Clinton Sec. 127 BR & 127 BR-1 1 R June 30, 1989 #26

014-0010

INDEX OF SHEETS

977
12-24-90

STANDARDS

1686-4	2298-7	2324-6
2113-2	2299-10	2336-4
2228-4	2300-3	2341-1
2230-15	2306-6	2382-2
2239-7	2323-11	2383-1
	2308-5	2381
		2396
		2409-1

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

PLAN	0	50	100	150	200
PROFILE HORZ.	0	50	100	150	200
PROFILE VERT.	0	5	10	15	20
CROSS-SECTIONS HORZ.	0	10	20	30	40
CROSS-SECTIONS VERT.	0	5	10	15	20

F.A.P. ROUTE 805 (ILL. RTE.161) SECTION 127BR & 127 BR-1
PROJECT ACBHF-805(37), CLINTON COUNTY

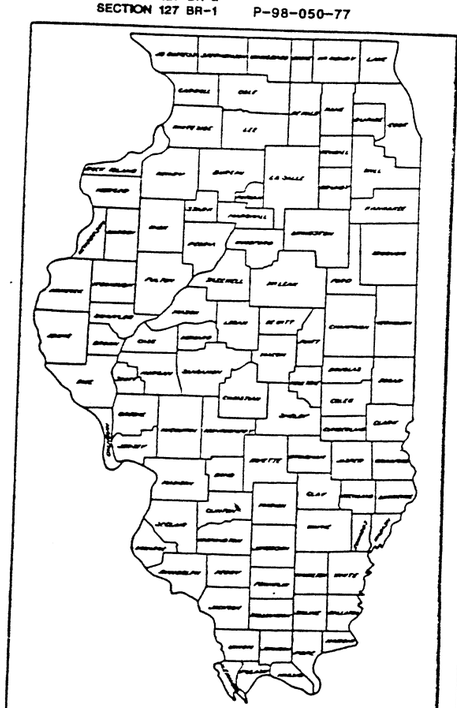
BRIDGE REPLACEMENT

C - 98 - 011 - 86

3rd P.M.

F.A. ROUTE NO	SEC.	COUNTY	TOTAL SHEETS	SHEET NO
F.A.P. 805	*	CLINTON	84	1
ILLINOIS		PROJECT ACBHF-805(37)		

* SECTION 127 BR & SECTION 127 BR-1 P-98-050-77



LOCATION OF SECTION INDICATED THUS:-

SECTION 127 BR - BEGINS STA. 1396 + 95

SECTION 127 BR: BRIDGE REPLACEMENT

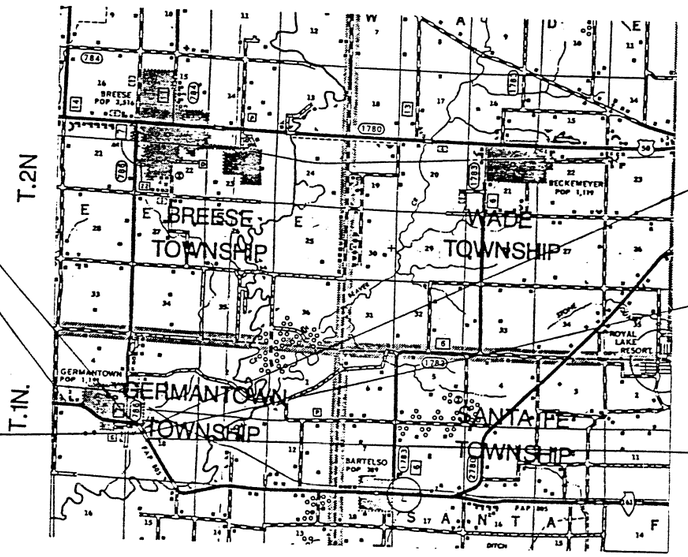
EXISTING STRUCTURE CONSISTS OF AN 8- SPAN, @ ± 50' EACH = ± 400; 24' WIDE R.C.C. DECK WITH CONCRETE HANDRAILS ON STEEL STRINGERS ON PILE BENT ABUTMENTS AND PIERS.

014-0009

SECTION 127 BR- ENDS STA. 1416 + 25

NET LENGTH OF SECTION

1930 FEET = 0.366 MILES



LOCATION PLAN

2 1 0 1 2

GRAPHIC SCALE IN MILES

SECTION 127 BR-1 BEGINS STA. 1416 + 25

SECTION 127 BR-1 BRIDGE REPLACEMENT

EXISTING STRUCTURE CONSISTS OF A 9 SPAN, @ ± 50' EACH = ±450; 24 WIDE R.C.C. DECK WITH CONCRETE HANDRAILS ON STEEL STRINGERS ON PILE BENT ABUTMENTS AND PIERS.

014-0010

SECTION 127 BR-1 - ENDS STA. 1435 + 50

NET LENGTH OF SECTION

1925 FEET = 0.365 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED May 12, 89
Earl E Klohr
EXAMINED Harm D Gould
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

CONTRACT NO. 96105

CLINTON COUNTY SECTION 127BR, 127BR-1 F. A. ROUTE 805

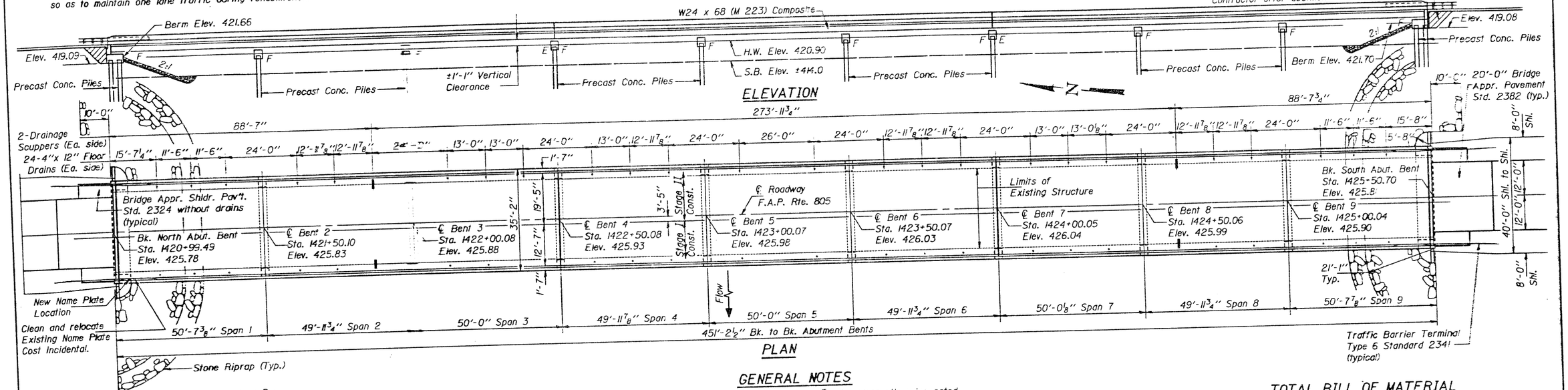
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 805	127BR-1	Clinton	84	48

SHEET NO. 1
28 SHEETS

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

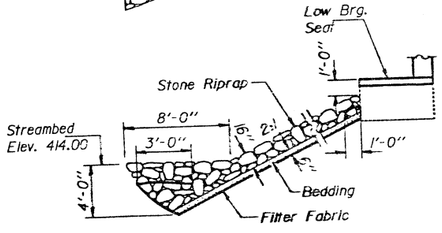
Bench Mark: Chiseled " □ " on curb, N.E. corner of bridge. Elev. 426.32
Existing Structure: No. 014-0010 is 451'-2" long by 27'-6" wide. Built as S.B.I. Route 161, Section 127B&C at Sta. 1423+25 in 1934. The existing substructure shall be widened in kind and a new superstructure built utilizing stage construction so as to maintain one lane traffic during rehabilitation.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

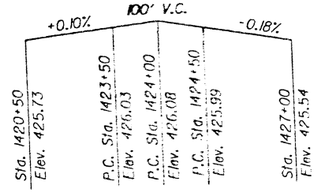


ELEVATION

PLAN



STONE RIPRAP ANCHOR DETAIL



PROFILE GRADE

F.A.P. Route 805
Along ℄ Roadway

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts ⅞"ϕ, open holes ⁵⁄₁₆"ϕ, unless otherwise noted.
Calculated weight of Structural Steel = 51,100 lbs. (M183) and 224,450 lbs. (M223, Grade 50)
The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel. The color of the final field coat shall be Munsell Standard 7.5G 4/8 Interstate Green.
Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from bents 2, 3, 5, 6, 8 and 9. Field welding in other areas will be permitted only when approved by the Engineer.
Anchor bolts shall be set before bolting diaphragms over supports.
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material of the wide flange beams.
Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
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 the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and ¾"ϕ x 12" hooked bolts.
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ⅛ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two ⅛" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
The contractor shall drive 4 precast concrete test piles in a permanent location, one each at both abutments and bents 4 and 7 as directed by the Engineer before ordering the remainder of piles.
For cantilever forming brackets, See Special Provisions.
Bridge Seat Sealer shall be applied to the seat areas of both abutments, bent 4 and bent 7. Estimated quantity = 480 Sq. Ft.

STATION 1423+25.00
BUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 805 SEC. 127BR-1
PROJ. ACBHF-805(37)
LOADING HS20
STR. NO. 014-0010

NAME PLATE

See Standard 2113

WATERWAY INFORMATION

Drainage Area = *890 Sq. M. Low Grade Elev. 423.7 ℄ Sta. 1454+00

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	12700	2720	2720	420.90	.49	.49	421.39	421.39
Base	100	14200	3013	3013	421.60	.48	.48	422.08	422.08
Overtopping									
Max. Calc.	500	18200	3390	3394	422.00	.45	.45	422.45	422.45

* This structure serves as an overflow structure for the Shoal Creek watershed.

TOTAL BILL OF MATERIAL

Item	Unit	Super.	S.S.	Total
Removal of Existing Superstructures No. 2	Each	1		1
Concrete Removal	Cu. Yd.		14	14
Expansion Bolts ¾"	Each		432	432
Structure Excavation	Cu. Yd.		56	56
Floor Drains	Each	48		48
Preformed Joint Seal 1¼"	Lin. Ft.	70		70
Class X Concrete Superstructure	Cu. Yd.	469.9		469.9
Protective Coat	Sq. Yd.	368		368
Elastomeric Bearing Assembly Type III	Each	14		14
Class X Concrete	Cu. Yd.		65.2	65.2
Structural Steel	L.S.	0.38		0.38
Stud Shear Connectors	Each	8568		8568
Reinforcement Bars, Epoxy Coated	Pound	113590	6000	119590
Precast Concrete Piles 14"	Lin. Ft.		570	570
Test Pile Precast Concrete	Each		4	4
Name Plates	Each	1		1
Stone Riprap Class A4	Sq. Yd.		565	565
Filter Fabric for use with Riprap	Sq. Yd.		565	565
Drainage Scuppers	Each	4		4
Epoxy Mortar Repair	Cu. Ft.		8.5	8.5
Neoprene Expansion Joint 4"	Lin. Ft.	68		68
Bridge Seat Sealer	L.S.			1

DESIGN SPECIFICATIONS

1983 AASHTO, 1984, 1985 Thru 1988 Interims

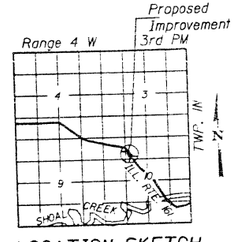
LOADING HS20-44

Allow 25#/sq. ft. for future wearing surface

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (reinf.)
fy = 50,000 psi (M223 Grade 50 Str. Steel)
fy = 36,000 psi (M183 Str. Steel)



LOCATION SKETCH

GENERAL PLAN
ILL. RTE. 161 OVER
SHOAL CREEK OVERFLOW
F.A.P. ROUTE 805
SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25.00
STRUCTURE NO. 014-0010

DESIGNED	
CHECKED	
DRAWN	jrs jas
CHECKED	

May 25 1987
EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

Rev

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
A.B.L.				49	28 SHEETS
F.A.					
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

℄ BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut. Bent	142099.490	-15.667	425.516	425.516
℄ Brg. N. Abut.	142101.782	-15.667	425.518	425.518
A	142111.782	-15.667	425.528	425.571
B	142121.782	-15.667	425.538	425.599
C	142131.782	-15.667	425.548	425.600
D	142141.782	-15.667	425.558	425.584
℄ Bent 2	142150.105	-15.667	425.566	425.566
E	142160.105	-15.667	425.576	425.578
F	142170.105	-15.667	425.586	425.593
G	142180.105	-15.667	425.596	425.603
H	142190.105	-15.667	425.606	425.608
℄ Bent 3	142200.084	-15.667	425.616	425.616
I	142210.084	-15.667	425.626	425.656
J	142220.084	-15.667	425.636	425.692
K	142230.084	-15.667	425.646	425.706
L	142240.084	-15.667	425.656	425.695
℄ N. Brg. Bent 4	142249.334	-15.667	425.666	425.666
℄ Bent 4	142250.084	-15.667	425.666	425.666
℄ S. Brg. Bent 4	142250.834	-15.667	425.667	425.667
M	142260.834	-15.667	425.677	425.719
N	142270.834	-15.667	425.687	425.748
O	142280.834	-15.667	425.697	425.751
P	142290.834	-15.667	425.707	425.735
℄ Bent 5	142300.073	-15.667	425.716	425.716
Q	142310.073	-15.667	425.726	425.728
R	142320.073	-15.667	425.736	425.743
S	142330.073	-15.667	425.746	425.753
T	142340.073	-15.667	425.756	425.758
℄ Bent 6	142350.073	-15.667	425.766	425.766
U	142360.073	-15.667	425.775	425.805
V	142370.073	-15.667	425.781	425.836
W	142380.073	-15.667	425.784	425.844
X	142390.073	-15.667	425.784	425.823
℄ N. Brg. Bent 7	142399.303	-15.667	425.782	425.782
℄ Bent 7	142400.053	-15.667	425.781	425.781
℄ S. Brg. Bent 7	142400.803	-15.667	425.781	425.781
Y	142410.803	-15.667	425.775	425.817
Z	142420.803	-15.667	425.767	425.828
A1	142430.803	-15.667	425.756	425.809
B1	142440.803	-15.667	425.742	425.769
℄ Bent 8	142450.063	-15.667	425.726	425.726
C1	142460.063	-15.667	425.708	425.710
D1	142470.063	-15.667	425.690	425.697
E1	142480.063	-15.667	425.672	425.679
F1	142490.063	-15.667	425.654	425.656
℄ Bent 9	142500.042	-15.667	425.636	425.636
G1	142510.042	-15.667	425.618	425.649
H1	142520.042	-15.667	425.600	425.656
I1	142530.042	-15.667	425.582	425.642
J1	142540.042	-15.667	425.564	425.600
℄ Brg. S. Abut.	142548.407	-15.667	425.549	425.549
Bk. S. Abut. Bent	142550.699	-15.667	425.545	425.545

℄ BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut. Bent	142099.490	-12.000	425.592	425.592
℄ Brg. N. Abut.	142101.782	-12.000	425.594	425.594
A	142111.782	-12.000	425.604	425.647
B	142121.782	-12.000	425.614	425.676
C	142131.782	-12.000	425.624	425.677
D	142141.782	-12.000	425.634	425.660
℄ Bent 2	142150.105	-12.000	425.643	425.643
E	142160.105	-12.000	425.653	425.654
F	142170.105	-12.000	425.663	425.669
G	142180.105	-12.000	425.673	425.679
H	142190.105	-12.000	425.683	425.684
℄ Bent 3	142200.084	-12.000	425.693	425.693
I	142210.084	-12.000	425.703	425.733
J	142220.084	-12.000	425.713	425.768
K	142230.084	-12.000	425.723	425.783
L	142240.084	-12.000	425.733	425.772
℄ N. Brg. Bent 4	142249.334	-12.000	425.742	425.742
℄ Bent 4	142250.084	-12.000	425.743	425.743
℄ S. Brg. Bent 4	142250.834	-12.000	425.743	425.743
M	142260.834	-12.000	425.753	425.796
N	142270.834	-12.000	425.763	425.824
O	142280.834	-12.000	425.773	425.827
P	142290.834	-12.000	425.783	425.811
℄ Bent 5	142300.073	-12.000	425.793	425.793
Q	142310.073	-12.000	425.803	425.804
R	142320.073	-12.000	425.813	425.819
S	142330.073	-12.000	425.823	425.829
T	142340.073	-12.000	425.833	425.834
℄ Bent 6	142350.073	-12.000	425.843	425.843
U	142360.073	-12.000	425.851	425.881
V	142370.073	-12.000	425.857	425.912
W	142380.073	-12.000	425.860	425.920
X	142390.073	-12.000	425.860	425.899
℄ N. Brg. Bent 7	142399.303	-12.000	425.858	425.858
℄ Bent 7	142400.053	-12.000	425.857	425.857
℄ S. Brg. Bent 7	142400.803	-12.000	425.857	425.857
Y	142410.803	-12.000	425.852	425.894
Z	142420.803	-12.000	425.843	425.904
A1	142430.803	-12.000	425.832	425.886
B1	142440.803	-12.000	425.818	425.846
℄ Bent 8	142450.063	-12.000	425.802	425.802
C1	142460.063	-12.000	425.784	425.786
D1	142470.063	-12.000	425.766	425.773
E1	142480.063	-12.000	425.748	425.755
F1	142490.063	-12.000	425.730	425.732
℄ Bent 9	142500.042	-12.000	425.712	425.712
G1	142510.042	-12.000	425.694	425.725
H1	142520.042	-12.000	425.676	425.733
I1	142530.042	-12.000	425.658	425.718
J1	142540.042	-12.000	425.640	425.676
℄ Brg. S. Abut.	142548.407	-12.000	425.625	425.625
Bk. S. Abut. Bent	142550.699	-12.000	425.621	425.621

℄ BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut. Bent	142099.490	-6.000	425.686	425.686
℄ Brg. N. Abut.	142101.782	-6.000	425.688	425.688
A	142111.782	-6.000	425.698	425.741
B	142121.782	-6.000	425.708	425.769
C	142131.782	-6.000	425.718	425.770
D	142141.782	-6.000	425.728	425.754
℄ Bent 2	142150.105	-6.000	425.736	425.736
E	142160.105	-6.000	425.746	425.748
F	142170.105	-6.000	425.756	425.763
G	142180.105	-6.000	425.766	425.773
H	142190.105	-6.000	425.776	425.778
℄ Bent 3	142200.084	-6.000	425.786	425.786
I	142210.084	-6.000	425.796	425.826
J	142220.084	-6.000	425.806	425.862
K	142230.084	-6.000	425.816	425.876
L	142240.084	-6.000	425.826	425.865
℄ N. Brg. Bent 4	142249.334	-6.000	425.836	425.836
℄ Bent 4	142250.084	-6.000	425.836	425.836
℄ S. Brg. Bent 4	142250.834	-6.000	425.837	425.837
M	142260.834	-6.000	425.847	425.889
N	142270.834	-6.000	425.857	425.918
O	142280.834	-6.000	425.867	425.921
P	142290.834	-6.000	425.877	425.905
℄ Bent 5	142300.073	-6.000	425.886	425.886
Q	142310.073	-6.000	425.896	425.898
R	142320.073	-6.000	425.906	425.913
S	142330.073	-6.000	425.916	425.923
T	142340.073	-6.000	425.926	425.928
℄ Bent 6	142350.073	-6.000	425.936	425.936
U	142360.073	-6.000	425.945	425.975
V	142370.073	-6.000	425.951	426.006
W	142380.073	-6.000	425.954	426.014
X	142390.073	-6.000	425.954	425.993
℄ N. Brg. Bent 7	142399.303	-6.000	425.952	425.952
℄ Bent 7	142400.053	-6.000	425.951	425.951
℄ S. Brg. Bent 7	142400.803	-6.000	425.951	425.951
Y	142410.803	-6.000	425.945	425.987
Z	142420.803	-6.000	425.937	425.998
A1	142430.803	-6.000	425.926	425.979
B1	142440.803	-6.000	425.912	425.940
℄ Bent 8	142450.063	-6.000	425.896	425.896
C1	142460.063	-6.000	425.878	425.880
D1	142470.063	-6.000	425.860	425.867
E1	142480.063	-6.000	425.842	425.849
F1	142490.063	-6.000	425.824	425.826
℄ Bent 9	142500.042	-6.000	425.806	425.806
G1	142510.042	-6.000	425.788	425.819
H1	142520.042	-6.000	425.770	425.826
I1	142530.042	-6.000	425.752	425.812
J1	142540.042	-6.000	425.734	425.770
℄ Brg. S. Abut.	142548.407	-6.000	425.719	425.719
Bk. S. Abut. Bent	142550.699	-6.000	425.715	425.715

℄ BEAM 4 AND ℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut. Bent	142099.490	0.000	425.779	425.779
℄ Brg. N. Abut.	142101.782	0.000	425.782	425.782
A	142111.782	0.000	425.792	425.835
B	142121.782	0.000	425.802	425.863
C	142131.782	0.000	425.812	425.864
D	142141.782	0.000	425.822	425.847
℄ Bent 2	142150.105	0.000	425.830	425.830
E	142160.105	0.000	425.840	425.842
F	142170.105	0.000	425.850	425.857
G	142180.105	0.000	425.860	425.867
H	142190.105	0.000	425.870	425.872
℄ Bent 3	142200.084	0.000	425.880	425.880
I	142210.084	0.000	425.890	425.920
J	142220.084	0.000	425.900	425.955
K	142230.084	0.000	425.910	425.970
L	142240.084	0.000	425.920	425.959
℄ N. Brg. Bent 4	142249.334	0.000	425.929	425.929
℄ Bent 4	142250.084	0.000	425.930	425.930
℄ S. Brg. Bent 4	142250.834	0.000	425.931	425.931
M	142260.834	0.000	425.941	425.983
N	142270.834	0.000	425.951	426.012
O	142280.834	0.000	425.961	426.014
P	142290.834	0.000	425.971	425.999
℄ Bent 5	142300.073	0.000	425.980	425.980
Q	142310.073	0.000	425.990	425.992
R	142320.073	0.000	426.000	426.007
S	142330.073	0.000	426.010	426.017
T	142340.073	0.000	426.020	426.022
℄ Bent 6	142350.073	0.000	426.030	426.030
U	142360.073	0.000	426.039	426.069
V	142370.073	0.000	426.044	426.100
W	142380.073	0.000	426.047	426.107
X	142390.073	0.000	426.048	426.087
℄ N. Brg. Bent 7	142399.303	0.000	426.045	426.045
℄ Bent 7	142400.053	0.000	426.045	426.045
℄ S. Brg. Bent 7	142400.803	0.000	426.045	426.045
Y	142410.803	0.000	426.039	426.081
Z	142420.803	0.000	426.031	426.092
A1	142430.803	0.000	426.019	426.073
B1	142440.803	0.000	426.005	426.033
℄ Bent 8	142450.063	0.000	425.990	425.990
C1	142460.063	0.000	425.972	425.973
D1	142470.063	0.000	425.954	425.960
E1	142480.063	0.000	425.936	425.942
F1	142490.063	0.000	425.918	425.919
℄ Bent 9	142500.042	0.000	425.900	425.900
G1	142510.042	0.000	425.882	425.913
H1	142520.042	0.000	425.864	425.920
I1	142530.042	0.000	425.846	425.905
J1	142540.042	0.000	425.828	425.864
℄ Brg. S. Abut.	142548.407	0.000	425.813	425.813
Bk. S. Abut. Bent	142550.699	0.000	425.809	425.809

Note: Work this sheet with sheet 4 of 28.

DESIGNED Lee Vining Smith
CHECKED [illegible]
DRAWN Joe Sutherland
CHECKED M C L S H

May 25 19 89
EXAMINED Oraj O Kaspar
ENGINEER OF BRIDGE DESIGN
PASSED James T Rankin
ENGINEER OF BRIDGE AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

E-S 1-6-82

TOP OF SLAB ELEVATIONS
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N.B.R.				50
F.A.				
FED. ROAD DIST. NO. 7	B.L.34652	FED. AID PROJECT-		

SHEET NO. 3
28 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut. Bent	142099.490	3.417	425.726	425.726
℄ Brg. N. Abut.	142101.782	3.417	425.728	425.728
A	142111.782	3.417	425.738	425.781
B	142121.782	3.417	425.748	425.810
C	142131.782	3.417	425.758	425.811
D	142141.782	3.417	425.768	425.794
℄ Bent 2	142150.105	3.417	425.777	425.777
E	142160.105	3.417	425.787	425.788
F	142170.105	3.417	425.797	425.803
G	142180.105	3.417	425.807	425.813
H	142190.105	3.417	425.817	425.818
℄ Bent 3	142200.084	3.417	425.827	425.827
I	142210.084	3.417	425.837	425.867
J	142220.084	3.417	425.847	425.902
K	142230.084	3.417	425.857	425.917
L	142240.084	3.417	425.867	425.906
℄ N. Brg. Bent 4	142249.334	3.417	425.876	425.876
℄ Bent 4	142250.084	3.417	425.877	425.877
℄ S. Brg. Bent 4	142250.834	3.417	425.877	425.877
M	142260.834	3.417	425.887	425.930
N	142270.834	3.417	425.897	425.958
O	142280.834	3.417	425.907	425.961
P	142290.834	3.417	425.917	425.945
℄ Bent 5	142300.073	3.417	425.927	425.927
Q	142310.073	3.417	425.937	425.938
R	142320.073	3.417	425.947	425.953
S	142330.073	3.417	425.957	425.963
T	142340.073	3.417	425.967	425.968
℄ Bent 6	142350.073	3.417	425.977	425.977
U	142360.073	3.417	425.985	426.015
V	142370.073	3.417	425.991	426.046
W	142380.073	3.417	425.994	426.054
X	142390.073	3.417	425.994	426.033
℄ N. Brg. Bent 7	142399.303	3.417	425.992	425.992
℄ Bent 7	142400.053	3.417	425.992	425.992
℄ S. Brg. Bent 7	142400.803	3.417	425.991	425.991
Y	142410.803	3.417	425.986	426.028
Z	142420.803	3.417	425.977	426.038
A1	142430.803	3.417	425.966	426.020
B1	142440.803	3.417	425.952	425.980
℄ Bent 8	142450.063	3.417	425.937	425.937
C1	142460.063	3.417	425.919	425.920
D1	142470.063	3.417	425.901	425.907
E1	142480.063	3.417	425.883	425.889
F1	142490.063	3.417	425.865	425.866
℄ Bent 9	142500.042	3.417	425.847	425.847
G1	142510.042	3.417	425.829	425.859
H1	142520.042	3.417	425.811	425.867
I1	142530.042	3.417	425.793	425.852
J1	142540.042	3.417	425.775	425.810
℄ Brg. S. Abut.	142548.407	3.417	425.759	425.759
Bk. S. Abut. Bent	142550.699	3.417	425.755	425.755

℄ BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut. Bent	142099.490	6.000	425.686	425.686
℄ Brg. N. Abut.	142101.782	6.000	425.688	425.688
A	142111.782	6.000	425.698	425.741
B	142121.782	6.000	425.708	425.769
C	142131.782	6.000	425.718	425.770
D	142141.782	6.000	425.728	425.754
℄ Bent 2	142150.105	6.000	425.736	425.736
E	142160.105	6.000	425.746	425.748
F	142170.105	6.000	425.756	425.763
G	142180.105	6.000	425.766	425.773
H	142190.105	6.000	425.776	425.778
℄ Bent 3	142200.084	6.000	425.786	425.786
I	142210.084	6.000	425.796	425.826
J	142220.084	6.000	425.806	425.862
K	142230.084	6.000	425.816	425.876
L	142240.084	6.000	425.826	425.865
℄ N. Brg. Bent 4	142249.334	6.000	425.836	425.836
℄ Bent 4	142250.084	6.000	425.836	425.836
℄ S. Brg. Bent 4	142250.834	6.000	425.837	425.837
M	142260.834	6.000	425.847	425.889
N	142270.834	6.000	425.857	425.918
O	142280.834	6.000	425.867	425.921
P	142290.834	6.000	425.877	425.905
℄ Bent 5	142300.073	6.000	425.886	425.886
Q	142310.073	6.000	425.896	425.898
R	142320.073	6.000	425.906	425.913
S	142330.073	6.000	425.916	425.923
T	142340.073	6.000	425.926	425.928
℄ Bent 6	142350.073	6.000	425.936	425.936
U	142360.073	6.000	425.945	425.975
V	142370.073	6.000	425.951	426.006
W	142380.073	6.000	425.954	426.014
X	142390.073	6.000	425.954	425.993
℄ N. Brg. Bent 7	142399.303	6.000	425.952	425.952
℄ Bent 7	142400.053	6.000	425.951	425.951
℄ S. Brg. Bent 7	142400.803	6.000	425.951	425.951
Y	142410.803	6.000	425.945	425.987
Z	142420.803	6.000	425.937	425.998
A1	142430.803	6.000	425.926	425.979
B1	142440.803	6.000	425.912	425.940
℄ Bent 8	142450.063	6.000	425.896	425.896
C1	142460.063	6.000	425.878	425.880
D1	142470.063	6.000	425.860	425.867
E1	142480.063	6.000	425.842	425.849
F1	142490.063	6.000	425.824	425.826
℄ Bent 9	142500.042	6.000	425.806	425.806
G1	142510.042	6.000	425.788	425.819
H1	142520.042	6.000	425.770	425.826
I1	142530.042	6.000	425.752	425.812
J1	142540.042	6.000	425.734	425.770
℄ Brg. S. Abut.	142548.407	6.000	425.719	425.719
Bk. S. Abut. Bent	142550.699	6.000	425.715	425.715

℄ BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut. Bent	142099.490	12.000	425.592	425.552
℄ Brg. N. Abut.	142101.782	12.000	425.594	425.554
A	142111.782	12.000	425.604	425.647
B	142121.782	12.000	425.614	425.676
C	142131.782	12.000	425.624	425.677
D	142141.782	12.000	425.634	425.655
℄ Bent 2	142150.105	12.000	425.643	425.643
E	142160.105	12.000	425.653	425.654
F	142170.105	12.000	425.663	425.669
G	142180.105	12.000	425.673	425.675
H	142190.105	12.000	425.683	425.684
℄ Bent 3	142200.084	12.000	425.693	425.693
I	142210.084	12.000	425.703	425.733
J	142220.084	12.000	425.713	425.768
K	142230.084	12.000	425.723	425.783
L	142240.084	12.000	425.733	425.772
℄ N. Brg. Bent 4	142249.334	12.000	425.742	425.742
℄ Bent 4	142250.084	12.000	425.743	425.743
℄ S. Brg. Bent 4	142250.834	12.000	425.743	425.743
M	142260.834	12.000	425.753	425.756
N	142270.834	12.000	425.763	425.824
O	142280.834	12.000	425.773	425.827
P	142290.834	12.000	425.783	425.81
℄ Bent 5	142300.073	12.000	425.793	425.793
Q	142310.073	12.000	425.803	425.854
R	142320.073	12.000	425.813	425.8
S	142330.073	12.000	425.823	425.825
T	142340.073	12.000	425.833	425.834
℄ Bent 6	142350.073	12.000	425.843	425.843
U	142360.073	12.000	425.851	425.88
V	142370.073	12.000	425.857	425.912
W	142380.073	12.000	425.860	425.925
X	142390.073	12.000	425.860	425.899
℄ N. Brg. Bent 7	142399.303	12.000	425.858	425.858
℄ Bent 7	142400.053	12.000	425.857	425.857
℄ S. Brg. Bent 7	142400.803	12.000	425.857	425.857
Y	142410.803	12.000	425.852	425.854
Z	142420.803	12.000	425.843	425.554
A1	142430.803	12.000	425.832	425.855
B1	142440.803	12.000	425.818	425.845
℄ Bent 8	142450.063	12.000	425.802	425.802
C1	142460.063	12.000	425.784	425.755
D1	142470.063	12.000	425.766	425.773
E1	142480.063	12.000	425.748	425.755
F1	142490.063	12.000	425.730	425.732
℄ Bent 9	142500.042	12.000	425.712	425.712
G1	142510.042	12.000	425.694	425.725
H1	142520.042	12.000	425.676	425.733
I1	142530.042	12.000	425.658	425.718
J1	142540.042	12.000	425.640	425.676
℄ Brg. S. Abut.	142548.407	12.000	425.625	425.625
Bk. S. Abut. Bent	142550.699	12.000	425.621	425.621

℄ BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut. Bent	142099.490	15.667	425.516	425.516
℄ Brg. N. Abut.	142101.782	15.667	425.518	425.518
A	142111.782	15.667	425.528	425.571
B	142121.782	15.667	425.538	425.599
C	142131.782	15.667	425.548	425.600
D	142141.782	15.667	425.558	425.584
℄ Bent 2	142150.105	15.667	425.566	425.566
E	142160.105	15.667	425.576	425.578
F	142170.105	15.667	425.586	425.593
G	142180.105	15.667	425.596	425.603
H	142190.105	15.667	425.606	425.608
℄ Bent 3	142200.084	15.667	425.616	425.616
I	142210.084	15.667	425.626	425.656
J	142220.084	15.667	425.636	425.692
K	142230.084	15.667	425.646	425.706
L	142240.084	15.667	425.656	425.695
℄ N. Brg. Bent 4	142249.334	15.667	425.666	425.666
℄ Bent 4	142250.084	15.667	425.666	425.666
℄ S. Brg. Bent 4	142250.834	15.667	425.667	425.667
M	142260.834	15.667	425.677	425.719
N	142270.834	15.667	425.687	425.748
O	142280.834	15.667	425.697	425.751
P	142290.834	15.667	425.707	425.735
℄ Bent 5	142300.073	15.667	425.716	425.716
Q	142310.073	15.667	425.726	425.728
R	142320.073	15.667	425.736	425.743
S	142330.073	15.667	425.746	425.753
T	142340.073	15.667	425.756	425.758
℄ Bent 6	142350.073	15.667	425.766	425.766
U	142360.073	15.667	425.775	425.805
V	142370.073	15.667	425.781	425.836
W	142380.073	15.667	425.784	425.844
X	142390.073	15.667	425.784	425.823
℄ N. Brg. Bent 7	142399.303	15.667	425.782	425.782
℄ Bent 7	142400.053	15.667	425.781	425.781
℄ S. Brg. Bent 7	142400.803	15.667	425.781	425.781
Y	142410.803	15.667	425.775	425.817
Z	142420.803	15.667	425.767	425.828
A1	142430.803	15.667	425.756	425.809
B1	142440.803	15.667	425.742	425.769
℄ Bent 8	142450.063	15.667	425.726	425.726
C1	142460.063	15.667	425.708	425.710
D1	142470.063	15.667	425.690	425.697
E1	142480.063	15.667	425.672	425.679
F1	142490.063	15.667	425.654	425.656
℄ Bent 9	142500.042	15.667	425.636	425.636
G1	142510.042	15.667	425.618	425.649
H1	142520.042	15.667	425.600	425.656
I1	142530.042	15.667	425.582	425.642
J1	142540.042	15.667	425.564	425.600
℄ Brg. S. Abut.	142548.407	15.667	425.549	425.549
Bk. S. Abut. Bent	142550.699	15.667	425.545	425.545

Note: Work this sheet with sheet 4 of 28.

DESIGNED [illegible]
CHECKED [illegible]
DRAWN Joe Sutherland
CHECKED M.G.A. L.E.H.

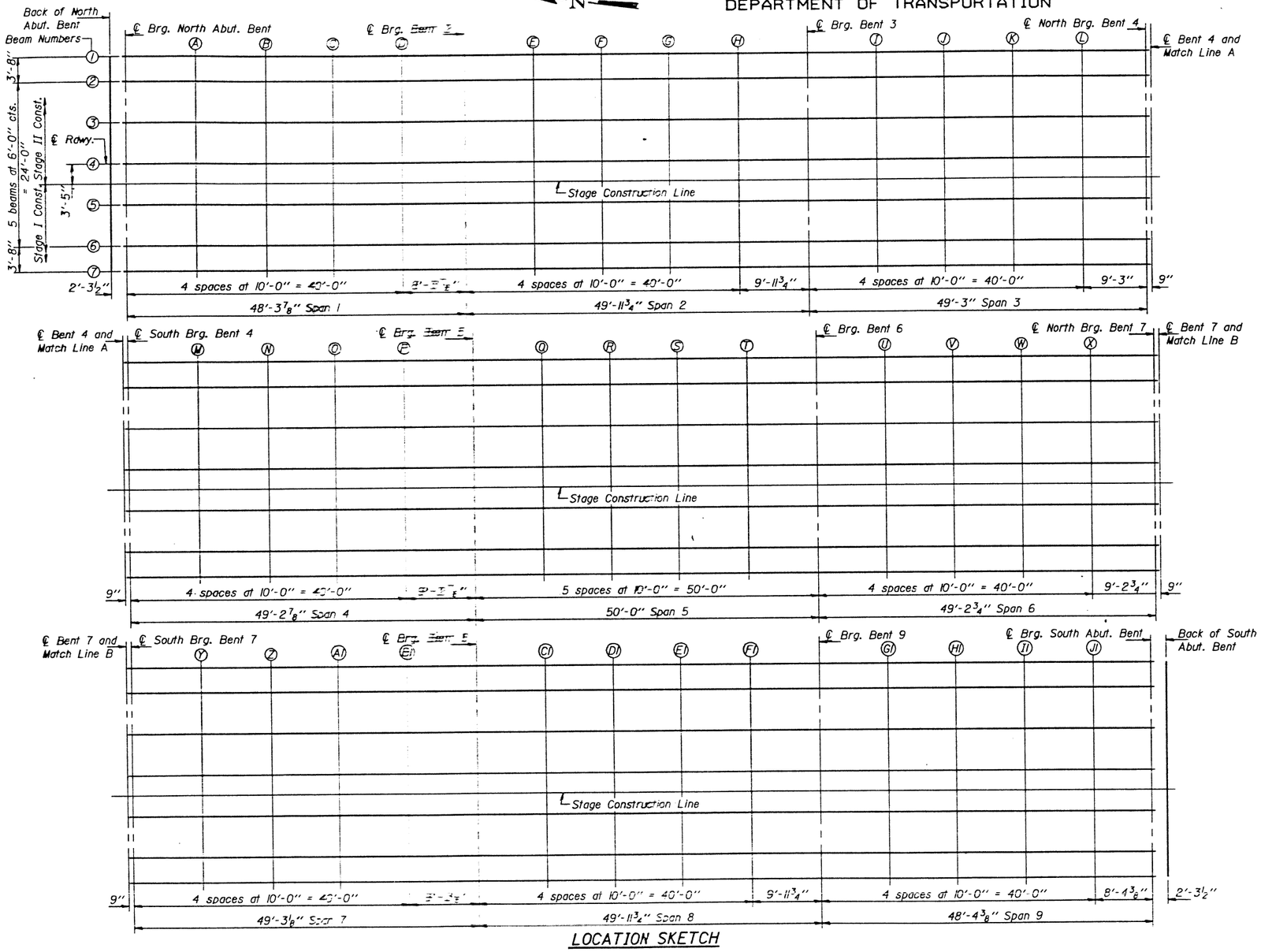
May 25 1965
EXAMINED Engineer of Bridge Design
PASSED James I. Kayburn
Engineer of Bridges and Structures
APPROVED
Director of Highways

TOP OF SLAB ELEVATIONS
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

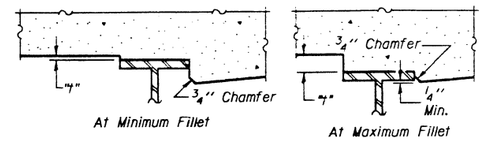
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P.				51
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 4
28 SHEETS

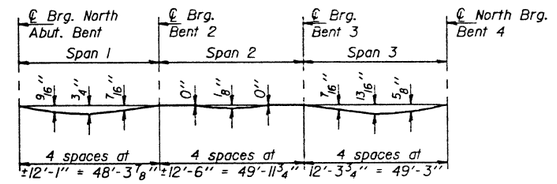


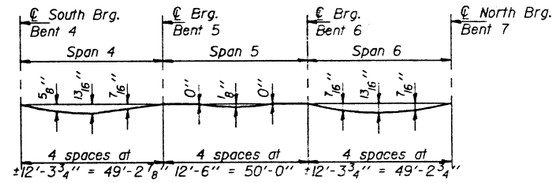
LOCATION SKETCH

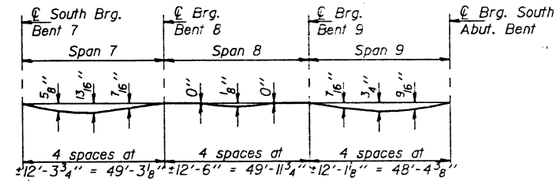


To determine "4": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "4" above top flange of beams.

FILLET HEIGHTS







DEAD LOAD DEFLECTION DIAGRAMS

(Includes weight of concrete only)

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

DESIGNED	Tse-Sheng Hsueh
CHECKED	T.H.C. Engineers
DRAWN	Joe Sutherland
CHECKED	N.C.L. L.S.H.

May 25 1989

EXAMINED Engineer of Bridge Design

PASSED James T. Graham
Engineer of Bridges and Structures

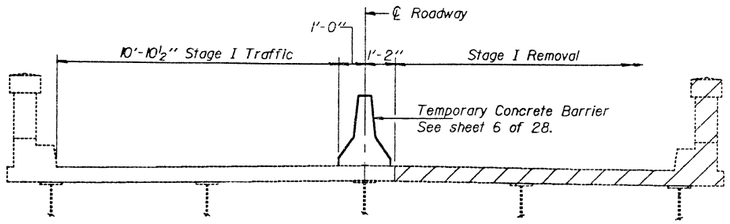
APPROVED
Director of Highways

TOP OF SLAB ELEVATIONS
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

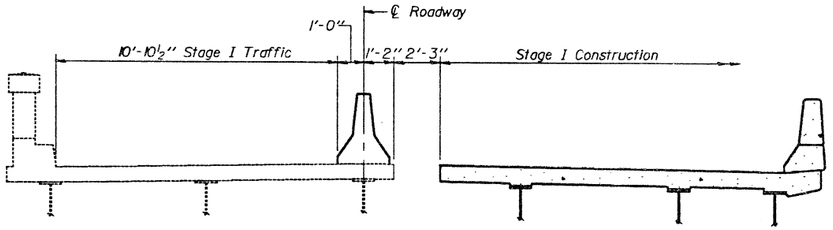
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA. R. L. F. A.				52
FED. ROAD DIST. NO. 7	ILL. SHEETS	FED. AID PROJECT-		

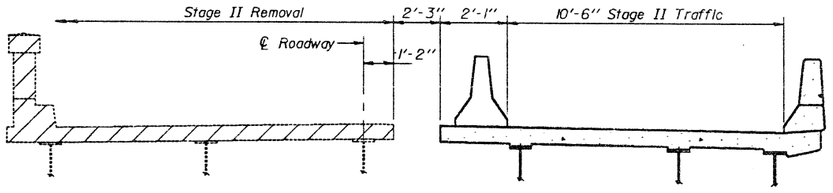
SHEET NO. 5
28 SHEETS



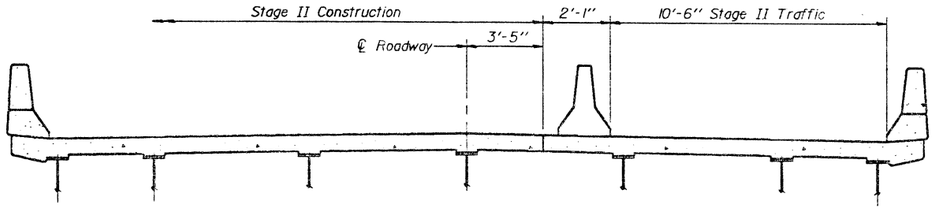
STAGE I REMOVAL
(Looking South)



STAGE I CONSTRUCTION
(Looking South)



STAGE II REMOVAL
(Looking South)



STAGE II CONSTRUCTION
(Looking South)

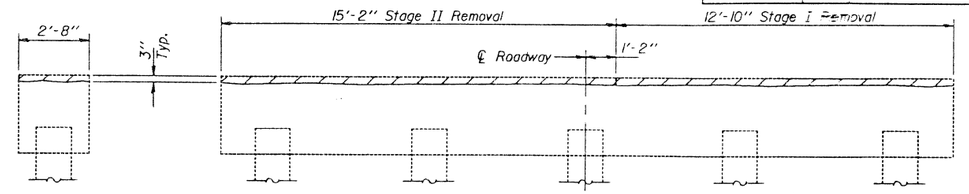
DESIGNED	L. Strong Hamel
CHECKED	
DRAWN	Joe Sutherland
CHECKED	MSA LSH

May 25 19 85

EXAMINED Engineer of Bridge Design

PASSED James T. Kaeburn
Engineer of Bridge and Structures

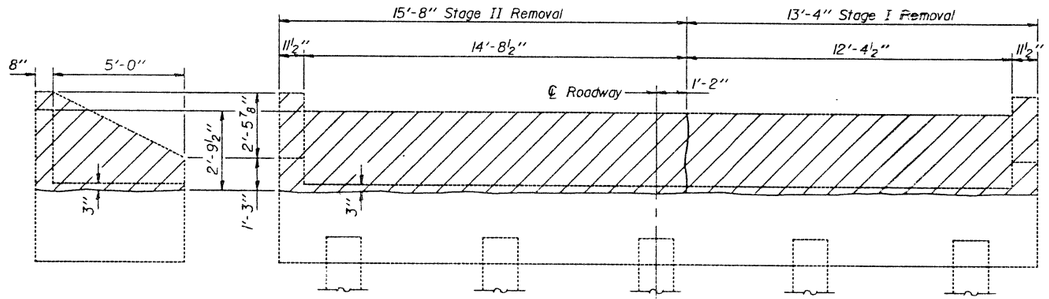
APPROVED
Director of Highways



END VIEW

ELEVATION
Looking South

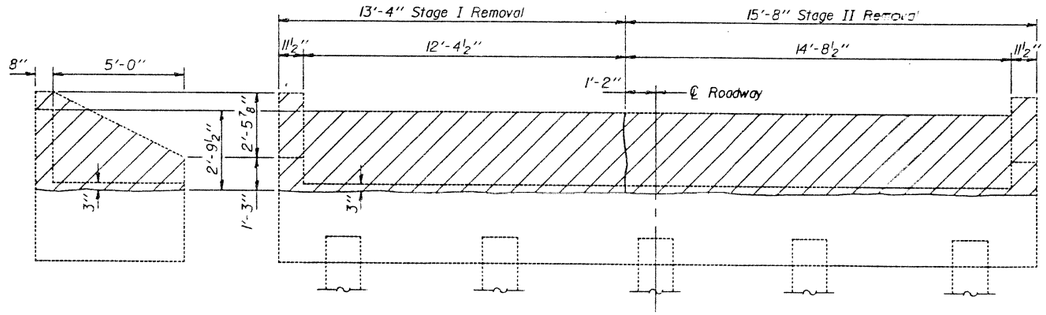
STAGE REMOVAL BENTS 2 THRU 9
For Stage Construction see sheets 19 thru 26 of 28.



END VIEW

ELEVATION
Looking South

STAGE REMOVAL SOUTH ABUTMENT BENT
For Stage Construction see sheet 18 of 28.



END VIEW

ELEVATION
Looking North

STAGE REMOVAL NORTH ABUTMENT BENT
For Stage Construction see sheet 17 of 28.

BILL OF MATERIAL
FOR BENTS 2 THRU 9

Item	Unit	Total
Concrete Removal	Cu. Yd.	5.5

BILL OF MATERIAL
FOR BOTH ABUTMENTS

Item	Unit	Total
Concrete Removal	Cu. Yd.	2.5

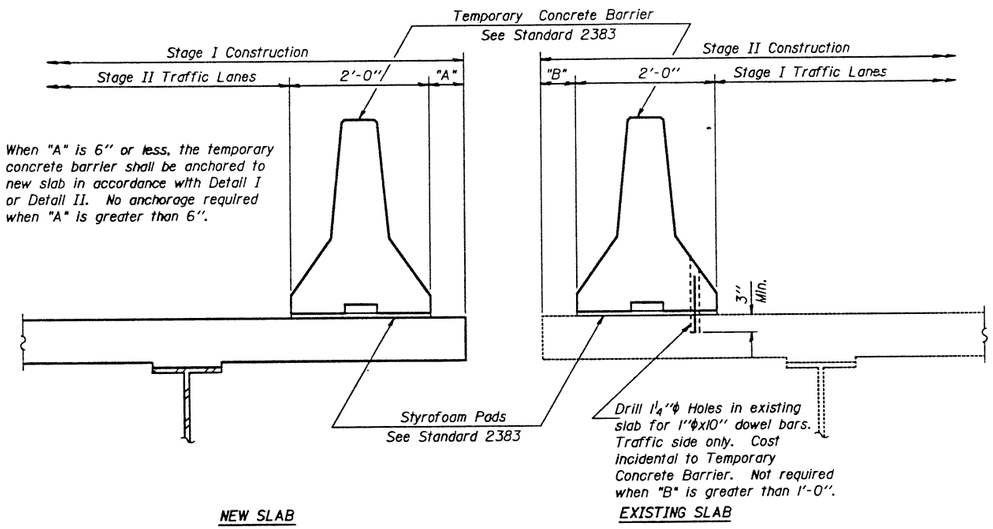
Notes: Hatched areas indicate "Concrete Removal".
Concrete Removal shall not be carried below the top elevation of existing stirrup bars inside the existing pile bent caps.
In back wall of abutments, clean, straighten and incorporate existing vertical bars into new construction.
In wings of abutments cut off existing vertical bars flush with concrete removal line.
For quantities of Temporary Concrete Barrier see Roadway Plans.

STAGE CONSTRUCTION
AND REMOVAL DETAILS
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A.				53
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
28 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



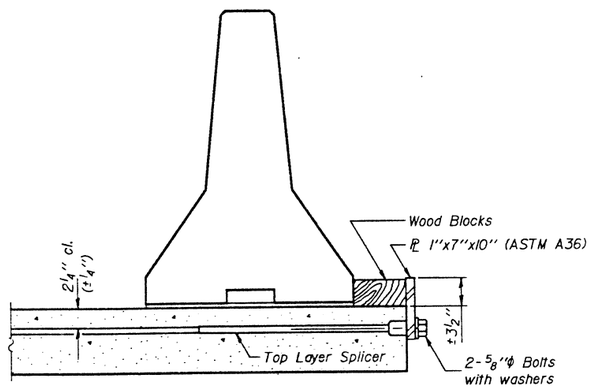
SECTIONS THRU SLAB

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℙ to the top layer of couplers with 2-5/8"ϕ bolts screwed to coupler at approximate ℄ of each 10'-0" barrier panel.

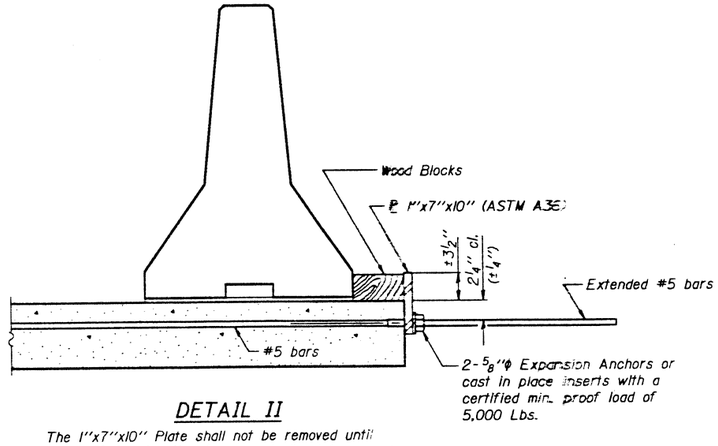
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel ℙ to the concrete slab with 2-5/8"ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each 10'-0" barrier panel.

Cost of anchorage is Incidental to Temporary Concrete Barrier.



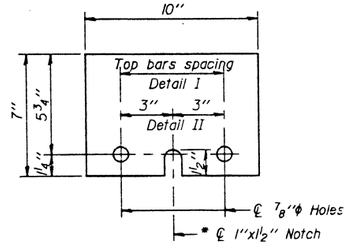
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



ℙ 1"x7"x10"

* Required only with Detail II

DESIGNED	Lee Sheng Hsueh
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	MSA LSH

May 25 1983
EXAMINED Engineer of Bridge Design
PASSED Engineer of Bridge and Structures
APPROVED
Director of Highways

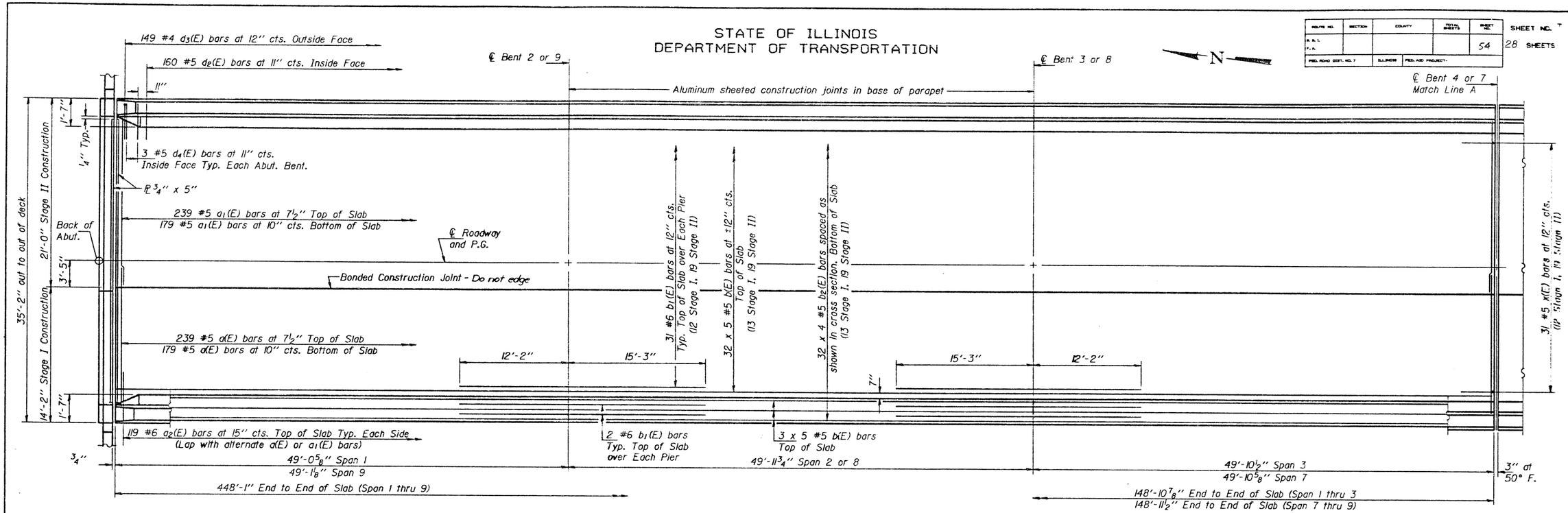
R-27 6-15-83

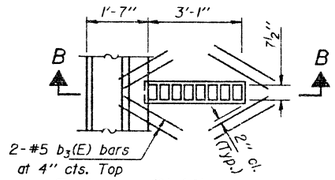
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

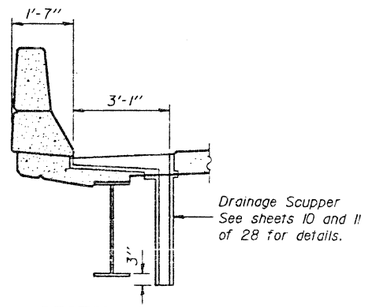
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.				54
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 28 SHEETS

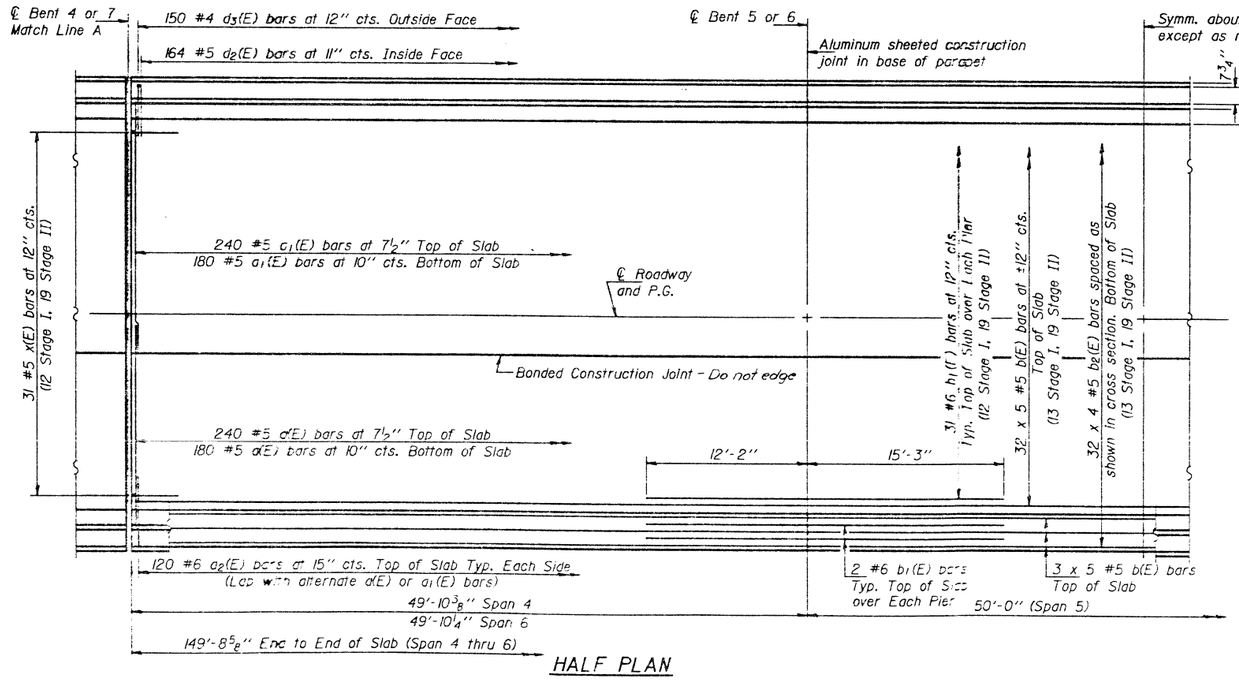




PLAN



SECTION B-B



HALF PLAN

MIN. BAR LAPS

#5 Bars = 1'-8"

Notes: See sheets 8 and 9 of 28 for superstructure details and Bill of Material.

Reinforcement bars desinated (E) shall be epoxy coated.

Bars indicated thus 32 x 5 #5 etc. indicates 20 lines of bars with 3 lengths per line.

See sheets 8 and 9 of 28 for parapet reinforcement.

For Section thru Abutment Bents, Bent 4 and Bent 7 see sheet 8 of 28.

Cut reinforcement bars in field where necessary to clear drainage scuppers.

See sheet 1 of 28 for drain locations and sheet 8 of 28 for details.

See sheet 1 of 28 for drainage scupper locations and sheet 10 and 11 of 28 for details.

DESIGNED	L. Nancy Hench
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	M S A L S H

May 25 19 86

EXAMINED Engineer of Bridge Design

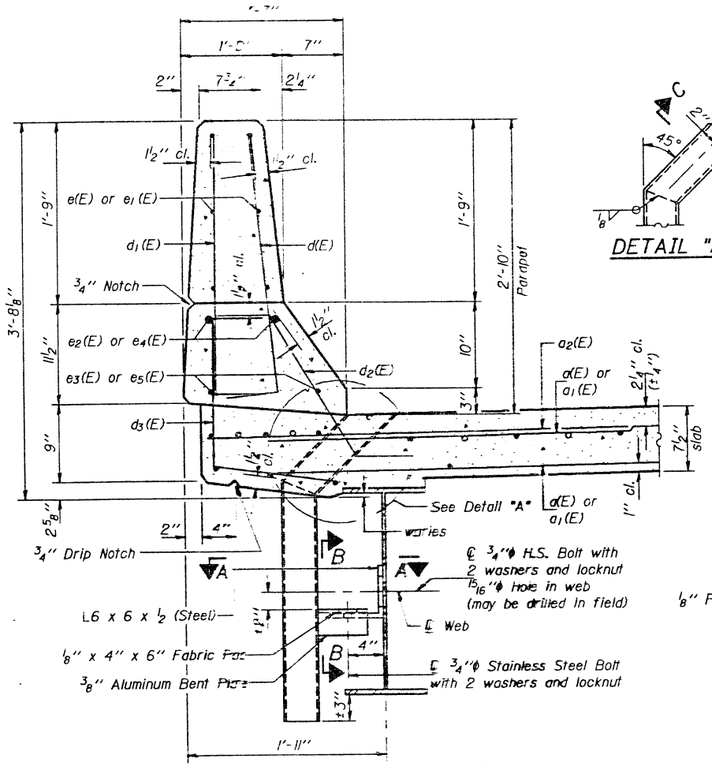
PASSED James T. Kyburn Engineer of Bridges and Structures

APPROVED Director of Highways

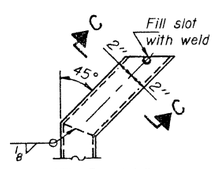
SUPERSTRUCTURE
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

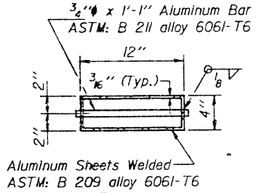
		TOTAL SHEETS	SHEET NO.
			SHEET NO. 8
			55 28 SHEETS



SECTION THRU PARAPET

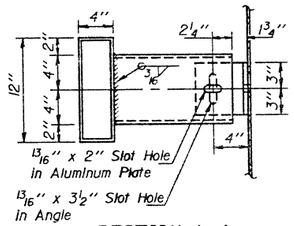


DETAIL "A"

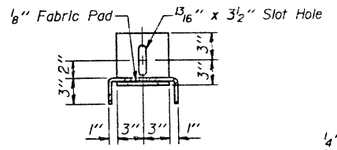


Aluminum Sheets Welded
ASTM: B 209 alloy 6061-T6
or Aluminum Extrusions
ASTM: B 221 alloy 6061-T6

SECTION C-C

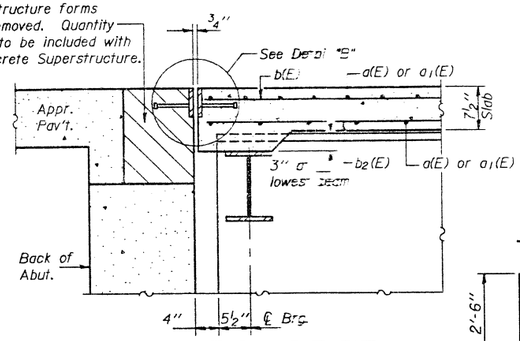


SECTION A-A



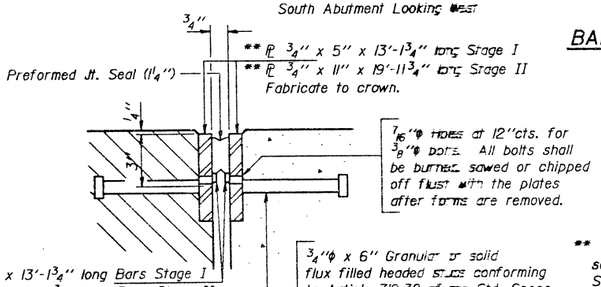
SECTION B-B

Hatched area to be poured after superstructure forms have been removed. Quantity of concrete to be included with Class X Concrete Superstructure.

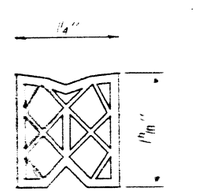


SECTION THRU ABUTMENT

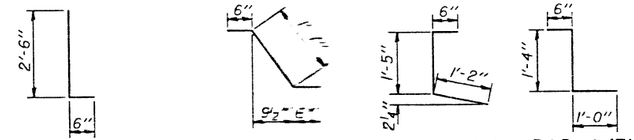
North Abutment Looking East
South Abutment Looking West



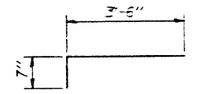
DETAIL "B"



PREFORMED JOINT SEAL (1¼") END TREATMENT



BAR d(E) and d1(E) BAR d2(E) BAR d3(E) BAR d4(E)



BAR x(E)

BILL OF MATERIAL

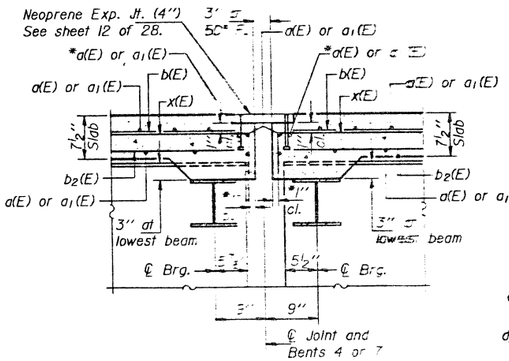
Item	No.	Size	Length	Shape
a(E)	1256	#5	15'-6"	
a1(E)	1256	#5	20'-0"	
a2(E)	716	#6	4'-0"	
b(E)	570	#5	31'-3"	
b1(E)	210	#6	27'-5"	
b2(E)	384	#5	38'-8"	
b3(E)	32	#5	2'-0"	
d(E)	980	#5	3'-0"	L
d1(E)	896	#4	3'-0"	L
d2(E)	968	#5	2'-7"	⌐
d3(E)	896	#4	3'-1"	⊏
d4(E)	12	#5	2'-10"	⌐
e(E)	72	#4	16'-1"	
e1(E)	252	#4	16'-4"	
e2(E)	8	#8	48'-9"	
e3(E)	8	#5	48'-9"	
e4(E)	28	#8	49'-7"	
e5(E)	28	#5	49'-7"	
x(E)	124	#5	4'-1"	⌐
Class X Concrete Superstructure		Cu. Yd.	469.9	
Reinforcement Bars Epoxy Coated		Pound	113590	

Reinforcement bars designated (E) shall be epoxy coated.

* Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.

After fabrication all surfaces of the steel plates shall be given one shop coat of paint specified for Structural Steel.

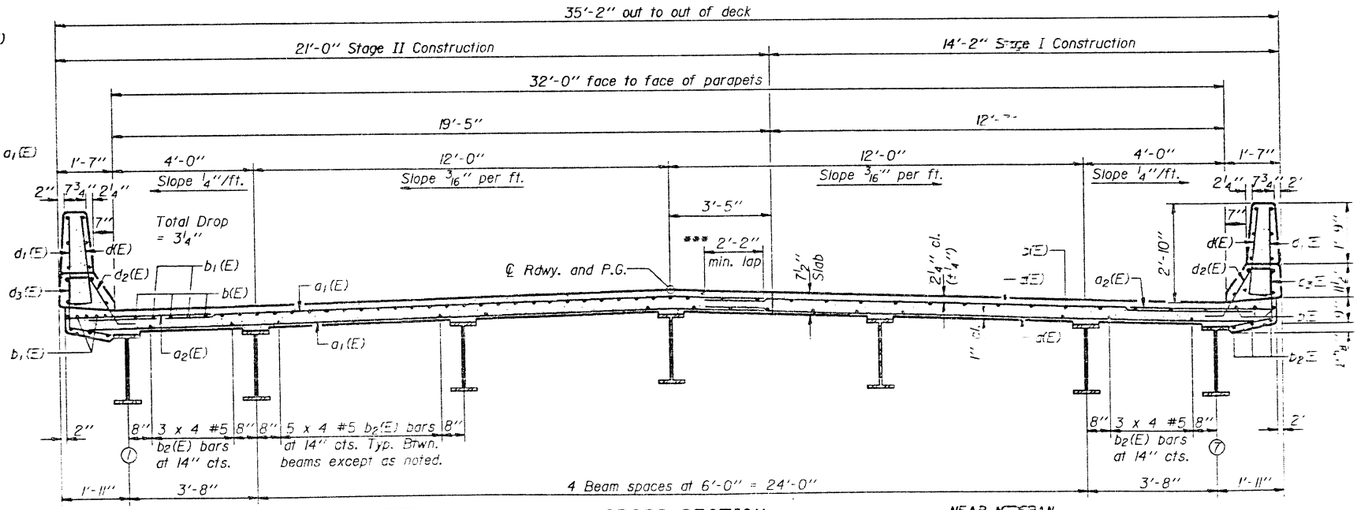
Notes: The exterior surfaces of the aluminum drains shall be cleaned and given a washcoat pretreatment in accordance with the Steel Structures Painting Council's Spec. SSPC-SP1 and SSPC-Paint 27 followed by the vinyl enamel coat painting specified for Structural Steel.



SECTION AT BENTS 4 AND 7

Looking East Bent 4
Looking West Bent 7

* Place a(E) or a1(E) bars in back of anchor bolts as shown if required to maintain 1" cl. to ⅛-⅛". Anchor bolts should be tied to a(E) and a1(E) bars.



NEAR PIER — CROSS SECTION (Looking South) — NEAR MID-SPAN

*** Lapped bars at this location shall be tied with double the number of ties normally used.

DESIGNED	Tai-Shang Hsu	May 25	1989
CHECKED	RTH	EXAMINED	Engineer of Bridge Design
DRAWN	Joe Sutherland	PASSED	Engineer of Bridges and Structures
CHECKED	MSA	APPROVED	Director of Highways

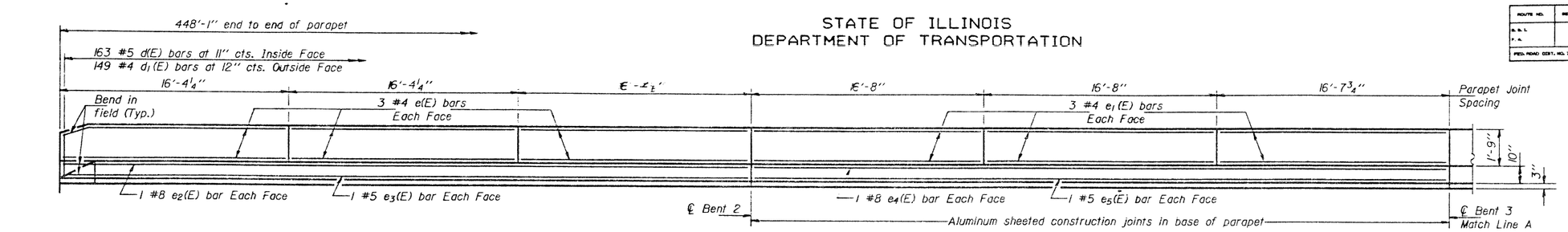
SUPERSTRUCTURE DETAILS

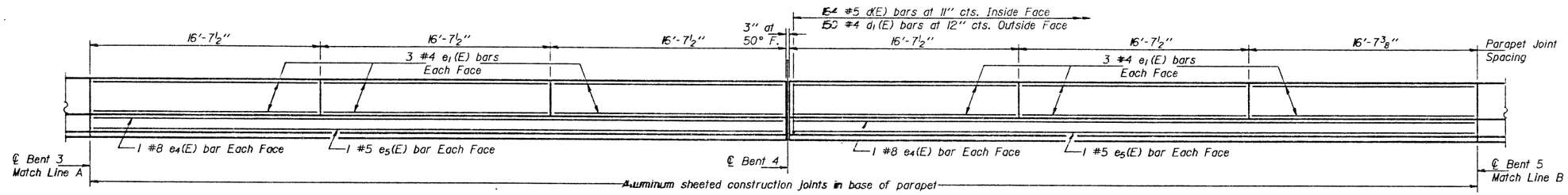
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

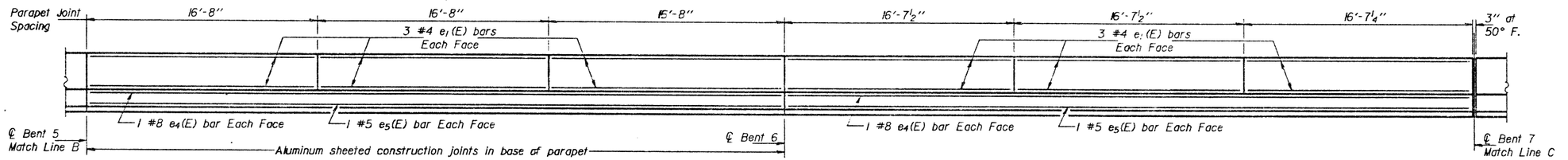
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

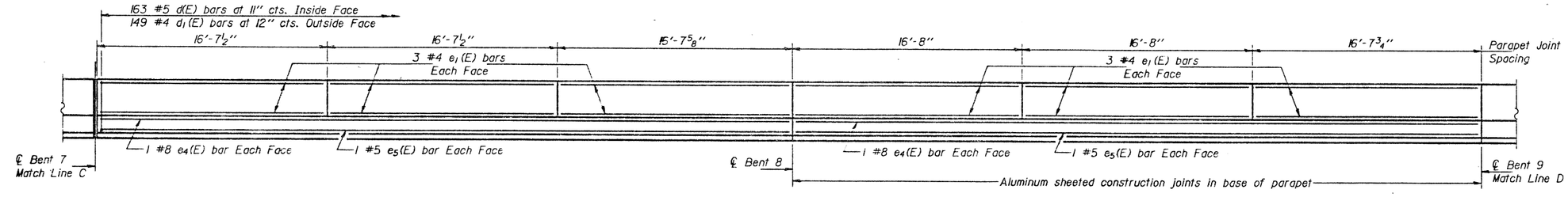
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. F.A.				56
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

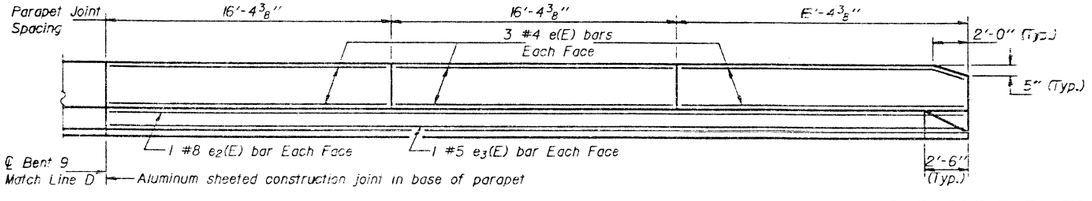
SHEET NO. 9
28 SHEETS



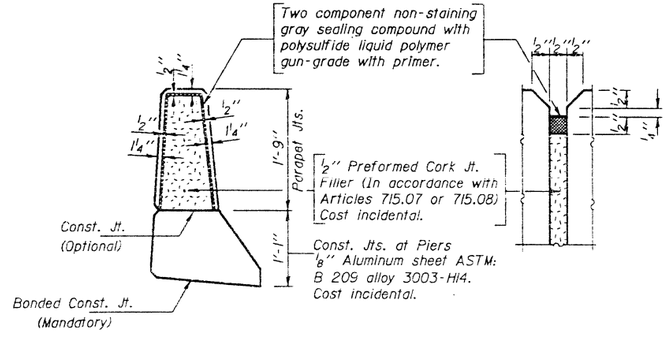








PARAPET ELEVATION
Showing inside face of parapets.



PARAPET JOINT DETAILS

DESIGNED	Lee Sheng Hsueh
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	MSA LSH

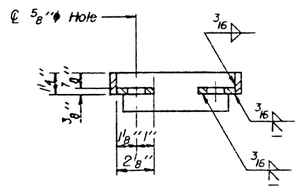
May 25 1959
EXAMINED Engineer of Bridge Design
PASSED James T. Rayburn Engineer of Bridges and Structures
APPROVED Director of Highways

SUPERSTRUCTURE DETAILS
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

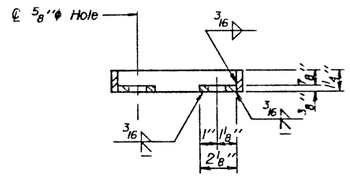
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P.				57
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

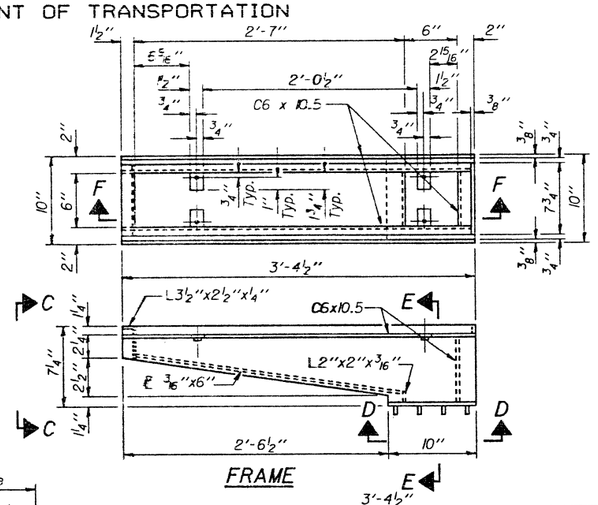
SHEET NO. 10
28 SHEETS



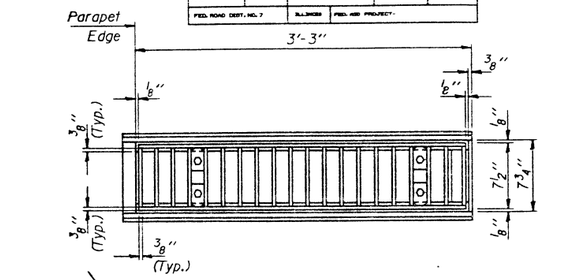
SECTION A-A

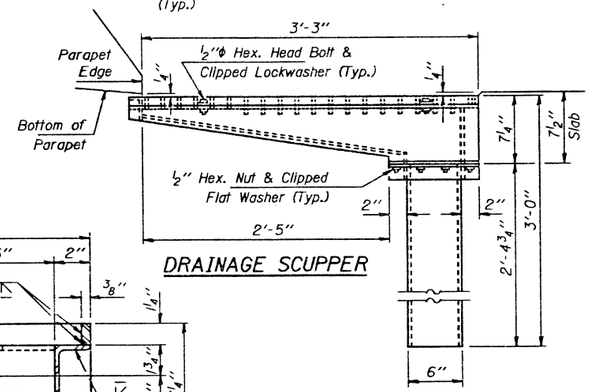


SECTION B-B

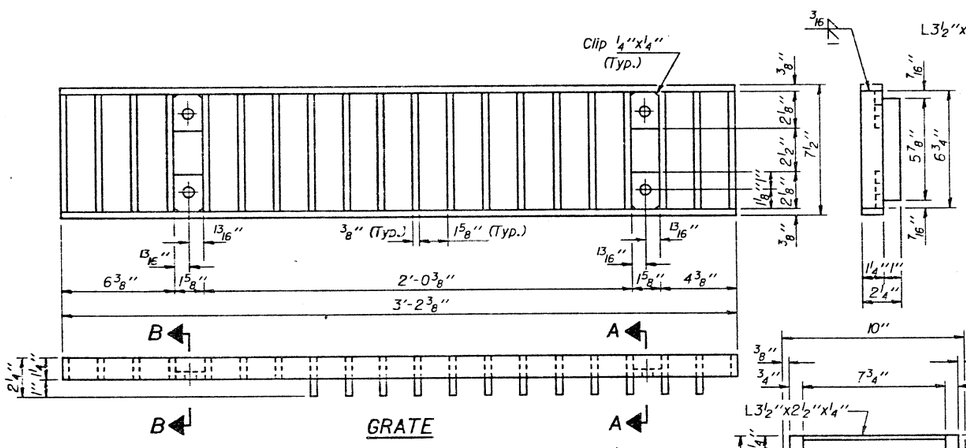


FRAME

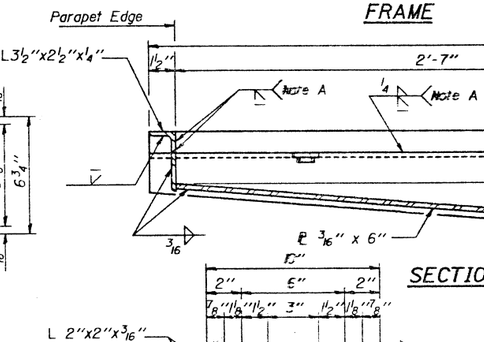




DRAINAGE SCUPPER

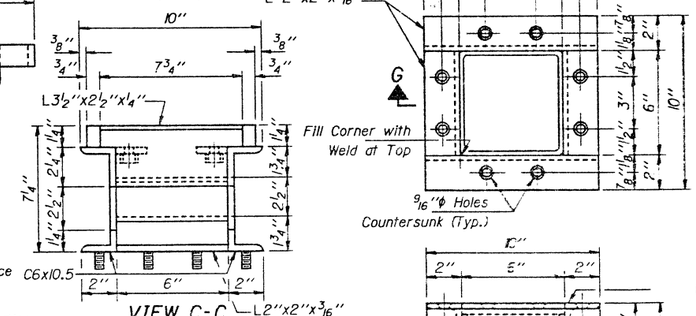


GRATE

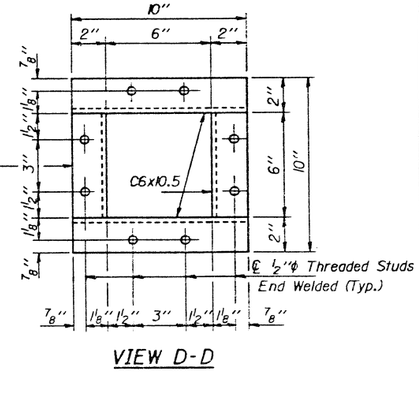


SECTION F-F

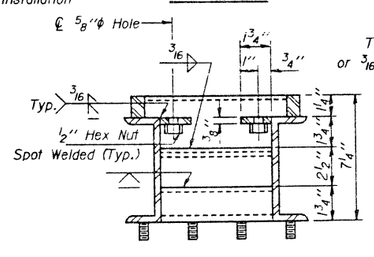
Note A: Surface of welds shall be recessed 1/16" Max. or placed flush with inside face of bars to provide clearance for Grate.



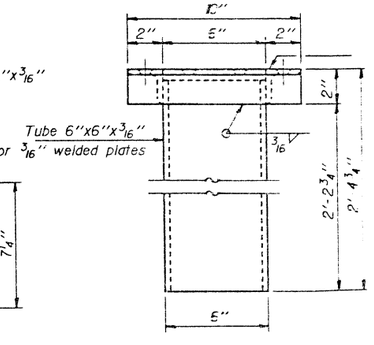
VIEW C-C



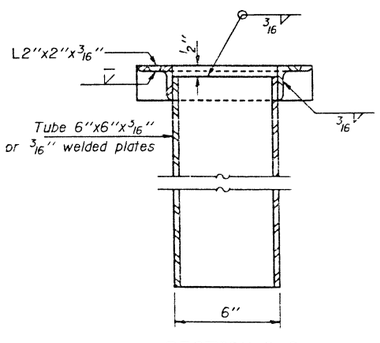
VIEW D-D



SECTION E-E



DOWNSPOUT



SECTION G-G

Notes: Hollow structural steel tubing shall conform to the requirements of ASTM designation A500 Grade B, or A501 Structural Steel Tubing.

All other shapes, plates and bars shall conform to the requirements of AASHTO M183.

Bolts, studs, washers and nuts shall conform to the requirements of ASTM A307.

The Grate, Frame and Downspout shall be galvanized after shop fabrication in accordance with AASHTO M111 & ASTM A385.

All bolts, washers and nuts shall be galvanized in accordance with AASHTO M232.

Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper will be paid for at the unit bid price for "DRAINAGE SCUPPERS."

(W.T. to inside of exterior stringer flange shall not be > 3'-11")

DESIGNED		May 25 1989
CHECKED		EXAMINED Engineer of Special Design
DRAWN	Joe Sutherland	PASSED Engineer of Bridges and Structures
CHECKED		APPROVED Director of Highways

DS-3 12-1-83

BILL OF MATERIAL

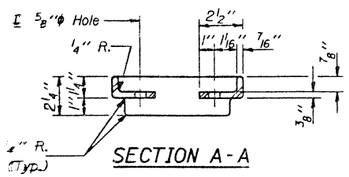
ITEM	UNIT	QUANTITY
Drainage Scupper	Each	4

(Sheet 1 of 2)

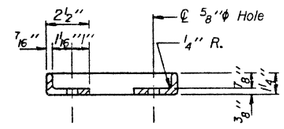
STEEL DRAINAGE SCUPPER
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

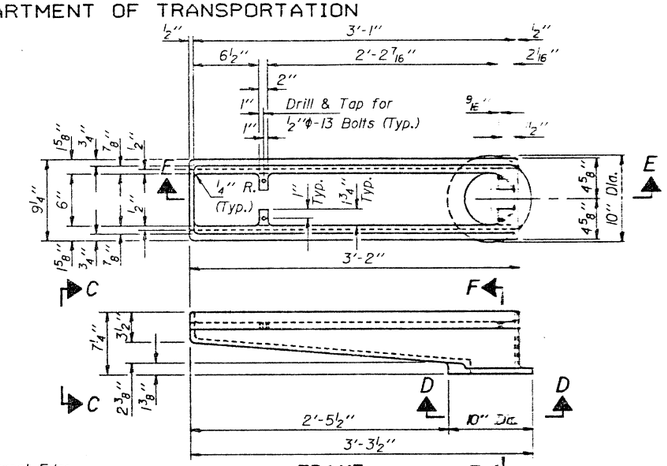
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I.				SB 28 SHEETS
F. A.				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		



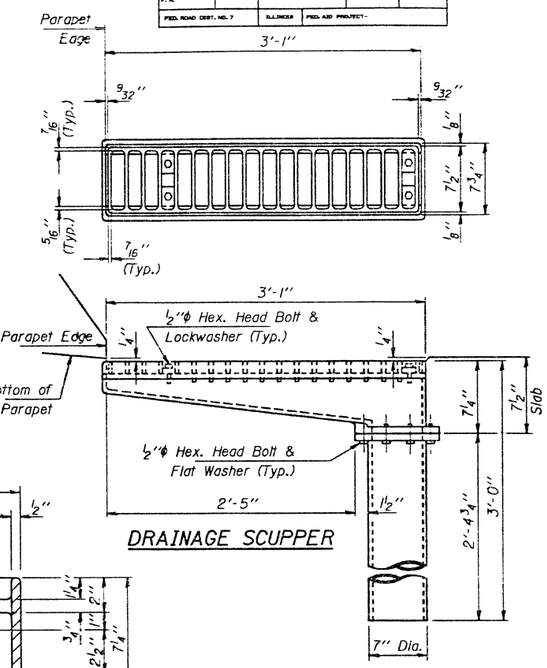
SECTION A-A



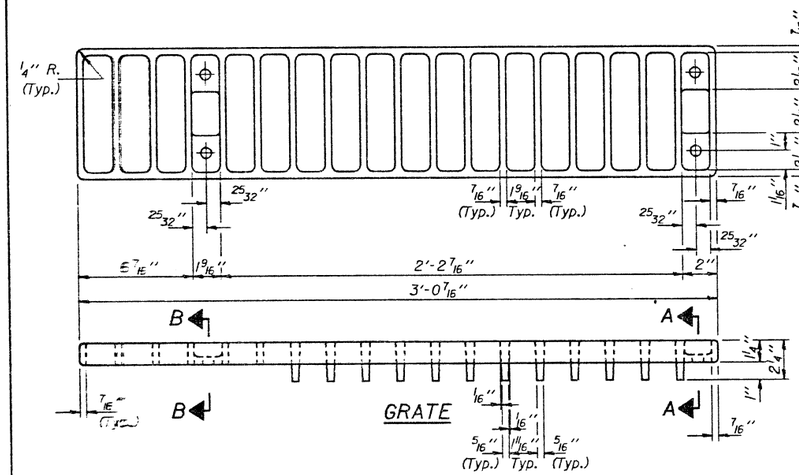
SECTION B-B



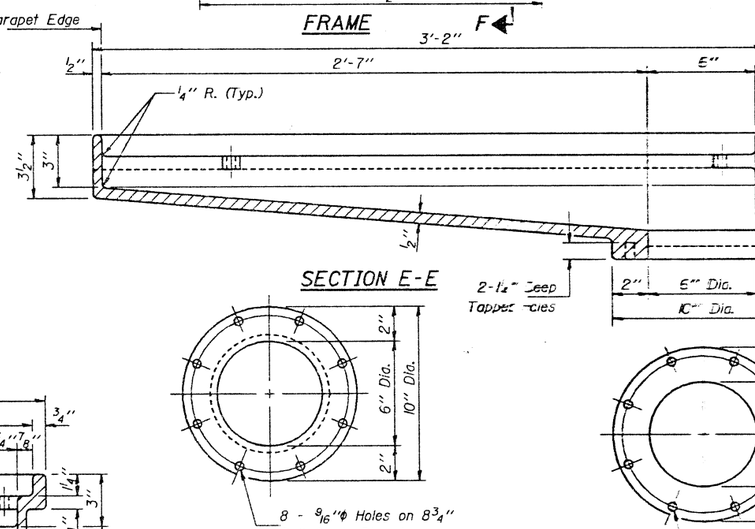
FRAME



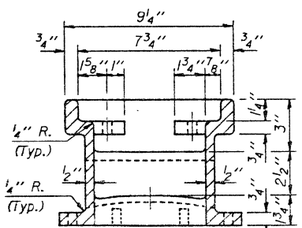
DRAINAGE SCUPPER



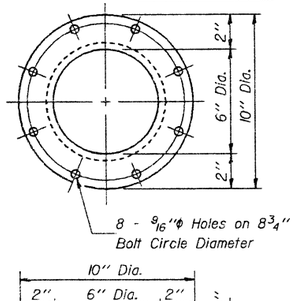
GRATE

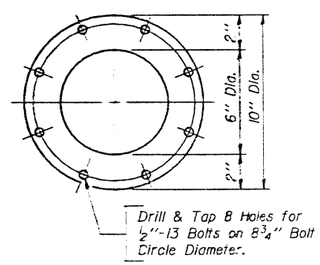


SECTION E-E

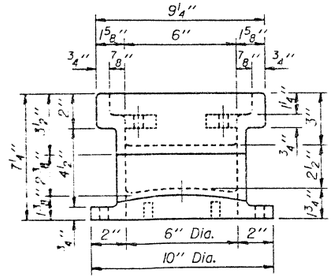


SECTION F-F

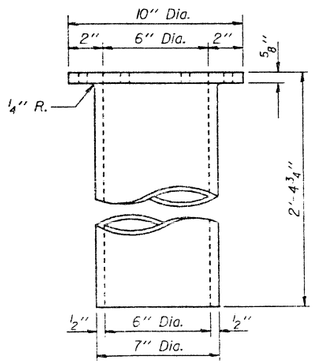




VIEW D-D



VIEW C-C



DOWNSPOUT

Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 30.

Bolts and washers shall conform to the requirements of ASTM A307.

All bolts and washers shall be galvanized in accordance with AASHTO M232.

As an alternate bolts and washers may be stainless steel conforming to the requirements of ASTM A193, Type 304.

Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper will be paid for at the unit bid price for "DRAINAGE SCUPPERS."

The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	[illegible]

May 25 1989
EXAMINED Engineer of Bridge Design
PASSED James T. Kaburn Engineer of Bridges and Structures
APPROVED Director of Highways

DS-4 2-1-93

(W.T. to inside of exterior stringer flange shall not be > 3'-11")

(Sheet 2 of 2)

ALTERNATE - CAST IRON
DRAINAGE SCUPPER
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS NO.	SHEET NO.
S. B. I. F. A.				59
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		

SHEET NO. 12
28 SHEETS

Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1½" Min.
2½"	2½"	1¾" Min.
4"	3"	2½" Min.

INSTALLATION NOTES

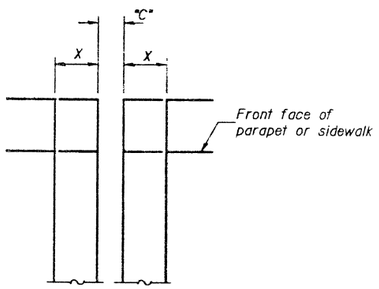
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

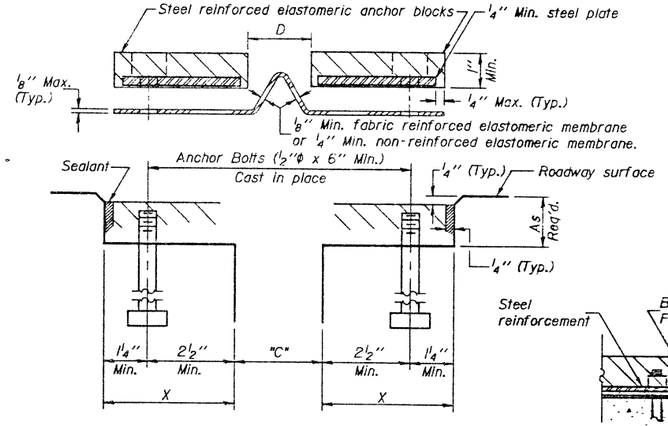
SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

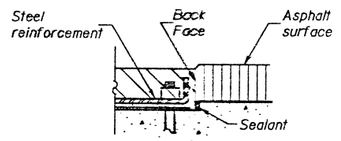
For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions.

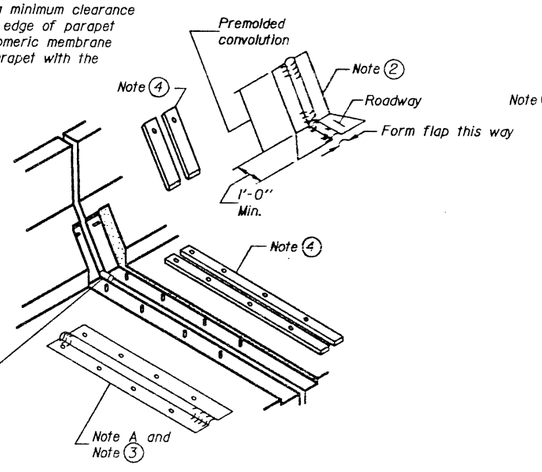
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

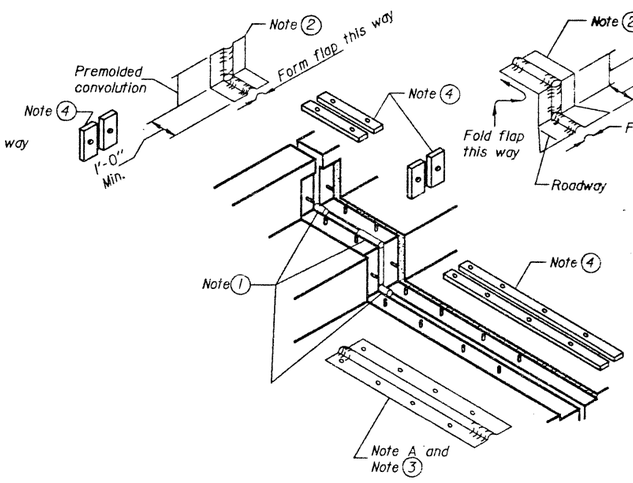
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

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

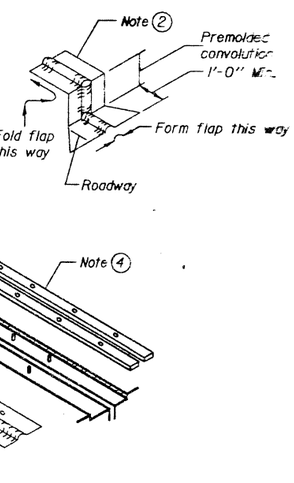
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.

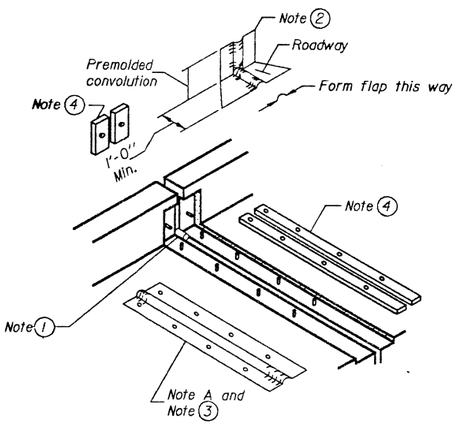


AT PARAPET

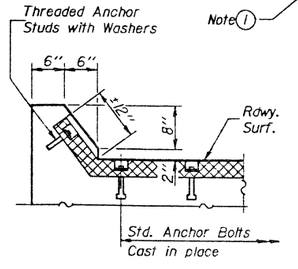


AT SIDEWALK OR MEDIAN

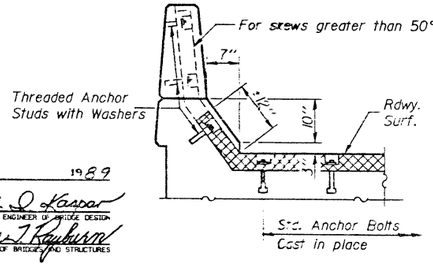




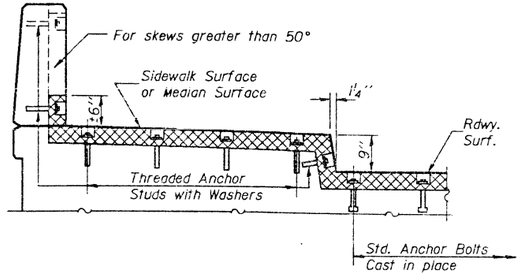
AT WALL



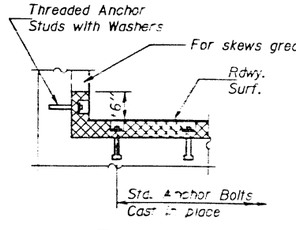
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN



AT WALL

TYPICAL END TREATMENTS

DESIGNED	Ted Sheng Kuo
CHECKED	
DRAWN	Joe Sutherland
CHECKED	MSA LSH

EJ-CS 12-31-87

May 25 1989
EXAMINED Joseph D. Kaspar, ENGINEER OF BRIDGE DESIGN
PASSED James T. Kaufman, ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINTS

For 2", 2½" and 4" Movement

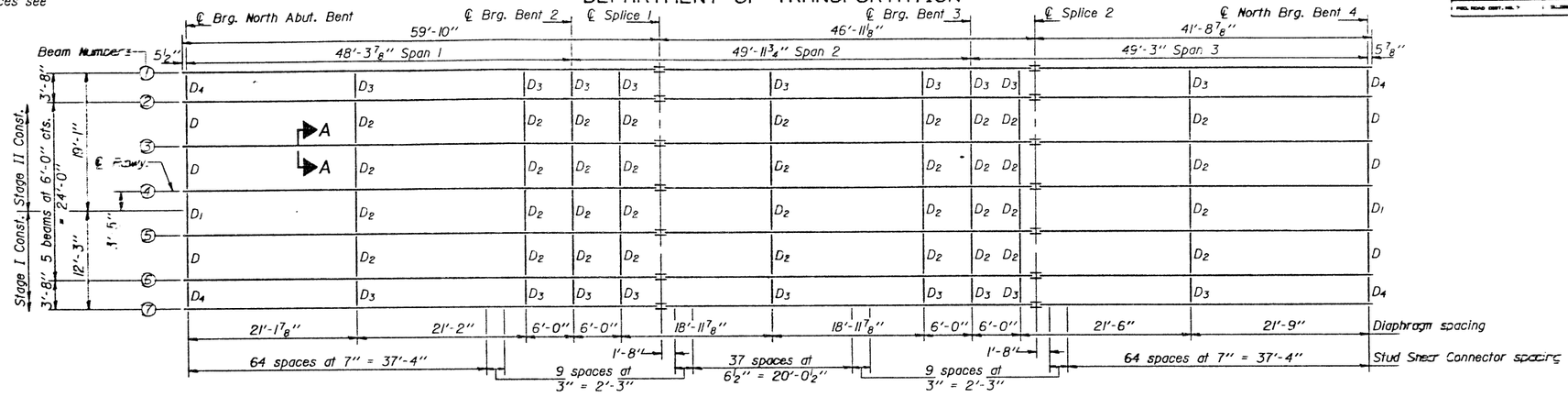
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

Notes: All beams shall be W24 x 68 (AASHTO M223, Grade 50) and shall meet Notch Toughness Requirements.
For details of diaphragms and splices see sheet 14 of 28.

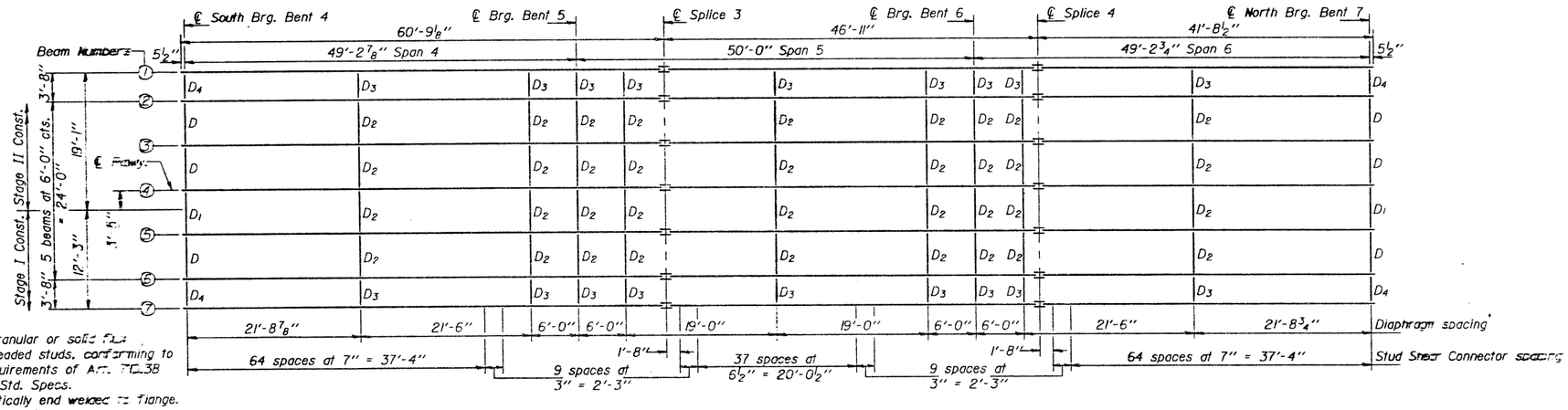
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

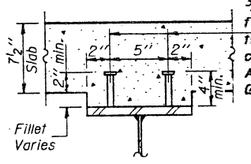
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				60

SHEET NO. 13
28 SHEETS



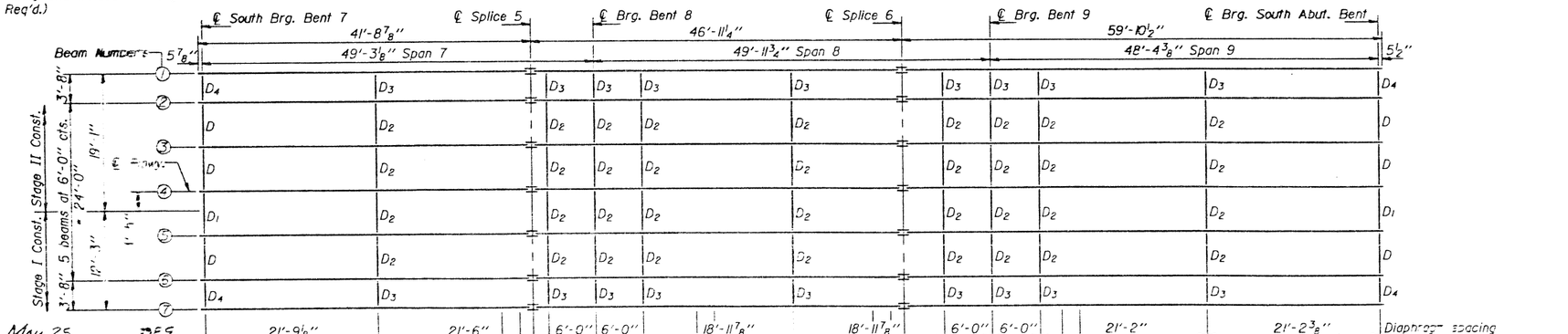
N





SECTION A-A
Typ. for all Stud Shear Connectors.

¾"ø Granular or solid filler filled headed studs, conforming to the requirements of Art. 1006.38 of the Std. Specs. Automatically end welded to flange. (ESSA Req'd.)



FRAMING PLAN

Removing and reinstalling of bolts for Diaphragms D2 at Beam 5 for Stage II Construction shall be cost incidental to Structural Steel.

DESIGNED	Lee Zhang - Hamid
CHECKED	W.J. Weidinger
DRAWN	Joe Sutherland
CHECKED	MSA LSH

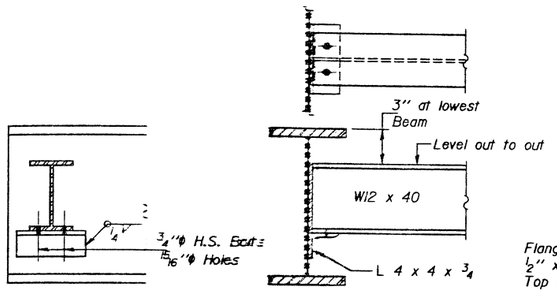
May 25 2005

EXAMINED Oraji O. Esezobor — ENGINEER OF BRIDGE DESIGN
PASSED James L. Kuhfuss — ENGINEER OF BRIDGE AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

STRUCTURAL STEEL
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

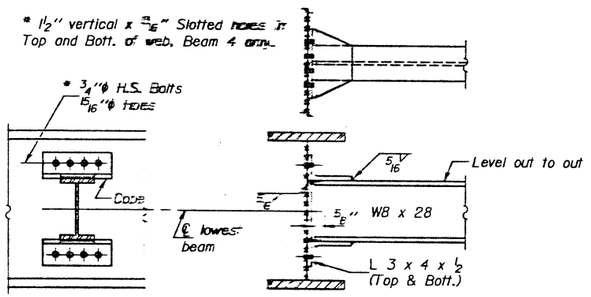
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

					SHEET NO. 14
				61	28 SHEETS
PRELIMINARY ENGR. - NO. 7		ILLINOIS	FED. AID PROJECT-		



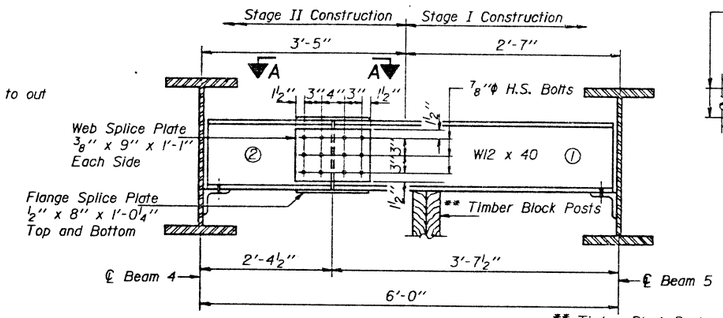
DIAPHRAGM D AND D4

18 D Required
12 D4 Required



DIAPHRAGM D2 AND D3

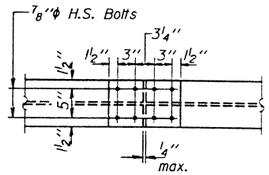
108 D2 Required
54 D3 Required



DIAPHRAGM D1

6 Required
(Looking South)
For details of connections to beams see Diaphragm D.

** Timber Block Posts are cost incidental to Structural Steel.



VIEW A-A

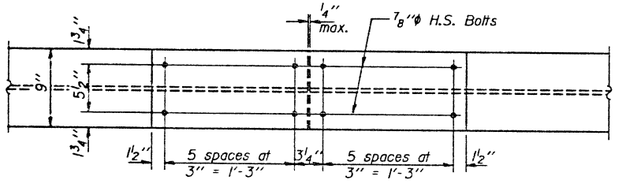
DIAPHRAGM D1 CONSTRUCTION SEQUENCE

1.) Order Diaphragm D1 in two sections with lengths of 2'-3¾" and 3'-6¾".
2.) Attach part ① of Diaphragm to Beam 5 during Stage I Construction.
3.) Place Timber Block Posts between part ① of diaphragm and abutment bearing seat.
4.) Attach part ② of diaphragm to both Beam 4 and part ① of diaphragm during Stage II Construction.
5.) Attach all splice plates to part ① and part ② of diaphragms.
6.) Remove Timber Block Posts.

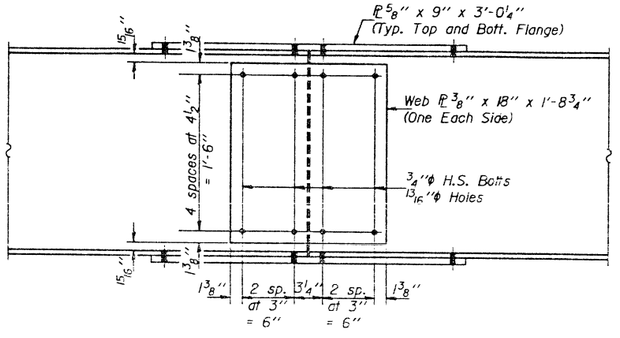
TOP OF BEAM ELEVATIONS

(For fabrication only.)

Location	Beam 1 and 7	Beam 2 and 6	Beam 3 and 5	Beam 4
℄ Brg. North Abut.	424.85	424.93	425.02	425.11
℄ Bent 2	424.86	424.94	425.03	425.12
℄ Splice 1	424.86	424.94	425.03	425.12
℄ Bent 3	424.92	424.99	425.09	425.18
℄ Splice 2	424.93	425.01	425.10	425.19
℄ North Brg. Bent 4	425.00	425.08	425.17	425.26
℄ South Brg. Bent 4	425.00	425.08	425.17	425.26
℄ Bent 5	425.01	425.09	425.18	425.27
℄ Splice 3	425.01	425.09	425.18	425.27
℄ Bent 6	425.07	425.16	425.24	425.33
℄ Splice 4	425.08	425.17	425.25	425.34
℄ North Brg. Bent 7	425.11	425.19	425.28	425.38
℄ South Brg. Bent 7	425.11	425.19	425.28	425.38
℄ Splice 5	425.04	425.12	425.21	425.31
℄ Bent 8	425.03	425.11	425.20	425.29
℄ Splice 6	424.94	425.02	425.11	425.20
℄ Bent 9	424.93	425.01	425.10	425.19
℄ Brg. South Abut.	424.88	424.96	425.05	425.15



PLAN OF TOP AND BOTTOM FLANGE



WEB ELEVATION

SPLICE DETAILS

Typical all splices.

INTERIOR GIRDER MOMENT TABLE

		0.4 Sp. 1, 4 and 7 or 0.6 Sp. 3, 6 and 9	0.5 Span 2, 5 and 8	Bent 2, 3, 5, 6, 8 and 9
Is	(in4)	1830	1830	1830
Ic	(in4)	6144	6144	
Ss	(in3)	154	154	154
Sc	(in3)	255	255	
Z	(in3)			177
w	(K/ft.)	.654	.654	.541
MP	('K)	126	45	212
sP	(K/ft.)	.287	.287	
MsP	('K)	63	39	
ML	('K)	290	243	129
M (Imp)	('K)	83	69	37
5/3(ML+I)	('K)	622	520	277
Ma	('K)	1054	785	536
Mu	('K)	1500	1500	737
fsP non-comp.	(k.s.i.)	9.8	3.5	15.5
fsP (comp.)	(k.s.i.)	3.0	1.8	
fs 5/3(L+I)	(k.s.i.)	29.3	24.5	2.6
fs (Overload)	(k.s.i.)	42.1	29.8	32.1
fs (Total)	(k.s.i.)			
VR	('K)	42.4	33.7	

INTERIOR GIRDER REACTION TABLE

		Abut. Bents, Bents 4 and 7	Bent 2, 3, 5, 6, 8 and 9
RDL	(K)	18.8	51.2
RLL	(K)	30.9	36.2
RIM	(K)	8.8	10.3
R Total	(K)	58.5	97.7

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs (Total & Overload).

VR is the maximum Live Load + Impact shear range in span.

Z is the plastic section modulus used to determine the ultimate plastic moments in the non-composite areas.

MU (Applied Moment)=1.3[MP + MsP + 5/3(ML + I)].

MA is the Full Plastic Moment Capacity for Compact, Braced section.

fs (Overload) is the sum of the stresses due to MP + MsP + 5/3(ML + I).

fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[MP + MsP + 5/3(ML + I)].

Notes: Two hardened washers shall be required over all bolt holes in diaphragms. The bolts for the slotted holes shall only be finger-tightened prior to the deck slab pouring and then be snug-tightened after completion of the pouring. All splice plate material for beams shall meet Notch Toughness Requirements. All splice plate material for beams shall be AASHTO M223, Grade 50.

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	[illegible]

Mar. 22, 1989
DIRECTOR OF HIGHWAYS
Engineer of Bridges and Structures
Director of Highways

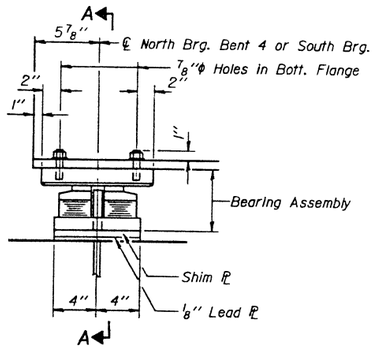
I-2-D 8-30-88

STRUCTURAL STEEL
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

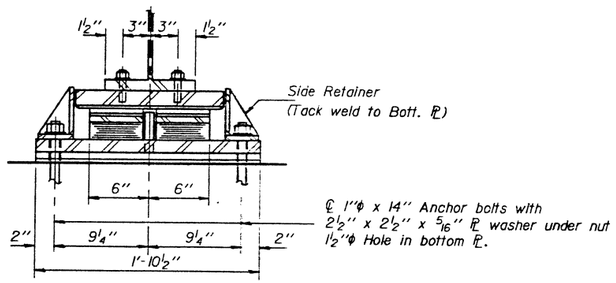
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
RT. 805				62
F.A.				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 15
28 SHEETS



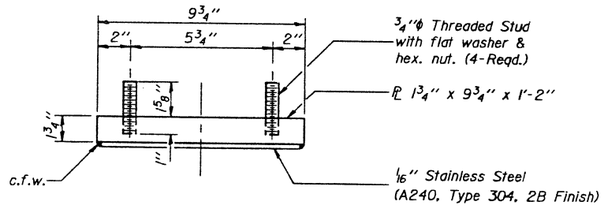
ELEVATION AT BENTS 4 AND 7
Looking West for Bent 4 and East for Bent 7.



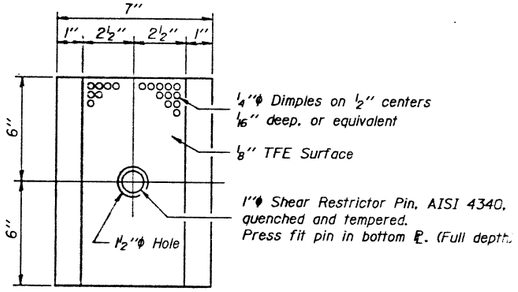
SECTION A-A

TYPE III ELASTOMERIC EXP. BRG.

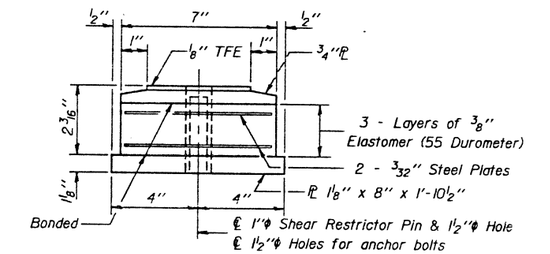
Note: See sheet 16 of 28 for Anchor Bolt Installation.



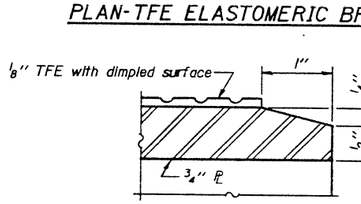
TOP BEARING ASSEMBLY



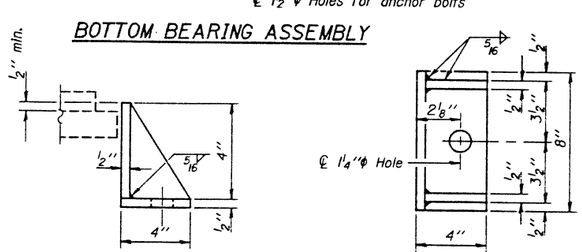
PLAN-TFE ELASTOMERIC BRG.



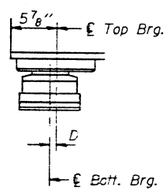
BOTTOM BEARING ASSEMBLY



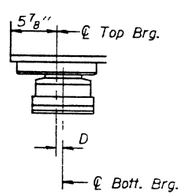
SECTION THRU TFE



SIDE RETAINER
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

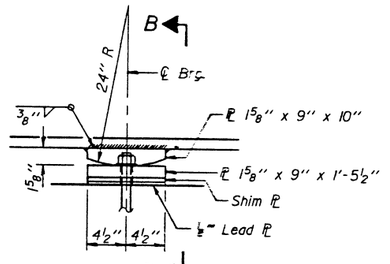


BELOW 50° F.
(Move bott. brg. away from fixed brg.)



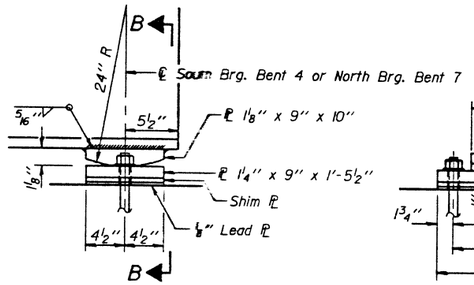
ABOVE 50° F.
(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.
D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.
Expansion length for each expansion bearing is 224'-0".



ELEVATION AT BENTS 2, 3, 5, 6, 8 AND 9

FIXED BEARING

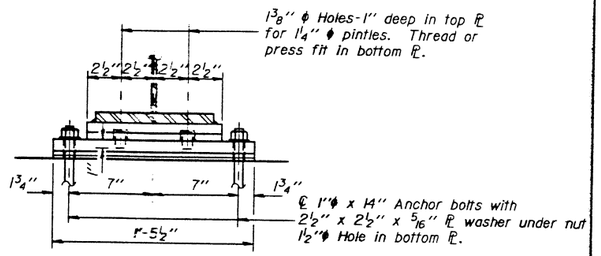


ELEVATION AT BENTS 4, 7, AND ABUTMENTS
Looking West for Bent 4 and East for Bent 7.
Looking West for North Abut. and East for South Abut.

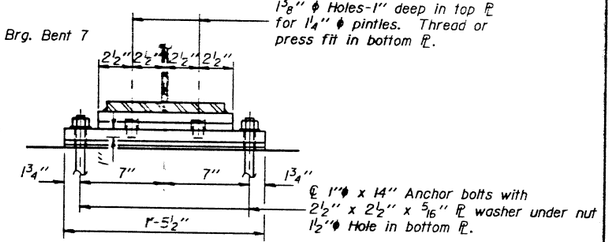
FIXED BEARING

Note: The 1/8" 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 to the full area of the contact surfaces.

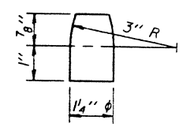
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



SECTION B-B



SECTION B-B



PINTLE

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type III	Each	14

DESIGNED	Lee Sheng Kuan	
CHECKED	[illegible]	
DRAWN	Joe Sutherland	
CHECKED	MSA LSH	

May 25 1983

EXAMINED Oraj O. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED James T. Rayburn
ENGINEER OF BRIDGES AND STRUCTURES

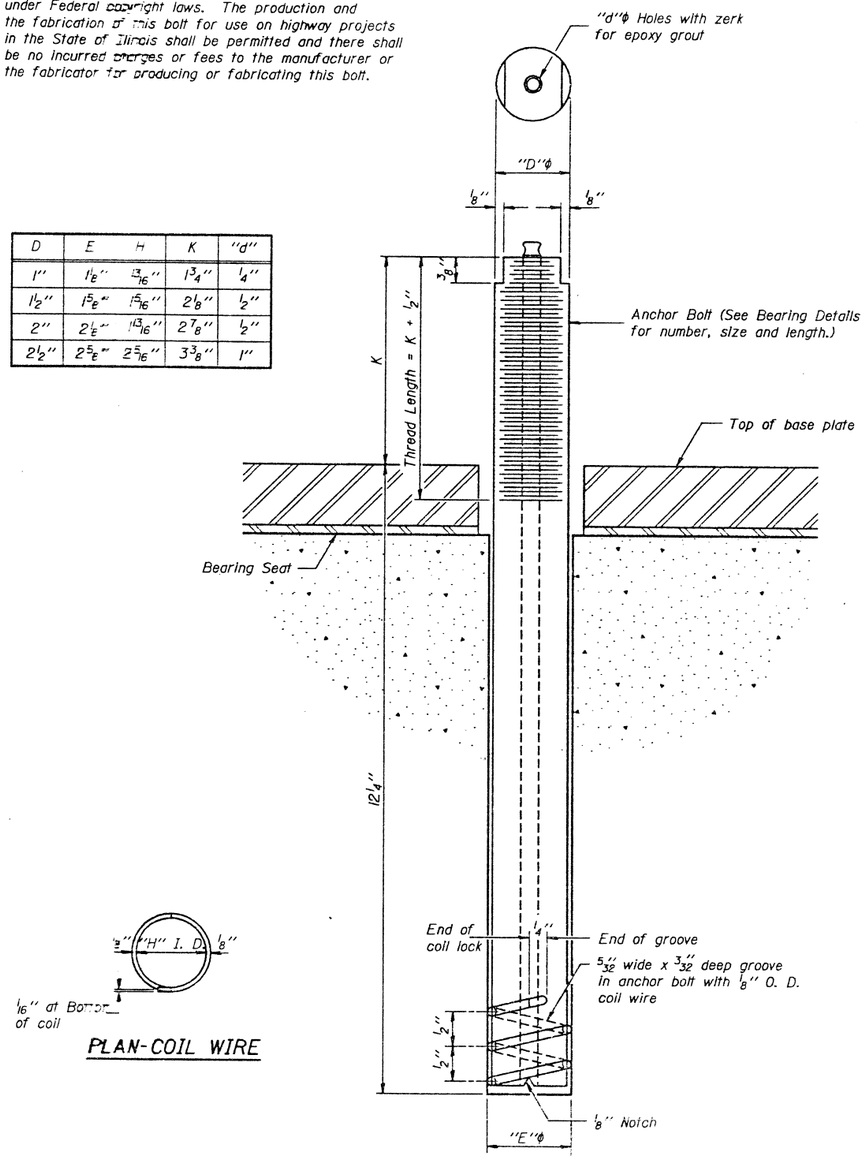
APPROVED
DIRECTOR OF HIGHWAYS

I-2-E3 12-1-83

BEARING DETAILS
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 16
F.A.P.				63	128 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



D	E	H	K	"d"
1"	1⅛"	13/16"	1¾"	¼"
1½"	1⅝"	1 5/16"	2⅛"	½"
2"	2⅛"	1 13/16"	2⅞"	½"
2½"	2⅝"	2 5/16"	3⅜"	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 I 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, furnished 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".

DESIGNED	
CHECKED	
DRAWN	Joe Sutherland
CHECKED	

May 25 1984
EXAMINED Greg D. Kaspar ENGINEER OF BRIDGE DESIGN
PASSED James T. Rayburn ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

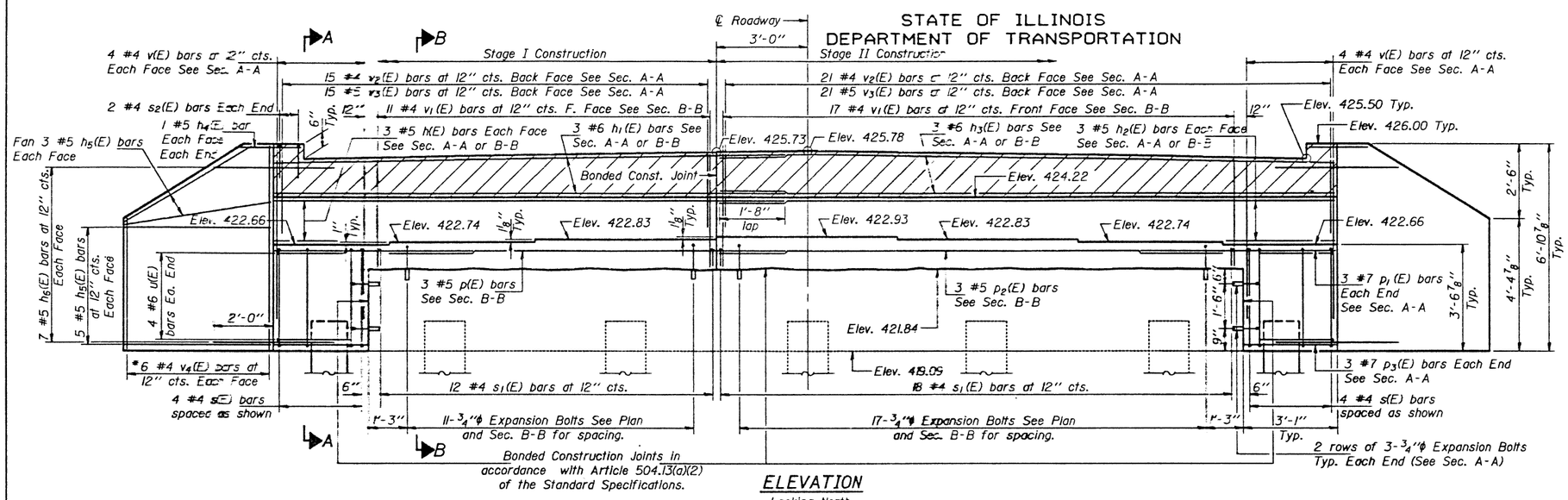
ABB-1 12-1-83

ANCHOR BOLT DETAILS
FOR BEARINGS
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

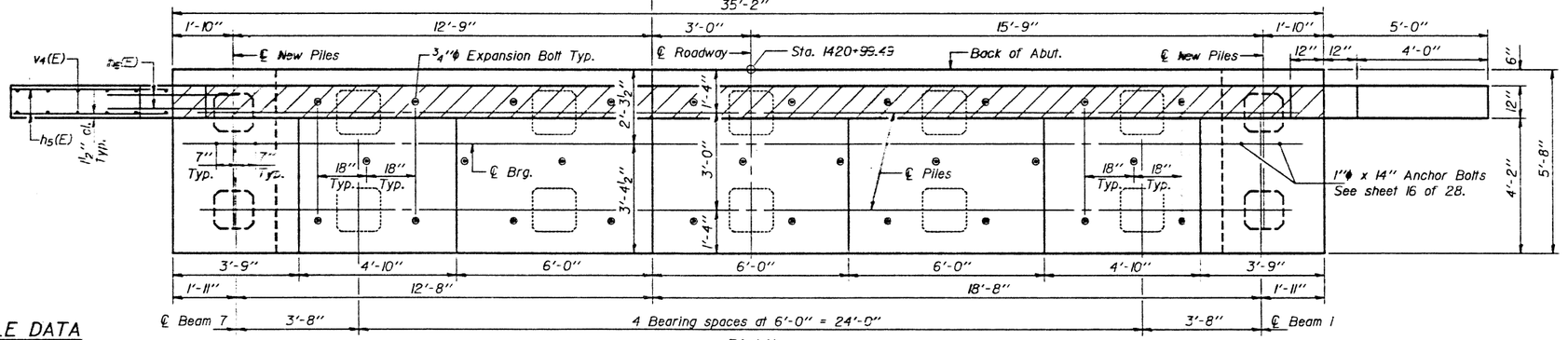
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.				64
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 17
28 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION
Looking North



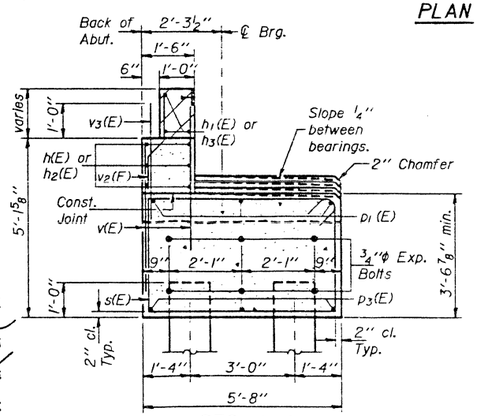
PLAN

PILE DATA

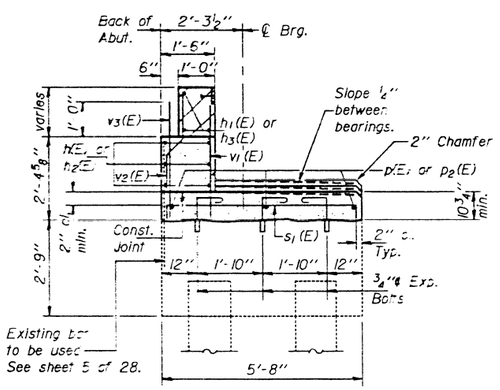
Type: Precast Concrete Piles 14"
Capacity: 36 Ton
Est. Length: 25'
No. Required: 1 plus 1 test pile

Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
Hatched area to be poured after superstructure is in place and form work is removed. Concrete in hatched area shall be billed with superstructure as "Class X Concrete Superstructure".
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".

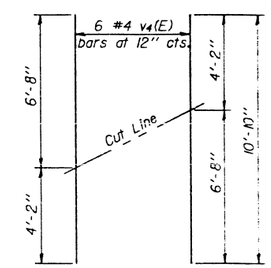
DESIGNED	Lichang Huang	May 25 1989
CHECKED	M.K. Ingram	EXAMINED Raj D. Kaspar, ENGINEER OF BRIDGE DESIGN
DRAWN	Joe Sutherland	PASSED James T. Rayburn, ENGINEER OF BRIDGE AND STRUCTURES
CHECKED	M.K.I. L.S.H.	APPROVED, DIR. OF HIGHWAYS



SEC. A-A

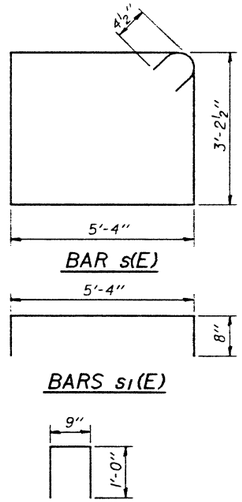


SEC. B-B



* FIELD CUTTING DIAGRAM

Order v4(E) bars full length. Cut to fit as shown and use remainder of bars in other wing.



BILL OF MATERIAL

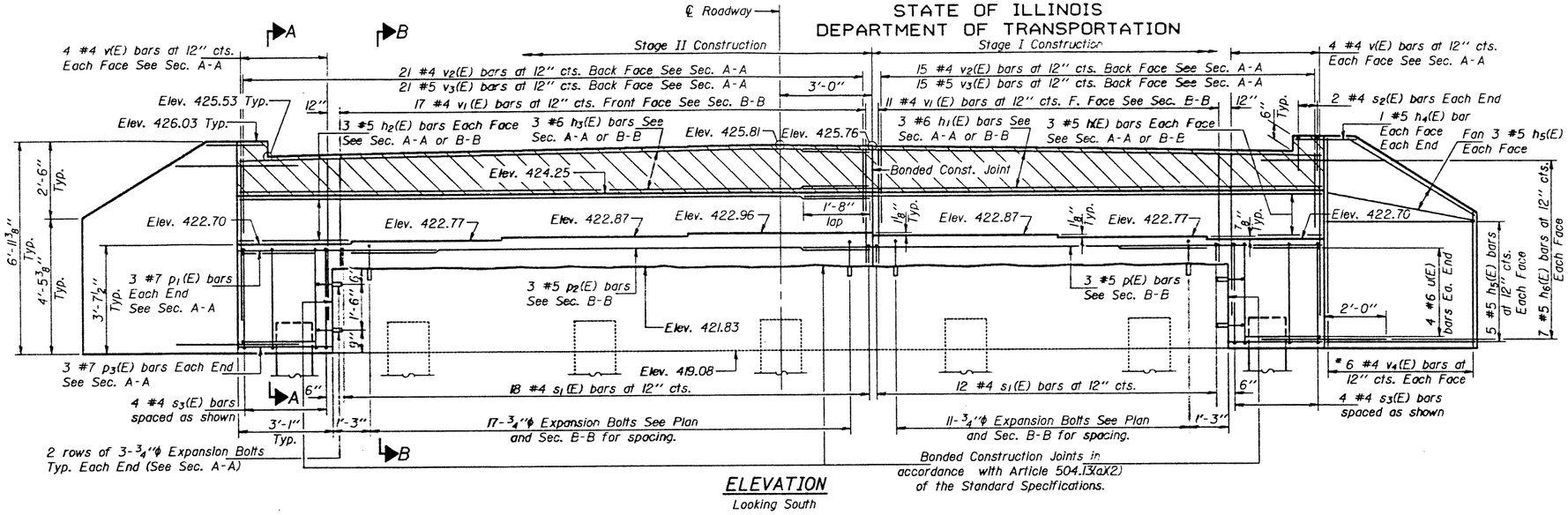
Bar	No.	Size	Length	Shape
h(E)	6	#5	16'-3"	
h1(E)	3	#6	16'-3"	
h2(E)	6	#5	20'-4"	
h3(E)	3	#6	20'-4"	
h4(E)	4	#5	1'-9"	
h5(E)	32	#5	4'-9"	
h6(E)	28	#5	4'-0"	
p(E)	3	#5	12'-4"	
p1(E)	6	#7	6'-0"	
p2(E)	3	#5	16'-5"	
p3(E)	6	#7	2'-9"	
s(E)	8	#4	17'-10"	
s1(E)	30	#4	6'-8"	
s2(E)	4	#4	2'-9"	
u(E)	8	#6	10'-9"	
v(E)	16	#4	4'-6"	
v1(E)	28	#4	3'-6"	
v2(E)	36	#4	2'-11"	
v3(E)	36	#5	3'-4"	
v4(E)	12	#4	10'-10"	
Expansion Bolts 3/4"		Each	40	
Class X Concrete		Cu. Yd.	15.4	
Reinforcement Bars Epoxy Coated		Pound	1630	
Precast Concrete Piles 14"		Lin. Ft.	75	
Test Pile Precast Concrete		Each	1	
Structure Excavation		Cu. Yd.	28	

Reinfocement bars designated (E) shall be epoxy coated.

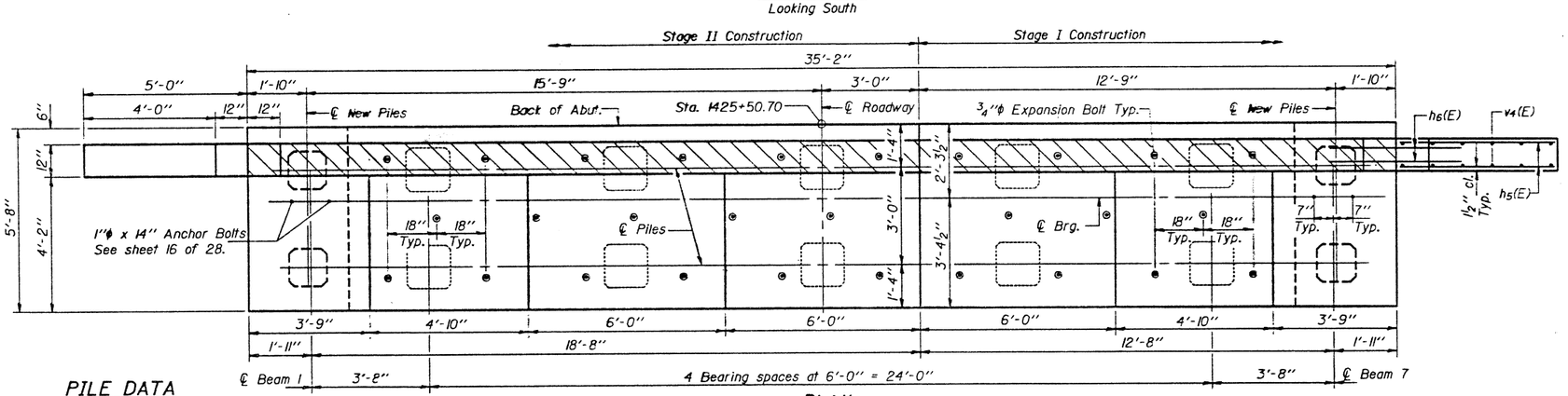
NORTH ABUTMENT
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 15
28 SHEETS



ELEVATION
Looking South



PLAN

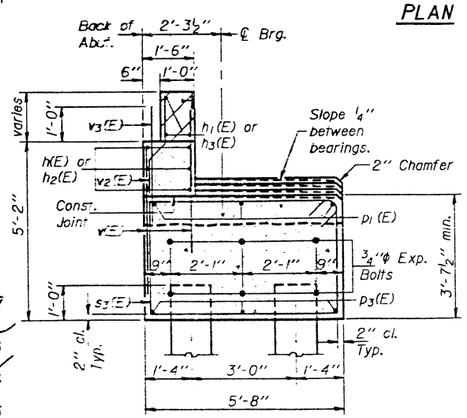
PILE DATA

Type: Precast Concrete Piles 14"
Capacity: 36 Ton
Est. Length: 25'
No. Required: 1 plus 1 test pile

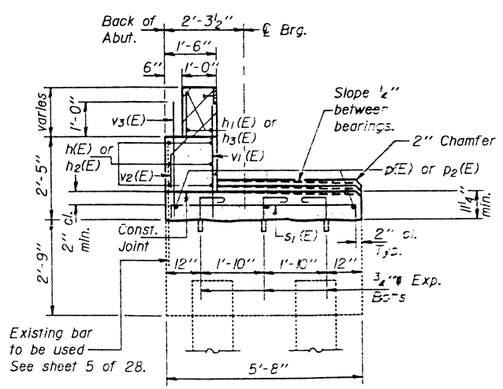
Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
Hatched area to be poured after superstructure is in place and form work is removed. Concrete in hatched area shall be billed with superstructure as "Class X Concrete Superstructure".
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".

DESIGNED	
CHECKED	
DRAWN	Joe Sutherland
CHECKED	

May 25 1989
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGE AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

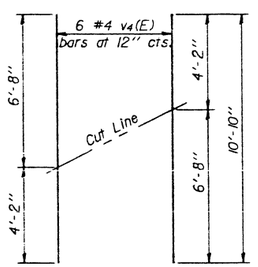


SEC. A-A



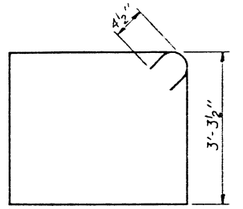
Existing bar to be used See sheet 5 of 28.

SEC. B-B

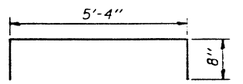


* FIELD CUTTING DIAGRAM

Order v4(E) bars full length. Cut to fit as shown and use remainder of bars in other wing.

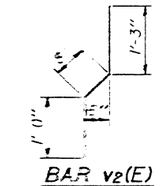


BAR s3(E)

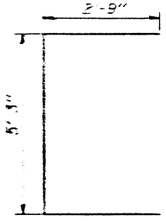


BARS s1(E)

BAR s2(E)



BAR v2(E)



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#5	6'-7"	
h1(E)	3	#6	6'-3"	
h2(E)	6	#5	20'-4"	
h3(E)	3	#6	20'-4"	
h4(E)	4	#5	4'-3"	
h5(E)	32	#5	4'-3"	
h6(E)	28	#5	4'-3"	
p(E)	3	#5	2'-4"	
p1(E)	6	#7	6'-5"	
p2(E)	3	#5	6'-5"	
p3(E)	6	#7	2'-5"	
s1(E)	30	#4	5'-5"	
s2(E)	4	#4	2'-5"	
s3(E)	8	#4	6'-5"	
u(E)	8	#5	5'-5"	
v(E)	16	#4	4'-5"	
v1(E)	28	#4	3'-5"	
v2(E)	36	#4	2'-1"	
v3(E)	36	#5	3'-4"	
v4(E)	12	#4	6'-5"	
Expansion Bolts 3/4"		Each		40
Class X Concrete		Cu. Yd.		15.7
Reinforcement Bars Epoxy Coated		Pounds		1640
Precast Concrete Piles 14"		Lin. Ft.		75
Test Pile Precast Concrete		Each		1
Structure Excavation		Cu. Yd.		28

Reinforcement bars designated (E) shall be epoxy coated.

SOUTH ABUTMENT
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423-25

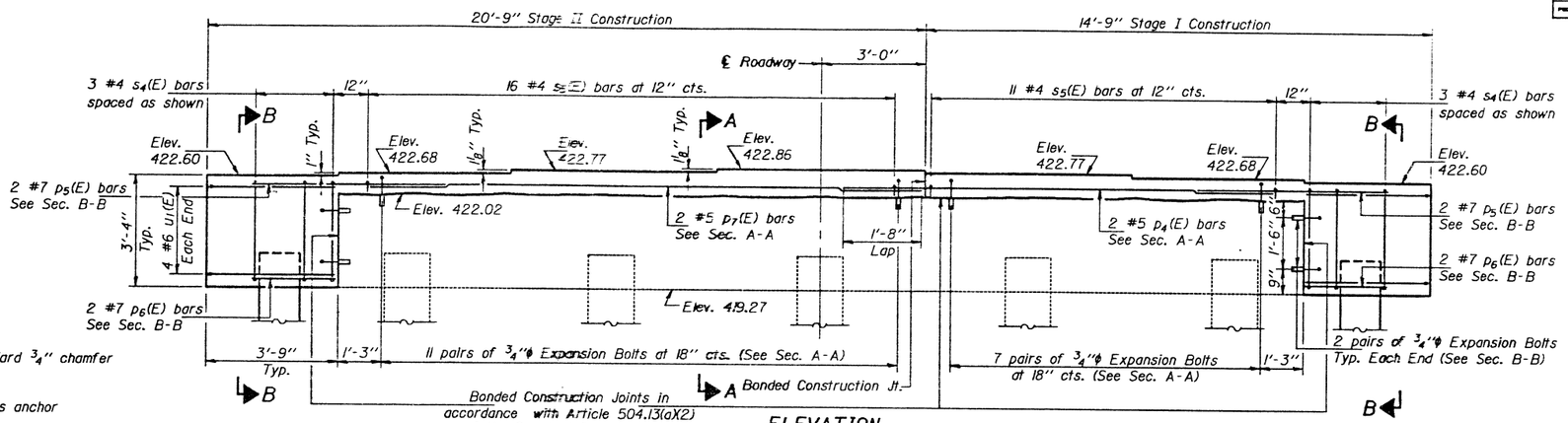
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P.				66
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 19
28 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

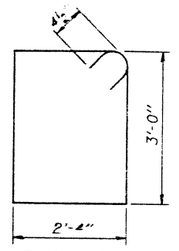
PILE DATA

Type: Precast Concrete Piles 14"
Capacity: 45 Ton
Est. Length: 30'
No. Required: 2

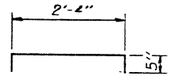


ELEVATION
Looking South

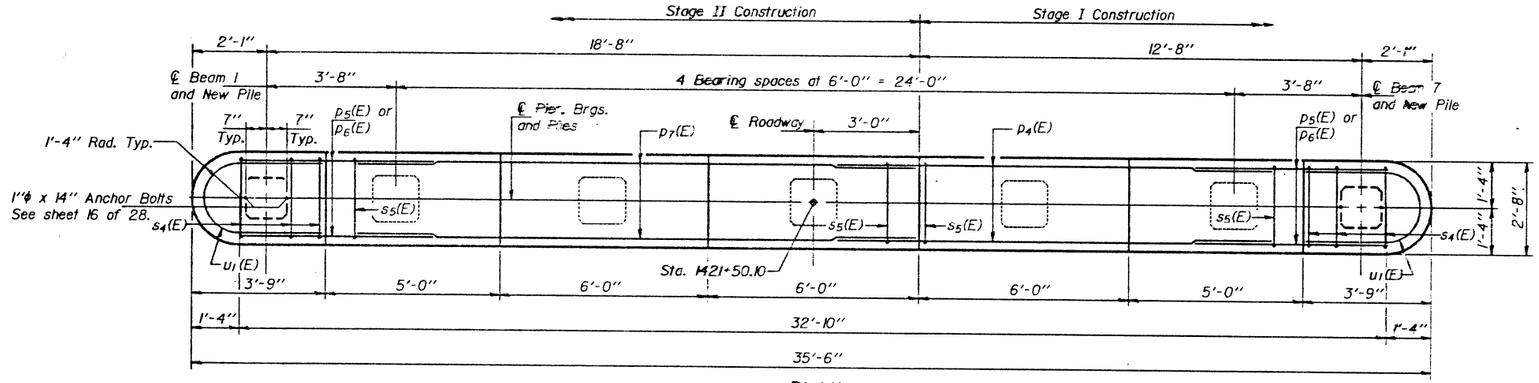
Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Four steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".



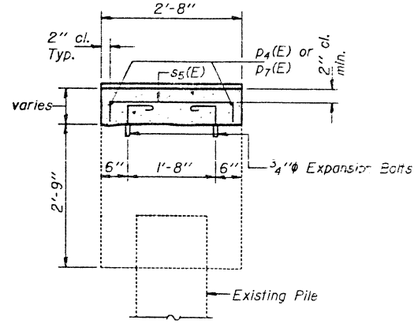
BAR s4(E)



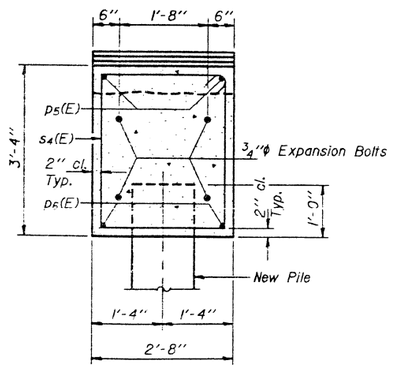
BAR s5(E)



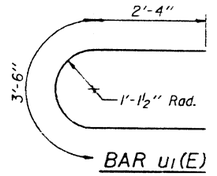
PLAN



SEC. A-A



SEC. B-B



BAR u1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p4(E)	2	#5	12'-0"	
p5(E)	4	#7	5'-6"	
p6(E)	4	#7	2'-4"	
p7(E)	2	#5	16'-3"	
s4(E)	6	#4	11'-5"	
s5(E)	27	#4	3'-2"	
u1(E)	8	#5	8'-2"	
Expansion Bolts 3/4"			Each	44
Class X Concrete			Cu. Yd.	4.2
Reinforcement Bars Epoxy Coated			Pound	320
Precast Concrete Piles 14"			Lin. Ft.	50

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED
CHECKED
DRAWN Joe Sutherland
CHECKED

May 25 1989
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGE AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

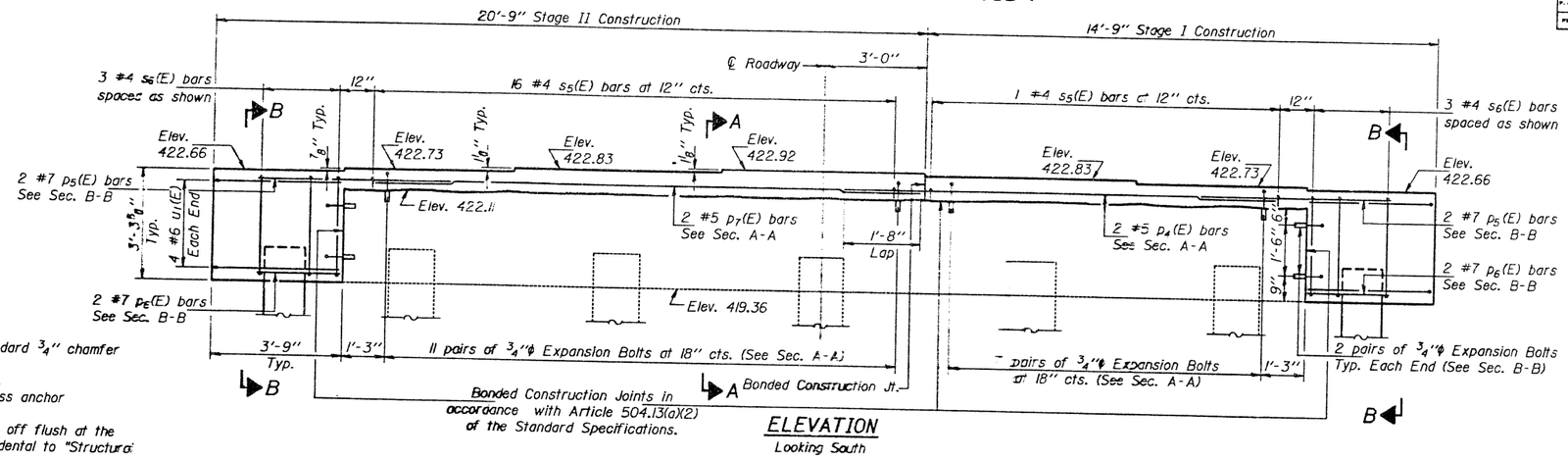
BENT 2
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

PILE DATA

Type: Precast Concrete Piles 14"
Capacity: 45 Ton
Est. Length: 30'
No. Required: 2

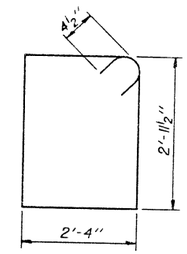
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
A. & L.				SHEET NO. 20
F. A.			67	28 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

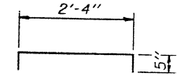


ELEVATION
Looking South

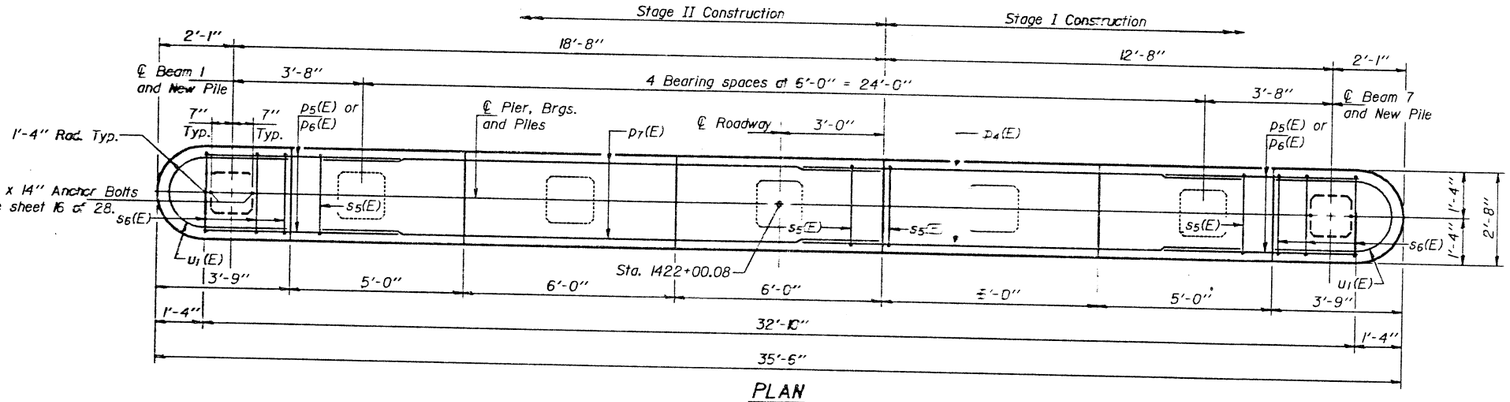
Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".



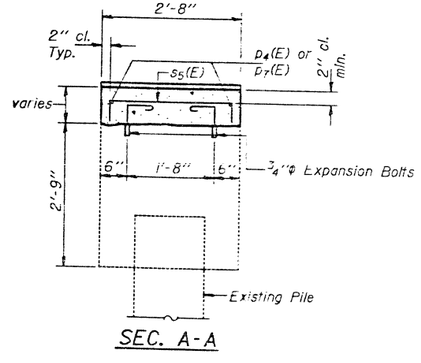
BAR $s_6(E)$



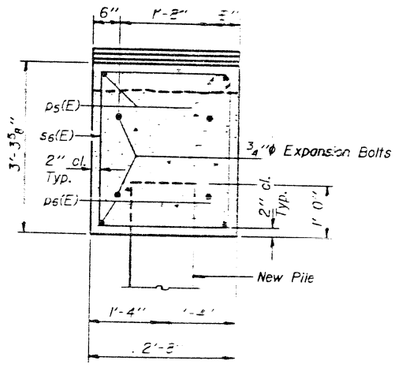
BAR $s_5(E)$



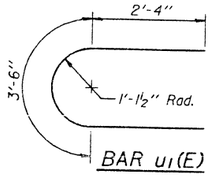
PLAN



SEC. A-A



SEC. B-B



BAR $u_1(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$p_4(E)$	2	#5	12'-0"	
$p_5(E)$	4	#7	5'-6"	
$p_6(E)$	4	#7	2'-4"	
$p_7(E)$	2	#5	16'-3"	
$s_5(E)$	27	#4	3'-2"	
$s_6(E)$	6	#4	11'-4"	
$u_1(E)$	8	#6	8'-2"	
Expansion Bolts 3/4"		Each	44	
Class X Concrete		Cu. Yd.	4.1	
Reinforcement Bars Epoxy Coated		Pound	320	
Precast Concrete Piles 14"		Lin. Ft.	60	

Reinfocement bars designated (E) shall be epoxy coated.

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	MSH LSH

May 25 1979
EXAMINED Raj D. Kapur ENGINEER OF BRIDGE DESIGN
PASSED James T. Rayburn ENGINEER OF BRIDGE AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

BENT 3
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

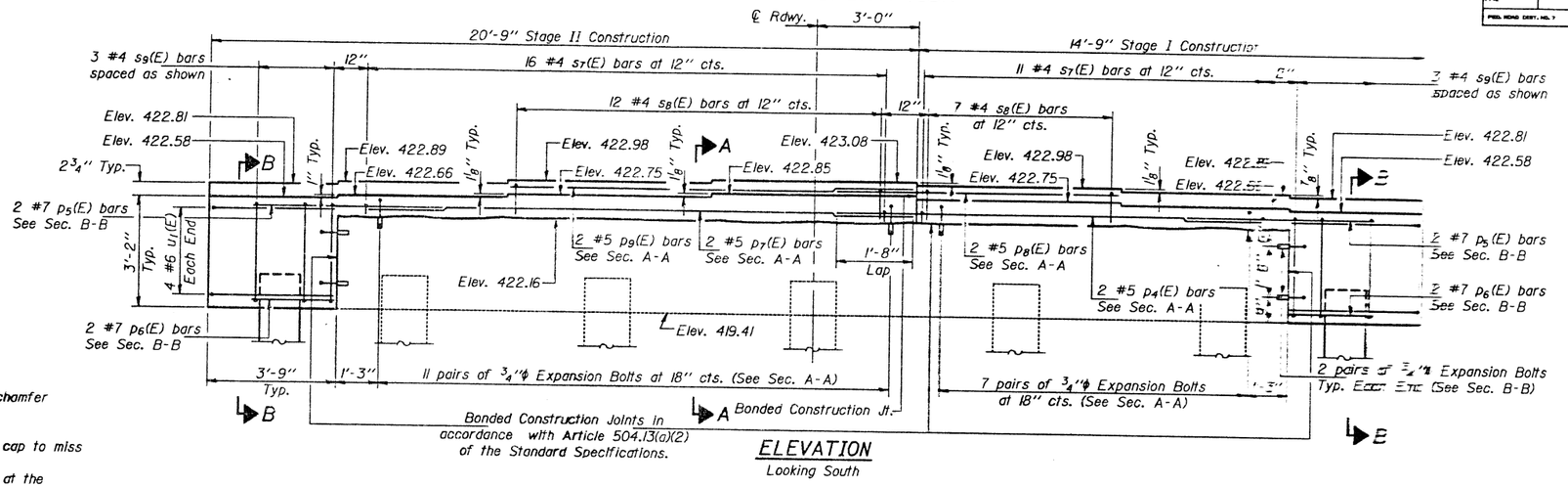
PILE DATA

Type: Precast Concrete Piles 14"
Capacity: 45 T
Est. Length: 30'
No. Required: 1 Pile @ 45 Ton

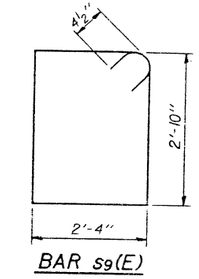
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.				68
FED. ROAD DIST. NO. ?	ILLINOIS	FED. AID PROJECT-		

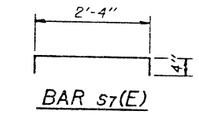
SHEET NO. 21
28 SHEETS



ELEVATION
Looking South

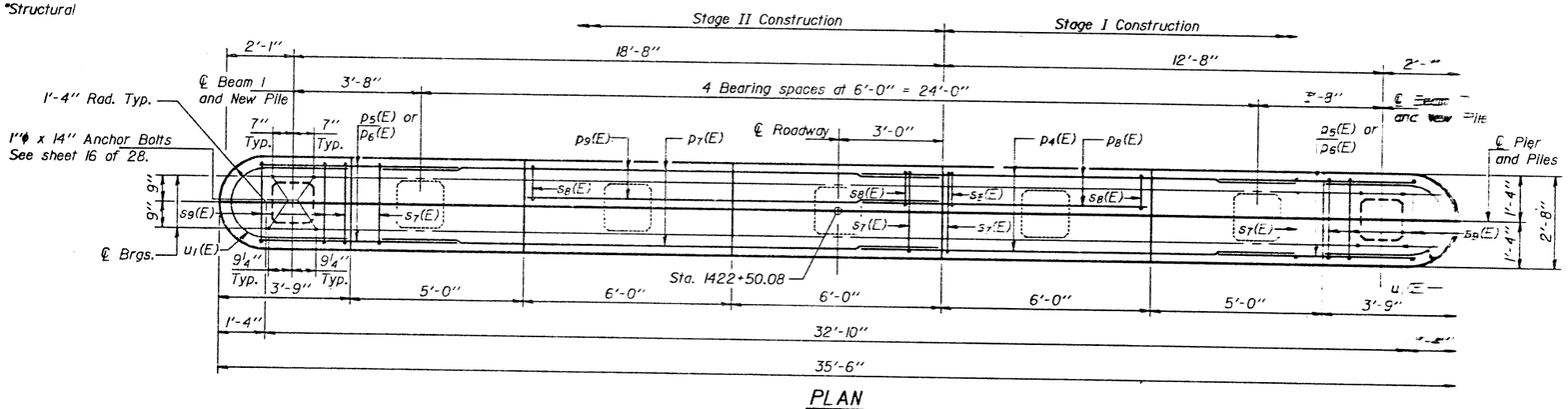


BAR s9(E)

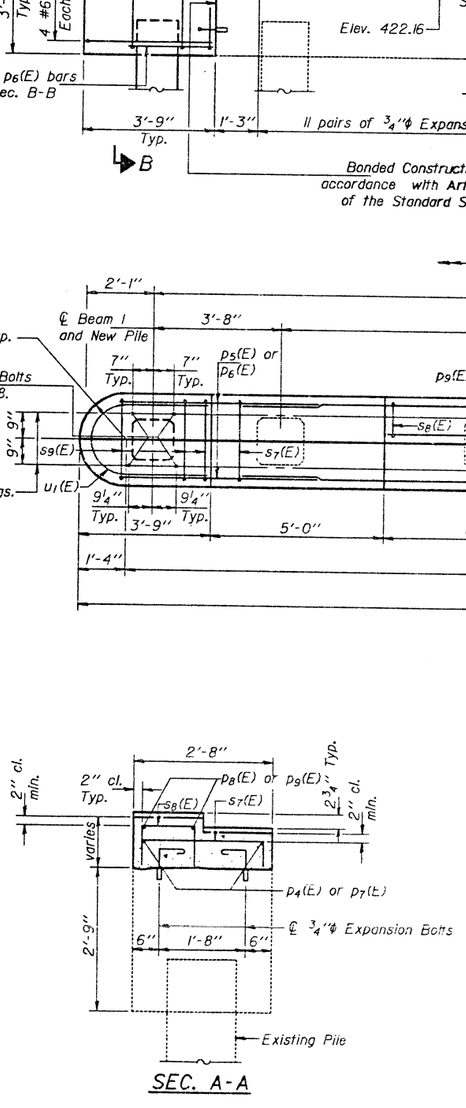


BAR s7(E)

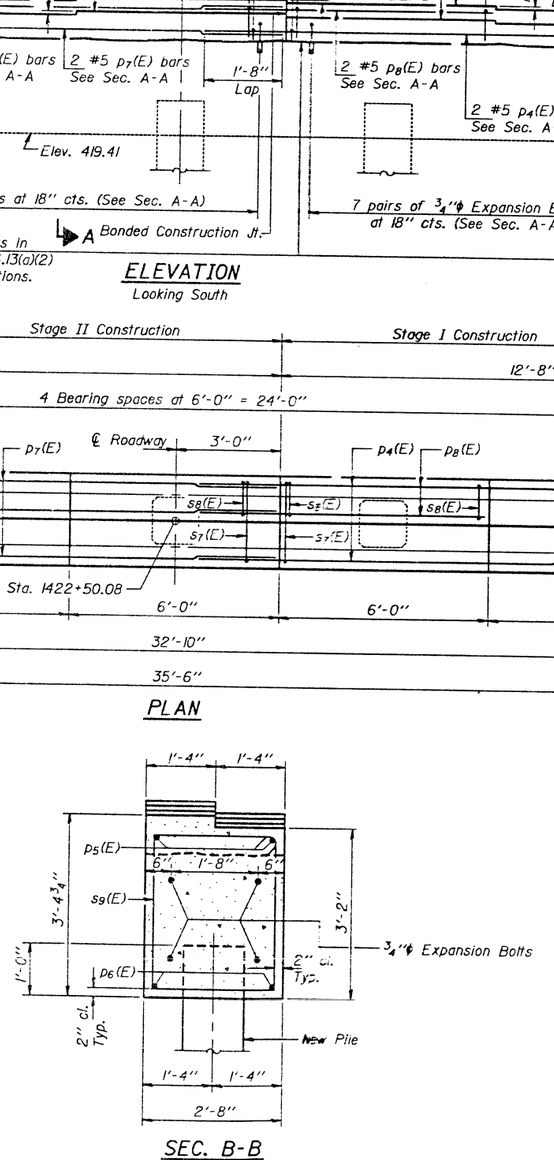
Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement for expansion bolts in cap to miss anchor bolts.
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".



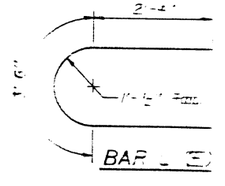
PLAN



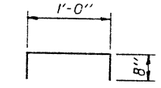
SEC. A-A



SEC. B-B



BAR



BAR s8(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p4(E)	2	#5	12'-0"	
p5(E)	4	#7	5'-6"	
p6(E)	4	#7	2'-4"	
p7(E)	2	#5	16'-3"	
p8(E)	2	#5	7'-8"	
p9(E)	2	#5	11'-9"	
s7(E)	27	#4	3'-0"	
s8(E)	19	#4	2'-4"	
s9(E)	6	#4	11'-1"	
u1(E)	8	#6	8'-2"	
Expansion Bolts 3/4"			Each	44
Class X Concrete			Cu. Yd.	4.1
Reinforcement Bars Epoxy Coated			Pound	390
Precast Concrete Piles 14"			Lin. Ft.	30
Test Pile Precast Concrete			Each	1

Reinfocement bars designated (E) shall be epoxy coated.

DESIGNED
CHECKED
DRAWN Joe Sutherland
CHECKED

May 29 1989
EXAMINED Engineer of Bridge Design
PASSED Engineer of Bridges and Structures
APPROVED
Director of Highways

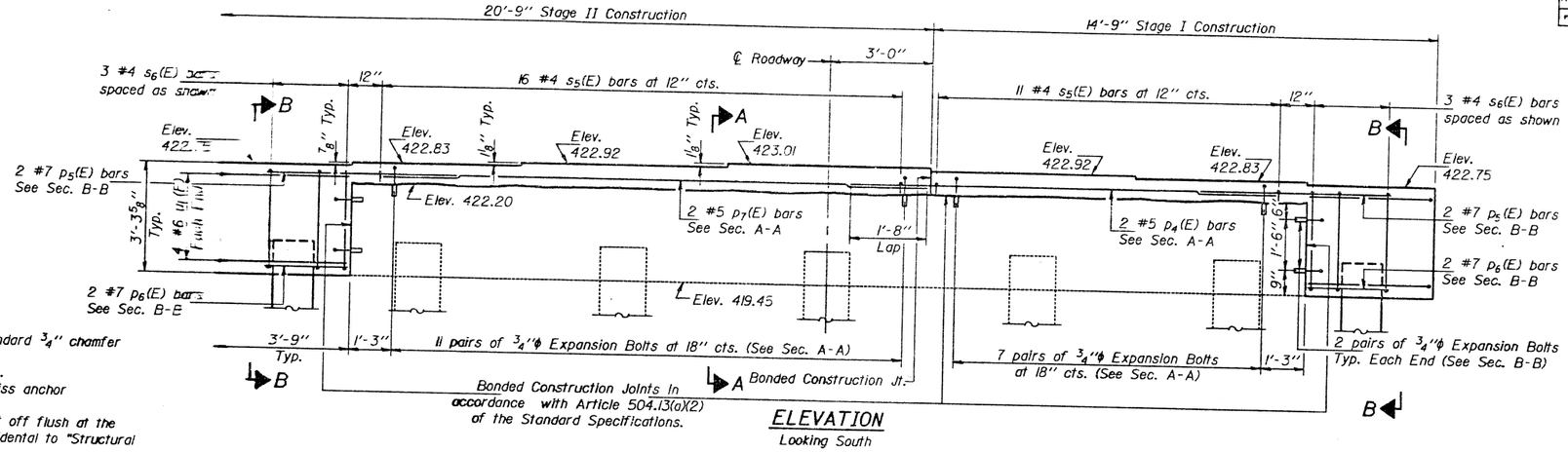
BENT 4
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

PILE DATA

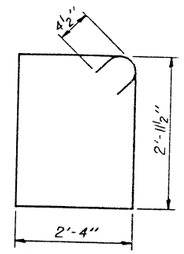
Type: Precast Concrete Piles 14"
Capacity: 45 Ton
Est. Length: 30'
No. Required: 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

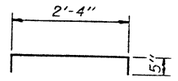
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.			69	28 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		



ELEVATION
Looking South

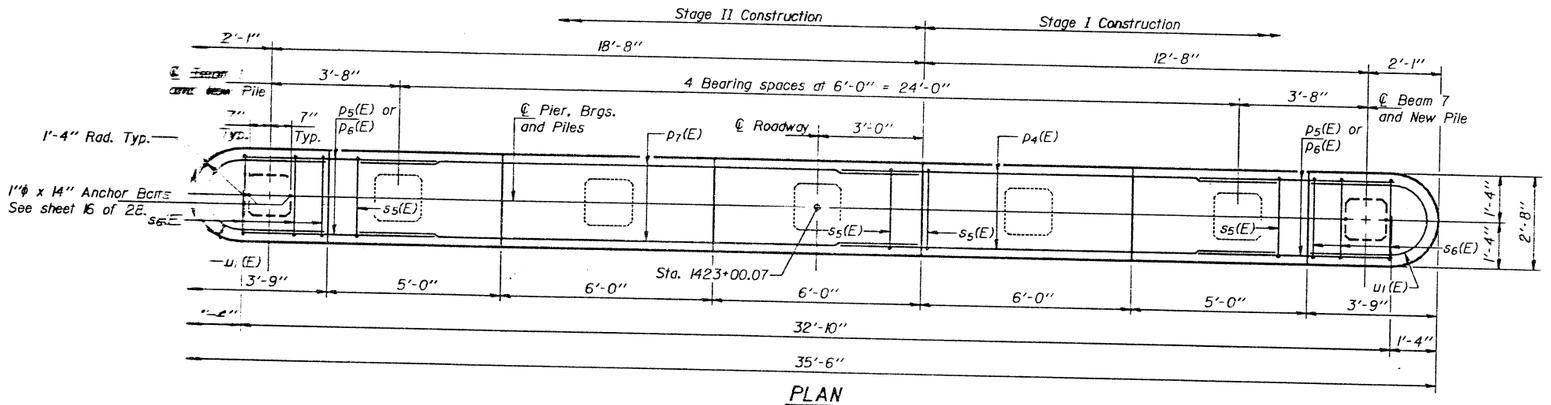


BAR $s_6(E)$

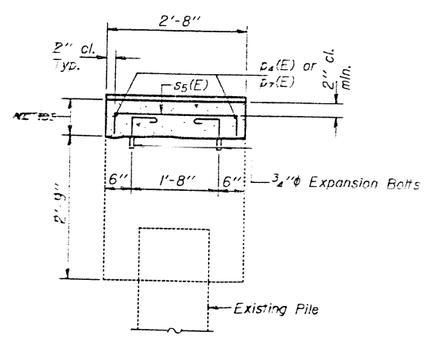


BAR $s_5(E)$

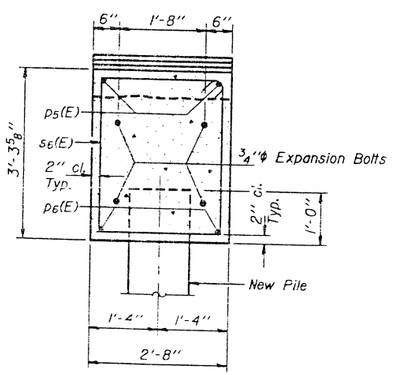
Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".



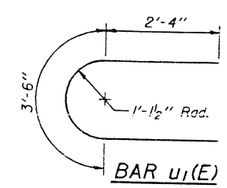
PLAN



SEC. A-A



SEC. B-B



BAR $u_1(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$p_4(E)$	2	#5	12'-0"	
$p_5(E)$	4	#7	5'-6"	
$p_6(E)$	4	#7	2'-4"	
$p_7(E)$	2	#5	16'-3"	
$s_5(E)$	27	#4	3'-2"	
$s_6(E)$	6	#4	11'-4"	
$u_1(E)$	8	#6	8'-2"	
Expansion Bolts 3/4"		Each	44	
Class X Concrete		Cu. Yd.	4.1	
Reinforcement Bars Epoxy Coated		Pound	320	
Precast Concrete Piles 14"		Lin. Ft.	60	

Reinfocement bars designated (E) shall be epoxy coated.

DESIGNED [illegible]
CHECKED [illegible]
DRAWN Joe Sutherland
CHECKED [illegible]

May 25 1985
EXAMINED Raj D. Kapur
ENGINEER OF BRIDGE DESIGN
PASSED James T. Kaukum
ENGINEER OF BRIDGE AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

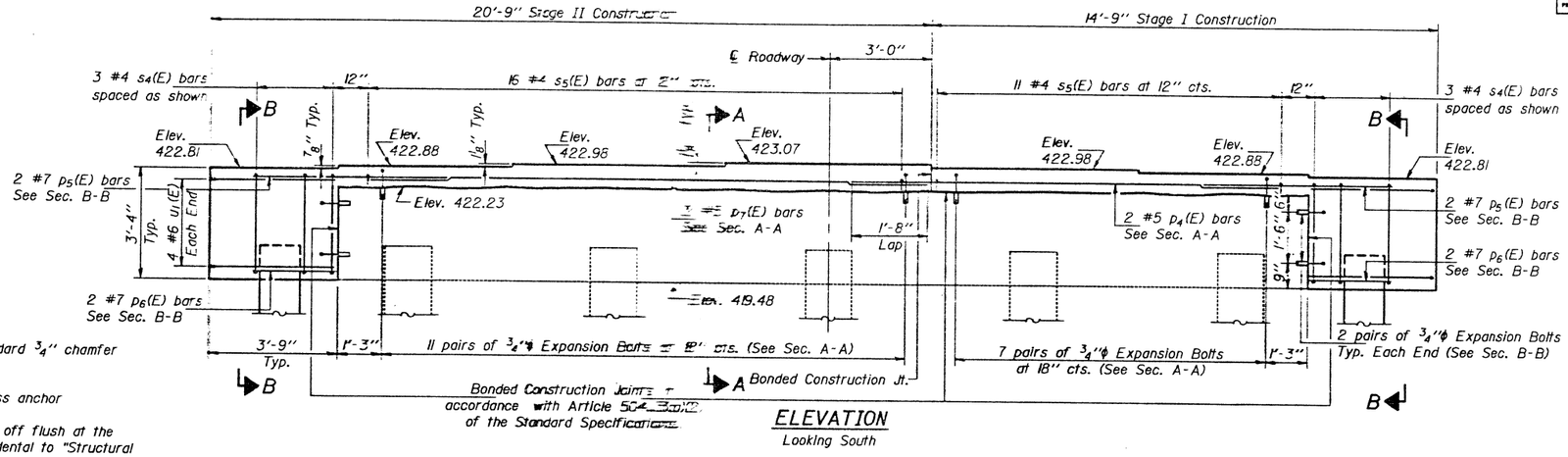
BENT 5
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

PILE DATA

Type: Precast Concrete Piles 14"
Capacity: 45 Ton
Est. Length: 30'
No. Required: 2

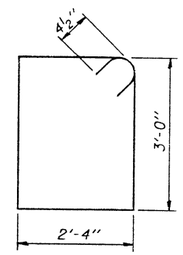
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. R. A.			70	28 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

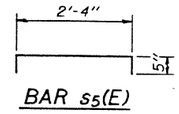


ELEVATION
Looking South

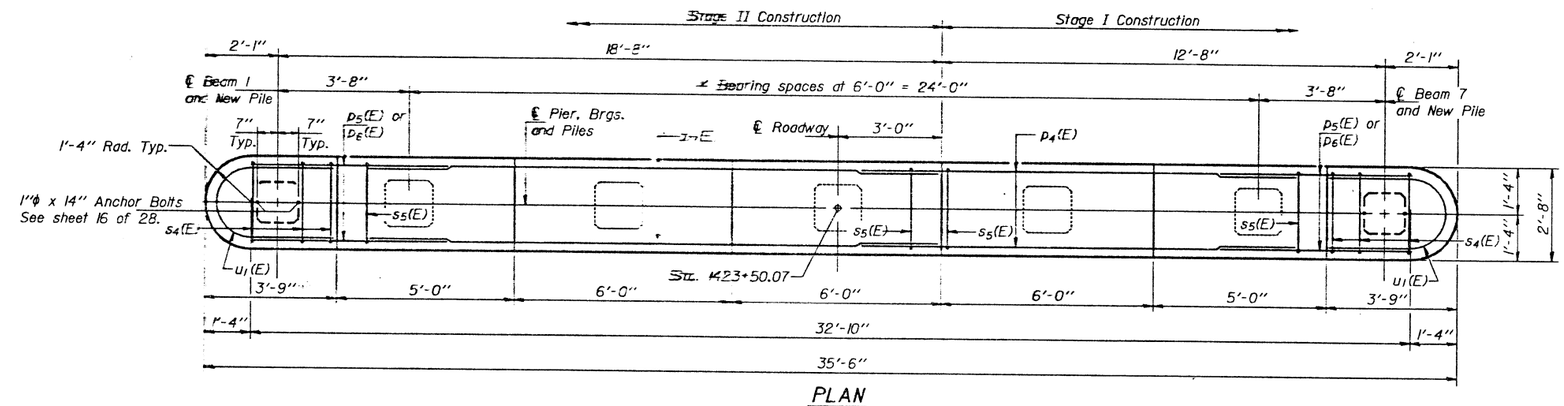
Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".



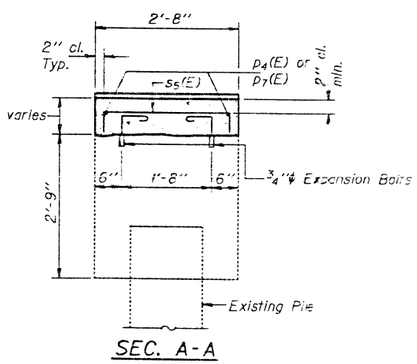
BAR $s_4(E)$



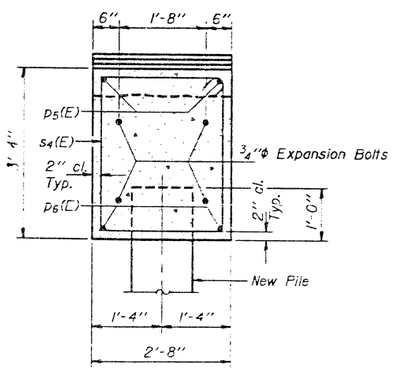
BAR $s_5(E)$



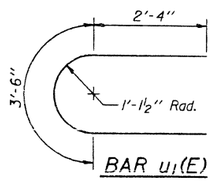
PLAN



SEC. A-A



SEC. B-B



BAR $u_1(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$p_4(E)$	2	#5	12'-0"	
$p_5(E)$	4	#7	5'-6"	
$p_6(E)$	4	#7	2'-4"	
$p_7(E)$	2	#5	16'-3"	
$s_4(E)$	6	#4	11'-5"	
$s_5(E)$	27	#4	3'-2"	
$u_1(E)$	8	#6	8'-2"	
Expansion Bolts 3/4"		Each	44	
Class X Concrete		Cu. Yd.	4.2	
Reinforcement Bars Epoxy Coated		Pound	320	
Precast Concrete Piles 14"		Lin. Ft.	60	

Reinfocement bars designated (E) shall be epoxy coated.

DESIGNED	Li Zhang Hamel
CHECKED	MJK
DRAWN	Joe Sutherland
CHECKED	MSA LSH

May 25 1989
EXAMINED Greg D. Kasper ENGINEER OF BRIDGE DESIGN
PASSED James T. Rayburn ENGINEER OF BRIDGE AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

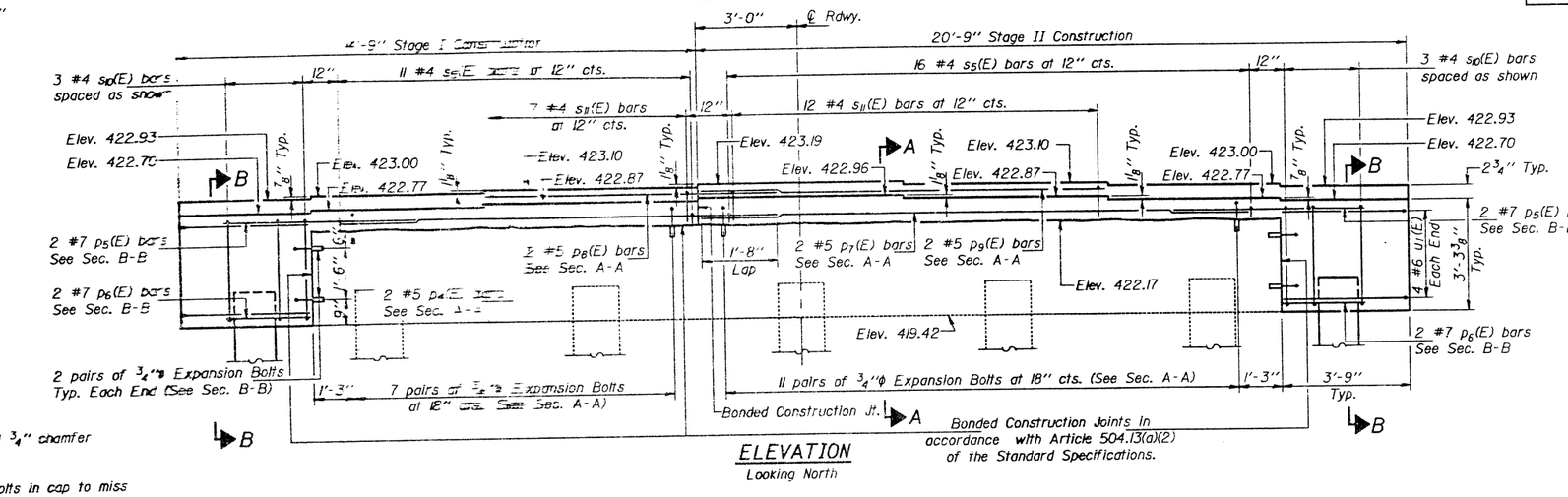
BENT 6
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.			71	28 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

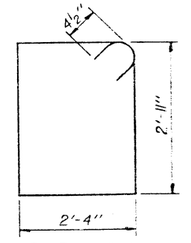
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PILE DATA

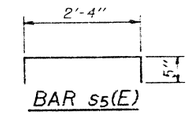
Type: Precast Concrete Piles 14"
Capacity: 45 Ton
Est. Length: 30'
No. Required: 1 plus 1 test pile



ELEVATION
Looking North

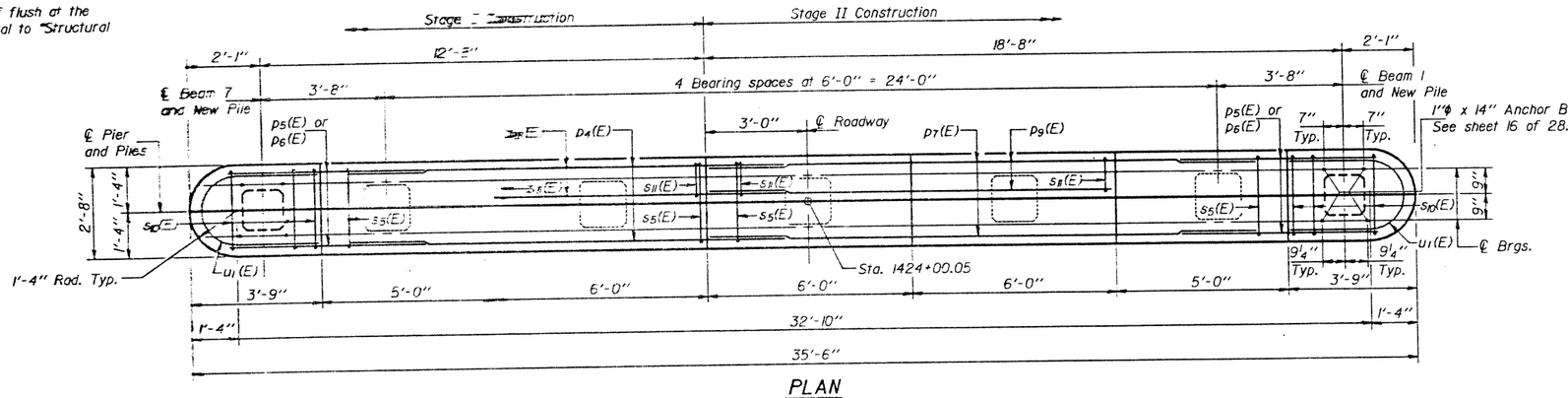


BAR s10(E)

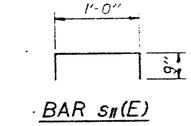


BAR s5(E)

Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement and expansion bolts in cap to miss anchor bolts.
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".



PLAN

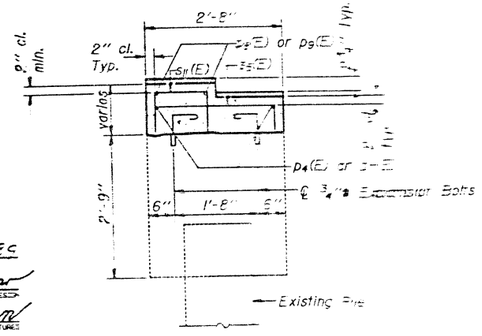


BAR s11(E)

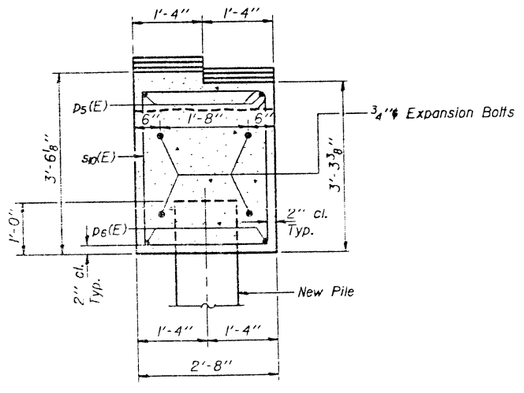
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p4(E)	2	#5	12'-0"	
p5(E)	4	#7	5'-5"	
p6(E)	4	#7	2'-4"	
p7(E)	2	#5	15'-3"	
p8(E)	2	#5	7'-8"	
p9(E)	2	#5	11'-9"	
s5(E)	27	#4	3'-2"	
s10(E)	6	#4	1'-3"	
s11(E)	19	#4	2'-5"	
u1(E)	8	#6	8'-2"	
Expansion Bolts 3/4"			Each	44
Class X Concrete			Cu. Yd.	4.4
Reinforcement Bars Epoxy Coated			Pound	400
Precast Concrete Piles 14"			Lin. Ft.	30
Test Pile Precast Concrete			Each	1

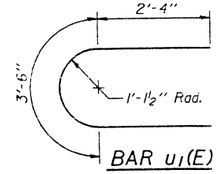
Reinfocement bars designated (E) shall be epoxy coated.



SEC. A-A



SEC. B-B



BAR u1(E)

DESIGNED	Richard Mund	May 25 1982
CHECKED	MJH	EXAMINED Joseph D. Kaspar, ENGINEER OF BRIDGE DESIGN
DRAWN	Joe Sutherland	PASSED James T. Rayburn, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	MCP LSH	APPROVED, DIRECTOR OF HIGHWAYS

BENT 7
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

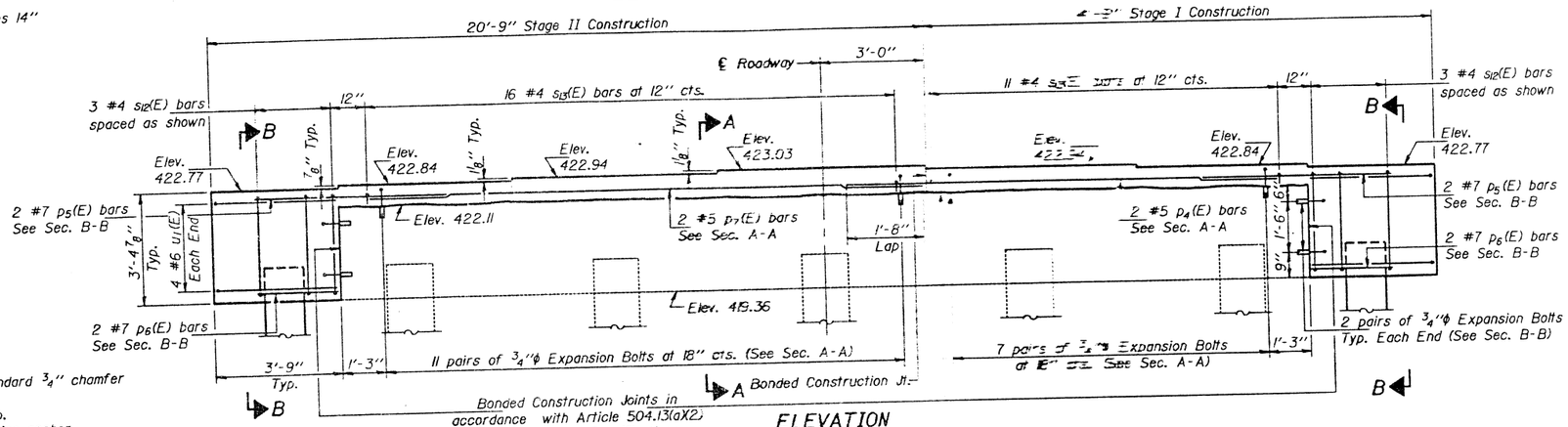
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S. I.L. F.A.				72
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 25
28 SHEETS

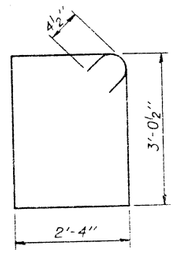
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PILE DATA

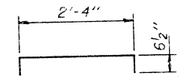
Type: Precast Concrete Piles 14"
Capacity: 45 Ton
Est. Length: 30'
No. Required: 2



ELEVATION
Looking South

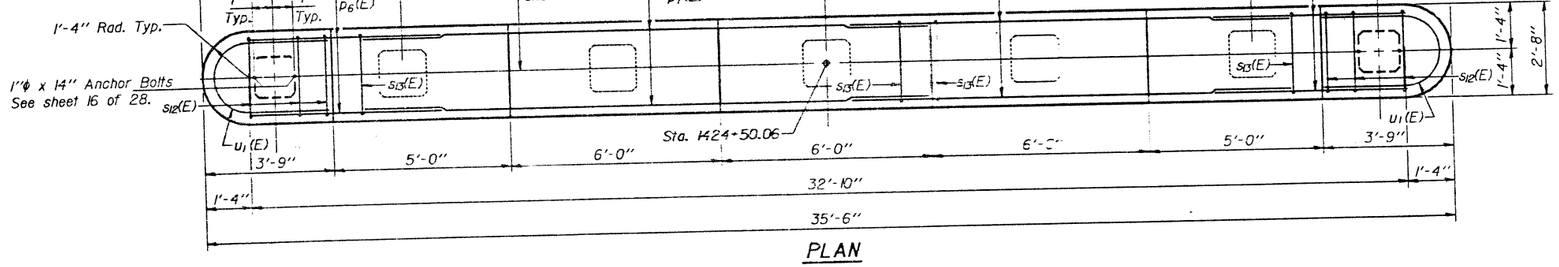


BAR s12(E)

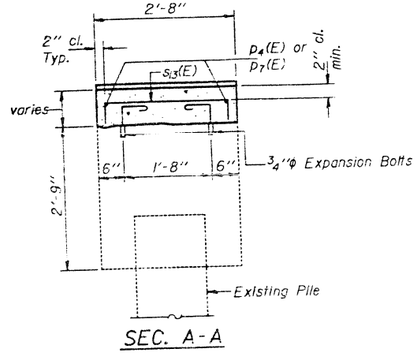


BAR s13(E)

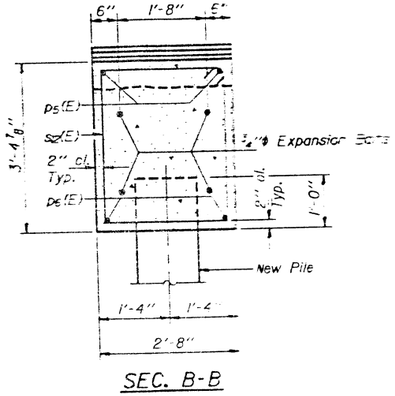
Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".



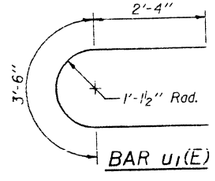
PLAN



SEC. A-A



SEC. B-B



BAR u1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p4(E)	2	#5	12'-0"	
p5(E)	4	#7	5'-6"	
p6(E)	4	#7	2'-4"	
p7(E)	2	#5	16'-3"	
s12(E)	6	#4	11'-6"	
s13(E)	27	#4	3'-5"	
u1(E)	8	#6	8'-2"	
Expansion Bolts 3/4"		Each	44	
Class X Concrete		Cu. Yd.	4.5	
Reinforcement Bars Epoxy Coated		Pound	330	
Precast Concrete Piles 14"		Lin. Ft.	60	

Reinfocement bars designated (E) shall be epoxy coated.

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	[illegible]

May 25 1989
EXAMINED Raj D. Kapur ENGINEER OF BRIDGE DESIGN
PASSED James T. Rayburn ENGINEER OF BRIDGE AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

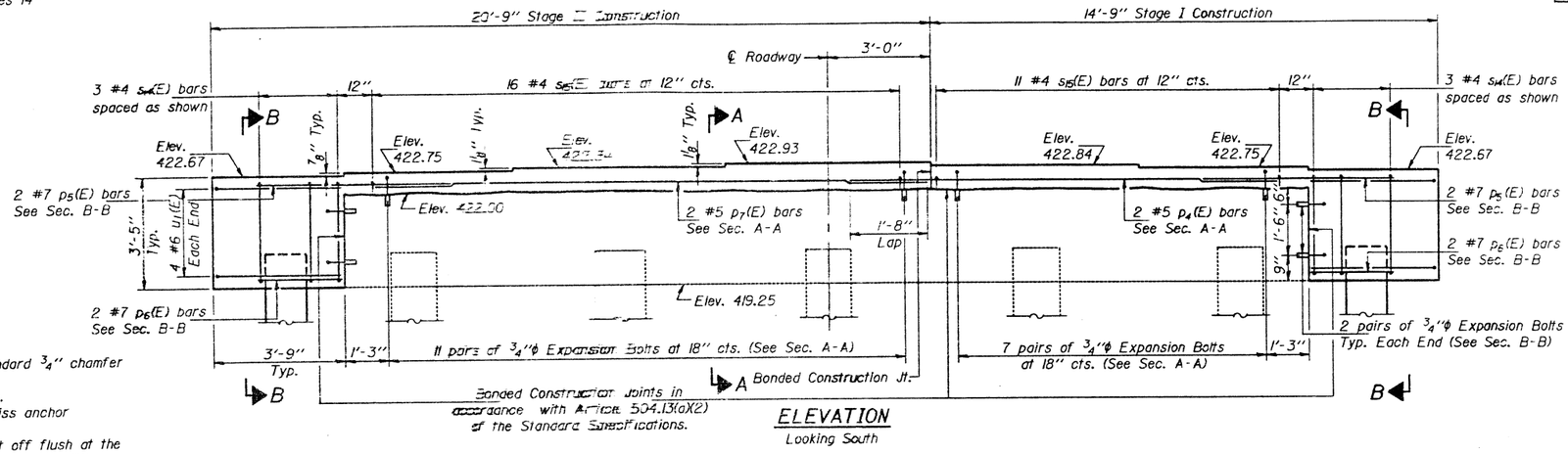
BENT 8
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P.			73	28 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

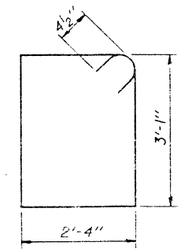
PILE DATA

Type: Precast Concrete Piles 14"
Capacity: 45 Ton
Est. Length: 30'
No. Required: 2

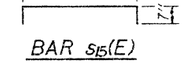


ELEVATION
Looking South

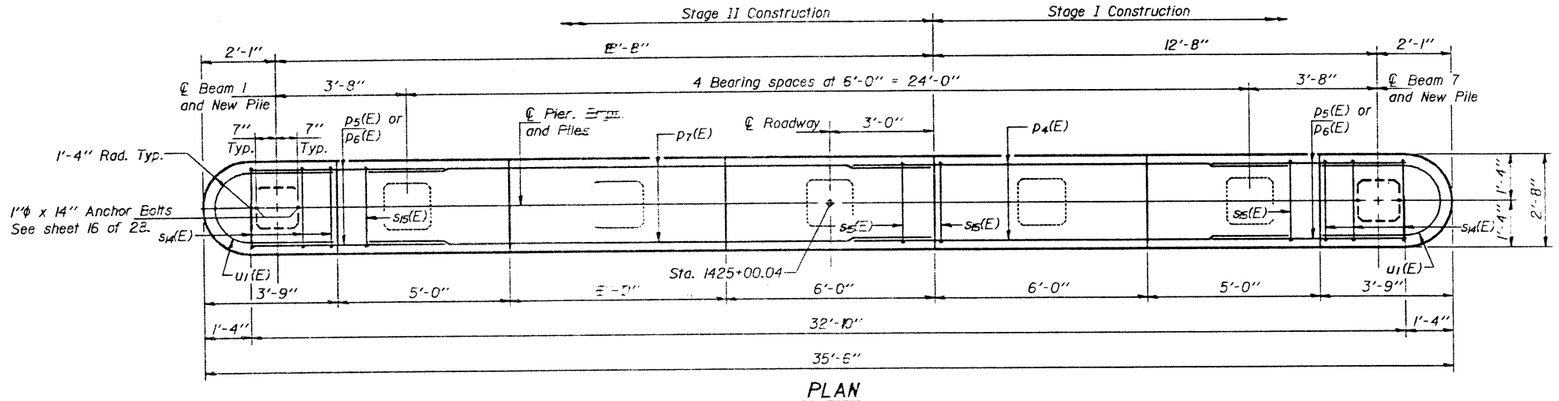
Notes: All exposed edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
Existing anchor bolts shall be cut off flush at the concrete removal line. Cost is incidental to "Structural Steel".



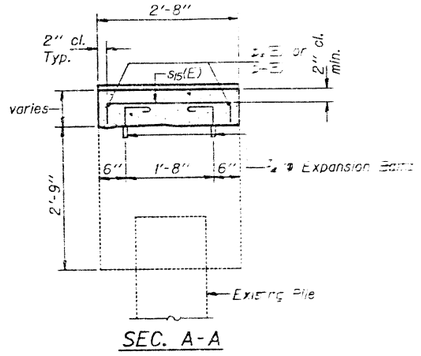
BAR s_{14}(E)



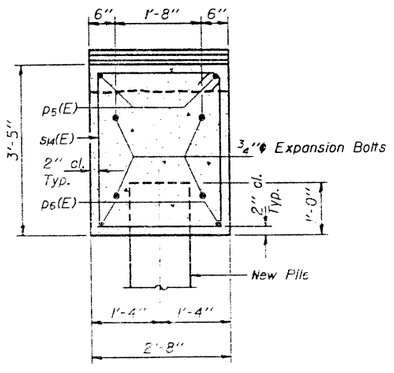
BAR s_{15}(E)



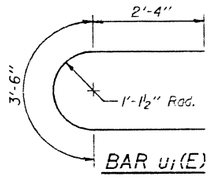
PLAN



SEC. A-A



SEC. B-B



BAR u_1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p_4(E)	2	#5	12'-0"	
p_5(E)	4	#7	5'-6"	
p_6(E)	4	#7	2'-4"	
p_7(E)	2	#5	16'-3"	
s_{14}(E)	6	#4	1'-7"	
s_{15}(E)	27	#4	3'-6"	
u_1(E)	8	#5	8'-2"	
Expansion Bolts 3/4"			Each	44
Class X Concrete			Cu. Yd.	4.5
Reinforcement Bars Epoxy Coated			Pound	330
Precast Concrete Piles 14"			Lin. Ft.	60

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	[illegible]	
CHECKED	[illegible]	
DRAWN	Joe Sutherland	
CHECKED	M.S.T.	L.S.H.

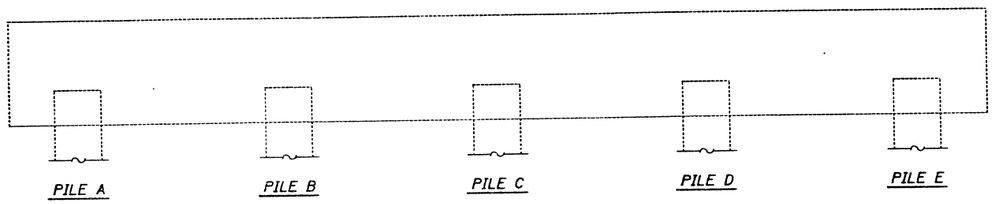
May 25 19 95
EXAMINED Oraj O Kaspar ENGINEER OF BRIDGE DESIGN
PASSED James T Kaufman ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

BENT 9
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U. S. I.				74
F. A.				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 27
28 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BENTS 3 THRU 9

Looking North

On Bent 5 a 14" long crack on south face of cap at Pile E shall be repaired by Epoxy Crack Sealing. Cost Incidental to Epoxy Mortar Repair.

EPOXY MORTAR REPAIR LOCATIONS

Location	Pile A	Pile B	Pile C	Pile D	Pile E
Bent 3	—	—	—	.17 Cu. Ft.	.33 Cu. Ft.
Bent 4	1.00 Cu. Ft.	.50 Cu. Ft.	.67 Cu. Ft.	.50 Cu. Ft.	.33 Cu. Ft.
Bent 5	.67 Cu. Ft.	—	—	.50 Cu. Ft.	—
Bent 6	.67 Cu. Ft.	.33 Cu. Ft.	.33 Cu. Ft.	.50 Cu. Ft.	.17 Cu. Ft.
Bent 7	.33 Cu. Ft.	.50 Cu. Ft.	.17 Cu. Ft.	—	—
Bent 8	.33 Cu. Ft.	—	—	—	—
Bent 9	.50 Cu. Ft.	—	—	—	—

BILL OF MATERIAL

	Item	Unit	Total
*	Epoxy Mortar Repair	Cu. Ft.	8.5

* Quantity is based on an averaged thickness of 2", actual quantity to be adjusted in the field.

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	[illegible]

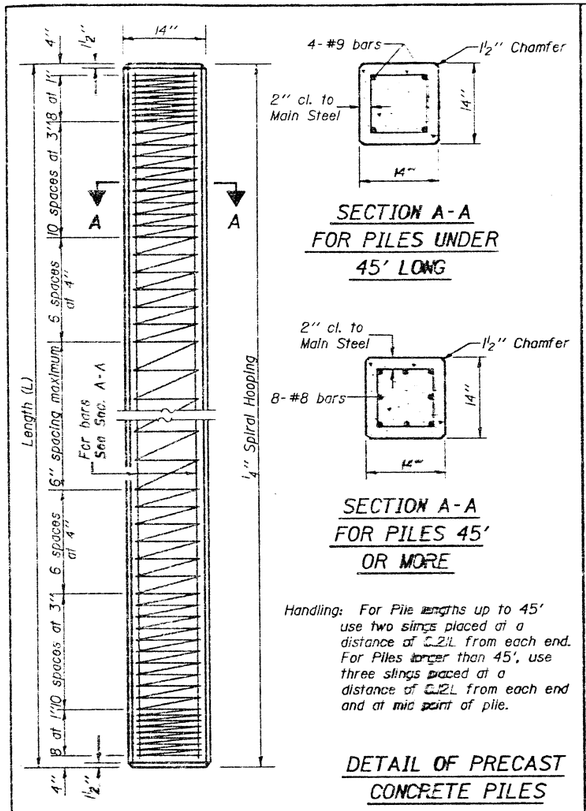
May 25 1979
EXAMINED [signature] Kaspar
ENGINEER OF BRIDGE DESIGN
PASSED [signature] Graham
ENGINEER OF MAINTENANCE STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

BENT REPAIR
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 805	127BR-1	Clinton	84	75
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 28
SHEETS

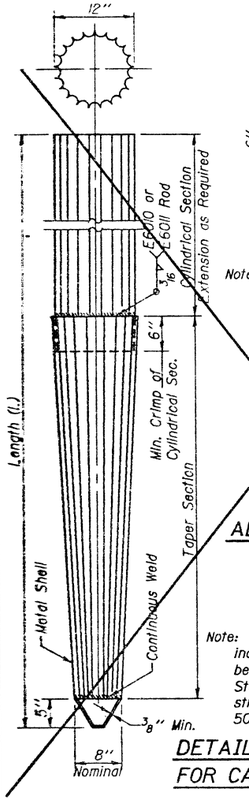


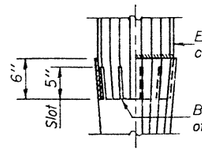
SECTION A-A
FOR PILES UNDER 45' LONG

SECTION A-A
FOR PILES 45' OR MORE

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

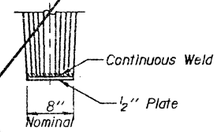
DETAIL OF PRECAST CONCRETE PILES





FIELD CRIMP DETAIL

Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.



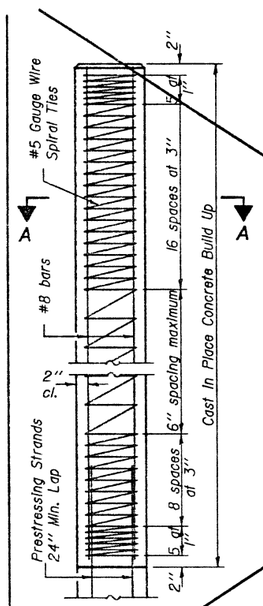
OPTIONAL FLAT END

ALLOWABLE TAPER SECTIONS

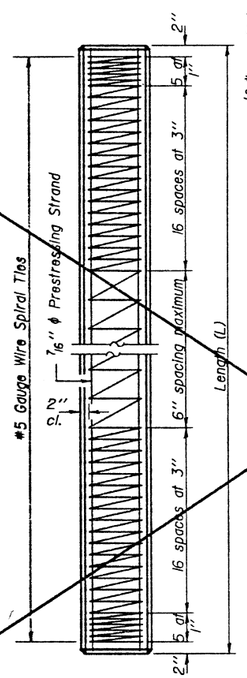
10' Length-Taper 1" in 2'-6"
17' Length-Taper 1" in 4'-0"
25' Length-Taper 1" in 7'-0"
30' Length-Taper 1" in 7'-0"

Note: The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be in accordance with Article 710.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 p.s.i.

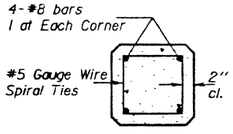
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



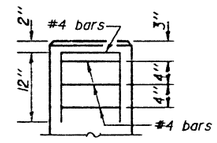
PILE BUILD UP



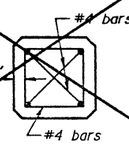
PILE PLAN



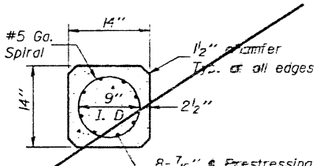
SECTION A-A



ELEVATION
(End Reinforcement)



PLAN
(End Reinforcement)



SECTION THRU PILE

DESIGN STRESSES

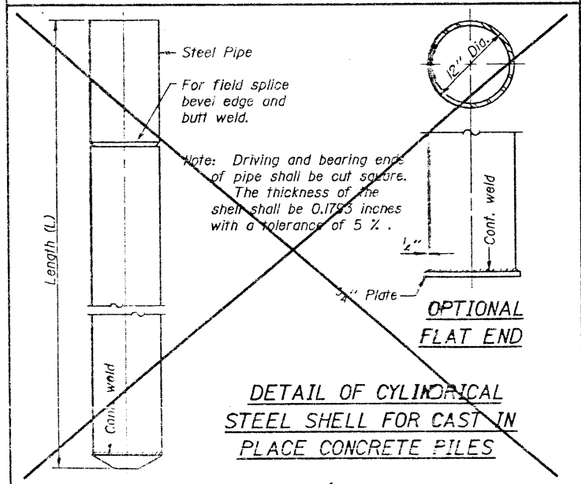
f'_c = 5,000 p.s.i.
f'_{ci} = 4,000 p.s.i.
f'_s = 270,000 p.s.i. (31,000 lbs.-7/16" ϕ or 41,300 lbs.-½" ϕ)
f'_{si} = 189,000 p.s.i. (21,700 lbs.-7/16" ϕ or 28,900 lbs.-½" ϕ)

NOTES

Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq. in. or the equivalent 6-½" ϕ strands with a cross-sectional area of 0.153 sq. in. may be used.

For Pile lengths up to 65', use two slings placed at a distance of 0.21 L* from each end. For Piles longer than 65', use three slings placed at a distance of 0.12 L* from each end and at midpoint of pile. *L= Overall length of pile to be handled.

PRECAST PRESTRESSED CONCRETE PILE



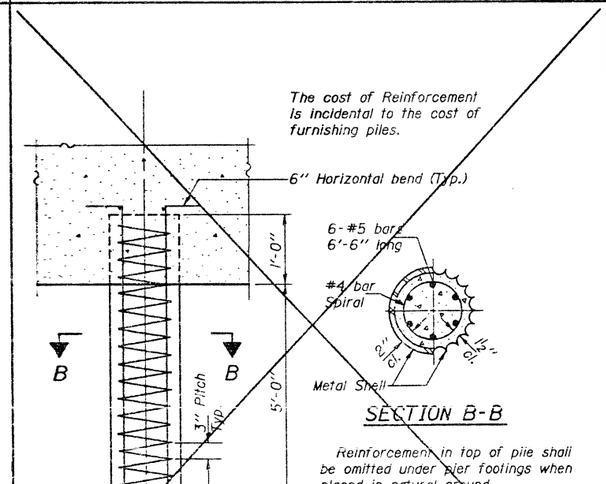
Note: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.1793 inches with a tolerance of 5 %.

OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

DESIGNED	Lee Sherry Hunt	May 25 1984
CHECKED	[illegible]	EXAMINED Engineer of Bridge Design
DRAWN	Jee Sutherland	PASSED James L. Graham Engineer of Bridge and Structures
CHECKED	NSA LSH	APPROVED Director of Highways

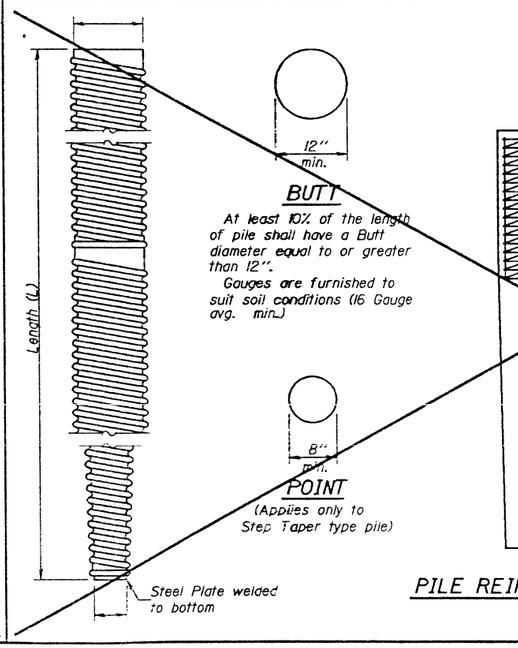
X-3 5-30-83



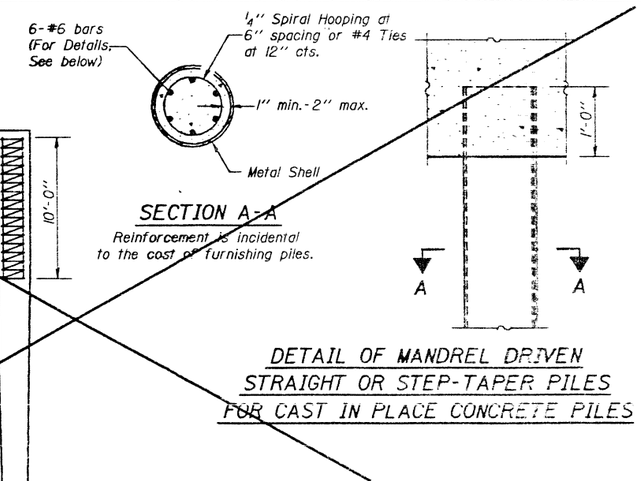
SECTION B-B

Reinforcement in top of pile shall be omitted under pier footings when placed in natural ground.

DETAIL OF REINFORCEMENT FOR METAL SHELLS



PILE REINFORCEMENT



SECTION A-A

Reinforcement is incidental to the cost of furnishing piles.

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

PILE DETAILS
F.A.P. RT. 805 SEC. 127BR-1
CLINTON COUNTY
STATION 1423+25

FED. AID ISSUE STR. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
161	127-B 127-C	CLINTON	11	1
F.A. ROAD SYST. NO.	STATE SEC. NO.	FED. AID PROJECT		

INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
STATE BOND ISSUE HIGHWAY

SCALES

PLAN	1 INCH	100 FT.
PROFILE, HOR.	1 INCH	100 FT.
PROFILE, VERT.	1 INCH	10 FT.
CROSS-SECTIONS	1 INCH	8 FT.

S. B. 1. ROUTE 161 ~ SEC. 127-B 127-C CLINTON CO.

ONE I-BEAM BRIDGE, 8 SPANS AT 30 FT, AT STATION 1409+30, A POINT NEAR THE N.E. CORNER of the S.E. 1/4 of the N.W. 1/4 of SEC. 10, T 1N, R 4 W. OF THE 3RD P.M.

ONE I-BEAM BRIDGE, 9 SPANS AT 30 FT, AT STATION 1423+23, A POINT NEAR THE N.W. CORNER of the SE. 1/4 OF SEC 10, T 1N, R 4 W. OF THE 3RD P.M.

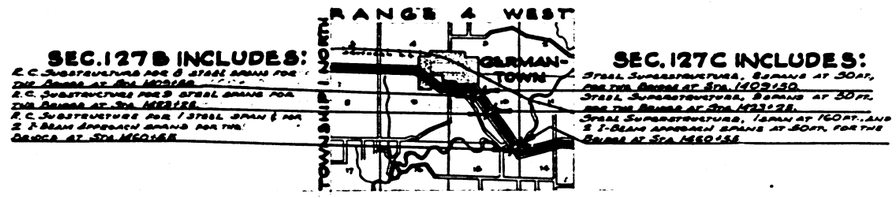
ONE STEEL BRIDGE, 1 SPAN AT 160 FT, 2 - I-BEAM APPROACH SPANS AT 30 FT, AT STATION 1460+33, A POINT NEAR THE N.E. CORNER OF SEC. 13, T 1N, R 4 W. OF THE 3RD P.M.

SUMMARY of QUANTITIES - SEC. B

379.2	cu. yds.	Class A Concrete
348.9	cu. yds.	Class X Concrete
21220	lbs.	Reinforcement Bars
4025	lin. ft.	Furnishing Precast Concrete Piles.
4025	lin. ft.	Driving Precast Concrete Piles.
6	each	Test Piles (Concrete)
3600	lin. ft.	Furnishing Untreated Piles up to 20 ft. long.
3600	lin. ft.	Driving Piles up to 20 ft. long.
4	each	Test Piles (Wood)
2	each	Removal of Old Bridge.
1613	bbls.	Cement.

SUMMARY of QUANTITIES - SEC. C

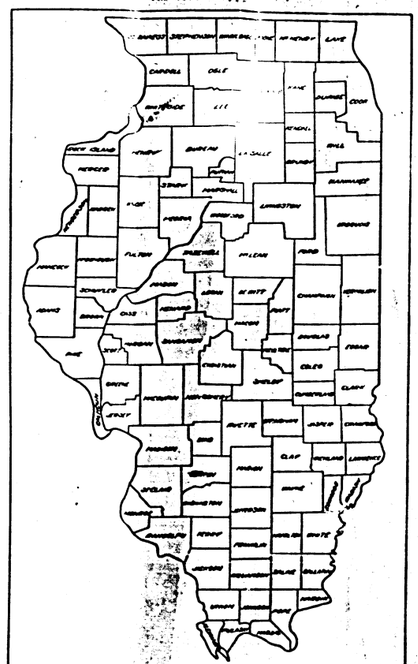
1088	cu. yds.	Handrail Concrete.
780.9	cu. yds.	Class X Concrete.
181340	lbs.	Reinforcement Bars.
333210	lbs.	Structural Steel
163	each	Floor Drains
3	each	Name Plates
1425	bbls.	Cement.



SEC. 127B INCLUDES:
R.C. SUBSTRUCTURE FOR 8 STEEL SPANS FOR THE BRIDGE AT STA 1409+30.
R.C. SUBSTRUCTURE FOR 9 STEEL SPANS FOR THE BRIDGE AT STA 1423+23.
R.C. SUBSTRUCTURE FOR 1 STEEL SPAN & 2 I-BEAM APPROACH SPANS FOR THE BRIDGE AT STA 1460+33.

SEC. 127C INCLUDES:
STEEL SUPERSTRUCTURE, 8 SPANS AT 30 FT, FOR THE BRIDGE AT STA 1409+30.
STEEL SUPERSTRUCTURE, 9 SPANS AT 30 FT. AND THE BRIDGE AT STA 1423+23.
STEEL SUPERSTRUCTURE, 1 SPAN AT 160 FT. AND 2 I-BEAM APPROACH SPANS AT 30 FT. FOR THE BRIDGE AT STA 1460+33.

LAYOUT
APPROXIMATE SCALE: 1 inch = 1 mile.


LOCATION OF SECTION INDICATED THUS:—

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
SUBMITTED: August 8, 1962 — E. A. Wilson, District Engineer
DRAWN: E.S.
TRACED: S.S.
CHECKED: C.D. Bygrave, Road Engineer
APPROVED: Bygrave, Division of Design
APPROVED: Bond Lieberman, Chief Highway Engineer
APPROVED: S.S. 1962 — Robert Gregory, Director of the Department of Highways

STATE LINE		RETAINING WALL	
COUNTY LINE		BASE OR SURVEY LINE	
CITY, VILLAGE OR TOWN		LEVEE	
TOWNSHIP LINE		CULVERT	
SECTION LINE		STORM SEWER	
GRANT LINE		TILE DRAIN	
SECTION CORNER		DROP INLET	
FENCE LINE		TROLLEY POLE	
UNFENCED PROPERTY LINE		POWER POLE	
RIGHT OF WAY LINE		TELEPHONE OR TELEGRAPH POLE	
GUARD RAIL		MARSH	
STEAM RAILROAD		HEDGE	
ELECTRIC RAILROAD			

CLINTON COUNTY SECTION 127B,C ROUTE 161

8-24

ROUTE NO.	SEC.	COUNTY	FED. PROJECT NO.	STATE PROJ. NO.
161	127B 127C	Clinton		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

B.M.:- N.W. Root 32" Cottonwood 2' Lt. Sta. 1422+93- Elev 418.71
S.E. Cor. Angle Iron Abut. 150' Lt. Sta. 1424+37- Elev 419.61
No Existing Structure to be removed.

461' 2"

Bents 4 & 7

Three spaces as directed by the Engineer

No. 3, 5 and 7

1080		C
1080		C
822		C
740		B
66		C
40		C
72		C
8		C
28		B
41		B
48		B
176		B
8		B
32		B
8		B
	51.0	C
	376.2	C
	103.0	B
	82110	B
	19170	C
	2100	B
	86	C
	1	C
Test Piles	Each 3	B

2, 3, 5, 6, 8 and 9 — 417

35' 0"

M. J. Brickner Jr.
K. V. Jackson
E. Silverman

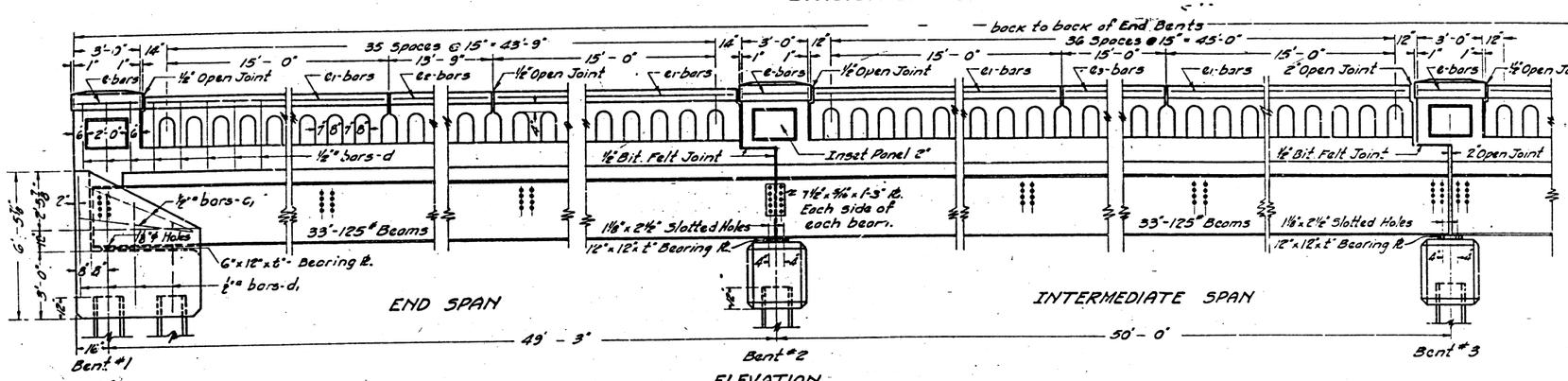
8-11-34

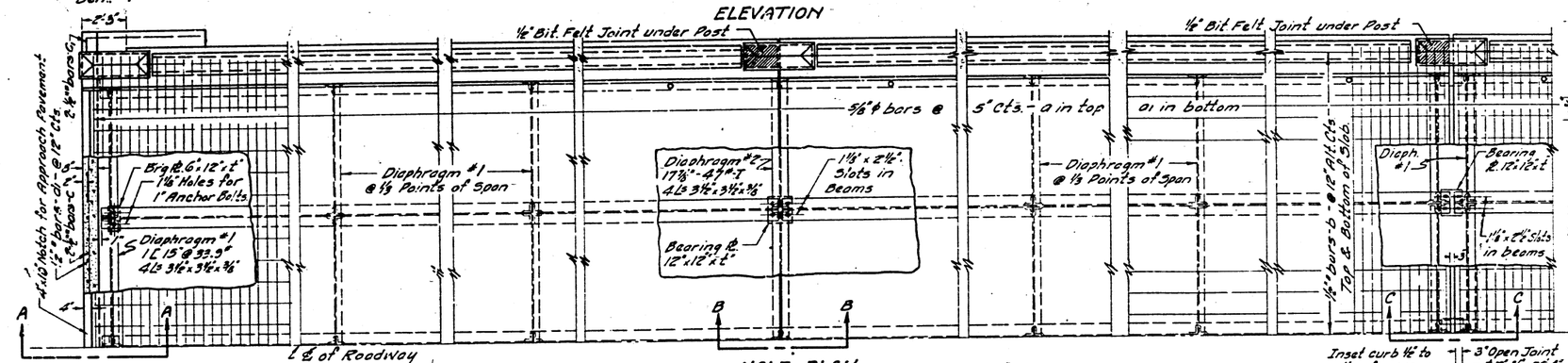
S.B.I. Rte. 161 - Sec. 127-B1C.
CLINTON COUNTY
STA. 1423+25

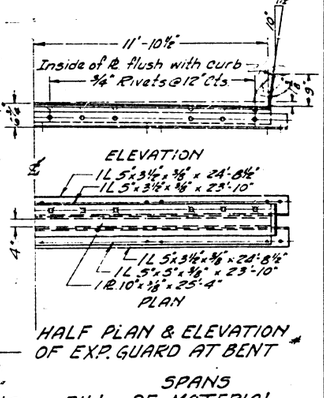
Std. 1644

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

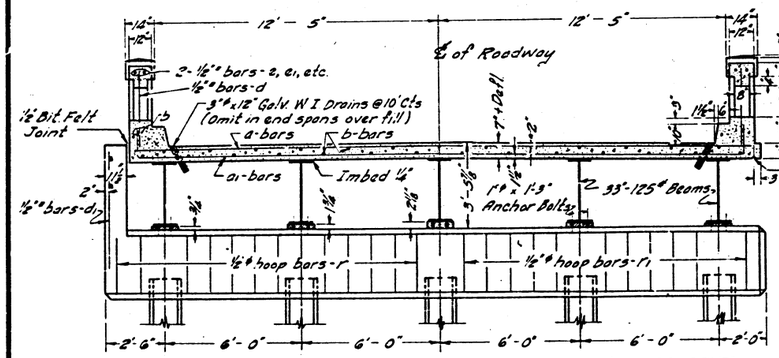
SHEET NO.
SHEETS

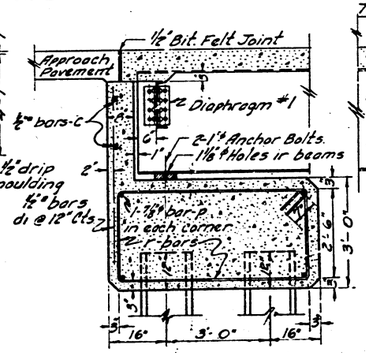


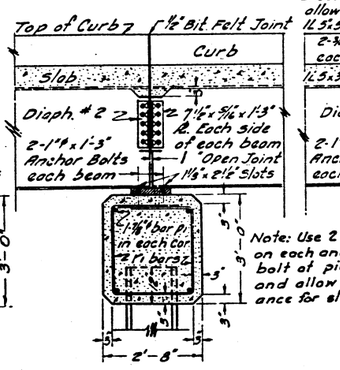


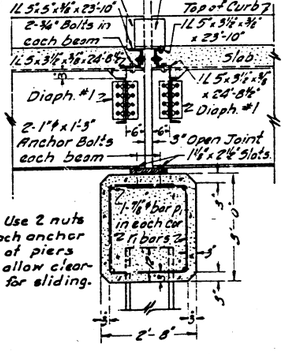


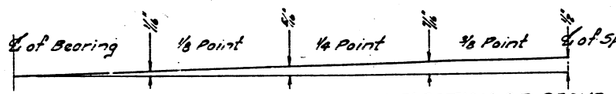
HALF PLAN & ELEVATION OF EXP. GUARD AT BENT

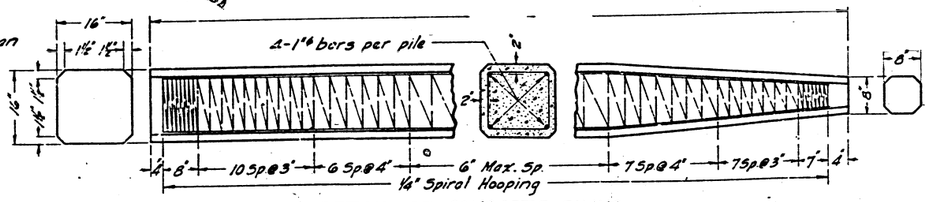












STANDARD	COMPUTED	V.M. Romine
	CHECKED	F.K. Faber
	DRAWN	V.M.R.
	CHECKED	F.K.F.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED _____ 19____
_____ BRIDGE ENGINEER
PASSED _____ ENGINEER OF DESIGN
APPROVED _____ CHIEF HIGHWAY ENGINEER

General Notes

Class X concrete shall be used throughout.

All reinforcing steel shall be wired securely in place before concrete is poured.

3/4" rivets, 9/16" holes, unless noted.

Inspection by Illinois Division of Highways before painting.

Paint (See specs.) one coat in shop, two coats in field.

Anchor bolts shall be set before connecting diaphragms over bents.

Concrete floors shall be finished according to Art. 45.3 (e) of Specifications.

Each pile shall be driven to a minimum capacity of 36 tons.

One test pile shall be cast and driven at each of Sta's before casting piles.

SPANS
BILL OF MATERIAL

Bar	No	Size	Length
a		5/8" ϕ	27'-0"
a1		5/8" ϕ	28'-6"
b		1/2" ϕ	26'-0"
d		1/2" ϕ	3'-3"
d1		1/2" ϕ	4'-6"
e		1/2" ϕ	3'-0"
e1		1/2" ϕ	15'-6"
e2		1/2" ϕ	13'-6"
e3		1/2" ϕ	14'-9"
c		1/2" ϕ	28'-6"
r		1/2" ϕ	11'-0"
r1		1/2" ϕ	11'-0"
p		7/8" ϕ	28'-6"
p1		7/8" ϕ	27'-6"
G		1/2" ϕ	7'-0"

Hand Rail Concrete	- Cu Yds.
Cl X Concrete (Span)	- Cu Yds.
Cl X Concrete (Cops)	- Cu Yds.
Reinforcing Steel	- Lbs.
Structural Steel	- Lbs.
Concrete Piling	- Lin. Ft.
Floor Drains	- Each
Name Plate	- Each

* Does not include steel in piling.

1644