



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0302

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal/Update

Manufacturer Information

Manufacturer: Chatsworth Products

Manufacturer's Technical Representative: Todd Schneider

Mailing Address: 4175 Guardian Street, Simi Valley, CA 93063

Telephone: (203) 969-4862

Email: TSchneider@chatsworth.com

Product Information

Product Name: ADJUSTABLE QUADRARACK AND SERVERRACK

Product Type: Instrumentation Cabinet

Product Model Number: 15211-X01/15215-X01, 15211-X03/15215-X03, 15211-X15/15215-X15, 15211-X08/15215-X08, 15212-X01/15216-X01, 15212-X03/15216-X03, 15212-X15/15216-X15, 15212-X08/15216-X08, 15213-X01/15217-X01, 15213-X03/15217-X03, 15213-X15/15217-X15, 15213-X08/15217-X08, 15214-X01/15218-X01, 15214-X03/15218-X03, 15214-X15/15218-X15, 15214-X08/15218-X08

General Description: Telecommunication Rack

Applicant Information

Applicant Company Name: EASE LLC.

Contact Person: Tiffany Tonn

Mailing Address: 1515 FAIRVIEW AVE, STE 205, MISSOULA, MT 59801

Telephone: (406) 541-3273

Email: tiffany@easeco.com

Title: Office Manager

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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company Name: EASE LLC
Name: Jonathan Roberson California License Number: S4197
Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, CA 91709
Telephone: (951) 295-1892 Email: jon@EASECo.com

HCAI Special Seismic Certification Preapproval (OSP)

Special Seismic Certification is preapproved under OSP OSP Number: _____

Certification Method

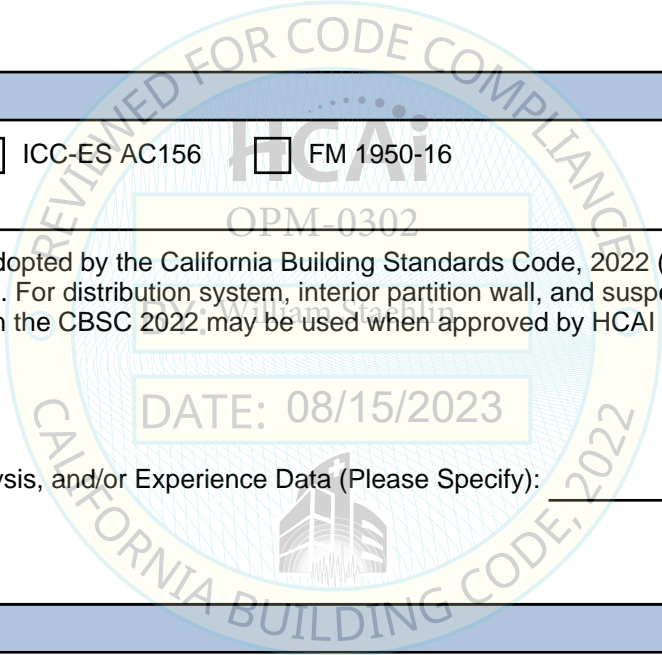
Testing in accordance with: ICC-ES AC156 FM 1950-16
 Other(s) (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2022 (CBSC 2022) 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 2022 may be used when approved by HCAI prior to testing.

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

HCAI Approval

Date: 8/15/2023
Name: William Staehlin Title: Senior Structural Engineer
Condition of Approval (if applicable): _____



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**EQUIPMENT ANCHORAGE
& SEISMIC ENGINEERING**

5877 Pine Ave, Ste. 210
Chino Hills, CA. 91709
Phn: (909) 606-7622

The Department of Health Care Access and Information
PREAPPROVAL OF MANUFACTURER'S CERTIFICATION
OPM-0302

THIS PREAPPROVAL CONFORMS TO THE 2022 CALIFORNIA BUILDING CODE

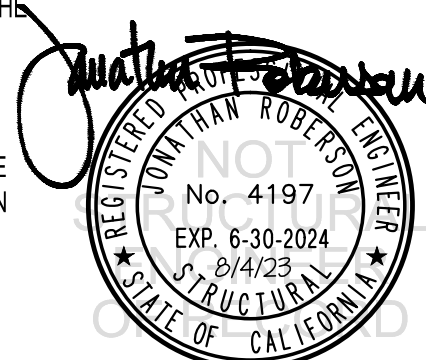
MANUFACTURER: **CHATSWORTH PRODUCTS, INC**
EQUIPMENT NAME: **Adjustable ServerRack & QuadraRack**

Sheet: 1 of 10

Date: 8/4/23

GENERAL NOTES

1. THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2022 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2022 CBC
2. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER LISTED ABOVE FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.
3. THIS PREAPPROVAL CONFORMS TO THE 2022 CALIFORNIA BUILDING CODE WHERE S_{ds} IS NOT GREATER THAN 2.30. SEE DETAIL FOR APPLICABILITY
4. FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3,
WHERE $S_{ds} = 2.30$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 2.5$, $z/h = 0$ AT CONCRETE SLAB & $z/h \leq 1$ AT CONCRETE SLAB ON METAL DECK.
SEE FOLLOWING SHEETS FOR Ω .
5. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. CONCRETE SLAB ON METAL DECK DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION IN THE BUILDING. (i.e. $z/h \leq 1$)
8. CONCRETE SLAB DETAIL VALID FOR DEMANDS SHOWN AT OR BELOW GRADE. (i.e. $z/h = 0$)
9. **RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING**
 - A. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.
 - B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2022 CBC AND WITH THE DETAILS, MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
 - C. VERIFY THAT PROJECT SPECIFIC VALUES OF S_{ds} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
 - D. VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR REPORT. AND THIS OPM.
 - E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS (SEE TYPICAL DETAIL ON SHEET 2).
 - F. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE UNIT ATTACHMENTS AND CHECK FOR INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR $6h_{ef}$ FROM THIS UNIT'S ANCHORS.



CHATSWORTH PRODUCTS, INC

Adjustable ServerRack & QuadraRack

DES. J. ROBERSON

JOB NO. 11-2314

DATE 8/4/23

SHEET

2

OF 10 SHEETS

10. EXPANSION ANCHORS:

A. ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT.

Anchor Diameter	Concrete Type	Min. f'c (psi)	Anchor Type	ICC Report No.	Min. Embed.	Min. Spacing	Min. Edge Dist.	Min. Conc. Thickness	Torque Test	Direct Tension Test
3/8"	Sand Light Weight	3000	Hilti Kwik Bolt TZ2 <small>(CARBON STEEL)</small>	ESR-4266	2"	6.75	12	See Detail "A"	30 FT-LB	N/A
5/8"	Normal Weight	3000	Hilti Kwik Bolt TZ2 <small>(CARBON STEEL)</small>	ESR-4266	3.25"	10"	32"	5"	40 FT-LB	4107 lb

B. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE SLAB EDGES, 32" AWAY MINIMUM (i.e. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

C. TESTING AND SPECIAL INSPECTION OF EXPANSION ANCHORS SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY EMPLOYED BY THE FACILITY OWNER PER CBC 1704A & 1910A.5 AND CAC 7-149. ALL REPORTS SHALL BE SENT TO THE INSPECTOR OF RECORD, OWNER AND THE ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.

(i) AFTER AT LEAST 24 HOURS HAVE ELAPSED SINCE INSTALLATION, DIRECT PULL TENSION TEST OR TORQUE TEST AT LEAST 50% OF THE ANCHORS.

(ii) ACCEPTANCE CRITERIA:

- DIRECT TENSION TEST: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER BECOMES LOOSE.
- TORQUE TEST: THE APPLICABLE TORQUE MUST BE ACHIEVED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE : 1/2 TURN OF THE NUT

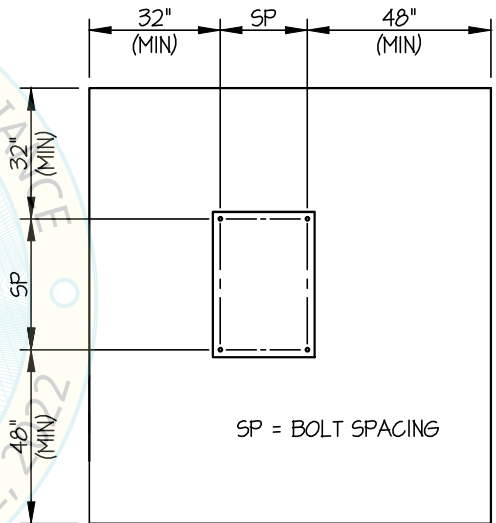
(iii) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.

D. AVOID DAMAGING EXISTING STEEL REINFORCING IN CONCRETE SLAB WHEN INSTALLING CONCRETE EXPANSION ANCHORS.

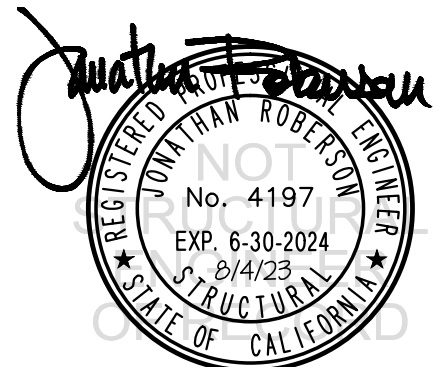
E. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.

11. BOLTS THROUGH CONCRETE ON METAL DECK

- A. BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER THE SNUG TIGHT (THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNLESS OTHERWISE NOTED.
- B. THROUGH BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16") FOR CONCRETE.
- C. THROUGH-BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION AND TESTING (THROUGH BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TENSION TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.



TYPICAL CONCRETE EDGE DETAIL



CHATSWORTH PRODUCTS, INC

Adjustable ServerRack & QuadraRack

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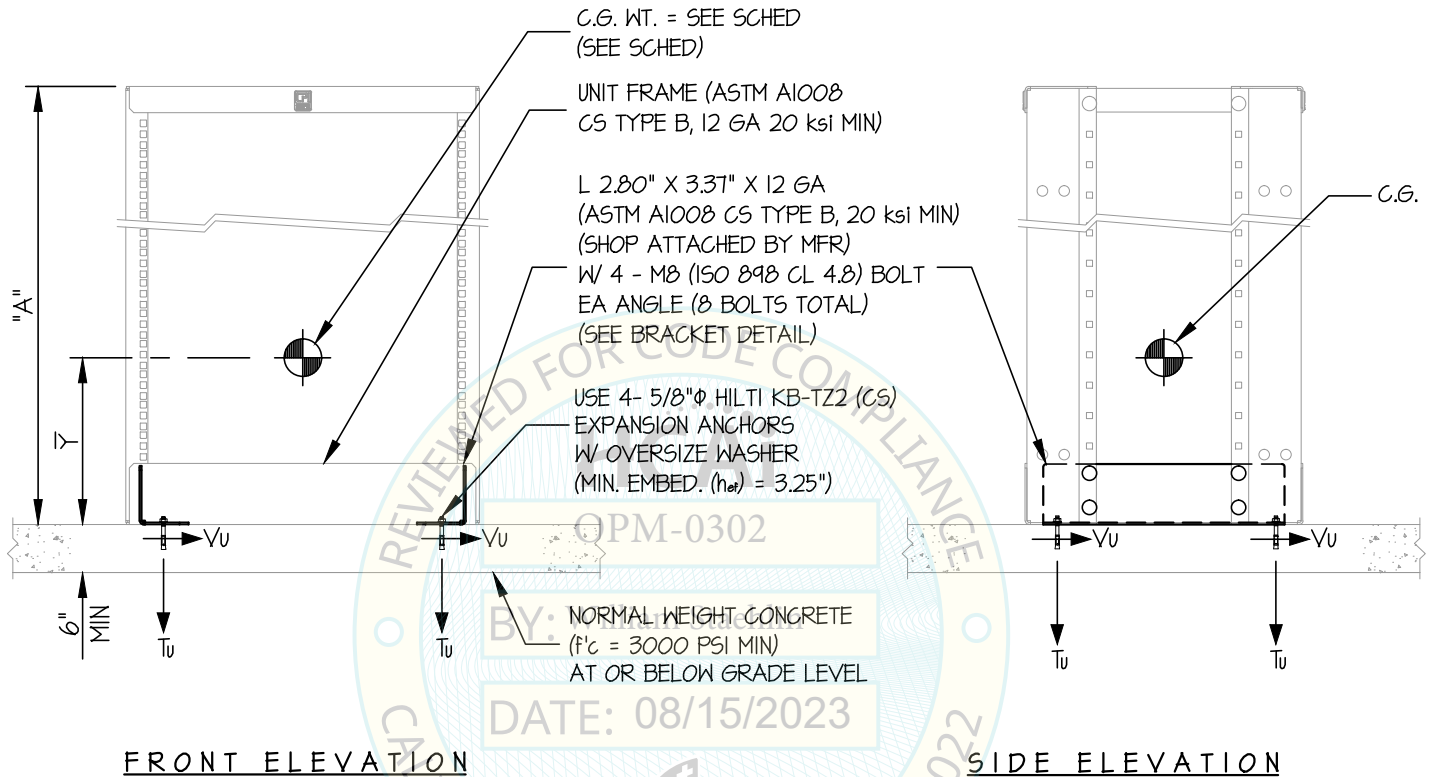
SHEET

3

OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB



NOTES:

- FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED. (EXAMPLE: S_{DS} = 2.30, α_p = 1.0, I_p = 1.5, R_p = 2.5, Ω₀ = 2.0, z/h = 0)
 HORIZONTAL FORCE (E_h) = 1.035 W_p
 HORIZONTAL FORCE (E_{mh}) = 2.07 W_p (FOR CONCRETE ANCHORAGE)
 VERTICAL FORCE (E_v) = 0.46 W_p
- THIS CALCULATION ENCOMPASSES WEIGHTS AND VERTICAL C.G. POSITIONS NOT EXCEEDING VALUES SHOWN.
- THIS CALCULATION WAS PREPARED WITHOUT KNOWLEDGE OF ANY SITE CONDITION. COMPATIBILITY FOR USE WITH A SITE SHALL BE EVALUATED BY THE STRUCTURAL ENGINEER OF RECORD OF THE INSTALLATION (SEOR). USE REQUIRES APPROVAL BY THE SEOR.
- STRUCTURAL ENGINEER OF RECORD FOR THE INSTALLATION SHALL VERIFY ALL CONDITIONS, EVALUATE INTERACTION WITH ADJACENT EQUIPMENT AND ANCHORS, AND PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
- SEE GENERAL NOTES: SHEETS 1 AND 2



CHATSWORTH PRODUCTS, INC

DES. **J. ROBERSON**

SHEET

4

Adjustable ServerRack & QuadraRack

JOB NO. **11-2314**

DATE **8/4/23**

OF **10** SHEETS

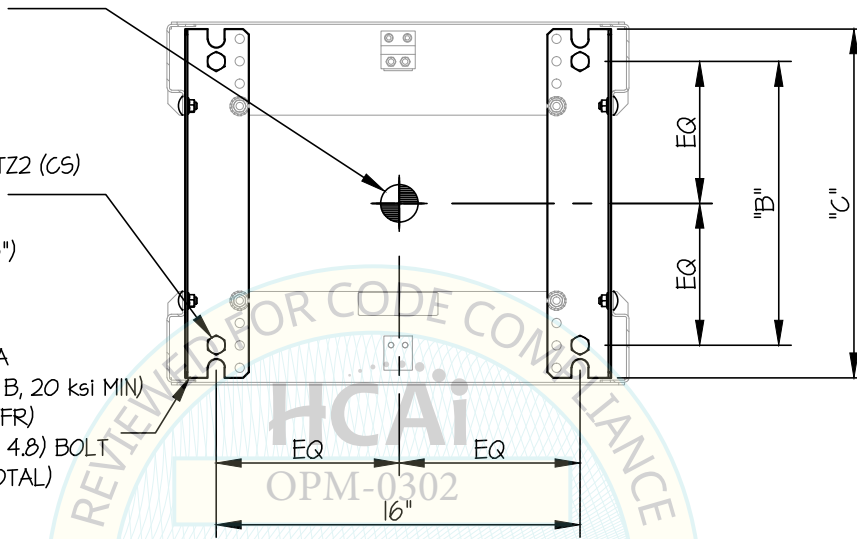
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB

C.G. WT. = SEE SCHED
(Y = SEE SHEET)

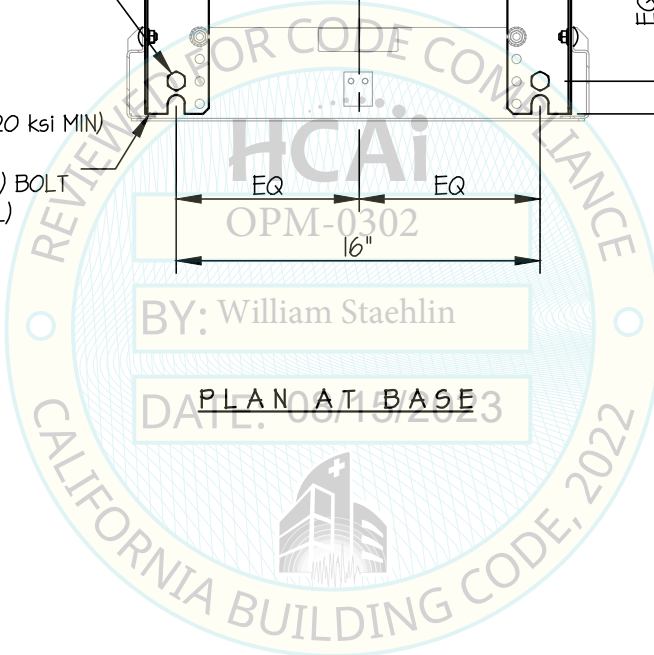
USE 4- 5/8"Φ HILTI KB-TZ2 (CS)
EXPANSION ANCHORS
W/ OVERSIZE WASHER
(MIN. EMBED. (net) = 3.25")

L 2.80" X 3.31" X 12 GA
(ASTM A1008 CS TYPE B, 20 ksi MIN)
(SHOP ATTACHED BY MFR)
W/ 4 - M8 (ISO 898 CL 4.8) BOLT
EA ANGLE (8 BOLTS TOTAL)
(SEE BRACKET DETAIL)



BY: William Staehlin

DATE: 08/15/2023
PLAN AT BASE



Jonathan Roberson
REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2024
8/4/23
STRUCTURAL
STATE OF CALIFORNIA

CHATSWORTH PRODUCTS, INC

DES. **J. ROBERSON**

SHEET

5

Adjustable ServerRack & QuadraRack

JOB NO. **11-2314**

DATE **8/4/23**

OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB

MODEL NO. (SQ PUNCH RAILS/#12-24 THREADED RAILS)	*** MAX OP WEIGHT (lb.)	HEIGHT" A" (in.)	DEPTH "B" (in.)	HEIGHT Y (in.)	CHANNEL DEPTH "C" (in.)	** Tu (lb.)	** Vu (lb.)
15211-X01/15215-X01	572	72	12.47	33.4	15.34	1894	385
15211-X03/15215-X03	580	84	12.47	33.9	15.34	1950	390
15211-X15/15215-X15	587	96	12.47	45.5	15.34	2671	395
* 15211-X08/15215-X08	595	108	12.47	51.5	15.34	3073	400
15212-X01/15216-X01	576	72	19.36	33.4	22.24	1490	388
15212-X03/15216-X03	584	84	19.36	33.9	22.24	1534	393
15212-X15/15216-X15	591	96	19.36	45.5	22.24	2106	398
15212-X08/15216-X08	599	108	19.36	51.5	22.24	2424	403
15213-X01/15217-X01	580	72	26.25	33.4	29.13	1418	390
15213-X03/15217-X03	588	84	26.25	33.9	29.13	1461	396
15213-X15/15217-X15	595	96	26.25	45.5	29.13	2006	400
15213-X08/15217-X08	603	108	26.25	51.5	29.13	2310	406
15214-X01/15218-X01	584	72	33.14	33.4	36.01	1380	393
15214-X03/15218-X03	592	84	33.14	33.9	36.01	1421	398
15214-X15/15218-X15	600	96	33.14	45.5	36.01	1956	404
15214-X08/15218-X08	608	108	33.14	51.5	36.01	2252	409

** VALUES INCLUDE Ω_s

*** MAX OP WEIGHT = EQUIPMENT WEIGHT + CONTENTS (CONTENTS = 500 LB MAX)



CHATSWORTH PRODUCTS, INC

DES. J. ROBERSON

SHEET

6

Adjustable ServerRack & QuadraRack

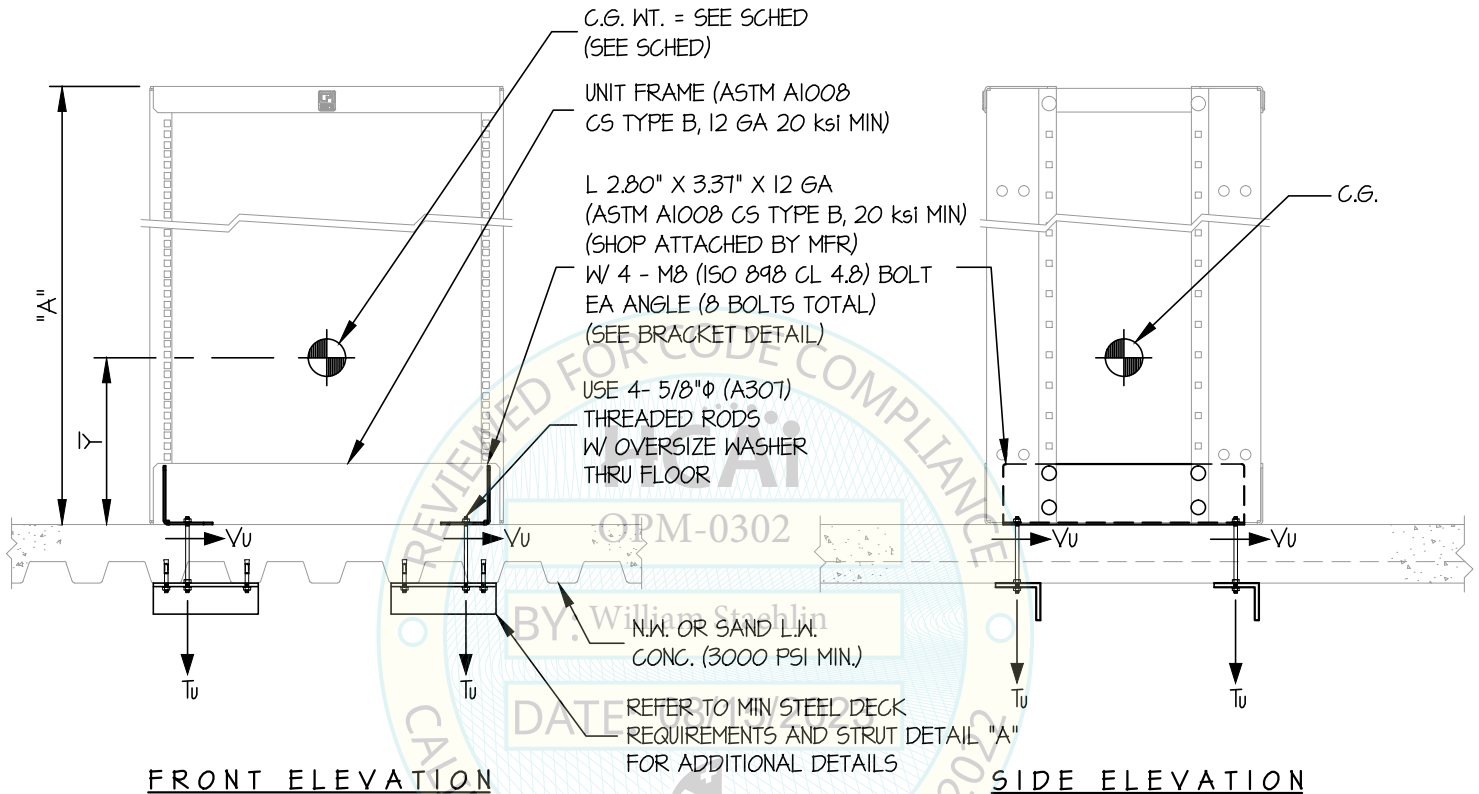
JOB NO. 11-2314

DATE 8/4/23

OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK

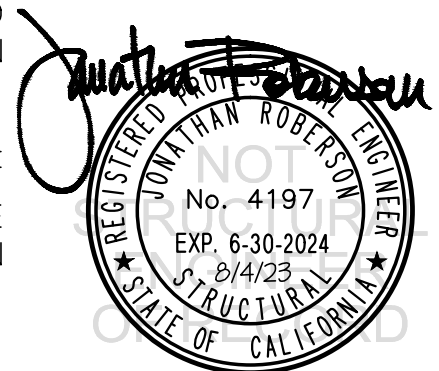


NOTES:

- FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED. (EXAMPLE: $S_{ds} = 2.30$, $\alpha_p = 10$, $I_p = 1.5$, $R_p = 2.5$, $\Omega_0 = 2.0$, $z/h \leq 1$)

HORIZONTAL FORCE (E_h) = $1.66 W_p$
 HORIZONTAL FORCE (E_{mh}) = $3.31 W_p$ (FOR CONCRETE ANCHORAGE)
 VERTICAL FORCE (E_v) = $0.46 W_p$

- THIS CALCULATION ENCOMPASSES WEIGHTS AND VERTICAL C.G. POSITIONS NOT EXCEEDING VALUES SHOWN.
- THIS CALCULATION WAS PREPARED WITHOUT KNOWLEDGE OF ANY SITE CONDITION. COMPATIBILITY FOR USE WITH A SITE SHALL BE EVALUATED BY THE STRUCTURAL ENGINEER OF RECORD OF THE INSTALLATION (SEOR). USE REQUIRES APPROVAL BY THE SEOR.
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- SEE GENERAL NOTES: SHEETS 1 AND 2



CHATSWORTH PRODUCTS, INC

DES. J. ROBERSON

SHEET

7

Adjustable ServerRack & QuadraRack

JOB NO. 11-2314

DATE 8/4/23

OF 10 SHEETS

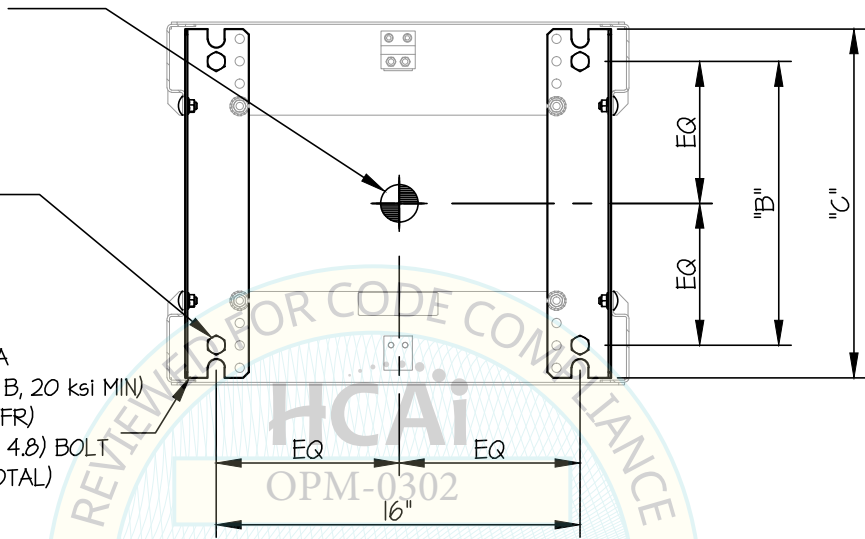
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK

C.G. WT. = SEE SCHED
(SEE SCHED)

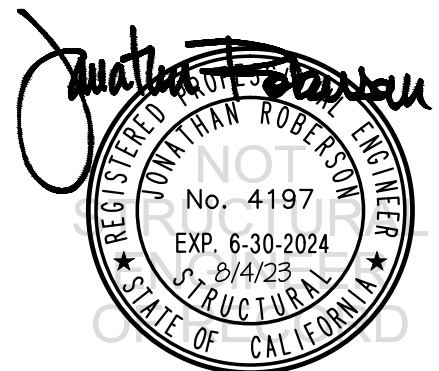
USE 4- 5/8"φ (A307)
THREADED RODS
W/ OVERSIZE WASHER
THRU FLOOR

L 2.80" X 3.31" X 12 GA
(ASTM A1008 CS TYPE B, 20 ksi MIN)
(SHOP ATTACHED BY MFR)
W/ 4 - M8 (ISO 898 CL 4.8) BOLT
EA ANGLE (8 BOLTS TOTAL)
(SEE BRACKET DETAIL)



BY: William Staehlin

PLAN AT BASE
DATE: 08/15/2023



CHATSWORTH PRODUCTS, INC

Adjustable ServerRack & QuadraRack

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JOB NO. **11-2314**

DATE **8/4/23**

SHEET

8

OF **10** SHEETS

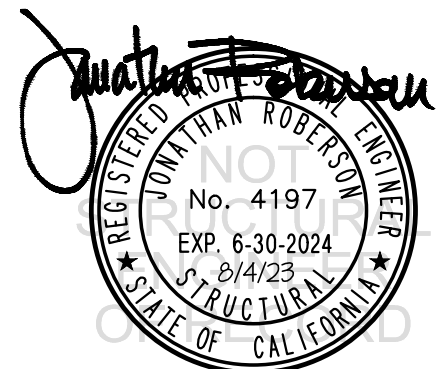
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB ON METAL DECK

MODEL NO. (SQ PUNCH RAILS/#12-24 THREADED RAILS)	*** MAX OP WEIGHT (lb.)	HEIGHT "A" (in.)	DEPTH "B" (in.)	HEIGHT "Y" (in.)	CHANNEL DEPTH "C" (in.)	** Tu (lb.)	** Vu (lb.)
15211-X01/15215-X01	572	72	12.47	33.4	15.34	1506	309
15211-X03/15215-X03	580	84	12.47	33.9	15.34	1551	313
15211-X15/15215-X15	587	96	12.47	45.5	15.34	2129	317
* 15211-X08/15215-X08	595	108	12.47	51.5	15.34	2452	321
15212-X01/15216-X01	576	72	19.36	33.4	22.24	1182	311
15212-X03/15216-X03	584	84	19.36	33.9	22.24	1217	315
15212-X15/15216-X15	591	96	19.36	45.5	22.24	1676	319
15212-X08/15216-X08	599	108	19.36	51.5	22.24	1931	323
15213-X01/15217-X01	580	72	26.25	33.4	29.13	1125	313
15213-X03/15217-X03	588	84	26.25	33.9	29.13	1158	317
15213-X15/15217-X15	595	96	26.25	45.5	29.13	1596	321
15213-X08/15217-X08	603	108	26.25	51.5	29.13	1839	325
15214-X01/15218-X01	584	72	33.14	33.4	36.01	1094	315
15214-X03/15218-X03	592	84	33.14	33.9	36.01	1127	319
15214-X15/15218-X15	600	96	33.14	45.5	36.01	1555	324
15214-X08/15218-X08	608	108	33.14	51.5	36.01	1793	328

** VALUES DO NOT INCLUDE Ω_0

*** MAX OP WEIGHT = EQUIPMENT WEIGHT + CONTENTS (CONTENTS = 500 LB MAX)



CHATSWORTH PRODUCTS, INC

DES. J. ROBERSON

SHEET

JOB NO. 11-2314

9

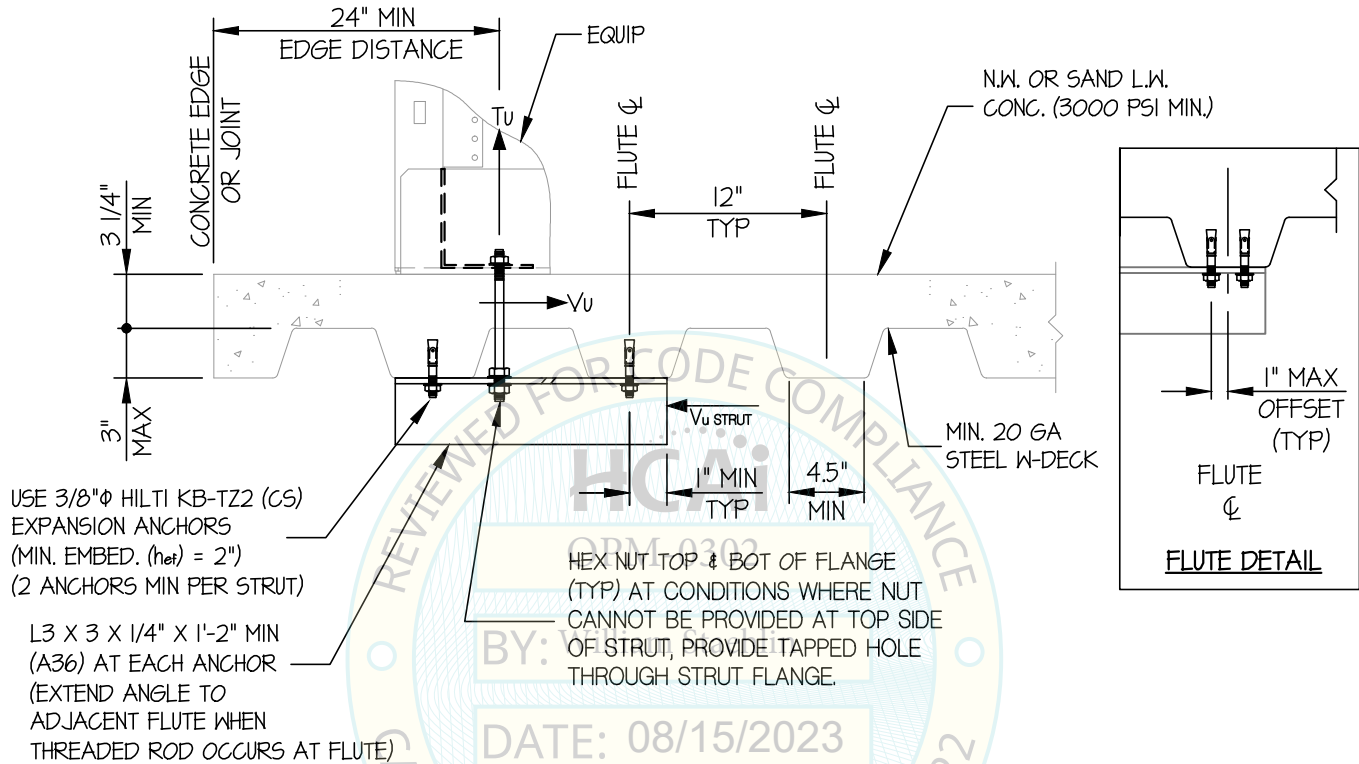
Adjustable ServerRack & QuadraRack

DATE 8/4/23

OF 10 SHEETS

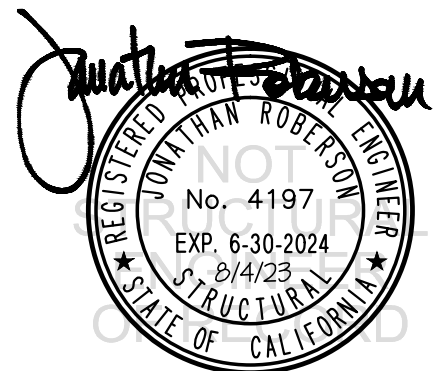
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE DETAILS



MIN STEEL DECK REQUIREMENTS AND STRUT DETAIL (A)

DEMANDS: (BASED ON UPPER FLOOR)



CHATSWORTH PRODUCTS, INC

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10

Adjustable ServerRack & QuadraRack

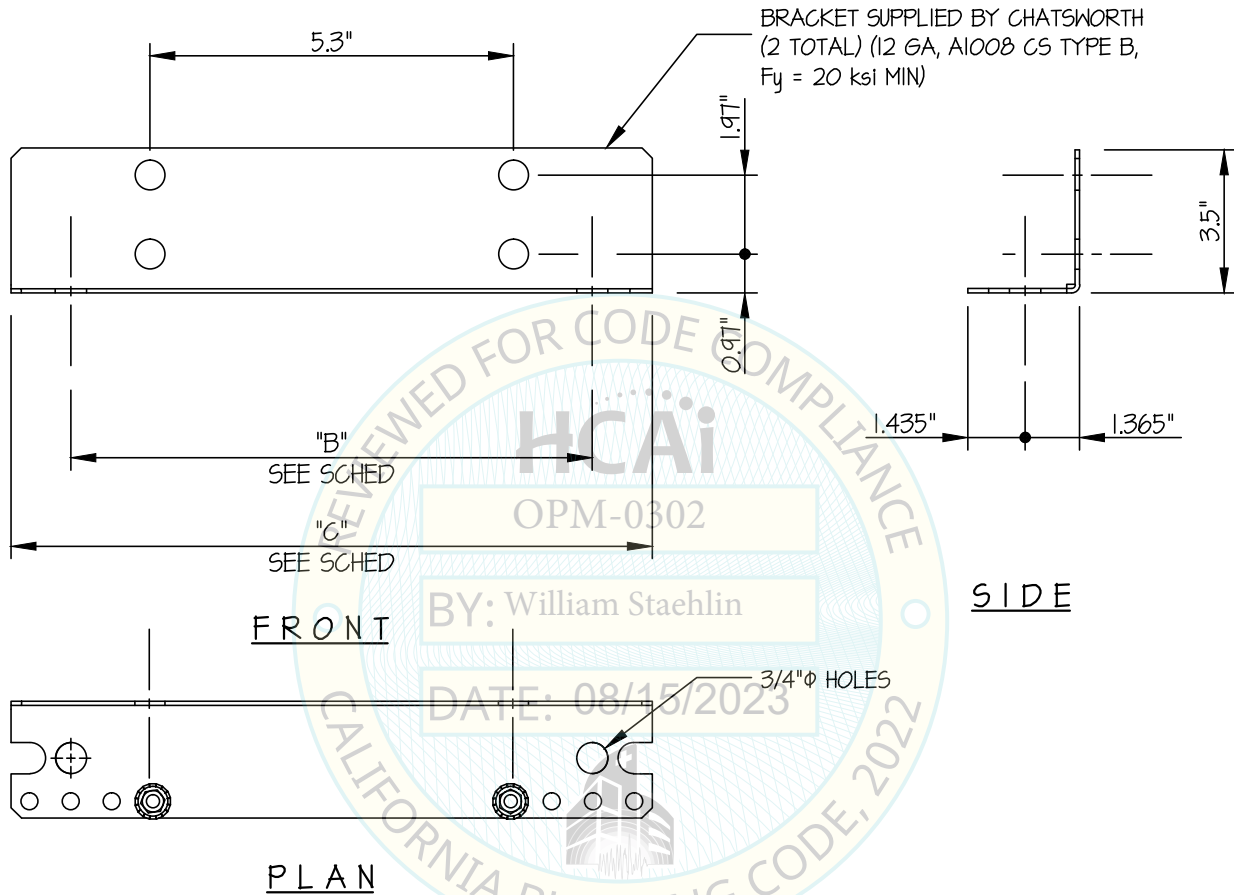
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OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACKET DETAILS



Jonathan Roberson
REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2024
8/4/23
STRUCTURAL
STATE OF CALIFORNIA