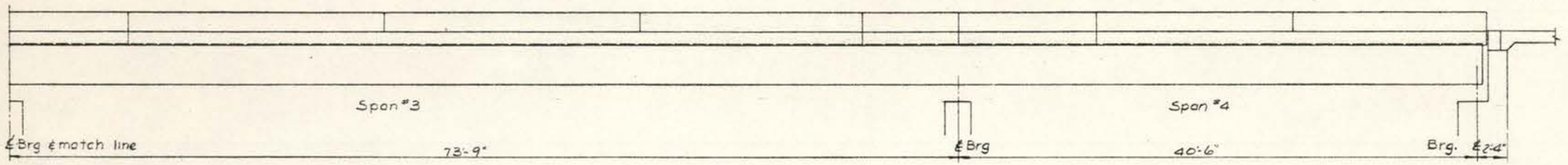
Note:
Minimum lap for all reinforcement bars shall be 20 bar diameters

SUPERSTRUCTURE DETAILS
OAK PARK AVENUE OVER
FAI RT. 80 SEC. 1313-811HB
COOK COUNTY - STA. 1313+37.93

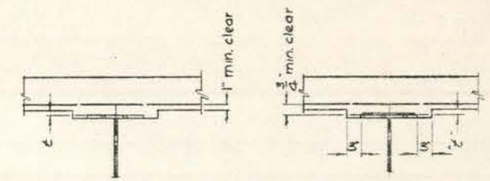
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	1313-811-HB	COOK	44	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO.
SHEETS

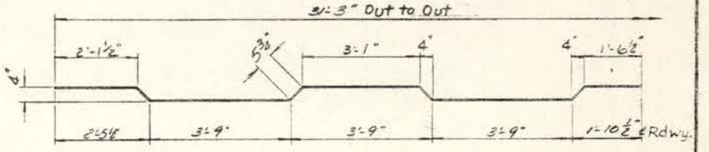


HALF ELEVATION

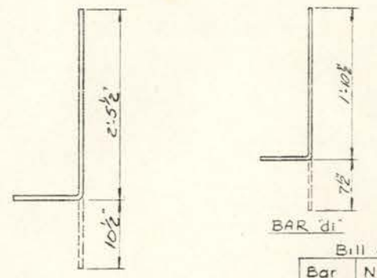


METHOD OF DETERMINING FILLET HEIGHT "t"

After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the stations shown on sheet 16. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 15, minus floor thickness equals the fillet heights above top flange of beams.



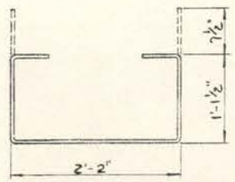
BAR "a"



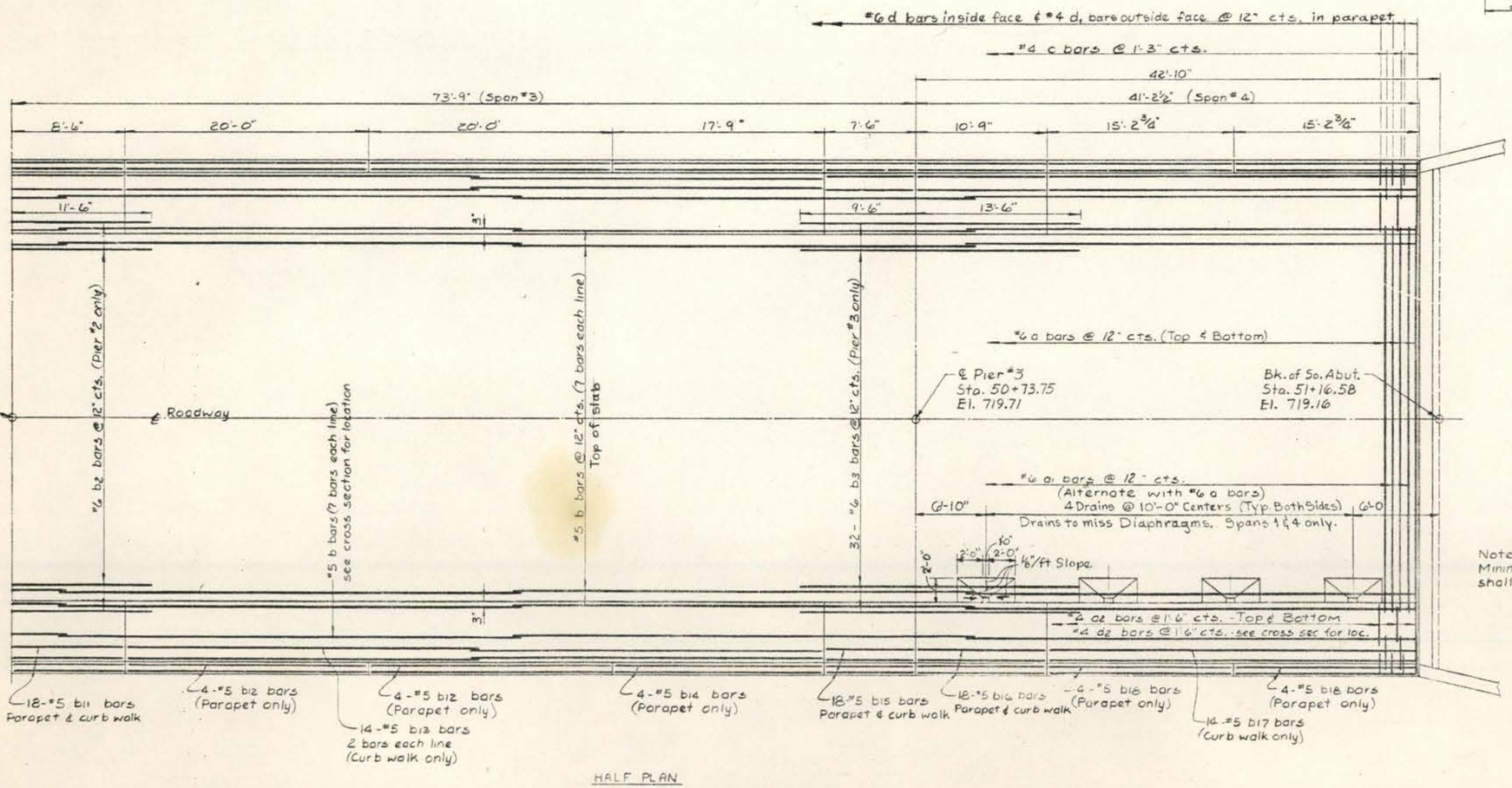
BAR "d"

BAR "d1"

BAR "d2"



BAR "c"



HALF PLAN

Note:
Minimum lap for all reinforcing bars shall be 20 bar diameters

Summary of Quantities	
Class "X" Concrete	290.8 cu.yd.
Reinforcement bars	73350 lbs.
*Structural Steel	250,700 lbs.

*Weight of Rockers, Bearing Plates, Lead Plates & Anchor Bolts included as Structural Steel

Bill of Material

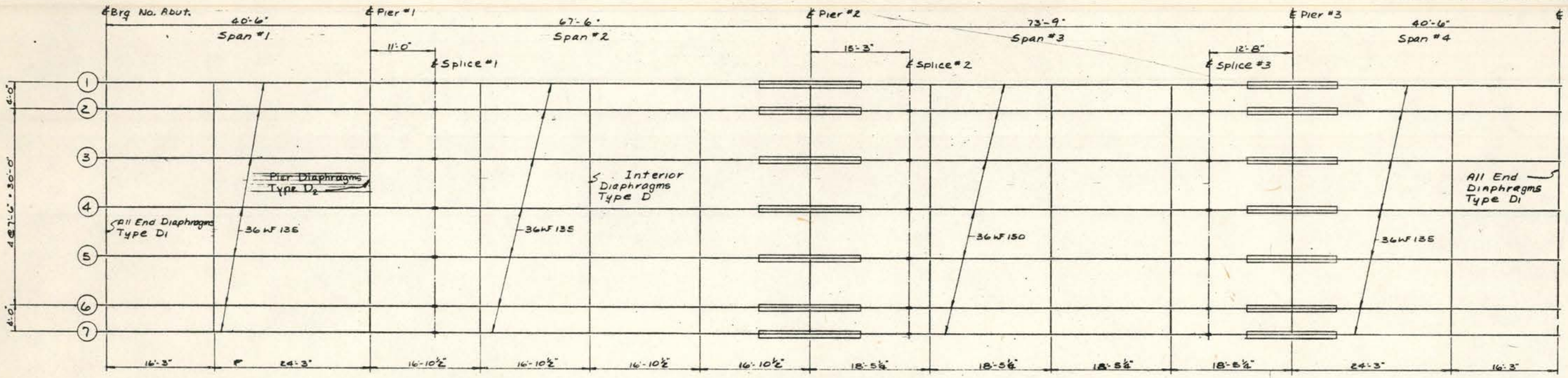
Bar	No.	Size	Length	Shape
a	448	6	31'-3"	
a1	223	6	32'-4"	
a2	600	4	5'-6"	
b	672	5	32-10	
b1	32	6	19-0	
b2	32	6	23'-9"	
b3	32	6	28'-0"	
b4	16	5	16'-0"	
b5	28	5	32'-3"	
b6	36	5	8'-6"	
b7	36	5	6'-9"	
b8	24	5	16'-9"	
b9	56	5	26'-3"	
b10	36	5	9'-3"	
b11	36	5	8'-3"	
b12	16	5	19'-9"	
b13	56	5	28'-6"	
b14	8	5	17'-6"	
b15	36	5	7'-3"	
b16	36	5	10'-6"	
b17	28	5	31'-3"	
b18	16	5	15'-0"	
c	362	4	5'-8"	
d	450	6	3'-8"	
d1	450	4	2'-6"	
d2	300	4	1'-11"	

SUPERSTRUCTURE DETAILS
OAK PARK AVENUE OVER
FAI RT. 80 SEC. 1313-811HB
COOK COUNTY - STA. 1313+37.93

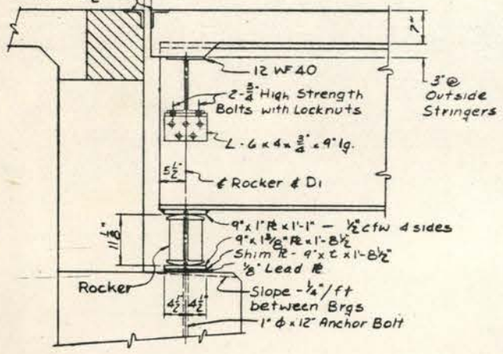
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 80	1313-811-HB	COOK	44	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

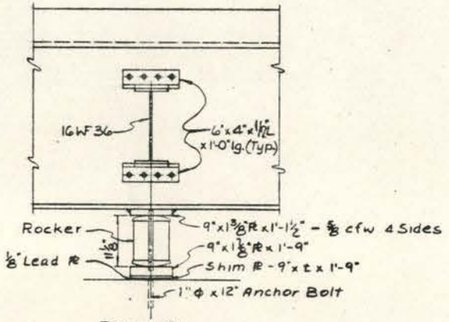
SHEET NO.
SHEETS



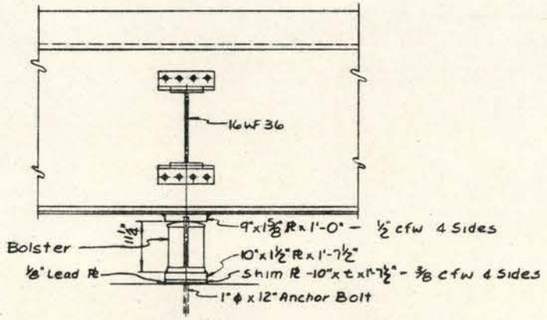
PLAN OF STRUCTURAL STEEL
Scale ⅛" = 1'-0"



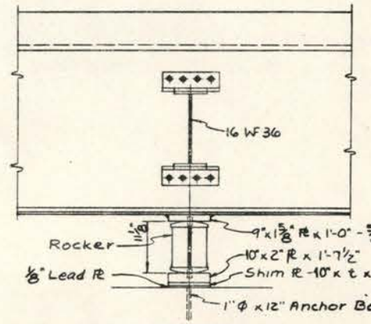
SECTION AT ABUTMENT
Scale ¾" = 1'-0"



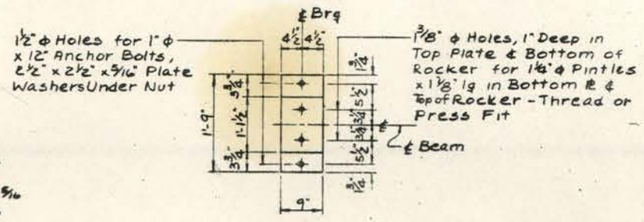
PIER #1



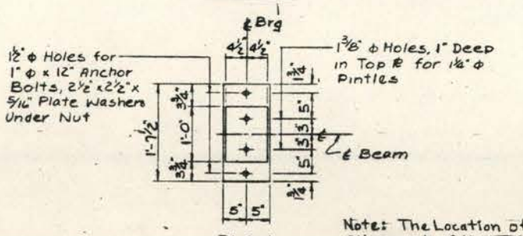
PIER #2



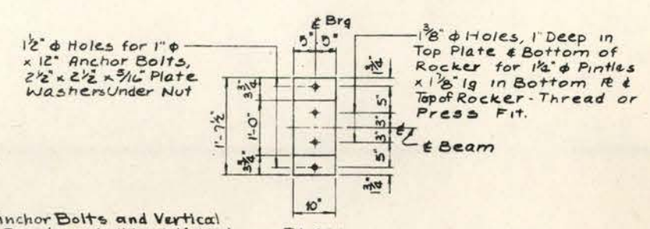
PIER #3



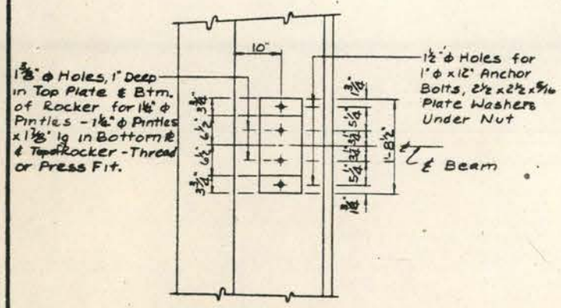
PLAN



PLAN



PLAN



PLAN AT ABUTMENT

TABLE OF "t" DIMENSIONS (SHIM THICK.)

Beam / Location	#1	#2	#3	#4	#5	#6	#7
North Abut	0	0	0	5/8"	0	0	0
Pier #1	0	0	0	3/8"	0	0	0
Pier #2	0	0	0	5/8"	0	0	0
Pier #3	0	0	0	5/8"	0	0	0
South Abut	0	0	0	5/8	0	0	0

Note: The Location of the Anchor Bolts and Vertical Alignment of the Expansion Bearings shall be Adjusted to the Temp. at the Time of Erection. See Art. 54.9 of Std. Specs.
Anchor Bolts shall be Grouted into Drilled Holes after Beams are in place or Bolts at Fixed Pier may be Built into the Masonry.

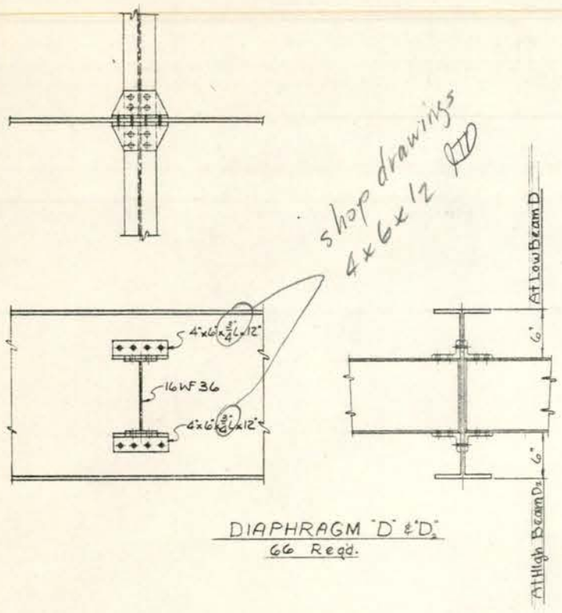
Structural Steel	
A36	250,570
Lead Plates	330
Total Struct. Steel	250,700

STRUCTURAL STEEL DETAILS
OAK PARK AVENUE OVER
FAI RT 80 SEC. 1313-811HB
COOK COUNTY - STA. 1313+37.93

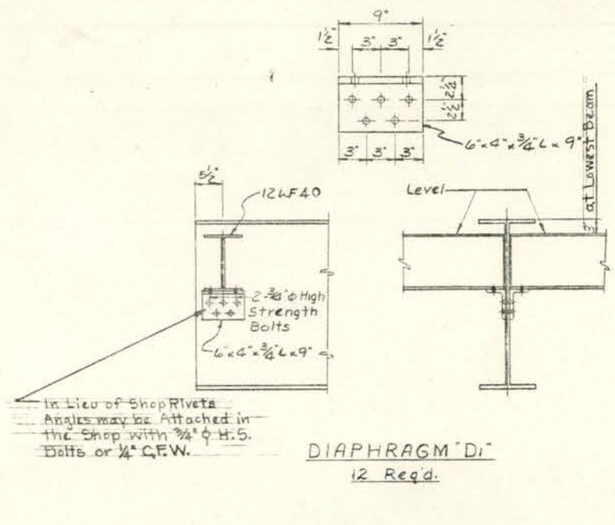
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	1313-811HB	COOK	44	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO.
SHEETS



DIAPHRAGM "D" & "D1"
66 Reqd.



DIAPHRAGM "D1"
12 Req'd.

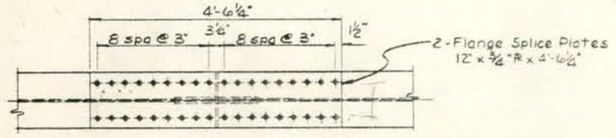
(For Fabrication)
THEORETICAL ELEVATION TOP OF BEAMS

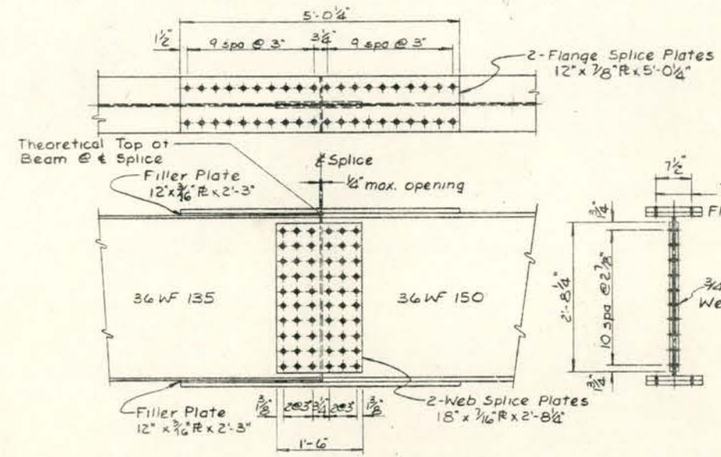
Beam / Location	#1	#2	#3	#4	#5	#6	#7
℄ Brg. No. Abut.	718.522	718.522	718.657	718.709	718.657	718.522	718.522
℄ Brg. Pier #1	718.966	718.966	719.101	719.153	719.101	718.966	718.966
℄ Splice #1	719.086	719.086	719.222	719.274	719.222	719.086	719.086
℄ Brg. Pier #2	719.234	719.234	719.369	719.421	719.369	719.234	719.234
℄ Splice #2	719.284	719.284	719.419	719.471	719.419	719.284	719.284
℄ Splice #3	719.050	719.050	719.186	719.238	719.186	719.050	719.050
℄ Brg. Pier #3	718.895	718.895	719.030	719.082	719.030	718.895	718.895
℄ Brg. So. Abut.	718.429	718.429	718.564	718.617	718.564	718.429	718.429

Notes: Elevation Top of Beam is Always Top of Beam Flange, does not include Top Cover or Top Flange Splice Plates if any.
Elevation Top of Beam does not include Dead Load Deflection due to the Weight of the Structural Steel or the Concrete Deck.

TABLE OF MOMENTS (INTERIOR BEAMS)

	M@ Sp #1 Ft. Kips	M@ Pier #1 Ft. Kips	M@ .55 Sp #2 Ft. Kips	M@ Pier #2 Ft. Kips	M@ .55 Sp #3 Ft. Kips	M@ Pier #3 Ft. Kips	M@ .65 Sp #4 Ft. Kips
Dead Load	74.7	-263.3	176.9	-424.0	238.0	-253.7	47.6
Live Load	260.4	-293.7	388.5	-365.0	425.4	-334.6	262.6
Impact	78.1	-76.4	101.0	-93.4	107.2	-84.3	78.8
Total Load	413.2	-632.4	666.4	-882.4	780.6	-749.6	387.0

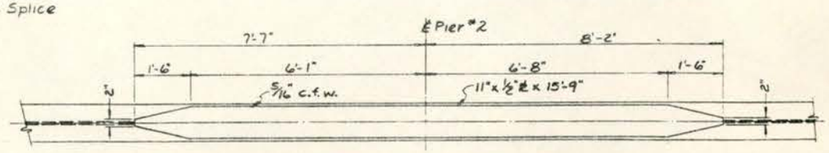




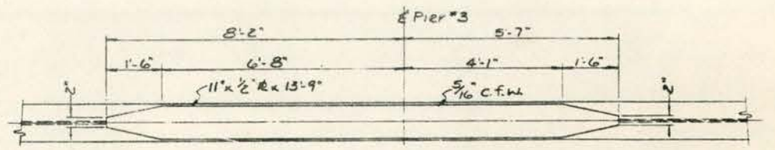
SPLICE #2 & #3

TABLE OF REACTIONS

	R@ No. Abut. Kips	R@ Pier #1 Kips	R@ Pier #2 Kips	R@ Pier #3 Kips	R@ So. Abut. Kips
Dead Load	12.01	53.47	68.20	59.11	10.35
Live Load	40.86	52.39	55.88	55.42	40.94
Impact	12.26	13.62	14.31	13.97	12.28
Total Load	65.13	119.48	138.39	128.75	63.57

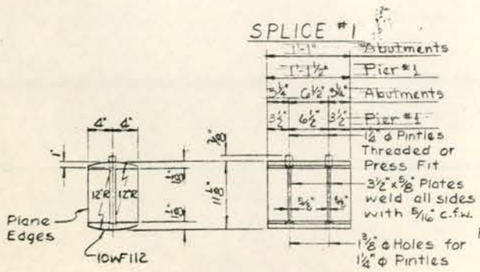


DETAIL OF COVER PLATE - PIER #2

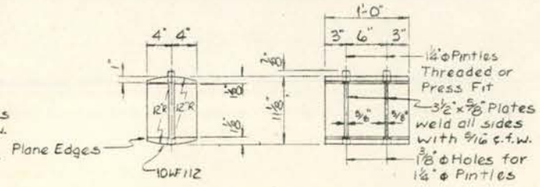


DETAIL OF COVER PLATE - PIER #3

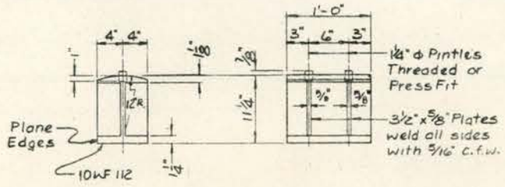
SPLICE #1



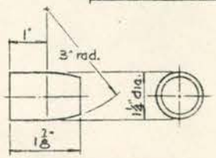
DETAIL OF BEARING - ABUTMENTS & PIER #1



DETAIL OF BEARING - PIER #3



DETAIL OF BEARING - PIER #2



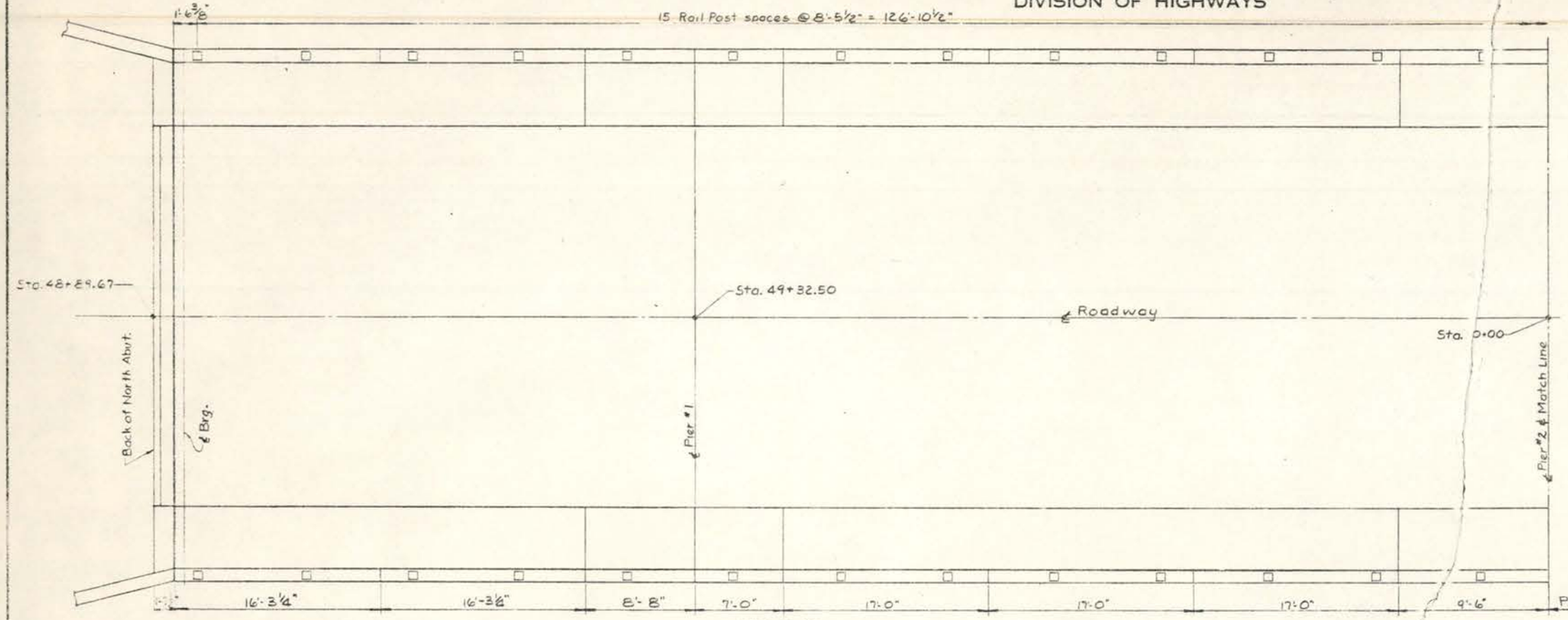
DETAIL OF PINTLE

STRUCTURAL STEEL DETAILS
OAK PARK AVENUE OVER
FAI RT. 80 SEC 1313-811 HB
COOK COUNTY - STA. 1313 + 37.93

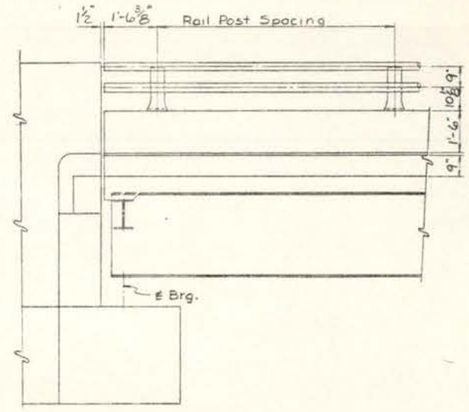
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	1313-B11-HB	COOK	44	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

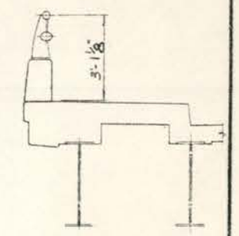
SHEET NO.
SHEETS



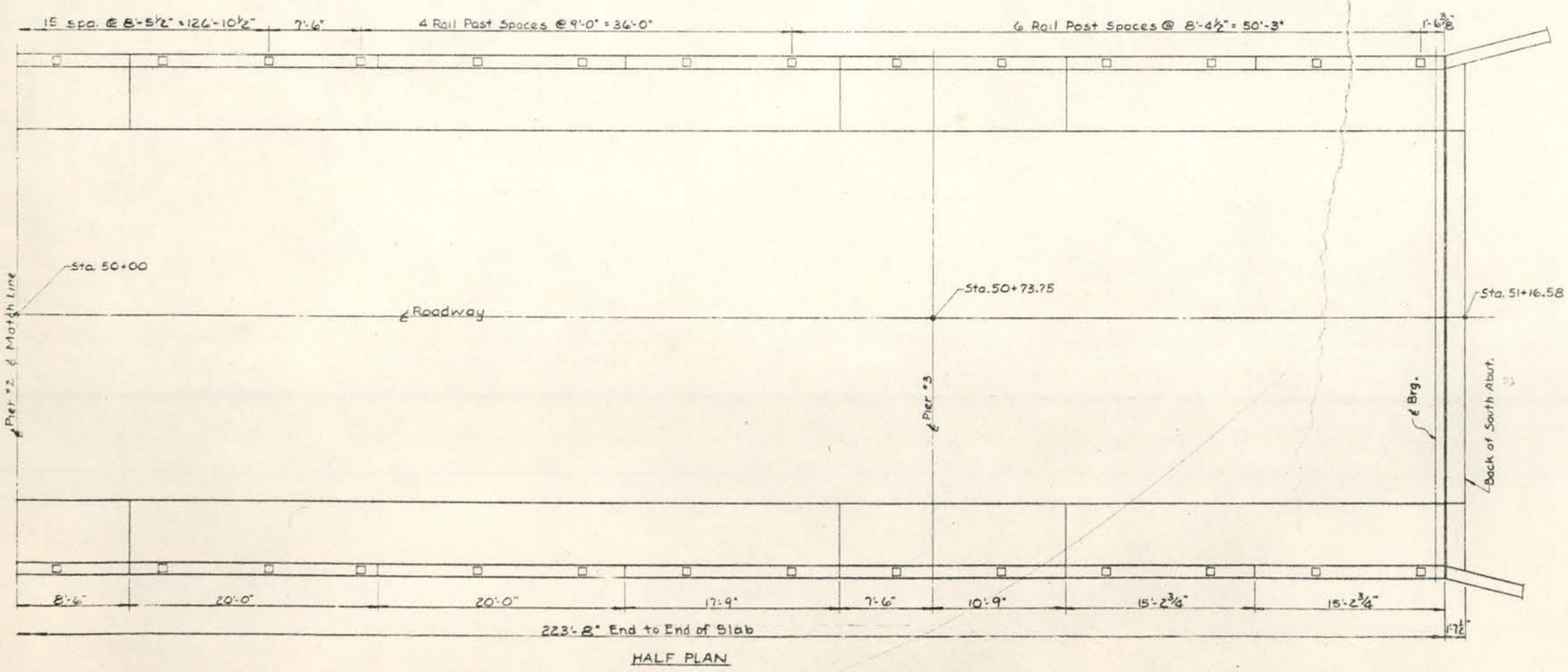
HALF PLAN



ELEVATION - END POST



SECTION THRU CURB



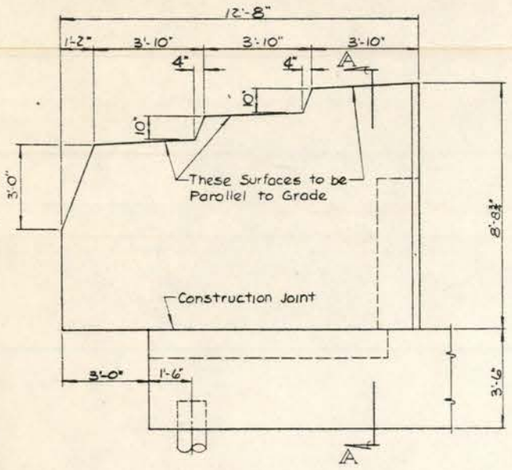
HALF PLAN

Note:
Handrail to be two pipe (Type 'L' or 'M')
See Sheets 22 & 23

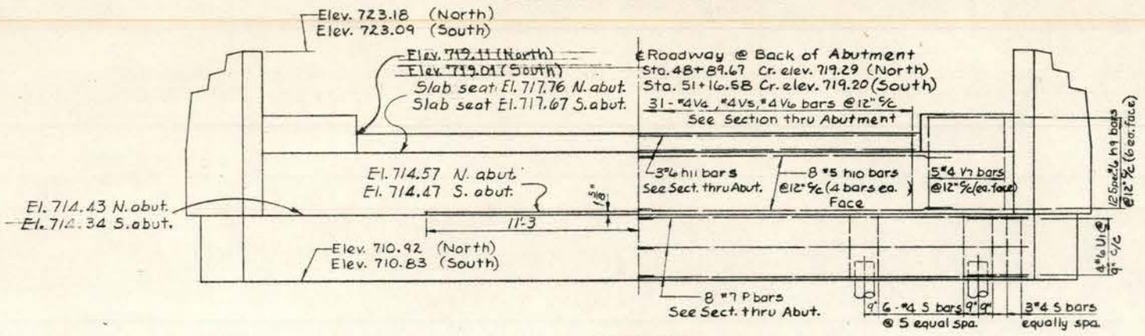
TWO PIPE HANDRAIL
OAK PARK AVENUE OVER
FAI RT. 80 SEC 1313-B11HB
COOK COUNTY - STA. 1313+37.93

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

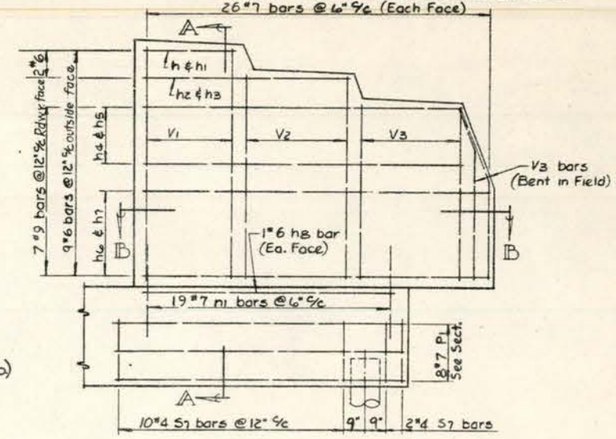
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
E.B.I. F.A.I. 80	1313-811-HB	COOK	44	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		SHEETS



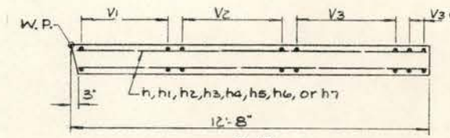
WING WALL ELEVATION



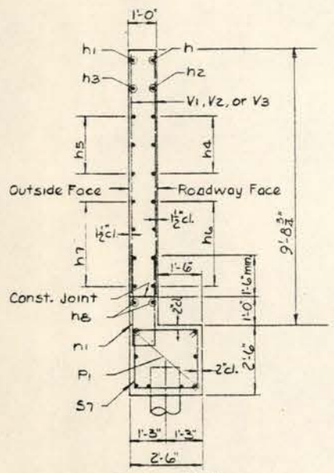
ELEVATION
Symm. about ℄ Roadway



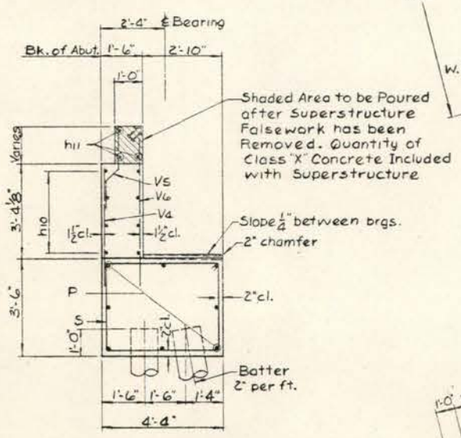
WING WALL ELEVATION



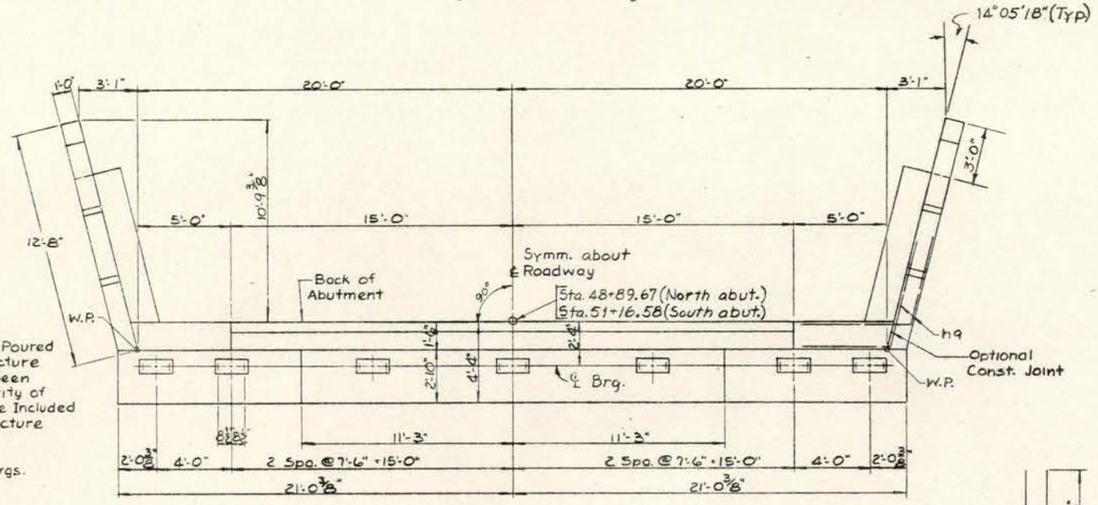
Section B-B



Section A-A

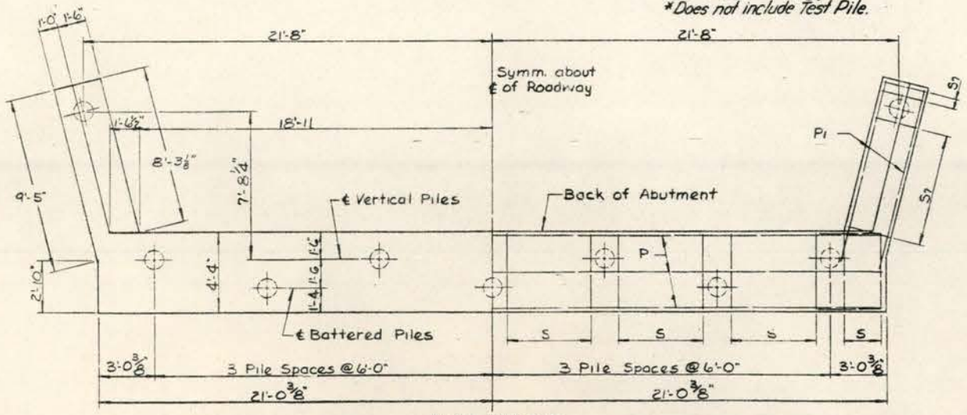


Section thru Abutments

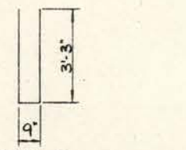


TOP VIEW

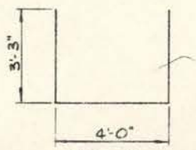
PILE DATA
Type ——— Concrete
Capacity ——— 35 Ton
Est. Length ——— 50 ft. (N.℄S.)
Number Regd. ——— 9 N. ℄ 8 S.*
Test Piles ——— 1 S.
*Does not include Test Pile.



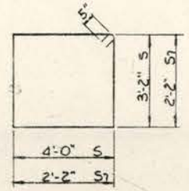
PLAN - PILE CAP



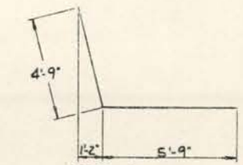
BAR h1



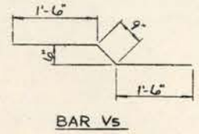
BAR U1



S ℄ S7 BARS



BAR h9



BAR V5

Note:
Minimum lap or embedment of all reinforcement bars shall be 20 bar dia.
For Precast Concrete Piles see Sht. 21.

BILL OF MATERIAL
TWO (2) ABUTMENTS

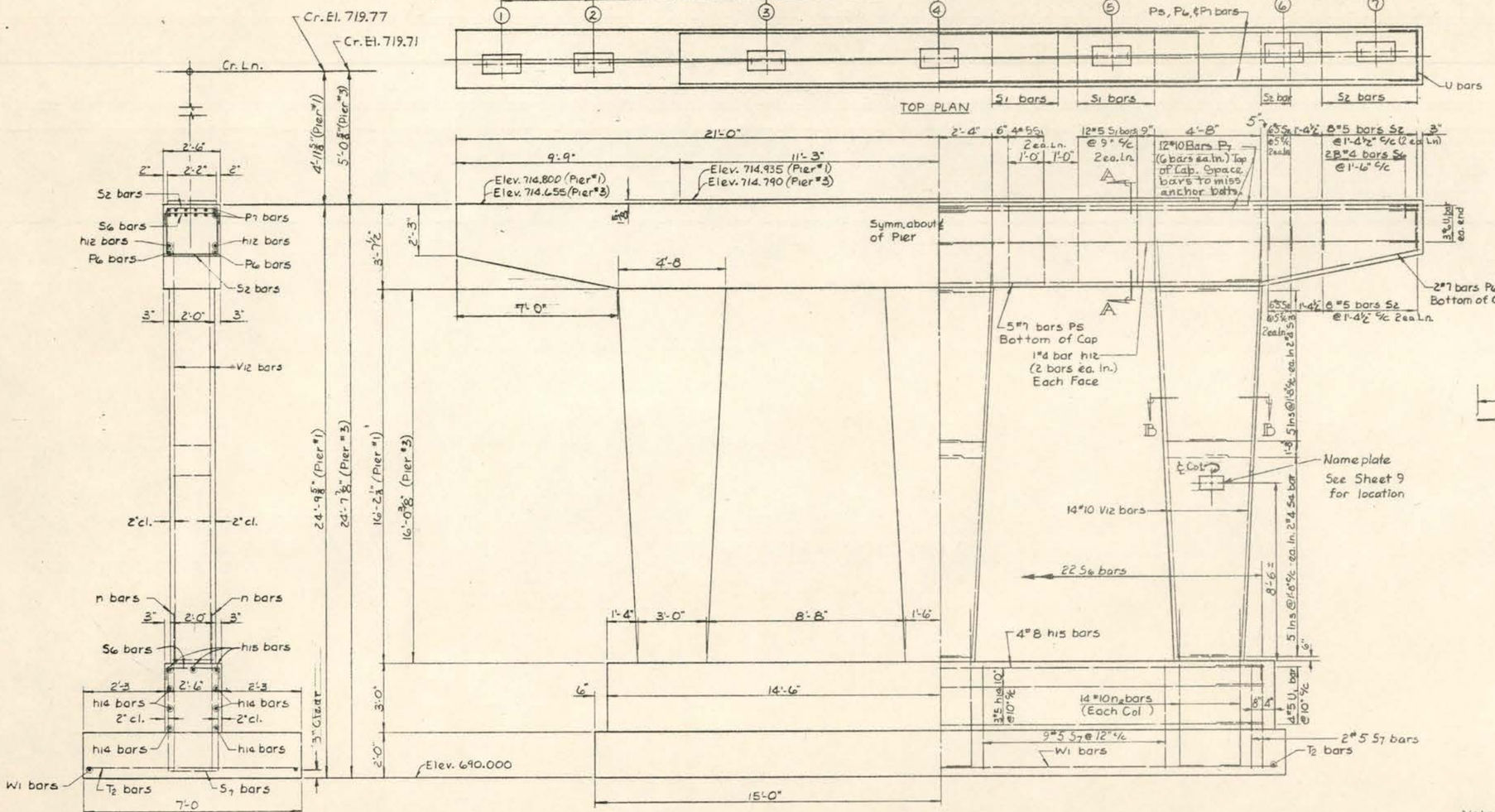
Bar	No	Size	Length	Shape
h	4	#6	3'-6"	—
h1	4	#6	3'-3"	—
h2	4	#6	7'-3"	—
h3	4	#6	7'-0"	—
h4	12	#9	11'-3"	—
h5	12	#6	11'-0"	—
h6	16	#9	12'-3"	—
h7	16	#6	12'-0"	—
h8	8	#6	11'-6"	—
h9	48	#6	10'-6"	⌞
h10	32	#5	17'-6"	—
h11	6	#6	29'-9"	—
n1	76	#7	7'-3"	⊔
P	32	#7	22'-0"	—
P1	32	#7	11'-6"	—
S	84	#4	15'-2"	□
S7	48	#4	9'-6"	□
U1	16	#6	10'-6"	⊔
V1	64	#7	8'-3"	—
V2	64	#7	7'-3"	—
V3	80	#7	6'-6"	—
V4	62	#4	4'-6"	—
V5	62	#4	3'-9"	⌒
V6	62	#4	5'-6"	—
V7	40	#4	5'-6"	—
Class "X" Concrete			Cu. yds.	97.8
Reinforcement Bars			Lbs.	12,000
Concrete Piles			Lin. ft.	850
Test Piles (Conc.)			Ea.	1

NORTH ℄ SOUTH ABUTMENTS
OAK PARK AVENUE OVER
F.A.I. RT. 80 SEC. 1313-811 HB
COOK COUNTY - STA. 1313+37.93

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	1313-811-HB	COOK	44	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO.
SHEETS



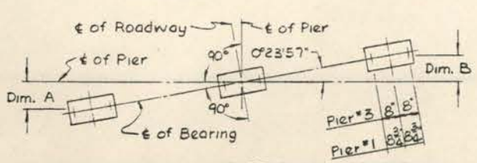
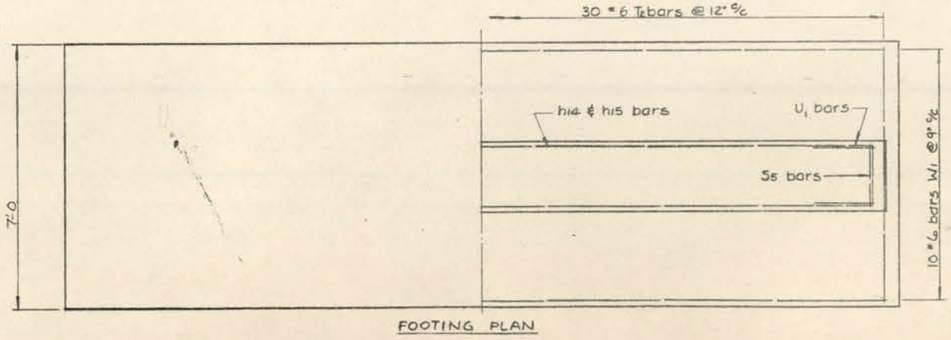


DIAGRAM OF BEARING ℄ PIER SKEW

Brg. No.	1	2	3	4	5	6	7
Dim. "A"				0	5/8"	1¼"	1 9/16"
Dim. "B"	1 9/16"	1½"	5/8"	0			



FOOTING PLAN

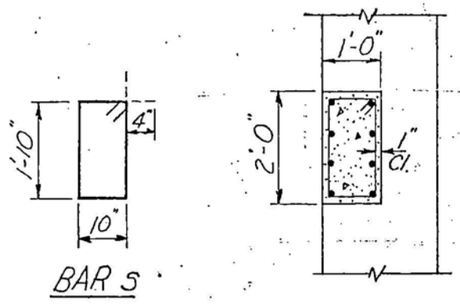
BILL OF MATERIAL
TWO (2) PIERS

Bar	No.	Size	Length	Shape
h12	8	#4	21'-6"	
h14	12	#5	28'-6"	
h15	4	#8	28'-6	
n2	84	#10	8'-3"	
P5	10	#7	28'-0"	
P6	8	#7	8'-3"	
P7	48	#10	22'-0"	
S1	64	#5	10'-0"	
S2	44	#5	5'-4"	
S3	60	#4	7'-0"	
S4	60	#4	6'-2"	
S6	92	#5	3'-2"	
S7	44	#5	11'-2"	
T2	60	#6	6'-6"	
U1	28	#6	8'-2"	
V12	84	#10	19'-0"	
W1	20	#6	29'-6"	
Class "X" Concrete			Cu. yds.	100.8
Reinforcement Bars			Lbs.	19,970

Notes:
Minimum lap or embedment of all reinforcement bars shall be 20 bar diameters

AS AWARDED

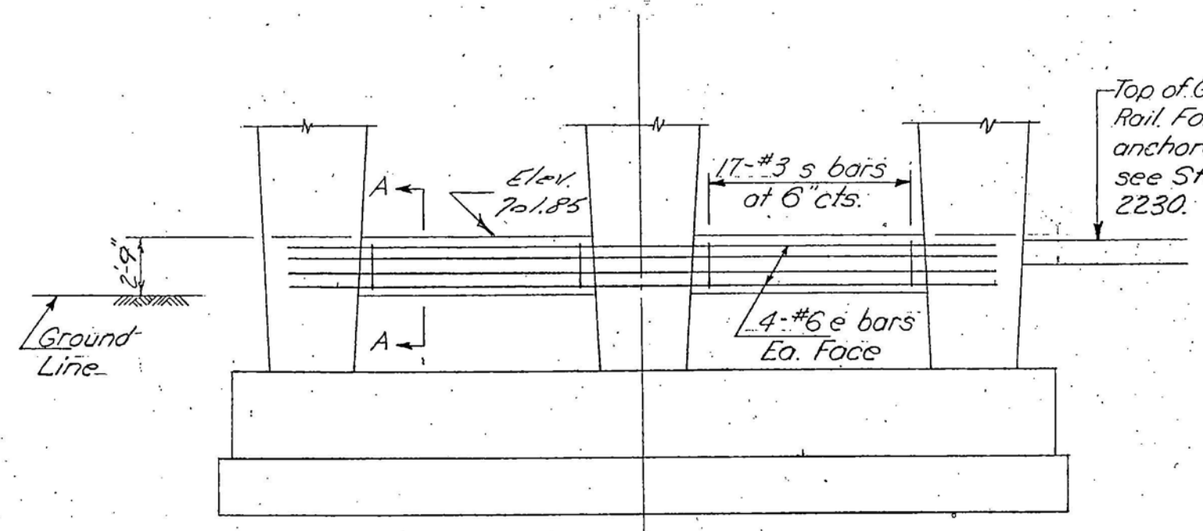
PIER #1 & #3
OAK PARK AVENUE OVER
F.A.I. RT. 80 SEC. 1313-811 HB
COOK COUNTY - STA. 1313+37.93



SEC. A-A

BILL OF ADDITIONAL MAT'L. (TWO PIERS)

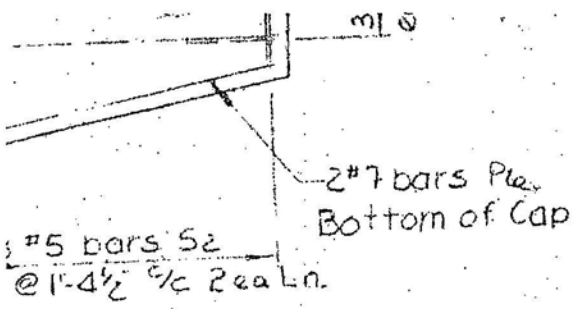
Bar.	No	Size	Length
e	16	#6	24'-4"
s	68	#3	6'-0"
Reinf. Bars		Lbs.	740
Class X Conc.		Cu. Yds	2.6



PIERS 1 & 3

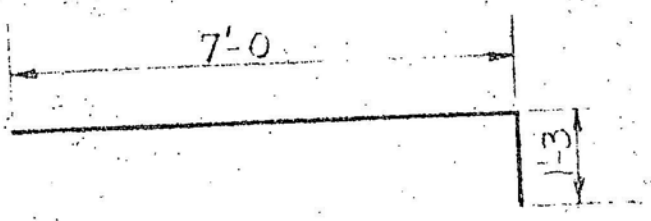
Attach to Sheet 19

F.A.I. RT. 80
SEC. 1313-811HB
COOK COUNTY

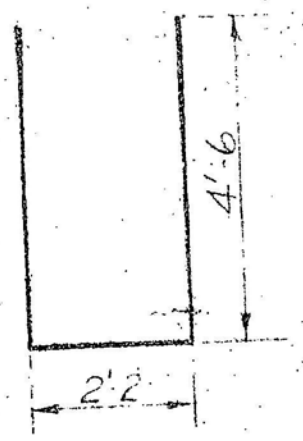


Section A-A

Name plate
See Sheet 9
for location

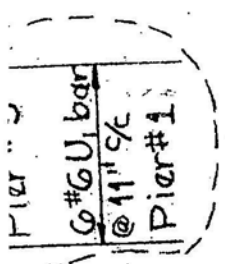


BAR n2



BAR S7

See Sheet 20 for addional bar details



BILL OF MATERIAL
TWO (2) PIERS

Bar	No.	Size	Length	Shape
h12	8	#4	21'-6"	
h14	(16)	#5	28'-6"	
h15	4	#8	28'-6"	
n3	44	#5	3'-0"	
n2	84	#10	8'-3"	
n4	42	#10	4'-3"	
P5	10	#7	28'-0"	
P6	8	#7	8'-3"	
P7	48	#10	22'-0"	
e	16	#6	24'-4"	
s	68	#3	6'-0"	
S1	64	#5	10'-0"	
S2	44	#5	5'-4"	
S3	60	#4	7'-0"	
S4	60	#4	6'-2"	
S6	92	#5	3'-2"	
S7	44	#5	11'-2"	
T2	60	#6	6'-6"	
U1	(32)	#6	8'-2"	
V12	84	#10	19'-0"	
W1	20	#6	29'-6"	
Class "X" Concrete			Cu. yds.	108.8
Reinforcement Bars			Lbs.	21,780

Notes:
Minimum lap or embedment of all reinforcement bars shall be 20 bar diameters

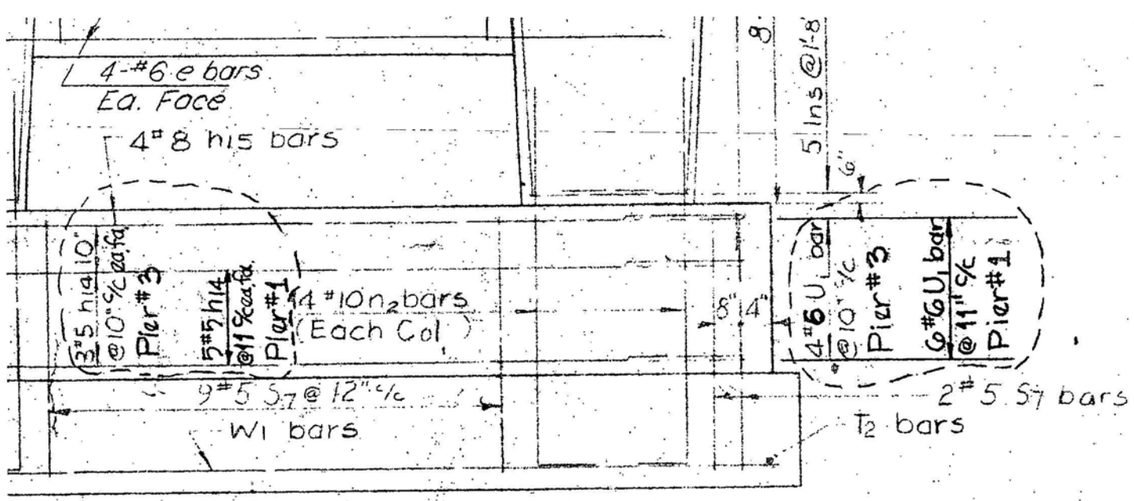
The Following Splice Bars Shall Be Used For Pier #1:
#5 n3 (Lap With #5 S7)
#10 n4 (Lap With #10 n2)

10 #6 bars W1 @ 9" c/c

PIER #1 & #3
OAK PARK AVENUE OVER
F.A.I. RT. 80 SEC. 1313-811 HB
COOK COUNTY - STA. 1313+37.93

AS BUILT

21,040# to 21,780# (Added Crash Rail) 10-5-66 L.W.



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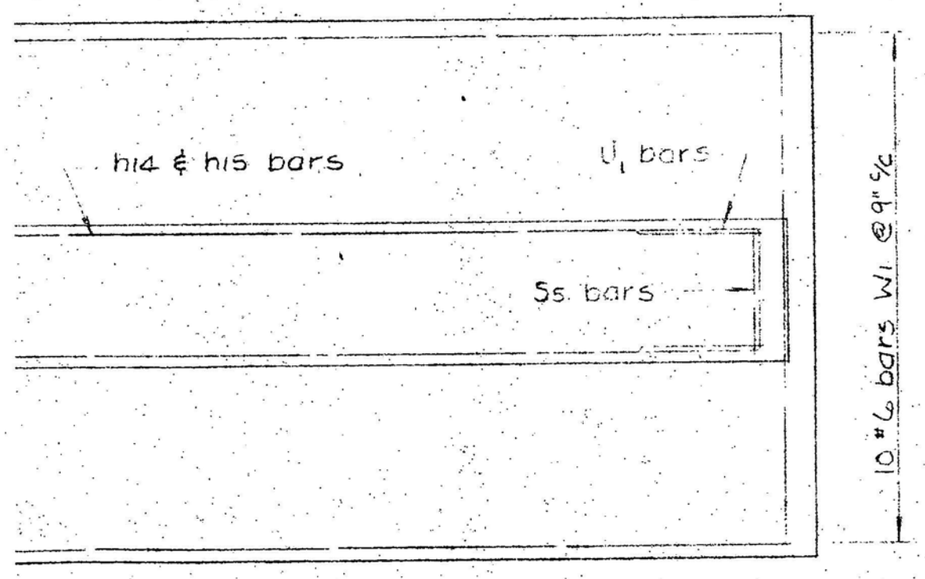


AN

BAR S7

See Sheet 20 for addional bar details

S3	60	#4	7'-0"	
S4	60	#4	6'-2"	
S6	92	#5	3'-2"	
S7	44	#5	11'-2"	
T2	60	#6	6'-6"	
U1	(32)	#6	8'-2"	
V12	84	#10	19'-0"	
W1	20	#6	29'-6"	
Class "X" Concrete		Cu. yds.	108.8	
Reinforcement Bars		Lbs.	21,780	

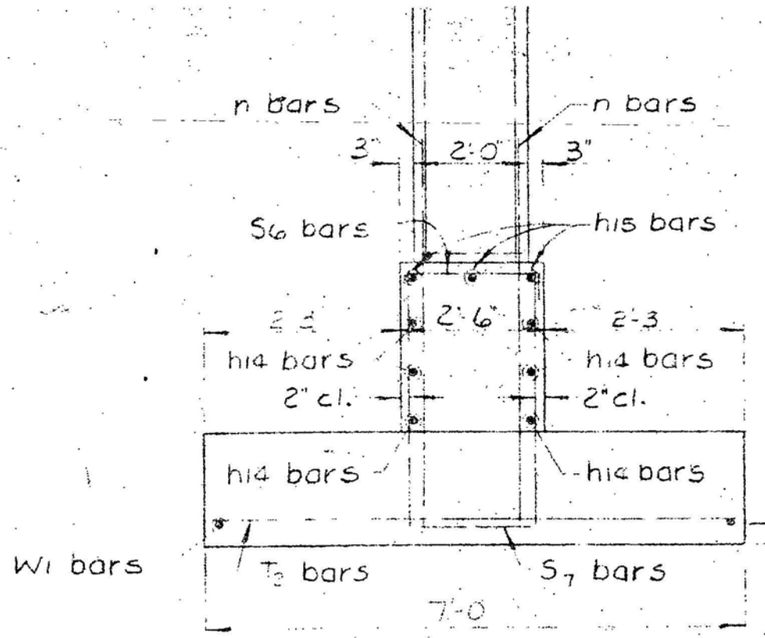
Notes:
Minimum lap or embedment of all reinforcement bars shall be 20 bar diameters

The Following Splice Bars Shall Be Used For Pier #1:
#5 n3 (Lap With #5 S7)
#10 n4 (Lap With #10 n2)

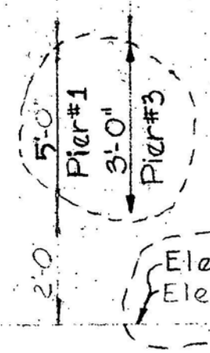
PIER #1 & #3
OAK PARK AVENUE OVER
F.A.I. RT. 80 SEC. 1313-81 HB
COOK COUNTY - STA. 1313+37.93

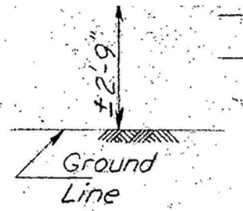
AS BUILT

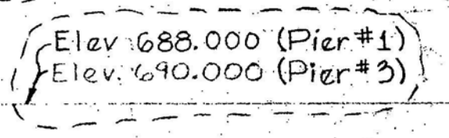
Conc. from 106.2 Cu. Yds. to 108.8 Cu. Yds. Rein. from 21,040# to 21,780# (Added Crash Rail) 10-5-66 L.W.

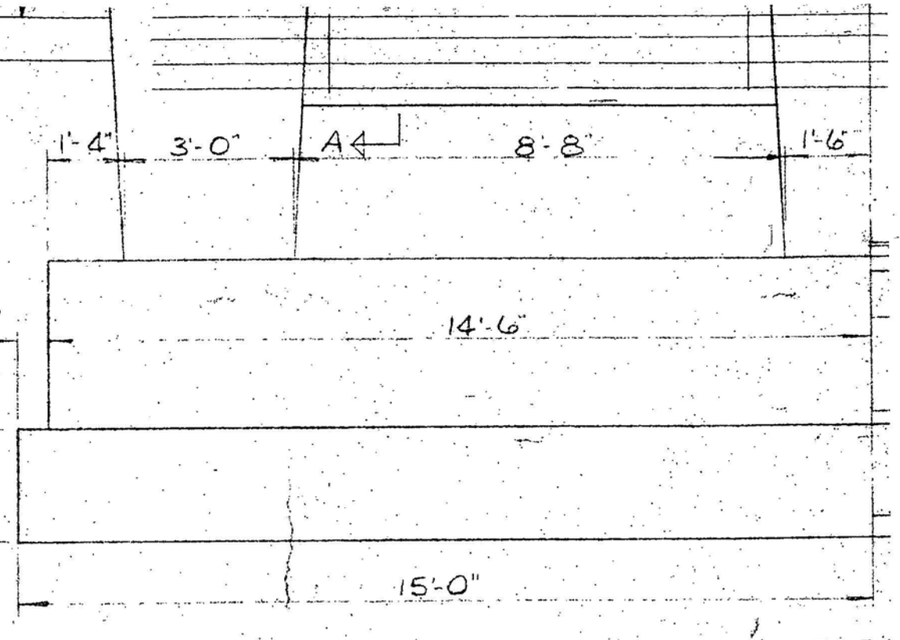


END VIEW









FRONT EL

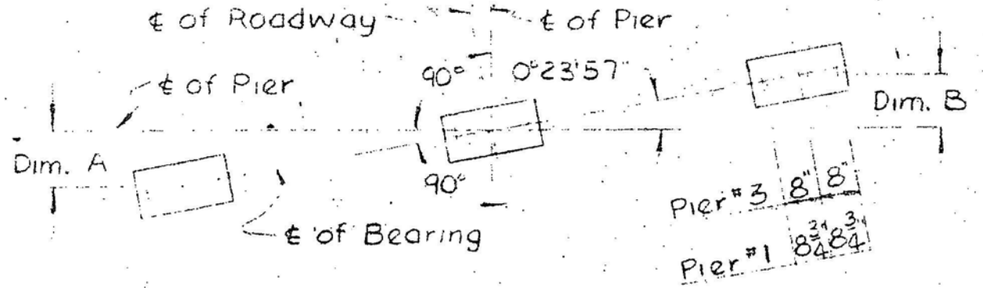
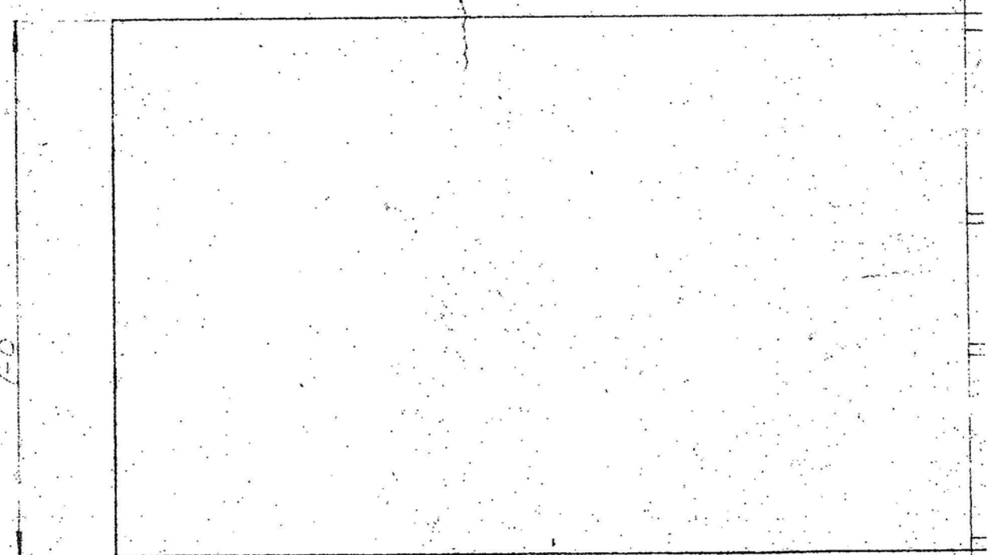


DIAGRAM OF BEARING & PIER SKEW

Brg. No.	1	2	3	4	5	6	7
Dim. "A"				0	5/8"	1 1/4"	1 9/16"
Dim. "B"	1 9/16"	1 1/4"	5/8"	0			



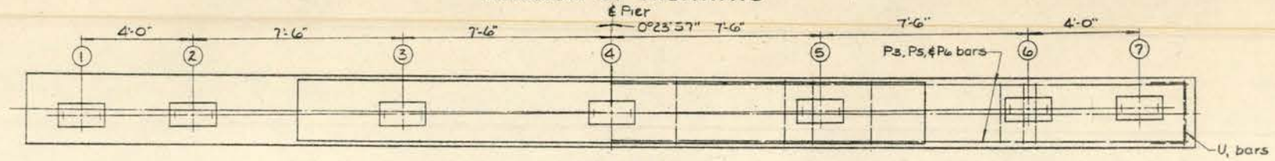
FOOTING

Rev. Class X Conc. from 100.8 Cu. Yds. to 106.2 Cu. Yds. Reinf. from 19,970# to 21,040#. (Lowered footing at Pier 1 by 2'-0") 9-20-66 By District. Rev. Class

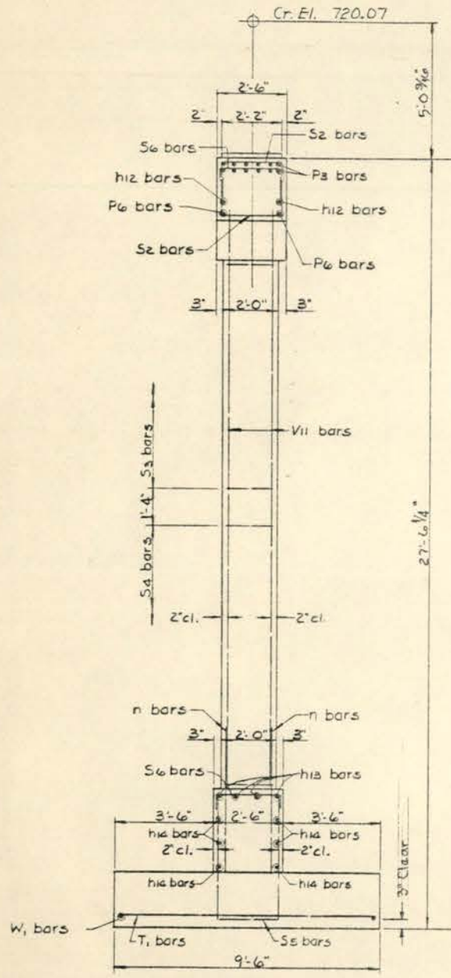
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	1313-811-HB	COOK	44	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

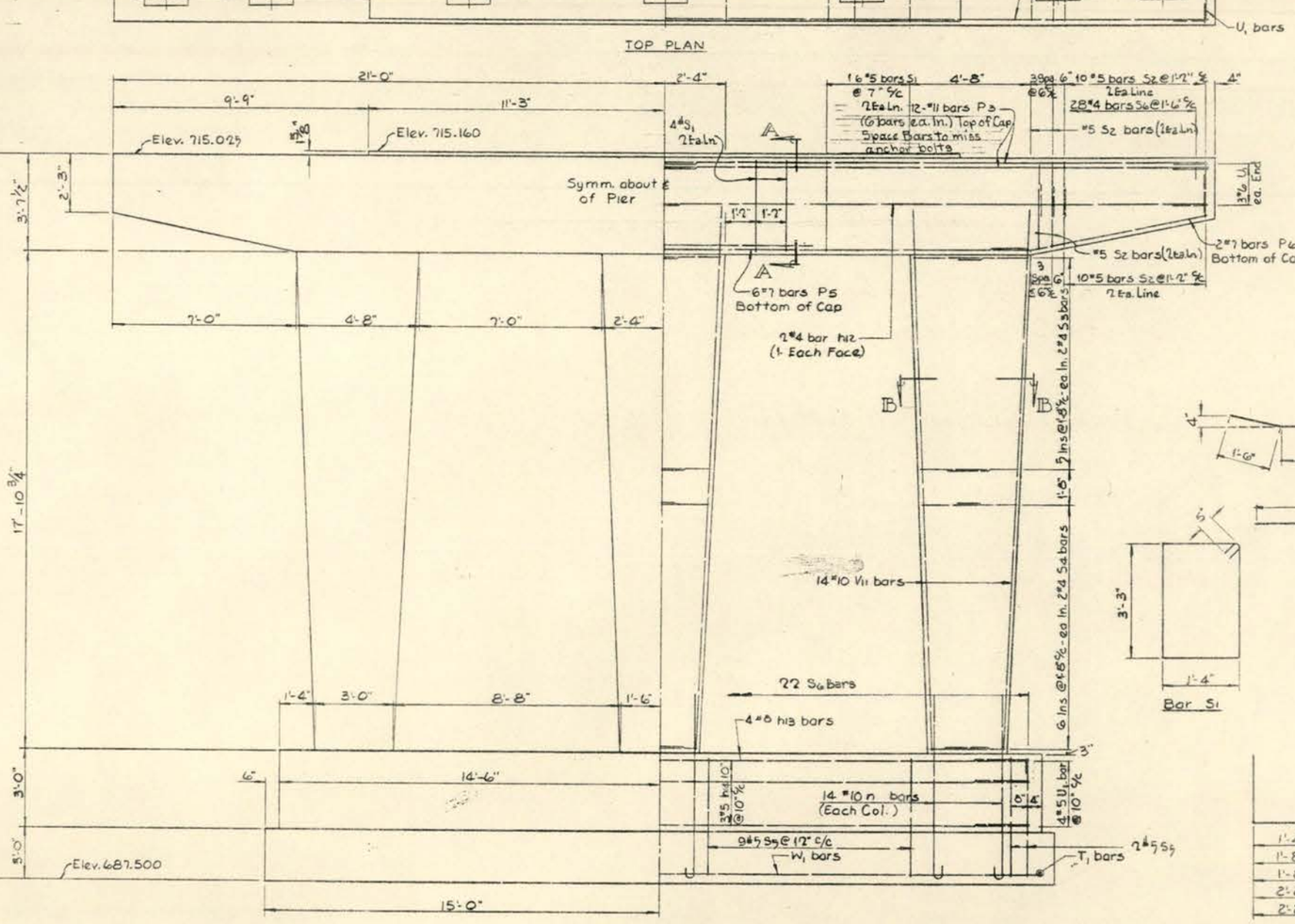
SHEET NO.
SHEETS



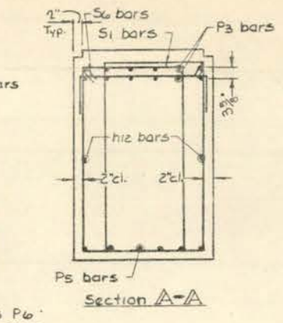
TOP PLAN



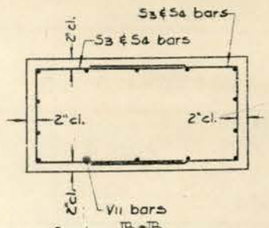
END VIEW



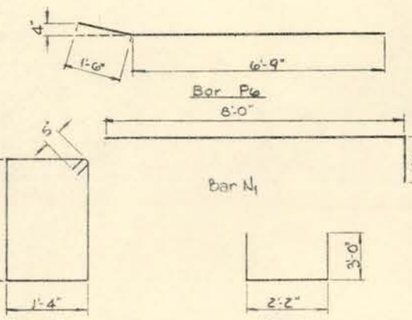
FRONT ELEVATION



Section A-A



Section B-B



S Bars

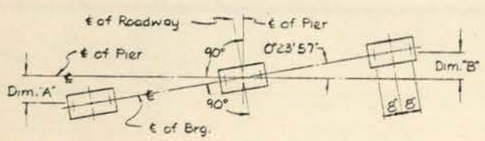
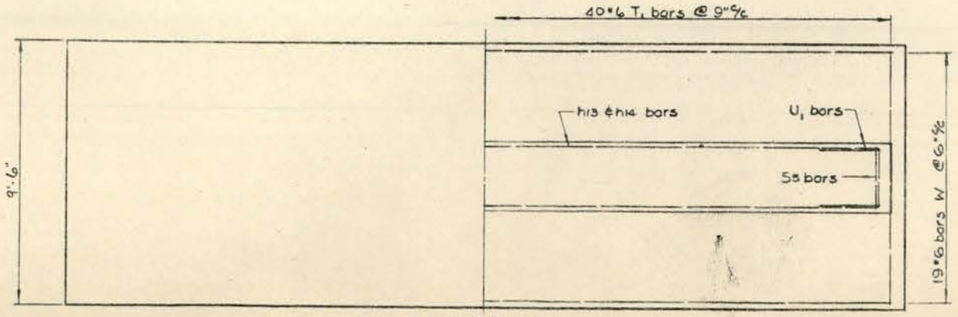


DIAGRAM OF BEARING & PIER SKEW

Brg. No.	1	2	3	4	5	6	7
Dim. "A"				0	5/8"	1 1/8"	1 9/16"
Dim. "B"	1 9/16"	1 1/8"	5/8"	0			



FOOTING PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h12	4	#4	21'-6"	
h13	4	#8	28'-6"	
h14	6	#5	28'-6"	
n1	42	#10	9'-3"	
P3	24	#11	22'-0"	
P5	6	#7	28'-0"	
P6	4	#7	8'-3"	
S1	40	#5	10'-0"	
S2	56	#5	5'-4"	
S3	30	#4	7'-0"	
S4	36	#4	4'-2"	
S5	22	#5	15'-7"	
S6	50	#5	3'-2"	
T1	40	#6	9'-0"	
U1	14	#6	8'-2"	
V11	42	#10	21'-0"	
W1	19	#6	29'-6"	
Class X Concrete			Cu Yards	68.3
Reinforcement Bars			Lbs.	12,795

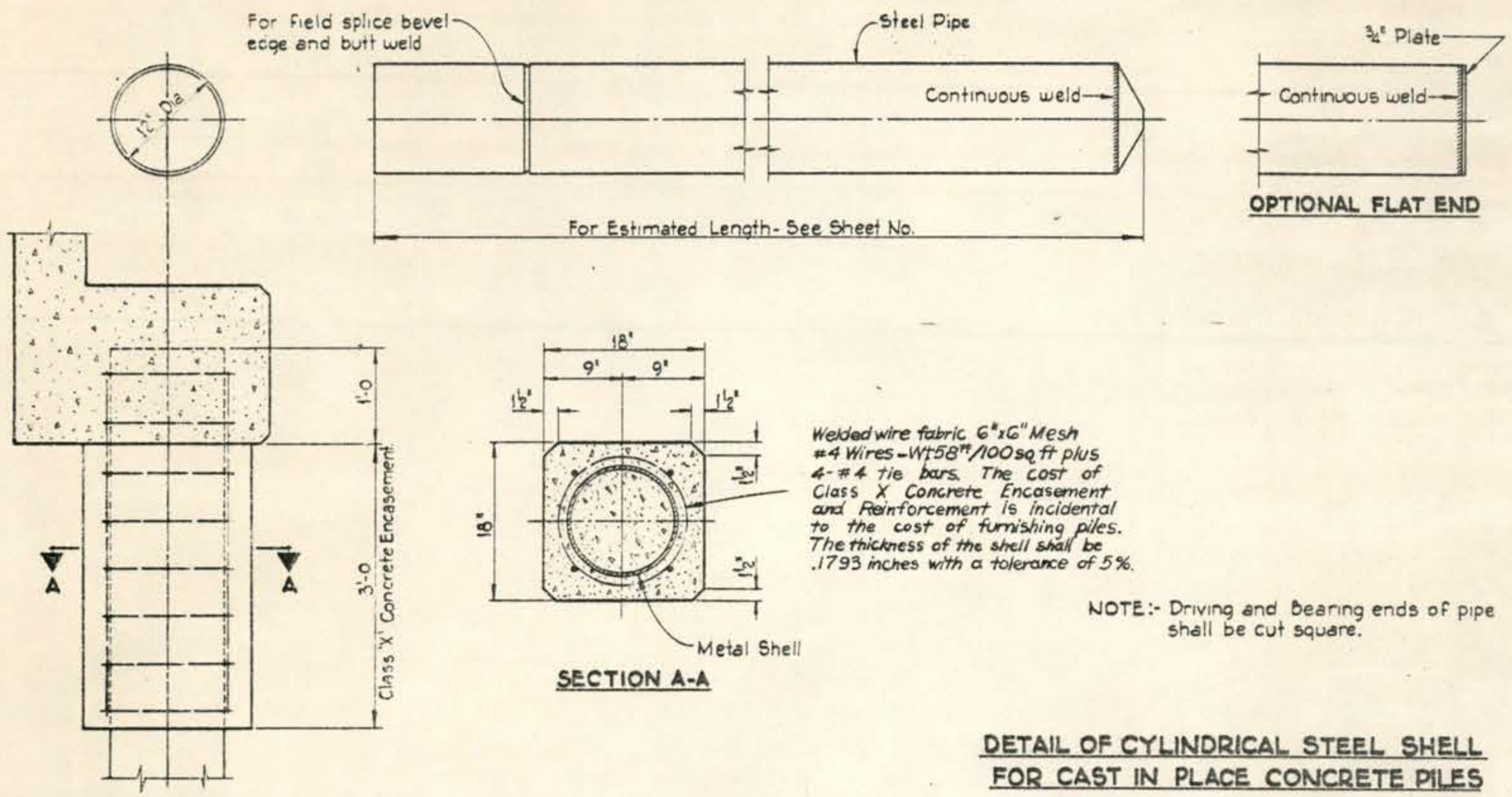
Note:
Minimum lap or embedment of all reinforcement bars shall be 20 bar diameters.

PIER #2
OAK PARK AVENUE OVER
F.A.I. RT. 80 SEC. 1313-811 HB
COOK COUNTY - STA. 1313+37.93

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. I-80	1515 811-U6	COOK	44	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

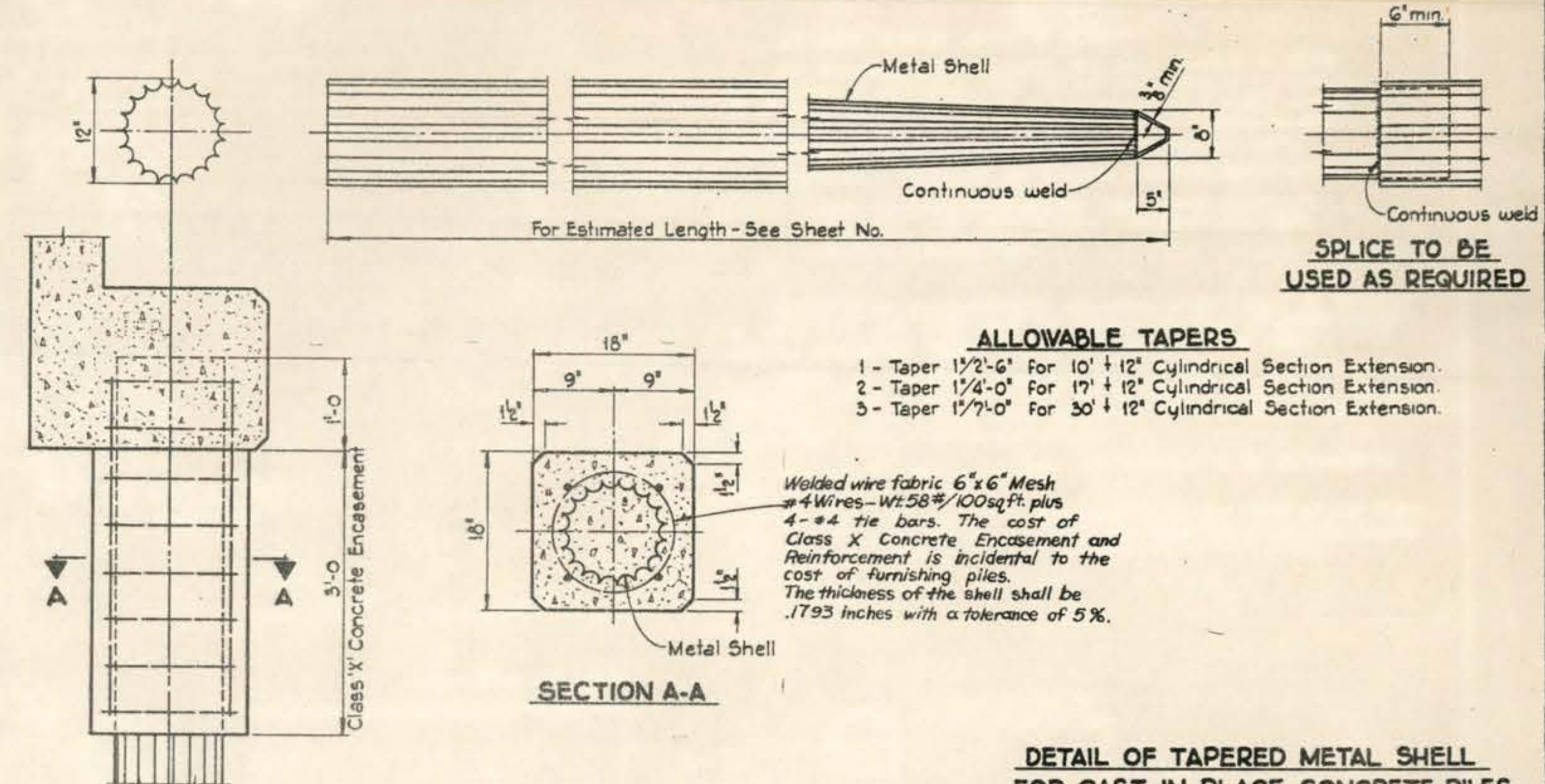
SHEET NO
SHEETS



Welded wire fabric 6"x6" Mesh #4 Wires - Wt. 58#/100 sq. ft. plus 4-#4 tie bars. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. The thickness of the shell shall be .1793 inches with a tolerance of 5%.

NOTE:- Driving and Bearing ends of pipe shall be cut square.

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

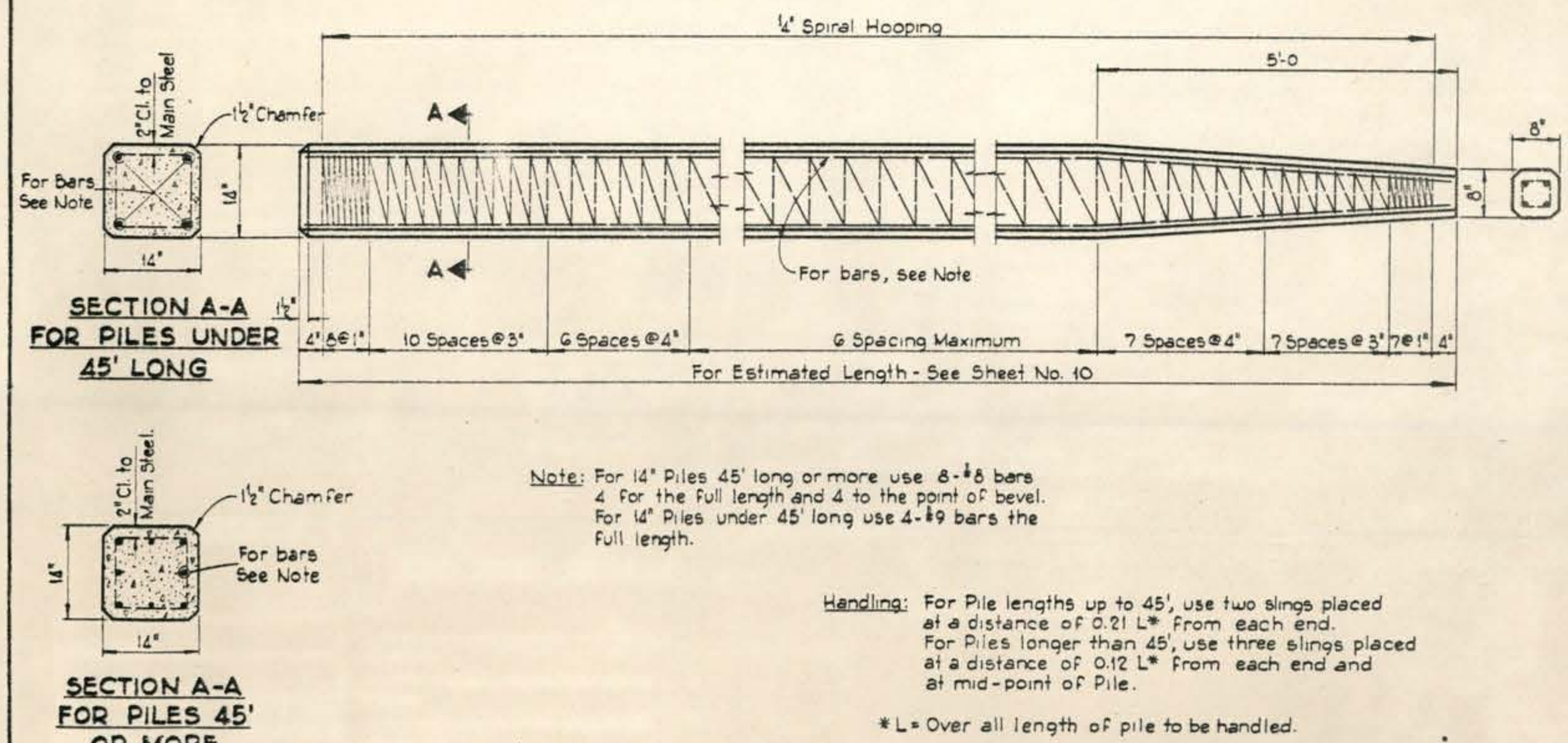


ALLOWABLE TAPERS

1 - Taper 1½'-6" for 10' + 12" Cylindrical Section Extension.
2 - Taper 1¼'-0" for 17' + 12" Cylindrical Section Extension.
3 - Taper 1⅞'-0" for 30' + 12" Cylindrical Section Extension.

Welded wire fabric 6"x6" Mesh #4 Wires - Wt. 58#/100 sq. ft. plus 4-#4 tie bars. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. The thickness of the shell shall be .1793 inches with a tolerance of 5%.

DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONCRETE PILES

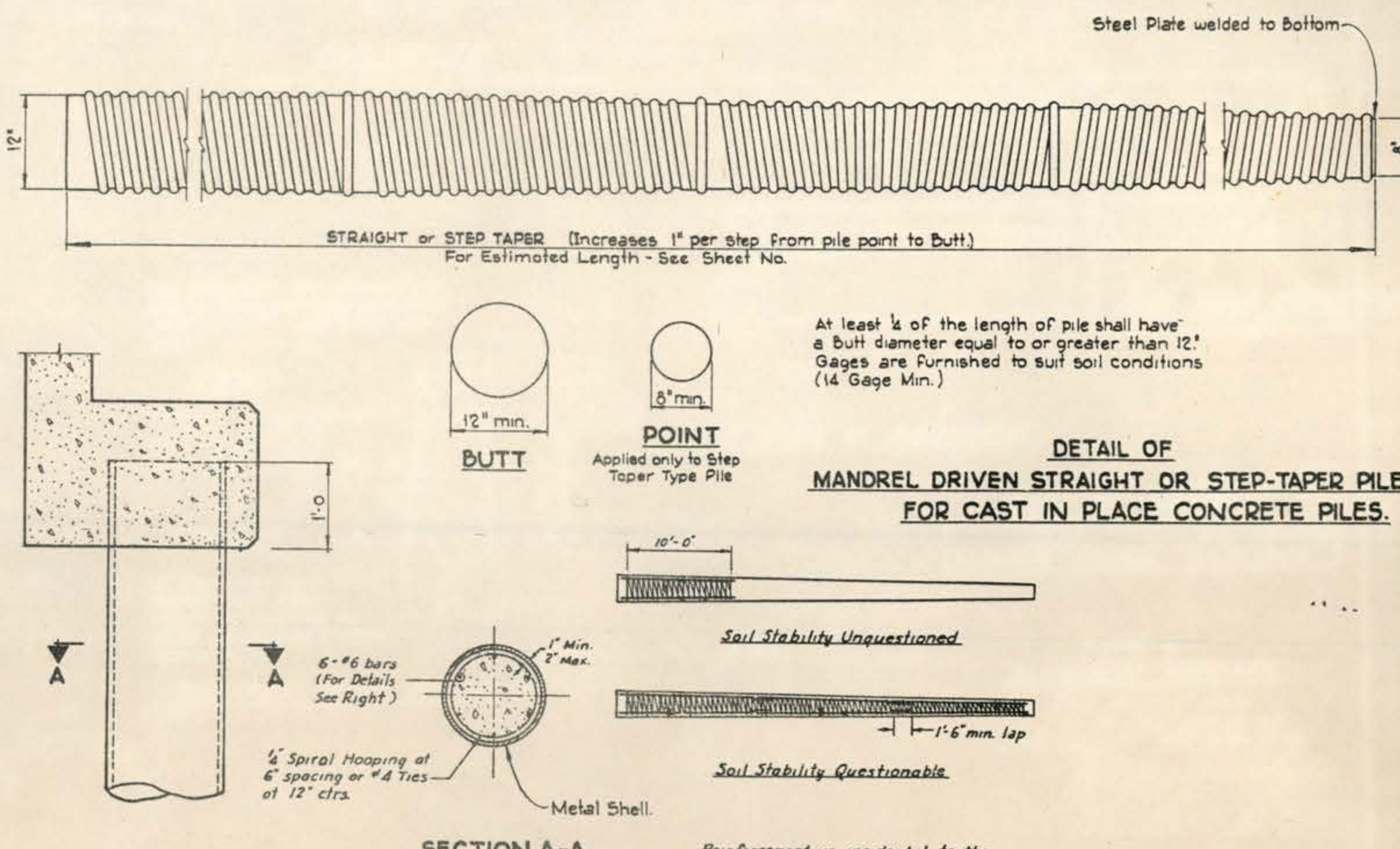


Note: For 14" Piles 45' long or more use 8-#8 bars 4 for the full length and 4 to the point of bevel. For 14" Piles under 45' long use 4-#9 bars the full length.

Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L* from each end. For Piles longer than 45', use three slings placed at a distance of 0.12 L* from each end and at mid-point of Pile.

* L = Over all length of pile to be handled.

DETAIL OF PRECAST CONCRETE PILES



At least ¼ of the length of pile shall have a butt diameter equal to or greater than 12". Gages are furnished to suit soil conditions (14 Gage Min.)

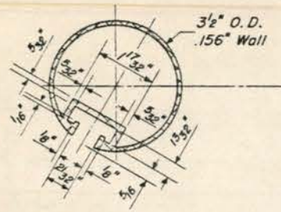
DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES.

Reinforcement is incidental to the cost of furnishing piles.

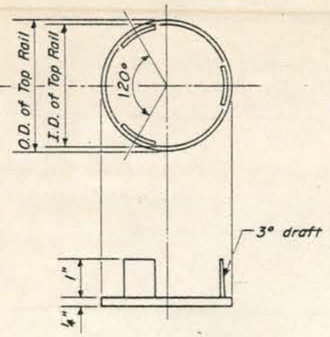
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1313			
F.A.I. 80 811-HB	COOK	44	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	

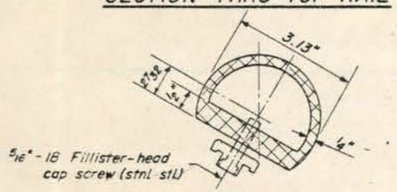
SHEET NO.
SHEETS



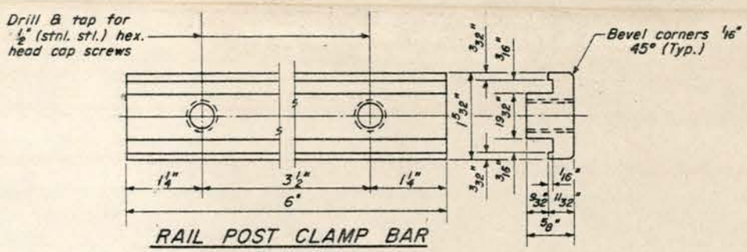
SECTION THRU TOP RAIL



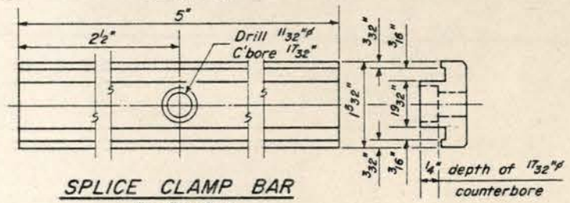
CAST END CAP
For Top Rail
Required



SECTION THRU SPLICE
TOP RAIL



RAIL POST CLAMP BAR
For Top Rail



SPLICE CLAMP BAR
For Top Rail

NOTES

All Posts shall be normal to parapet.

All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-221 alloy 6061-T6 and shall extend a minimum of 2 panel lengths (attached to a minimum of 3 posts) except at ends or at open joints where a minimum of 1 panel length is required. All joints in railing must be spliced per detail.

See Special Provisions for following Material Specifications:

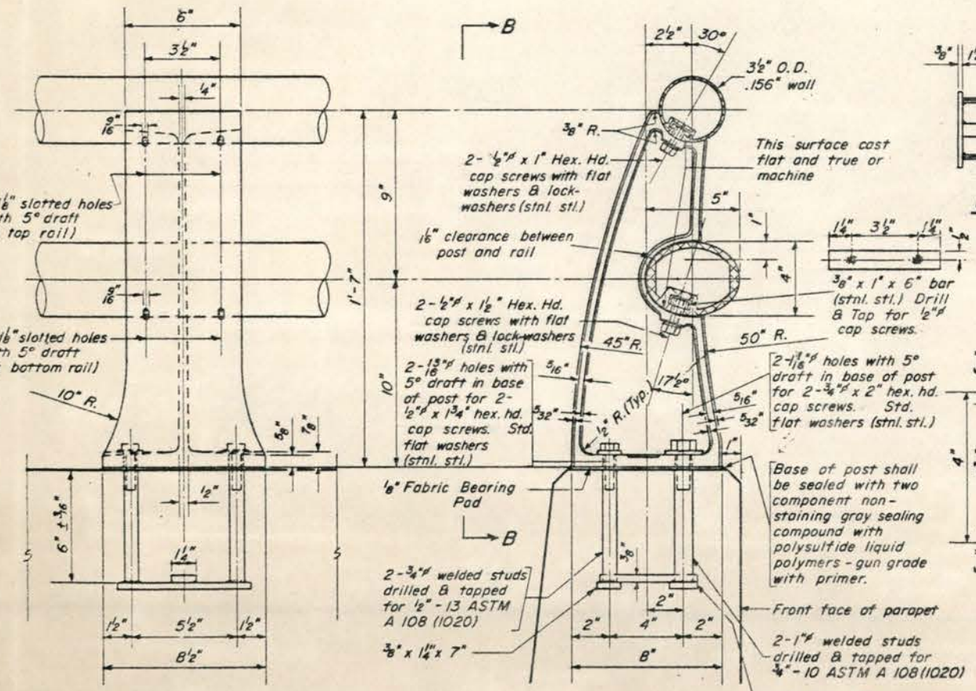
Cast Aluminum Alloy Bridge Post - Alloy A 344-T4.
Stainless Steel Cap Screws, Washers and Bars.
Fabric Bearing Pad

METHOD of MEASUREMENT: Aluminum handrail shall be measured in lineal feet. The length paid for shall be the over all length along the top longitudinal railing member thru all posts and gaps.

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

Cost of rail splice, end caps and hardware to be incidental to item ALUMINUM HANDRAIL.

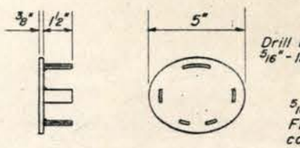
Provide 1-⅛" and 2-1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.



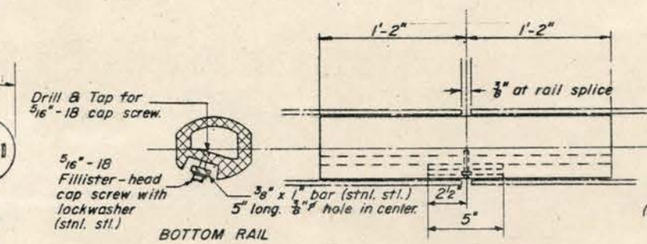
VIEW B-B

SECTION A-A

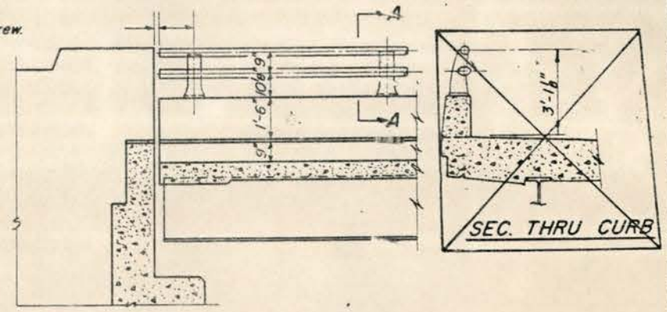
RAIL POST DETAILS



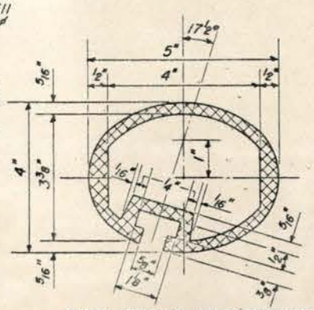
CAST END CAP
For Bottom Rail
DRIVE FIT TYPE
Required



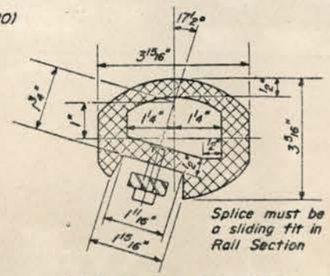
RAIL SPLICE
Notch top of slot in rails to clear 5/16" screw.



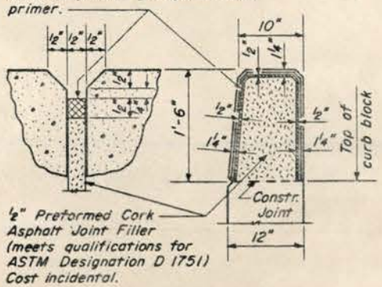
INSIDE VIEW AT ABUTMENT



SEC. THRU ELLIPTICAL RAIL SECTION



SEC. THRU SPLICE



PARAPET JOINT DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
ALUMINUM HANDRAIL	Lin. Ft.	4473

TYPE L
ALUMINUM HANDRAIL
OAK PARK AVENUE OVER
F.A.I. RT 80 SEC 1313-811HB
COOK COUNTY STA 1313+37.93

DESIGNED	
CHECKED	
DRAWN	W. M. Best W. A. Sausaman Jr.
CHECKED	

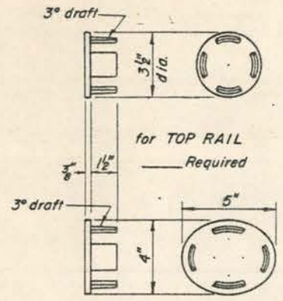
19
EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

R-20 8-16-64 Rev. 7-23-65 8-18-65 1-5-66

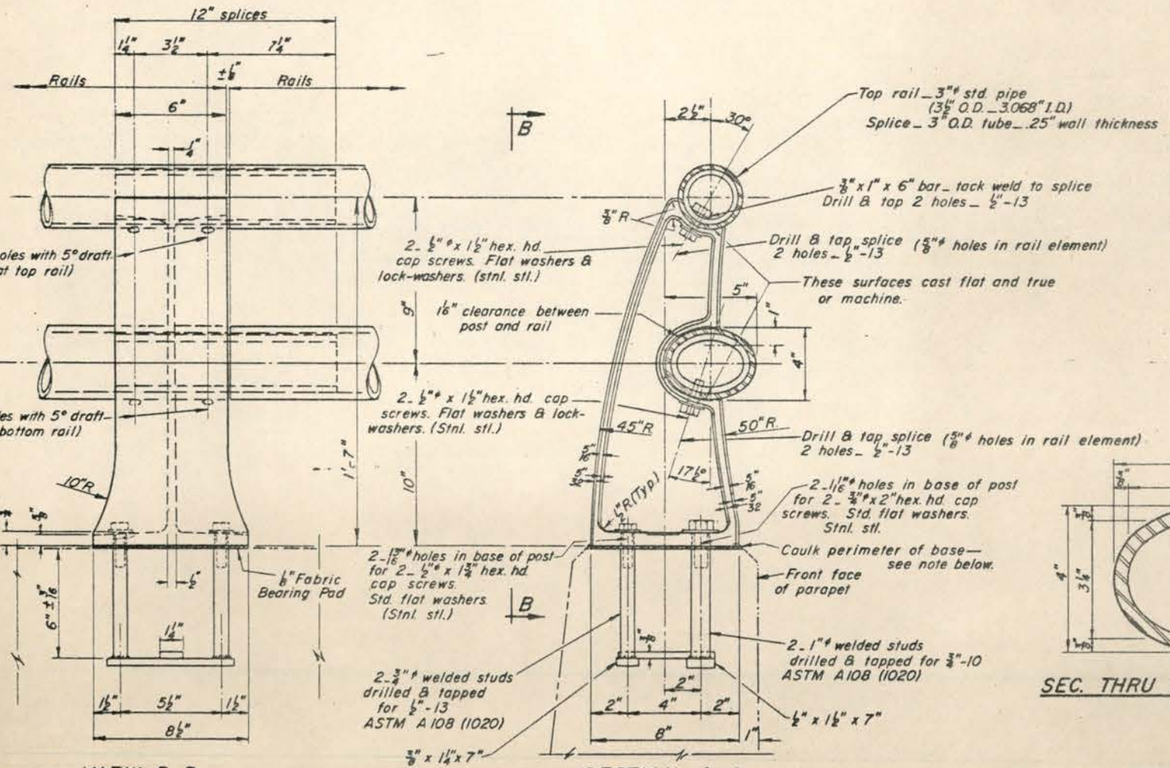
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	131B 211-HB	COOK	44	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET
SHEE



CAST END CAPS
DRIVE FIT TYPE
for BOTTOM RAIL
Required



RAIL POST DETAILS

NOTES:

All Posts shall be normal to parapet.

All Posts shall be malleable cast iron conforming to ASTM A-47, Grade 35018, galvanized to ASTM A-153.

All Rail Tubing shall conform to applicable requirements of ASTM A-53, Grade B, (pipe or tube) galvanized to ASTM A-120.

For material composition of Fabric Bearing Pad, see Special Provisions.

Provide 1-⅛" and 2-1/16" galvanized sheet steel shims for 25% of the Posts. Rail element shall be parallel to Grade — high spots shall be ground and low spots shimmed.

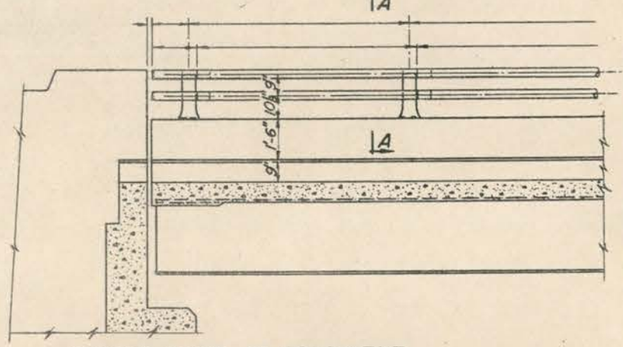
If any of the galvanizing coat is damaged or removed during erection, the affected area shall be painted with one coat of zinc paint in accordance with Military Specification MIL-P-26915 Type I, air-dry cure.

See Special Provisions for following Material Specifications:
Stainless Steel Cap Screws, Stainless Steel Bars and Stainless Steel Washer.

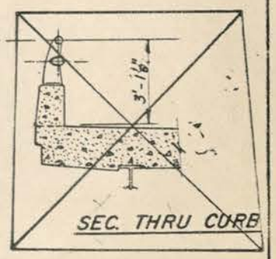
METHOD of MEASUREMENT: Metal handrail shall be measured in lineal feet. The length paid for shall be the overall length along the top longitudinal railing member through all posts and gaps.

BASIS of PAYMENT: Metal handrail will be paid for at the contract unit price per lineal for METAL HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation and erection.

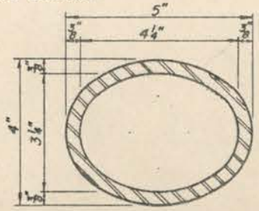
Cost of rail splice, end caps and hardware to be incidental to item METAL HANDRAIL.



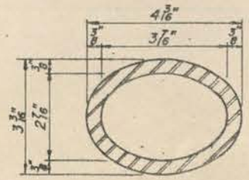
INSIDE VIEW AT ABUTMENT



SEC. THRU CURB



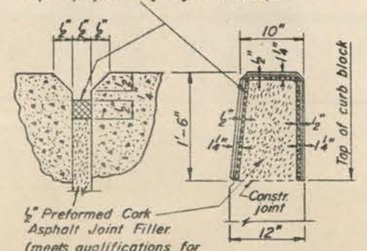
SEC. THRU BOTTOM RAIL



SEC. THRU BOTTOM SPLICE

BILL of MATERIAL

Item	Unit	Quantity
METAL HANDRAIL	Lin. Ft.	4473



PARAPET JOINT DETAIL

TYPE M
METAL HANDRAIL
OAK PARK AVENUE OVER
F.A.I. RT. 80 SEC. 131B-211HB
COOK COUNTY STA 131B+37.93

DESIGNED	
CHECKED	
DRAWN Wm. M. Best	
CHECKED	

19
EXAMINED — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF DESIGN
APPROVED — CHIEF HIGHWAY ENGINEER

Note!
Seal base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers—gun grade with primer.

Note!
Splice must be sliding fit in Rail Section.

R-21 Dwn. 8-20-64 Rev. 7-23-65 8-18-65