



FRAMING PLAN

		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in ⁴)	90,956	---	90,956
I'	(in ⁴)	327,106	---	327,106
S_b	(in ³)	5,153	---	5,153
S_b'	(in ³)	9,544	---	9,544
S_t	(in ³)	3,736	---	3,736
S_t'	(in ³)	42,331	---	42,331
Q	(k/')	1.263	---	1.263
M_Q	(k)	353.7	---	766.3
sQ	(k/')	0.604	0.604	0.604
$M_s Q$	(k)	95.3	-235.5	150.1
M_L	(k)	363.9	-339.3	425.4
M_I	(k)	101.7	-86.7	104.9

		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
R_Q	(k)	69.1	33.3	47.4
* $R_s Q$	(k)	10.9	21.2	21.2
* R_L	(k)	39.2	26.2	26.2
* R_I	(k)	11.0	6.7	6.7
R_{Total}	(k)	130.2	87.3	101.4

		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in ⁴)	90,956	---	90,956
I'	(in ⁴)	330,598	---	330,598
S_b	(in ³)	5,153	---	5,153
S_b'	(in ³)	9,579	---	9,579
S_t	(in ³)	3,736	---	3,736
S_t'	(in ³)	44,146	---	44,146
Q	(k/')	1.288	---	1.288
M_Q	(k)	360.7	---	781.4
sQ	(k/')	0.604	0.604	0.604
$M_s Q$	(k)	95.3	-235.5	150.1
M_L	(k)	193.9	-283.0	244.8
M_I	(k)	9.4	-8.0	9.7

		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
R_Q	(k)	71.0	34.0	48.4
* $R_s Q$	(k)	10.9	21.2	21.2
* R_L	(k)	17.5	23.8	23.8
* R_I	(k)	1.0	0.6	0.6
R_{Total}	(k)	100.3	79.6	94.0

- I : Non-composite moment of inertia of beam section (in⁴).
- I' : Composite moment of inertia of beam section (in⁴).
- S_b : Non-composite section modulus for the bottom fiber of the prestressed beam (in³).
- S_b' : Composite section modulus for the bottom fiber of the prestressed beam (in³).
- S_t : Non-composite section modulus for the top fiber of the prestressed beam (in³).
- S_t' : Composite section modulus for the top fiber of the prestressed beam (in³).
- Q : Un-factored non-composite dead load (kips/ft.).
- M_Q : Un-factored moment due to non-composite dead load conservatively taken at 0.5 of the span (kip-ft.).
- sQ : Un-factored long-term composite (superimposed) dead load (kips/ft.).
- $M_s Q$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- M_L : Un-factored live load moment on the composite section (kip-ft.).
- M_I : Un-factored moment due to impact on the composite section (kip-ft.).

* At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.

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FILE NAME =	USER NAME = oship	DESIGNED - MJF/MFB	REVISED -
0166953.023.FramePlan1.dgn		CHECKED - AAY	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 2/19/2013	CHECKED - JHG	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN
STRUCTURE NO. 016-6953 BRIDGE ST. OVER THE NORTH SHORE CHANNEL**

SHEET NO. S23 OF S50 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	08-00251-00-BR	COOK	118	76
CONTRACT NO. 63817			ILLINOIS FED. AID PROJECT	

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