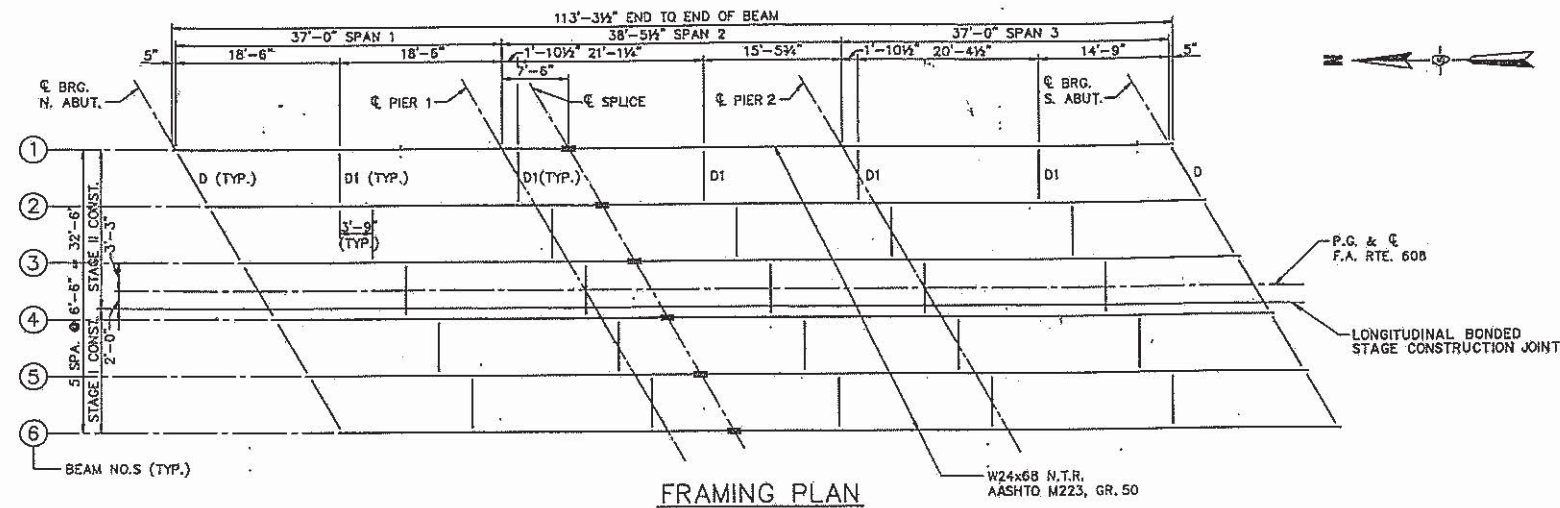


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA-608	125BR	MACOUPIN	33	13
STA.	TO STA.			
F.H.W.A. REGION 3 ILLINOIS PROJECT				

SHEET NO.: 7
SHEETS: 17



	0.4 SP. 1 & 3	PIERS 1 & 2	0.4 SP. 2
I_s (IN. ⁴)	1830	1830	1830
I_c (IN. ⁴)	5880		5880
S_s (IN. ³)	154	154	154
S_c (IN. ³)	247		247
R (K/I)	0.686	0.996	0.686
M_D (K)	77	135	28
M_L (K/I)	0.310		0.310
M_{SD} (K)	38		22
M_{SL} (K)	208	98	174
M_{IMP} (K)	62	29	52
$5/3(M_{SL} + I)$ (K)	450	212	377
M_D (K)	735	451	555
M_{L1} (K)	1440		1440
f_s NON-COMP (K.S.I.)	6.0	10.5	2.2
f_s (COMP) (K.S.I.)	2.1		1.2
f_s $5/3(L + I)$ (K.S.I.)	21.9	16.5	18.3
f_s (OVERLOAD) (K.S.I.)	30.0	27.0	21.7
f_s (TOTAL) (K.S.I.)		35.1	
VR (K)	48.5		45.0

NOTES:

- I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL AND OVERLOAD).
- I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_s (TOTAL AND OVERLOAD).
- VR IS THE MAXIMUM $L + I$ IMPACT SHEAR RANGE IN SPAN.
- THE FULLY PLASTIC MOMENT CAPACITY (M_p) IS COMPUTED ACCORDING TO AASHTO 10.48.1 & 10.50.1.1.
- f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO $1.3[M_D + M_{SL} + 5/3(M_{L1} + I)]$.
- f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO $[M_D + M_{SL} + 5/3(M_{L1} + I)]$.
- M_D - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.
- M_{SL} - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.
- M_{L1} - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.
- I - LIVE LOAD IMPACT.
- M_p (APPLIED MOMENT) = $1.3[M_D + M_{SL} + 5/3(M_{L1} + I)]$.
- N.T.R. INDICATES NOTCH TOUGHNESS REQUIREMENT

	BEAM #1	BEAM #2	BEAM #3	BEAM #4	BEAM #5	BEAM #6
☉ BRG. N. ABUT.	537.66	537.75	537.84	537.84	537.73	537.63
☉ BRG. PIER #1	537.62	537.71	537.81	537.80	537.70	537.60
☉ SPLICE	537.61	537.70	537.80	537.79	537.69	537.59
☉ BRG. PIER #2	537.58	537.67	537.76	537.76	537.66	537.56
☉ BRG. S. ABUT.	537.54	537.63	537.73	537.73	537.62	537.52

* FOR FABRICATION ONLY

	ABUT'S.	PIERS
R_D (K)	15.2	41.5
R_L (K)	35.3	36.7
IMP. (K)	10.6	11.0
R_{TOTAL} (K)	61.1	89.2

FRAMING PLAN
ILLINOIS ROUTE 111 OVER
BEAR CREEK
F.A. RTE.608 SECTION 125BR
MACOUPIN COUNTY
STATION 1005 + 80.00
STRUCTURE NO. 059-0014