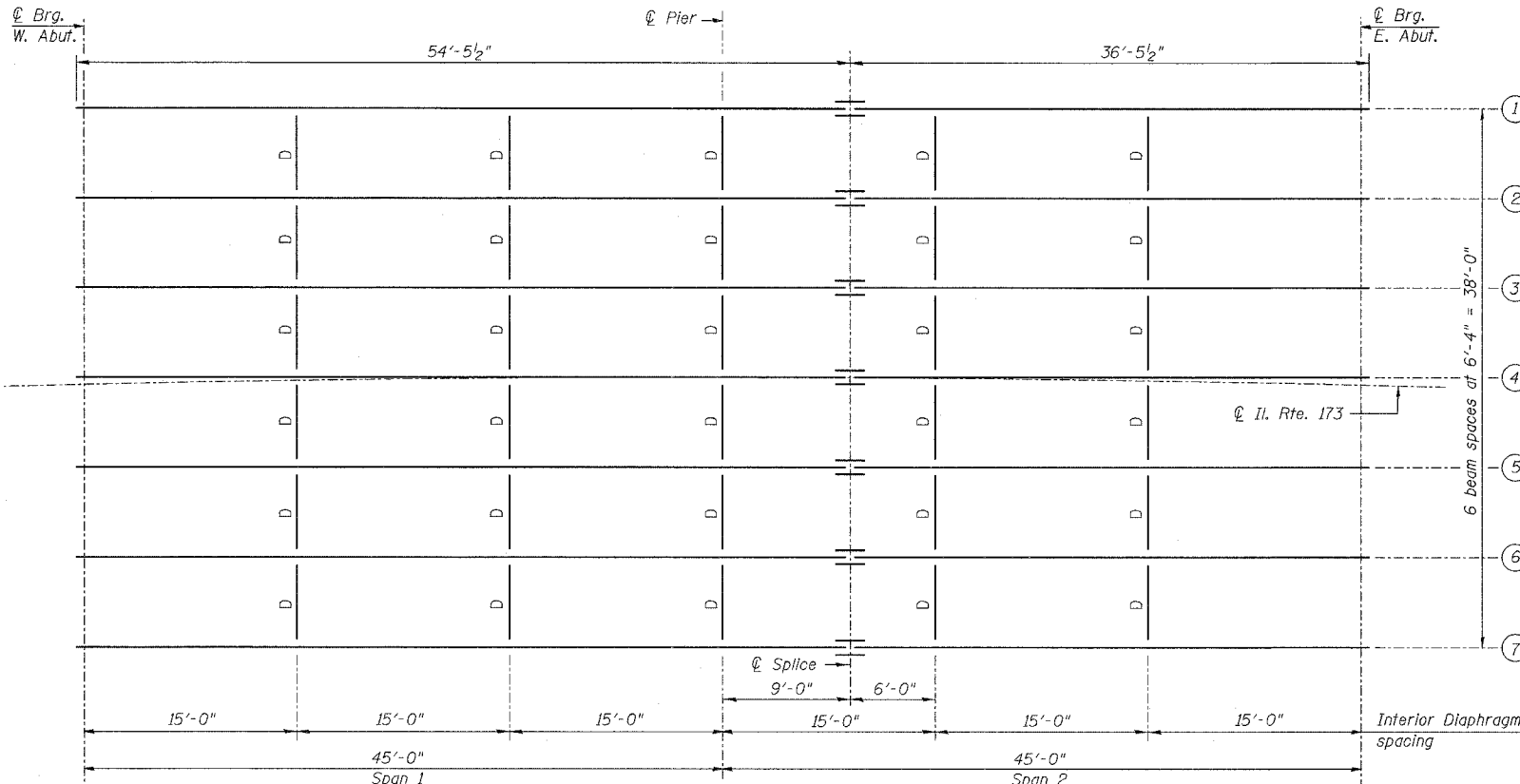
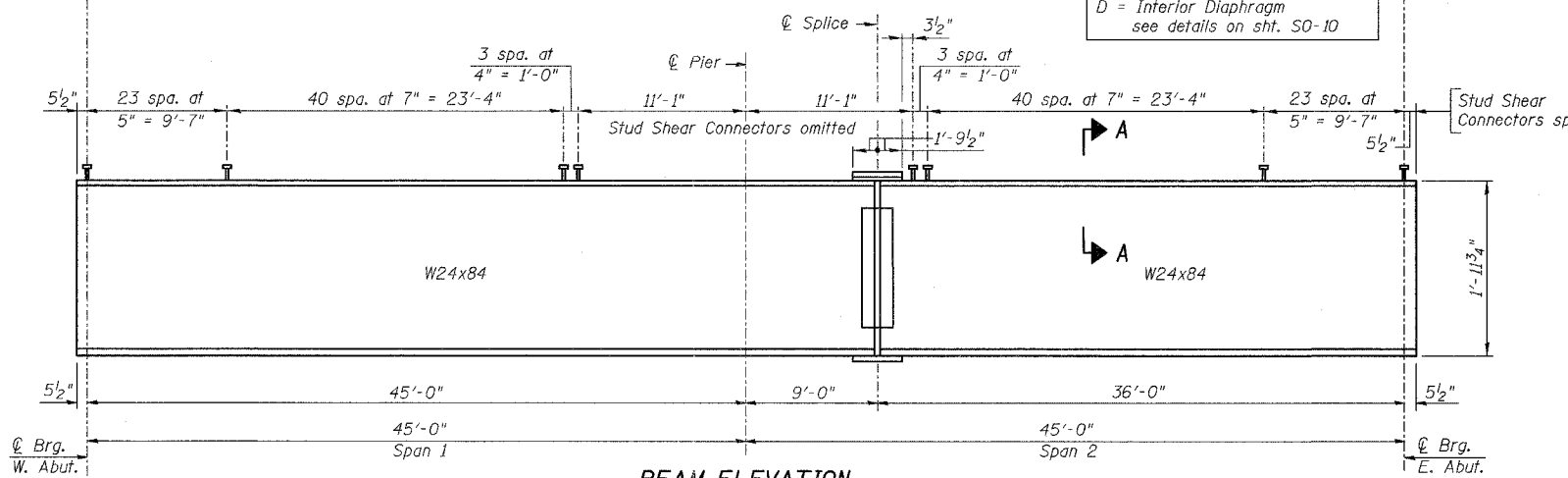


CONTRACT NO. 60B83



FRAMING PLAN

Note:
D = Interior Diaphragm
see details on sht. SO-10



BEAM ELEVATION

All wide flange beams and splice plate material, except fill plates, shall be AASHTO M 270, Grade 50 and shall meet Notch Toughness Requirements.

Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in.⁴ and in.³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in.⁴ and in.³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Z: Plastic Section Modulus of the steel section in non-composite areas (in.³).

Q: Un-factored non-composite dead load (kips/ft.).

M_D: Un-factored moment due to non-composite dead load (kip-ft.).

s_D: Un-factored long-term composite (superimposed) dead load (kips/ft.).

M_{sD}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Un-factored live load moment (kip-ft.).

M_{Imp}: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.).

$1.3 [M_D + M_{sD} + \frac{2}{3} (M_L + M_{Imp})]$

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).

$1.3 [M_D + M_{sD} + \frac{2}{3} (M_L + M_{Imp})]$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).

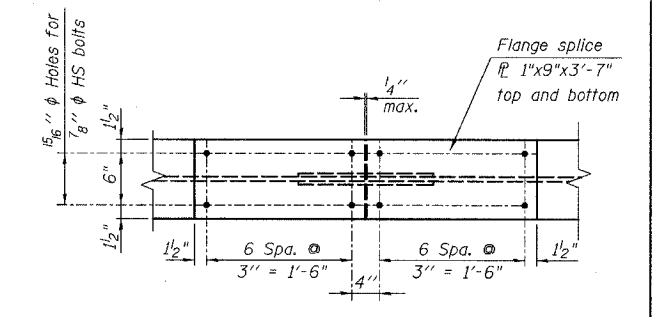
$1.3 [M_D + M_{sD} + \frac{2}{3} (M_L + M_{Imp})]$

VR: Maximum \pm impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

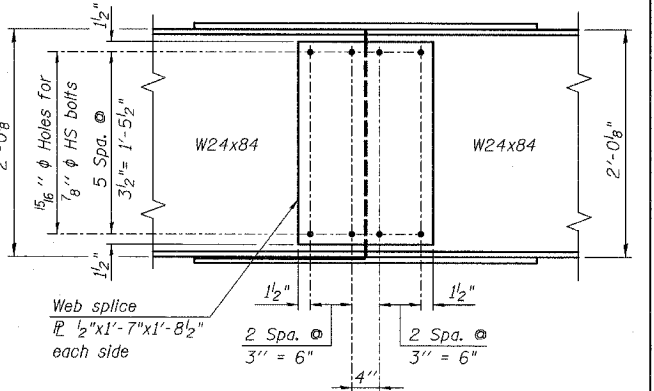
	0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	2,340	2,340
$I_c(n)$	7,926	-
$I_c(3n)$	5,871	-
S_s	194	194
$S_c(n)$	322	-
$S_c(3n)$	290	-
Z	-	-
Q	0.776	1.225
M _D	111	271
s _D	0.449	-
M _{sD}	79	-
M _L	267	122
M _{Imp}	79	36
$1.3 [M_D + M_{sD} + \frac{2}{3} (M_L + M_{Imp})]$	577	264
M _a	997	696
M _u	1,237	-
f_s (non-comp)	6.9	16.8
f_s (comp)	3.3	-
f_s $1.3 [M_D + M_{sD} + \frac{2}{3} (M_L + M_{Imp})]$	21.5	16.4
f_s (Overload)	31.7	33.2
f_s (Total)	-	43.2
VR	41.0	-

*Compact section
**Braced non-compact and partially braced section

	Abut.	Pier
R _D	21.5	67.1
R _L	32.2	37.2
Imp.	9.5	11.0
R _{Total}	63.2	115.3

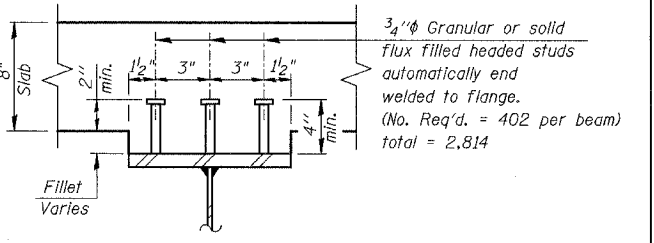


FLANGE SPlice DETAIL



WEB SPlice DETAIL

Note:
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted.



SECTION A-A STUD SHEAR CONNECTOR DETAIL

ILLINOIS DEPARTMENT OF TRANSPORTATION

FRAMING PLAN & STRUCTURAL STEEL DETAILS
IL. RTE. 173
OVER
PISCASAW CREEK OVERFLOW
F.A.P. RTE. 303 SECTION: 131B(1&2)BR
McHENRY COUNTY STATION 90+20.80
STRUCTURE NO. 056-0089

SCALE: DATE: APRIL 13, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S./J.C.N.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

NAME	DATE