

0820318-CONN-05-001-BR.DGN..0820318-CONN-99-001-BOLDGN
BONPHILIO \\FS-00044\AM VALIU.T.D-TRANS..07-2202.200608-08\STRUCT\CAV\VI DESIGN\0820318-SHEET\0820318-CONN-05-001-SHT-BR.DGN



Diagram illustrating the layout of a rectangular plate with a grid of holes. The plate dimensions are defined by $Wt\ Min.$ (width) and $3\ Studs$ (height). The height is divided into three equal sections, each of height a . The width is divided into two equal sections, each of width b . The holes are arranged in a 4x3 grid. Labels include:

- Tapped hole for 1" ϕ H.S. threaded stud. (typ.)
- Girder
- Tapped hole for Guide bars threaded screws
- Brg. top bearing E

$\varnothing$ Brg.
 $\varnothing$ top bearing $\varnothing$
 -3.00% @ E. Abut. only
 Wt Min.
 Tt

Diagram illustrating the layout of a square plate with a central circular hole and eight surrounding holes. The plate has a side length L and a minimum width $Wt Min.$. The central hole is labeled "Piston". The eight surrounding holes are labeled "Tapped hole for H.S. threaded stud. (typ.)". The central horizontal line is labeled "Girder" and the central vertical line is labeled "Brg".

Base cylinder

Girder

1 1/2" ϕ hole for 1" ϕ Anchor bolt (typ.)

D

Brg.

d

c

Dimension	Pier 23	E. Abut.
<i>D</i>	$13\frac{7}{8}$	$13\frac{7}{8}$
<i>L</i>	14	14
<i>Tb</i>	2	2
<i>Th</i>	$10\frac{3}{16}$	$10\frac{9}{16}$
<i>Tt</i>	2	2
<i>Wt</i>	26	26
<i>a</i>	11	11
<i>b</i>	7	7
<i>c</i>	9	9
<i>d</i>	$13\frac{1}{2}$	$13\frac{1}{2}$

<i>Data</i>	<i>Pier 23</i>	<i>E. Abut.</i>
<i>Service Vertical Design Load (kips)</i>	290	295
<i>Factored Horizontal Design Load (kips)</i>	75	90
<i>Factored Design Rotation (rad)</i>	0.02	0.02
<i>Total Required Movement (in)</i>	9 $\frac{1}{2}$	5 $\frac{3}{4}$

Item	Unit	Total
High Load Multi-Rotation Bearings, Guided Expansion, 300K	Each	22
Anchor Bolts, 1" ϕ	Each	88

1. The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
2. Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
3. H.S. bolts in bearing assembly shall be galvanized according to AASHTO M298 Class 50.
4. If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be T_b plus the depth of the recess.

FILE NAME = \$FILE\$ TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS 1112 N. W. 10th St., Suite 100 Fort Lauderdale, FL 33304	USER NAME = \$USER\$	DESIGNED - KK	REVISED - 1 07/09/2010 JR	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	BEARING DETAILS 1 OF 2				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - KK	REVISED -		998	82-2-IHV	ST. CLAIR	285	183				
	PLOT SCALE = \$SCALE\$	CHECKED - TCU	REVISED -		SN 082-0318 (EB) & 0319 (WB)					CONTRACT NO. 76C44			
	PLOT DATE = \$DATE\$	DATE - 06/04/10	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT								
					SCALE:	SHEET NO. S-73 OF S-111	STA. 134+22.00 TO STA.						