



FRAMING PLAN

NOTES:

All material shall be AASHTO M270 Grade 50.

NTR indicates notch toughness requirements.

See Sheet SE-19 for typical beam elevation and framing details.

INTERIOR GIRDER MOMENT TABLE

	0.4 Sp. 1	Pier 1	0.5 Sp. 2
I_s (in ⁴)	6,680	8,230	6,680
I_c (n) (in ⁴)	17,020	-	17,020
I_c (3n) (in ⁴)	12,596	-	12,596
S_s (in ³)	436	540	436
S_c (n) (in ³)	622	-	622
S_c (3n) (in ³)	566	-	566
Z (in ³)	-	607	-
ρ (k/ft.)	1.00	1.56	-
$M\ell$ (k)	391	943	406
$s\ell$ (k/ft.)	0.56	-	0.56
$M_s\ell$ (k)	242	-	250
$M\ell$ (k)	627	330	625
M (Imp) (k)	157	82	157
$^{5}_3[M\ell + M(\text{Imp})]$ (k)	1307	687	1,303
M_a (k)	2,522	2,119	2,547
M_u (k)	3,015	2,529	3,015
$f_s\ell$ non-comp (k.s.i.)	10.8	21.0	11.2
$f_s\ell$ comp (k.s.i.)	5.1	-	5.3
$f_s^{5}_3(\ell + \text{Imp})$ (k.s.i.)	25.2	15.3	25.1
f_s (Overload) (k.s.i.)	41.1	36.3	41.6
f_s (Total) (k.s.i.)	-	-	-
VR (k)	57.1	-	57.1

INTERIOR GIRDER REACTION TABLE

	W. Abut.	Pier 1	E. Abut.
$R\ell$ (k)	42.6	142.9	43.4
$R\ell$ (k)	42.3	56.5	42.2
Imp. (k)	10.6	14.2	10.6
R (Total) (k)	95.5	213.6	96.2

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).

I_c and S_c are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

I_c and S_c are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

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

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

M_a (Applied Moment) = $1.3[M\ell + M_s\ell + ^5_3(M\ell + M(\text{Imp}))]$.
The Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1 and 10.50.1.1.

f_s (Overload) is the sum of the stresses due to $M\ell + M_s\ell + ^5_3(M\ell + M(\text{Imp}))$.

f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3[M\ell + M_s\ell + ^5_3(M\ell + M(\text{Imp}))]$.

TOP OF BEAM ELEVATIONS (For Fabrication Use Only)

LOCATION	WEST ABUT.	EAST ABUT.	PIER 1	SPLICE 1E	SPLICE 2E
Beam 1E	640.59	638.68	639.53	639.72	639.35
Beam 2E	640.75	638.84	639.69	639.88	639.50
Beam 3E	640.91	639.00	639.85	640.03	639.66
Beam 4E	641.03	639.12	639.97	640.16	639.78
Beam 5E	641.14	639.23	640.08	640.27	639.90
Beam 6E	641.02	639.11	639.96	640.15	639.78
Beam 7E	640.90	638.99	639.84	640.02	639.65
Beam 8E	640.74	638.83	639.68	639.87	639.49
Beam 9E	640.58	638.67	639.52	639.71	639.33
Beam 10E	640.42	638.51	639.36	639.55	639.18

DESIGNED	AEU
CHECKED	RGD
DRAWN	WJH
CHECKED	NRF

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REVISIONS	
NAME	DATE

CITY OF AURORA	
STEEL FRAMING PLAN ILLINOIS AVENUE OVER THE FOX RIVER SECTION NO. 03-00247-00-BR KANE COUNTY STRUCTURE NO. 045-6008	
DATE 7-28-2006	

DRAWN BY: WJH
 CHECKED BY: NRF
 DESIGNED BY: AEU
 PROJECT NO.: 03-00247-00-BR
 SHEET NO.: SE-18
 CONTRACT NO.: 83867