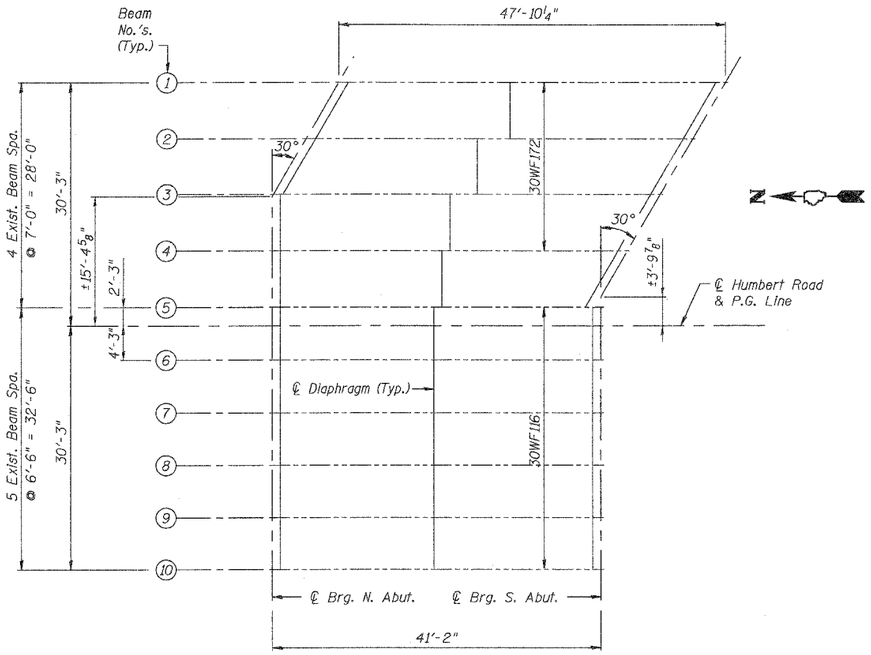
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 8996	05-00221-00-BR	MADISON	20	17
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 9
12 SHEETS

Contract No. 97281



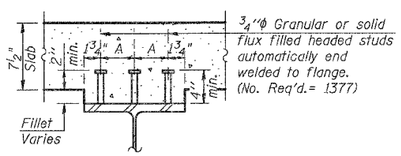
EXISTING FRAMING PLAN

INTERIOR BEAM MOMENT TABLE		
	Beams 1-4 (14)	Beams 5-10
	0.5 Span 1	0.5 Span 1
Is (in.4)	7892	4919
Ic (in.4) (n=9)	19042	13517
Ic (in.4) (n=27)	13884	9932
Ss (in.3)	528	328
Sc (in.3) (n=9)	730	489
Sc (in.3) (n=27)	661	442
Z (in.3)		
DL (k./ft.)	0.884	0.811
M(DL) (ft.k./beam)	253.0	171.8
s DL (k./ft.)	0.171	0.171
M(s DL) (ft.k./beam)	49.0	36.2
M(LL) (ft.k./beam)	369.8	272.5
M(Imp.) (ft.k./beam)	106.9	81.7
5/3 M(LL+Imp.) (ft.k./beam)	794.4	590.3
M(a) (ft.k.)	1425.3	1037.8
M(u) (ft.k.)	2587.1	1894.4
fs (DL non-comp) (k.s.i.)	5.75	6.29
fs (DL comp.) (k.s.i.)	0.89	0.98
fs 5/3 [M(LL+Imp.)] (k.s.i.)	13.06	14.49
fs (Overload) (k.s.i.)	19.70	21.76
fs (Total) (k.s.i.)	25.60	28.28
VR (k)	47.5	42.7

MOMENT TABLE NOTES:
(1) Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).
(2) Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to live load.
(3) Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead load.
(4) VR is the maximum LL + Impact shear range in span.
(5) Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.
(6) Mu is the Full Plastic Moment Capacity for Compact, Braced
(7) fs (Overload) is the sum of the stresses due to [M(DL) + M(s DL) + 5/3(M(LL) + M(Imp))].
(8) fs(Total) is the sum of the stresses due to 1.3[M(DL) + M(s DL) + 5/3(M(LL) + M(Imp))].
(9) M(DL) - moment due to dead loads on non-composite section.
(10) M(s DL) - moment due to dead loads on composite section.
(11) M(LL) - moment due to live load on composite section.
(12) M(Imp) - moment due to live load impact on composite section.
(13) Ma (Applied Moment) = 1.3[M(DL) + M(s DL) + 5/3(M(LL) + M(Imp))].
(14) The values shown in the table are based on the analysis of Beam 2.

INTERIOR BEAM REACTION TABLE			
		Beams 1-4	Beams 5-10
		N. & S. Abut.	N. & S. Abut.
R℄	(K)	25.3	20.2
R℄	(K)	36.9	32.9
Imp.	(K)	10.7	9.9
R (Total)	(K)	72.9	63.0

Beam No.	Dim. A
1-4	3½"
5-10	5¾"

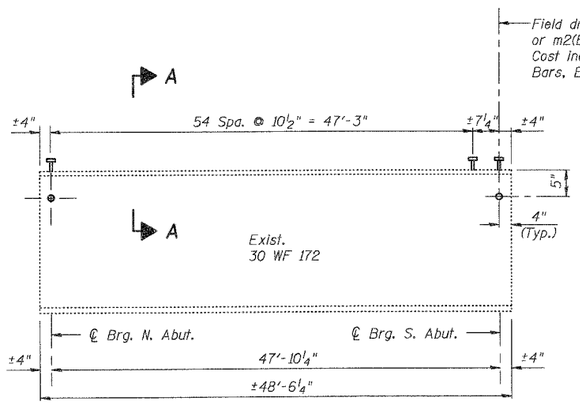


¾"ϕ Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.= 1377)

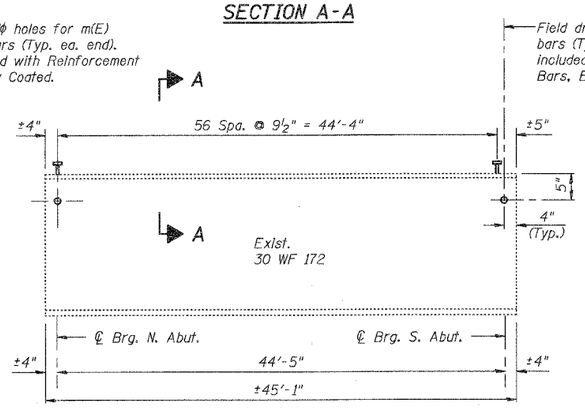
SECTION A-A

TOP OF BEAM ELEVATIONS

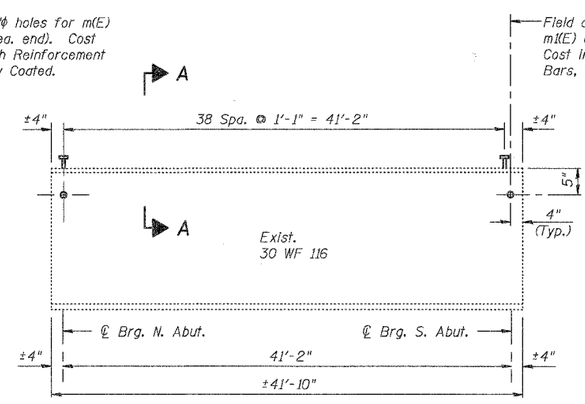
Location	Exist. Beam 1	Exist. Beam 2	Exist. Beam 3	Exist. Beam 4	Exist. Beam 5	Exist. Beam 6	Exist. Beam 7	Exist. Beam 8	Exist. Beam 9	Exist. Beam 10
℄ Brg. N. Abut.	476.81	476.92	477.00	477.01	476.84	476.96	477.01	477.00	476.93	476.81
℄ Brg. S. Abut.	476.64	476.74	476.82	476.87	476.72	476.81	476.84	476.87	476.80	476.68



EXISTING BEAMS 1-3 ELEVATION



EXISTING BEAM 4 ELEVATION



EXISTING BEAMS 5-10 ELEVATION

FRAMING PLAN
HUMBERT ROAD OVER
BLACK CREEK
SECTION 05-00221-00-BR
CITY OF ALTON
STA. 278+31.50
STRUCTURE NO. 060-3023