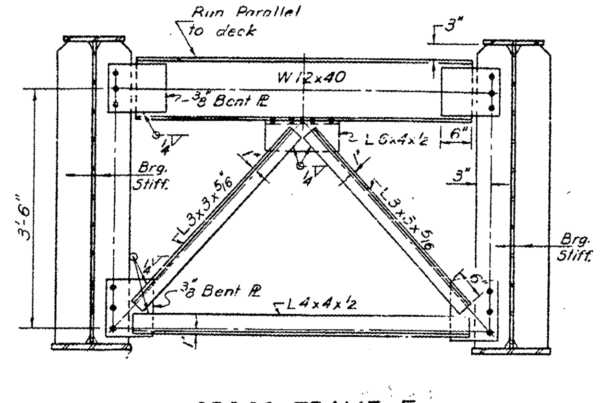
CONTRACT: 72F43
SHEET 6 OF 6

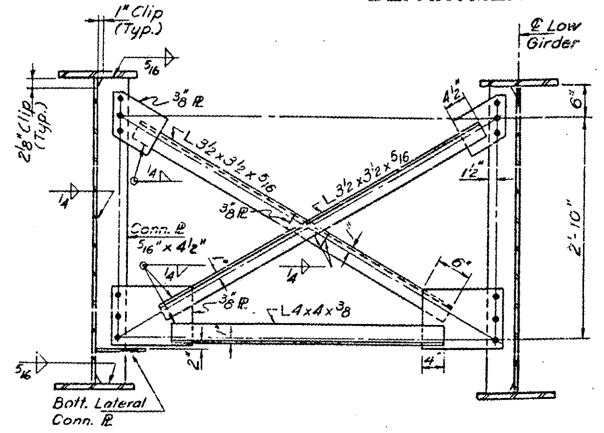
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 408	86-98-3	Scott	25	16

SHEET NO. 12 — 21 SHEETS

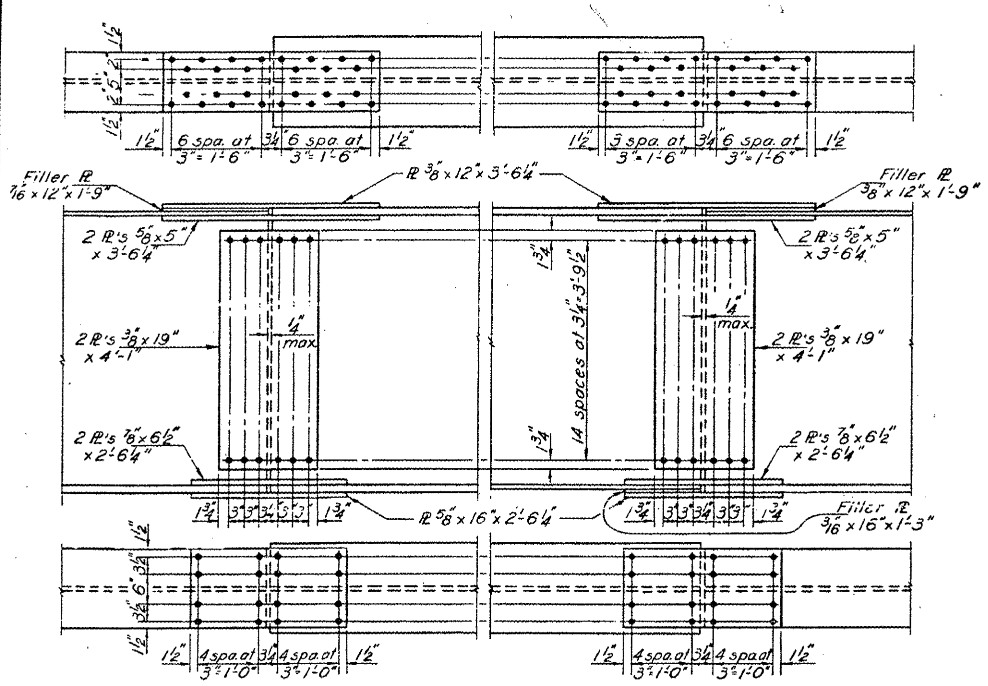


CROSS FRAME F
20 Required



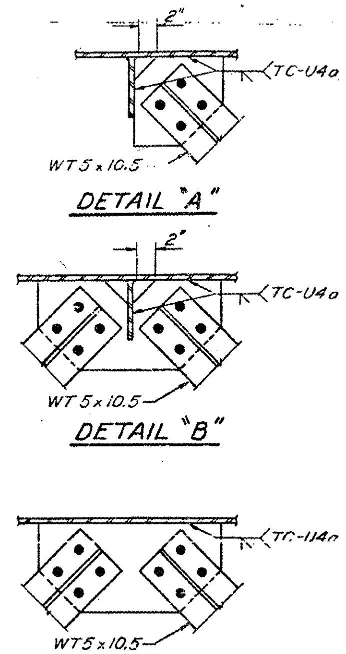
CROSS FRAME F1
160 Required

Note: 15/16" φ holes in gusset Pl.'s for 7/8" φ bolts. Hardened washers shall be required over holes in gusset Pl.'s.



SPLICE 1 & 4

SPLICE 2 & 3



DETAIL "A"

DETAIL "B"

DETAIL "C"

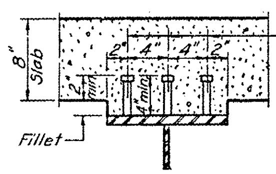
DIMENSIONS

Gir. \ Dim.	Radius	A	B	C	D	E	F	G	H	I	J	K	L
1	5653.56	111'-5 9/16"	144'-10 1/4"	113'-8 1/16"	76'-4 9/16"	73'-10 1/4"	78'-5 1/16"				20'-1 1/16"	19'-9 9/16"	24'-0 1/16"
2	5660.77	111'-5 1/4"	144'-9 13/16"	113'-7 11/16"	76'-4 1/4"	73'-9 13/16"	78'-4 11/16"	22'-11 1/4"	19'-9 13/16"	20'-7 11/16"	20'-0 3/4"	19'-9 3/16"	23'-11 5/8"
3	5667.98	111'-5"	144'-9 3/8"	113'-7 3/8"	76'-4"	73'-9 3/8"	78'-4 3/8"	22'-11"	19'-9 3/8"	20'-7 3/8"	20'-0 9/16"	19'-8 3/4"	23'-11 1/4"
4	5675.18	111'-4 3/4"	144'-9"	113'-7"	76'-3 3/4"	73'-9"	78'-4"	22'-10 3/4"	19'-9"	20'-7"	20'-0 3/8"	19'-8 3/8"	23'-10 13/16"
5	5682.39	111'-4 7/16"	144'-8 5/8"	113'-6 5/8"	76'-3 7/16"	73'-8 5/8"	78'-3 5/8"	22'-10 7/16"	19'-8 5/8"	20'-6 5/8"	20'-0 1/8"	19'-7 15/16"	23'-10 7/16"
6	5689.60	111'-4 1/8"	144'-8 3/16"	113'-6 1/4"	76'-3 1/8"	73'-8 3/16"	78'-3 1/4"	22'-10 1/8"	19'-8 3/16"	20'-6 1/4"			
7	5769.56	111'-1 1/4"	144'-3 13/16"	113'-2 3/8"	76'-0 1/4"	73'-3 15/16"	77'-11 3/8"				19'-9 9/16"	19'-3 3/16"	23'-5 1/2"
8	5776.77	111'-0 15/16"	144'-3 7/16"	113'-2 1/16"	75'-11 15/16"	73'-3 7/16"	77'-11 1/16"	22'-6 15/16"	19'-3 7/16"	20'-2 1/16"	19'-9 5/16"	19'-2 13/16"	23'-5 1/8"
9	5783.98	111'-0 11/16"	144'-3 1/16"	113'-1 11/16"	75'-11 11/16"	73'-3 1/16"	77'-10 11/16"	22'-6 11/16"	19'-3 1/16"	20'-1 11/16"	19'-9 1/8"	19'-2 7/16"	23'-4 11/16"
10	5791.18	111'-0 7/16"	144'-2 11/16"	113'-1 3/8"	75'-11 7/16"	73'-2 11/16"	77'-10 3/8"	22'-6 7/16"	19'-2 11/16"	20'-1 3/8"	19'-8 15/16"	19'-2 1/16"	23'-4 5/16"
11	5798.39	111'-0 3/16"	144'-2 5/16"	113'-1 1/16"	75'-11 3/16"	73'-2 5/16"	77'-10 1/16"	22'-6 3/16"	19'-2 5/16"	20'-1 1/16"	19'-8 11/16"	19'-1 3/4"	23'-3 15/16"
12	5805.60	110'-11 15/16"	144'-1 15/16"	113'-0 3/4"	75'-10 15/16"	73'-1 15/16"	77'-9 3/4"	22'-5 15/16"	19'-1 15/16"	20'-0 3/4"			

75.97 73.23 77.88

TOP OF WEB ELEVATIONS

Gir.	℄ Brg. W. Abut.	℄ Splice 1	℄ Brg. Pier 1	℄ Splice 2	℄ Splice 3	℄ Brg. Pier 2	℄ Splice 4	℄ Brg. E. Abut.
1	526.697	526.494	526.289	526.356	526.212	526.002	526.076	525.965
2	527.001	526.797	526.592	526.658	526.513	526.303	526.377	526.265
3	527.303	527.099	526.894	526.960	526.814	526.604	526.677	526.564
4.	527.607	527.402	527.197	527.262	527.116	526.906	526.978	526.864
5	527.910	527.704	527.499	527.564	527.417	527.206	527.278	527.164
6	528.214	528.008	527.802	527.867	527.719	527.507	527.579	527.464
7	527.973	527.760	527.551	527.612	527.456	527.240	527.308	527.182
8	528.277	528.063	527.854	527.915	527.753	527.542	527.609	527.483
9	528.580	528.366	528.156	528.216	528.059	527.843	527.910	527.783
10	528.884	528.669	528.459	528.519	528.361	528.145	528.211	528.083
11	529.187	528.972	528.761	528.821	528.663	528.446	528.512	528.383
12	529.491	529.275	529.064	529.124	528.965	528.748	528.813	528.684



3/4" φ Granular or solid flux filled headed studs automatically end welded (No. Req'd. = 7092)

SHEAR STUDS DETAIL

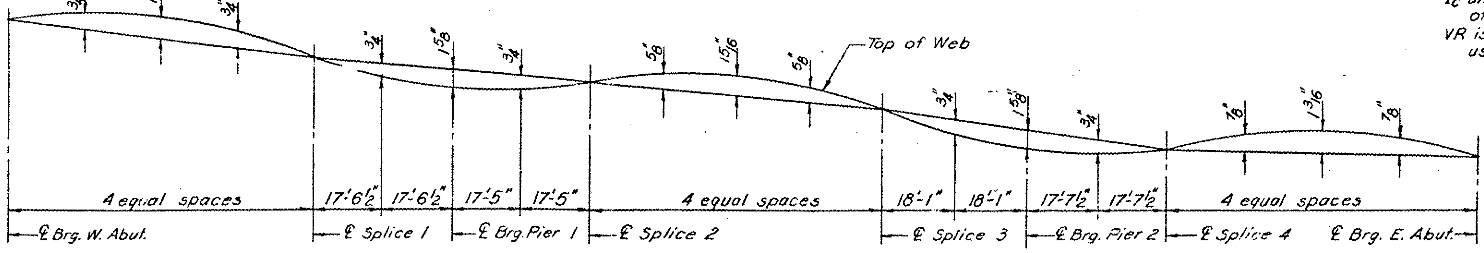
INTERIOR GIRDER MOMENT TABLE

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s (in⁴)	25447	69841	26454
I_c (in⁴)	70679		74840
S_s (in³)	1116	2388	1198
S_c (in³)	1540		1651
DL (K/l)	.974	.986	.998
M_{DL} (ik)	716	1966	665
$f_{s DL}$ (ksi)	7.7	9.9	6.7
SDL (K/l)	.437	.437	.437
M_{SDL} (ik)	389	713	435
M_{LL} (ik)	914	980	988
M_{Imp} (ik)	244	241	225
TOTAL (ik)	1547	1934	1648
$f_{s LL+SDL}$ (ksi)	12.1	9.7	12.0
$f_{s TOTAL}$ (ksi)	19.8	19.6	18.7
VR (k)	58.5		50.1

INTERIOR GIRDER REACTION TABLE

	Abut.	Pier
R_{DL} (k)	56.4	207.8
R_{LL} (k)	42.5	80.5
Imp. (k)	8.9	15.9
R_{TOTAL} (k)	107.8	304.2

I_s and S_s are the moment of inertia and section modulus of the steel section.
I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s.
VR is the maximum LL + Impact shear range in span used to determine shear connector spacing.



CAMBER DIAGRAM

DESIGNED	Hin Nam Lee
CHECKED	Gary S. Wood
DRAWN	R. P. Summer
CHECKED	GSW Lee

EXAMINED Dec. 28 1976
PASSED
APPROVED

FOR INFORMATION ONLY

STRUCTURAL STEEL DETAILS
F.A. RT. 408 SEC. 86-9B-3
SCOTT COUNTY
STA. 207+50.00

FOR INFORMATION ONLY

TYPICAL BRIDGE PALNS
FAI 72 (I-72)
(86-9)BRIDGE PAINTING
SCOTT COUNTY