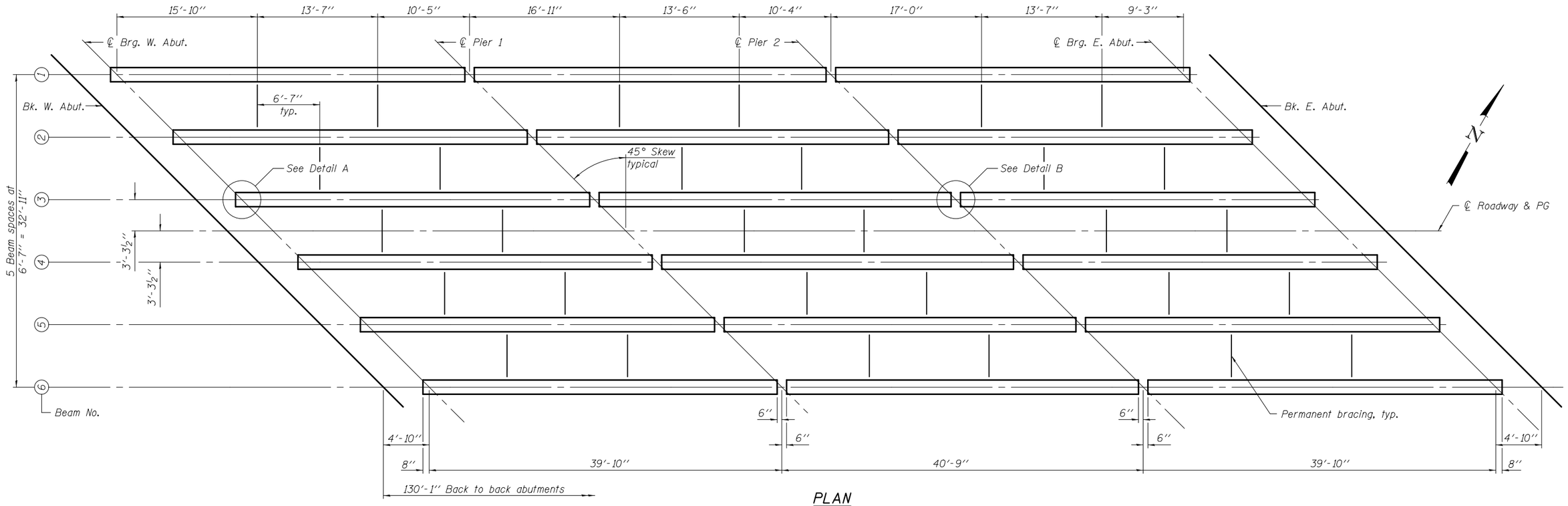
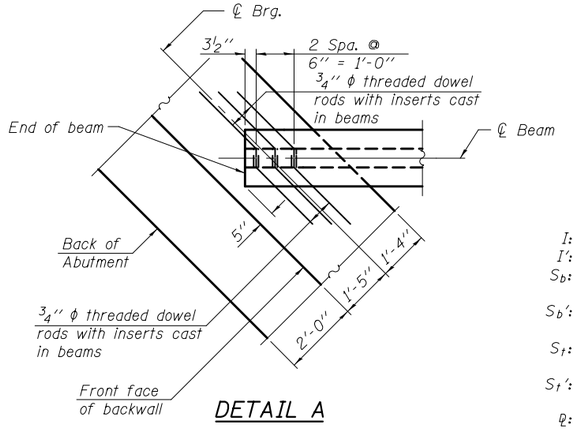


PLAN



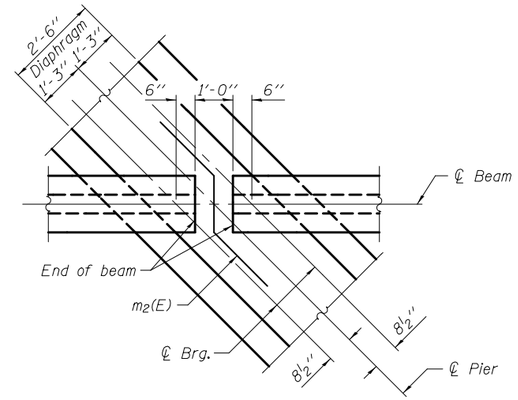
DETAIL A

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. #2
I	(in^4)	48647.6	-	48647.6
I'	(in^4)	171144	-	171144
S_b	(in^3)	3165.1	-	3165.1
S_b'	(in^3)	5863	-	5863
S_t	(in^3)	2358.1	-	2358.1
S_t'	(in^3)	25131	-	25131
Q	(k/')	1.022	-	1.022
MQ	('k)	203	-	212
sQ	(k/')	0.492	0.492	0.492
MsQ	('k)	62	80	22
ML	('k)	218	158	180
MI	('k)	65	47	54

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
Q: Un-factored non-composite dead load (kips/ft.).
MQ: 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_sQ: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
ML: Un-factored live load moment on the composite section (kip-ft.).
MI: Un-factored moment due to impact on the composite section (kip-ft.).

INTERIOR BEAM REACTION TABLE				
		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
	RQ (k)	20.4	20.4	20.8
*	RsQ (k)	7.8	10.9	10.9
*	RL (k)	32.2	20.6	20.6
*	Imp. (k)	9.7	6.2	6.2
	R (Total) (k)	70.1	58.1	58.5

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



DETAIL B

DESIGNED - MARK D. SHAFFER	EXAMINED	Joyce F. Schaff ACTING ENGINEER OF BRIDGE DESIGN C. Carl Preuss ACTING ENGINEER OF BRIDGES AND STRUCTURES	DATE - JANUARY 24, 2014	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**	**FRAMING PLAN** **STRUCTURE NO. 100 – 0081**	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - STEPHEN M. RYAN			REVISED			9588	39B-2	WILLIAMSON	224	107
DRAWN - MICHAEL B. MOSSMAN	PASSED		REVISED		SHEET NO. 14 OF 26 SHEETS			CONTRACT NO. 78277		
CHECKED - F.T. / G.R.A.								ILLINOIS FED. AID PROJECT		