FOLLETT CORPORATION

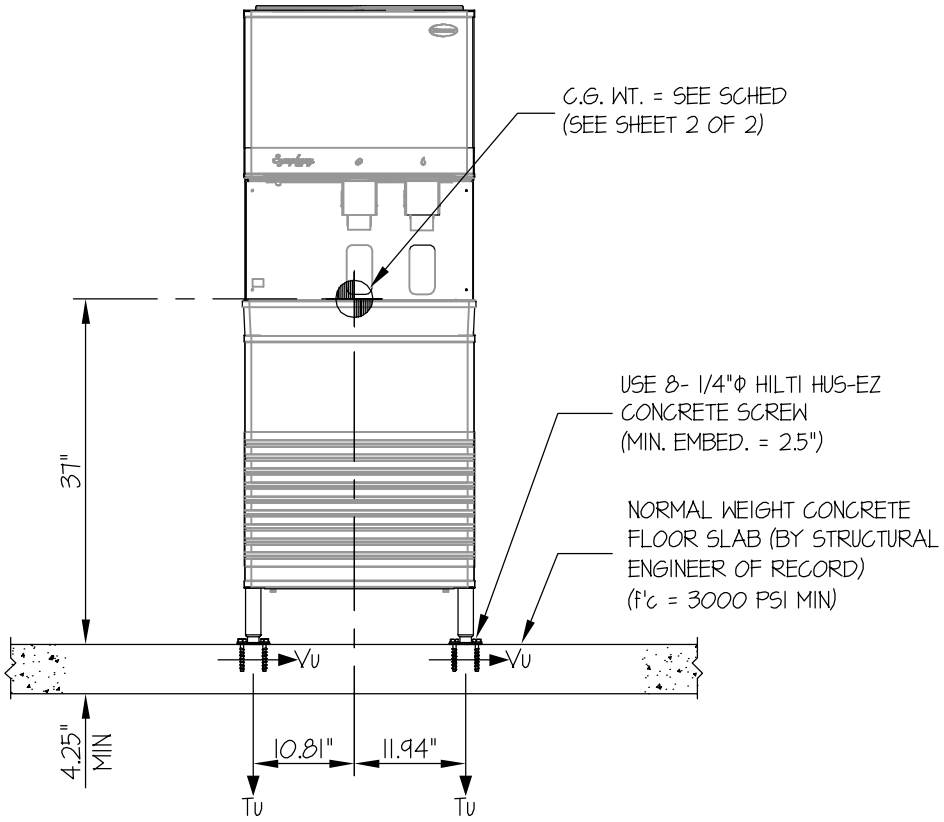
110FB425 A/W DISPENSERS

DES. J. ROBERSON
JOB NO. 11-1420
DATE 6/12/14

SHEET 1 OF 2 SHEETS

SEISMIC ANCHORAGE

SLAB ON GRADE



FRONT ELEVATION

NOTES:

1. FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10
   STRENGTH DESIGN IS USED. (S_{DS} = 2.50, a_p = 1.0, I_p = 1.5, R_p = 2.5, Ω_o = 2.5, z/h = 0)

   HORIZONTAL FORCE (E_h) = 1.125 W_p
   HORIZONTAL FORCE (E_{mh}) = 2.81 W_p (FOR CONCRETE ANCHORAGE)
   VERTICAL FORCE (E_v) = 0.50 W_p

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THESE CALCULATIONS ENCOMPASS ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.

REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2016
STRUCTURAL
STATE OF CALIFORNIA
6/12/14

NOT STRUCTURE ENGINEERED

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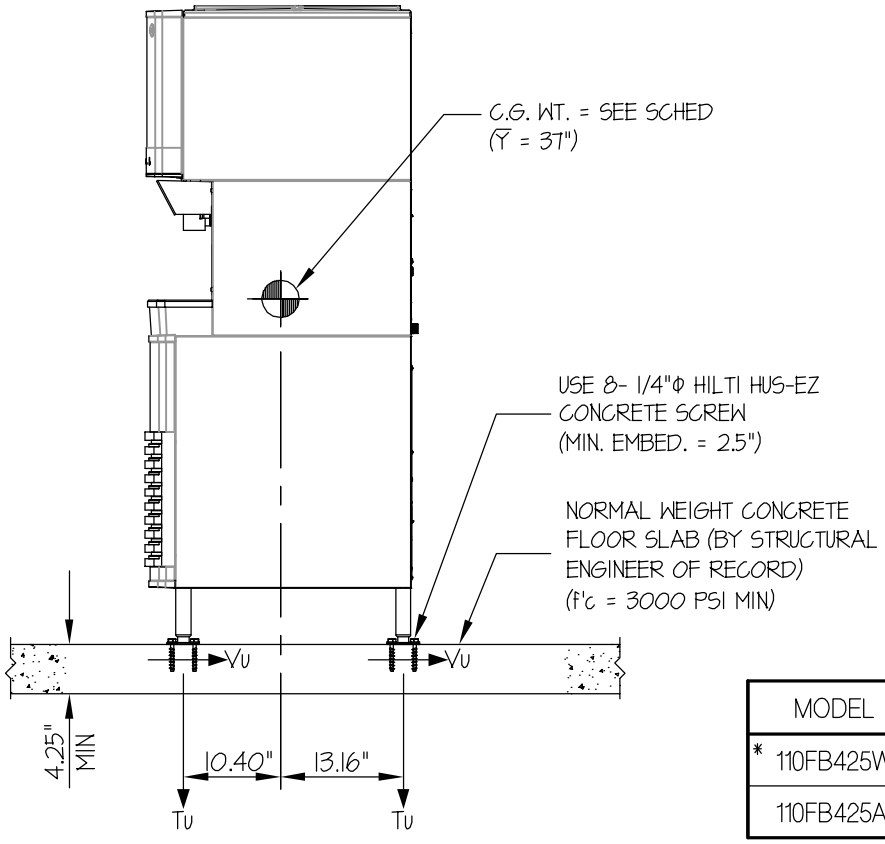
SHEET 2 OF 2 SHEETS

SEISMIC ANCHORAGE

SLAB ON GRADE



SIDE ELEVATION

MODEL	MAX WT	Tu	Vu
* 110FB425W	360#	563#	141#
110FB425A	355#	556#	139#

* USED IN CALCULATION

LOADS: PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10.
STRENGTH DESIGN IS USED (S_{DS} = 2.50, a_p = 1.0, I_p = 1.5, R_p = 2.5, Ω_0 = 2.5, z/h = 0)
WEIGHT = 360 LB
HORIZONTAL FORCE (E_{mh}) = 2.81 W_p = 1012 LB
VERTICAL FORCE (E_v) = 0.50 W_p = 180 LB

BOLT FORCES:

BOLT SPEC: 1/4"ϕ HILTI HUS -EZ
$\phi T = 0.75\phi Nn$ = 623 LB/BOLT (TENSION)
$\phi V = \phi Vn$ = 836 LB/BOLT (SHEAR)

TENSION (T)

$$T_{u\ MAXIMUM} = \left[\frac{1012\#(37'')(11.94'')}{2\ BOLTS(23.56'')(22.75'')} \times (0.3)\right] + \frac{1012\#(37'')(13.16'')}{2\ BOLTS(22.75'')(23.56'')} - \frac{(360\#(0.9) - 180\#)(11.94'')(13.16'')}{2\ BOLTS(22.75'')(23.56'')} = 563\ LB/BOLT\ (MAX)$$

(HORIZ. - FRONT TO BACK) (HORIZ. - SIDE TO SIDE) (0.9(WEIGHT) - E_v)

SHEAR (V)

$$V_{u\ MAXIMUM} = \frac{1012\#(13.16'')}{4\ BOLTS(23.56'')} = 141\ LB/BOLT\ (MAX)$$

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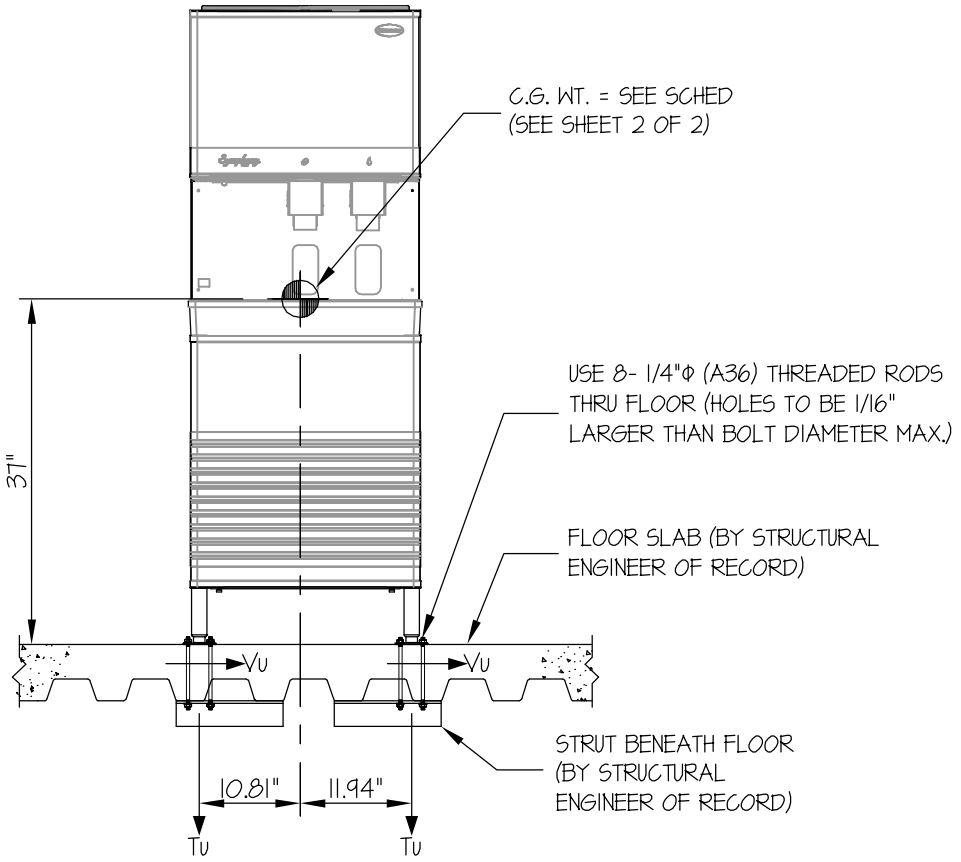
SHEET 1 OF 2 SHEETS

SEISMIC ANCHORAGE

UPPER FLOOR



FRONT ELEVATION

NOTES:

1. FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED. (S_{DS} = 2.50, a_p = 1.0, I_p = 1.5, R_p = 2.5, $z/h \leq 1$)

   HORIZONTAL FORCE (E_h) = 1.80 W_p
   VERTICAL FORCE (E_v) = 0.50 W_p

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THESE CALCULATIONS ENCOMPASS ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.

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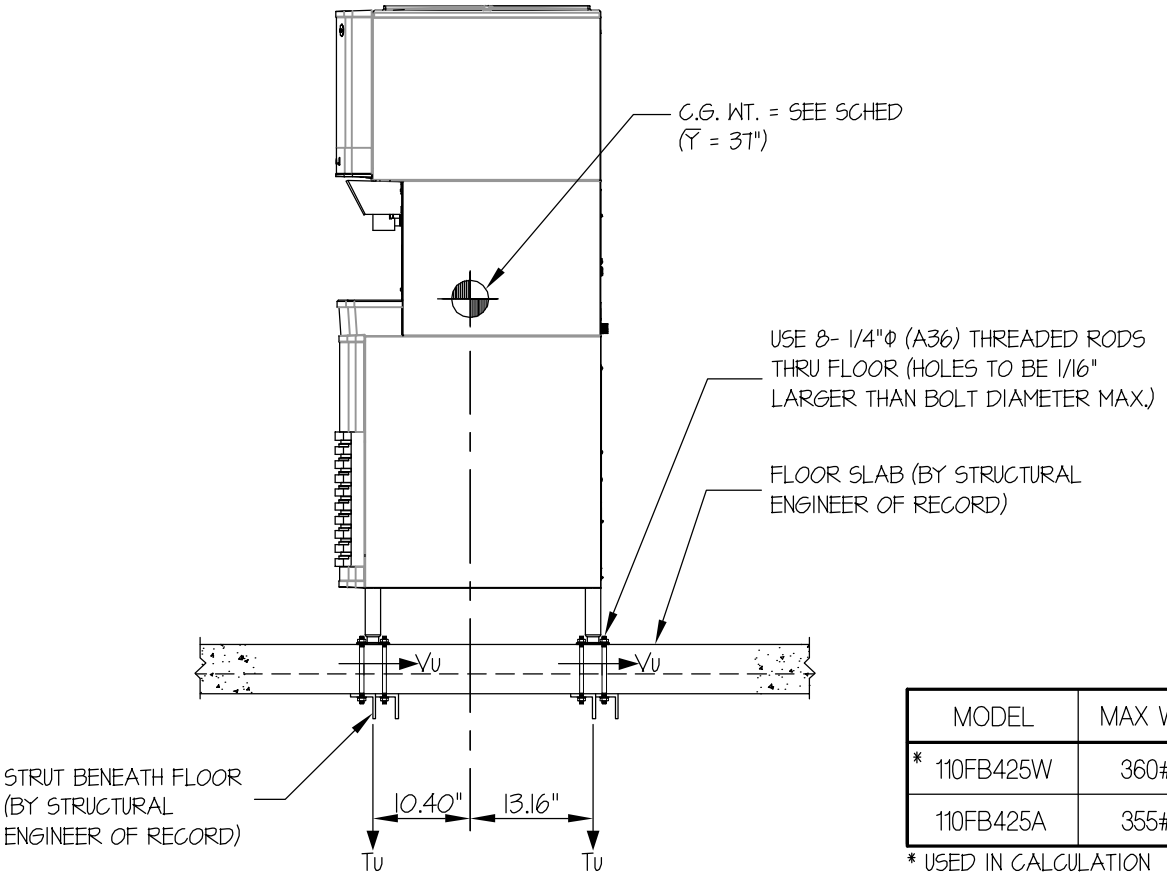

MODEL	MAX WT	Tu	Vu
* 110FB425W	360#	353#	90#
110FB425A	355#	348#	89#

* USED IN CALCULATION

LOADS: PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10.
STRENGTH DESIGN IS USED (S_{DS} = 2.50, a_p = 1.0, I_p = 1.5, R_p = 2.5, z/h ≤ 1)
WEIGHT = 360 LB
HORIZONTAL FORCE (E_h) = 1.80 W_p = 648 LB
VERTICAL FORCE (E_v) = 0.50 W_p = 180 LB

BOLT SPEC: 1/4"ø (A36) THREADED ROD
ϕT= 1599 LB/BOLT
ϕV= 853 LB/BOLT

BOLT FORCES:

TENSION (T)

$$T_{u\ MAXIMUM} = \left[\frac{648\#(37'')(11.94'')}{2\ BOLTS(23.56'')(22.75'')} \times (0.3)\right] + \frac{648\#(37'')(13.16'')}{2\ BOLTS(22.75'')(23.56'')} - \frac{(360\#(0.9) - 180\#)(11.94'')(13.16'')}{2\ BOLTS(22.75'')(23.56'')} = 353\ LB/BOLT\ (MAX)$$

(HORIZ. - FRONT TO BACK) (HORIZ. - SIDE TO SIDE) (0.9(WEIGHT) - Ev)

SHEAR (V)

$$V_{u\ MAXIMUM} = \frac{648\#(13.16'')}{4\ BOLTS(23.56'')} = 90\ LB/BOLT\ (MAX)$$