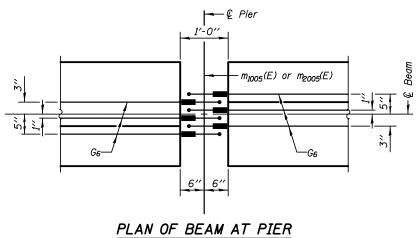
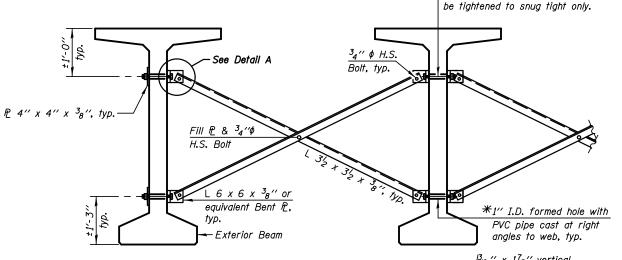


ELEVATION OF BEAM AT PIER





Permanent Bracing 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 15/16 "\$\phi\$ unless otherwise noted.

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 Bulb T-Beams.

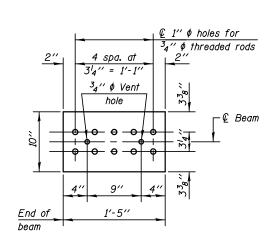
slotted holes in angle or equivalent Bent £, typ. | 3|6 " x 178" slotted holes along the angle, typ.

34" \$\phi\$ A307 Bolts with lock nuts., typ.

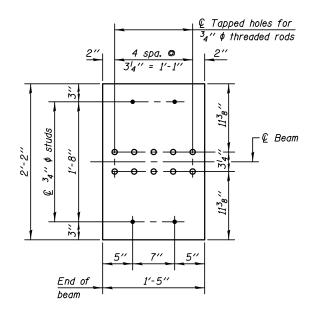
Bolts through the concrete web shall

*Fabricator shall locate to miss strands within permissible tolerances.

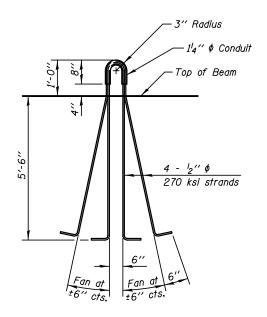
PERMANENT BRACING DETAILS FOR BULB-T BEAMS



TOP PLATE



BOTTOM PLATE



LIFTING LOOP DETAIL

NOTES

Inserts for 3_4 " ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be $^{l}2^{\prime\prime}$ and the nominal cross-sectional area shall be 0.153 sq. in.

A minimum 2^{l_2} " ϕ lifting pin shall be used to engage the lifting loops during handling.

Tilt G_6 bars when necessary to maintain $1_2^{\prime\prime}$ clearance.

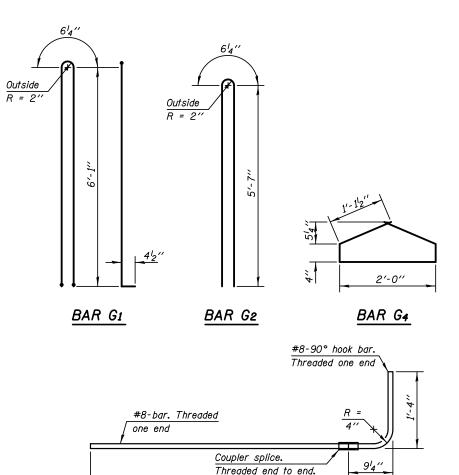
The top and bottom plates shall be AASHTO M270 Grade 50.

The bottom plates and studs shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized.

Threaded rods shall be ASTM F 1554 Grade 55.

The G_6 bar assembly shall be capable of developing 125 percent of the yield strength of the grade 60 reinforcement bar components. The assembly shall allow completion of the splice without turning of the hook bar. The hook bar shall be threaded such that the entire coupler can be threaded onto the hook bar.

Beams requiring G_6 bar assemblies shall not be released from the fabricator until they have attained 45 days of age or older.



5'-3" **G6 BAR ASSEMBLY**

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams, 72''	Foot	4256.0



				DESIGNED	-	WPM	REVISED
				CHECKED	-	ТВ	REVISED
ects	SCALE	-	NONE	DRAWN	-	ТВ	REVISED
	DATE	-	10/15/2012	CHECKED	-	WPM	REVISED

72" PPC BUI	LB T-	BEAM D	ETAILS
S.N. 022-2029			
S.N. 022-2030	(NB)	TOLLWA	/ B.N. 825
SHEET NO.	SA-43	OF 63 SHE	ETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEE NO.
338	(112 & 113) WRS-5	DUPAGE	963	627
		CONTRACT	NO. 6	OI31
	TILITNOTS FED. AT	ID PROJECT		