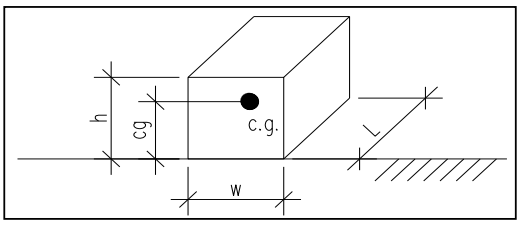
Project: LIVERMORE, CA 94550 page: 1 of 2
Date: 8/1/2016
Engineer: XXX

RBI FLEXCORE 4500 BOILER SEISMIC ANCHORAGE (ASCE 7-10)

Slab on Grade Applications Only

Equipment Parameters:

weight, W_p =	4200.00	LBS.
w =	34.000	in.
L =	109.400	in.
h =	80.000	in.
cg =	35.300	in.



Seismic Parameters:

S_S =	1.798	ASCE 7-10 Figure 22-1)
a_p =	1.000	(ASCE 7-10 Table 13.6-1)
Ip =	1.500	(ASCE 7-10 13.1.3)

Site Class = D

Risk Category = III

R_p =	**2.500**	(Default value for Anchorage per ASCE 7-10 Table 13.6-1)
F_a =	**1.000**	(ASCE 7-10 Table 11.4-1)
$S_{MS} = F_a*S_s$ =	**1.798**	(ASCE 7-10 Eqn. 11.4-1)
$S_{DS} = 2/3*S_{MS}$ =	**1.199**	(ASCE 7-10 Eqn. 11.4-3)

Seismic Design Category = **D**

Seismic Force:

$F_p = (0.4*a_p*S_{DS}*W_p)/(R_p/I_p)$ =	**1208.3**	LBS. (ASCE 7-10 Eqn. 13.3-1)
Upper Limit: $F_{pMAX} = 1.6*S_{DS}*I_p*W_p$ =	**12082.6**	LBS. (ASCE 7-10 Eqn. 13.3-2)
Lower Bound: $F_{pMIN} = 0.3*S_{DS}*I_p*W_p$ =	**2265.5**	LBS. (ASCE 7-10 Eqn. 13.3-3)

$F_{p,\ DESIGN}$ = **2265.5** LBS.

Project: LIVERMORE, CA 94550 page: 2 of 2
Date: 8/1/2016
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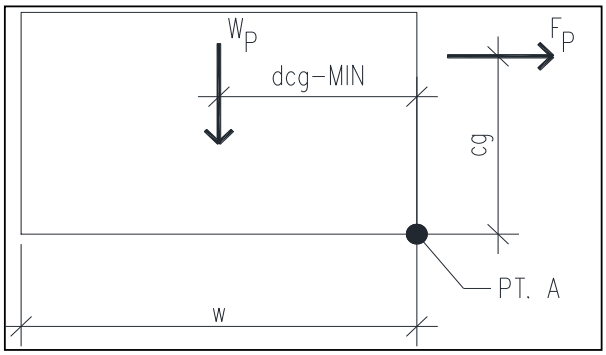
Design Anchorage Force:

Horizontal Shear Force Per Anchor:

$R_H = F_p/4 =$ **566.4** LBS.

Overturning Resistance About Point A:



x = **34.00** in.
x = lesser of L or W
dcg - Min= **16.4** in.
.

$M_{OT} = F_p*cg =$ **6664.3** LBS.-FT.

$M_{RES} = W_p*dcg\text{-}MIN =$ **2870.0** LBS.-FT. **Uplift**

Vertical Acceleration: assume $\rho = 1.0$
$Ev = \rho*Fp + 0.2*S_{DS}*W =$ **1573.3** LBS. (ASCE Section 13.3.1)

$R_{VNETUP} = (M_{OT}/(2*x))-(W_p/4)+(Ev/4) =$ **0.0** LBS. **No Uplfit**

Force Summary Per Corner:

Component Anchorage:

$R_{HNET} =$ **566.4** LBS.
$R_{VNETUP} =$ **0.0** LBS.

Anchors Embedded in Concrete or CMU:

$1.3*R_p*R_{HNET} =$ **1840.7** LBS.
$1.3*R_p*R_{VNETUP} =$ **0.0** LBS.