APPLICATION FOR OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM)

OFFICE USE ONLY
APPLICATION #: OPM-0346-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: ☐ New ☒ Renewal ☐ Update to Pre-CBC 2013 OPA Number: _____

Manufacturer Information

Manufacturer: Omnicell, Inc.

Manufacturer's Technical Representative: Chris Muir

Mailing Address: 590 E. Middlefield Road, Mountain View, CA 94043

Telephone: (650) 251-6329 Email: chrism@omnicell.com

Product Information

Product Name: Tall Frame

Product Type: Automated Medication Dispensing Cabinets

Product Model Number: One-cell, two-cell and three-cell cabinets

General Description: Medication storage and dispensing cabinets.

Applicant Information

Applicant Company Name: Omnicell, Inc.

Contact Person: Chris Muir

Mailing Address: 590 E. Middlefield Road, Mountain View, CA 94043

Telephone: (650) 251-6329 Email: chrism@omnicell.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: [signature] Date: 5/22/2017

Title: Engineer Company Name: Omnicell, Inc.

REVIEWED FOR CODE COMPLIANCE OSHPD OPM-0346-13 William Staehlin DATE: 08/08/2017 CALIFORNIA BUILDING CODE, 2016

Registered Design Professional Preparing Engineering Recommendations

Company Name: Degenkolb Engineers

Name: Adrian M. Nacamuli California License Number: S 4857

Mailing Address: 1300 Clay Street, Suite 900, Oakland, CA 94612

Telephone: (510) 250-1216 Email: nacamuli@degenkolb.com

OSHPD Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP-
(Separate application for OSP is required)

☒ Special Seismic Certification is not preapproved

Certification Method(s)

☐ Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-15

☐ Other* (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2016 (CBSC 2016) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2016 may be used when approved by OSHPD prior to testing.

☐ Analysis

☐ Experience Data

☐ Combination of Testing, Analysis, and/or Experience Data (Please Specify):

List of Attachments Supporting the Manufacturer's Certification

☐ Test Report ☒ Drawings ☒ Calculations ☐ Manufacturer's Catalog

☐ Other(s) (Please Specify):

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2016 & ALL PRE-2016 CODE BASED PROJECTS

Signature: Date: 08-08-2017

Print Name: William Staehlin

Title: SSE

Condition of Approval (if applicable):

REVIEWED FOR CODE COMPLIANCE
CALIFORNIA BUILDING CODE, 2016
oshpd
OPM-0346-13
BY:
DATE: 08/08/2017

OSHPD PRE-APPROVAL OF MANUFACTURER CERTIFICATION
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OMNICELL ONE-, TWO- AND THREE-CELL CABINETS

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REGISTERED PROFESSIONAL ENGINEER
ADRIAN M. NACANAULI
No. 4857
Exp. 9-30-17
STRUCTURAL
STATE OF CALIFORNIA

ONE-CELL CABINET MODELS	TWO-CELL CABINET MODELS	THREE-CELL CABINET MODELS
MED-FRM-101, MED-AUX-101, SUP-AUX-101, SUP-FRM-101, CSM-FRM-101, CSM-FRM-104, CSM-FRM-107, CSM-FRM-110, NAC-FRM-104, NAC-FRM-105, NAC-FRM-109, NAC-FRM-110, NAC-FRM-111, MED-FRM-022, MED-FRM-023, MED-FRM-030, MED-FRM-040, MED-FRM-041, MED-FRM-042	MED-FRM-102, MED-AUX-102, SUP-AUX-102, SUP-FRM-102, CSM-FRM-102, CSM-FRM-105, CSM-FRM-108, CSM-FRM-111, NAC-FRM-106, NAC-FRM-107, NAC-FRM-108, MED-FRM-024, MED-FRM-025, MED-FRM-031, MED-FRM-032, MED-FRM-036, MED-FRM-037, MED-FRM-043, MED-FRM-044, MED-FRM-045	MED-FRM-103, MED-AUX-103, SUP-AUX-103, SUP-FRM-103, CSM-FRM-103, CSM-FRM-106, CSM-FRM-109, CSM-FRM-112, MED-FRM-026, MED-FRM-027, MED-FRM-028, MED-FRM-033, MED-FRM-034, MED-FRM-035, MED-FRM-047, MED-FRM-048, MED-FRM-049, MED-FRM-050

GENERAL NOTES:

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2016 CALIFORNIA BUILDING CODE (CBC). THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2016.
2. PRE-APPROVED DESIGN AND MATERIALS CONFORM WITH THE 2016 EDITION OF THE CALIFORNIA BUILDING CODE. DETAILS WITHIN THIS APPROVAL MAY BE USED ANYWHERE IN THE STATE OF CALIFORNIA WHERE $S_{DS} \leq 2.00$ FOR ANCHOR ON S.O.G AND THRU BOLT OPTION (CASE 1&2), SDS ≤1.26 FOR MAX PERMITTED WEIGHT FOR ANCHOR ON ELEVATED SLAB (CASE 3).
3. SEISMIC FORCES ON EQUIPMENT DETERMINED PER THE 2016 CBC & ASCE 7-10 SECTION 13.3. ALL LOADS IN THIS PRE-APPROVAL ARE AT STRENGTH LEVEL AND SHALL BE USED FOR STRENGTH DESIGN.

   CASE 1 (EQUIPMENT ABOVE GRADE TO ROOF, THRU BOLT OPTION):
   $S_{DS} \leq 2.00$, $a_p=1.0$,
   $R_p=1.5$, $I_p=1.5$, $\Omega_o=1.5$, $z/h \leq 1.0$
   i. $F_p=2.40W_p$, $F_v=0.40W_p$
   CASE 2 (EQUIPMENT AT OR BELOW GRADE, EXP ANCHOR OPTION):
   $S_{DS} \leq 2.00$, $a_p=1.0$, $R_p=1.5$, $I_p=1.5$, $z/h = 0.0$, $\Omega_o=1.5$
   i. $F_p=0.90W_p$, $F_v=0.40W_p$
   CASE 3 (EQUIPMENT ABOVE GRADE TO ROOF, EXPANSION ANCHOR OPTION):
   $S_{DS} \leq 1.26$, $a_p=1.0$,
   $R_p=1.5$, $I_p=1.5$, $\Omega_o=1.5$, $z/h \leq 1.0$ $W_p \leq 850$ LBS FOR 1-CELL, AND ≤ 1190 LBS FOR 2-CELL
   i. $F_p=1.51W_p$, $F_v=0.25W_p$

   $S_{DS} \leq$ VARIES , SEE PAGE 5, $a_p=1.0$,
   $R_p=1.5$, $I_p=1.5$, $\Omega_o=1.5$, $z/h \leq 0.5$ $W_p \leq$ VARIES, SEE PAGE 5
   i. $F_p=1.01W_p$, $F_v=0.25W_p$
4. THE STRUCTURAL ENGINEER-OF-RECORD (S.E.O.R.) IS RESPONSIBLE FOR THE FOLLOWING:
   a. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB OPENINGS OR EDGES.
   b. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS.
   c. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENTS WHICH THE UNIT IS ANCHORED TO. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENTS WHICH THE UNIT IS ANCHORED TO FOR THE FORCES EXERTED ON THEM BY THE UNIT IN ADDITION TO ALL OTHER LOADS AND FORCES.
   d. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2016 CBC AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS PRE-APPROVAL.
5. THE MANUFACTURER SUPPLIED BASE BRACKETS HAVE BEEN EVALUATED FOR THE WORST CASE LOADING PER THE 2016 CBC. STRUCTURAL ENGINEER-OF-RECORD (S.E.O.R.) SHALL EVALUATE BRACKET ANCHORAGE FOR CONDITIONS THAT VARY FROM THIS PRE-APPROVAL.
6. CONTRACTOR/INSPECTOR OF RECORD MUST VERIFY ANCHOR SPACING TO EXISTING ADJACENT ANCHORS IS TO BE GREATER THAN 8".
7. THIS OPM COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE UNIT TO THE STRUCTURE
8. EXPANSION OR WEDGE ANCHORS INTO CONCRETE: HILTI HSL-3 (ICC ESR-1545) AND HILTI KB-TZ (ICC ESR-1917). INSTALL ANCHORS IN ACCORDANCE WITH THE ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS. TEST AT LEAST 50% OF ANCHORS NO SOONER THAN 24 HOURS AFTER INSTALLATIONS. TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD (IOR) AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD.

   TEST PER ONE OF THE FOLLOWING METHODS:
   a. DIRECT PULL TENSION TEST. ANCHOR IS ACCEPTABLE IF NO MOVEMENT IS OBSERVED AT THE TEST LOAD GIVEN IN TABLE BELOW. MOVEMENT MAY BE DETERMINED WHEN THE WASHER UNDER THE NUT BECOMES LOOSE.
   b. TORQUE WRENCH TEST: TEST ANCHORS TO THE REQUIRED TORQUE LOAD GIVEN IN TABLE BELOW WITHIN THE LIMIT OF ONE-HALF TURN OF THE NUT.

ANCHOR TEST LOAD VALUES								
ANCHOR TYPE	ANCHOR DIAMETER	EMBED hef	TENSION LOAD (LBS)	TORQUE LOAD (FT-LBS)	f'c MIN (PSI)	MINIMUM EDGE DIST REQ.	MINIMUM SPACING REQ. (1)	CONCRETE TYPE
HILTI HSL-3	M10	2-3/4"	2,640	50	3,000	36"	5"	NORMAL WEIGHT
HILTI KB-TZ	3/8"	2"	1,825	25	3,000	36"	4"	SAND LIGHT WEIGHT

1. SEE GENERAL NOTES 6 AND 9 FOR ADDITIONAL REQUIREMENTS ON ANCHOR SPACING.

9. IF ANY ANCHOR FAILS DURING TESTING, UNIT MUST BE MOVED SO THAT NO ANCHOR IS WITHIN 8" OF AN ABANDONED ANCHOR.
10. A MANUFACTURER PROVIDED PERMANENT PLAQUE MUST BE AFFIXED ON THE UNIT STATING THE FOLLOWING: "WEIGHT OF CONTENTS SHALL NOT EXCEED 10 PCF". WEIGHT OF CONTENTS USED FOR DESIGN IS 10 PCF. VERIFY IN FIELD BEFORE INSTALLATION.
11. FOR BOLTS THROUGH CONCRETE ON METAL DECK
    A. BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER THE SNUG TIGHT CONDITION (SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) IS ACHIEVED.
    B. THROUGH BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION AND TESTING IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.

12. INSTALLATION PROCEDURE:
    a. MOUNT BASE BRACKET PROVIDED BY OMNICELL TO FLOOR WITH THROUGH BOLTS OR EXPANSION ANCHORS RESPECTIVELY.
    b. ROLL UNIT ONTO BASE BRACKET WITH DOWEL PIN INSERTING INTO BACK CASING OF UNIT.
    c. PIN UNIT AT FRONT WITH END PLATE, CONNECTING IT TO BOTH THE UNIT CASING AND THE CASE BRACKET.

REVIEWED FOR CODE COMPLIANCE
OPM-0346-13
DATE: 08/08/2017
CALIFORNIA BUILDING CODE 2016

OSHPD PRE-APPROVAL OF MANUFACTURER CERTIFICATION
OPM-0346-13
OMNICELL ONE-, TWO- AND THREE-CELL CABINETS

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REGISTERED PROFESSIONAL ENGINEER
ADRIAN M. NACANULI
No. 4857
Exp. 9-30-17
STRUCTURAL
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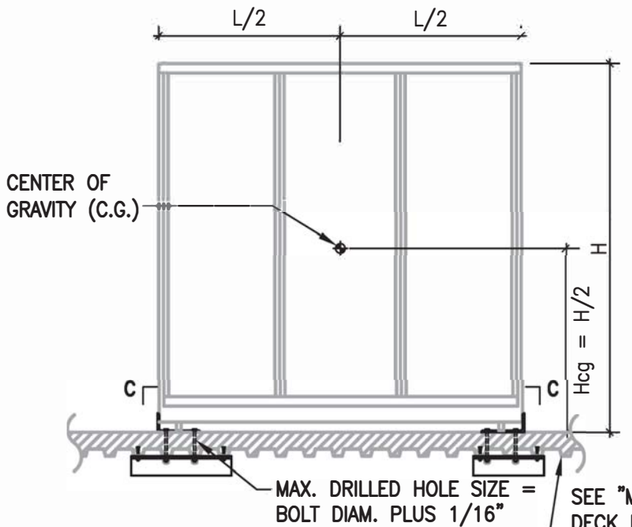
ONE-CELL CABINET MODELS
MED-FRM-101, MED-AUX-101, SUP-AUX-101, SUP-FRM-101, CSM-FRM-101, CSM-FRM-104, CSM-FRM-107, CSM-FRM-110, NAC-FRM-104, NAC-FRM-105, NAC-FRM-109, NAC-FRM-110, NAC-FRM-111, MED-FRM-022, MED-FRM-023, MED-FRM-030, MED-FRM-040, MED-FRM-041, MED-FRM-042

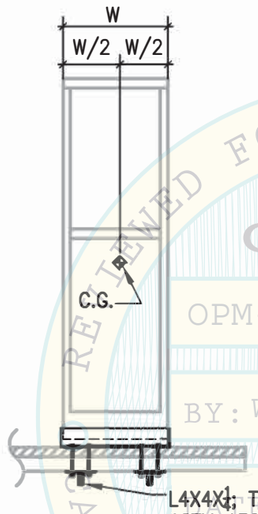
TWO-CELL CABINET MODELS
MED-FRM-102, MED-AUX-102, SUP-AUX-102, SUP-FRM-102, CSM-FRM-102, CSM-FRM-105, CSM-FRM-108, CSM-FRM-111, NAC-FRM-106, NAC-FRM-107, NAC-FRM-108, MED-FRM-024, MED-FRM-025, MED-FRM-031, MED-FRM-032, MED-FRM-036, MED-FRM-037, MED-FRM-043, MED-FRM-044, MED-FRM-045

THREE-CELL CABINET MODELS
MED-FRM-103, MED-AUX-103, SUP-AUX-103, SUP-FRM-103, CSM-FRM-103, CSM-FRM-106, CSM-FRM-109, CSM-FRM-112, MED-FRM-026, MED-FRM-027, MED-FRM-028, MED-FRM-033, MED-FRM-034, MED-FRM-035, MED-FRM-047, MED-FRM-048, MED-FRM-049, MED-FRM-050

CASE 1 – ONE, TWO AND THREE CELL TALL CABINETS ABOVE GRADE



FRONT ELEVATION (3-CELL SHOWN)

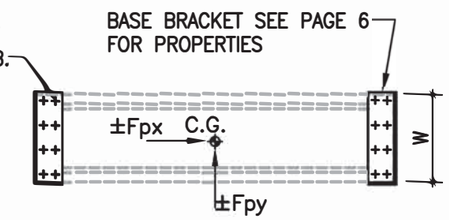


SIDE ELEVATION

MODEL	Wp (LBS)	FORCES			CABINET PROPERTIES		
		Rult (LBS/PIN)	Vult (LBS/BOLT)	Tult (LBS/BOLT)	L (in)	W (in)	H (in)
ONE-CELL CABINETS	1,365	2153	492	2348	26 1/2	27	77.5
TWO-CELL CABINETS	2,485	2525	511	3049	51 1/2	27	77.5
THREE-CELL CABINETS	3,650	3421	750	4160	76 1/2	27	77.5

Fp=2.40 Wp [$S_{DS} \leq 2.00$, Ip=1.5, Rp=1.5, ap=1.0, Ωo=1.5, z/h $\leq$ 1]
Fv=0.40 Wp
Rult = MAXIMUM BRACKET PIN UPLIFT FORCE AT STRENGTH LEVEL
Vult = MAXIMUM SHEAR PER EXPANSION ANCHOR AT STRENGTH LEVEL
Tult = MAXIMUM EXPANSION ANCHOR TENSION FORCE AT STRENGTH LEVEL
Wp = TOTAL WEIGHT; INCLUDES 10 pcf CONTENTS PER NOTE 8 ON PAGE 1 OF 8
SEE PG 6 of 8 FOR FORCE VECTORS

5/8" Ø A325 THROUGH BOLTS IN STANDARD HOLE AT BASE BRACKET AND ANGLE BELOW SLAB. 8 TOTAL PER BRACKET



PLAN SECTION C–C

NOTES:
1. THE DESIGN OF SUPPORTS AND ATTACHMENTS CONFORMS TO THE 2016 CALIFORNIA BUILDING CODE.
2. Rult, Vult AND Tult GIVEN ARE FACTORED LOADS AT STRENGTH LEVEL. FINAL DEMAND FORCES FOR BEARING ON CONCRETE AND BREAK OUT OF CONCRETE SHOULD INCLUDE OVERSTRENGTH FACTOR Ωo AS DEFINED BY ASCE 7-10.
3. SEE GENERAL NOTES SECTION ON PAGE 1.
4. FOR THE SUPPORT AND ATTACHMENT DESIGN, THE MOST CRITICAL LOAD COMBINATION IS (0.9 – 0.2S_{DS})xDL
5. SEE PAGE 6 FOR LOCATION OF APPLIED FORCES IN BASE BRACKET.
6. SEE PAGE 6 FOR MANUFACTURER BRACKET INFORMATION.
7. S.E.O.R. MAY RECALCULATE MAX. ANCHOR FORCES Rult, Vult AND Tult, AT THEIR DISCRETION, BASED ON PROJECT SPECIFIC SEISMIC DEMANDS SUBJECT TO OSHPD REVIEW/PERMIT.
8. TOTAL WEIGHT (Wp) IS A MAXIMUM. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM SHOWN.
9. EQUIPMENT MANUFACTURER MUST DESIGN UNIT TO MAKE Hcg EQUAL OR LESS THAN THE HEIGHT DIMENSION SHOWN.
10. SEE "MINIMUM STEEL DECK REQUIREMENTS" DETAIL FOR SLAB PROPERTIES ON PAGE 3 OF 8

REVIEWED FOR CODE COMPLIANCE
OSHPD
OPM-0346-13
BY: William Staehlin
DATE: 08/08/2017
2016 CALIFORNIA BUILDING CODE

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ONE-CELL CABINET MODELS	TWO-CELL CABINET MODELS	THREE-CELL CABINET MODELS
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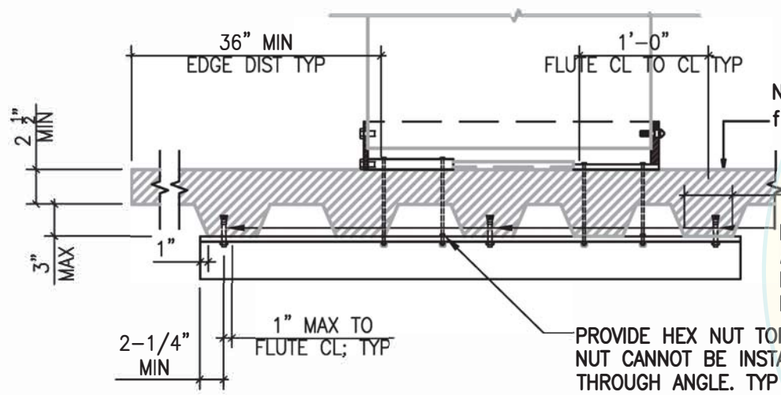
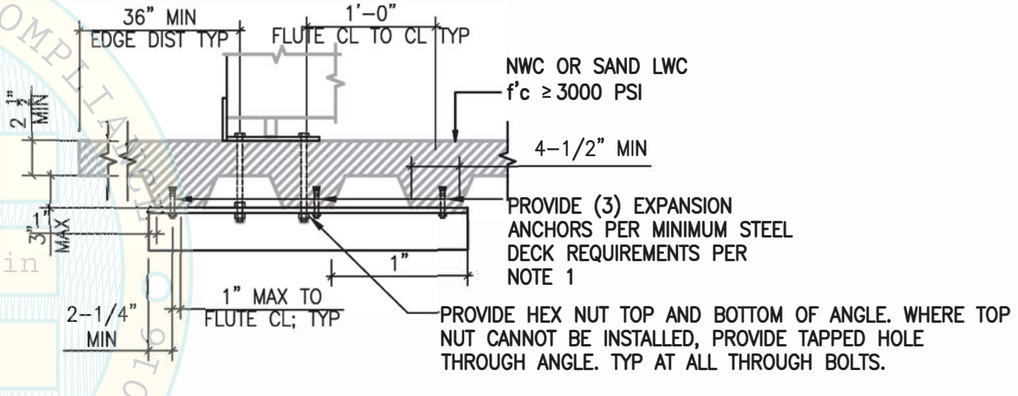
MINIMUM STEEL DECK REQUIREMENTS



THROUGH BOLT ASSEMBLY WHEN METAL DECK RIBS ARE PERPENDICULAR TO THE BRACKET



THROUGH BOLT ASSEMBLY WHEN METAL DECK RIBS ARE PARALLEL TO THE BRACKET

REVIEWED FOR CODE COMPLIANCE
oshpd
OPM-0346-13
Reviewed by: William Staehlin
Date: 08/08/2017
CALIFORNIA BUILDING CODE, 2016

NOTES:

1. PROVIDE (2) ⅜" Ø HILTI KB-TZ W/ 2" EMBED EXPANSION ANCHORS TO SUPPORT ANGLE. INSTALL ON THE SLAB RIB INDEPENDENT FROM THROUGH BOLTS. EXTEND ANGLE AS REQUIRED. DO NOT INSTALL EXPANSION ANCHORS IN SLAB RIBS WHERE THROUGH BOLTS ARE PRESENT.
2. W- STEEL DECK TO BE 20 GAGE MIN.

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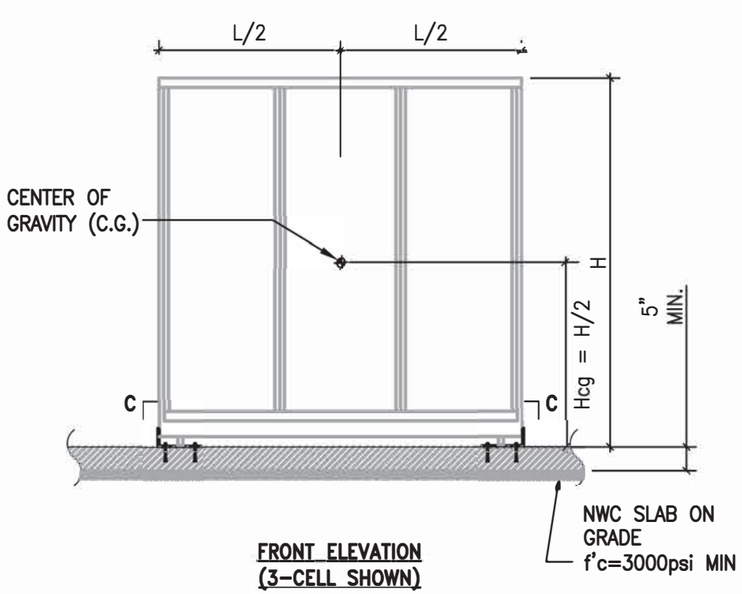
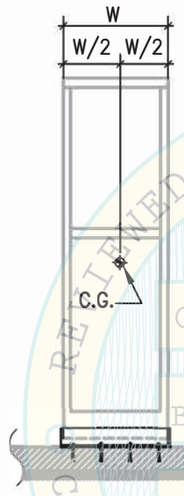
CASE 2 – ONE, TWO AND THREE CELL TALL CABINETS ON GRADE



FRONT ELEVATION (3-CELL SHOWN)



SIDE ELEVATION

MODEL	Wp (LBS)	FORCES			CABINET PROPERTIES		
		Rult (LBS/PIN)	Ωo Vult (LBS/BOLT)	Ωo Tult (LBS/BOLT)	L (in)	W (in)	H (in)
ONE–CELL CABINETS	1,365	754	268	1219	26 1/2	27	77.5
TWO–CELL CABINETS	2,485	850	287	1559	51 1/2	27	77.5
THREE–CELL CABINETS	3,650	1140	422	2119	76 1/2	27	77.5

Fp=0.90 Wp [$S_{DS} \leq 2.00$, Ip=1.5, Rp=1.5, ap=1.0, Ωo=1.5, z/h = 0]
Fv=0.40 Wp
Rult = MAXIMUM BRACKET PIN UPLIFT FORCE AT STRENGTH LEVEL
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Tult = MAXIMUM EXPANSION ANCHOR TENSION FORCE AT STRENGTH LEVEL
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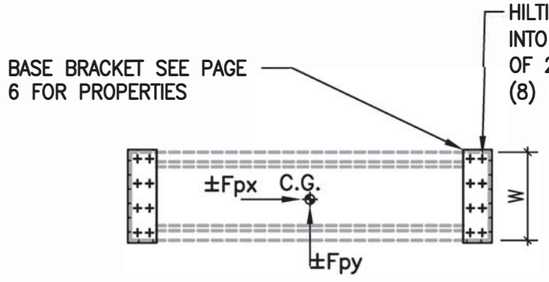

PLAN SECTION C–C

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6. SEE PAGE 6 FOR MANUFACTURER BRACKET INFORMATION.
7. S.E.O.R. MAY RECALCULATE MAX. ANCHOR FORCES Rult, Vult AND Tult, AT THEIR DISCRETION, BASED ON PROJECT SPECIFIC SEISMIC DEMANDS SUBJECT TO OSHPD REVIEW/PERMIT.
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10. SEE "MINIMUM STEEL DECK REQUIREMENTS" DETAIL FOR SLAB PROPERTIES ON PAGE 3 OF 8

REVIEWED FOR CODE COMPLIANCE 2016 CALIFORNIA BUILDING CODE
OSHPD
OPM-0346-13
BY: William Staehlin
DATE: 08/08/2017

OSHPD PRE-APPROVAL OF MANUFACTURER CERTIFICATION
OPM-0346-13
OMNICELL ONE-, TWO- AND THREE-CELL CABINETS

DEGENKOLB ENGINEERS
375 Beale Street, Suite 500
San Francisco, CA 94105
415.392.6952 *Phone*
415.981.3157 *Fax*
www.degenkolb.com

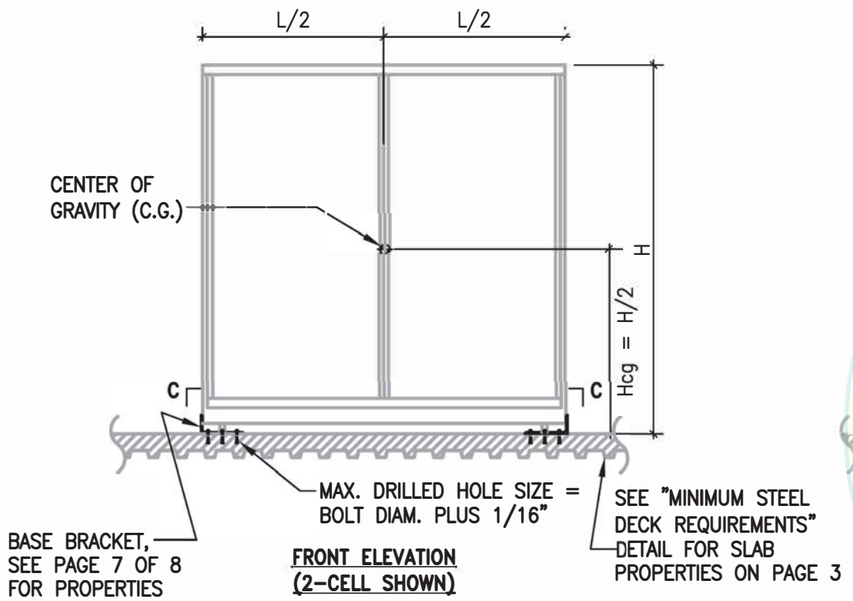
REGISTERED PROFESSIONAL ENGINEER
ADRIAN M. NACAMULI
No. 4857
Exp. 9-30-17
STRUCTURAL
STATE OF CALIFORNIA

ONE-CELL CABINET MODELS
MED-FRM-101, MED-AUX-101, SUP-AUX-101, SUP-FRM-101, CSM-FRM-101, CSM-FRM-104, CSM-FRM-107, CSM-FRM-110, NAC-FRM-104, NAC-FRM-105, NAC-FRM-109, NAC-FRM-110, NAC-FRM-111, MED-FRM-022, MED-FRM-023, MED-FRM-030, MED-FRM-040, MED-FRM-041, MED-FRM-042

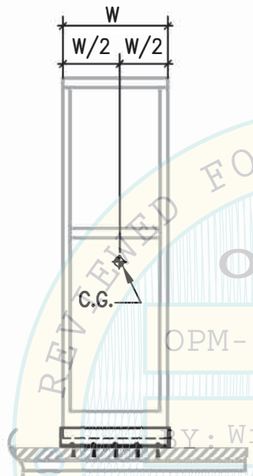
TWO-CELL CABINET MODELS
MED-FRM-102, MED-AUX-102, SUP-AUX-102, SUP-FRM-102, CSM-FRM-102, CSM-FRM-105, CSM-FRM-108, CSM-FRM-111, NAC-FRM-106, NAC-FRM-107, NAC-FRM-108, MED-FRM-024, MED-FRM-025, MED-FRM-031, MED-FRM-032, MED-FRM-036, MED-FRM-037, MED-FRM-043, MED-FRM-044, MED-FRM-045

THREE-CELL CABINET MODELS
MED-FRM-103, MED-AUX-103, SUP-AUX-103, SUP-FRM-103, CSM-FRM-103, CSM-FRM-106, CSM-FRM-109, CSM-FRM-112, MED-FRM-026, MED-FRM-027, MED-FRM-028, MED-FRM-033, MED-FRM-034, MED-FRM-035, MED-FRM-047, MED-FRM-048, MED-FRM-049, MED-FRM-050

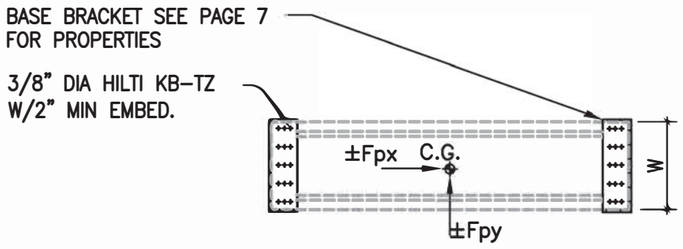
CASE 3 – ONE AND TWO CELL TALL CABINETS ABOVE GRADE



FRONT ELEVATION (2-CELL SHOWN)



SIDE ELEVATION



PLAN SECTION C-C

MODEL	Wp (LBS)	FORCES			CABINET PROPERTIES			
		Rult (LBS)	Ωo Vult (LBS/BOLT)	Ωo Tult (LBS/BOLT)	L (in)	W (in)	H (in)	MAX Sds
ONE-CELL CABINETS	1362	792	146	480	26 1/2	27	77.5	0.83
TWO-CELL CABINETS	2485	645	212	465	51 1/2	27	77.5	0.66

Ip=1.5, Rp=1.5, ap=1.0, Ωo=1.5, z/h = 1

MODEL	MAX ALLOWED Wp (LBS)	FORCES			CABINET PROPERTIES			
		Rult (LBS)	Ωo Vult (LBS/BOLT)	Ωo Tult (LBS/BOLT)	L (in)	W (in)	H (in)	z/h
ONE-CELL CABINETS	850	799	138	476	26 1/2	27	77.5	1
TWO-CELL CABINETS	1190	711	194	478	51 1/2	27	77.5	1
ONE-CELL CABINETS	1330	798	144	481	26 1/2	27	77.5	1/2
TWO-CELL CABINETS	1850	687	201	474	51 1/2	27	77.5	1/2

Fp=1.51 Wp [$S_{DS} \leq$ = 1.26, Ip=1.5, Rp=1.5, ap=1.0, Ωo=1.5, z/h = 1]
Fp=1.01 Wp [$S_{DS} \leq$ = 1.26, Ip=1.5, Rp=1.5, ap=1.0, Ωo=1.5, z/h = 0.5]
Fv=0.25 Wp
Rult = MAXIMUM BRACKET PIN UPLIFT FORCE AT STRENGTH LEVEL
Vult = MAXIMUM SHEAR PER EXPANSION ANCHOR AT STRENGTH LEVEL
Tult = MAXIMUM EXPANSION ANCHOR TENSION FORCE AT STRENGTH LEVEL
Wp = TOTAL WEIGHT; INCLUDES 10 pcf CONTENTS PER NOTE 8 ON PAGE 1 OF 8
SEE PG 7 of 8 FOR FORCE VECTORS

NOTES:
1. THE DESIGN OF SUPPORTS AND ATTACHMENTS CONFORMS TO THE 2016 CALIFORNIA BUILDING CODE.
2. Rult, Vult AND Tult GIVEN ARE FACTORED LOADS AT STRENGTH LEVEL. FINAL DEMAND FORCES FOR BEARING ON CONCRETE AND BREAK OUT OF CONCRETE SHALL INCLUDE OVERSTRENGTH FACTOR Ωo AS DEFINED BY ASCE 7-10.
3. SEE GENERAL NOTES SECTION ON PAGE 1.
4. FOR THE SUPPORT AND ATTACHMENT DESIGN, THE MOST CRITICAL LOAD COMBINATION IS $(0.9 - 0.2S_{DS})$xDL
5. SEE PAGE 7 FOR LOCATION OF APPLIED FORCES IN BASE BRACKET.
6. SEE PAGE 7 FOR MANUFACTURER BRACKET INFORMATION.
7. S.E.O.R. MAY RECALCULATE MAX. ANCHOR FORCES Rult, Vult AND Tult, AT THEIR DISCRETION, BASED ON PROJECT SPECIFIC SEISMIC DEMANDS SUBJECT TO OSHPD REVIEW/PERMIT.
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TWO-CELL CABINET MODELS
MED-FRM-102, MED-AUX-102, SUP-AUX-102, SUP-FRM-102, CSM-FRM-102, CSM-FRM-105, CSM-FRM-108, CSM-FRM-111, NAC-FRM-106, NAC-FRM-107, NAC-FRM-108, MED-FRM-024, MED-FRM-025, MED-FRM-031, MED-FRM-032, MED-FRM-036, MED-FRM-037, MED-FRM-043, MED-FRM-044, MED-FRM-045

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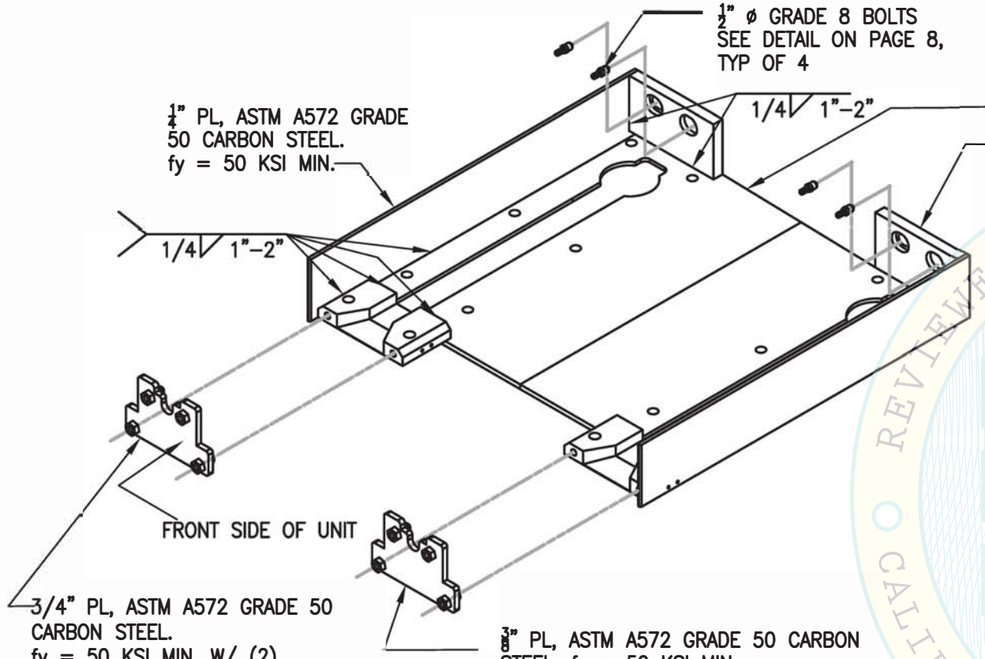
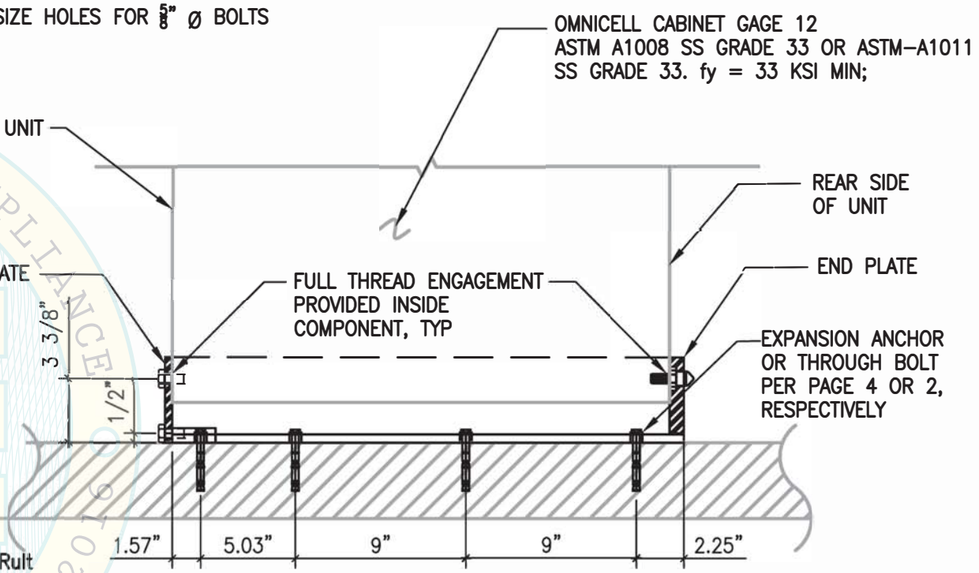
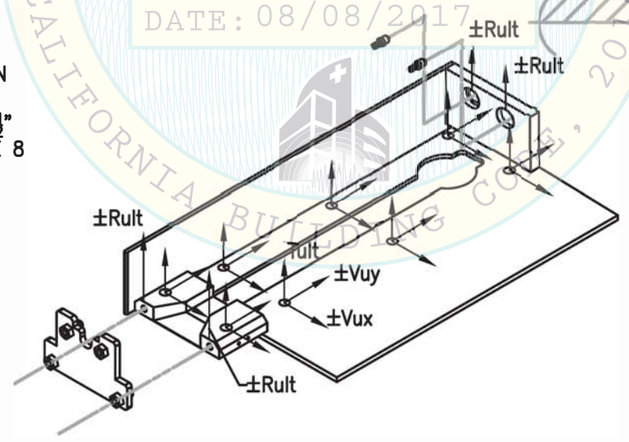




SECTION A–A

CASE 1 OR 2

NOTE:
1. BRACKET DIMENSIONS ARE APPROXIMATE.
2. AS DEFINED BY AISC 360–10, THE DIAMETER OF STANDARD SIZE HOLES EQUALS THE BOLT DIAMETER + 1/16"
3. SEE PAGES 2, 4 AND 5 FOR BRACKET FORCES.
4. PL's SHOWN SUPPLIED BY MFR



FORCE DISTRIBUTION IN BASE BRACKET

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CALIFORNIA BUILDING CODE, 2016

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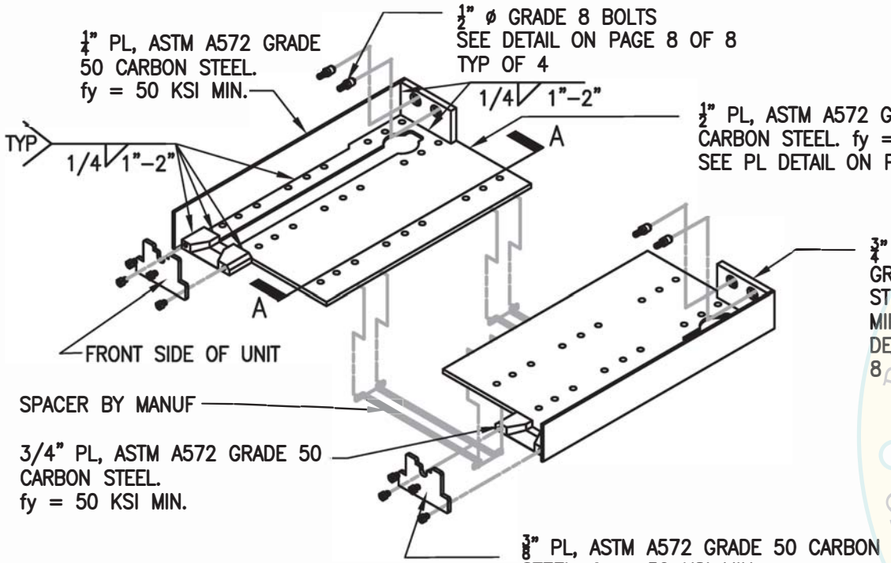
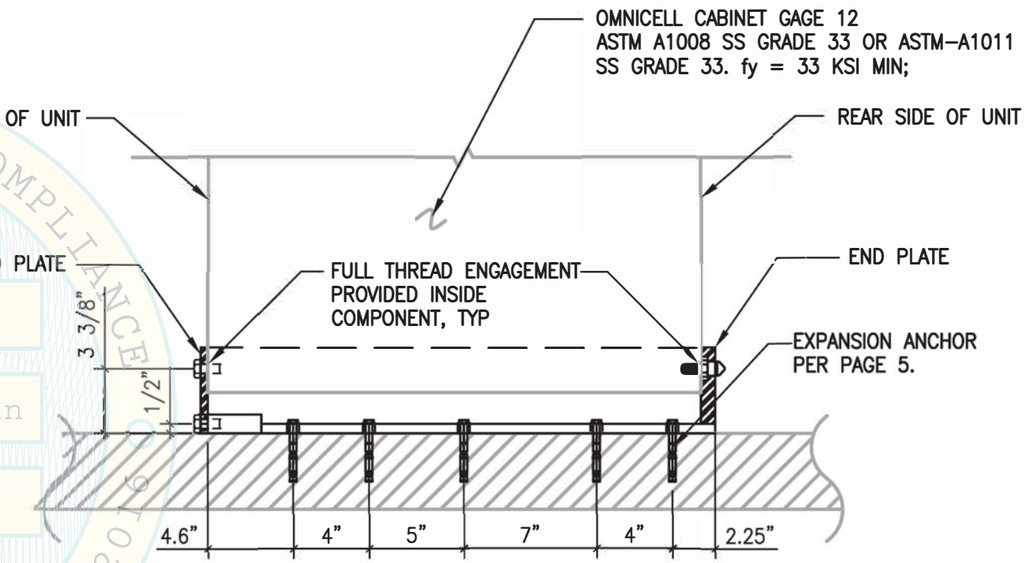
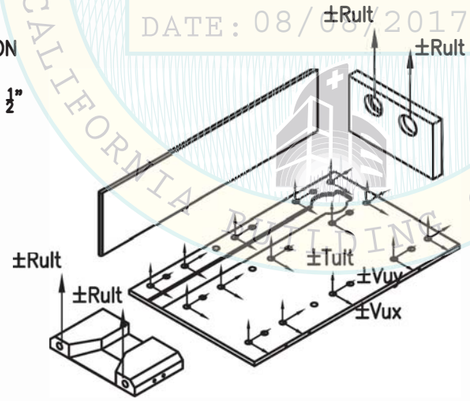
REGISTERED PROFESSIONAL ENGINEER ADRIAN M. NACAMULI No. 4857 Exp. 9-30-17 STRUCTURAL STATE OF CALIFORNIA

ONE-CELL CABINET MODELS	TWO-CELL CABINET MODELS	THREE-CELL CABINET MODELS
MED-FRM-101, MED-AUX-101, SUP-AUX-101, SUP-FRM-101, CSM-FRM-101, CSM-FRM-104, CSM-FRM-107, CSM-FRM-110, NAC-FRM-104, NAC-FRM-105, NAC-FRM-109, NAC-FRM-110, NAC-FRM-111, MED-FRM-022, MED-FRM-023, MED-FRM-030, MED-FRM-040, MED-FRM-041, MED-FRM-042	MED-FRM-102, MED-AUX-102, SUP-AUX-102, SUP-FRM-102, CSM-FRM-102, CSM-FRM-105, CSM-FRM-108, CSM-FRM-111, NAC-FRM-106, NAC-FRM-107, NAC-FRM-108, MED-FRM-024, MED-FRM-025, MED-FRM-031, MED-FRM-032, MED-FRM-036, MED-FRM-037, MED-FRM-043, MED-FRM-044, MED-FRM-045	MED-FRM-103, MED-AUX-103, SUP-AUX-103, SUP-FRM-103, CSM-FRM-103, CSM-FRM-106, CSM-FRM-109, CSM-FRM-112, MED-FRM-026, MED-FRM-027, MED-FRM-028, MED-FRM-033, MED-FRM-034, MED-FRM-035, MED-FRM-047, MED-FRM-048, MED-FRM-049, MED-FRM-050





SECTION A–A



FORCE DISTRIBUTION IN BASE BRACKET

CASE 3

NOTE:
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4. PL's SHOWN SUPPLIED BY MFR.

REVIEWED FOR CODE COMPLIANCE OSHPD CALIFORNIA BUILDING CODE, 2016 OPM-0346-13 BY: William Staehlin DATE: 08/08/2017

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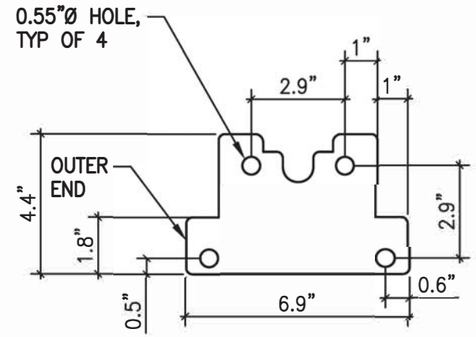
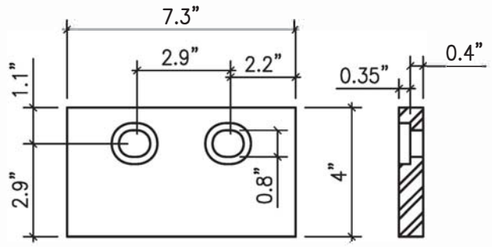
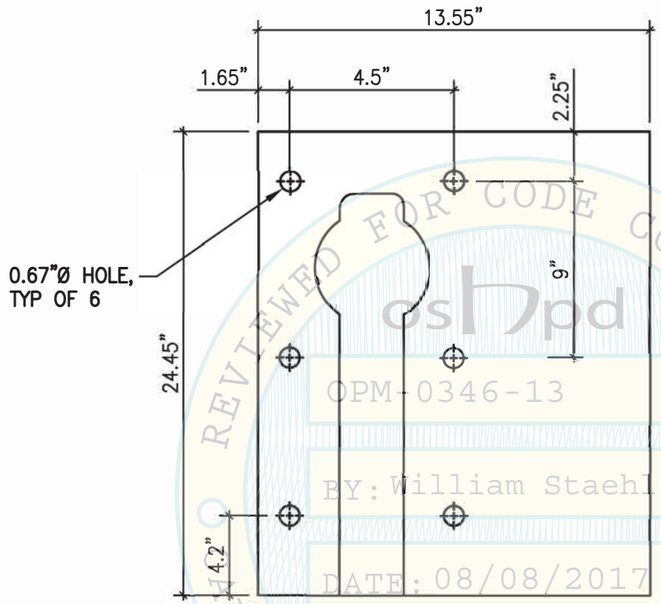


PL DETAIL ON FRONT
SIDE OF THE UNIT

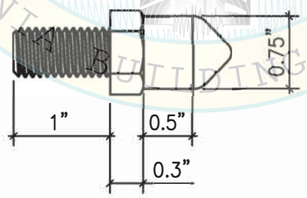


PL DETAIL ON REAR
SIDE OF THE UNIT

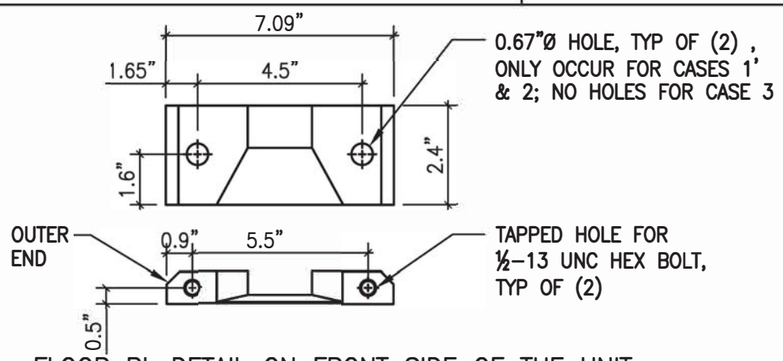
NOTE:
1. BRACKET DIMENSIONS ARE APPROXIMATE.



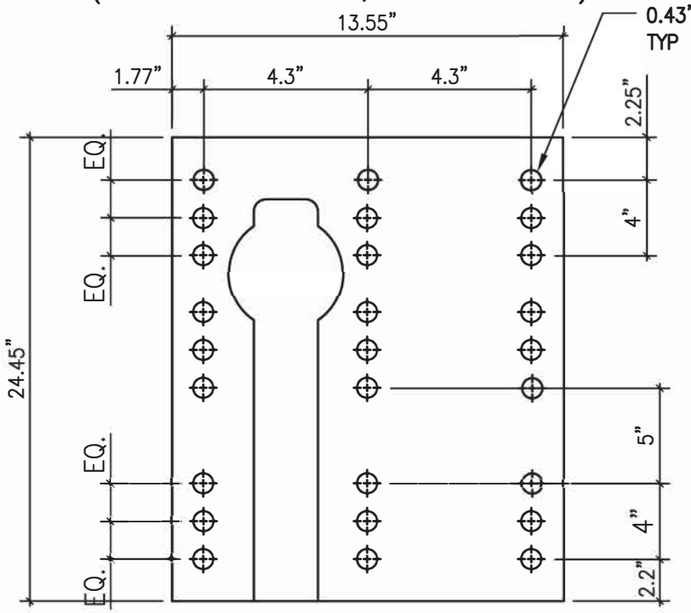
FLOOR PL DETAIL OF THE UNIT FOR CASE 1 & 2
(SHOWN is LEFT SIDE, RIGHT SIDE O.H)



BOLT ON REAR SIDE OF
THE UNIT



FLOOR PL DETAIL ON FRONT SIDE OF THE UNIT
(SHOWN IS LEFT SIDE, RIGHT SIDE O.H)



FLOOR PL DETAIL OF THE UNIT FOR CASE 3
(SHOWN IS LEFT SIDE, RIGHT SIDE O.H)

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