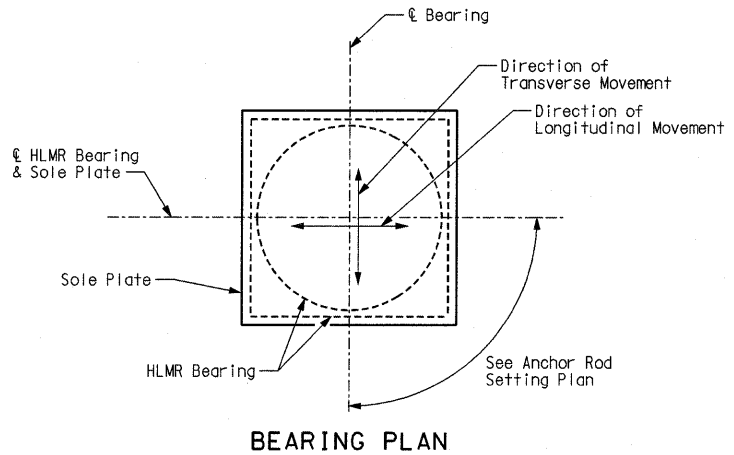
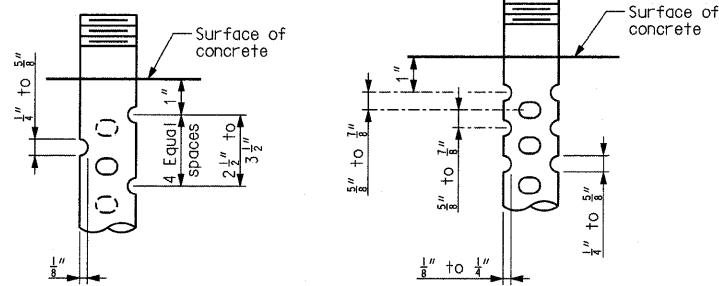


ELEVATION



BEARING PLAN

BEARING DATA TABLE						
Location			Pier 13	Pier 17	Pier 23	
Fix/Exp.			Guided	Guided	Guided	
Quantity Required			8	16	8	
Design load (kip)	Service limit state	Vertical	max.	347	384	410
			perm.	164	184	193
			min.	164	184	193
	Strength limit state	Vertical	max.	570	617	664
			perm.	32	36	34
			min.	20	20	20
	Extreme Event limit state	Vertical	max.	255	275	297
			perm.	105	74	67
			min.	32	34	37
Rotation (rad.)	Strength limit state	Transverse	0	0	0	
		Longitudinal	0.014	0.020	0.020	
*** One Way Longit. Movement (inch)			12	15	15	
(G) Guide Clearance (inch)			1/4	1/4	1/4	
Masonry Plate	Lm					
	Wm					
	Tm					
Auxiliary Plate	La		0	0	0	
	Wa		0	0	0	
	Ta		0	0	0	
Sole Plate	Ls					
	Ws					
	T1					
	T2					
Bearing H (inch)			8 *	8 *	8 *	
Anchor Rods	d		1 1/4	1 1/4	1 1/4	
	Rods / Brg.		4	4	4	
Weld Size	W1					
	W2					



DETAIL OF 3/4" Ø THRU 2 1/2" Ø ANCHOR RODS  
 OPTIONAL DETAIL OF 1 3/8" Ø THRU 2 1/2" Ø ANCHOR RODS  
 SWEDGE ANCHOR ROD DETAILS

Notes:

T2 is upstation of T1.

\* Maximum vertical dimension of the complete bearing. If the actual bearing dimension differs, adjustments shall be made in the thickness of the sole plate, masonry plate and concrete pad as needed by the contractor at no additional cost to the owner. Contractor shall submit proposed method of adjustment to Engineer for approval.

\*\* Estimated horizontal dimension of the bearing device. If the actual dimension differs, adjust the size of the sole plate and masonry plate as needed by the contractor at no additional cost to the owner.

\*\*\* One Way Longitudinal Movement is the maximum one way movement (expansion or contraction) of the superstructure when bearings are set at 60 degrees F plus 1" tolerance.

\*\*\*\* At the contractor's option the anchor bolt wells may be omitted, and in lieu thereof, holes drilled into the substructure. The anchor bolt holes shall be drilled in the exact location shown, to the required depth and perpendicular to the plane of the bridge seat. The drilled holes shall be no smaller than the diameter of the holes in the steel bearing plates or castings. The contractor shall not interfere with the beam cap reinforcing steel in any manner. The reinforcing steel shall not be cut or lanced in the event that the drilling for anchor rods interferes with the bars. When the anchor bolts are set in holes or wells, the hole or well shall be clean and dry prior to grouting with an expansive mortar in accordance with Sec 1066. Excess mortar forced out of holes shall be removed.

\*\*\*\*\* The bearing device, sole plate and masonry plate shall be assembled in the shop. If the bearing assembly is field welded to the bottom flange of the steel girder, the welds shall be designed by the contractor in coordination with the bearing manufacturer for the load capacities indicated in the Bearing Data Table. The temperature of the steel adjacent to the elastomer shall be kept below 250°F. All field welding shall be in accordance with Sec 712.6. A bolted connection (designed by the contractor's Illinois licensed structural engineer) may be used in lieu of a field welded connection.

Indicates parts designed by the manufacturer.

Notes:

The bearing design shall conform to the provisions of AASHTO LRFD Bridge Design Specifications, 4th, ed. with 2008 Interims.

The contractor, in coordination with the bearing manufacturer, shall be responsible for sizing the sole plate and masonry plate, weld sizes and lengths and determining the size, number, embedment and location of anchor rods based on the load and movement capacities, indicated in the Bearing Data Table.

The contractor shall submit calculations sealed by a licensed structural engineer, registered in the State of Illinois, indicating conformance with design load and material criteria in the contract documents.

The dimension "H" in the Bearing Data Table represents the assumed total height of bearing mechanism between the sole plate and masonry plate used by the designer to establish the pedestal elevations.

The bearings shall be manufactured HLMR bearings, designed for the load and movement capacities indicated in the Bearing Data Table.

All expansion Bearings shall be guided and shall have a maximum friction coefficient of 3%.

Steel for bearings except for sole plate and masonry plates shall be ASTM A709 Grade 50W and shall be galvanized in accordance with Sec 1080.. Steel for sole plate and masonry plates shall be ASTM A709 Grade 50W. The anchor rods and welds shall have corrosion resistance and weathering characteristics compatible with the base material.

Anchor rods shall conform to ASTM F1554 Grade 55. The anchor rods shall be swedge-type, shall have a minimum diameter of 1 1/4 inches and extend a minimum of 12 inches into the concrete. Hex or Heavy Hex nuts for anchor rods shall conform to AASHTO M291 (ASTM A563) Grade C3 or DH3. Swedging shall be 1-inch less than the extension into the concrete.

Anchor rods shall be installed using a hardened steel washer at each exposed location.

Washers shall conform to ASTM F436, Type 3.

Certified mill test reports, conforming to the requirements of the specifications, for the metals of the bearing device, sole plate, masonry plate and anchor rods (including nuts and washers) shall be submitted.

The masonry plate shall be prepared per the specifications and shop-coated with one coat of inorganic zinc primer (5 mils minimum).

The sole plate shall be prepared per the specifications and shop-coated with two coats of inorganic zinc primer (5 mils minimum).

After installation of the bearings, any uncoated or damaged surfaces of the masonry and sole plates shall be prepared in accordance with the specifications and field-coated with inorganic zinc primer (5 mils minimum).

After installation of the bearings and field-applied prime coats, the surfaces of the masonry and sole plates shall be field-coated with System H intermediate and finish coat.

All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge and a direction arrow that points up-station. All marks shall be permanent and be visible after the bearing is installed.

The bearing device, sole plate, masonry plate, anchor rods, washers, anchor rod wells and any other appurtenances included in the fabrication and installation of the bearing device shall be incidental to the pay item "POT Bearing".

Whenever jacking of the Superstructure is needed to reset the bearings, the contractor shall submit a jacking sequence for approval.

DETAILS OF HIGH LOAD  
 MULTI-ROTATIONAL BEARING ASSEMBLY -  
 UNI-DIRECTIONAL EXPANSION