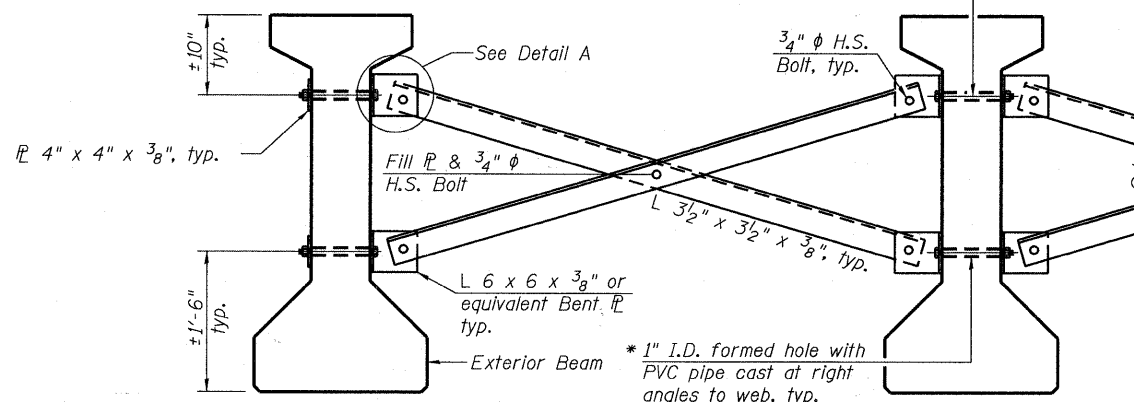


* Fabricator shall locate to miss strands within permissible tolerances.

$\frac{3}{4}$ " ϕ A307 Bolts with lock nuts., typ.
Bolts through the concrete web shall be tightened to snug tight only.



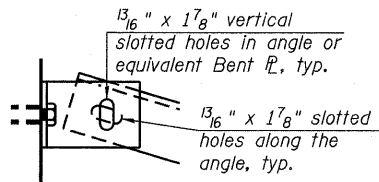
Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted. Two hardened washers are required for each set of oversized holes.

All holes shall be $\frac{15}{16}$ " ϕ unless otherwise noted. $\frac{5}{16}$ " x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232. Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.



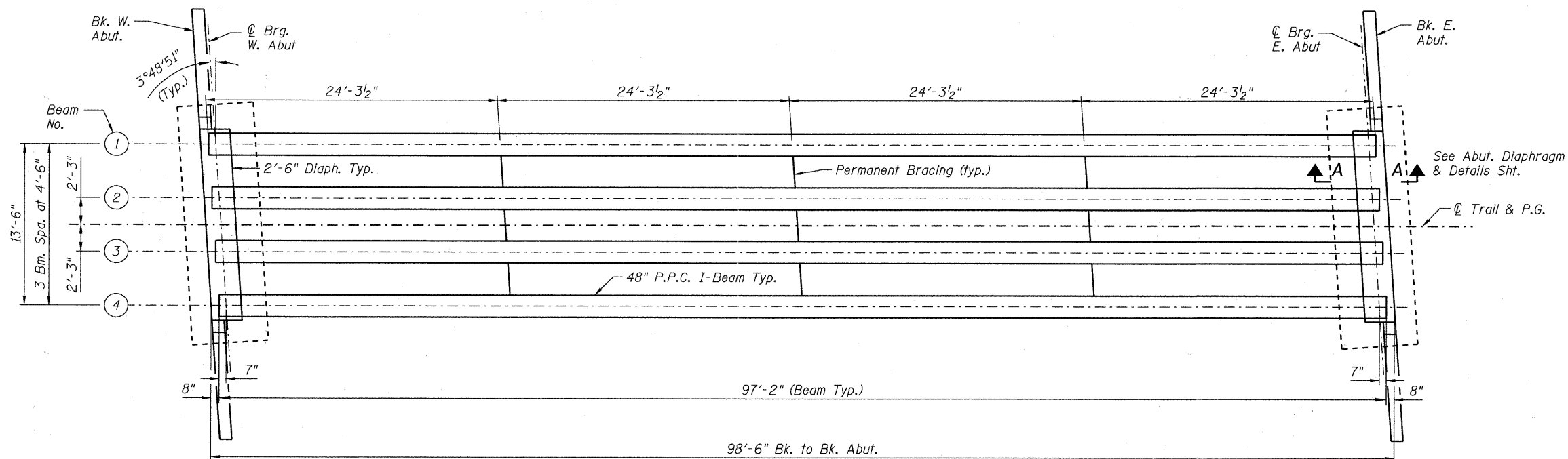
DETAIL A

INTERIOR BEAM MOMENT TABLE		
0.5 Sp. 1		
I	(in ⁴)	114,117
I'	(in ⁴)	363,952
S _b	(in ³)	6,834
S _b '	(in ³)	11,064
S _t	(in ³)	5,355
S _t '	(in ³)	24,095
DC1	(k/')	1.08
M _{DC1}	(k)	1240
DC2	(k/')	0.20
M _{DC2}	(k)	225
DW	(k/')	0.09
M _{DW}	(k)	101
M _{LL}	(k)	394

INTERIOR BEAM REACTION TABLE		
Abut.		
R _{DC1}	(k)	51.6
R _{DC2}	(k)	9.4
R _{DW}	(k)	4.2
R _{LL}	(k)	25.4
R _{Total}	(k)	90.6

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).
DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
M_{LL}: Un-factored live load moment without dynamic load allowance (impact) (kip-ft.).

**PERMANENT BRACING DETAILS FOR
48" PPC I-BEAMS**



PLAN

FILE NAME = s:\756-004_tombard - gwt_bridges_phase 11\cadd_sheets\structural\grace\0223128-009-FramingPlan.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = gonzalo
PLOT SCALE =
PLOT DATE = 7/26/2011

DESIGNED *JJI*
CHECKED *SRT*
DRAWN *GM*
CHECKED *SRT*

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
GREAT WESTERN TRAIL
GRACE STREET**

**FRAMING PLAN AND BEAM TABLES
STRUCTURE NO. 022-3120**

SHEET NO. 9 OF 25 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	06-00151-00-BR	DuPAGE	201	61
			CONTRACT NO. 63568	

ILLINOIS FED. AID PROJECT