

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 205
F.A.I. 39	50-4B	LASALLE		23	313 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 66586

Properties	0.4 Span 1	Floorbeam 1
Is	(in4)	5900
Ic(n)	(in4)	-----
Ic(3n)	(in4)	-----
Ss	(in3)	359
Sc(n)	(in3)	-----
Sc(3n)	(in3)	-----
\bar{D}	(k/ft)	1.512
M \bar{D}	(k-ft)	156
S \bar{D}	(k/ft)	-----
Ms \bar{D}	(k-ft)	-----
M \bar{L}	(k-ft)	255
M (Imp)	(k-ft)	76
$\frac{5}{3}(M \bar{L} + M (Imp))$	(k-ft)	553
* Mu	(k-ft)	1245
Ma	(k-ft)	921
fs \bar{D} (non-composite)	(ksi)	5.2
fs \bar{D} (composite)	(ksi)	-----
fs $\frac{5}{3}(M \bar{L} + M (Imp))$	(ksi)	18.5
fs (Overload)	(ksi)	23.7
** fs (Total)	(ksi)	-----
VR	(k)	-----

Properties	0.5 Span	
Is	(in4)	275852
Ic(n)	(in4)	-----
Ic(3n)	(in4)	-----
Ss	(in3)	4926
Sc(n)	(in3)	-----
Sc(3n)	(in3)	-----
\bar{D}	(k/ft)	-----
M \bar{D}	(k-ft)	7742
S \bar{D}	(k/ft)	-----
Ms \bar{D}	(k-ft)	-----
M \bar{L}	(k-ft)	3913
M (Imp)	(k-ft)	900
$\frac{5}{3}(M \bar{L} + M (Imp))$	(k-ft)	8037
* Mu	(k-ft)	20525
Ma	(k-ft)	20513
fs \bar{D} (non-composite)	(ksi)	18.9
fs \bar{D} (composite)	(ksi)	-----
fs $\frac{5}{3}(M \bar{L} + M (Imp))$	(ksi)	19.6
fs (Overload)	(ksi)	38.4
** fs (Total)	(ksi)	-----
VR	(k)	-----

Properties	0.5 Span	
Is	(in4)	228445
Ic(n)	(in4)	-----
Ic(3n)	(in4)	-----
Ss	(in3)	4125
Sc(n)	(in3)	-----
Sc(3n)	(in3)	-----
\bar{D}	(k/ft)	-----
M \bar{D}	(k-ft)	3168
S \bar{D}	(k/ft)	-----
Ms \bar{D}	(k-ft)	-----
M \bar{L}	(k-ft)	3019
M (Imp)	(k-ft)	694
$\frac{5}{3}(M \bar{L} + M (Imp))$	(k-ft)	6201
* Mu	(k-ft)	16717
Ma	(k-ft)	12180
fs \bar{D} (non-composite)	(ksi)	9.2
fs \bar{D} (composite)	(ksi)	-----
fs $\frac{5}{3}(M \bar{L} + M (Imp))$	(ksi)	18.0
fs (Overload)	(ksi)	27.3
** fs (Total)	(ksi)	-----
VR	(k)	-----

Properties	End Floorbeam	Floorbeam 1
R (\bar{D})	(k)	22
R (\bar{L})	(k)	48
Imp.	(k)	14
R (Total)	(k)	84

Properties	Interior Floorbeam	End Floorbeam
R (\bar{D})	(k)	325
R (\bar{L})	(k)	155
Imp.	(k)	36
R (Total)	(k)	516

NOTE:
1. Work this sheet with sheet 206.

NOTES:
Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).
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.
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 loads. See AASHTO 10.38.

VR is the maximum live load + impact shear range within the composite portion of the span.
Ma (Applied Moment) = $1.3[M \bar{D} + Ms \bar{D} + \frac{5}{3}(M \bar{L} + M (Imp))]$.
The plastic moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.
fs (Overload) is the sum of the stresses due to $M \bar{D} + Ms \bar{D} + \frac{5}{3}(M \bar{L} + M (Imp))$.
fs (Total) is the sum of the stresses due to $1.3[M \bar{D} + Ms \bar{D} + \frac{5}{3}(M \bar{L} + M (Imp))]$.
M \bar{D} - Moment due to dead loads on non-composite section.
Ms \bar{D} - Moment due to dead loads on composite section.
M \bar{L} - Moment due to live load on non-composite or composite section.
M (Imp) - Moment due to live load impact on non-composite or composite section.

* Compact, Braced section.
** Non-Compact section.

DESIGNED -	HAA
CHECKED -	HMA
DRAWN -	RMG
CHECKED -	MRB

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Job # 3856

TIED ARCH SPAN TABLES - 5 OF 9
ABRAHAM LINCOLN MEMORIAL BRIDGE OVER
THE ILLINOIS RIVER (PUBLIC WATERS)
F.A.I. ROUTE 39 SEC. (50-4B) BR
LASALLE COUNTY
STATION 863+16.00
STRUCTURE NO. 050-0191 (SB & NB)

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