



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

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

OFFICE USE ONLY

APPLICATION #: OPM-0753

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: ☒ New ☐ Renewal/Update

Manufacturer Information

Manufacturer: Roche Diagnostics Corporation

Manufacturer's Technical Representative: Thomas Ferner

Mailing Address: 9115 Hague Rd., P.O. Box 50457, Indianapolis, IN 46250

Telephone: (859) 240-7137

Email: tom.ferner@roche.com

Product Information

Product Name: cobas Pre-Analytic Modules

Product Type: Medical Analyzers

Product Model Number: BLM for p471 & p671; BLM for p512 & p612; p471; p671; p512; p612

General Description: Chemistry & Immunochemistry Testing

Applicant Information

Applicant Company Name: Roche Diagnostics Corporation

Contact Person: Thomas Ferner

Mailing Address: 9115 Hague Rd., P.O. Box 50457, Indianapolis, IN 46250

Telephone: (859) 240-7137

Email: tom.ferner@roche.com

Title: Engineering Lead

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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

Registered Design Professional Preparing Engineering Recommendations

Company Name: CYS STRUCTURAL ENGINEERS, INC.

Name: Dieter Siebald

California License Number: S4346

Mailing Address: 2710 Gateway Oaks Drive, Suite 190N, Sacramento, CA 95833

Telephone: (916) 920-2020

Email: dieters@cyseng.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: 6/29/2025

Name: William Staehlin

Title: Senior Structural Engineer

Condition of Approval (if applicable): _____

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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY



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NOTES:

1. THESE DRAWINGS ARE PREPARED FOR ROCHE DIAGNOSTICS CORPORATION, INDIANAPOLIS, INDIANA.
2. THE CONTRACTOR AND INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT (OSHPD) PRE-APPROVAL PROGRAMS WEBSITE.
3. THIS PRE-APPROVAL COVERS THE SUPPORTS AND ATTACHMENTS OF THE UNIT TO THE SUPPORTING STRUCTURE. THE EQUIPMENT UNITS ARE SUPPLIED BY ROCHE. THE SEISMIC BRACKETS, THRU-BOLTS & EXPANSION ANCHORS SHOWN ON PAGES 28-33 SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.



SHEET TITLE: TABLE OF CONTENTS



CYS STRUCTURAL ENGINEERS, INC.

2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833

TEL (916) 920-2020
www.cyseng.com

Job No:	24066
Date:	06/23/2025
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GENERAL NOTES:

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2022. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2022.
2. EQUIP ANCHORAGES SUCH AS EXPANSION ANCHORS, BOLTS, SCREWS & FITTINGS SHALL BE DESIGNED IN COMPLIANCE W/ THE FORCE LEVEL REQUIREMENTS OF THE 2022 CBC, TITLE 24, PART 2, VOLUME 2. LOAD COMBINATION FOR LOAD & RESISTANCE FACTOR DESIGN (LRFD) SHALL BE USED.
3. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD (SEOR) FOR A SITE SPECIFIC PROJECT TO VERIFY:
 - A. THE ADEQUACY OF THE (N) OR (E) STRUCTURE TO RESIST THE FORCES AND WT SPECIFIED FOR EA EQUIP IN ADDITION TO ALL OTHER LOADS. PROVIDE & DESIGN SUPPLEMENTARY MEMBERS AS REQ.
 - B. THAT THE (N) ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPGS. SEE TABLE 1 ON PG 5.
 - C. THAT THE (N) ANCHORS ARE LOCATED AT LEAST 18" AWAY FROM ADJ (E) ANCHORS OR THE SEOR SHALL EVALUATE THE ANCHORAGES FOR THE EQUIP IN THIS OPM FOR ADVERSE AFFECTS OF ADJ ANCHORS. THE SPACING SHOWN IN TABLE 1 ON PG 5, IS THE REQ MIN SPACING OF THE ½" DIA AB'S. THE REQ SPACING FROM ANCHORS OF OTHER DIA & EMBEDMENTS WILL VARY & SHALL BE EVALUATED BY THE SEOR.
 - D. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE 2022 CBC AND W/ THE DTLS SHOWN IN THIS PRE-APPROVAL.
 - E. THAT THE ACTUAL EQUIP'S WT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DTLS, & THE MATERIAL & GA OF THE EQUIP WHERE ATTACHMENTS ARE MADE, AGREE W/ THE INFO SHOWN IN THIS PRE-APPROVAL.
 - F. THAT THE CONC SLAB TO WHICH THE EQUIP IS ANCHORED SHALL MEET THE REQUIREMENTS OF THE APPLICABLE ICC REPORT & THIS OPM.
4. EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE CARBON STEEL HILTI KWIK BOLT TZ2 EXPANSION ANCHORS COMPLYING W/ ESR-4266 MOST RECENT EDITION.
 - A. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE W/ THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PG 5.
 - B. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE W/ THE TEST LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TORQUE IN THE ANCHOR SUCH AS CALIBRATED SPRING LOADING DEVICES OR CALIBRATED TORQUE WRENCH METHOD. REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIP INSTALLATION. ALSO REFER TO 2022 CBC 1910A.5 "TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".



SHEET TITLE: GENERAL NOTES



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GENERAL NOTES: (CONTINUED)

4C. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:

- TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE:
ONE-HALF ($\frac{1}{2}$) TURN OF THE NUT.

D. ANCHOR REQUIREMENTS:

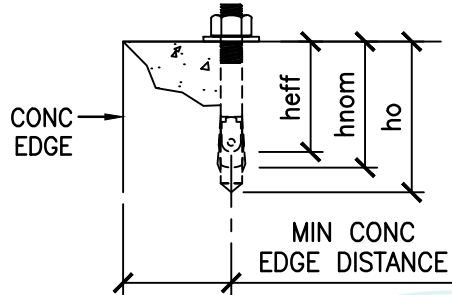


TABLE 1

CONDITION OF ANCHORAGE	ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h _{min}	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST TORQUE (FT-LBS)
CASE 1 STRUT P'S	$\frac{3}{8}$ KB-TZ2	$1\frac{13}{16}$	$1\frac{1}{2}$	2	$\frac{3}{4}$	6	10	25
CASE 2	$\frac{1}{2}$	$2\frac{1}{2}$	2	$2\frac{3}{4}$	$\frac{3}{4}$	12	6	50
CASE 3	$\frac{1}{2}$	$2\frac{1}{2}$	2	$2\frac{3}{4}$	4	12	6	50

1. BOLTS THROUGH CONC ON MTL DECK:

- A. BOLTS SHALL BE TORQUED BY $\frac{3}{4}$ TURN OF THE NUTS AFTER SNUG TIGHT CONDITION IS ACHIEVED, UNO. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQ TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
- B. THRU-BOLT HOLES, IN CONCRETE FILL AND METAL DECK ONLY, SHALL BE $\frac{1}{16}$ " LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + $\frac{1}{16}$ ").
- C. THRU-BOLTS IN CONC SHALL RECEIVE SPECIAL INSPECTION & TESTING IN ACCORDANCE W/ REQUIREMENTS FOR POST-INSTALLED ANCHORS.
THRU-BOLTS W/ STL TO STL CONN IN TENSION DO NOT REQ TESTING.



SHEET TITLE: GENERAL NOTES (CONTINUED)



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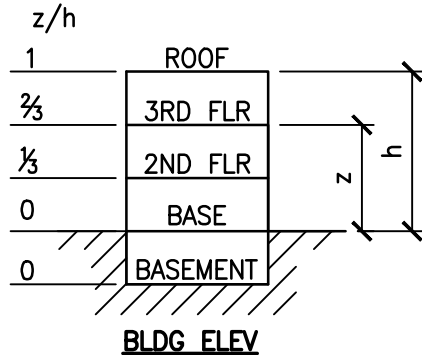
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GENERAL NOTES: (CONTINUED)

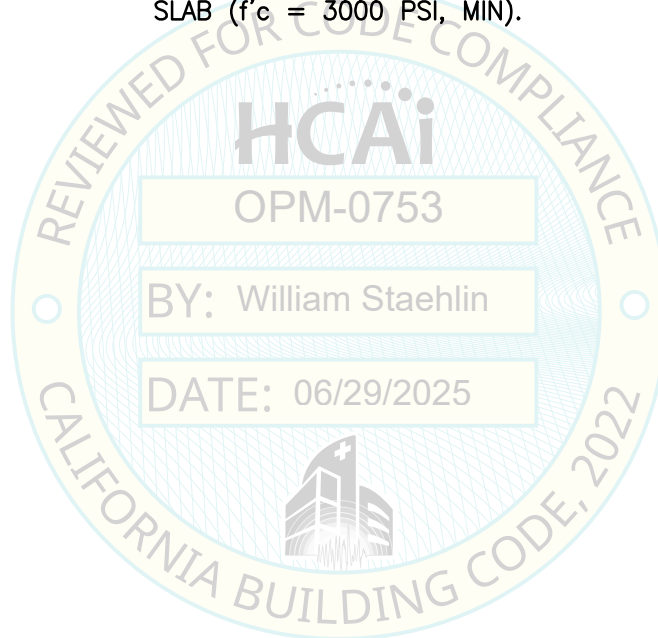
6. THREE (3) CASES OF ATTACHMENT ARE SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:



CASE 1: ATTACHMENT DTLS FOR THRU-BOLTS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG ($z/h \leq 0.95$), THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER MTL DECK ($f'_c = 3000$ PSI, MIN).

CASE 2: ATTACHMENT DTLS FOR AB'S INTO CONC FILL LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG ($z/h \leq 0.95$), THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER MTL DECK ($f'_c = 3000$ PSI, MIN).

CASE 3: ATTACHMENT DTLS FOR AB'S INTO CONC SLAB LOCATED AT OR BLW THE BASE OF A BLDG ($z/h = 0$). THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 4" NWC SLAB ($f'_c = 3000$ PSI, MIN).



SHEET TITLE: GENERAL NOTES (CONTINUED)



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ROCHE DIAGNOSTICS CORPORATION
cobas® PRE-ANALYTIC MODULES

Roche

ABBREVIATIONS:

AB	ANCHOR BOLT	f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE	MTL	METAL
ABV	ABOVE	FLR	FLOOR	(N)	NEW CONDITION
ADJ	ADJACENT	FT (')	FOOT/FEET	NO. (#)	NUMBER OR POUNDS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	Fp	HORIZONTAL SEISMIC FORCE PER ASCE 7-16 SEISMIC FORCE REQUIREMENTS	NWC	NORMAL WEIGHT CONCRETE
BLDG	BUILDING	Fv	VERTICAL SEISMIC FORCE PER ASCE 7-16 SEISMIC FORCE REQUIREMENTS	OPG	OPENING
BLW	BELOW	Fy	SPECIFIED MINIMUM YIELD STRESS OF STEEL	PG(S)	PAGE(S)
BOTT	BOTTOM	GA	GAUGE	PL	PLATE
CBC	CALIFORNIA BUILDING CODE	IN (")	INCH	PSI	POUNDS PER SQUARE INCH
CG	CENTER OF GRAVITY	INFO	INFORMATION	REQ	REQUIRED
CL	CENTERLINE	KSI	KIPS PER SQUARE INCH	SEOR	STRUCTURAL ENGINEER OF RECORD
CONC	CONCRETE	LBS	POUNDS	SLWC	SAND-LIGHTWEIGHT CONCRETE
CONN	CONNECTION	LRFD	LOAD AND RESISTANCE FACTOR DESIGN	Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE
COORD	COORDINATE	MAX	MAXIMUM	THRD	THREAD OR THREADED
DBL	DOUBLE	MFR	MANUFACTURER	TYP	TYPICAL
DTL	DETAIL	MIN	MINIMUM	T&B	TOP & BOTTOM
DIA (ø)	DIAMETER			UNO	UNLESS NOTED OTHERWISE
(E)	EXISTING CONDITION			Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE
EA	EACH			W/	WITH
ELEV	ELEVATION			Wp	OPERATING WEIGHT
EQUIP	EQUIPMENT			WT	WEIGHT

DESIGN CRITERIA & SEISMIC DESIGN FORCES (LRFD)

$$F_p = \frac{0.4 a_p S_{DS} W_p}{(R_p/I_p)} (1+2 z/h) \quad \text{ASCE 7-16 (13.3-1)}$$

$$F_p (\text{MAX}) = 1.6 S_{DS} I_p W_p \quad \text{ASCE 7-16 (13.3-2)}$$

$$F_p (\text{MIN}) = 0.3 S_{DS} I_p W_p \quad \text{ASCE 7-16 (13.3-3)}$$

$$E_v = F_v = \pm 0.2 S_{DS} W_p \quad \text{ASCE 7-16 (12.4-4)}$$

SUPPORT & ATTACHMENT DESIGN IS PER 2019 CBC AT LRFD LEVEL FORCES PER TABLE 13.6-1 OF ASCE 7-16 SUPPLEMENT #1. "OTHER MECHANICAL OR ELECTRICAL COMPONENTS"

$$a_p = 1.0$$

$$R_p = 1.5$$

$$I_p = 1.5$$

$$\Omega_o = 1.5$$

$$W_p = \text{AS NOTED ON PGS 13 TO 18}$$

TABLE 2 (LRFD) WITHOUT Ω FOR AB'S

	S_{DS}	z/h	F_p COEFFICIENT	F_v COEFFICIENT
CASE 1	1.50	0.95	1.74 W_p	0.300 W_p
CASE 2	0.80	0.95	0.928 W_p	0.160 W_p
CASE 3	2.30	0	1.035 W_p	0.460 W_p

LOAD COMBINATIONS

1. $(1.2 + 0.2 S_{DS}) D + 1.0E$ REFERENCE ASCE SECTION OR EQUATION

2. $(0.9 - 0.2 S_{DS}) D + 1.0E$

SHEET TITLE: ABBREVIATIONS & DESIGN CRITERIA



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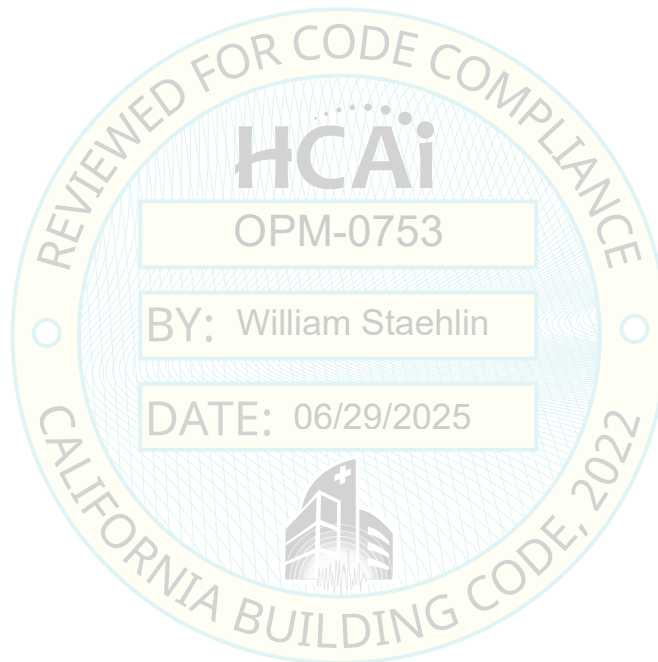
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SYSTEM OVERVIEW & CONFIGURATIONS

1. THE ROCHE cobas INTEGRATED PRE-ANALYTIC SOLUTIONS CONSIST OF THE FOLLOWING MAJOR COMPONENTS:
 - BULK LOADER INPUT MODULE (cobas BLIM) FOR p471 & p671
 - BULK LOADER INPUT MODULE (cobas BLIM) FOR p512 & p612
 - cobas p471 SINGLE CENTRIFUGE
 - cobas p671 DOUBLE CENTRIFUGE
 - cobas p512 SORTER
 - cobas p612 SORTER ALIQUOTER
2. SCHEMATIC OVERVIEW DWGS FOLLOW THAT SHOW THE DIFFERENT COMBINATIONS for the p512 & p612.



SHEET TITLE: SYSTEM OVERVIEW & CONFIGURATIONS

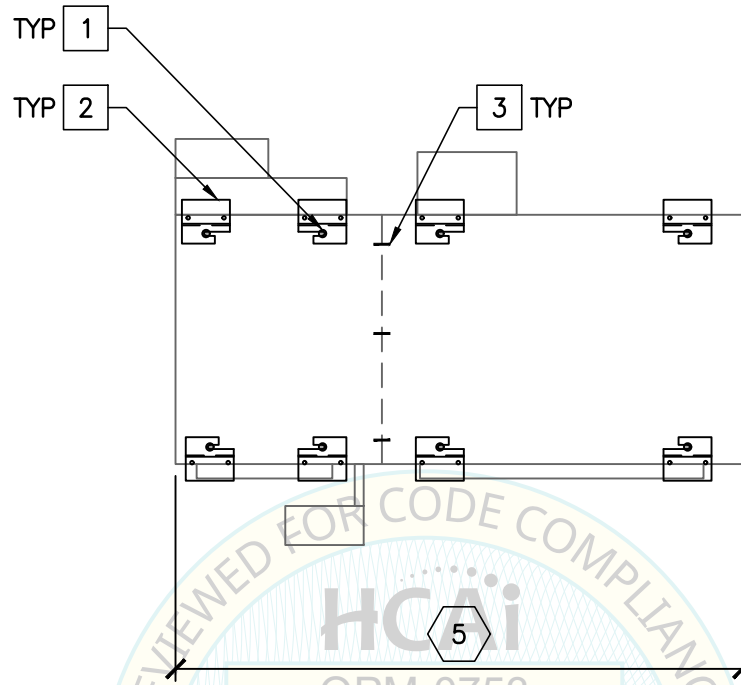


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NOTES:

1. SEE BLW FOR APPLICABLE KEY NOTES & COMPONENTS.
2. DRAWINGS ARE NOT TO SCALE. SEE COMPONENT DRAWINGS FOR DIMENSIONS.

COMPONENT:

KEY NOTES

- 1 BLIM FOR p471 & p671
PER PG 21
- 2 BLIM FOR p512 & p612
PER PG 22
- 3 p471 SINGLE CENTRIFUGE
PER PG 23
- 4 p671 DOUBLE CENTRIFUGE
PER PG 24
- 5 p512 SORTER PER PG 25
- 6 p612 SORTER ALIQUOTER
PER PG 26

- 1 LEVELING LEG PER PG 27, TYP
- 2 SEISMIC BRACKET PER PG 28,
TYP
- 3 M8x16mm GRADE 8.8 STL SOCKET
HEAD CAP SCREW (REFER TO UNIT
"PLAN & ELEVATIONS" FOR TOTAL
NUMBER & APPROX LOCATIONS OF
SCREWS AT SPLICES)
- 4 ALTERNATE SEISMIC BRACKET
PER PG 29, WHERE OCCURS



SHEET TITLE: SYSTEM CONFIGURATIONS
p512

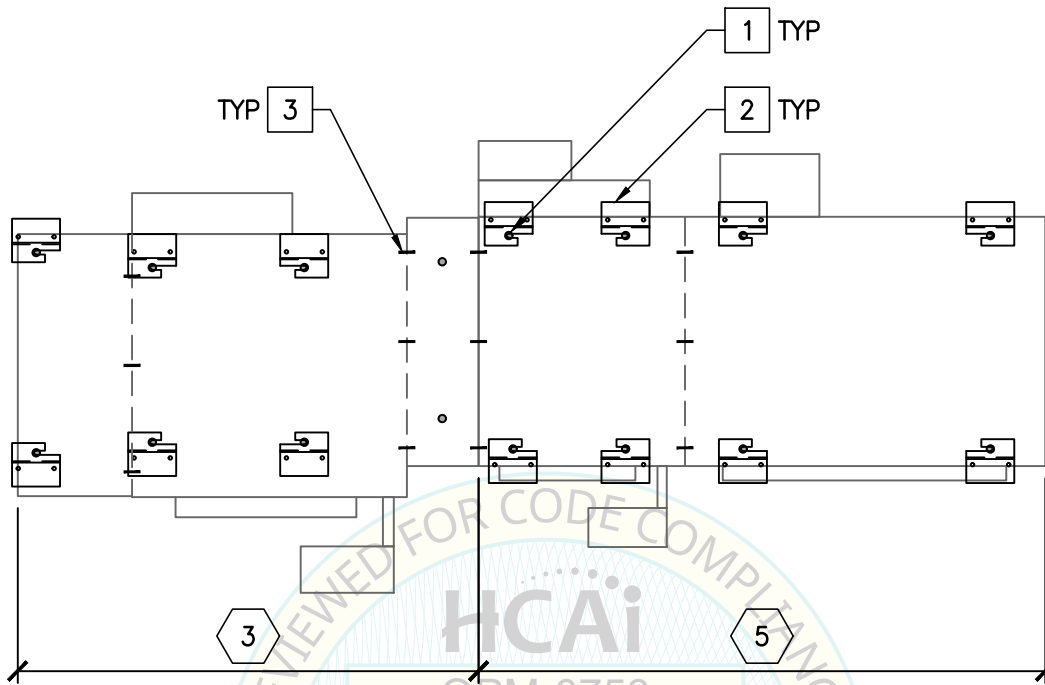


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SHEET TITLE: SYSTEM CONFIGURATIONS
p471 + p512

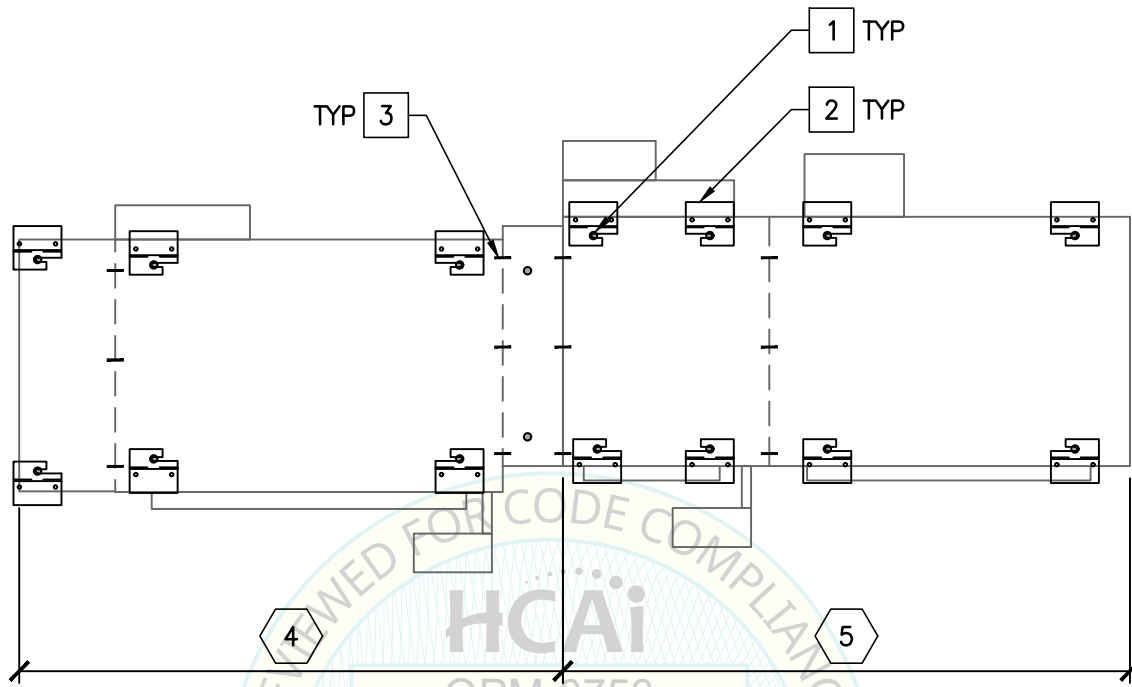


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SHEET TITLE: SYSTEM CONFIGURATIONS
p671 + p512

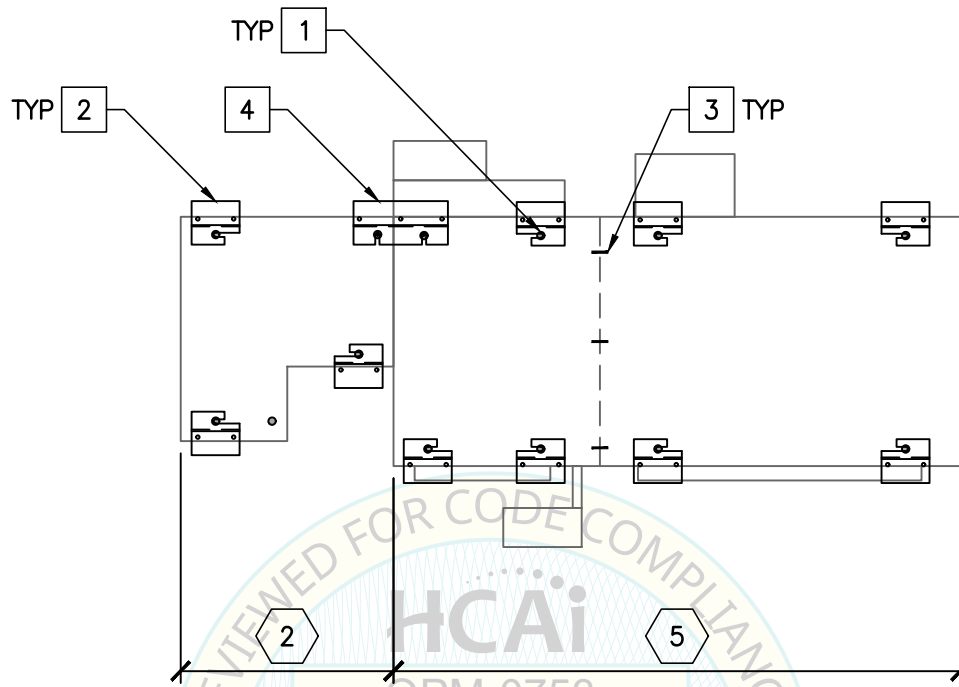


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SHEET TITLE: SYSTEM CONFIGURATIONS
BLIM + p512

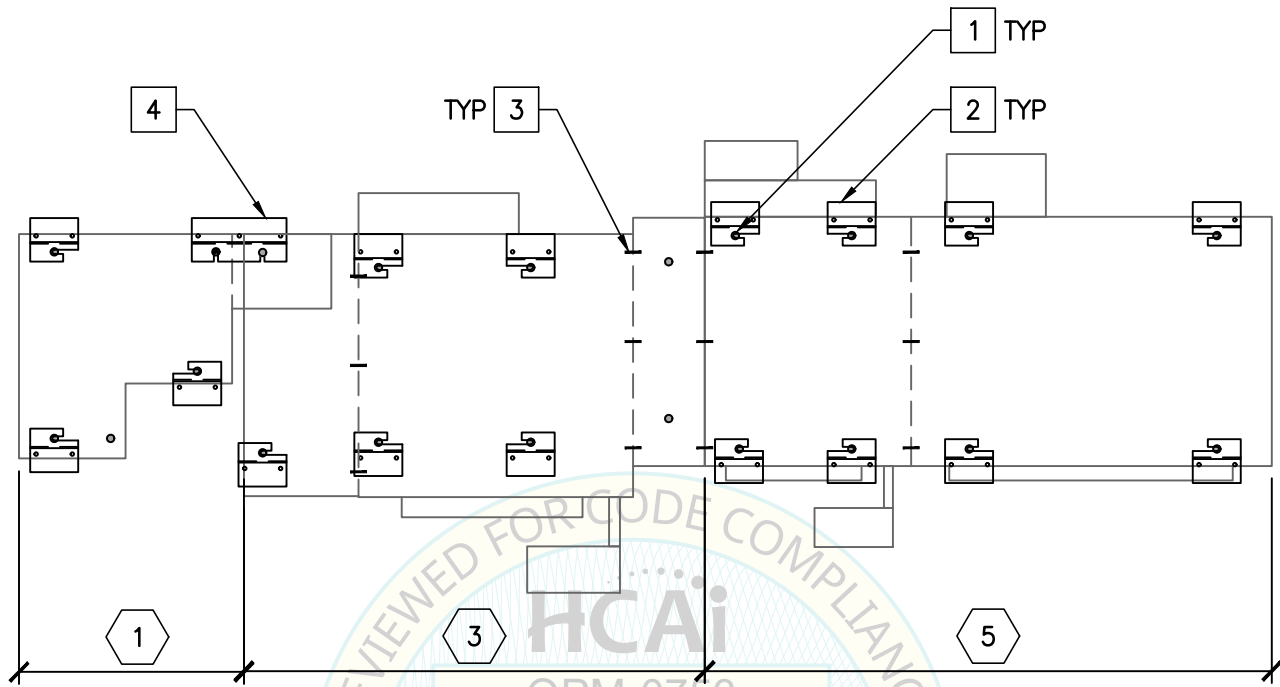


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SHEET TITLE: SYSTEM CONFIGURATIONS

BLIM + p471 + p512

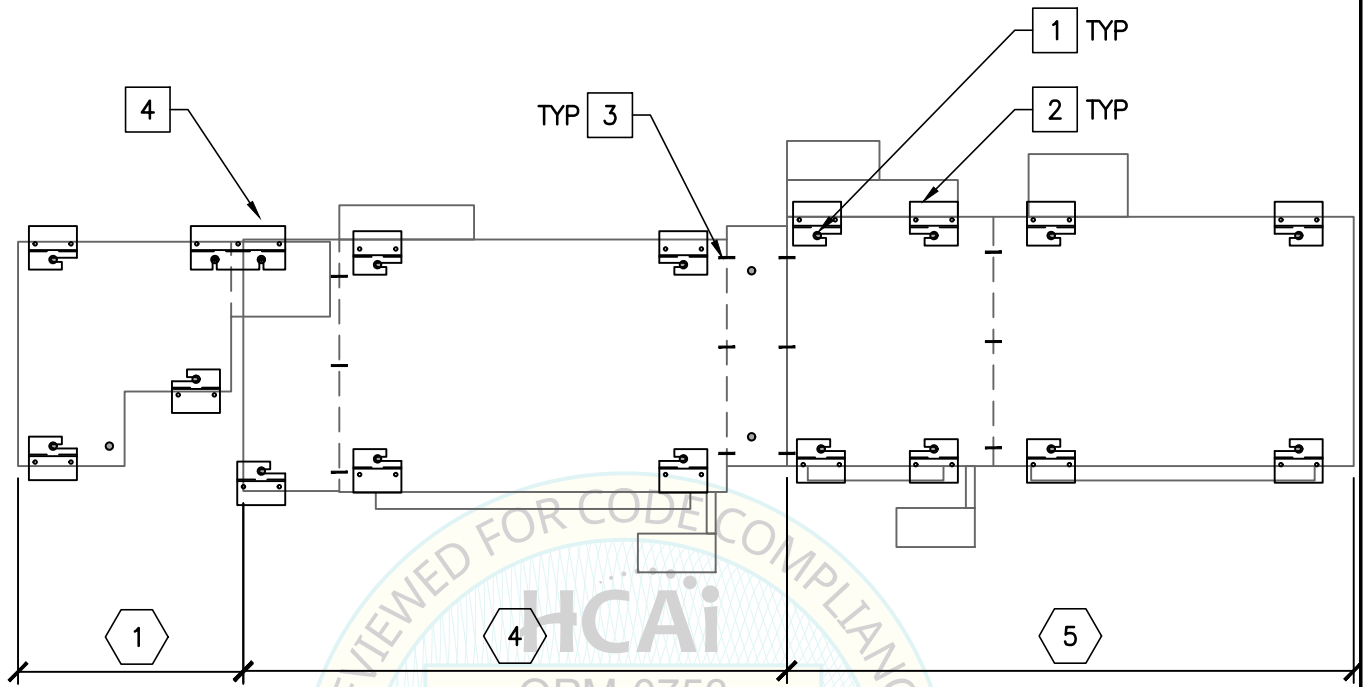


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PER PG 23
- 4 p671 DOUBLE CENTRIFUGE
PER PG 24
- 5 p512 SORTER PER PG 25
- 6 p612 SORTER ALIQUOTER
PER PG 26

- 1 LEVELING LEG PER PG 27, TYP
- 2 SEISMIC BRACKET PER PG 28,
TYP
- 3 M8x16mm GRADE 8.8 STL SOCKET
HEAD CAP SCREW (REFER TO UNIT
"PLAN & ELEVATIONS" FOR TOTAL
NUMBER & APPROX LOCATIONS OF
SCREWS AT SPLICES)
- 4 ALTERNATE SEISMIC BRACKET
PER PG 29, WHERE OCCURS



SHEET TITLE: SYSTEM CONFIGURATIONS

BLIM + p671 + p512

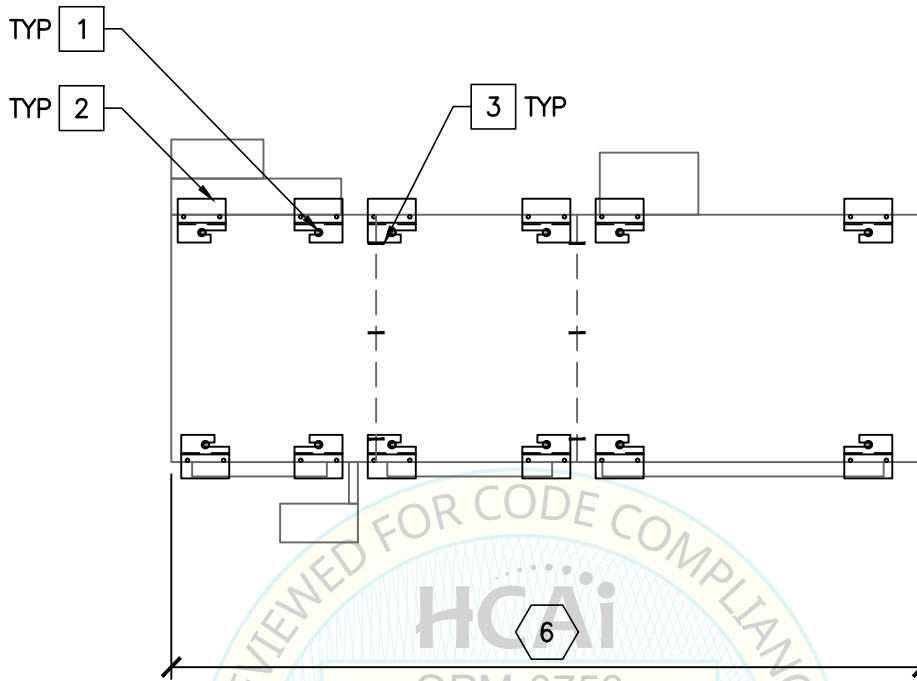


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Job No:	24066
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NOTES:

1. SEE BLW FOR APPLICABLE KEY NOTES & COMPONENTS.
2. DRAWINGS ARE NOT TO SCALE. SEE COMPONENT DRAWINGS FOR DIMENSIONS.

COMPONENT:

KEY NOTES

- 1 BLIM FOR p471 & p671
PER PG 21
- 2 BLIM FOR p512 & p612
PER PG 22
- 3 p471 SINGLE CENTRIFUGE
PER PG 23
- 4 p671 DOUBLE CENTRIFUGE
PER PG 24
- 5 p512 SORTER PER PG 25
- 6 p612 SORTER ALIQUOTER
PER PG 26

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NUMBER & APPROX LOCATIONS OF
SCREWS AT SPLICES)
- 4 ALTERNATE SEISMIC BRACKET
PER PG 29, WHERE OCCURS



SHEET TITLE: SYSTEM CONFIGURATIONS
p612

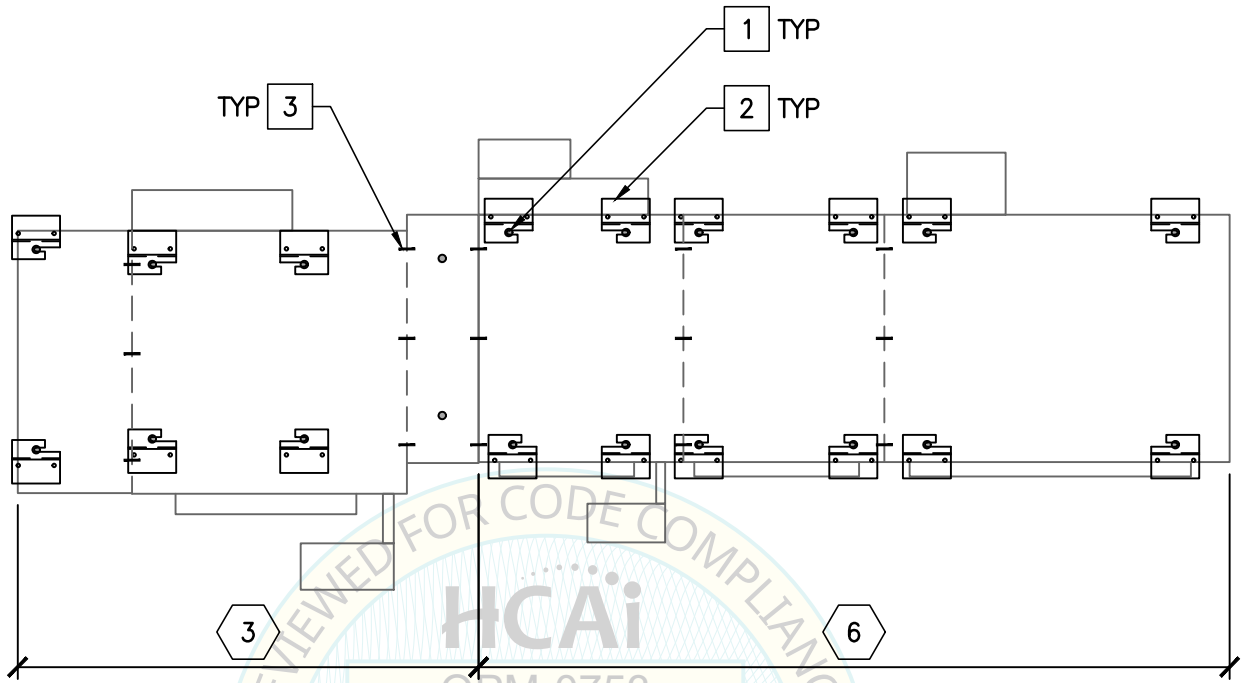


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SHEET TITLE: SYSTEM CONFIGURATIONS
p471 + p612

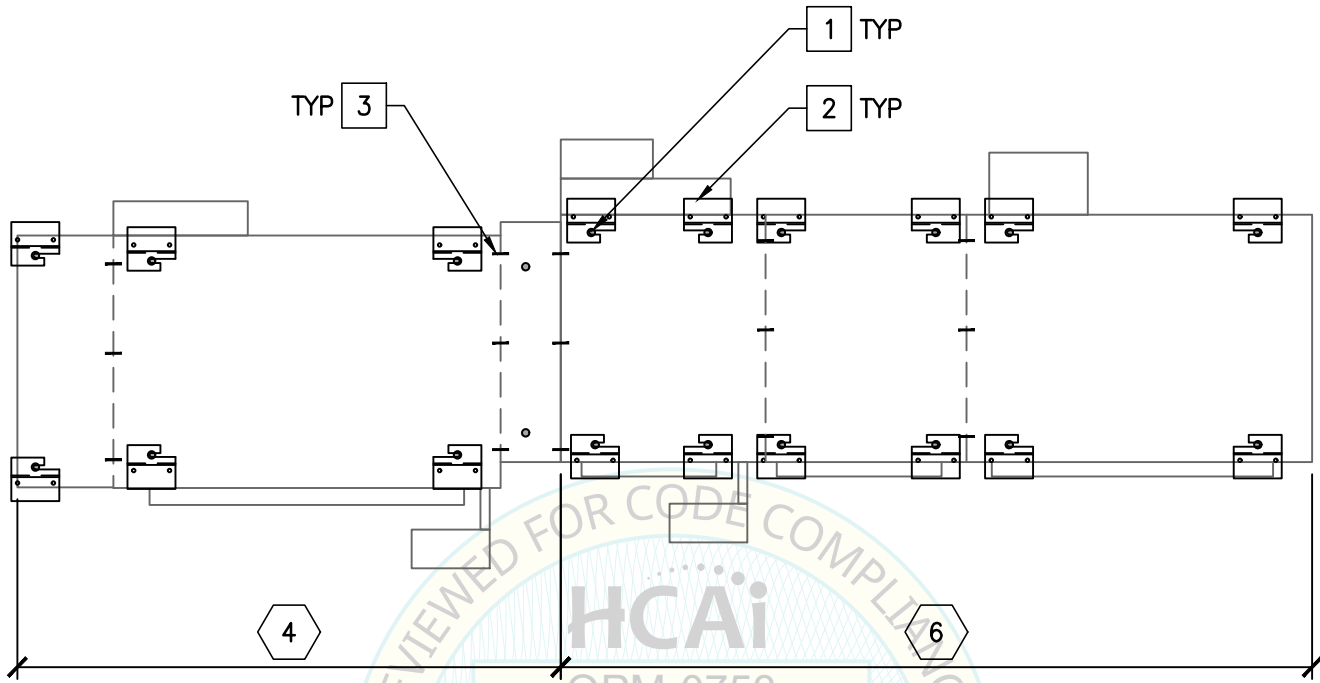


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SHEET TITLE: SYSTEM CONFIGURATIONS
p671 + p612

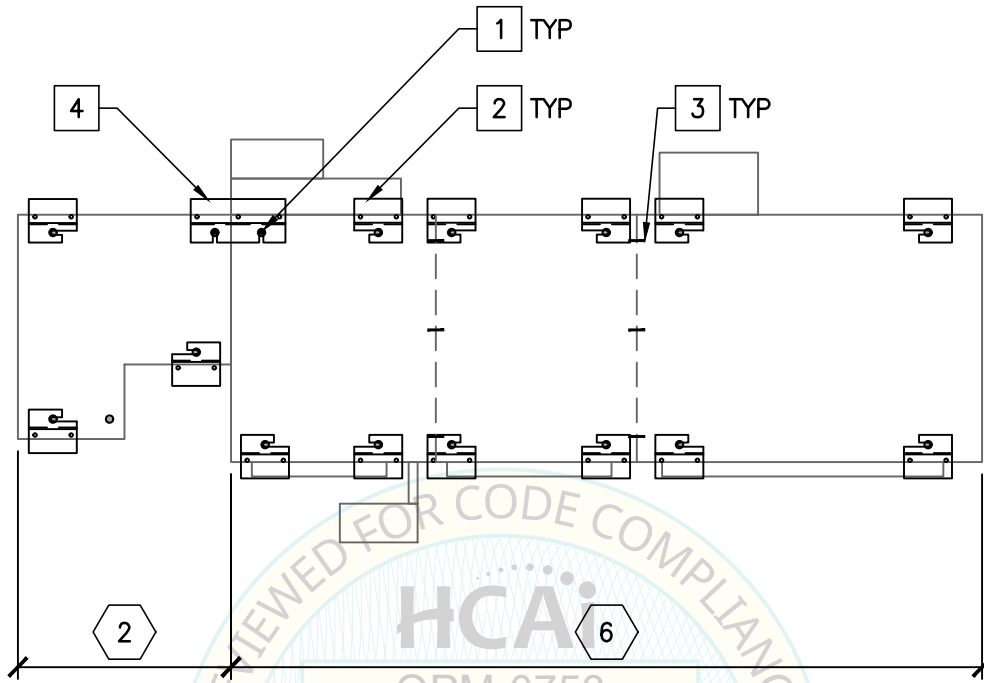


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NOTES:

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PER PG 29, WHERE OCCURS



SHEET TITLE: SYSTEM CONFIGURATIONS
BLIM + p612

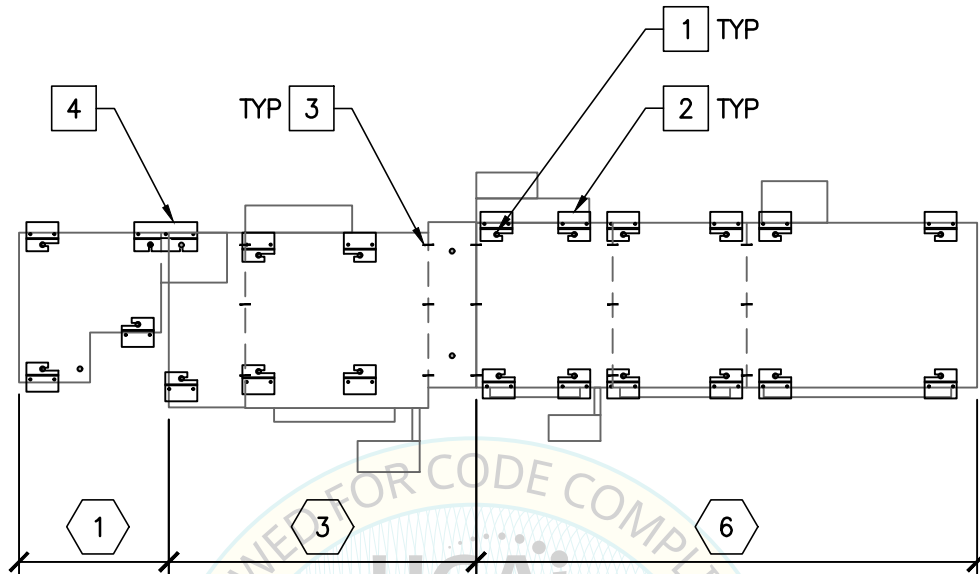


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- 4 ALTERNATE SEISMIC BRACKET
PER PG 29, WHERE OCCURS



SHEET TITLE: SYSTEM CONFIGURATIONS

BLIM + p471 + p612



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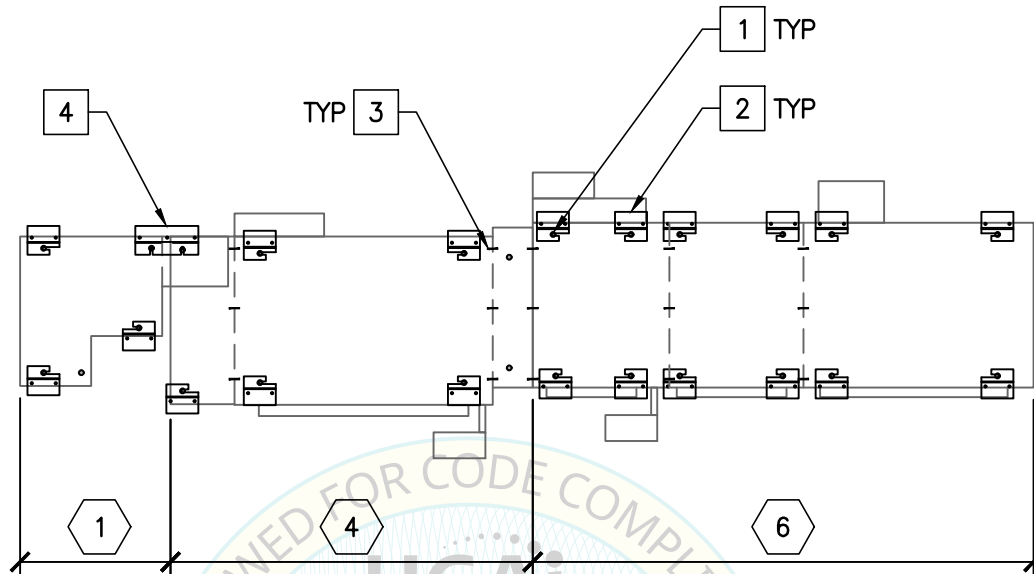
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SHEET TITLE: SYSTEM CONFIGURATIONS

BLIM + p671 + p612



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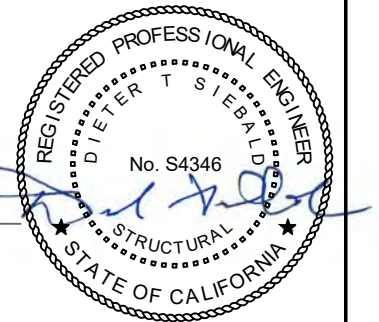
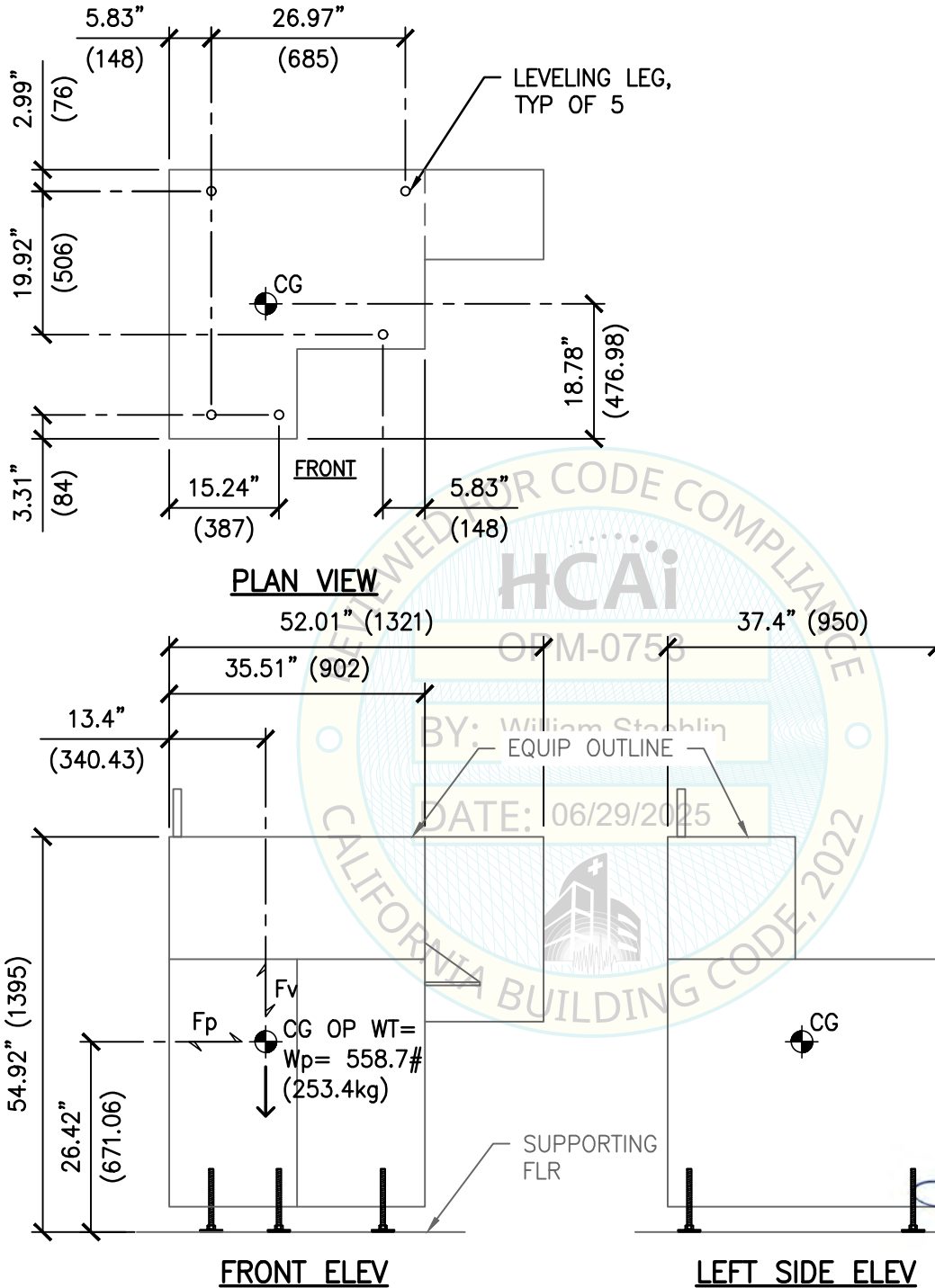
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Roche



SHEET TITLE: COMPONENT PLANS & ELEVATIONS
BULK LOADER INPUT MODULE (BLIM) FOR p471 & p671

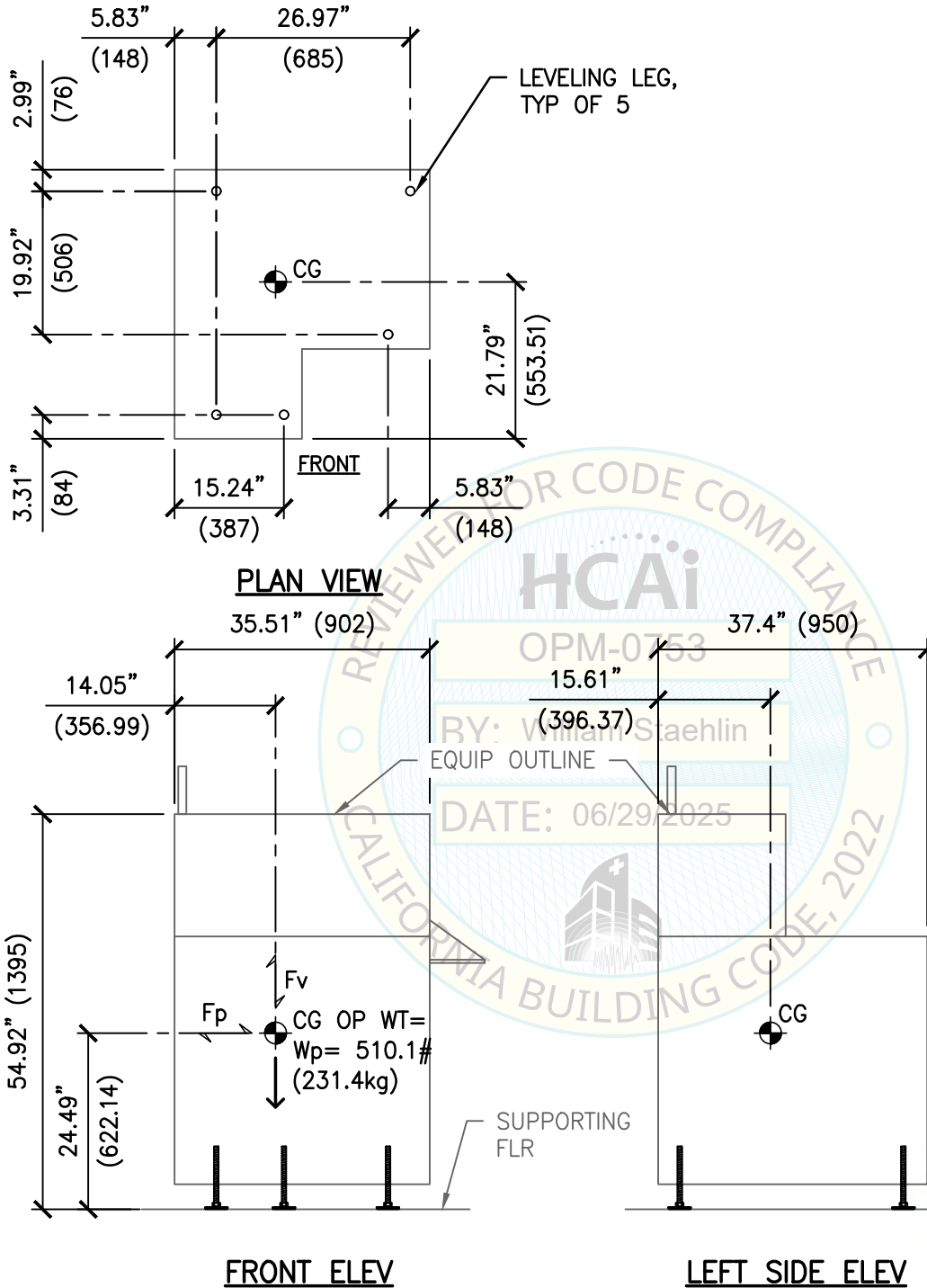


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SHEET TITLE: COMPONENT PLANS & ELEVATIONS
BULK LOADER INPUT MODULE (BLIM) FOR p512 & p612

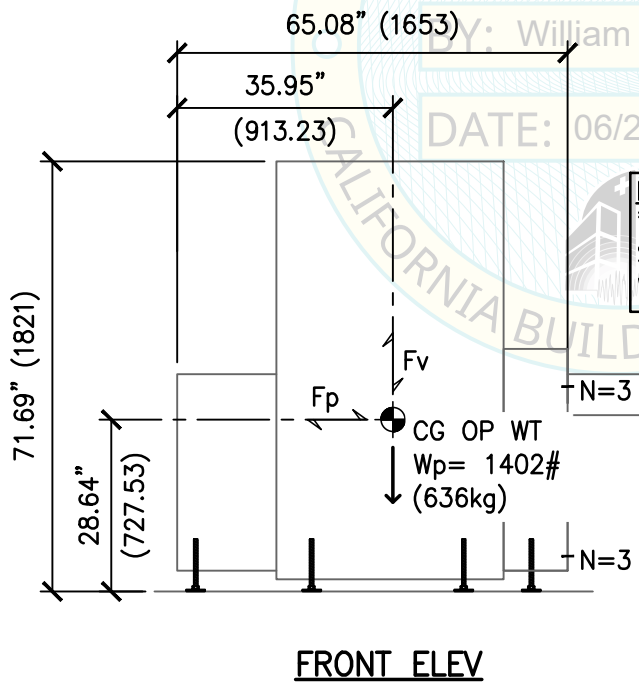
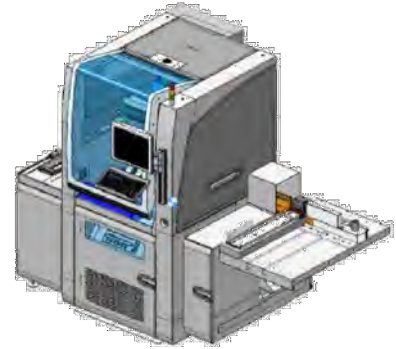
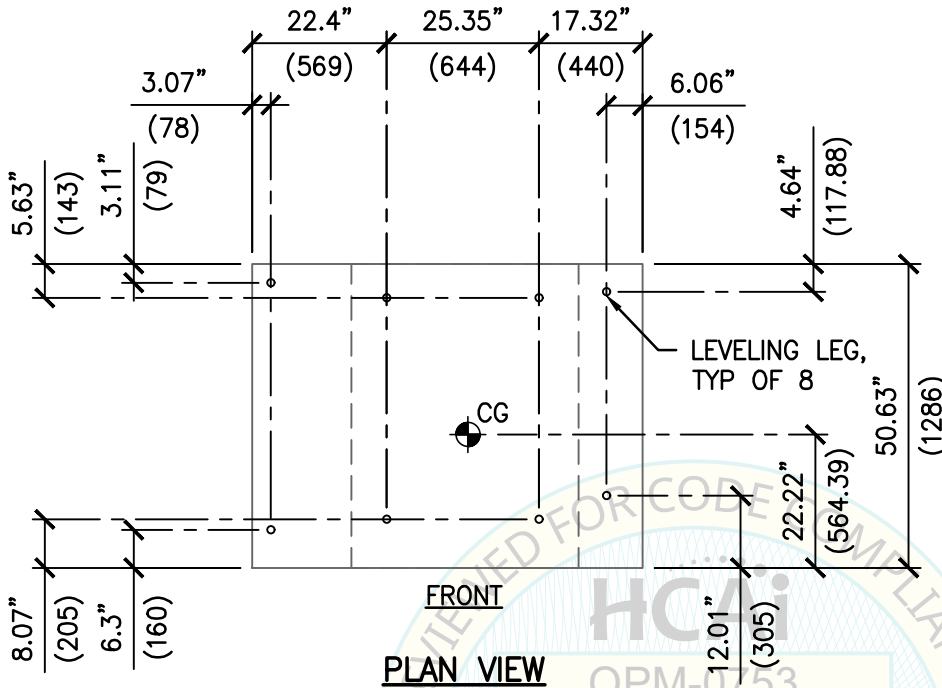


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NOTE:
"N" = # OF M8x16mm GRD 8.8
STL SOCKET HEAD CAP SCREWS
W/ WASHERS AT SPLICE CONN

N=3

N=3



SHEET TITLE: COMPONENT PLANS & ELEVATIONS
p471 SINGLE CENTRIFUGE

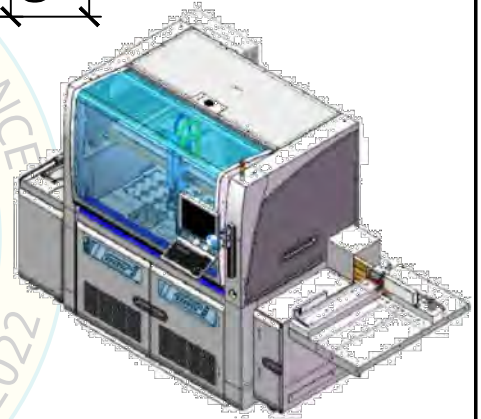
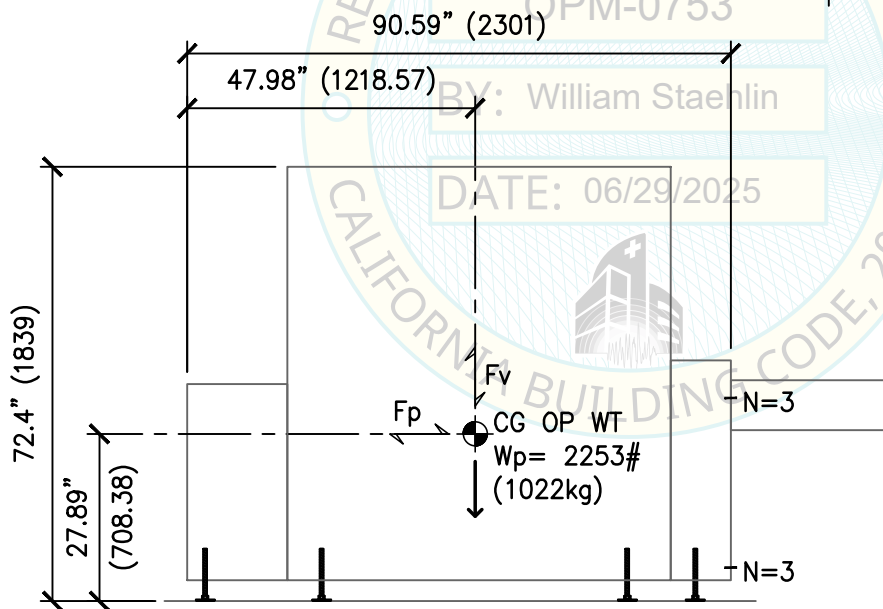
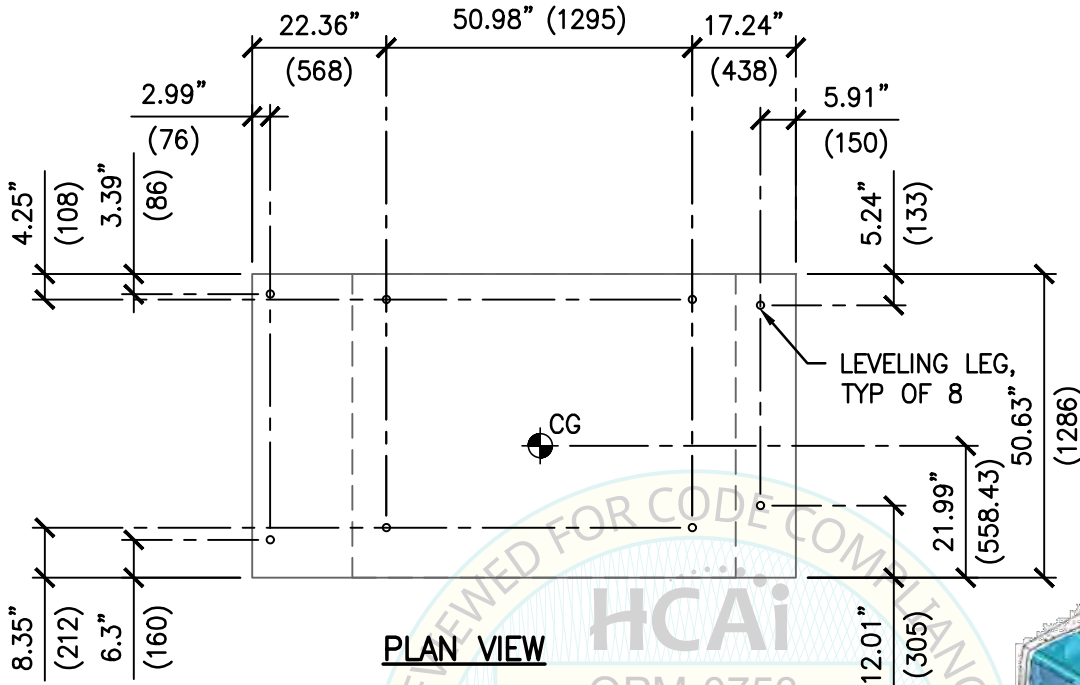


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NOTE:
"N" = # OF M8x16mm GRD 8.8
STL SOCKET HEAD CAP SCREWS
W/ WASHERS AT SPLICE CONN



SHEET TITLE: COMPONENT PLANS & ELEVATIONS
p671 DOUBLE CENTRIFUGE

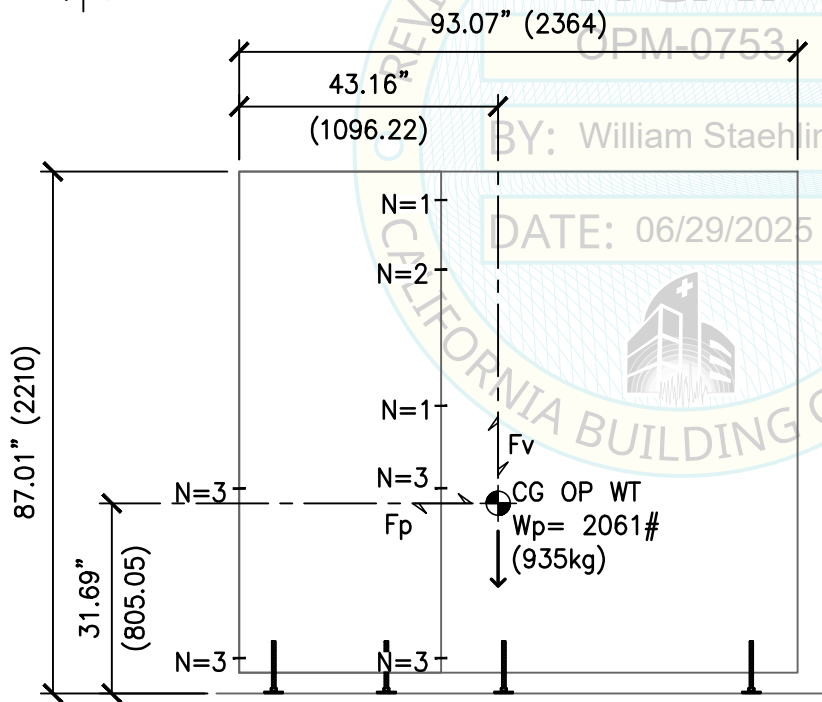
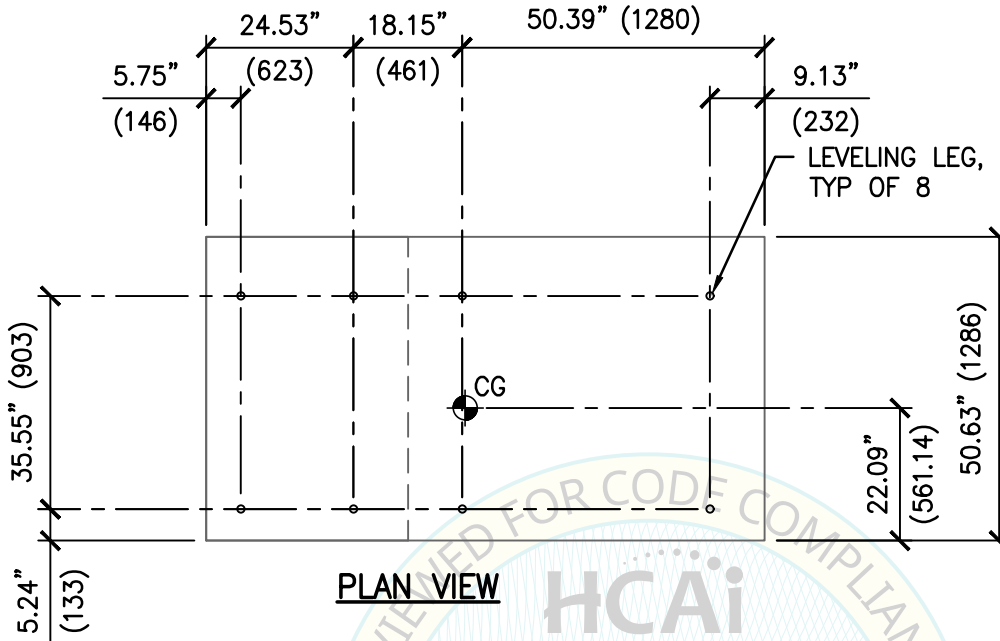


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NOTE:
"N" = # OF M8x16mm GRD 8.8
STL SOCKET HEAD CAP SCREWS
W/ WASHERS AT SPLICE CONN



SHEET TITLE: COMPONENT PLANS & ELEVATIONS
p512 SORTER



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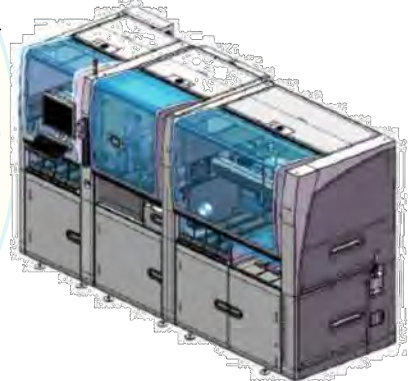
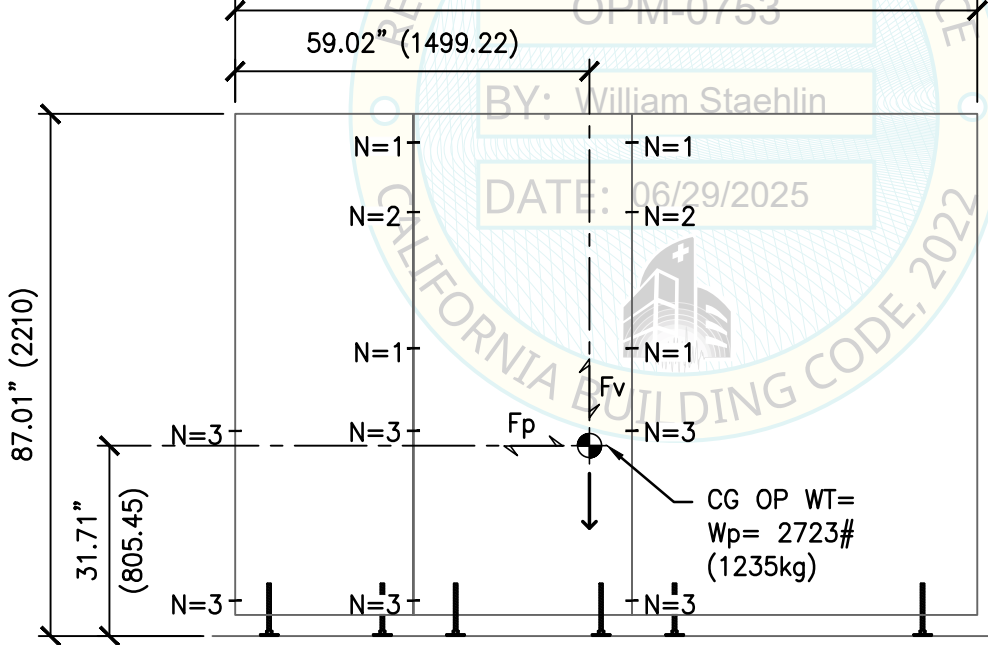
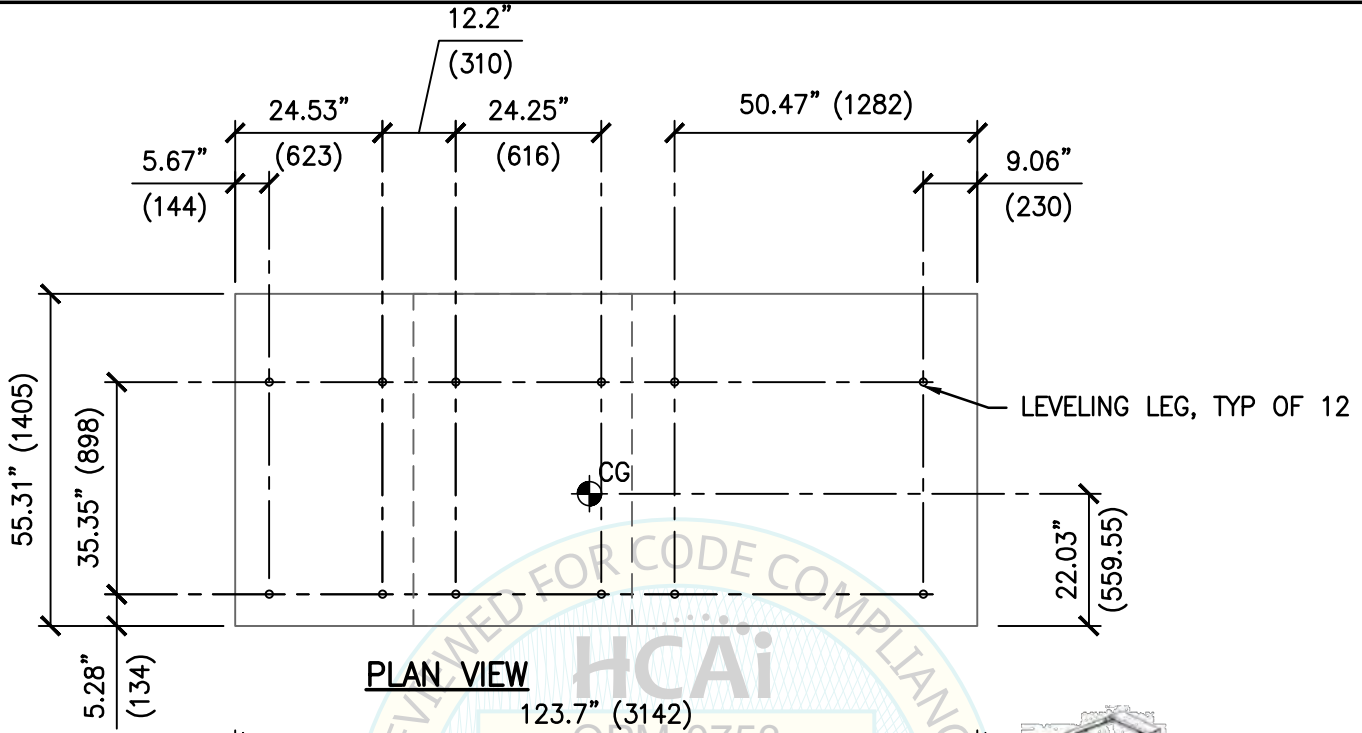
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ISOMETRIC VIEW

NOTE:
"N" = # OF M8x16mm GRD 8.8 STL SOCKET
HEAD CAP SCREWS W/ WASHERS AT SPLICE CONN



SHEET TITLE: COMPONENT PLANS & ELEVATIONS

p612 SORTER ALIQUOTER



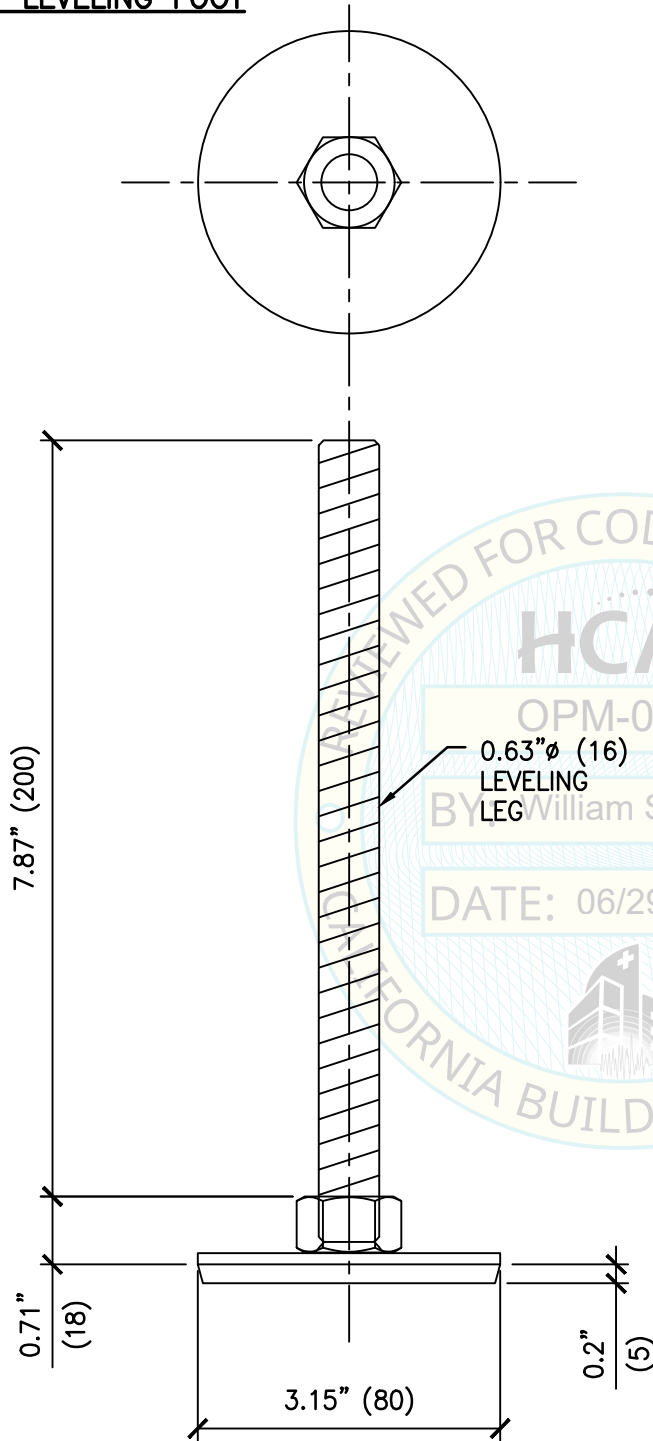
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TYP LEVELING FOOT



SHEET TITLE: LEVELING LEG DETAIL

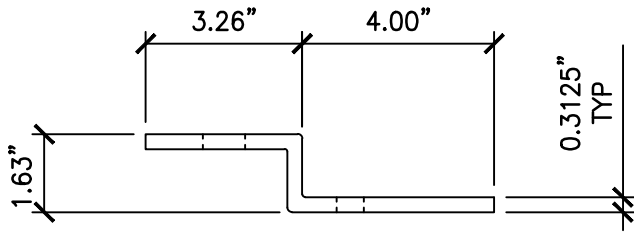


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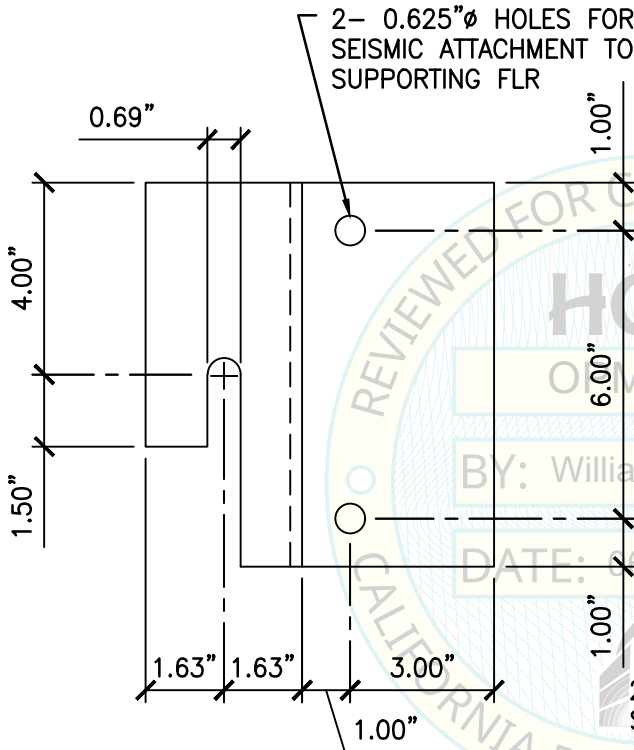
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ELEV

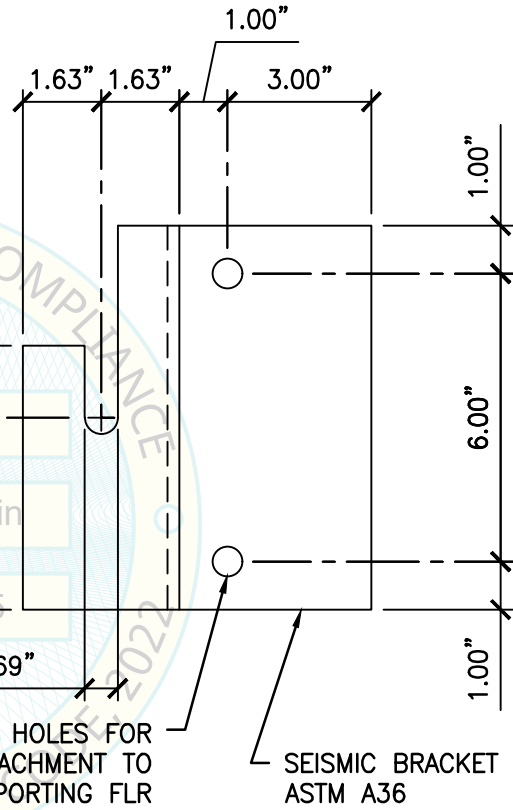
NOTES:

1. FOR CASE 1 & CASE 2 ATTACHMENT TO FLR, SEE PGS 23 & 25.
2. BRACKET & SLOT DIRECTIONS SHALL BE FOLLOWED AS SHOWN ON SYSTEM CONFIGURATION PLANS.



RIGHT-HAND

PLANS



LEFT-HAND



SHEET TITLE: SEISMIC BRACKET DETAIL

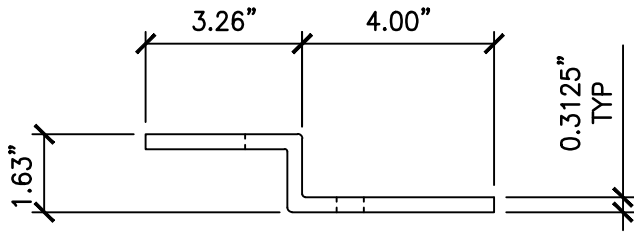


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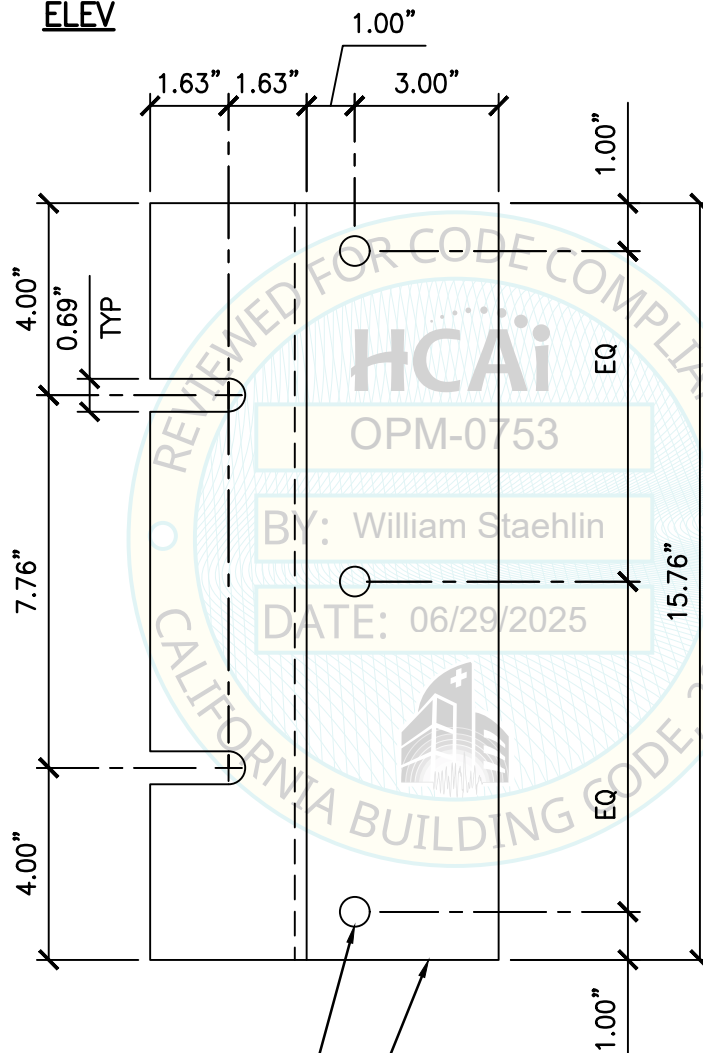
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NOTES:

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2. BRACKET & SLOT DIRECTIONS SHALL BE FOLLOWED AS SHOWN ON SYSTEM CONFIGURATION PLANS.



3- 0.625"Ø HOLES FOR SEISMIC ATTACHMENT TO SUPPORTING FLR

SEISMIC BRACKET ASTM A36



SHEET TITLE: ALTERNATE SEISMIC BRACKET DETAIL



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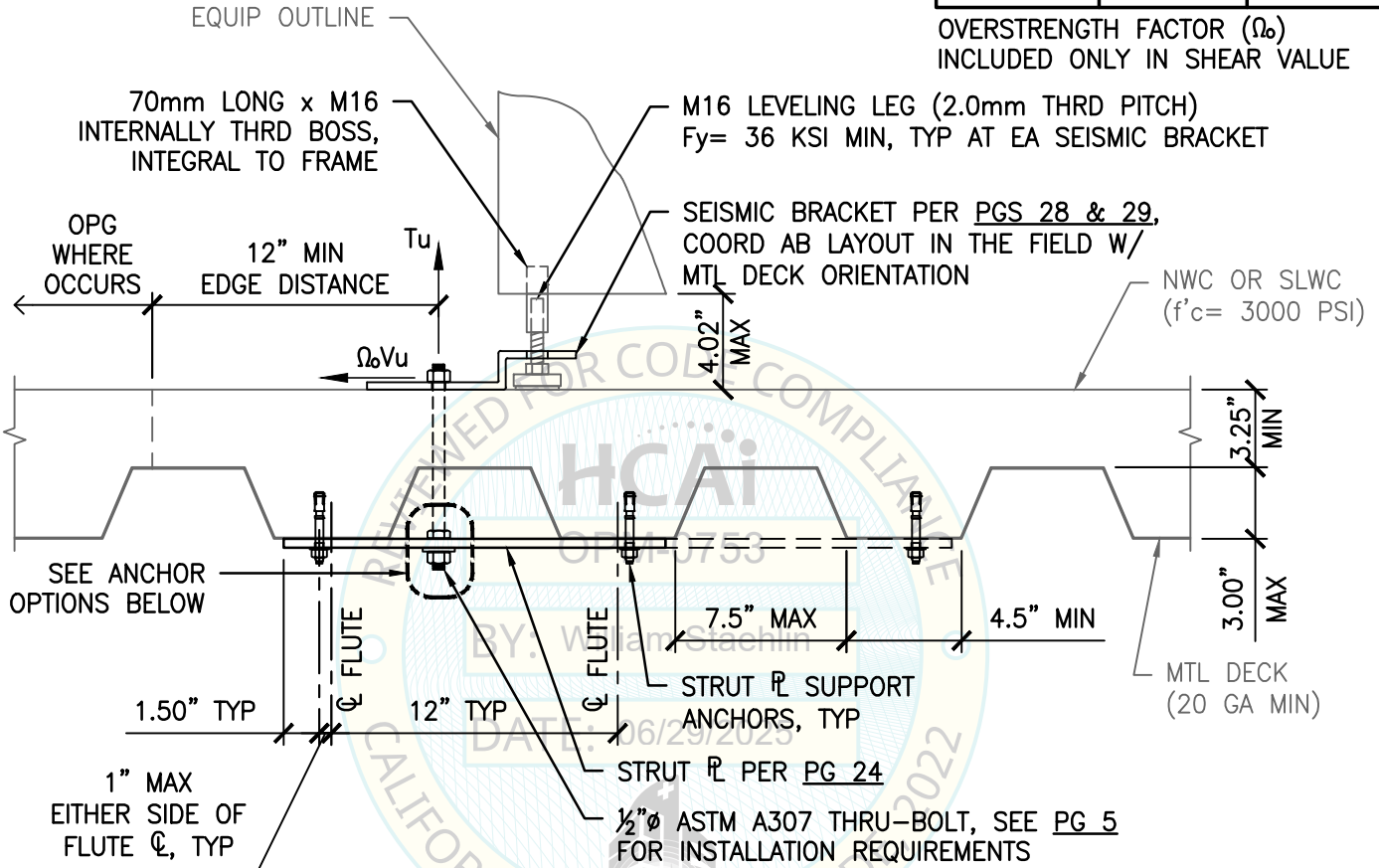
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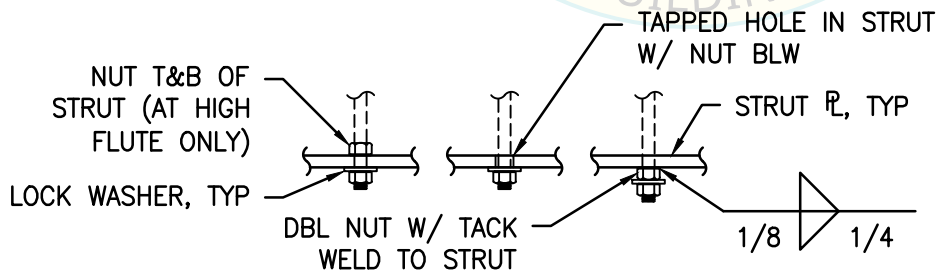
MAX LRFD FORCES
AT EA ANCHOR

	T_u	$\Omega_o V_u$
CASE 1	1026#	1527#

OVERSTRENGTH FACTOR (Ω_o)
INCLUDED ONLY IN SHEAR VALUE



SUSPENDED FLOOR (CASE 1)



ANCHOR OPTIONS



SHEET TITLE: ATTACHMENT DETAIL
TO CONCRETE FILL OVER METAL DECK (CASE 1)

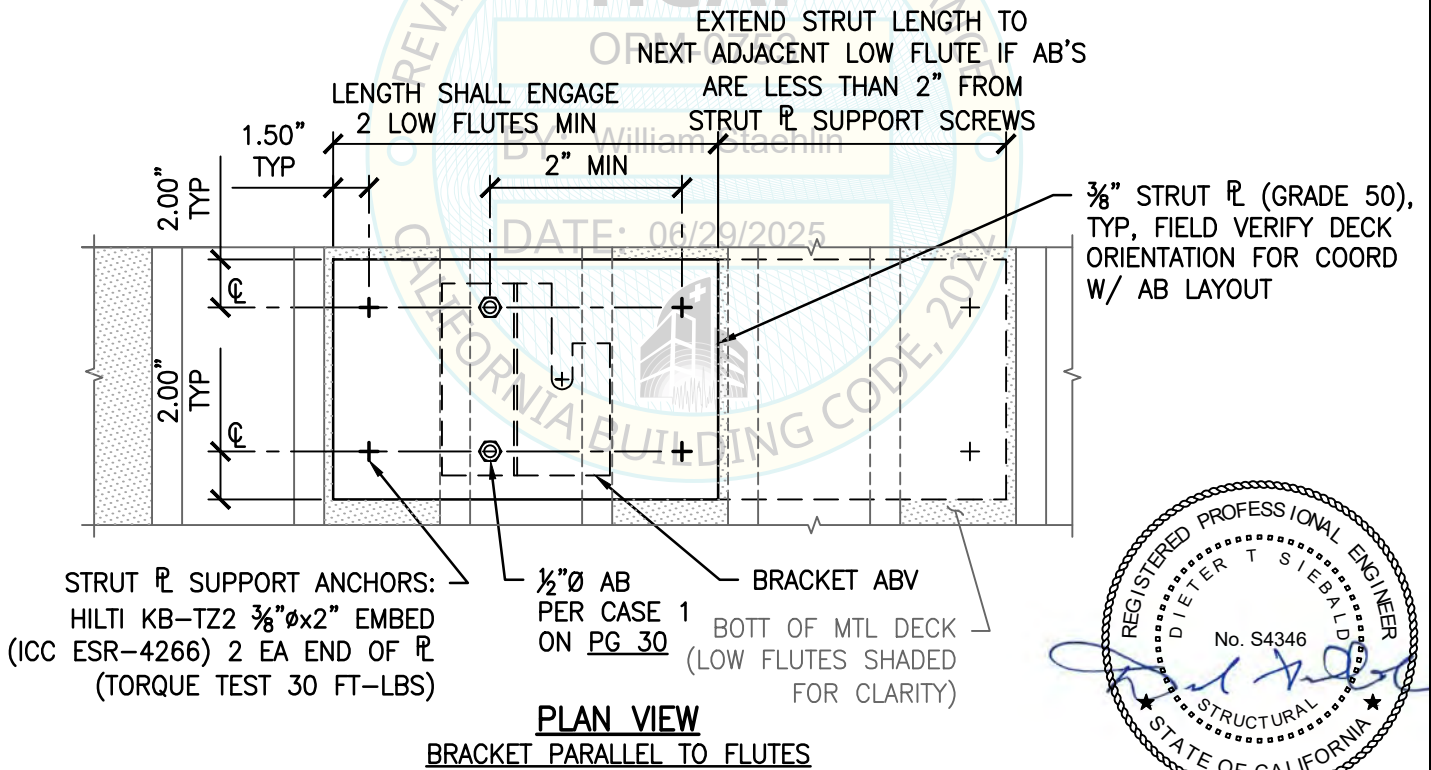
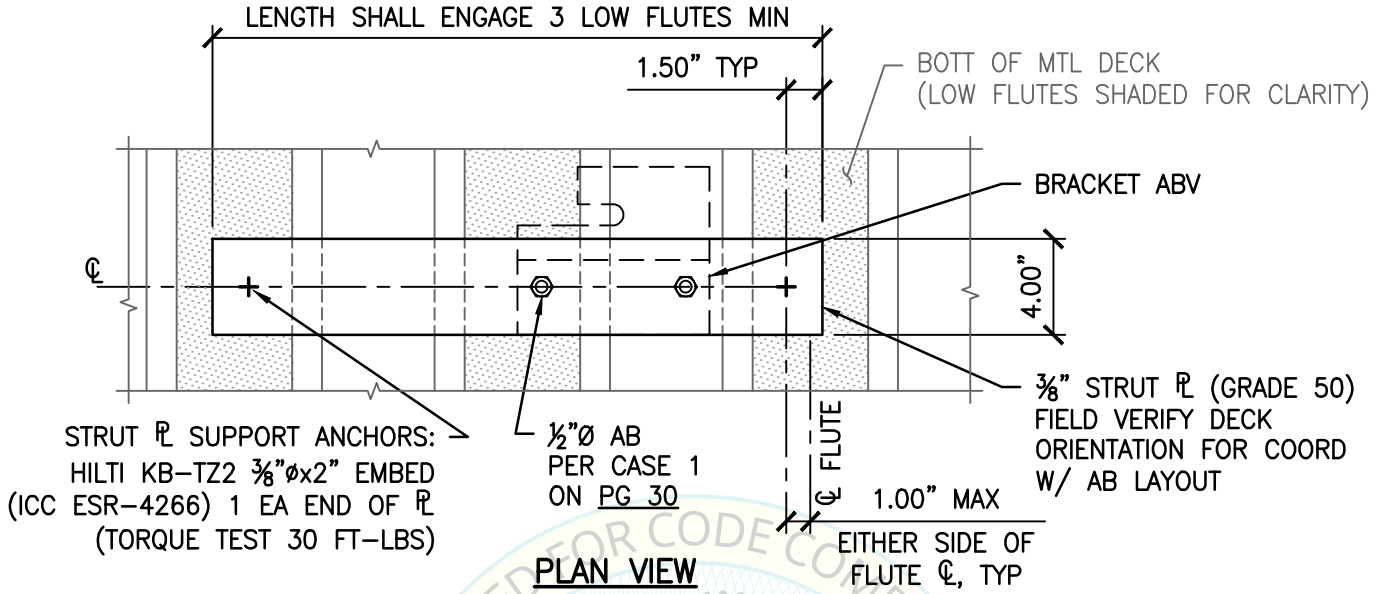


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SHEET TITLE: TYPICAL STRUT DETAIL



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814#

EQUIP OUTLINE

94mm LONG x M16 INTERNALLY THRD BOSS, INTEGRAL TO FRAME

M16 LEVELING LEG (2.0mm THRD PITCH), $F_y = 36$ KSI MIN, TYP AT EA SEISMIC BRACKET

SEISMIC BRACKET PER PGS 28 & 29

NWC OR SLWC ($f'_c = 3000$ PSI)

4.02" MAX

12" MIN EDGE DISTANCE

3.25" MIN

3.00" MAX

$\Omega_o T_u$

$\Omega_o V_u$

1/2" ϕ EXPANSION ANCHORS, SEE PGS 4 & 5 FOR INSTALLATION REQUIREMENTS

REVIEWED FOR CODE COMPLIANCE

OPM-0753

BY: William Staerlin

DATE:

SUSPENDED FLR (CASE 2)

Fy= 18.1 KSI MIN; Fu= 39.1 KSI MIN



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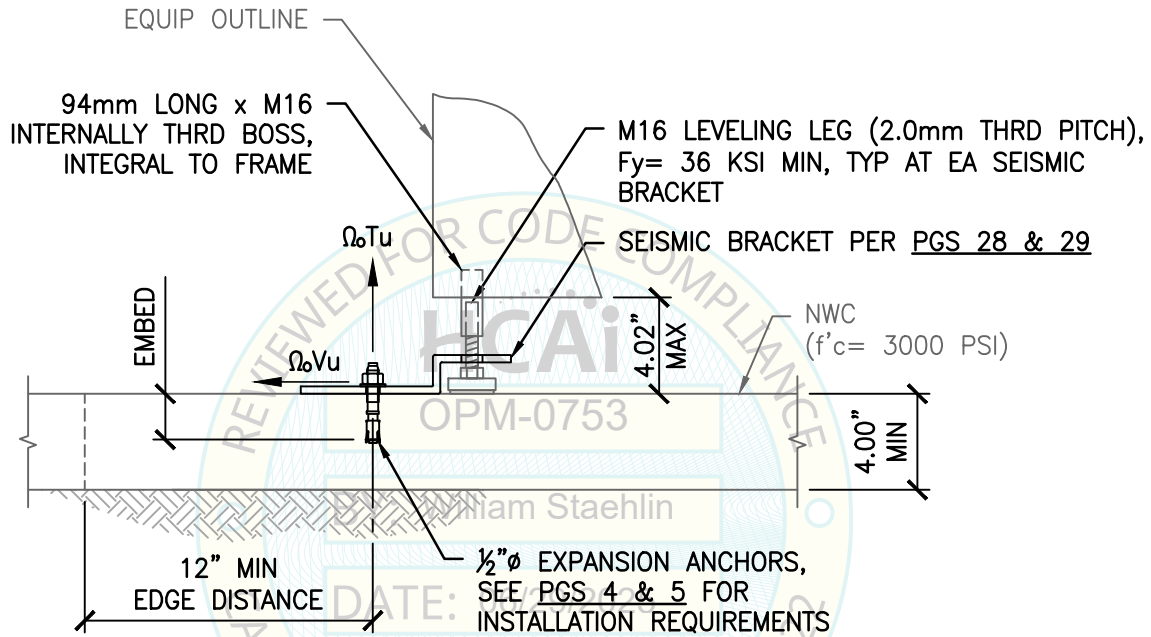
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MAX LRFD FORCES
AT EA ANCHOR

	$\Omega_o T_u$	$\Omega_o V_u$
CASE 3	782#	908#

OVERSTRENGTH FACTOR (Ω_o) INCLUDED.



SLAB ON GRADE (CASE 3)

NOTE:

THIS ATTACHMENT DTL CAN ALSO BE USED FOR SUSPENDED CONC SLAB AT OR BLW THE BASE OF A BLDG

EQUIPMENT FRAME MATERIAL:

SUS430, GRADE 430SS, ASTM A240:
2.0mm THK (14 GA)

Fy= 45 KSI MIN; Fu= 70 KSI MIN

OR

JFE-CC-EZ-JN 20/20, CHROMATE FREE COATED STEEL:
2.5mm THK (13 GA)

Fy= 18.1 KSI MIN; Fu= 39.1 KSI MIN



SHEET TITLE: ATTACHMENT DETAIL
TO SLAB ON GRADE (CASE 3)



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