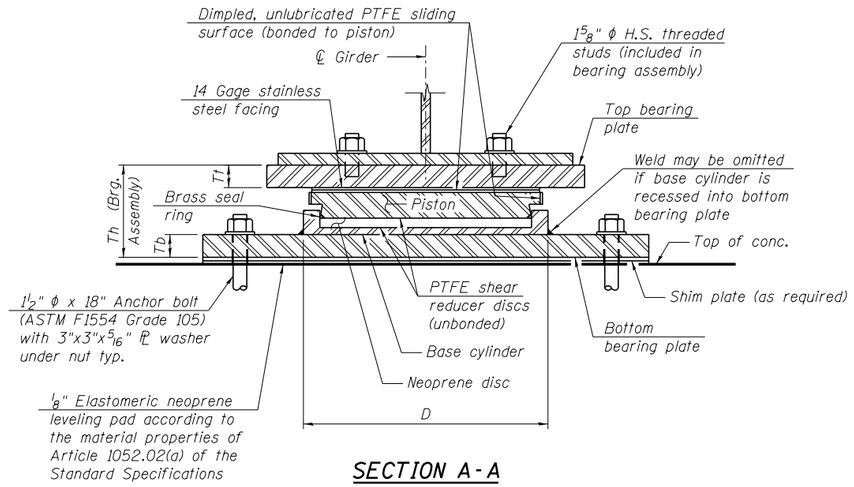
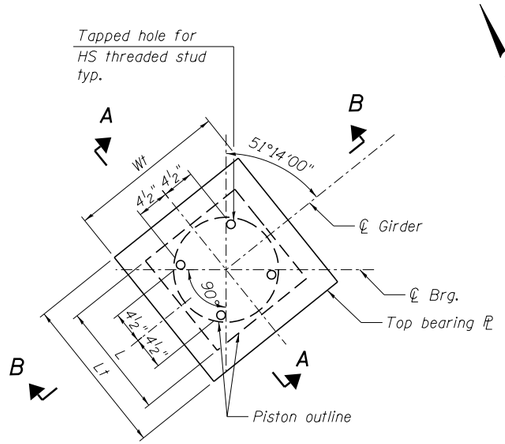
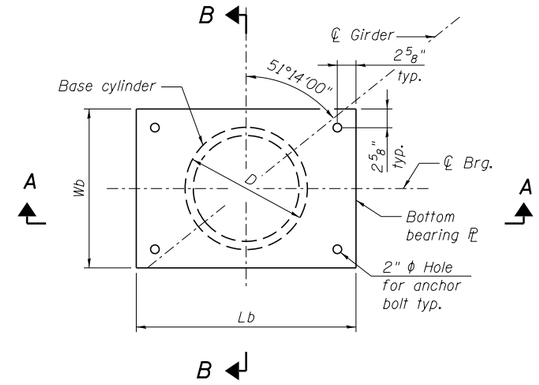


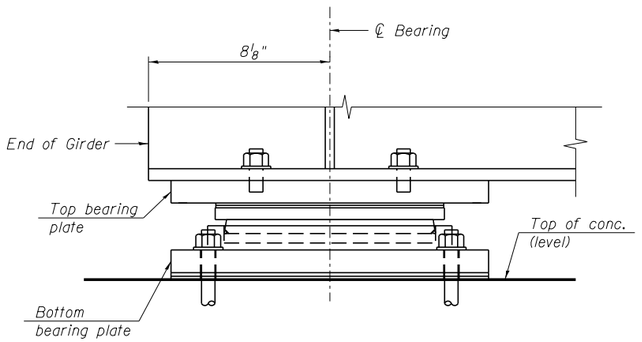
SECTION A-A



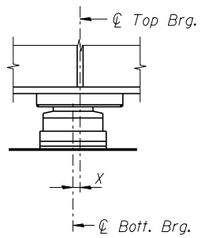
TOP BEARING ℄ AND PISTON PLAN



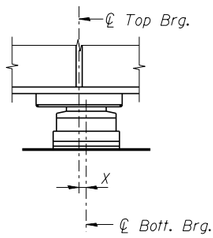
BOTTOM BEARING ℄ AND BASE CYLINDER PLAN



SECTION B-B



BELOW 50°F
(Move bottom brg. away from fixed brg.)



ABOVE 50°F
(Move bottom brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

X= 1/8" per each 100° of expansion for every 15° temp. change from the normal temp. of 50°F.

BEARING DIMENSIONS

Location	Pay Item Designation (kips)	** Vert. Design Load (kips)	** Horizontal Design Load (kips)	*** Required Rotation Range (radians)	**** Total Required Movement	Top Plate			Bearing Assembly		Bottom Plate			Total Ht.
						Wt	Lt	Tt	L	D	* Wb	* Lb	Tb	Th
E. Abut. Girders 1, 2, 3, 12, 13, 14	250	229	205	0.02	1/2"	1'-2 1/4"	1'-8"	1 3/4"	10 1/4"	11 3/4"	1'-4"	1'-11"	1 3/8"	5 7/8"
W. Abut. Girders 12, 13, 14	250	229	205	0.02	3/4"	1'-2 1/4"	1'-8"	1 3/4"	10 1/4"	11 3/4"	1'-4"	1'-11"	1 3/8"	5 7/8"
W. Abut. Girder 3	250	229	205	0.02	1"	1'-2 1/4"	1'-8"	1 3/4"	10 1/4"	11 3/4"	1'-4"	1'-11"	1 3/8"	5 7/8"
W. Abut. Girders 1, 2	250	229	205	0.02	1 1/4"	1'-2 1/4"	1'-8"	1 3/4"	10 1/4"	11 3/4"	1'-4"	1'-11"	1 3/8"	5 7/8"

* To be verified by the contractor for proper access of the drilling tool.
** Design Loads are the governing service loads.
*** Rotation allowances for fabrication tolerances (0.005 radians) and installation uncertainties (0.005 radians) excluded.
**** Total required movement is based on one way expansion (or contraction) of the superstructure perpendicular to the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Non-Guided Expansion, 250K	Ea.	12
Anchor Bolts, 1 1/2"	Ea.	48

NOTES:

1. All steel for bearings shall conform to the requirements of AASHTO M270 Grade 50, unless otherwise noted.
2. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554. Anchor bolts may be either cast in place or installed in holes drilled after the supported member is in place. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
3. PTFE and stainless steel materials shall conform to AASHTO requirements and the Special Provision for High Load Multi-Rotational Bearings.
4. All (embedded and separate) bearing components shall be galvanized according to AASHTO M111 or M232 as applicable.
5. Bearings shall be assembled at the plant and delivered to the site as a complete unit. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge, an arrow indicating orientation, and the normal position of the bearing. All marks shall be permanent and be visible after the bearing is installed. All components of the bearing, including anchor bolts and sockets, shall be provided by a single manufacturer.
6. Disc bearings will be permitted as a substitute at no additional cost. Inverted pot bearings are not allowed.
7. Total bearing height (Th) is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pier concrete.
8. Bearing assemblies shall be designed and assembled to allow for replacement by jacking the superstructure.
9. Two 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.

benesch engineers · scientists · planners
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312-565-0450 Job No. 10056

FILE NAME = 0900167_68620_29_brgsl.dgn	USER NAME = mbecker	DESIGNED - AWH	REVISED -
		CHECKED - AAY	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 7/16/2012	CHECKED - MFB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR NON-GUIDED EXPANSION BEARING DETAILS
STRUCTURE NO. 090-0167
SHEET NO. SB29 OF SB65 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	90-[14R;(14HB-4,14,14HVB)BR]	TAZEWELL	2433	1940
		CONTRACT NO. 68620		
	ILLINOIS FED. AID PROJECT			