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

OFFICE USE ONLY
APPLICATION #: OPM-0065-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: ☐ New ☐ Renewal ☒ Update to Pre-CBC 2013 OPA Number: OPA-2928-10

Manufacturer Information

Manufacturer: Siemens Healthcare Diagnostics

Manufacturer's Technical Representative: Fernando Jusino

Mailing Address: 511 Benedict Ave., Tarrytown, NY 10591

Telephone: 914-524-2573 Email: Fernando.jusino@siemens.com

Product Information

Product Name: Advia Centaur XP & XPT

Product Type: Medical Analyzer

Product Model Number: XP & XPT

General Description: Immunoassay Diagnostic System

Applicant Information

Applicant Company Name: Siemens Healthcare Diagnostics

Contact Person: Fernando Jusino

Mailing Address: 511 Benedict Ave., Tarrytown, NY 10591

Telephone: 914-524-2573 Email: Fernando.jusino@siemens.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: Date: 11/22/2013

Title: Senior Product Engineer Company Name: Siemens Healthcare Diagnostics

Registered Design Professional Preparing Engineering Recommendations

Company Name: CYS Structural Engineers, Inc.

Name: Dieter T. Siebald California License Number: S4346

Mailing Address: 2495 Natomas Park Drive, Suite 650, Sacramento, CA 95833

Telephone: 916-920-2020 Email: dieters@cyseng.com

OSHPD Special Seismic Certification Preapproval (OSP)

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

☐ Special Seismic Certification is no preapproved

Certification Method(s)

☐ Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-10

☐ Other* (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2013 (CBSC 2013) 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 2013 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):

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Signature: Date: February 12, 2014

Print Name: Jeffrey Y. Kikumoto

Title: Senior Structural Engineer

Condition of Approval (if applicable):

SIEMENS

ADVIA CENTAUR XP & XPT
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OPM-0065-13

NOTES:

1. THESE DRAWINGS ARE PREPARED FOR SIEMENS HEALTHCARE DIAGNOSTICS, INC., TARRYTOWN, NEW YORK.
2. THE CONTRACTOR AND INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE OSHPD PRE-APPROVAL PROGRAMS WEBSITE.
3. THIS PRE-APPROVAL COVERS THE SUPPORTS & ATTACHMENTS OF THE UNIT TO THE SUPPORTING STRUCTURE. THE UNIT, ANCHORAGE BRACKETS & CONNECTION HARDWARE TO UNIT IS SUPPLIED & INSTALLED BY SIEMENS. THROUGH BOLTS, STRUT HARDWARE & ATTACHMENTS AT SOFFIT UNDER METAL DECK & EXPANSION BOLTS SHOWN ON PAGES 12 TO 16 SHALL BE SUPPLIED & INSTALLED BY THE CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: TABLE OF CONTENTS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
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TEL (916) 920-2020
www.cyseng.com

Job No:	13106
Date:	2/12/2014
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GENERAL NOTES:

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH EQUIPMENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
   - B. THAT THE FLOOR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
   - C. THAT THE FLOOR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN IN THE TEST LOADS TABLE ON PAGE 3 IS THE REQUIRED MINIMUM SPACING OF THE ½" AND ⅝" DIAMETER ANCHOR BOLTS. THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS MAY VARY AND SHALL BE EVALUATED BY THE SEOR.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC 2013 AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL.
   - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.
3. A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND-LIGHTWEIGHT CONCRETE SHALL BE CARBON STEEL HILTI KB-TZ EXPANSION ANCHORS COMPLYING WITH ESR-1917 REISSUED MAY 1, 2013.
   - B. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PAGE 3.
   - C. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TENSION 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 TENSION IN THE ANCHOR SUCH AS DIRECT PULL WITH A HYDRAULIC JACK OR CALIBRATED SPRING LOADING DEVICES OR CALIBRATED TORQUE WRENCH METHOD. 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 EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1913A.7 "FIELD TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".
   - D. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
     - HYDRAULIC RAM METHOD: APPLY AND HOLD TEST LOAD FOR A MINIMUM OF 15 SECONDS. THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD WHERE WASHERS ARE USED. FOR WEDGE TYPE ANCHORS, SUCH AS HILTI KB-TZ, A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE.
     - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE-HALF (½) TURN OF THE NUT.

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SHEET TITLE: GNERAL NOTES

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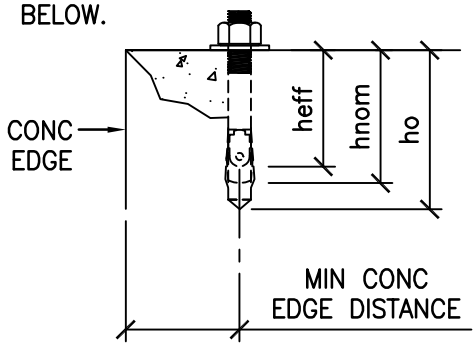
GENERAL NOTES CONTINUED:

3E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BELOW.



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 LOAD		CONDITION OF ANCHORAGE
							TENSION LOAD (LBS)	TORQUE (FT-LBS)	
½	2⅜	2	2⅝	4	12	4	1338	40	CASE 3
½	3⅝	3¼	4	6	12	4	2344	40	CASE 2A
⅝	3 9/16	3⅛	3¾	5	12	4	2236	60	CASE 2B

4. BOLTS THROUGH CONCRETE ON METAL DECK:
   A. BOLTS SHALL BE TORQUED BY ¾ TURN OF THE NUTS AFTER SNUG TIGHT (THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNLESS NOTED OTHERWISE.
   B. THROUGH BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16")
   C. THROUGH BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION & TESTING (THROUGH BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.
5. SCREW ANCHORS TO BOTTOM OF CONCRETE FILL OVER METAL DECK:
   A. HILTI KH-EZ (ICC ESR-3027) TENSION TEST LOAD FOR CASE 1.

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)	TENSION TEST LOAD (LBS)
¼	1⅝	1.18	2	3¼	1¼*	10*	400

* SEE PAGE 13 OF 16 IN THIS OPM AND FOOTNOTE 2, TABLE 2 IN ESR-3027

SHEET TITLE: GENERAL NOTES (CONTINUED)

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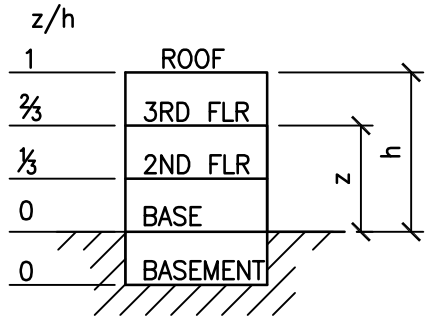
GENERAL NOTES CONTINUED:

6. FOUR (4) CASES OF ANCHORAGE ARE SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:



BUILDING ELEVATION

CASE 1: ANCHORAGE DETAILS LOCATED AT UPPER FLOORS ABOVE THE BASE OF A BUILDING (z/h<=1.0), IT IS ASSUMED THAT THE FLOORS ARE BUILT OF A MINIMUM 3¼" SAND-LIGHTWEIGHT CONCRETE TOPPING OVER METAL DECK (f'c = 3000 PSI, MINIMUM).

CASE 2A: ANCHORAGE DETAILS LOCATED AT OR BELOW THE BASE OF A BUILDING (z/h=0). THE FLOORS ARE ASSUMED TO BE BUILT OF A MINIMUM 6" NORMAL-WEIGHT CONCRETE SLAB (f'c = 3000 PSI, MINIMUM).

CASE 2B: ANCHORAGE DETAILS LOCATED AT OR BELOW THE BASE OF THE BUILDING (z/h=0). THE FLOORS ARE ASSUMED TO BE BUILT OF A MINIMUM 5" NORMAL-WEIGHT CONCRETE SLAB (f'c = 3000 PSI, MINIMUM).

CASE 3: ANCHORAGE DETAILS LOCATED AT OR BELOW THE BASE OF THE BUILDING (z/h=0). THE FLOORS ARE ASSUMED TO BE BUILT OF A MINIMUM 4" NORMAL-WEIGHT CONCRETE SLAB (f'c = 3000 PSI, MINIMUM). **FOR THIS CASE THE MAXIMUM S_{DS} IS LIMITED TO 1.80.**

7. THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA. WHERE S_{DS} IS LESS THAN OR EQUAL TO 2.50, **EXCEPT FOR CASE 3 ANCHORAGE WHERE S_{DS} MUST BE LESS THAN OR EQUAL TO 1.80.**

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SHEET TITLE: GENERAL NOTES (CONTINUED)

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SIEMENS

ABBREVIATIONS:

@	AT
ABV	ABOVE
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
BLDG	BUILDING
BLW	BELOW
CBC	CALIFORNIA BUILDING CODE
CG	CENTER OF GRAVITY
℄	CENTERLINE
CONC	CONCRETE
DBL	DOUBLE
DIA (ø)	DIAMETER
(E)	EXISTING CONDITION
ELEV	ELEVATION
EQUIP	EQUIPMENT
f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE
FLR	FLOOR
FT (')	FOOT/FEET
Fy	SPECIFIED YIELD STRENGTH OF REINFORCING, PS OF STEEL, KSI
GA	GAUGE
IN (")	INCH
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
LWC	LIGHT WEIGHT CONCRETE
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MTL	METAL
NO. (#)	NUMBER OR POUNDS
NWC	NORMAL WEIGHT CONCRETE
OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
PSI	POUNDS PER SQUARE INCH
STL	STEEL
Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE AT LRFD
THRD	THREAD OR THREADED
TYP	TYPICAL
Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE AT LRFD
W/	WITH
W/O	WITHOUT
Wp	OPERATING WEIGHT
WT	WEIGHT

DESIGN CRITERIA

ANCHORAGE DESIGN FOR FLOOR MOUNTED LABORATORY EQUIPMENT IS PER 2013 CBC AT LRFD LEVEL FORCES

a_p = 1.0 R_p = 2.5 I_p = 1.5 Ω_0 = 2.5 (CONCRETE ANCHORS)

W_P AS NOTED ON EQUIPMENT DRAWING SHOWN ON PAGES 6 & 8

FOR CASE 1 – UPPER FLOORS ABOVE THE BASE, z/h <= 1.0
S_{DS} = 2.50 F_p = 1.80 W_p F_v = 0.50 W_p

FOR CASES 2A & 2B – SLAB AT OR BELOW BASE, z/h = 0
S_{DS} = 2.50 F_p = 1.125 W_p F_v = 0.50 W_p

FOR CASE 3 – SLAB AT OR BELOW BASE, z/h = 0
S_{DS} = 1.80 F_p = 0.810 W_p F_v = 0.360 W_p

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SHEET TITLE: ABBREVIATIONS & DESIGN CRITERIA

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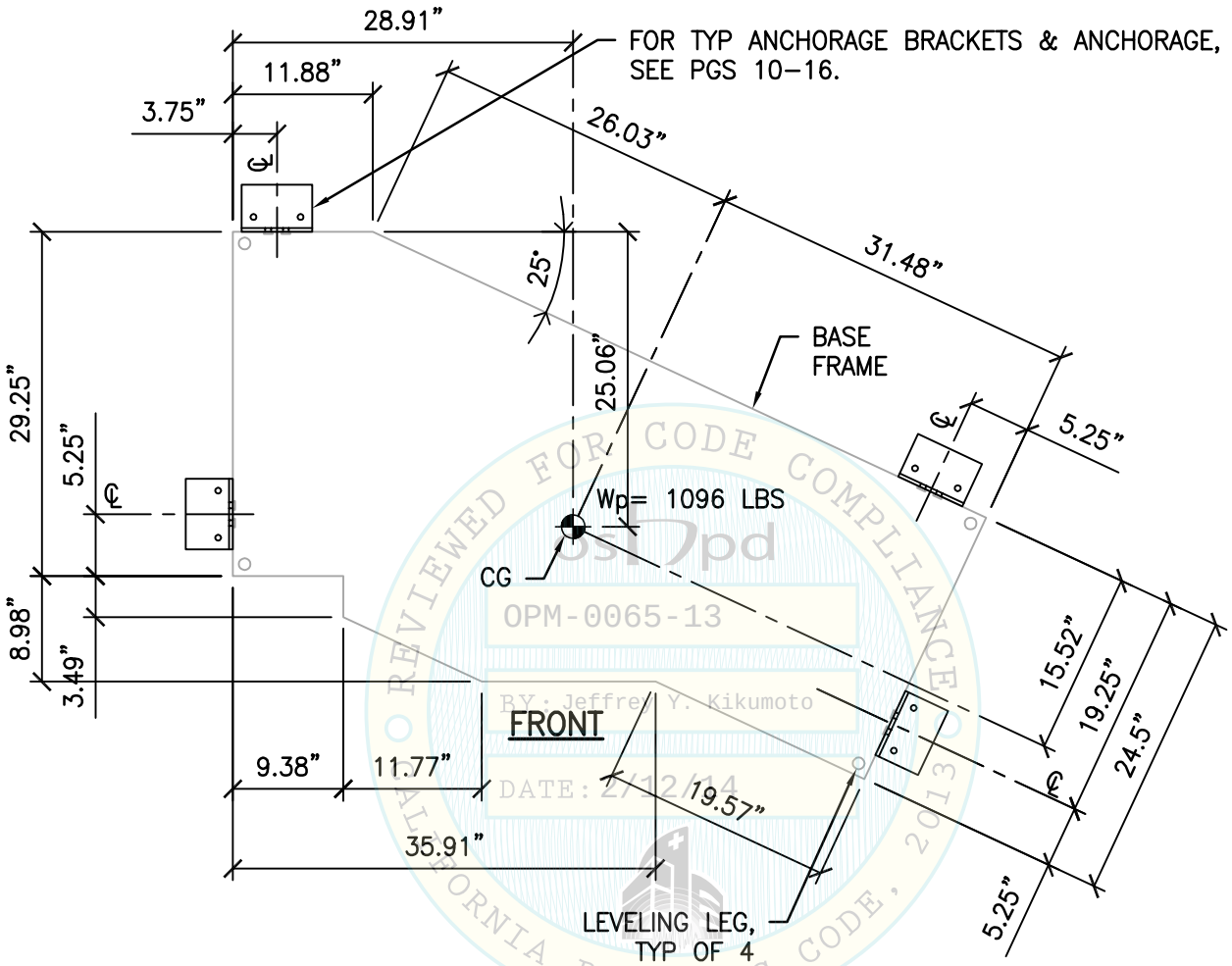
SIEMENS HEALTHCARE DIAGNOSTICS
ADVIA CENTAUR XP & XPT

SIEMENS



REGISTERED PROFESSIONAL ENGINEER
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SHEET TITLE: ADVIA CENTAUR XP
PLAN DIMENSIONS

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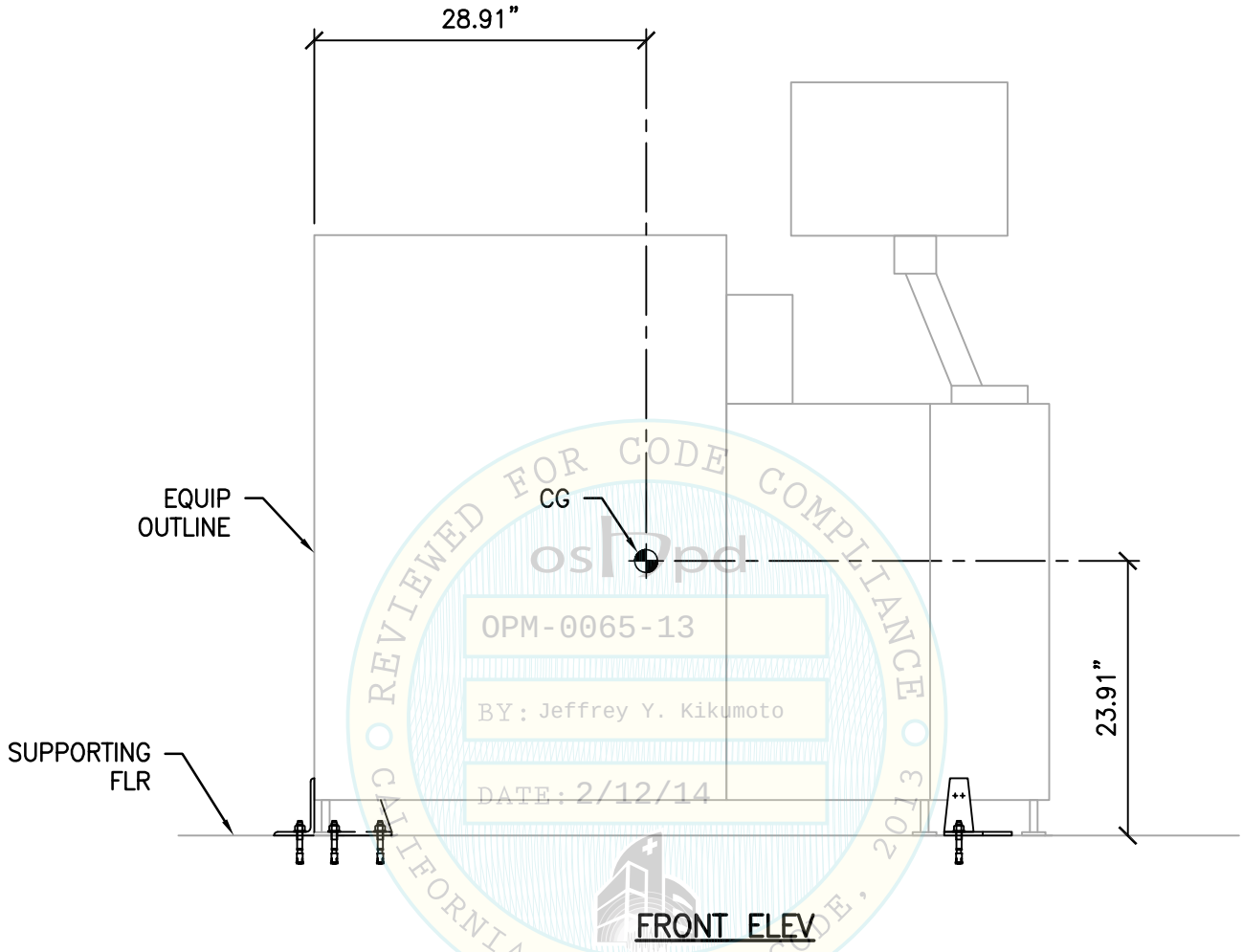
SIEMENS



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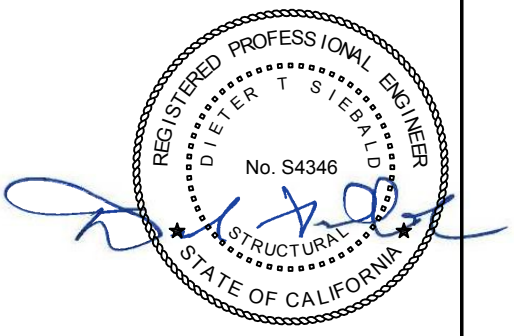

SHEET TITLE: ADVIA CENTAUR XP
ELEVATION DIMENSIONS

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SIEMENS HEALTHCARE DIAGNOSTICS
ADVIA CENTAUR XP & XPT

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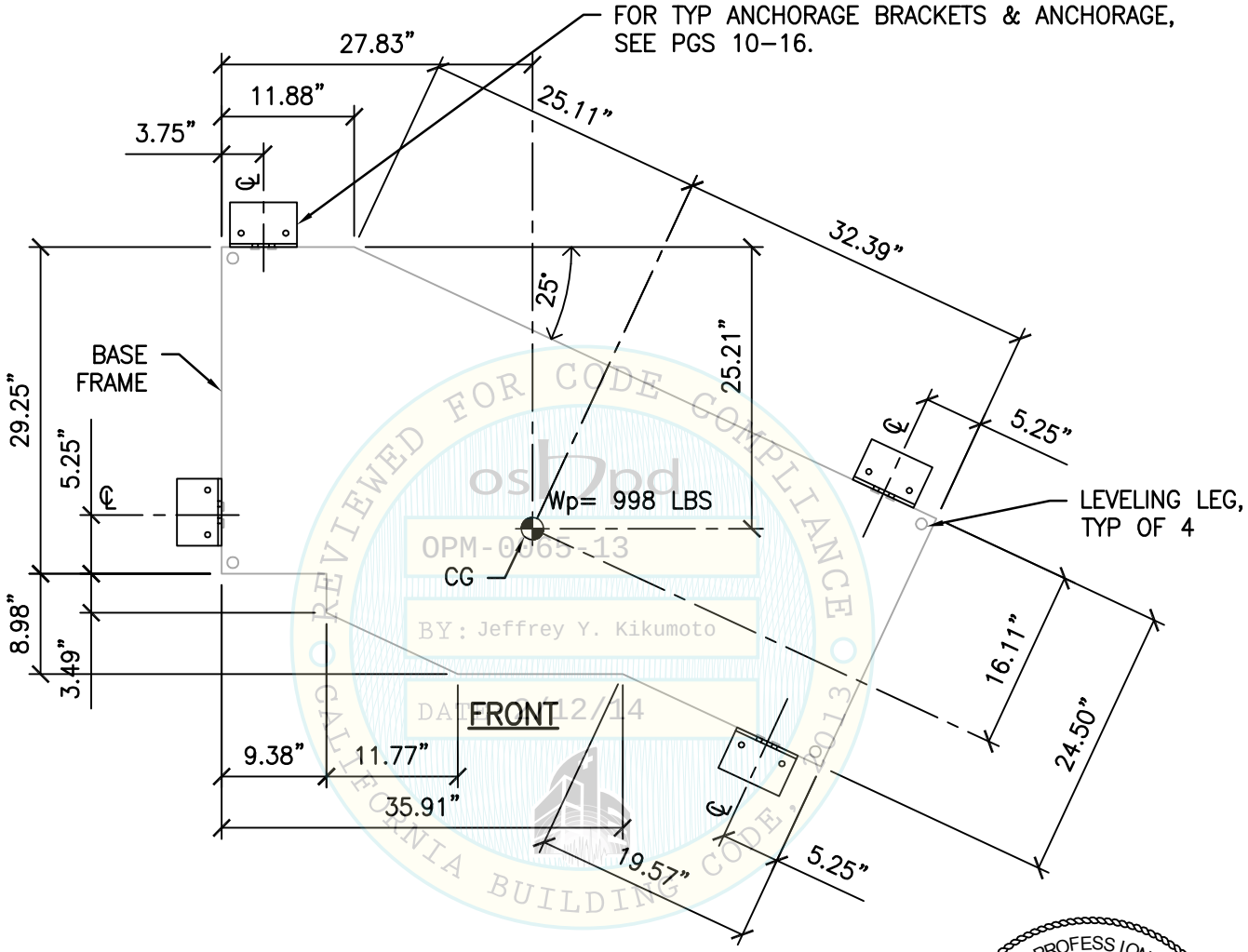

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SHEET TITLE: ADVIA CENTAUR XPT
PLAN DIMENSIONS

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SIEMENS HEALTHCARE DIAGNOSTICS
ADVIA CENTAUR XP & XPT

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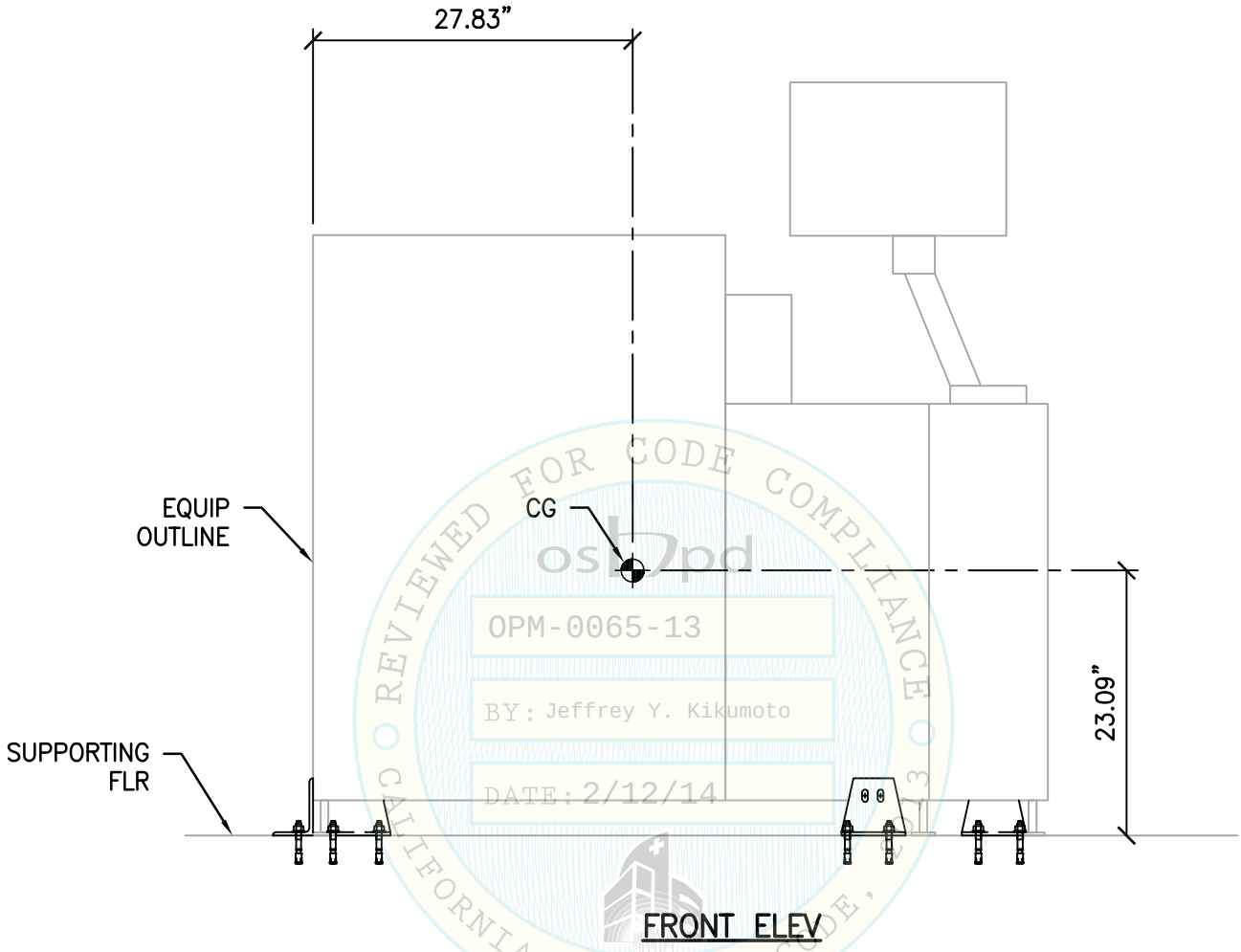

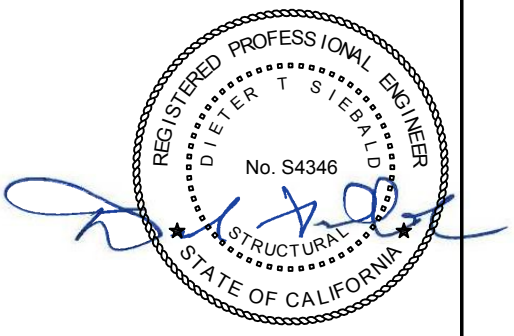

SHEET TITLE: ADVIA CENTAUR XPT
ELEVATION DIMENSIONS

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SIEMENS HEALTHCARE DIAGNOSTICS
ADVIA CENTAUR XP & XPT

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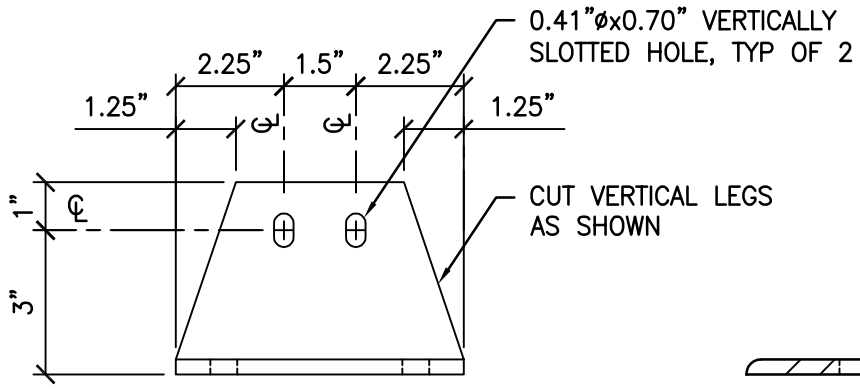
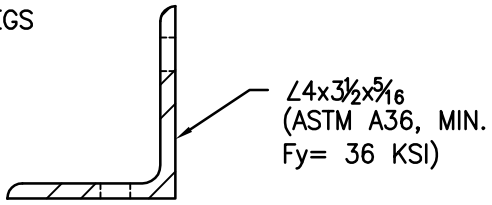


ELEV VIEW



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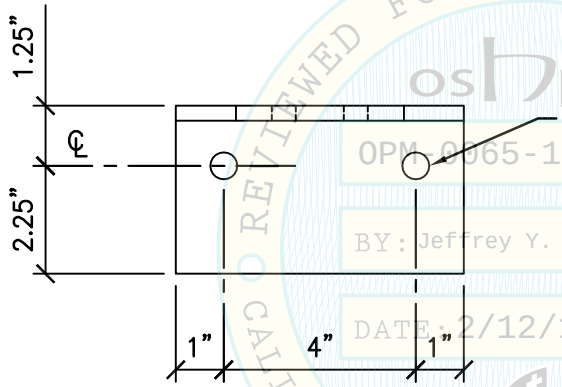
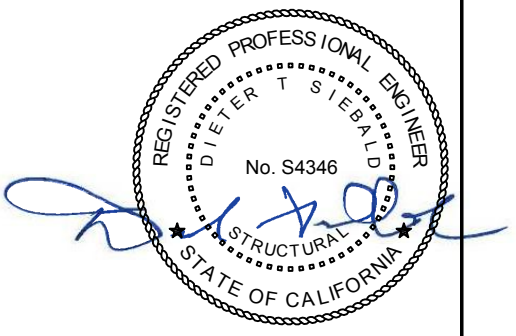


PLAN VIEW

NOTE:
FOR CASE 2B ANCHORAGE HOLES MUST BE REAMED OUT BY THE CONTRACTOR TO 1 1/16"ø TO ACCOMMODATE THE 5/8"ø ANCHORS. CONTRACTOR IS RESPONSIBLE FOR REPLACING BRACKET IF IT IS DAMAGED DURING REAMING.



SHEET TITLE: ANCHORAGE BRACKET DETAIL

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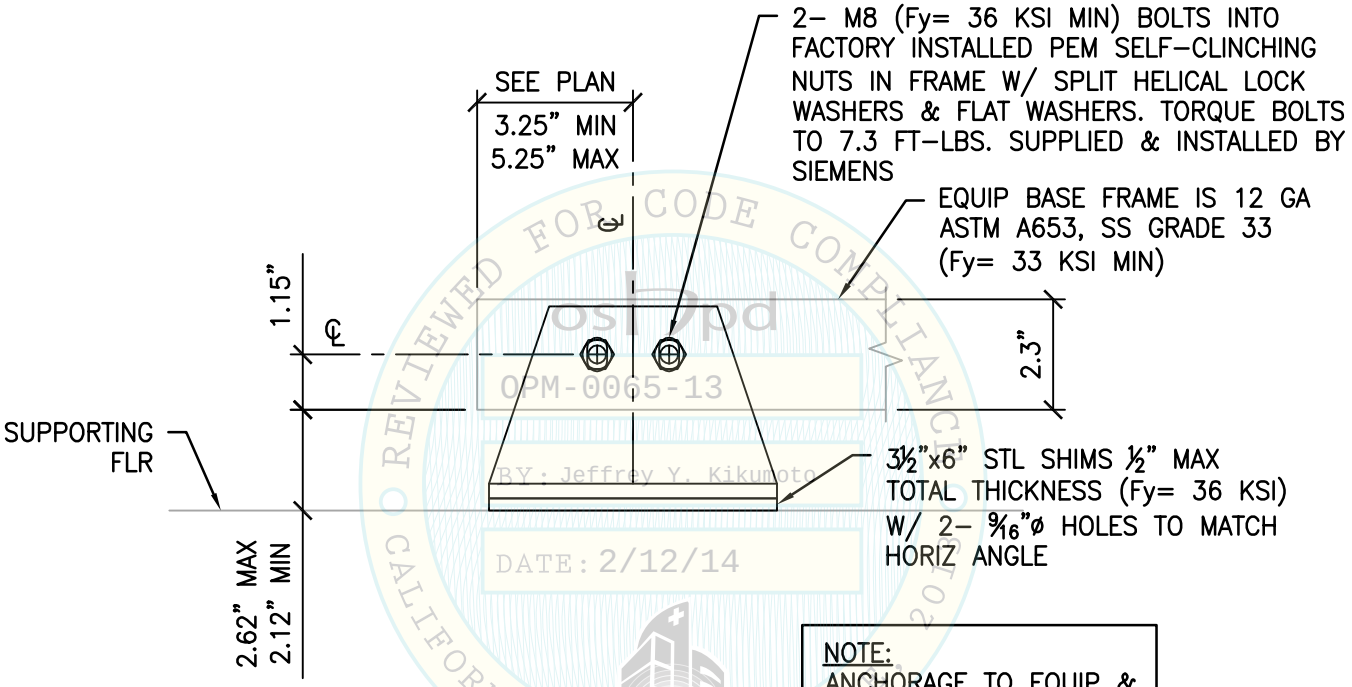
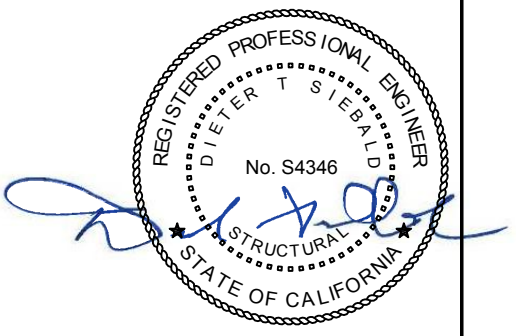


NOTE:
ANCHORAGE TO EQUIP & LEVELING BY SIEMENS.



SHEET TITLE: ANCHORAGE DETAIL
TO EQUIPMENT FRAME

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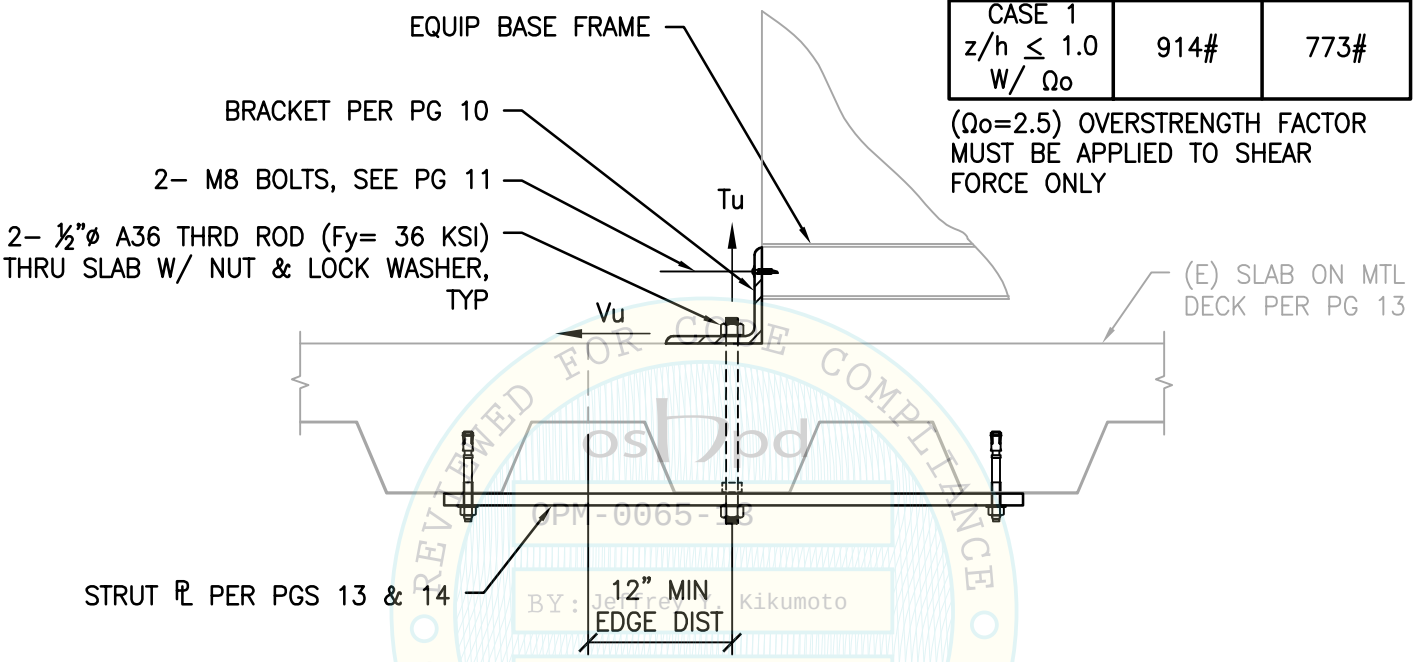
SIEMENS HEALTHCARE DIAGNOSTICS
ADVIA CENTAUR XP & XPT

SIEMENS

	MAX ANCHOR FORCES AT LRFD AT EA AB	
	Tu	Vu
CASE 1 $z/h \leq 1.0$ W/O Ωo	914#	309#
CASE 1 $z/h \leq 1.0$ W/ Ωo	914#	773#

(Ωo=2.5) OVERSTRENGTH FACTOR MUST BE APPLIED TO SHEAR FORCE ONLY



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STATE OF CALIFORNIA

SHEET TITLE: ANCHORAGE DETAIL
TO CONCRETE FILL OVER METAL DECK

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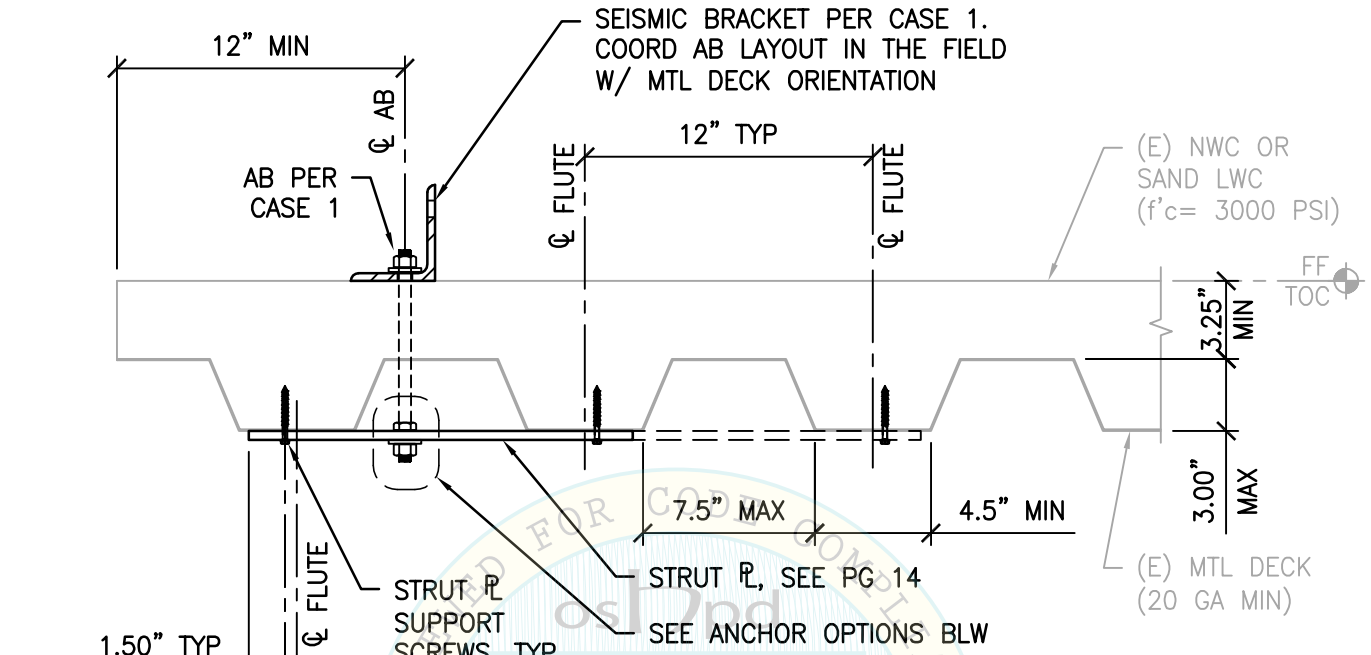
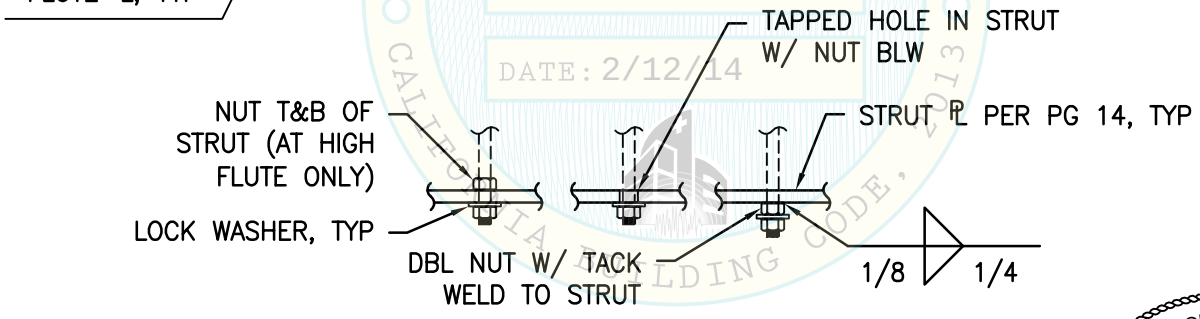


SECTION VIEW



ANCHOR OPTIONS

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ANCHORAGE DETAIL
TO CONCRETE FILL OVER METAL DECK

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	13106
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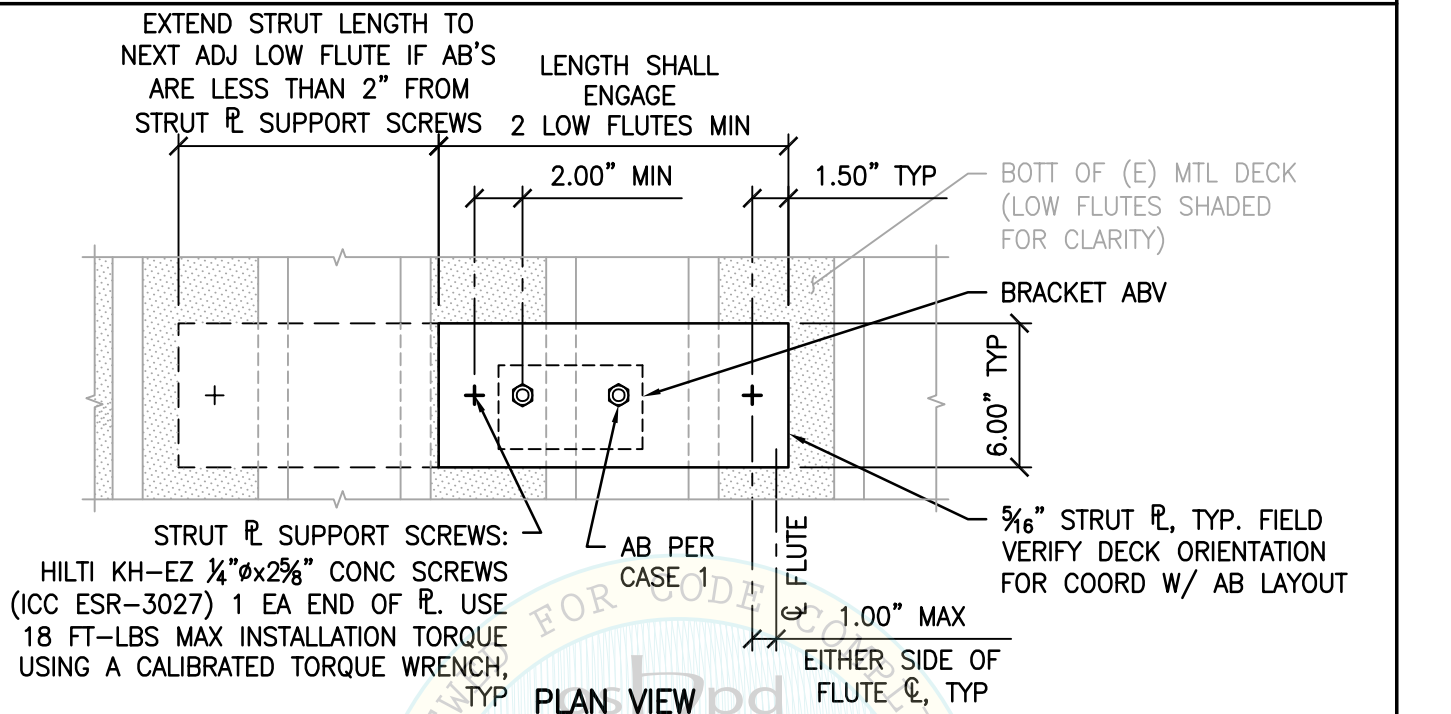
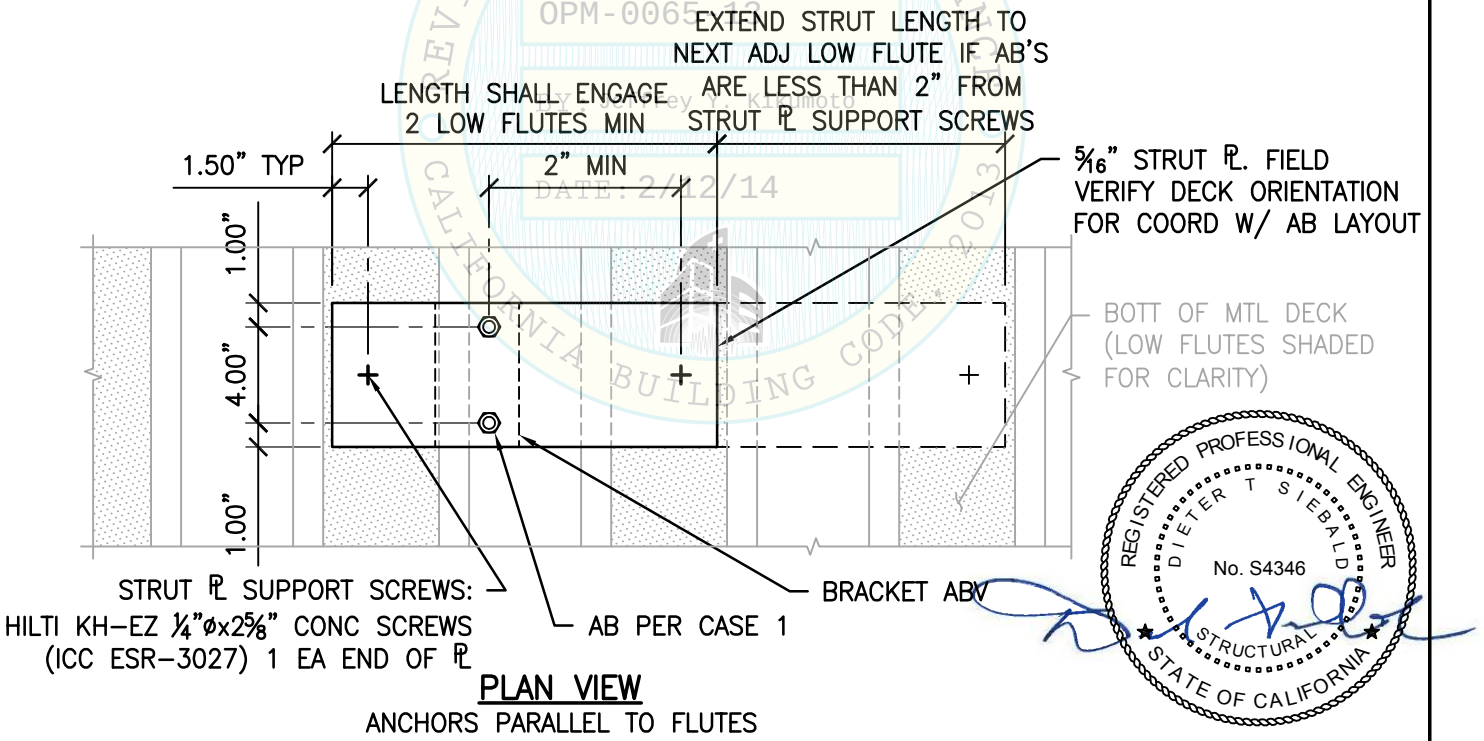
SIEMENS HEALTHCARE DIAGNOSTICS
ADVIA CENTAUR XP & XPT

SIEMENS



PLAN VIEW
ANCHORS PERPENDICULAR TO FLUTES



PLAN VIEW
ANCHORS PARALLEL TO FLUTES

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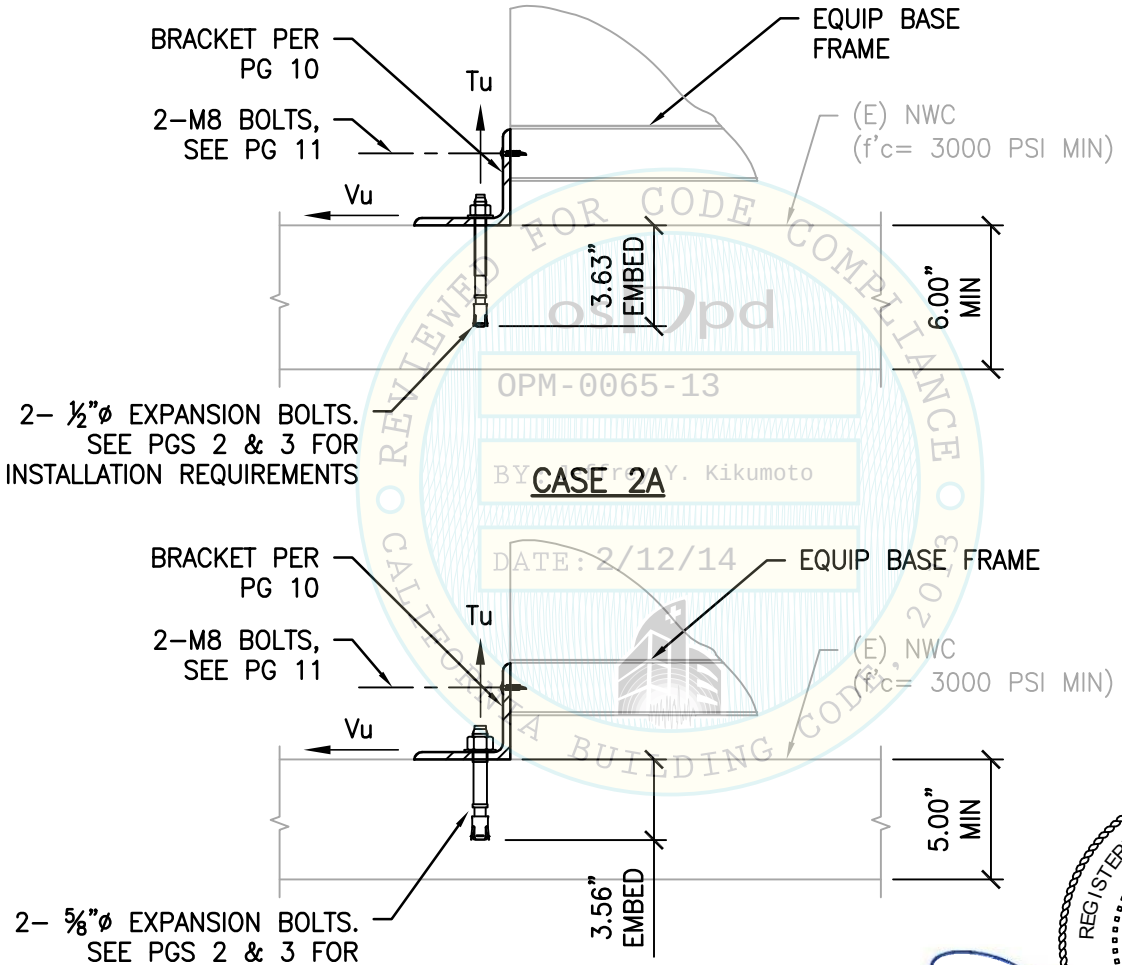
SIEMENS HEALTHCARE DIAGNOSTICS
ADVIA CENTAUR XP & XPT

SIEMENS

	MAX ANCHOR FORCES AT LRFD AT EA AB	
	Tu	Vu
CASE 2A z/h = 0	1434#	483#
CASE 2B z/h = 0	1445#	483#

INCLUDES OVERSTRENGTH FACTOR (Ωo)



REGISTERED PROFESSIONAL ENGINEER
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SHEET TITLE: ANCHORAGE DETAIL TO CONCRETE SLAB

CYS STRUCTURAL ENGINEERS, INC.
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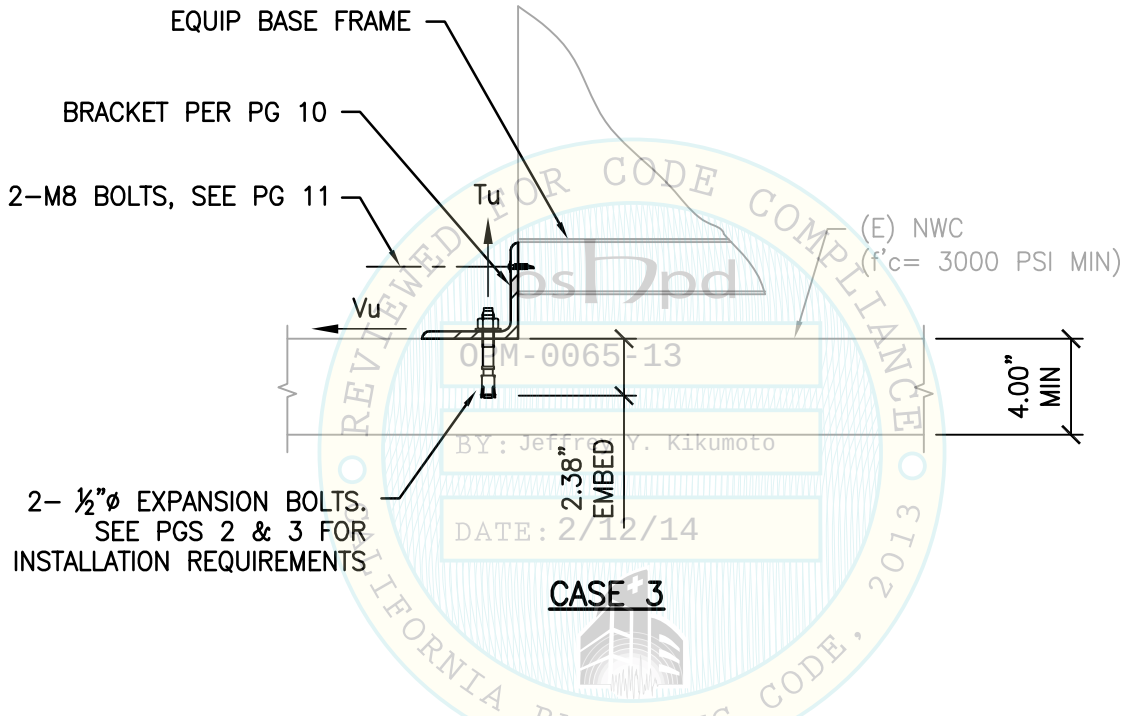
SIEMENS HEALTHCARE DIAGNOSTICS
ADVIA CENTAUR XP & XPT

SIEMENS

	MAX ANCHOR FORCES AT LRFD AT EA AB	
	Tu	Vu
CASE 3 z/h = 0	1018#	349#

INCLUDES OVERSTRENGTH FACTOR (Ωo)



CASE 3

NOTE:
THIS ANCHORAGE DTL CAN ONLY BE USED AT GEOGRAPHICAL LOCATIONS WHERE S_{DS} IS LESS THAN OR EQUAL TO 1.80.

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