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**STANDARDS**

1527-9	2303-5
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1913-6	2307-5
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2051-1	2311-6
2113-2	2314-4
2122-10	2315-5
2130-6	2316-7
2149-11	2323-5
2168-9	2324-5
2169-6	2327-6
2179-11	2336-3
2203-12	2337-2
2212-3	2341-1
2213-4	2342-3
2228-4	2343-3
2230-13	2347-1
2237-10	2349-
2240-5	2350-2
2250-1	
2251-1	2362-1
2256-9	2364-1
2258-3	2381-
2262-4	
2263-3	
2298-5	
2299-9	
2300-2	
2302-4	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

**PLANS FOR PROPOSED  
FEDERAL AID INTERSTATE HIGHWAY**

SCALES { PLAN 1" = 50' & 1" = 20'  
PROFILE HOR. 1" = 50'  
PROFILE VERT. 1" = 5'  
CROSS-SECTIONS H - 1" = 10'  
V - 1" = 5'

**F.A.I.-74  
SEC. 90-14K, 90-14HB-1(BR)  
TAZEWELL COUNTY  
C-94-004-81  
PROJ: I-IR-74-4(179)97**

**THE PROPOSED IMPROVEMENT**

INCLUDES THE FURNISHING OF ALL LABOR & MATERIALS NECESSARY TO COMPLETE THE CONSTRUCTION OF I-74 SECTION 90-14K INTERCHANGE WITH PINECREST DRIVE INCLUDING THE GRADING, DRAINAGE & PAVING OF ALL RAMPS, FRONTAGE ROADS AND PINECREST DRIVE; RESURFACING OF THE I-74 WITHIN THE LIMITS SHOWN ON THE PLANS.

THE WORK UNDER THIS PROJECT ALSO CONSISTS OF WIDENING OF THE EXISTING 4-SPAN CONTINUOUS WF WITH R.C. OPEN ABUTMENTS AND 3-COLUMN R.C. PIERS.

**GROSS LENGTH OF IMPROVEMENT**

FAI 74 STA 342+00 TO 402+50 = 6050 FT. = 1.146 MILES  
PINECREST DR. STA 49+50 TO 78+00 = 2850 FT. = 0.54 MILES  
RAMP 'A' STA 6+60 TO 19+63 = 1303 FT. = 0.247 MILES  
RAMP 'B' STA 0+24 TO 11+11 = 1087 FT. = 0.206 MILES  
RAMP 'C' STA 6+60 TO 19+46 = 1286 FT. = 0.244 MILES  
RAMP 'D' STA 0+23 TO 10+79 = 1056 FT. = 0.200 MILES

**OMISSIONS**

PINECREST DR. STA. 59+07.17 TO 61+09.34 = 202.17 FT. = 0.038 MILES

**NET LENGTH OF IMPROVEMENT**

FAI 74 SEC. 90-14 = 1.146 MILES  
PINECREST DR. = 0.502 MILES  
RAMPS = 0.897 MILES

**PROJECT**

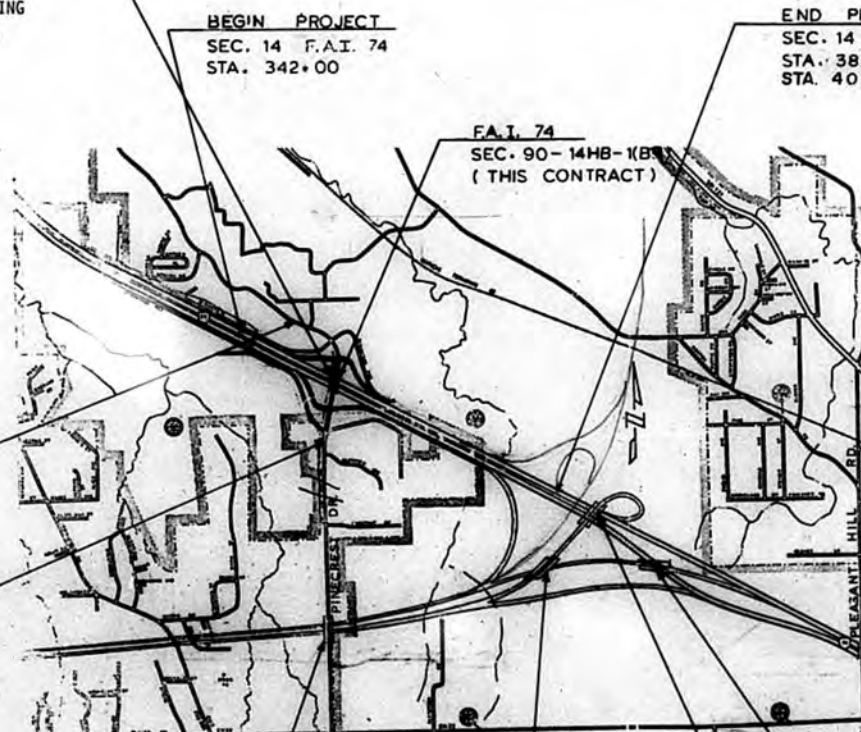
GROSS LENGTH OF IMPROVEMENT = 2.5788 MILES  
NET LENGTH OF IMPROVEMENT = 2.545 MILES  
GRADING NET LENGTH = 1.399 MILES  
PAVING GROSS LENGTH = 1.437 MILES  
PAVING NET LENGTH = 1.399 MILES  
PROJECT I-IR-74-4(179)97 NET LENGTH = 1.146 MILES

**HIGHWAY CLASSIFICATION**

	F.A.I. 74 SEC. 90-14	F.A.U. 6720
MAXIMUM GRADE	0.4%	8.0%
LENGTH OF MAXM. GRADE	8800 FT.	692.01 FT.
MINIMUM STOPPING SIGHT DISTANCE	TAN.	300 FT.
MINIMUM HORIZONTAL RADIUS	TAN.	506.51 FT.

**DESIGN DESIGNATION**

F.A.I. 74 - 4415(03) TRUNK 19.57 (COMP-20)  
F.A.U. 6720 - 2215(03) COLLECTOR 2.0 (P.C.C.-20)



F.A.I. 474  
SEC. 90-7HB-2(BY)  
(BY OTHERS)

F.A.I. 474  
SEC. 90-7HB-4  
(BY OTHERS)

F.A.I. 474  
SEC. 90-7HB-5  
(BY OTHERS)

F.A.I. 474  
SEC. 90-7HB-3  
(BY OTHERS)

F.A.I. 74  
SEC. 90-14HB-2(BR)  
(BY OTHERS)

LAYOUT  
SCALE 1" = 1592'

ROUTE	SECTION	COUNTY	TOTAL SHEETS
FAI 74	X	TAZEWELL	152
P.C.C. DES. 1" = 50' HORIZ. 1" = 5' VERT. 1" = 5'			
X 90-14K 90-14HB-1(BR)			

P-94-003-77



**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

SUBMITTED: 3-9-82

EXAMINED: 3-29-82

PASSED: 3-29-82

APPROVED: 3-29-82

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AID ADMINISTRATION**

APPROVED: \_\_\_\_\_

DIVISION ADMINISTRATOR

**CONTRACT NO. 35441**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	90-14K	TAZEWELL	152	60
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

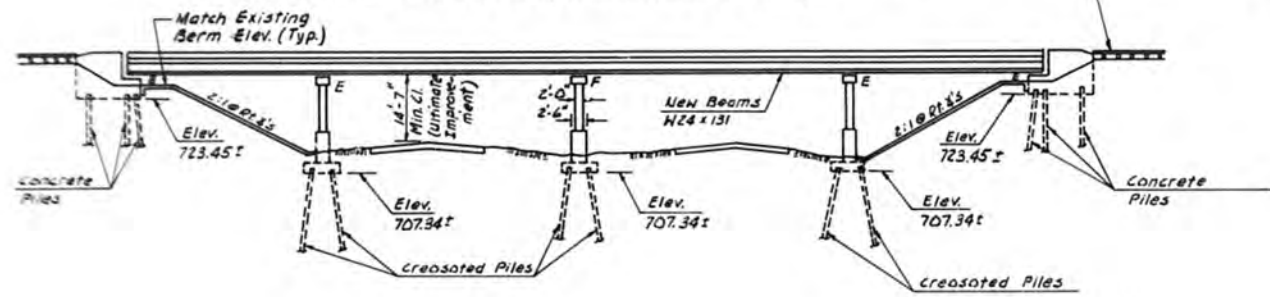
**BENCHMARK:**

T.B.M. (405) Chiseled "D" S.W. corner of north crashwall of Pinecrest Dr. and FAI. 74 bridge. Elevation 714.30

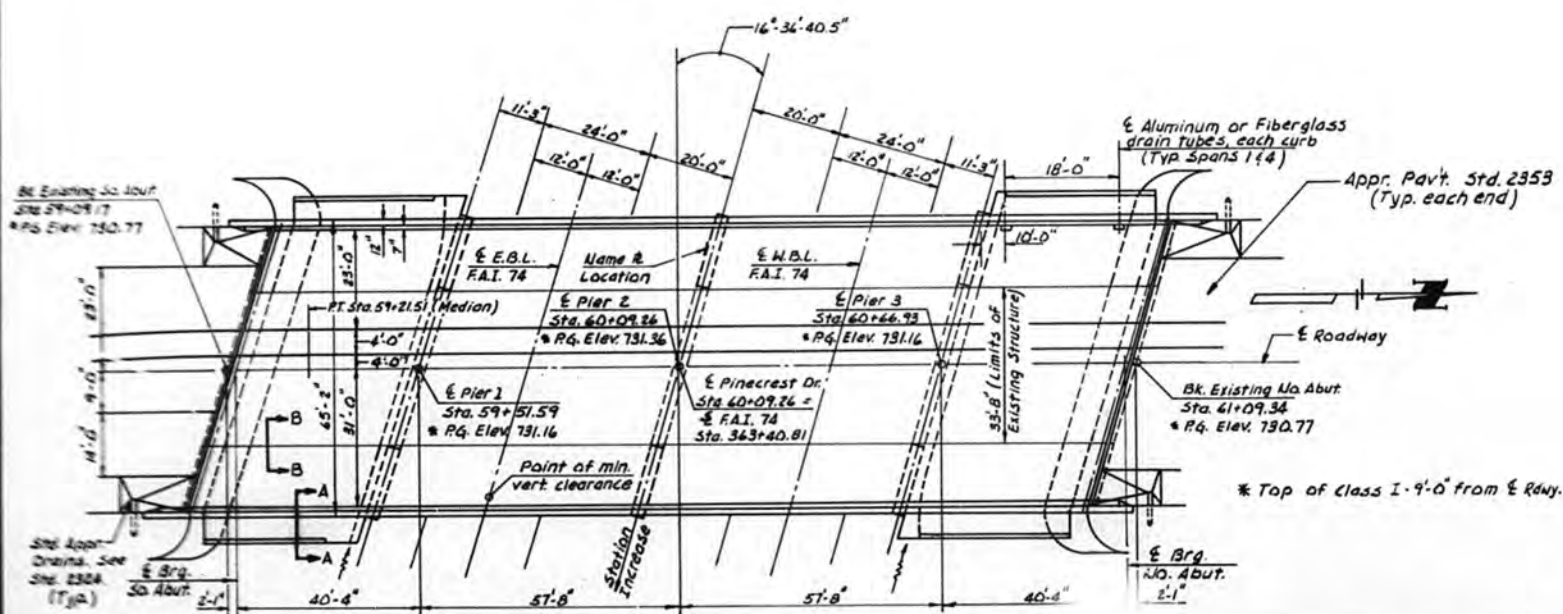
**EXISTING STRUCTURE:**

Built as FAI Rt 5, Section 90-14-UB-1 in 1959, @ Sta. 363+40.81. 4-span continuous WF with pile bent abutments and 3 column RC Piers. Existing curbs and railings to be removed, and structure to be widened. East exterior beam in span 3 to be replaced due to traffic damage. Pinecrest Dr. to be closed during construction. No Salvage.

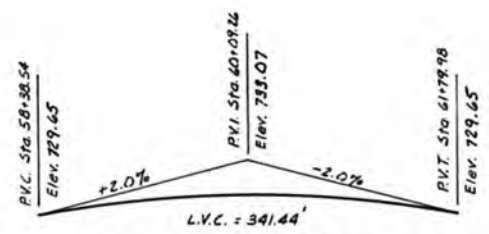
**Traffic Barrier Terminal:**  
Type 5 at N.E. and S.W. Wingwalls (See Std. 2340)  
Type 6 at N.W. and S.E. wingwalls (See Std. 2341)



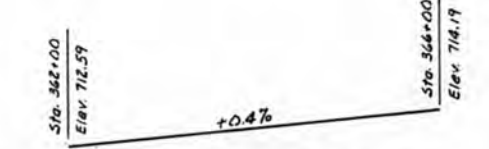
**ELEVATION**



**PLAN**



**PROFILE GRADE PINECREST DRIVE**  
(Top Class I-9'-0" From E Rdwy.)



**PROFILE GRADE F.A.I. 74**  
(Median edge Pvm't.)

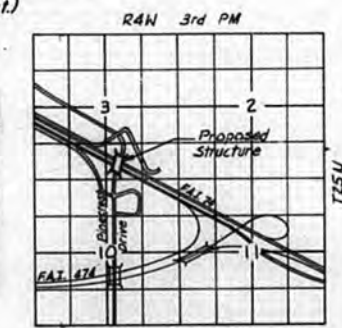
STATION 363+40.81  
REBUILT 198 BY  
STATE OF ILLINOIS  
F.A.I. RT. 74 SEC. 90-14HB-1(BR)  
F.A. PROJ. I-74-4(175)  
LOADING 4520  
STR. NO. 090-0091

**NAME PLATE**  
see std. 2113

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

**DESIGN STRESSES**

$F_c = 3500$  psi  
 $F_y = 40,000$  psi (Reinf.)  
 $F_s = 20,000$  psi (Struct.)  
Design Specifications: 1977 AASHTO, 1978, 1979, and 1980 Interim Editions.  
Loading: 4520-44  
Allow 25#/Sq Ft. For Future W.S.



**LOCATION SKETCH**

**GENERAL NOTES**

- All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.
- Fasteners shall be high strength bolts  $3/4"$ , open holes  $1/16"$ , unless otherwise noted.
- Calculated weight of Structural Steel = 197,350 lbs.
- The basic lead silico chromate paint system shall be used for shop and field painting of new Structural Steel.
- Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
- Anchor bolts shall be set before bolting diaphragms over supports.
- Slope Wall shall be reinforced with welded wire fabric,  $6" \times 6" \times W40 \times W40$ , weighing 58 lbs. per 100 sq. ft.
- The Contractor shall drive one concrete test pile at the South Abutment and one timber test pile at pier 2 in permanent locations as directed by the Engineer before ordering the remainder of piles.
- Plan dimensions and details relative to 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 dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Protective coat shall not be applied to surfaces to which Water-proofing Membrane System is applied.
- $3/4"$  Expansion Bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4080 lbs., and  $3/8" \times 12"$  hooked bolts.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
- $1/2"$  Expansion Bolts shall consist of approved expansion anchors and  $1/2" \times 1/4"$  hooked bolts.
- The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Match Toughness zone 2. These components are the wide flange beams and all splice plate material for the wide flange beams.

**TOTAL BILL OF MATERIAL**

Item	Unit	Sub	Super	Total
Bit. Conc. Surf. Crs. Cl. I Mix. D	Ton		120	120
Concrete Removal	Cu. Yd.	14	87	101
Expansion Bolts 1/2 Inch	Ea.		300	300
Expansion Bolts 3/4 Inch	Ea.	188		188
Bridge Handrail Removal	Lin. Ft.		428	428
Structure Excavation	Cu. Yd.	220		220
Floor Drains	Ea.		8	8
Class X Concrete	Cu. Yd.	194.5	275.8	470.3
Structural Steel	L. Sum		1	1
Protective Coat	Sq. Yd.		300	300
Reinforcement Bars	Lb.	24,110	64,460	88,570
Reinforcement Bars (Epoxy Coated)	Lb.		6140	6140
Creosoted Piles 20.1 to 38 Feet	Lin. Ft.	1175		1175
Concrete Piles	Lin. Ft.	586		586
Test Pile Timber	Ea.	1		1
Test Pile Concrete	Ea.	1		1
Name Plates	Ea.	1		1
Slope Wall 4 Inch	Sq. Yd.	450		450
Neoprene Expansion Joint 2"	Lin. Ft.		136	136
Waterproofing Membrane System	Sq. Yd.		1274	1274
Cleaning & Painting	L. Sum		1	1

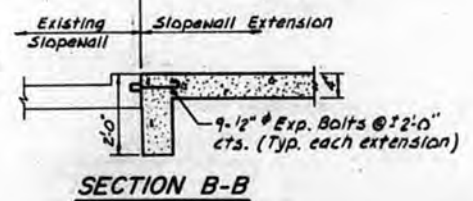
**GENERAL PLAN AND ELEVATION**

PROJECT I-74-4(175)98  
PINECREST DRIVE OVER F.A.I. 74  
F.A.I. RTE. 74 SEC. 90-14HB-1(BR)  
TAZEWELL COUNTY  
STA. 363+40.81

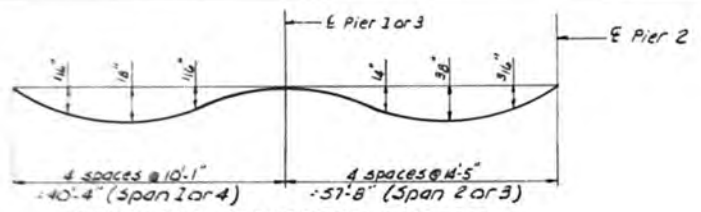
Date: 6/16/81	Surveyed
Revisions	Designed D.L.C.
	Drawn S.R.S.
	Checked P.H.M.
	Approved D.L.C.

**TYPICAL SECTION THRU SLOPEWALL EXTENSION**

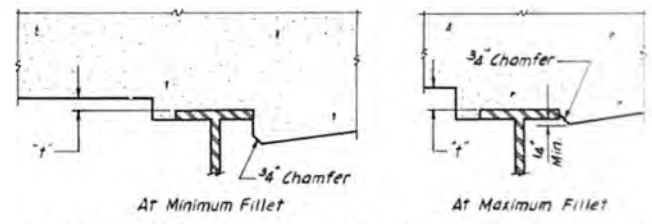
Date: 6/16/81  
Denny J. Chilton



**SECTION B-B**



Note: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown below and on Sht. 3.



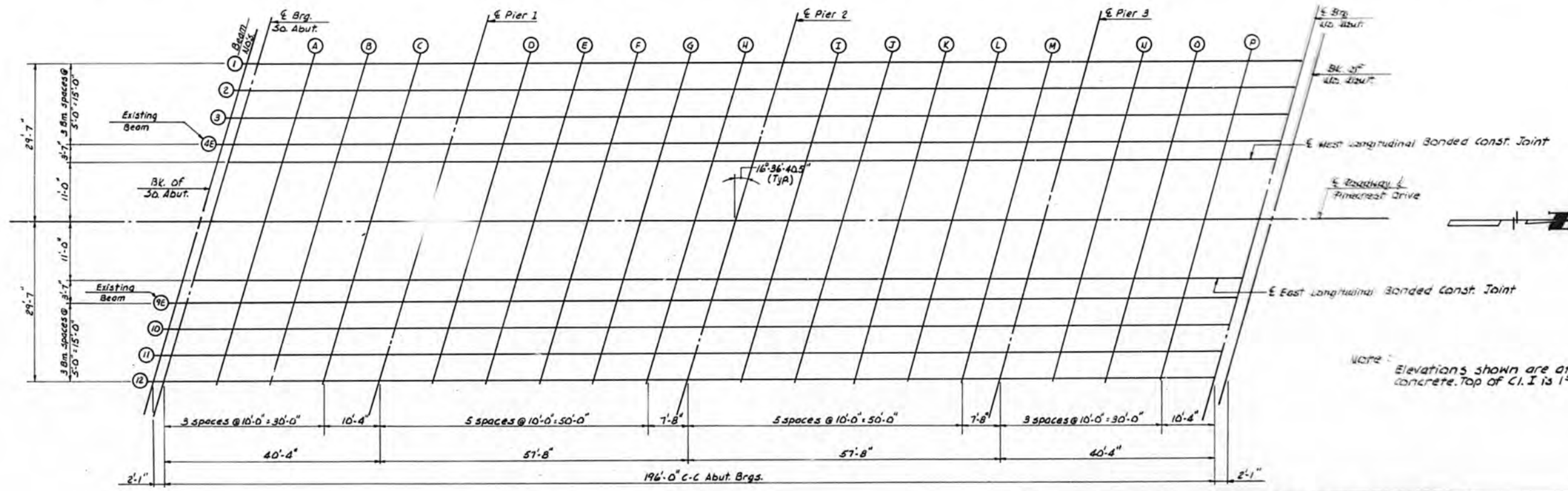
To determine 'T': After all structural steel has been erected elevations of the top flanges of the beams shall be taken at intervals shown below, and on Sht. 3. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below and on Sht. 3, minus slab thickness equals the fillet heights 'T' above top flange of beams.

BEAM NO. 1				
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk of So. Abut.	5917.945	-29.583	730.402	730.402
£ Brg. So. Abut.	5920.078		730.429	730.429
A	5930.078		730.528	730.536
B	5940.078		730.615	730.624
C	5950.078		730.690	730.693
£ Pier 1	5960.411		730.755	730.755
D	5970.411		730.807	730.820
E	5980.411		730.846	730.870
F	5990.411		730.874	730.903
G	6000.411		730.891	730.911
H	6010.411		730.895	730.904
£ Pier 2	6018.079		730.891	730.891
I	6028.079		730.874	730.886
J	6038.079		730.847	730.869
K	6048.079		730.807	730.836
L	6058.079		730.756	730.777
M	6068.079		730.693	730.703
£ Pier 3	6075.745		730.636	730.636
N	6085.745		730.553	730.555
O	6095.745		730.457	730.466
P	6105.745		730.350	730.358
£ Brg. No. Abut.	6116.078		730.227	730.227
Bk of No. Abut.	6118.161		730.196	730.196

BEAM NO. 2				
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk of So. Abut.	5916.504	-24.583	730.464	730.464
£ Brg. So. Abut.	5918.587		730.492	730.492
A	5928.587		730.592	730.600
B	5938.587		730.681	730.690
C	5948.587		730.758	730.761
£ Pier 1	5958.920		730.825	730.825
D	5968.920		730.878	730.891
E	5978.920		730.919	730.943
F	5988.920		730.949	730.978
G	5998.920		730.967	730.987
H	6008.920		730.973	730.982
£ Pier 2	6016.588		730.970	730.970
I	6026.588		730.956	730.968
J	6036.588		730.930	730.952
K	6046.588		730.892	730.921
L	6056.588		730.842	730.864
M	6066.588		730.781	730.791
£ Pier 3	6074.254		730.726	730.726
N	6084.254		730.644	730.647
O	6094.254		730.550	730.559
P	6104.254		730.445	730.453
£ Brg. No. Abut.	6114.587		730.323	730.323
Bk of No. Abut.	6116.670		730.292	730.292

BEAM NO. 3				
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk of So. Abut.	5915.012	-19.583	730.524	730.524
£ Brg. So. Abut.	5917.095		730.554	730.554
A	5927.095		730.656	730.664
B	5937.095		730.746	730.755
C	5947.095		730.825	730.830
£ Pier 1	5957.428		730.894	730.894
D	5967.428		730.949	730.962
E	5977.428		730.992	731.015
F	5987.428		731.024	731.052
G	5997.428		731.043	731.063
H	6007.428		731.051	731.060
£ Pier 2	6015.076		731.049	731.049
I	6025.076		731.037	731.049
J	6035.076		731.012	731.034
K	6045.076		730.976	731.005
L	6055.076		730.928	730.950
M	6065.076		730.869	730.879
£ Pier 3	6072.762		730.815	730.815
N	6082.762		730.735	730.738
O	6092.762		730.643	730.652
P	6102.762		730.539	730.547
£ Brg. No. Abut.	6113.095		730.420	730.420
Bk of No. Abut.	6115.178		730.389	730.389

BEAM NO. 4E				
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk of So. Abut.	5918.521	-14.583	730.487	730.487
£ Brg. So. Abut.	5915.604		730.520	730.516
A	5925.604		730.620	730.628
B	5935.604		730.712	730.721
C	5945.604		730.792	730.805
£ Pier 1	5955.937		730.860	730.863
D	5965.937		730.920	730.933
E	5975.937		730.965	730.988
F	5985.937		730.998	731.027
G	5995.937		730.998	731.039
H	6005.937		730.929	731.038
£ Pier 2	6013.605		730.820	731.028
I	6023.605		730.683	731.029
J	6033.605		730.520	731.017
K	6043.605		730.360	731.090
L	6053.605		730.214	731.036
M	6063.605		730.097	730.967
£ Pier 3	6071.271		730.004	730.904
N	6081.271		730.826	730.829
O	6091.271		730.736	730.745
P	6101.271		730.634	730.642
£ Brg. No. Abut.	6111.604		730.526	730.516
Bk of No. Abut.	6113.687		730.485	730.485



TOP OF SLAB ELEVATIONS		
Date 6/16/81	Surveyed	<p>FAI RTE 74 SEC. 90-14HB-1(BR)</p> <p>TAZEWELL COUNTY</p> <p>STA. 363+40.81</p>
Revisions	Designed D.L.C.	
	Drawn S.R.S.	
	Checked P.H.M.	
	Approved D.C.C.	
Prepared by: WVP CORPORATION		Consulting Engineers - Architects - Planners - Decatur, Illinois - St. Louis, Missouri

\*Elevations at Longitudinal Const. Bonded Joints are approximate. Match top of new slab to top of existing slab.

**WEST LONGITUDINAL JOINT \***

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. of So. Abut.	5912.452	-11.000	730.691	730.691
E Brg. So. Abut.	5914.535		730.660	730.660
A	5924.535		730.765	730.773
B	5934.535		730.858	730.867
C	5944.535		730.940	730.943
E Pier 1	5954.868		731.012	731.012
D	5964.868		731.070	731.083
E	5974.868		731.116	731.140
F	5984.868		731.151	731.180
G	5994.868		731.173	731.193
H	6004.868		731.184	731.193
E Pier 2	6012.536		731.185	731.185
I	6022.536		731.175	731.187
J	6032.536		731.154	731.176
K	6042.536		731.121	731.150
L	6052.536		731.076	731.097
M	6062.536		731.019	731.029
E Pier 3	6070.202	730.968	730.968	
N	6080.202	730.891	730.894	
O	6090.202	730.802	730.811	
P	6100.202	730.701	730.709	
E Brg. Wb. Abut.	6110.535	730.585	730.585	
Bk. of Wb. Abut.	6112.618	730.554	730.554	

**EAST LONGITUDINAL JOINT \***

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. of So. Abut.	5905.888	11.000	730.554	730.554
E Brg. So. Abut.	5907.971		730.585	730.585
A	5917.971		730.697	730.705
B	5927.971		730.798	730.807
C	5937.971		730.888	730.891
E Pier 1	5948.304		730.968	730.968
D	5958.304		731.033	731.047
E	5968.304		731.087	731.111
F	5978.304		731.129	731.158
G	5988.304		731.160	731.180
H	5998.304		731.179	731.188
E Pier 2	6005.971		731.185	731.185
I	6015.971		731.183	731.195
J	6025.971		731.169	731.191
K	6035.971		731.144	731.173
L	6045.971		731.107	731.128
M	6055.971		731.058	731.068
E Pier 3	6063.638	731.012	731.012	
N	6073.638	730.943	730.946	
O	6083.638	730.862	730.870	
P	6093.638	730.769	730.777	
E Brg. Wb. Abut.	6103.971	730.660	730.660	
Bk. of Wb. Abut.	6106.054	730.631	730.631	

**BEAM NO. 9E**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. of So. Abut.	5904.819	14.583	730.491	730.491
E Brg. So. Abut.	5906.902		730.516	730.516
A	5916.902		730.630	730.638
B	5926.902		730.732	730.741
C	5936.902		730.823	730.826
E Pier 1	5947.235		730.904	730.904
D	5957.235		730.971	730.984
E	5967.235		731.026	731.049
F	5977.235		731.069	731.098
G	5987.235		731.101	731.121
H	5997.235		731.121	731.130
E Pier 2	6004.902		731.128	731.128
I	6014.902		731.128	731.139
J	6024.902		731.115	731.137
K	6034.902		731.091	731.120
L	6044.902		731.055	731.077
M	6054.902		731.008	731.018
E Pier 3	6062.569	730.963	730.963	
N	6072.569	730.895	730.898	
O	6082.569	730.815	730.824	
P	6092.569	730.723	730.731	
E Brg. Wb. Abut.	6102.902	730.616	730.616	
Bk. of Wb. Abut.	6104.185	730.593	730.593	

**BEAM NO. 10**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. of So. Abut.	5903.928	19.583	730.344	730.344
E Brg. So. Abut.	5905.411		730.420	730.420
A	5915.411		730.536	730.543
B	5925.411		730.640	730.649
C	5935.411		730.732	730.735
E Pier 1	5945.744		730.815	730.815
D	5955.744		730.884	730.897
E	5965.744		730.941	730.964
F	5975.744		730.986	731.015
G	5985.744		731.019	731.039
H	5995.744		731.041	731.050
E Pier 2	6003.411		731.049	731.049
I	6013.411		731.050	731.062
J	6023.411		731.040	731.062
K	6033.411		731.017	731.046
L	6043.411		730.983	731.005
M	6053.411		730.937	730.947
E Pier 3	6061.078	730.894	730.894	
N	6071.078	730.828	730.831	
O	6081.078	730.749	730.758	
P	6091.078	730.659	730.667	
E Brg. Wb. Abut.	6101.411	730.554	730.554	
Bk. of Wb. Abut.	6103.494	730.581	730.581	

**BEAM NO. 11**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. of So. Abut.	5901.836	24.583	730.297	730.297
E Brg. So. Abut.	5903.919		730.323	730.323
A	5913.919		730.441	730.449
B	5923.919		730.547	730.556
C	5933.919		730.641	730.644
E Pier 1	5944.252		730.726	730.726
D	5954.252		730.796	730.809
E	5964.252		730.855	730.878
F	5974.252		730.902	730.930
G	5984.252		730.937	730.957
H	5994.252		730.960	730.969
E Pier 2	6001.919		730.970	730.970
I	6011.919		730.973	730.985
J	6021.919		730.964	730.986
K	6031.919		730.943	730.972
L	6041.919		730.911	730.932
M	6051.919		730.867	730.877
E Pier 3	6059.586	730.825	730.825	
N	6069.586	730.760	730.763	
O	6079.586	730.684	730.693	
P	6089.586	730.595	730.603	
E Brg. Wb. Abut.	6099.919	730.492	730.492	
Bk. of Wb. Abut.	6102.002	730.470	730.470	

**BEAM NO. 12**

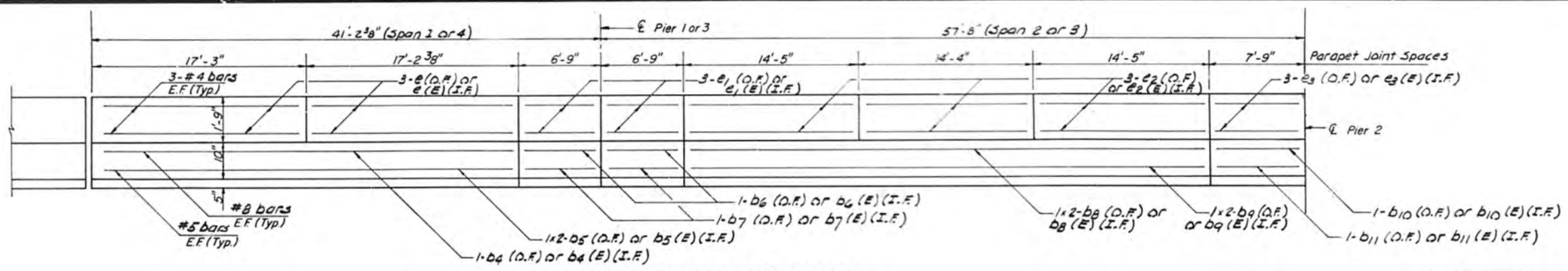
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. of So. Abut.	5900.345	29.583	730.200	730.200
E Brg. So. Abut.	5902.428		730.227	730.227
A	5912.428		730.346	730.354
B	5922.428		730.454	730.463
C	5932.428		730.549	730.553
E Pier 1	5942.761		730.636	730.636
D	5952.761		730.708	730.721
E	5962.761		730.769	730.792
F	5972.761		730.817	730.846
G	5982.761		730.854	730.874
H	5992.761		730.879	730.888
E Pier 2	6000.428		730.891	730.891
I	6010.428		730.895	730.907
J	6020.428		730.888	730.910
K	6030.428		730.869	730.898
L	6040.428		730.838	730.860
M	6050.428		730.796	730.806
E Pier 3	6058.095	730.755	730.755	
N	6068.095	730.692	730.695	
O	6078.095	730.618	730.627	
P	6088.095	730.531	730.539	
E Brg. Wb. Abut.	6098.428	730.429	730.429	
Bk. of Wb. Abut.	6100.511	730.407	730.407	

Note: Elevations shown are at top of concrete. Top of C.I. is 1/4" higher.

TOP OF SLAB ELEVATIONS		Sheet No.
Date 6/16/81	Surveyed	3
Revisions	Designed D.L.C.	
	Drawn S.R.S.	
	Checked P.H.M.	
	Approved D.L.C.	
F.A.I. RTE 74 SEC. 90-14HB-1(BR)		of 14
TAZEWELL COUNTY		
STA. 363+40.81		
WVP CONSULTING ENGINEERS - ARCHITECTS - PLANNERS, Decatur, Illinois - St. Louis, Missouri		



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	90-14K	TAZEWELL	152	64
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	

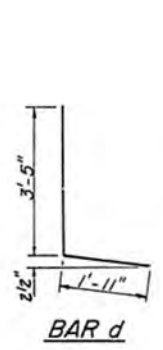


INSIDE ELEVATION OF PARAPET

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a	1552	#5	21'-3"	—
a1	32	#5	34'-9"	—
a2	396	#6	4'-0"	—
b	322	#5	29'-9"	—
b(E)	35	#5	29'-9"	—
b1	264	#5	34'-6"	—
b2	84	#6	17'-0"	—
b3	42	#6	19'-0"	—
b4	4	#8	34'-2"	—
b4(E)	4	#8	34'-2"	—
b5	8	#5	17'-11"	—
b5(E)	8	#5	17'-11"	—
b6	8	#8	6'-6"	—
b6(E)	8	#8	6'-6"	—
b7	8	#5	6'-6"	—
b7(E)	8	#5	6'-6"	—
b8	8	#8	23'-9"	—
b8(E)	8	#8	23'-9"	—
b9	8	#5	22'-9"	—
b9(E)	8	#5	22'-9"	—
b10	4	#8	7'-6"	—
b10(E)	4	#8	7'-6"	—
b11	4	#5	7'-6"	—
b11(E)	4	#5	7'-6"	—
c(E)	197	#5	4'-7"	—
d	396	#4	5'-4"	—
d1(E)	432	#5	4'-1"	—
e	24	#4	16'-11"	—
e(E)	24	#4	16'-11"	—
e1	24	#4	6'-6"	—
e1(E)	24	#4	6'-6"	—
e2	36	#4	14'-1"	—
e2(E)	36	#4	14'-1"	—
e3	12	#4	7'-6"	—
e3(E)	12	#4	7'-6"	—
Class X Concrete		cu. Yds.	275.8	
Reinforcement Bars (Epoxy Coated)		Lbs.	6140	
Reinforcement Bars		Lbs.	64,460	
Concrete Removal		cu. Yds.	87	
Expansion Bolts 1/2" #		Each	300	

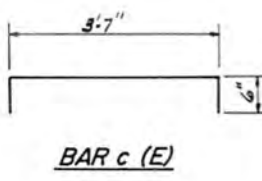
Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.



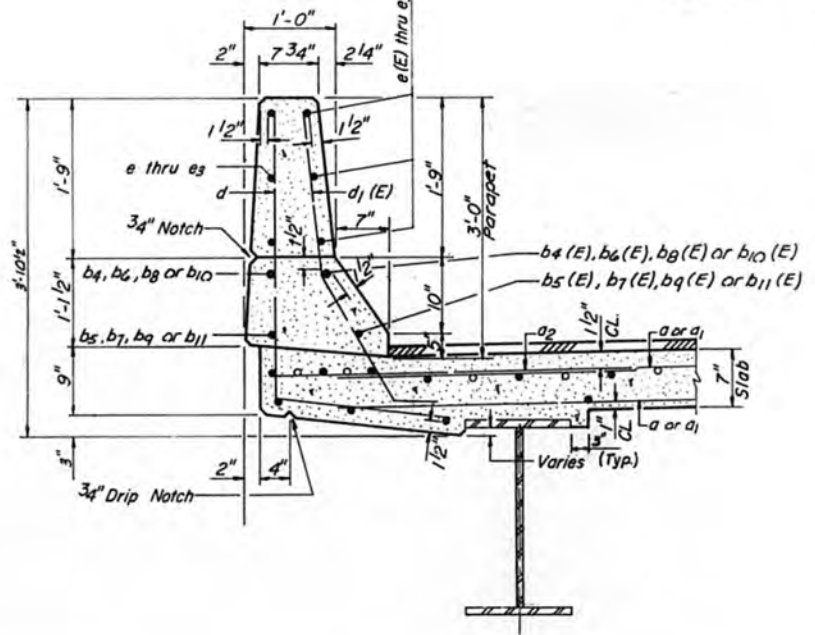
BAR d



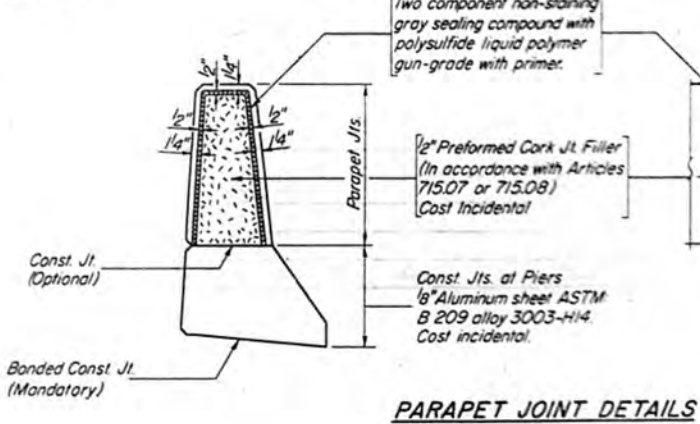
BAR d1(E)



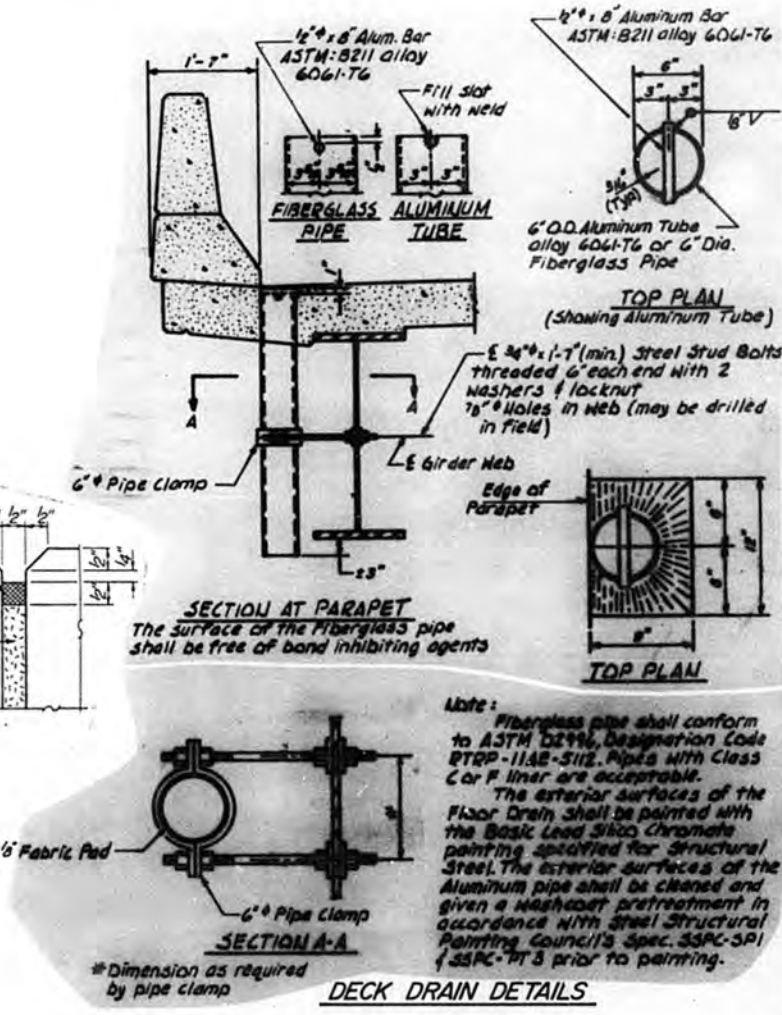
BAR c(E)



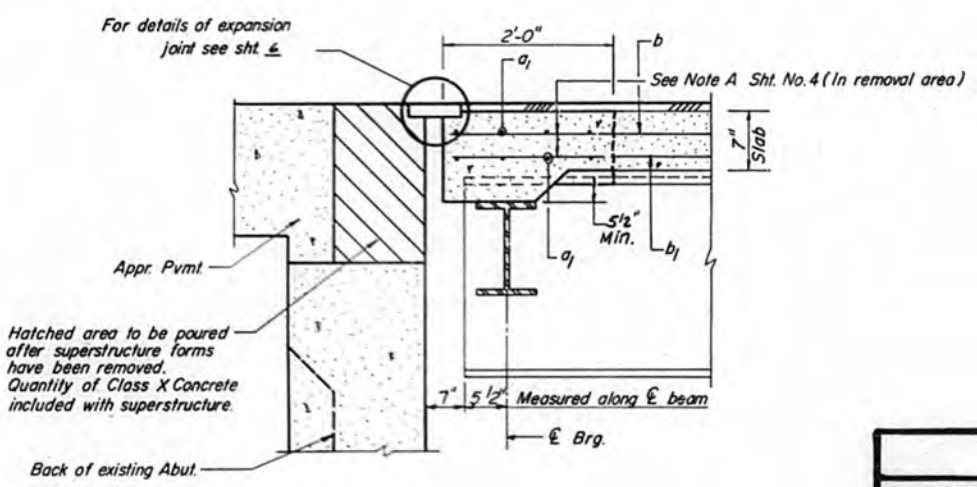
SECTION THRU PARAPET



PARAPET JOINT DETAILS



SECTION A-A DECK DRAIN DETAILS



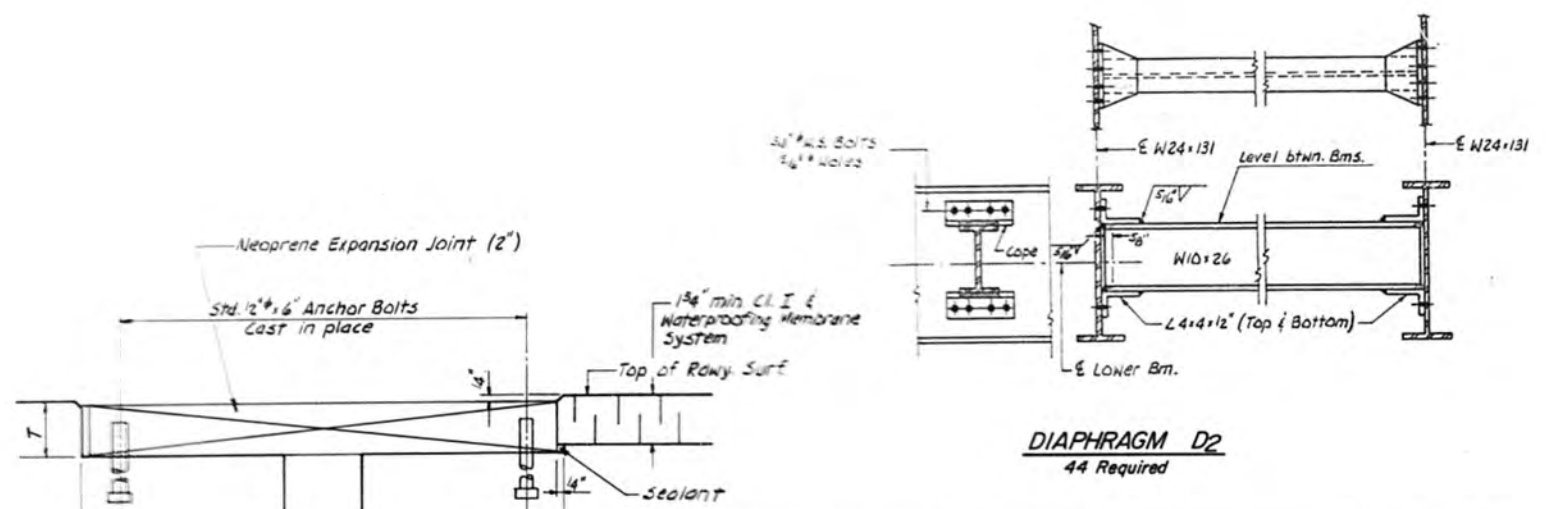
SECTION A-A

**SUPERSTRUCTURE DETAILS**

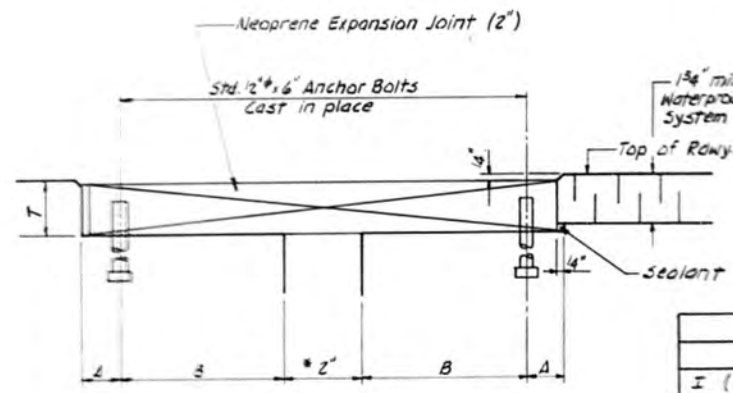
Date: 6/16/81  
 Revisions:  
 Surveyed  
 Designed D.L.C.  
 Drawn S.R.S.  
 Checked P.L.M.  
 Approved D.L.C.

F.A.I. RTE. 74 SEC. 90-14HB-1(BR)  
 TAZEWELL COUNTY  
 STA. 363 + 40.81

Sheet No. 5



**DIAPHRAGM D2**  
44 Required



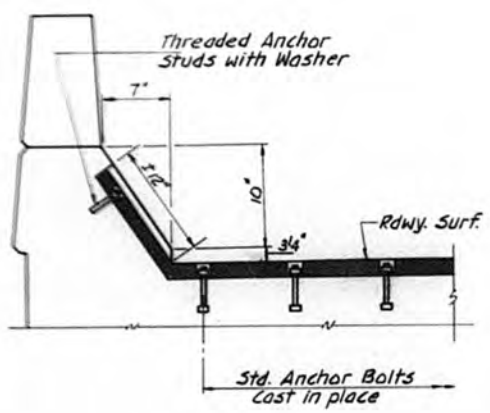
**CROSS SECTION**  
\* At 50°F  
Dimensions are at right angles

	** INTERIOR BEAM MOMENT TABLE				** EXT. BEAM
	0.4 Sp. 1 or 4	Pier 1 or 3	0.5 Sp. 2 or 3	Pier 2	Pier 2
I (in <sup>4</sup> )	4020	4020	4020	4020	4020
R (K/ft)	0.95	0.95	0.95	0.95	1.02
M R (K)	96.0	223.4	133.5	266.9	286.6
M I (K)	168.2	153.9	207.3	173.5	173.5
Imp. (K)	50.5	44.4	58.0	48.6	48.6
M TOTAL (K)	314.7	421.9	398.8	489.0	508.7
Fs (KSI)	11.47	15.39	14.55	17.89	18.55

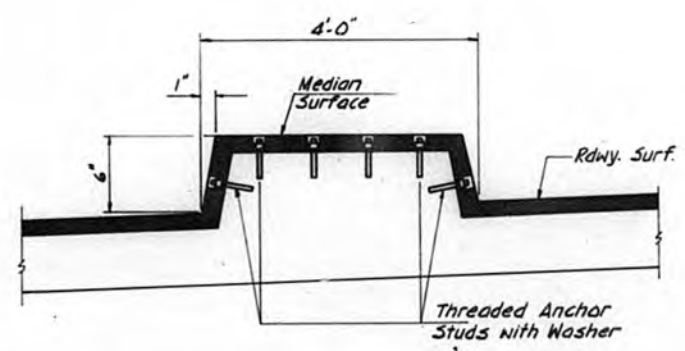
\*\* W24 x 131 Beams

	** INTERIOR BEAM REACTION TABLE		
	Abutment	Pier 1 or 3	Pier 2
R <sub>1</sub> (K)	13.6	50.8	55.2
R <sub>2</sub> (K)	23.8	30.8	30.6
Imp. (K)	7.1	8.9	8.6
R TOTAL (K)	44.5	90.5	94.4

Note: Joint openings shall be adjusted in accordance with Article 503.07 (c) of the Std. Specs when the deck is poured at an ambient temperature other than 50°F



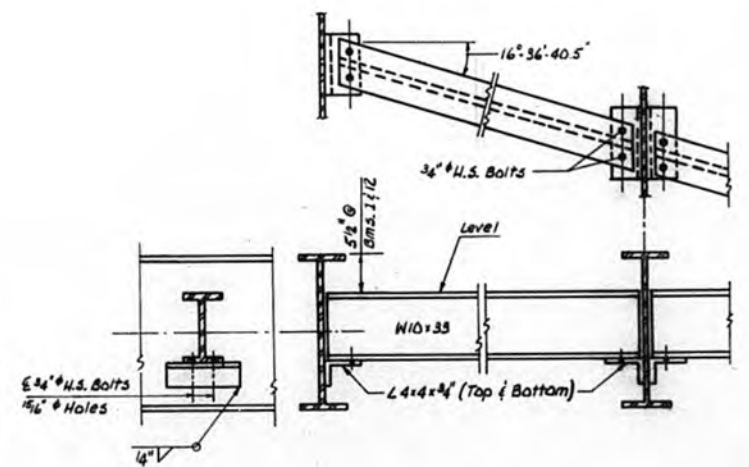
**AT CURBS**



**AT MEDIAN**

**ALTERNATE NEOPRENE EXPANSION JOINTS (2")**  
(See Special Provisions)

Model	Supplier	Blockout Dimensions
TRANSFLEX, MODEL 200A	General Tire Company	T=1 <sup>3</sup> / <sub>16</sub> " A=1 <sup>1</sup> / <sub>8</sub> " B=3 <sup>1</sup> / <sub>16</sub> "
FEL-SPAN, MODEL T-30 Set joint seal 1 <sup>5</sup> / <sub>8</sub> " @ 50°F	Fel-Pro Building Products, Inc.	T=1 <sup>3</sup> / <sub>4</sub> " A=2 <sup>1</sup> / <sub>4</sub> " B=2 <sup>1</sup> / <sub>16</sub> "
WABO ELASTODAM, TYPE 300 Set joint seal 1 <sup>5</sup> / <sub>8</sub> " @ 50°F	Watson Bowman Associates, Inc.	T=1 <sup>3</sup> / <sub>4</sub> " A=2 <sup>1</sup> / <sub>4</sub> " B=2 <sup>1</sup> / <sub>16</sub> "
WABO ALU-STRIP, TYPE III 5300 Set joint seal 1 <sup>1</sup> / <sub>2</sub> " @ 50°F	Watson Bowman Associates, Inc.	T=1 <sup>3</sup> / <sub>4</sub> " A=1 <sup>5</sup> / <sub>8</sub> " B=2 <sup>3</sup> / <sub>4</sub> "
LOW PROFILE ONFLEX-25 Set joint seal 1 <sup>1</sup> / <sub>2</sub> " @ 50°F Roadway bolt channel shall be filled with approved grout	Structural Accessories, Inc.	T=1 <sup>3</sup> / <sub>4</sub> " A=1 <sup>5</sup> / <sub>8</sub> " B=2 <sup>3</sup> / <sub>8</sub> "



**DIAPHRAGM D**  
8 Required

Hardened washers shall be required over all 1<sup>5</sup>/<sub>16</sub>" Holes (2/bolt)

**TYPICAL END TREATMENTS**

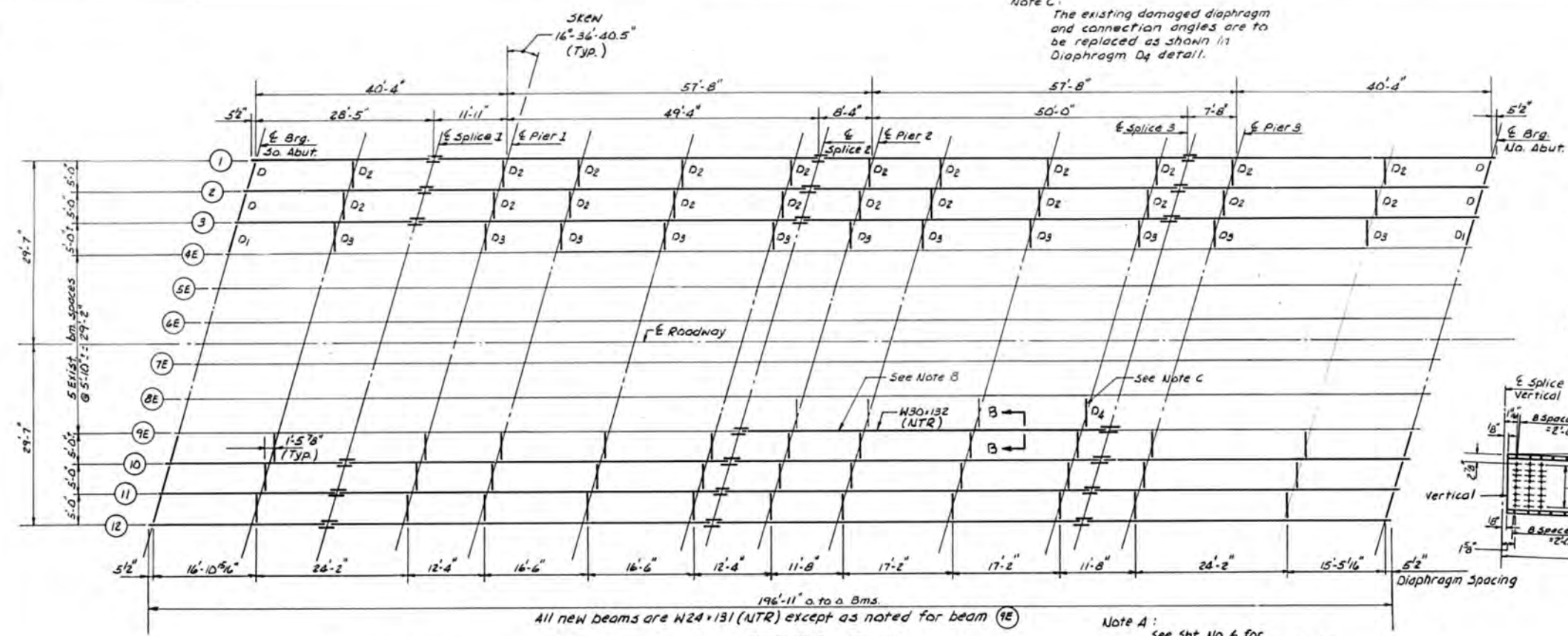
STRUCTURAL STEEL DETAILS			
NEOPRENE EXPANSION JOINTS (2")			
Date 6/16/81	Surveyed	F.A.I. RTE. 74 SEC. 90-14HB-1(BR) TAZEWELL COUNTY STA. 363+40.81	Sheet No.
Revisions	Designed D.L.C.		6
	Drawn S.R.S.		of 6
	Checked P.H.M.		
	Approved D.L.C.		

Note C: The existing damaged diaphragm and connection angles are to be replaced as shown in Diaphragm D<sub>4</sub> detail.

Note B: The existing damaged beam is to be removed between splices 2 & 3 and replaced w/ new W30x132. The existing splice plates are to be reused.

TOP OF BEAM ELEVATIONS (For Fabrication only)

Beams	1	2	3	10	11	12
E Brg. So. Abut.	729.80	729.86	729.92	729.79	729.69	729.60
E Splice 2	729.98	730.05	730.11	730.02	729.93	729.84
E Pier 1	730.02	730.09	730.16	730.08	729.99	729.91
E Splice 2	730.20	730.28	730.35	730.34	730.26	730.18
E Pier 2	730.17	730.24	730.32	730.32	730.24	730.17
E Splice 3	729.99	730.08	730.17	730.24	730.17	730.10
E Pier 3	729.93	730.02	730.11	730.19	730.12	730.05
E Brg. No. Abut.	729.60	729.69	729.79	729.92	729.84	729.80

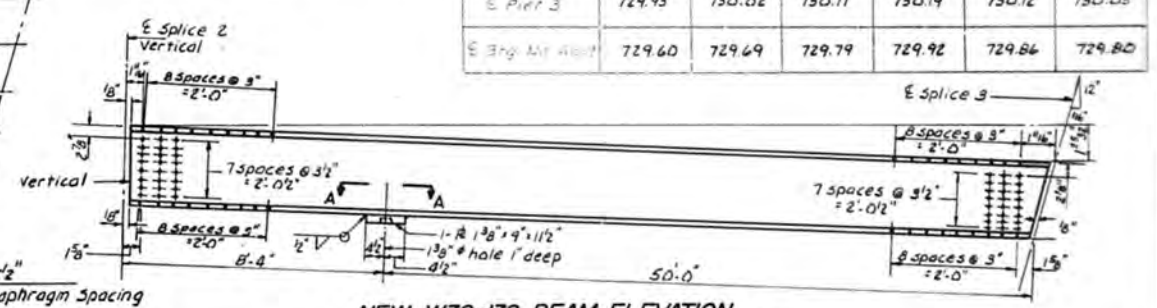


FRAMING PLAN

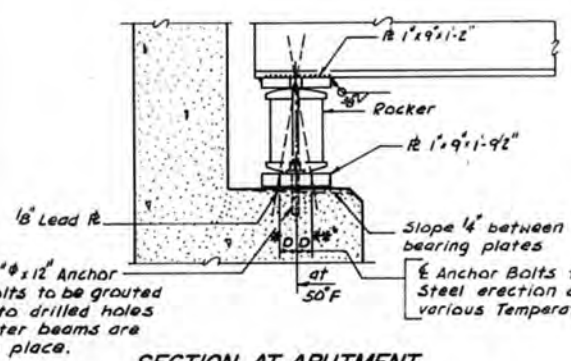
Note: NTR indicates those components to which notch toughness requirements are applicable.

Note A: See Sht. No. 6 for details of Diaphragms D<sub>1</sub> & D<sub>2</sub>

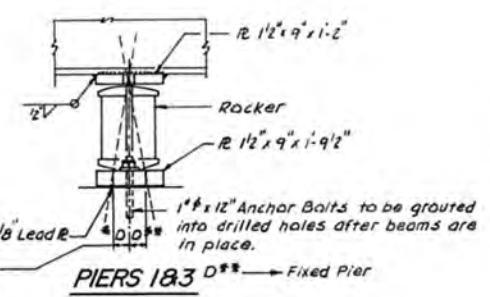
SEC. A-A (1 - R. Required)



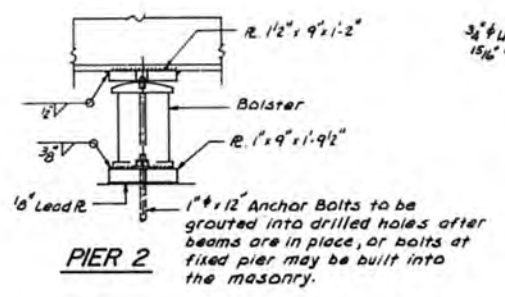
NEW W30x132 BEAM ELEVATION AND BLOCKING DIAGRAM



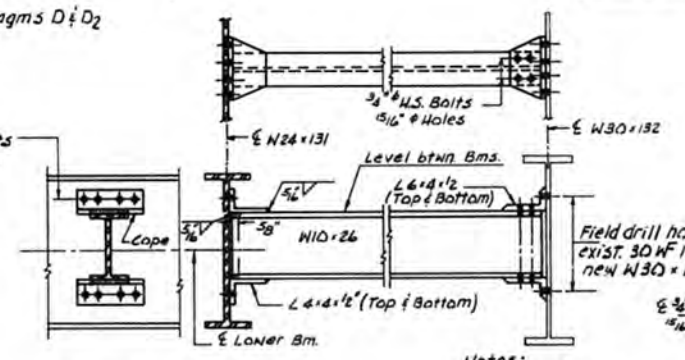
SECTION AT ABUTMENT



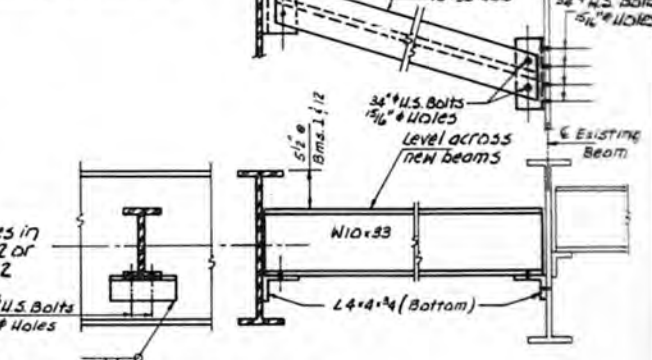
PIERS 1&3



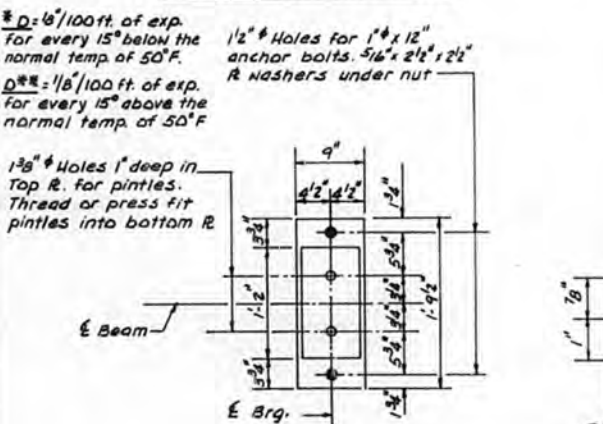
PIER 2



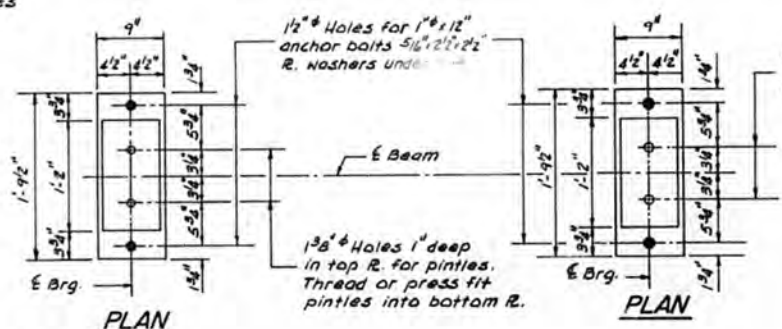
DIAPHRAGM D<sub>3</sub> 22 Required



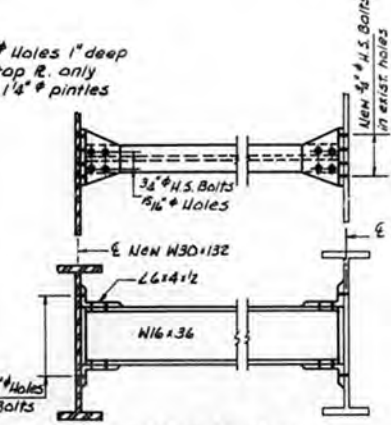
DIAPHRAGM D<sub>1</sub> 4 Required



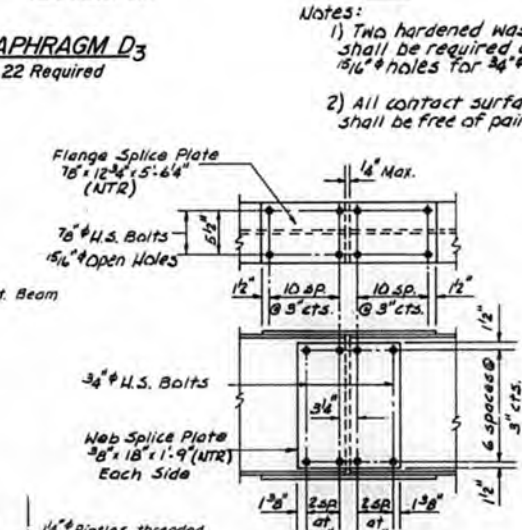
PLAN



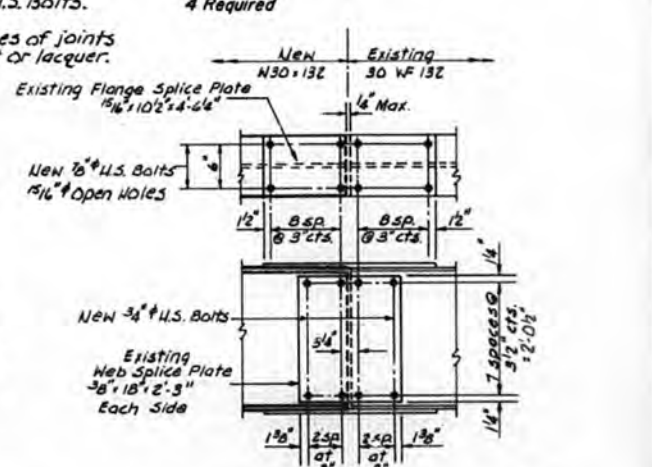
PLAN



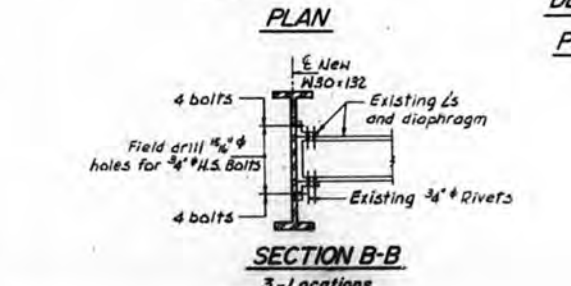
DIAPHRAGM D<sub>4</sub> 1 Required



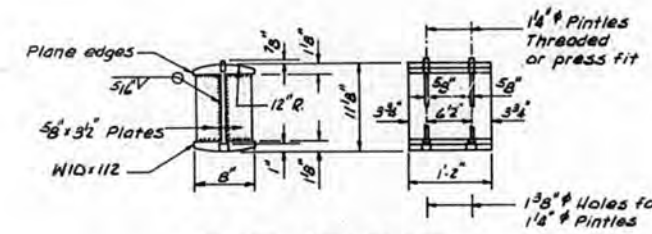
DETAIL OF SPLICE - W24x131 18 Required



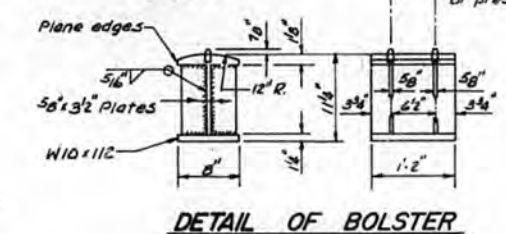
DETAIL OF SPLICE - W30x132 (see Beam Elevation) 2 Locations



SECTION B-B 3 Locations



DETAIL OF ROCKER AT ABUTS. & PIERS 1&3



DETAIL OF BOLSTER AT PIER 2

STRUCTURAL STEEL DETAILS		
Date 6/16/81	Surveyed	F.A.I. RTE. 74 SEC. 90-14HB-1(BR) TAZEWELL COUNTY STA. 363+40.81
Revisions	Designed D.L.C.	
	Drawn S.R.S.	
	Checked P.H.M.	
	Approved D.L.C.	
Prepared by: WVP CORPORATION Consulting Engineers-Architects-Planners Decatur, Illinois - St. Louis, Missouri		



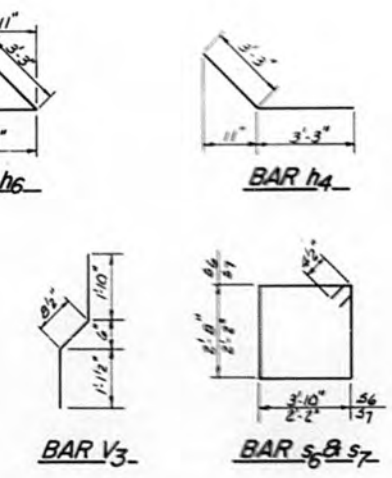
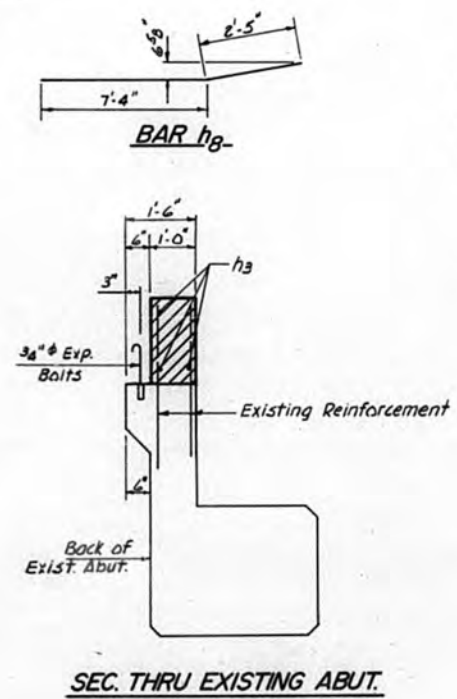
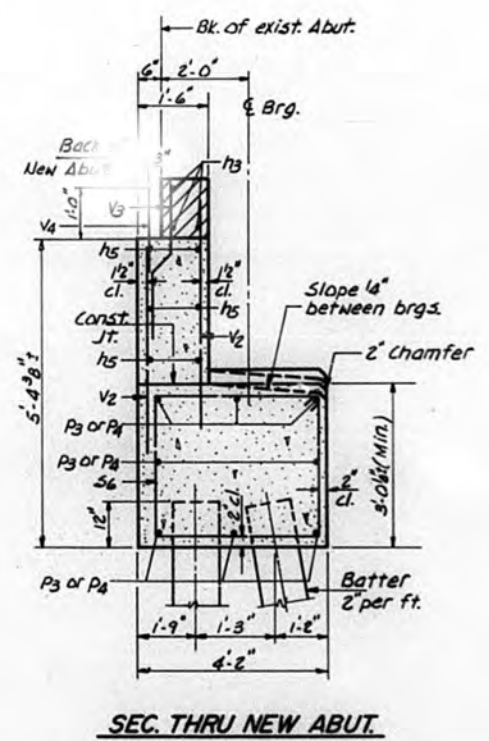
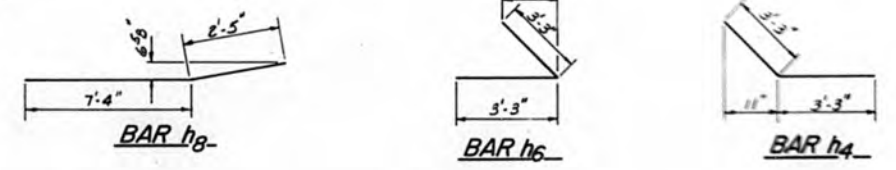
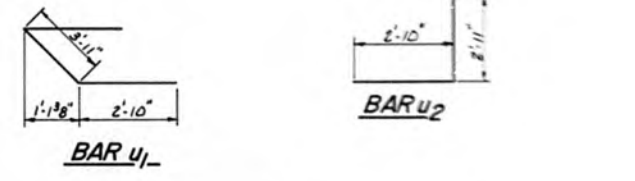
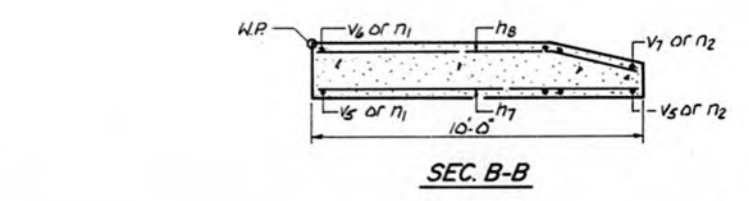
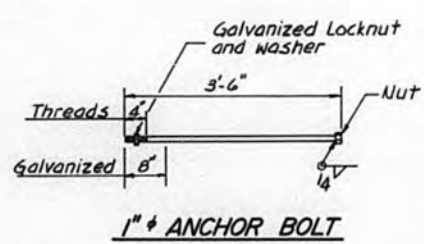
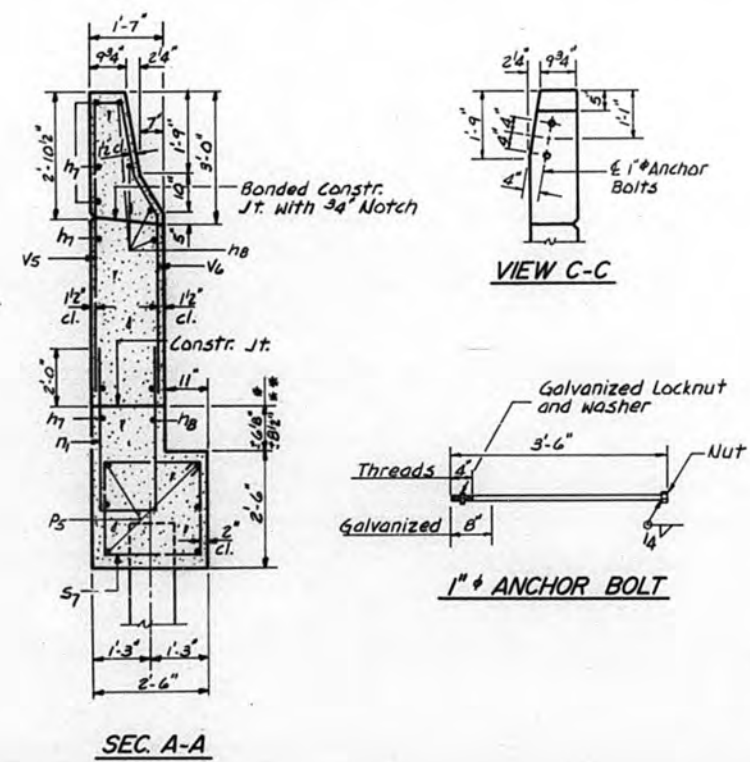
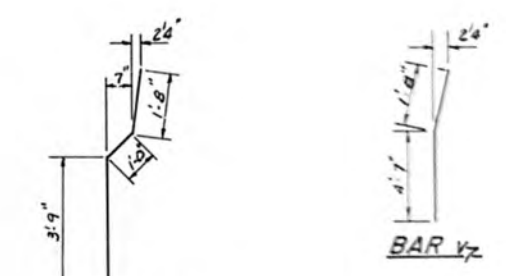
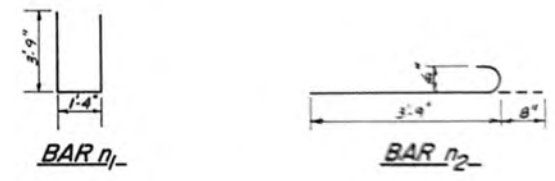
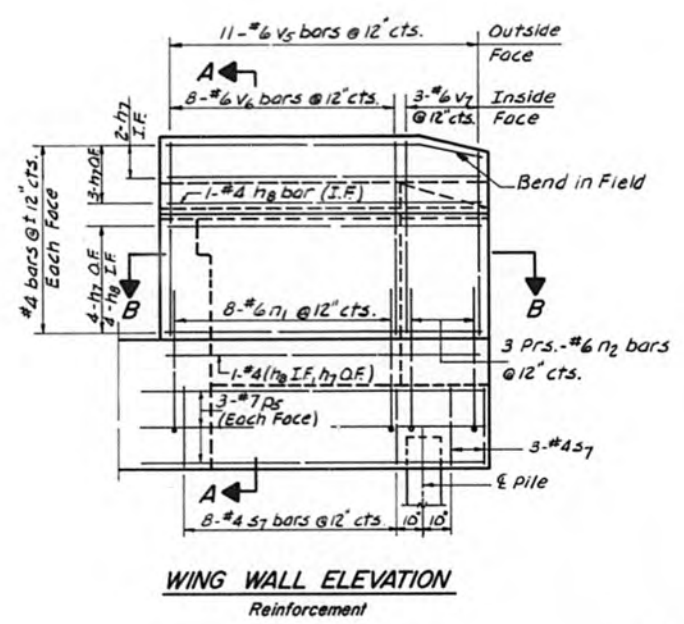
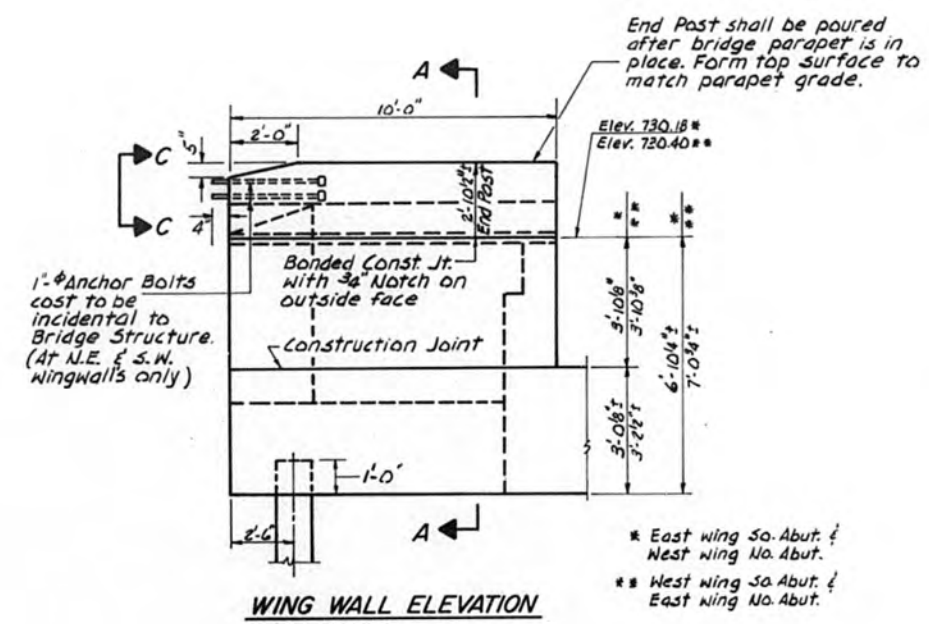




**TWO ABUTMENTS  
BILL OF MATERIAL**

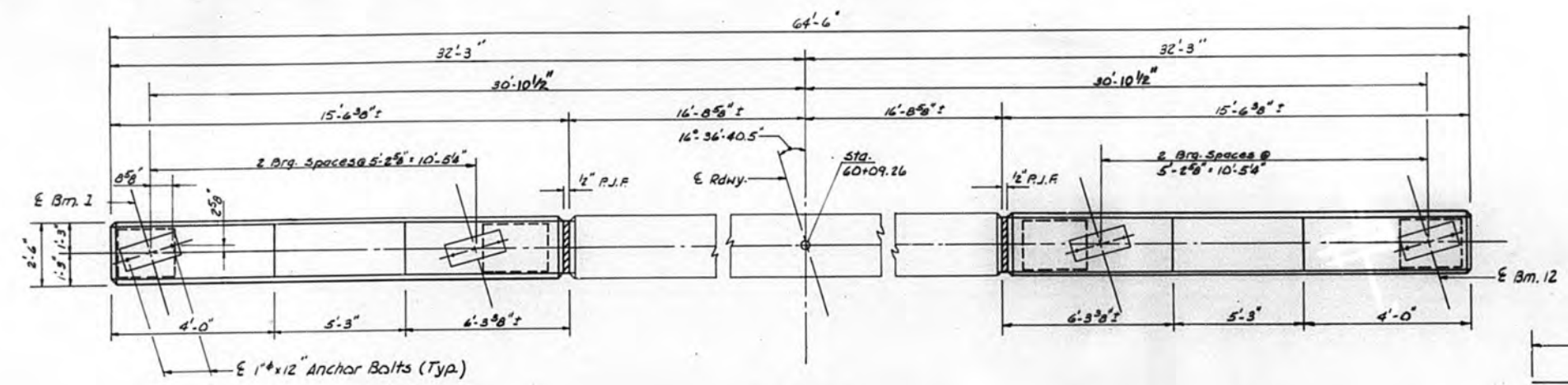
Bar	No.	Size	Length	Shape
h3	12	#6	33'-3"	—
h4	20	#5	6'-6"	∟
h5	24	#5	18'-3"	—
h6	20	#5	6'-6"	∟
h7	40	#4	9'-9"	—
h8	24	#4	9'-9"	—
h9	4	#4	3'-8"	—
n1	32	#6	8'-10"	⊔
n2	24	#6	4'-5"	⊔
p3	16	#7	16'-2"	—
p4	16	#7	15'-3"	—
p5	24	#7	9'-9"	—
s6	64	#4	13'-9"	⊔
s7	44	#4	9'-5"	⊔
u1	8	#6	9'-7"	⊔
u2	8	#6	8'-7"	⊔
v1	20	#4	2'-3"	—
v2	128	#4	4'-9"	—
v3	64	#4	3'-8"	—
v4	64	#5	2'-8"	—
v5	44	#6	6'-5"	—
v6	32	#6	6'-5"	—
v7	12	#6	6'-3"	—
Class X Concrete		Cu. Yds.	61.6	
Reinforcement Bars		Lbs.	6440	
Concrete Removal		Cu. Yds.	14	
Expansion Bolts 3/4" φ		Each	80	
Concrete Piles		Lin. Ft.	586	
Test Piles		Each	1	

Note: Work this sheet w/ sheets No. 8 & 9

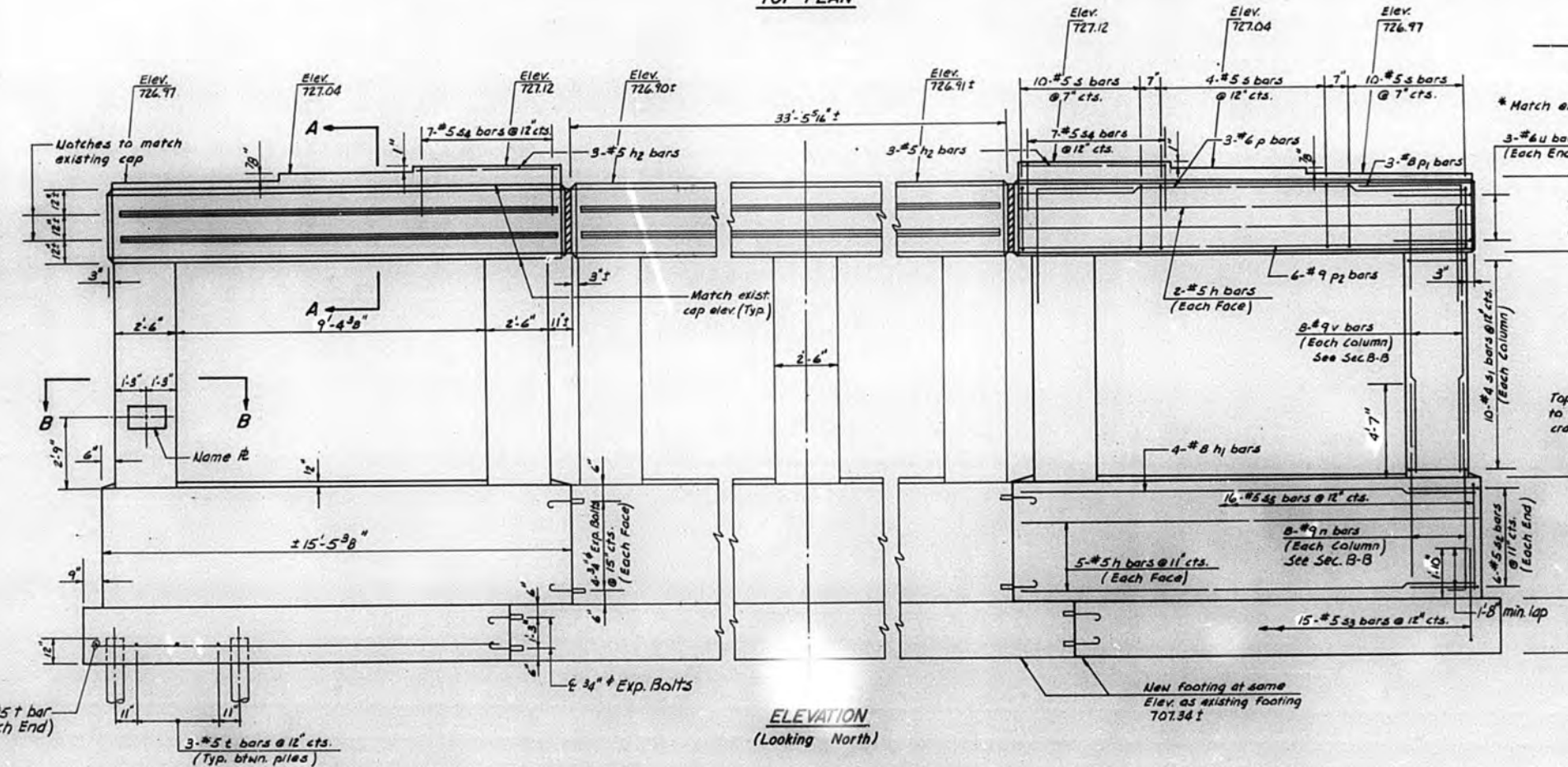


ABUTMENT DETAILS		Sheet No.
Date 6/16/81	Designed D.L.C.	10
Revisions	Drawn S.R.S.	
	Checked R.N.M.	
	Approved D.C.G.	
<p>FA.I. RTE. 74 SEC. 90-14HB-1(BR) TAZEWELL COUNTY STA. 363+40.81</p>		
<p>Prepared by: WVP CORPORATION Consulting Engineers - Architects - Planners Deatur, Illinois - St. Louis, Missouri</p>		WVP Job No. D0101

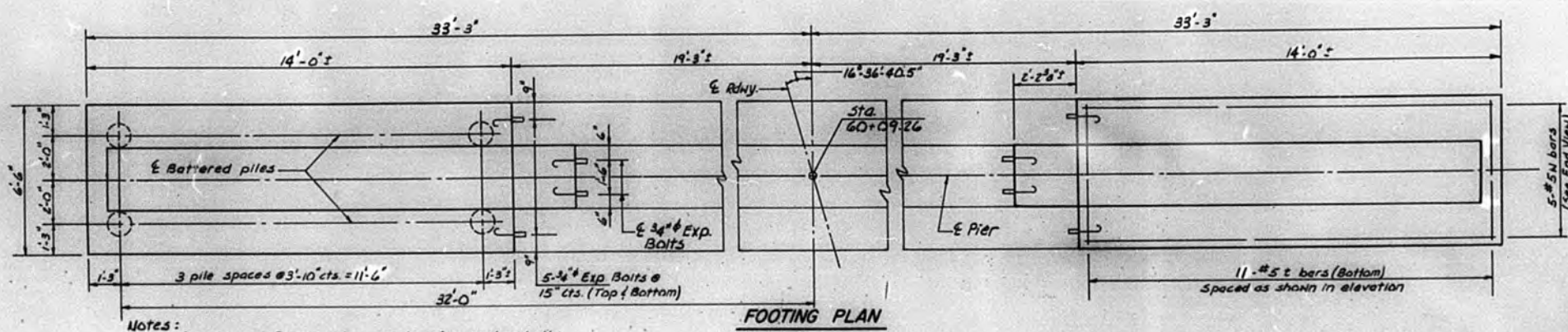




**TOP PLAN**

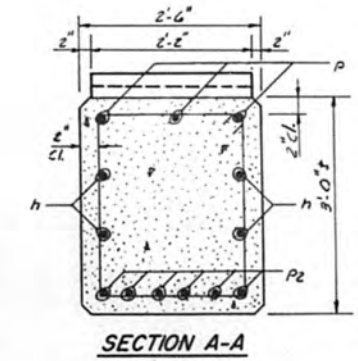


**ELEVATION (Looking North)**

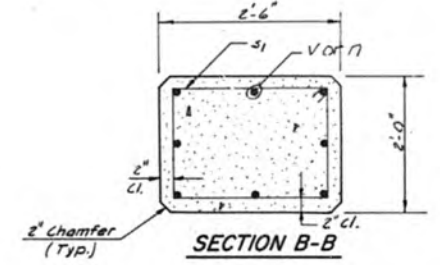


**FOOTING PLAN**

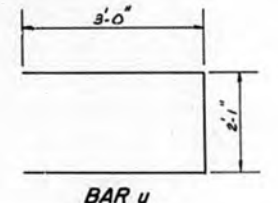
- Notes:
- 1) Space reinforcement in cap to miss anchor bolts.
  - 2) All edges shall have standard 3/4" chamfer except as noted.
  - 3) Pour steps monolithically with cap.



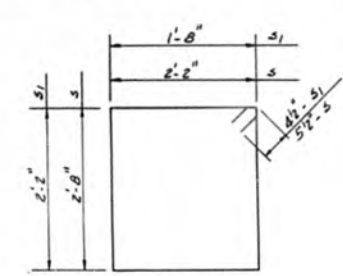
**SECTION A-A**



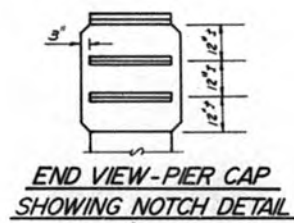
**SECTION B-B**



**BAR u**



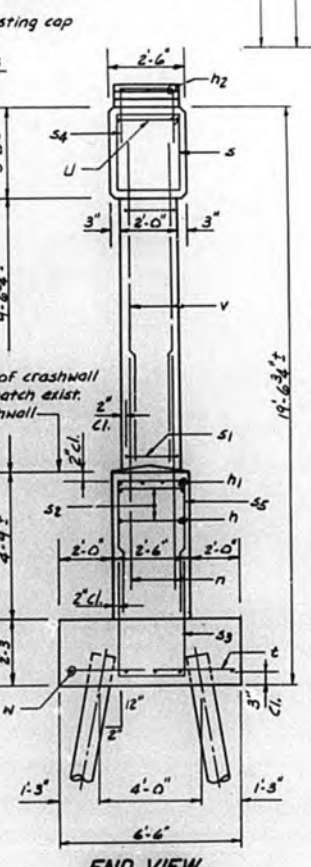
**BARS s & s1**



**END VIEW-PIER CAP SHOWING NOTCH DETAIL**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h	28	#5	15'-11"	—
h1	8	#8	15'-11"	—
h2	6	#5	5'-9"	—
n	32	#9	9'-2"	—
p	6	#6	15'-11"	—
p1	12	#8	4'-2"	—
p2	12	#9	15'-11"	—
s	48	#5	10'-7"	—
s1	40	#4	8'-5"	—
s2	12	#5	5'-5"	—
s3	30	#5	9'-10"	—
s4	14	#5	5'-6"	—
s5	32	#5	11'-0"	—
t	22	#5	6'-2"	—
u	6	#6	8'-1"	—
v	32	#9	10'-3"	—
w	10	#5	13'-8"	—
Class X Concrete			Cu. Yds.	44.3
Reinforcement Bars			Lbs.	5890
Crested Piles 20' to 30'			Lin. Ft.	375
Expansion Bolts (3/4")			Ea.	36
Test Pile Timber			Ea.	1



**END VIEW**



**NOTCH DETAIL**

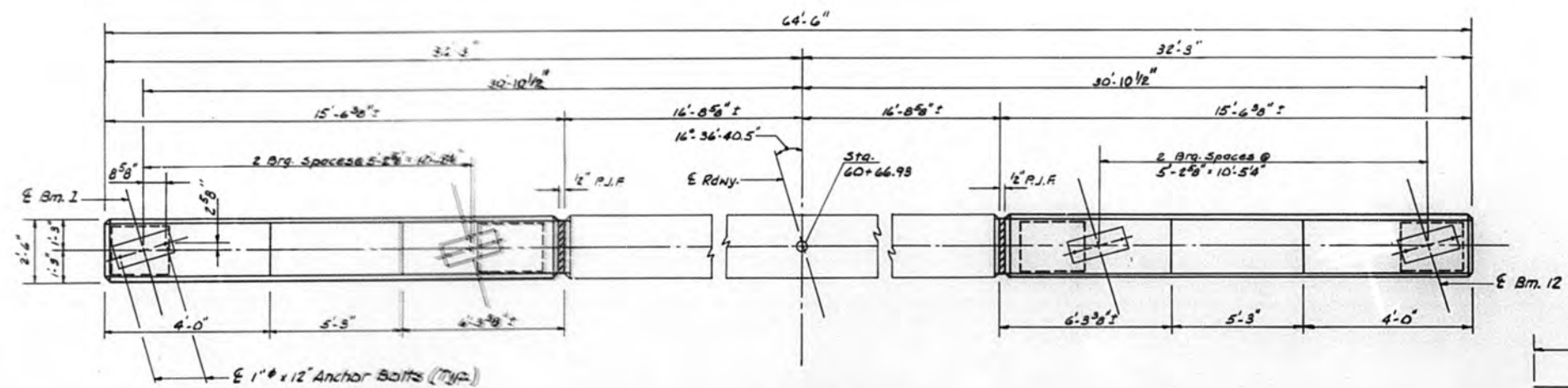
**PILE DATA**

Type: Crested  
Capacity: 24 Tons  
Est. Length: 25'  
No. Required: 15 plus 1 test pile

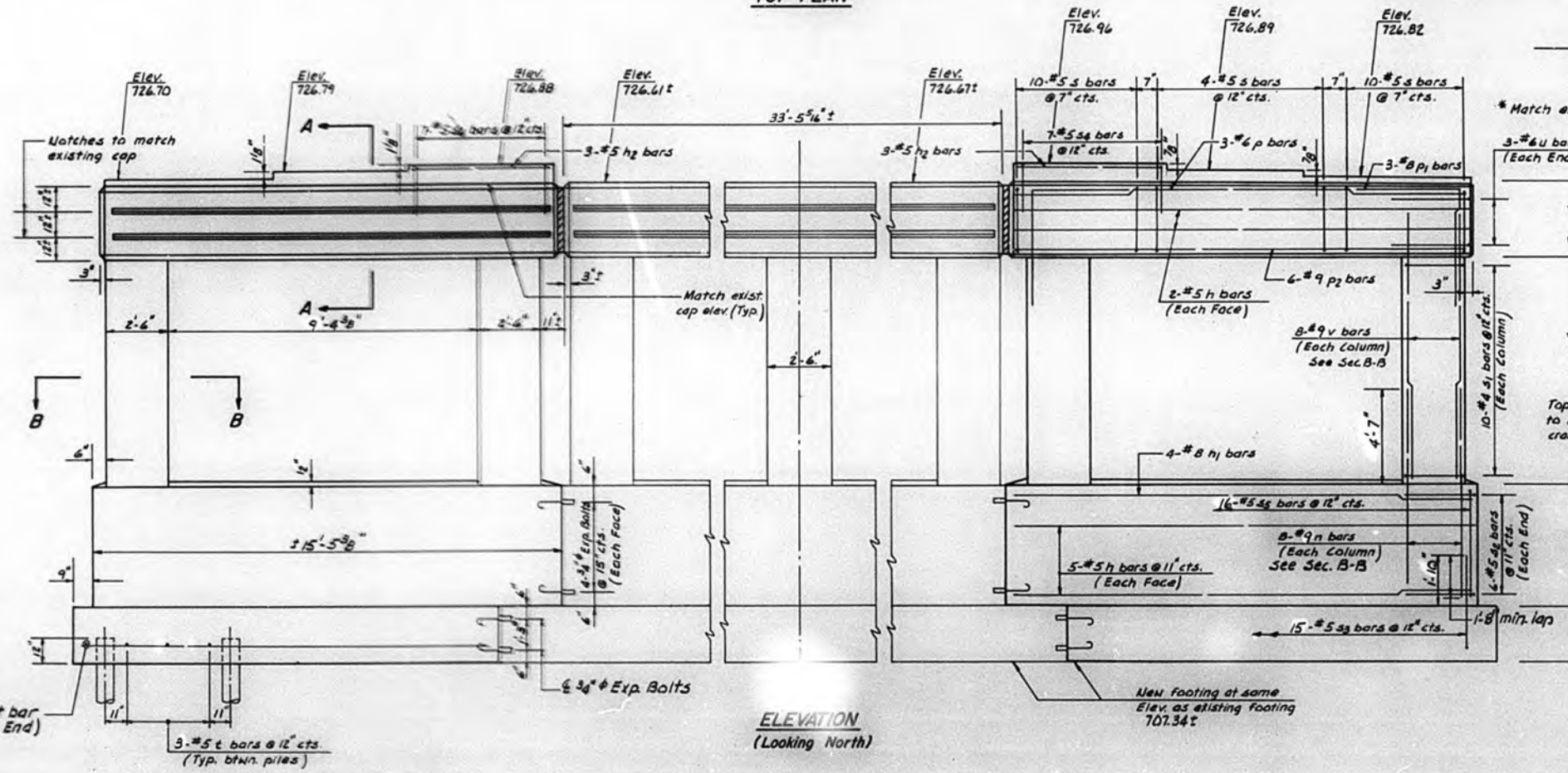
**BAR s2 & s4**

**BAR p1**

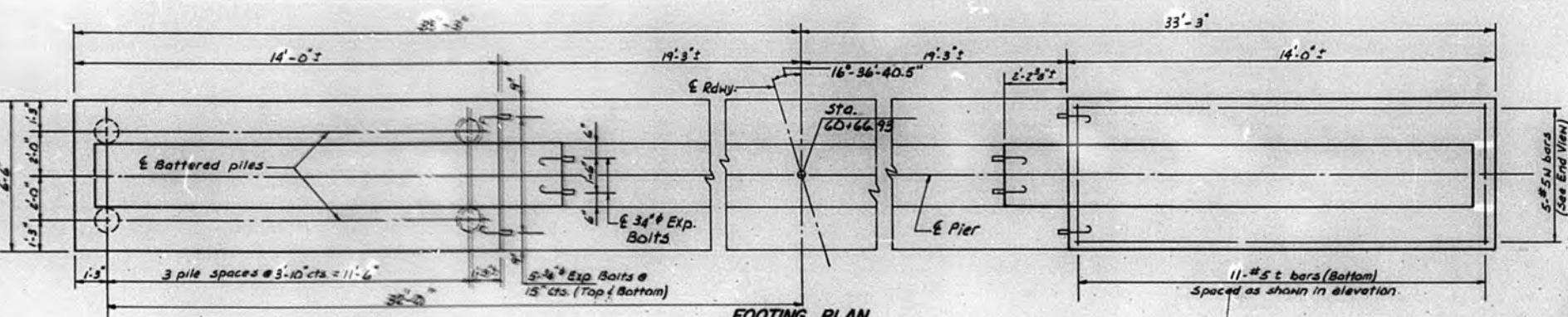
<b>PIER NO. 2</b>		F.A.I. RTE. 74 SEC. 90-14HB-1(BR) TAZEWELL COUNTY STA. 363+40.81	Sheet No. <b>12</b>
Date: 6/16/81	Revisions:		
Surveyed	Designed: D.L.C.	of 10 WVP Job No. DOHBI	
Drawn: S.R.S.	Checked: P.H.M.		
Approved: D.C.C.			
Prepared by: WVP CORPORATION			
Consulting Engineers-Architects-Planners Decatur, Illinois - St. Louis, Missouri			



TOP PLAN

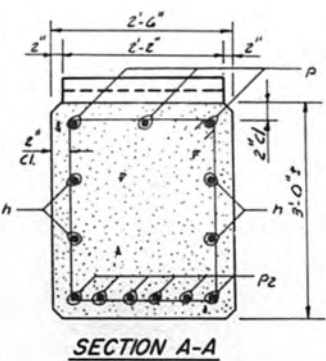


ELEVATION  
(Looking North)

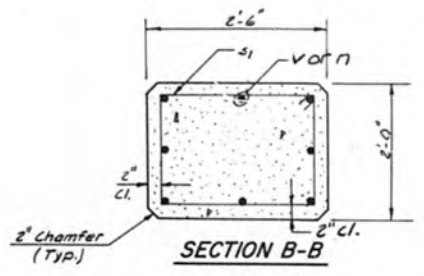


FOOTING PLAN

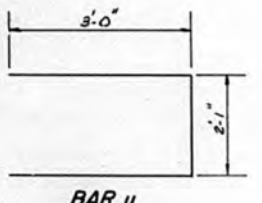
- Notes:
- 1) Space reinforcement in cap to miss anchor bolts.
  - 2) All edge shall have standard 3/4" chamfer except as noted.
  - 3) Pour steps monolithically with cap.



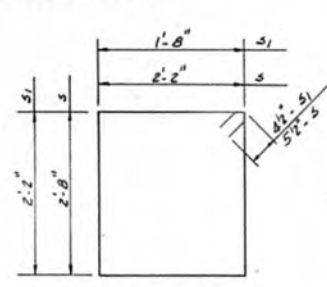
SECTION A-A



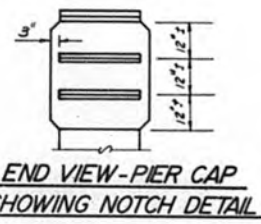
SECTION B-B



BAR u



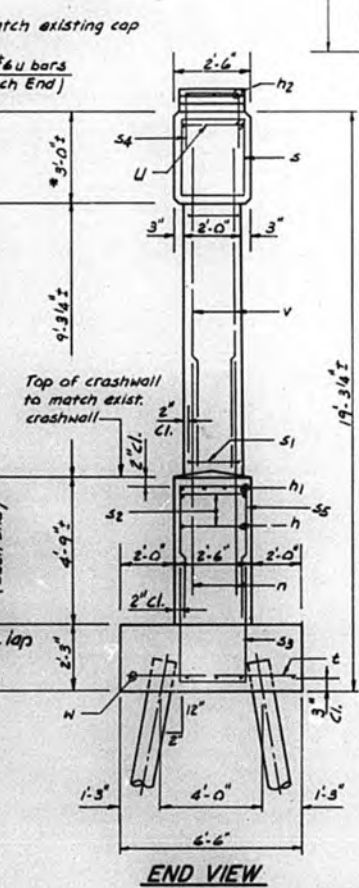
BARS s & s1



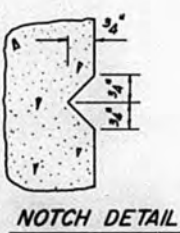
END VIEW-PIER CAP  
SHOWING NOTCH DETAIL

BILL OF MATERIAL

Bar	No	Size	Length	Shape
h	28	#5	15'-1"	—
h1	8	#8	15'-1"	—
h2	6	#5	5'-9"	—
n	32	#9	9'-2"	—
P	6	#6	15'-1"	—
P1	12	#8	9'-2"	—
P2	12	#9	15'-1"	—
s	48	#5	10'-7"	—
s1	40	#4	8'-5"	—
s2	12	#5	5'-5"	—
s3	30	#5	9'-10"	—
s4	14	#5	5'-6"	—
s5	32	#5	11'-0"	—
t	22	#5	6'-2"	—
U	6	#6	8'-1"	—
V	32	#9	10'-3"	—
N	10	#5	13'-8"	—
Class X Concrete			cu yds.	44.3
Reinforcement Bars			Lbs.	5890
Creosoted Piles 20" to 30"			Lin. Ft.	400
Expansion Bolts (3/4")			Ea.	36



END VIEW



NOTCH DETAIL

PILE DATA

Type: Creosoted  
Capacity: 24 Tons  
Est. Length: 25'  
No. Required: 16

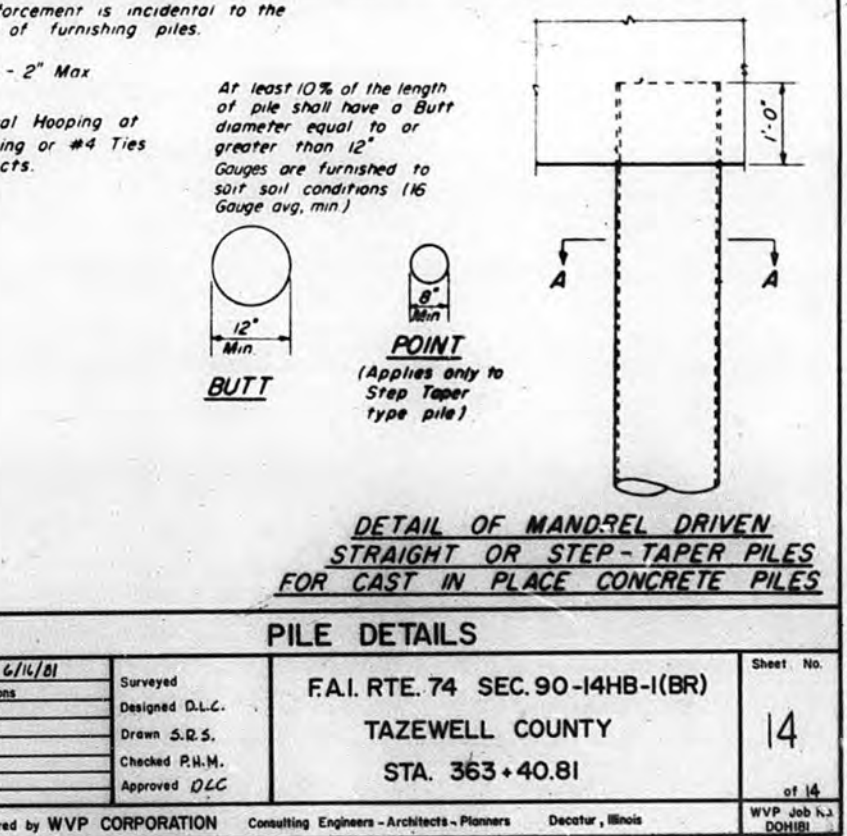
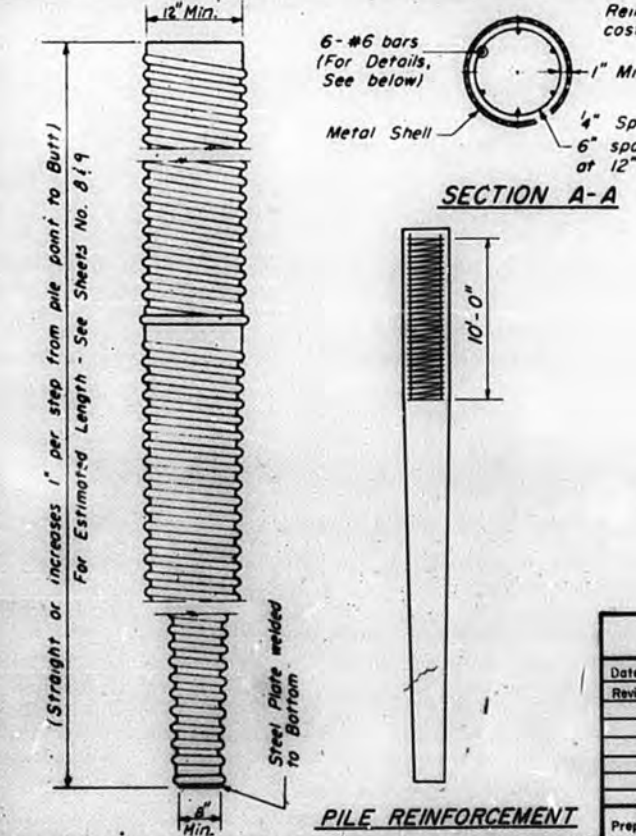
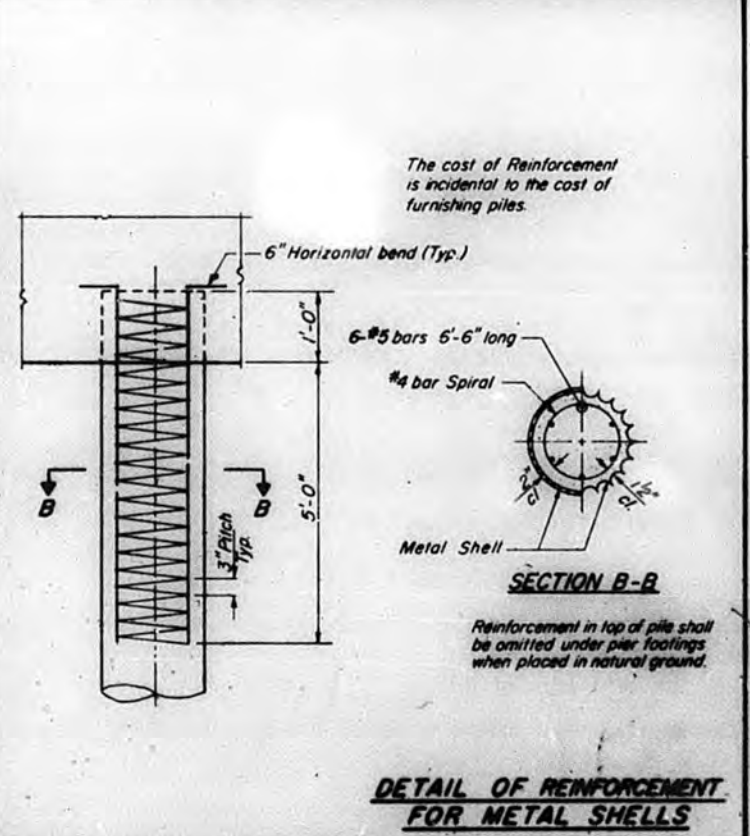
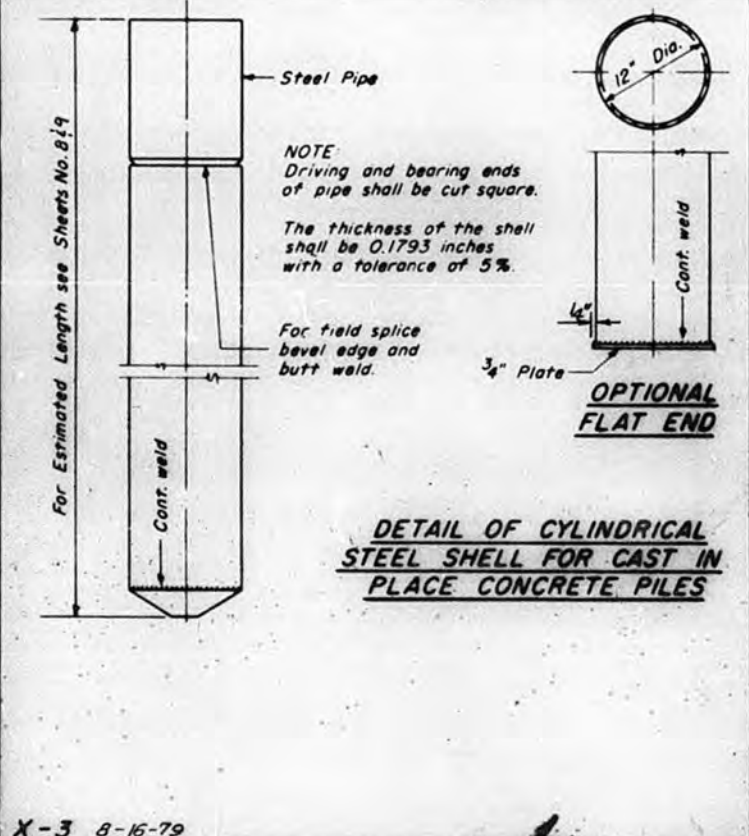
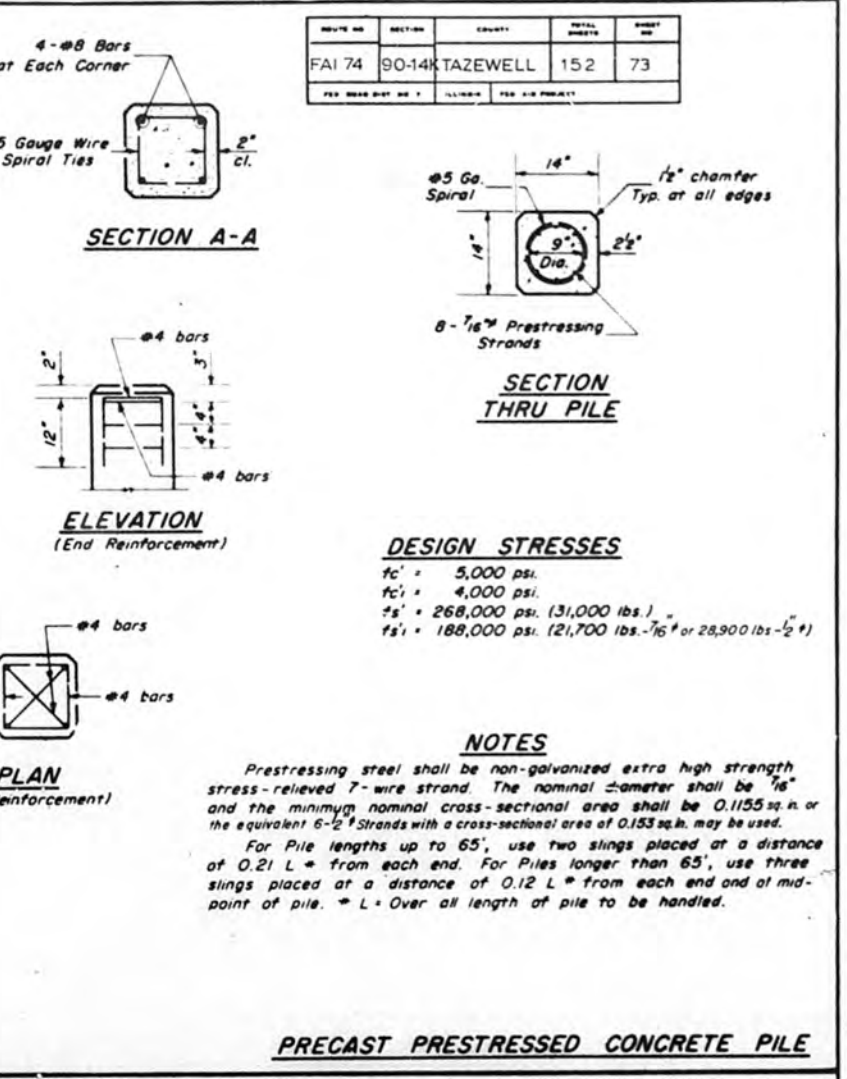
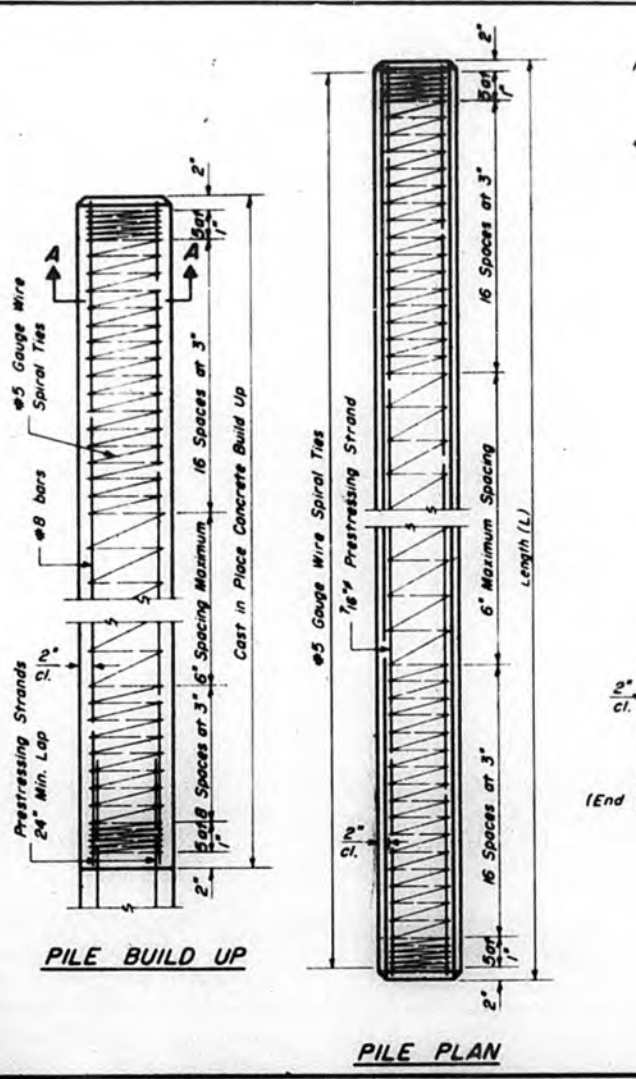
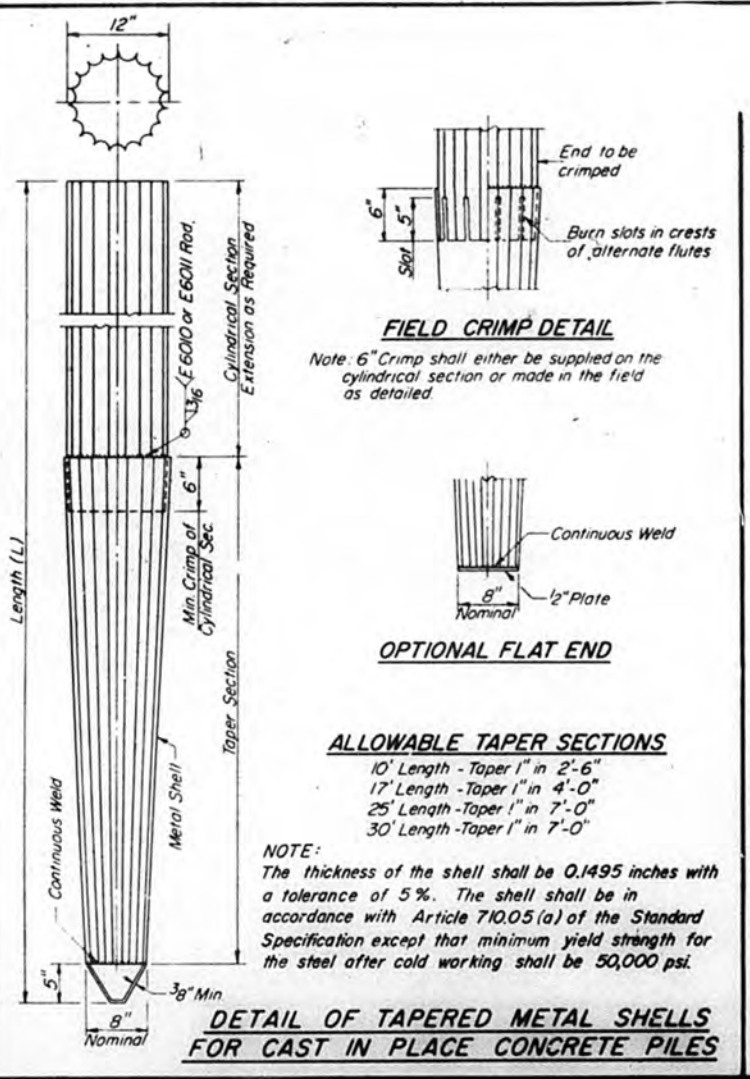
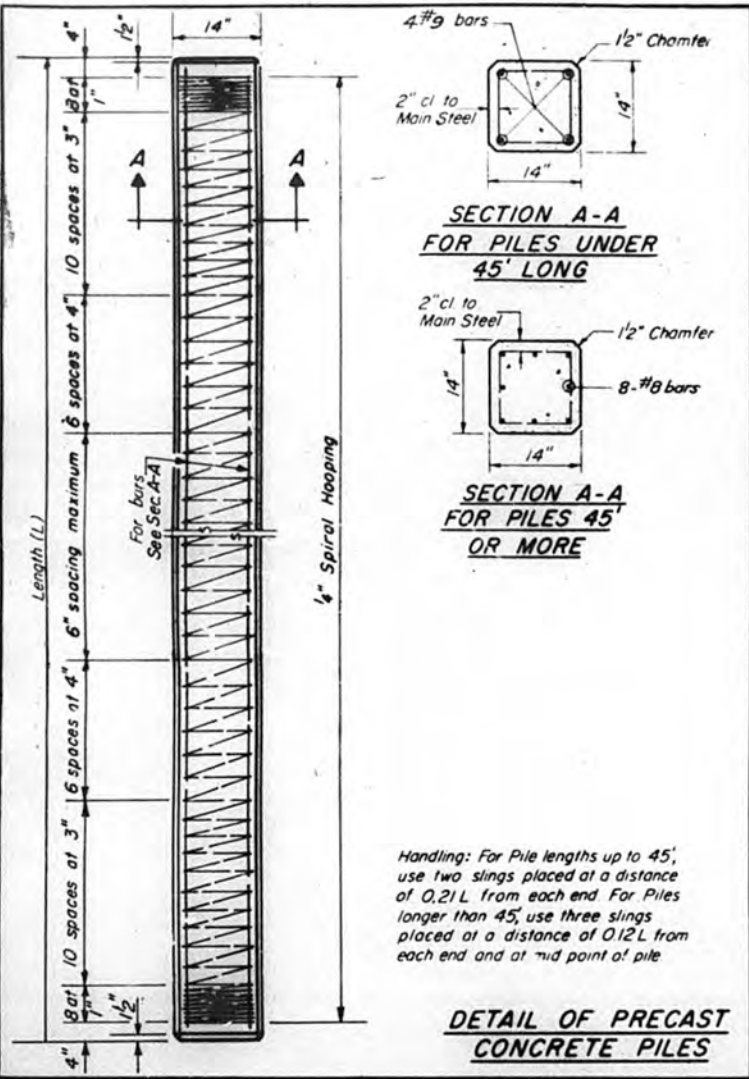
BAR s2 & s4

BAR P1

PIER NO. 3

FA.I. RTE. 74 SEC. 90-14HB-I(BR)  
TAZEWELL COUNTY  
STA. 363+40.81

Date 6/16/81	Surveyed
Revisions	Designed D.L.C.
	Drawn S.R.S.
	Checked P.H.M.
	Approved D.L.C.



PILE DETAILS			
Date 6/14/81	Surveyed	F.A.I. RTE. 74 SEC. 90-14HB-1(BR)	Sheet No.
Revisions	Designed D.L.C.	TAZEWELL COUNTY	14
	Drawn S.R.S.	STA. 363+40.81	of 14
	Checked P.H.M.		
	Approved D.L.C.		
Prepared by WVP CORPORATION Consulting Engineers - Architects - Planners Decatur, Illinois WVP Job No. DOH181			