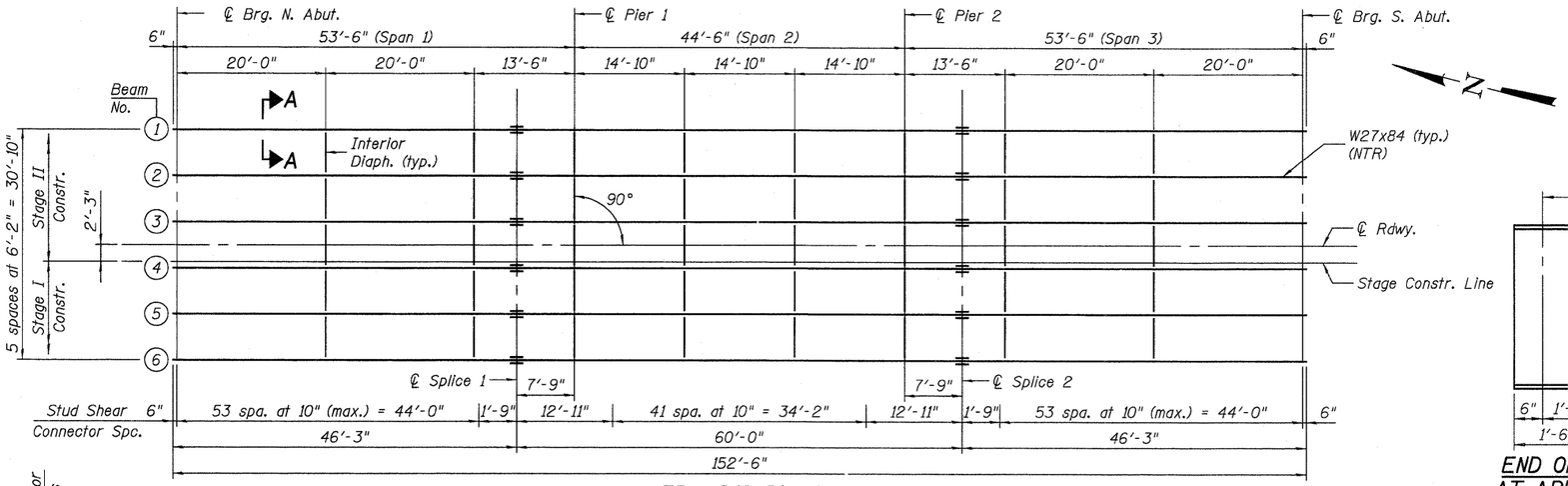
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

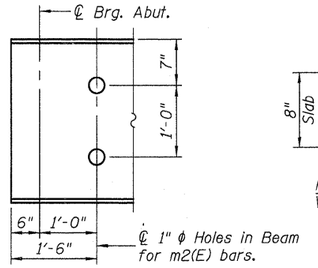


FRAMING PLAN

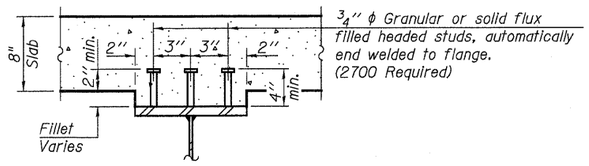
TOP OF BEAM ELEVATIONS*

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg. N. Abut.	508.59	508.70	508.80	508.80	508.70	508.59
℄ Splice 1	509.43	509.54	509.63	509.63	509.54	509.43
℄ Pier 1	509.58	509.69	509.78	509.78	509.69	509.58
℄ Pier 2	510.43	510.54	510.63	510.63	510.54	510.43
℄ Splice 2	510.58	510.69	510.78	510.78	510.69	510.58
℄ Brg. S. Abut.	511.50	511.61	511.70	511.70	511.61	511.50

* For Fabrication only. (Theoretical elevations before dead load deflection.)



END OF BEAM AT ABUTMENTS



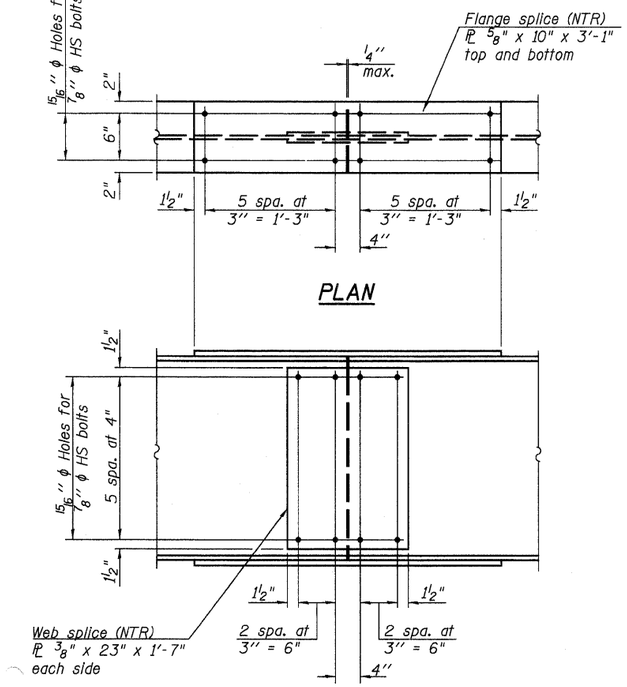
SECTION A-A

INTERIOR GIRDER MOMENT TABLE		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 Span 2
I_s	(in^4)	2850	2850	2850
$I_c(n)$	(in^4)	8510	2850	8510
$I_c(3n)$	(in^4)	6391	2850	6391
S_s	(in^3)	213	213	213
$S_c(n)$	(in^3)	327	213	327
$S_c(3n)$	(in^3)	296	213	296
Z	(in^3)	---	---	---
DC1	(k/')	0.724	0.724	0.724
M_{DC1}	('k)	176	182	-2
DC2	(k/')	0.150	0.150	0.150
M_{DC2}	('k)	41	28	10
DW	(k/')	0.275	0.275	0.275
M_{DW}	('k)	74	51	17
M_{L+IM}	('k)	566	274	391
M_u (Strength I)	('k)	1373	819	720
* $\phi_f M_n$, $\phi_f M_{nc}$	('k)	1773	973	1773
f_s DC1	(ksi)	9.9	10.3	-0.1
f_s DC2	(ksi)	1.7	1.6	0.4
f_s DW	(ksi)	3.0	2.9	0.7
f_s 1.3(L+IM)	(ksi)	27.0	20.1	18.7
f_s (Service II)	(ksi)	41.6	34.9	19.7
** f_s (Total)(Strength I)	(ksi)	---	---	---
V_f	(k)	23.4	---	20.6

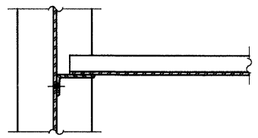
* Compact sections
** Non-Compact and slender sections

INTERIOR GIRDER REACTION TABLE		Abut.	Pier
R_{DC1}	(k)	16.0	38.8
R_{DC2}	(k)	3.5	7.9
R_{DW}	(k)	6.4	14.4
R_{L+IM}	(k)	63.0	85.5
R_{Total}	(k)	88.9	146.6

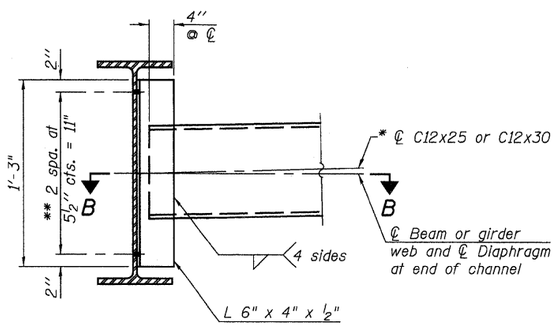
I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).
$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) 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-Strength I, and Service II) 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. Omit line in Moment Table if not used in design calculations ($in.^3$).
DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$
$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+IM}$
f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$
V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



SPLICE DETAIL
(12 Required)



SECTION B-B



INTERIOR DIAPHRAGM
(40 Required)

Note:
Two hardened washers required for each set of oversized holes.

* Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
** ¾" ϕ HS bolts, 15/16" ϕ holes

Notes:
All structural steel shall be AASHTO M270 Gr. 50W.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: JDQ	DRAWN: SJS
CHECKED: DCD	CHECKED: DCD

STRUCTURAL STEEL & FRAMING PLAN
ILLINOIS 267 OVER TAYLOR CREEK
STRUCTURE NO. 031-0043

SHEET 11 OF 19

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
10	410BR-1	GREENE	37	23
	STA. 85+20.50	CONTRACT NO. 76B58		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		