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

OFFICE USE ONLY
APPLICATION #: OPM-0556-19

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: BD Life Sciences

Manufacturer's Technical Representative: Hoeke Algra

Mailing Address: Marconilaan 6, 9207 JC Drachten, The Netherlands

Telephone: 011-31-512-510-710 Email: Hoeke.Algra@bd.com

Product Information

Product Name: BD Kiestra™ ReadA

Product Type: Clinical microbiology automation

Product Model Number: 446948

General Description: Intelligent incubation and imaging system with automatic dynamic digital imaging and individual plate storage.

Applicant Information

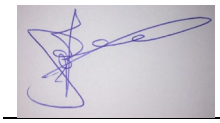
Applicant Company Name: BD Kiestra B.V.

Contact Person: Hoeke Algra

Mailing Address: Marconilaan 6, 9207 JC Drachten, The Netherlands

Telephone: 011-31-512-510-710 Email: Hoeke.Algra@bd.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2019.

Signature of Applicant:  Date: October 11, 2019

Title: Sr. Product Compliance Engineer Company Name: BD Kiestra B.V.

Registered Design Professional Preparing Engineering Recommendations

Company Name: CYS Structural Engineers, Inc.

Name: Dieter T. Siebald California License Number: SE 4346

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 OSP-
(Separate application for OSP is required)

☐ Special Seismic Certification is not preapproved

Certification Method(s)

☐ Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-16

☐ Other* (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) 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 2019 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): Manufacturer's Certified Outline Drawings

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2019 & ALL PRE-2019 CODE BASED PROJECTS

Signature: Haeseong Lim Date: April 24, 2020

Print Name: Haeseong Lim

Title: Senior Structural Engineer

Condition of Approval (if applicable):

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OPM–0556–19

NOTES:

1. THESE DRAWINGS ARE PREPARED FOR BECTON, DICKSON AND COMPANY, DRACHTEN, THE NETHERLANDS.

2. THE CONTRACTOR & 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 & ATTACHMENTS OF THE EQUIPMENT TO THE SUPPORTING STRUCTURE. THE EQUIPMENT & ATTACHMENT HARDWARE ARE SUPPLIED BY THE MANUFACTURER. THE EXPANSION ANCHORS, THRU–BOLTS & STRUT PLATES SHOWN IN THIS OPM 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:	17117
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GENERAL NOTES:

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMAND (DESIGN FORCES) FOR USE W/ THIS OPM SHALL BE BASED ON THE CBC 2019.
2. IT IS THE RESPONSIBILITY OF THE SEOR FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES & WT SPECIFIED FOR EA EQUIP IN ADDITION TO ALL OTHER LOADS. PROVIDE & DESIGN SUPPLEMENTARY MEMBERS AS REQ.
   - B. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPGS.
   - C. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPCG SHOWN IN THE TEST LOADS TABLE ON PG 3 IS THE REQ MIN SPCG OF THE GIVEN DIA ANCHORS. THE REQ SPCG FROM ANCHORS OF OTHER DIAMETERS & EMBEDMENTS MAY VARY & SHALL BE EVALUATED BY THE SEOR.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE CBC 2019 & W/ THE DETAILS SHOWN IN THIS PRE-APPROVAL.
   - E. THAT THE ACTUAL EQUIP'S WT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, & THE MATERIAL & GAGE OF THE EQUIP WHERE ATTACHMENTS ARE MADE, AGREE W/ THE INFO SHOWN ON THE PRE-APPROVAL DOCUMENTS.
   - F. THAT THE CONC SLAB TO WHICH THE EQUIP IS ANCHORED SHALL MEET THE REQUIREMENTS OF THE APPLICABLE ICC REPORT & THIS OPM.
3. EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE CARBON OR STAINLESS STEEL HILTI KB-TZ EXPANSION ANCHORS AS NOTED COMPLYING W/ ESR-1917 REISSUED SEPTEMBER 2019.
   - A. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE W/ THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR & THE PARAMETERS GIVEN IN THE TABLE ON PG 3.
   - B. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOBSITE TESTING IN ACCORDANCE W/ THE TEST LOAD TABLE PROVIDED IN THIS DOCUMENT. TORQUE TEST 50% OF THE INSTALLED ANCHORS. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE SPECIAL INSPECTOR & REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. 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, HOWEVER NUT SHALL BE RETORQUED TO INSTALLATION TORQUE AFTER EQUIPMENT INSTALL. ALSO REFER TO 2019 CBC 1910A.5 "TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE". REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD.
   - C. 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 (½) TURN OF THE NUT.
   - D. AVOID DAMAGING (E) STL REINF IN CONC SLAB WHEN INSTALLING CONC EXPANSION ANCHORS.
   - E. PROVIDE FOR FULL THRD ENGAGEMENT OF NUT & WASHER.
4. BOLTS THRU CONC ON MTL DECK:
   - A. BOLTS SHALL BE TORQUED BY ¾ TURN OF THE NUT 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 SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 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 REQUIRE TESTING.

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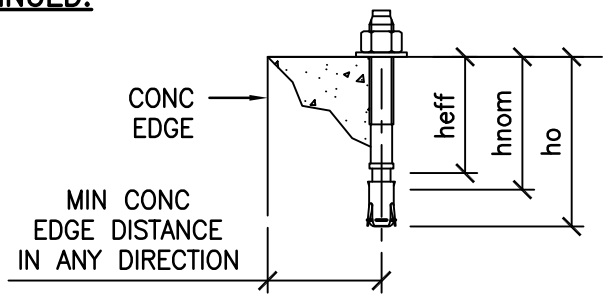
GENERAL NOTES CONTINUED:



CONDITION OF ANCHORAGE	ANCHOR DIA & TYPE (INCH)	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONC THK (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN ANCHOR SPCG (INCH)	TEST TORQUE (FT–LBS)
CASE 1 STRUT P'S	⅜ KB–TZ	1 13/16	1½	2⅝	3¼	6	6¾*	25
CASE 2, 3	½ KB–TZ	2⅜	2	2⅝	3¼, 4	10	3	40

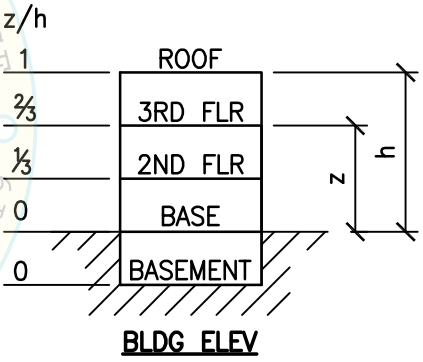
* PARALLEL W/ MTL DECK FLUTES

5. THREE (3) CASES OF ATTACHMENT ARE SPECIFIED & PRESENTED IN THIS PRE–APPROVAL:

CASE 1: ATTACHMENT DTLS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3¼" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE A36 STL THRD ROD THRU CONC FILL & MTL DECK.

CASE 2: ATTACHMENT DTLS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3¼" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STL & INTO CONC FILL.

CASE 3: ATTACHMENT DTLS LOCATED AT OR BLW THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 4" NWC SLAB (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STL.



BLDG ELEV

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SHEET TITLE: GENERAL NOTES (CONTINUED)

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ABBREVIATIONS:

@	AT
AB	ANCHOR BOLT
ABV	ABOVE
ADJ	ADJACENT
AISC	AMERICAN INSTITUTE FOR STEEL CONSTRUCTION
AISI	AMERICAN IRON & STEEL INSTITUTE
ALT	ALTERNATE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
BLDG	BUILDING
BLW	BELOW
BOTT	BOTTOM
BYD	BEYOND
CBC	CALIFORNIA BUILDING CODE
CG	CENTER OF GRAVITY
℄	CENTERLINE
CONC	CONCRETE
CONN	CONNECTION
COORD	COORDINATE
DBL	DOUBLE
DIM	DIMENSION
DTL	DETAIL
DIA (ø)	DIAMETER
(E)	EXISTING CONDITION
EA	EACH
EE	EACH END
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EXTR	EXTERIOR
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
GRD	GRADE
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
ICC	INTERNATIONAL CODE COUNCIL
IN (")	INCH
INFO	INFORMATION
kg	KILOGRAM
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
MFR	MANUFACTURER
MAX	MAXIMUM
MIN	MINIMUM
mm	MILLIMETER
MTL	METAL
NO. (#)	NUMBER OR POUNDS
NWC	NORMAL WEIGHT CONCRETE
OP	OPERATING
OPG	OPENING
OPM	OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION
OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
PERP	PERPENDICULAR
PG	PAGE
PL	PLATE
PSI	POUNDS PER SQUARE INCH
REINF	REINFORCING/REINFORCEMENT
REQ	REQUIRED
SEOR	STRUCTURAL ENGINEER OF RECORD
SIM	SIMILAR
SLWC	SAND-LIGHTWEIGHT CONCRETE
SPCG	SPACING
SS	STAINLESS STEEL
STL	STEEL
THK	THICK/THICKNESS
Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE AT LRFD
THRD	THREAD OR THREADED
T&B	TOP & BOTTOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE AT LRFD
W/	WITH
Wp	COMPONENT OPERATING WEIGHT
WT	WEIGHT

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SHEET TITLE: ABBREVIATIONS

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DESIGN CRITERIA:

1. SUPPORT & ATTACHMENT DESIGN IS PER 2019 CBC AT LRFD LEVEL FORCES.

   OTHER MECHANICAL OR ELECTRICAL COMPONENTS PER TABLE 13.6-1 OF ASCE 7-16 INCLUDING SUPPLEMENT #1 & ERRATA:

   $a_p = 1.0$ $R_p = 1.5$ $I_p = 1.5$ $\Omega_0 = 1.5$ (FOR CONC ANCHORS ONLY)

   W_p AS NOTED ON DRAWINGS

   UPPER FLRS ABV THE BASE OF BLDG

   CASE 1:

   $S_{DS} \leq 2.50$ $F_p = 2.50$ W_p $z/h \leq 0.75$

   CASE 2:

   $S_{DS} < 0.56$ $F_p = 0.56$ W_p $z/h \leq 0.75$

   FLRS AT OR BLW THE BASE OF BLDG

   CASE 3:

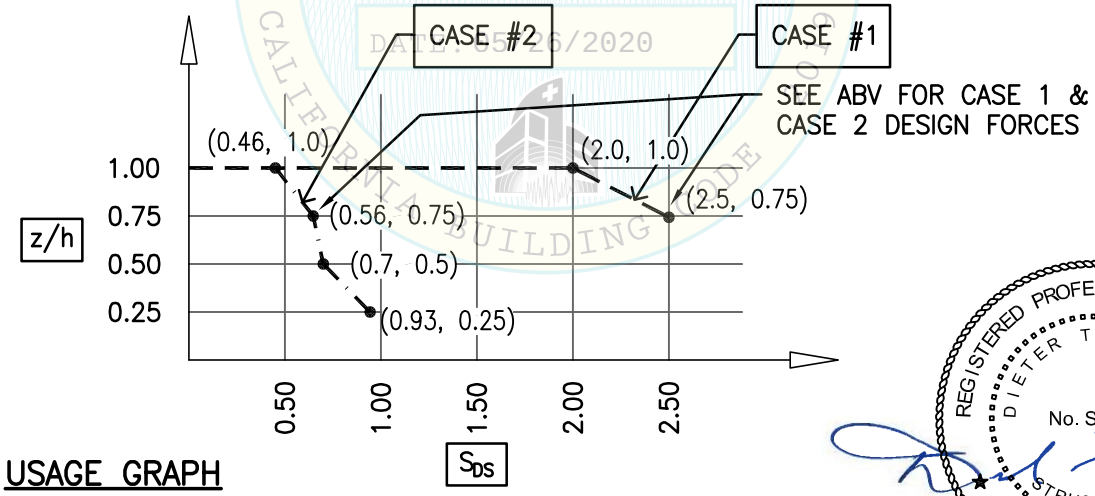
   $S_{DS} \leq 2.0$ $F_p = 0.9$ W_p $z/h = 0$

   LOAD COMBINATIONS

   $(0.9 - 0.2\ S_{DS})\ D - \Omega_0\ F_p$ (FOR MAX TENSION)

   $(1.2 + 0.2\ S_{DS})\ D + \Omega_0\ F_p$ (FOR MAX COMPRESSION)

2. THIS PRE-APPROVAL MAY BE USED ONLY AT GEOGRAPHICAL LOCATIONS IN THE STATE OF CALIFORNIA WHERE S_{DS} AND z/h IS LESS THAN OR EQ TO THE VALUES NOTED ABV & THE USAGE GRAPH BLW.



USAGE GRAPH

SHEET TITLE: DESIGN CRITERIA

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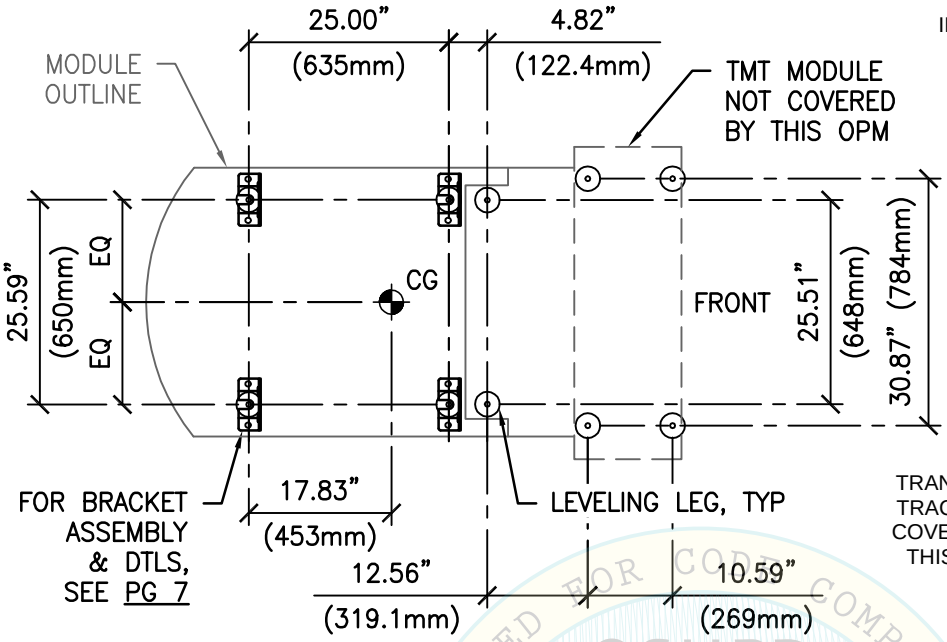
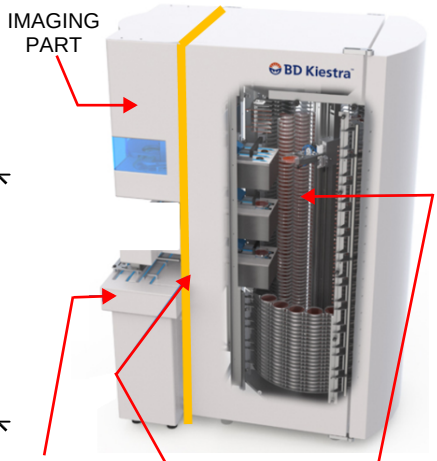
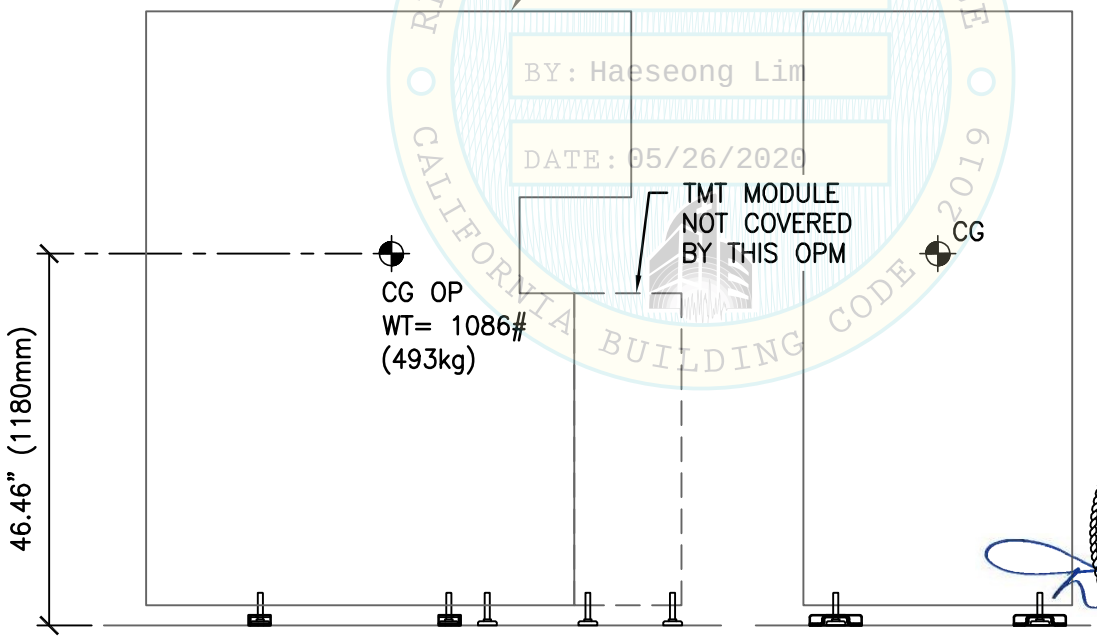
BD Life Sciences - Diagnostic Systems
BD Kiestra™ - ReadA





PLAN VIEW
AT BASE



LEFT ELEV

FRONT ELEV

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SHEET TITLE: BD KIESTRA™ ReadA
PLAN VIEW & ELEVATIONS

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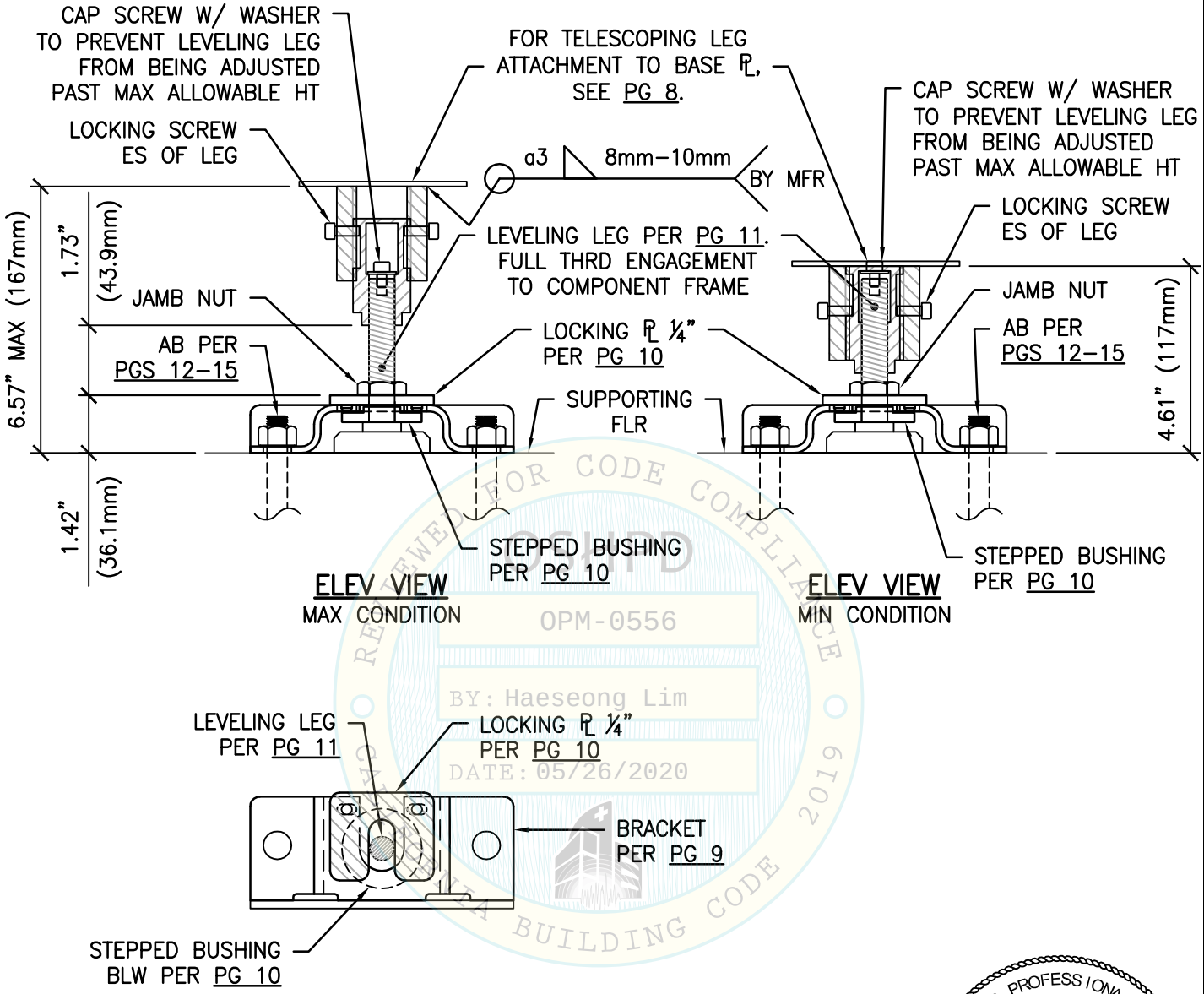
L:\Jobs17\17117 BD Kiestra - RC2.1\STRU\S1_ReadA.dwg Time:Mar19,2020-12:48pm Login:camachom Dimscale:1 LTScale:6



SHEET TITLE: BRACKET ASSEMBLY & DETAIL

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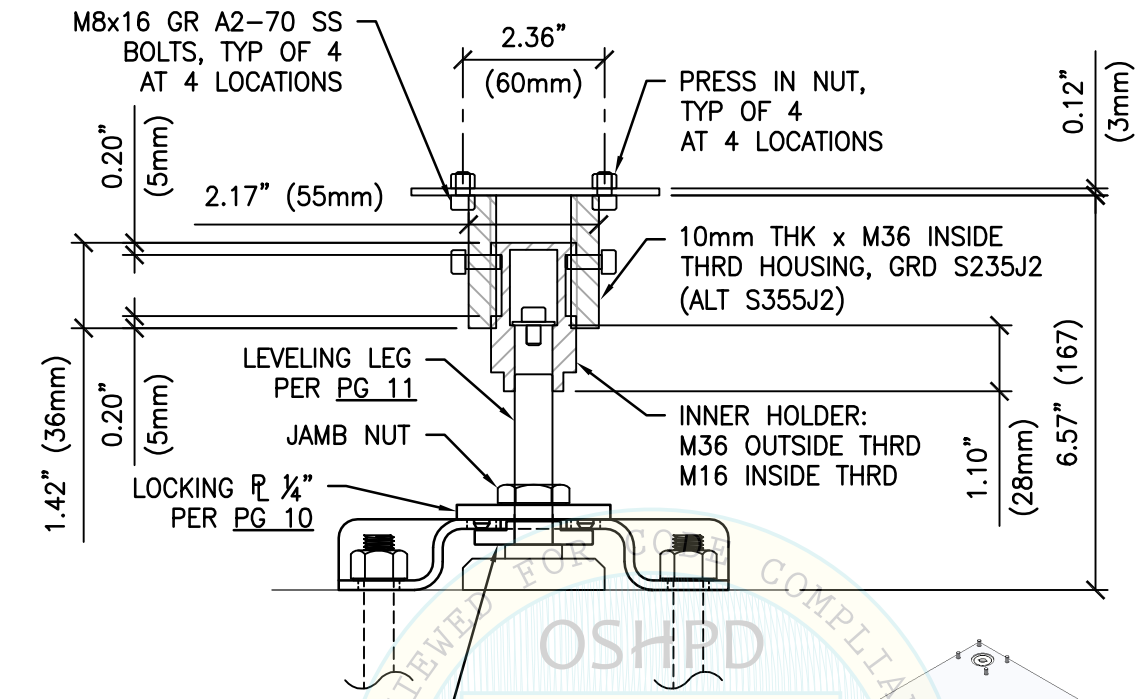

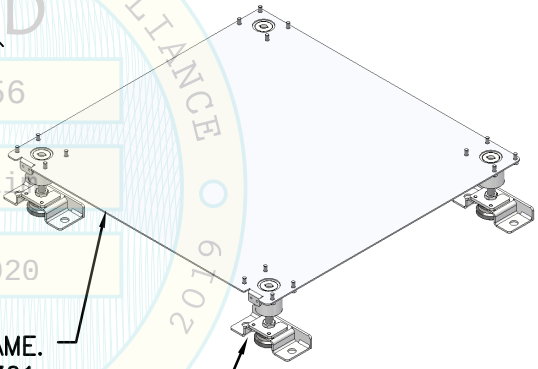

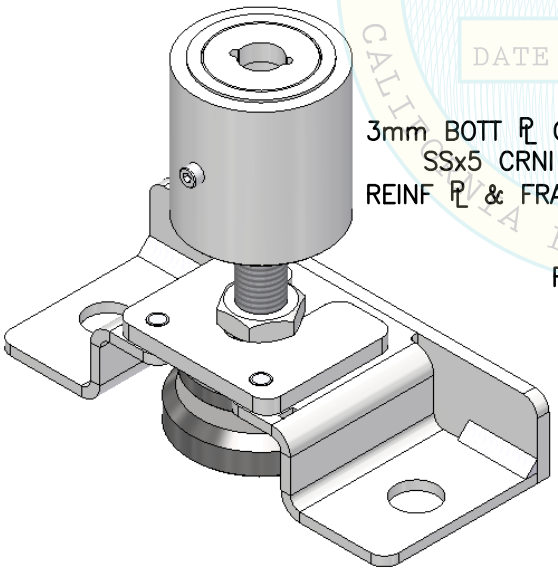

3mm BOTT PL OF BASE FRAME.
SSx5 CRNI 18 10-1.4301.
REINF PL & FRAME NOT SHOWN
FOR CLARITY.

FOR BRACKET ASSEMBLY,
SEE PG 7 (TYP OF 4)

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SHEET TITLE: BOTTOM PLATE & TELESCOPING LEG DETAILS

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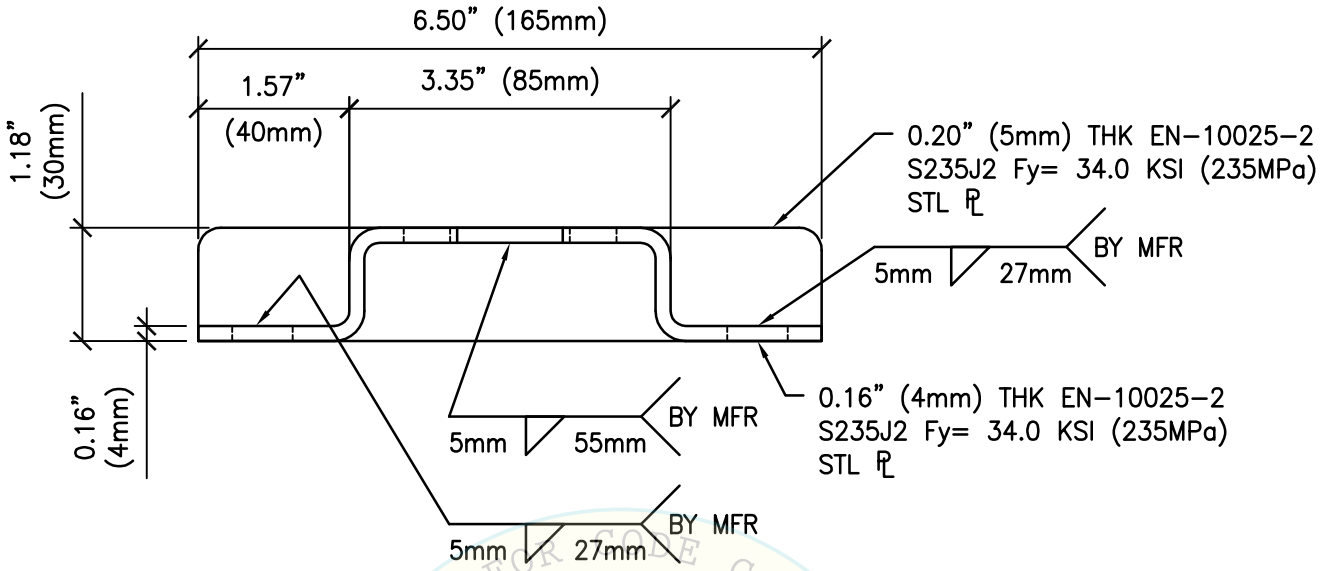
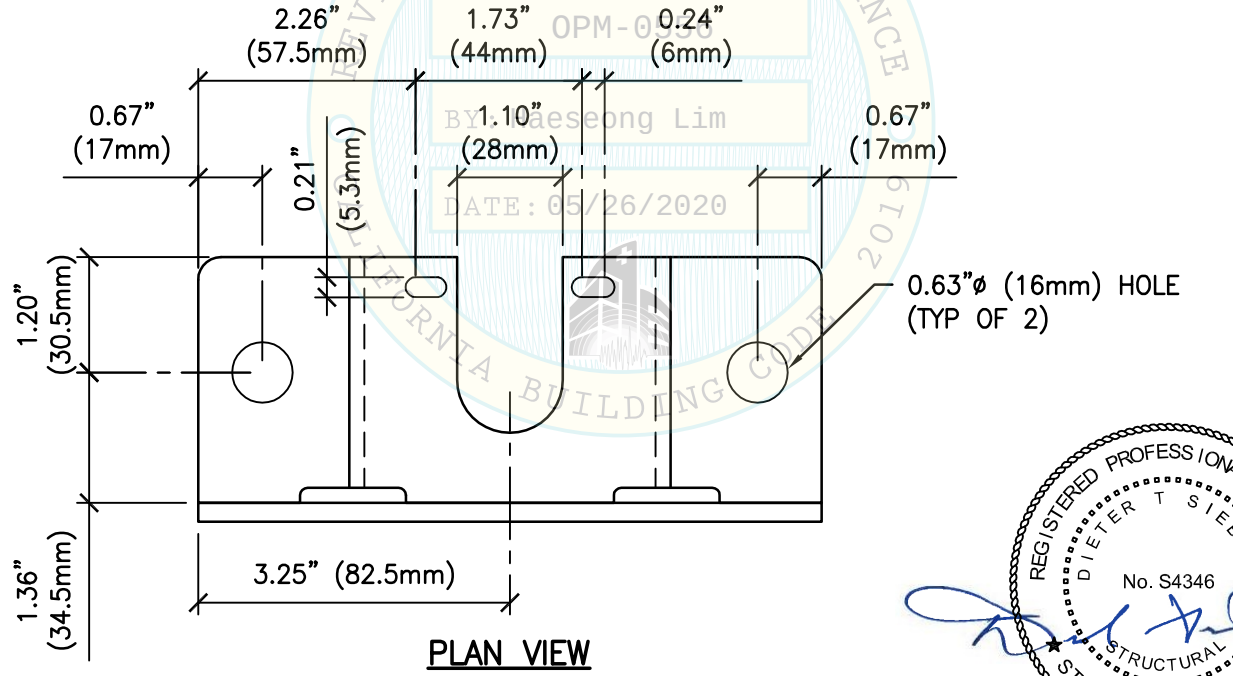


ELEV VIEW



PLAN VIEW

SHEET TITLE: BRACKET DETAIL

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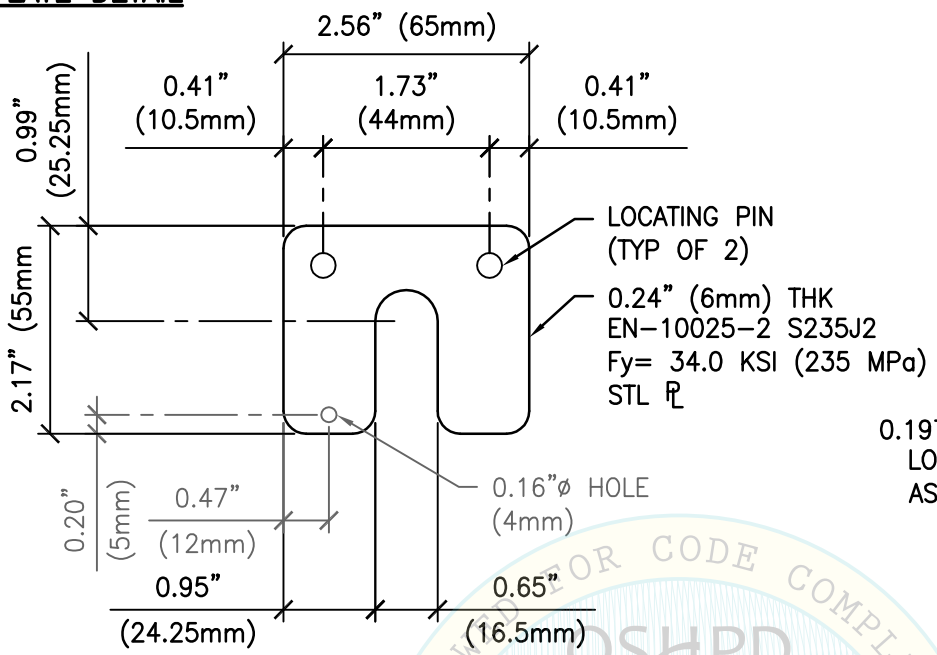
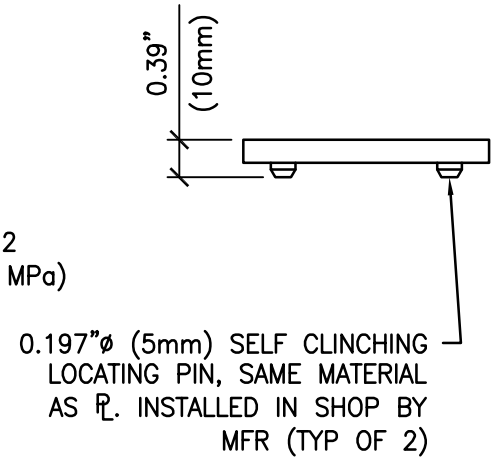
PLATE DETAIL

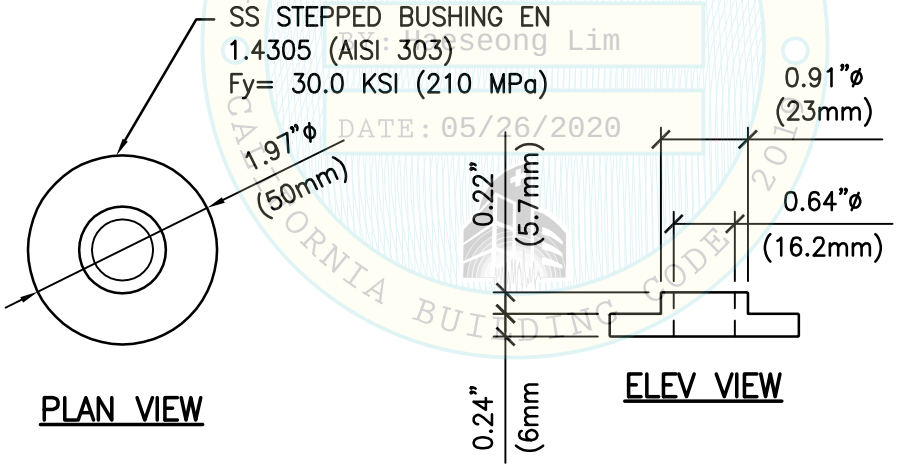


PLAN VIEW



ELEV VIEW

STEPPED BUSHING DETAIL



PLAN VIEW

ELEV VIEW

SHEET TITLE: PLATE DETAIL & STEPPED BUSHING DETAIL

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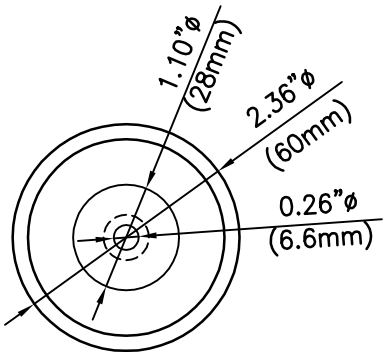
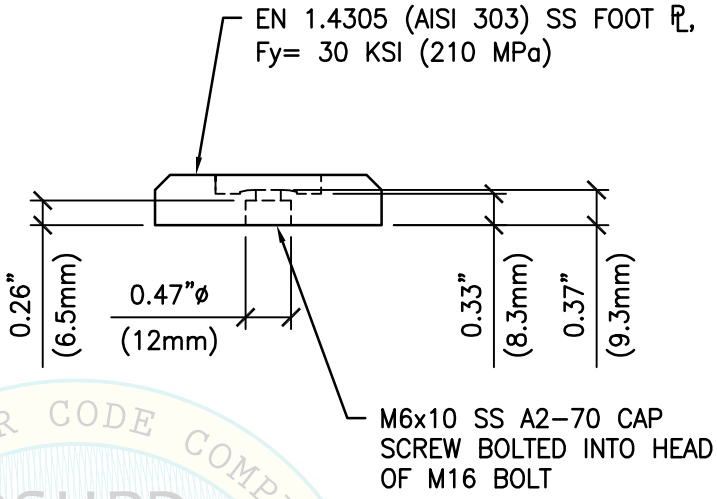
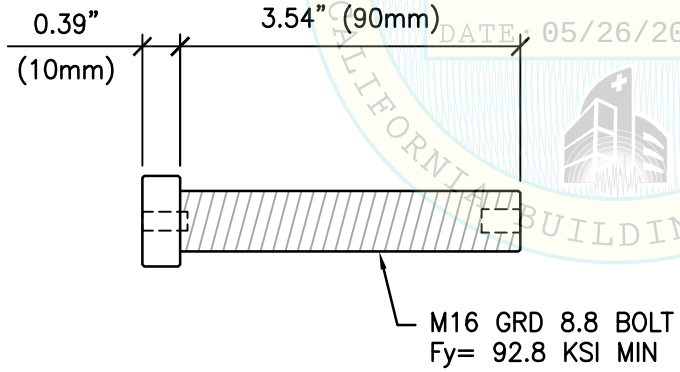
FOOT PLATE DETAIL





THREADED BOLT DETAIL



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SHEET TITLE: LEVELING LEG DETAIL

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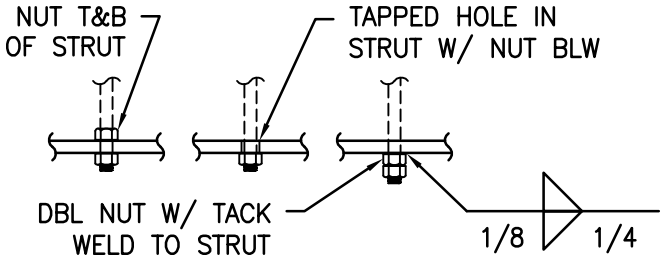
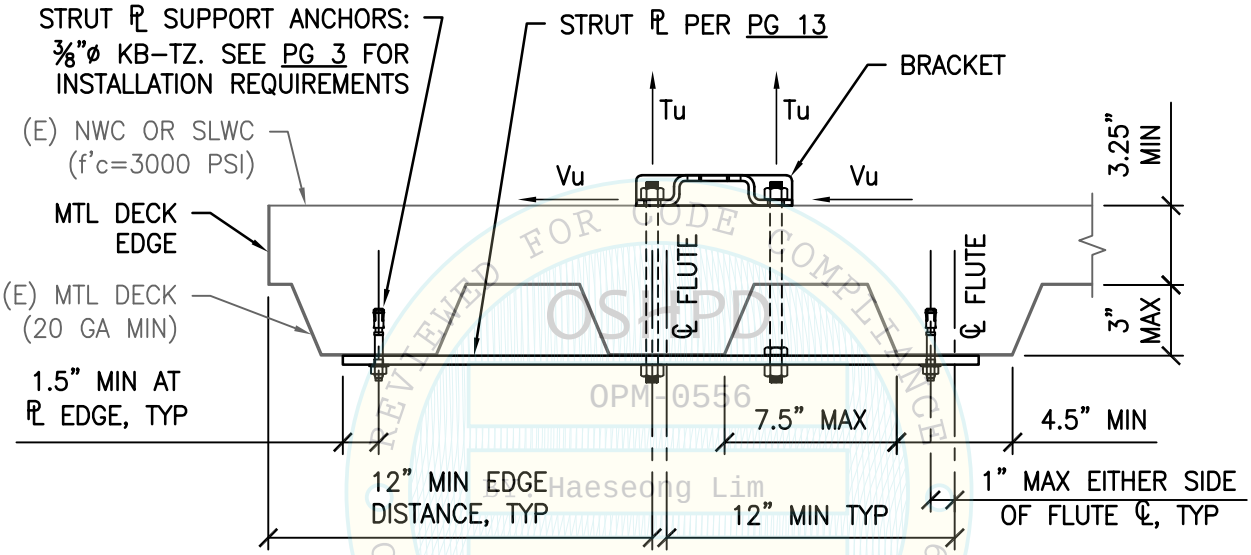
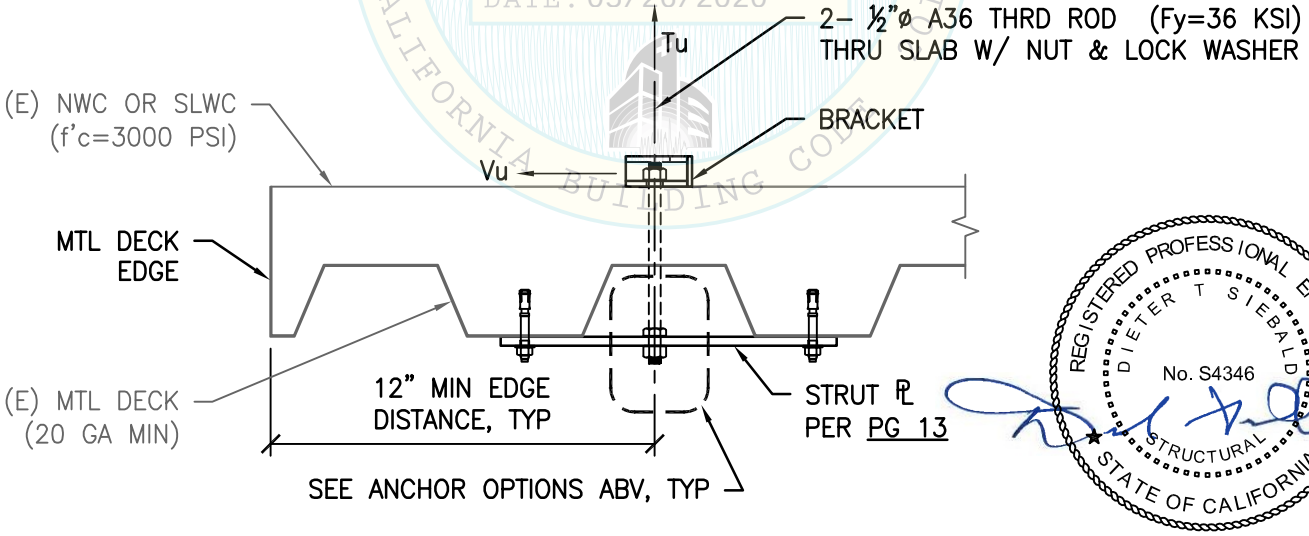


	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 1 z/h≤0.75	2196#	779#

(Ω_o= 1.5) OVERSTRENGTH FACTOR IS APPLIED TO SHEAR FORCE ONLY

ANCHOR OPTIONS





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

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

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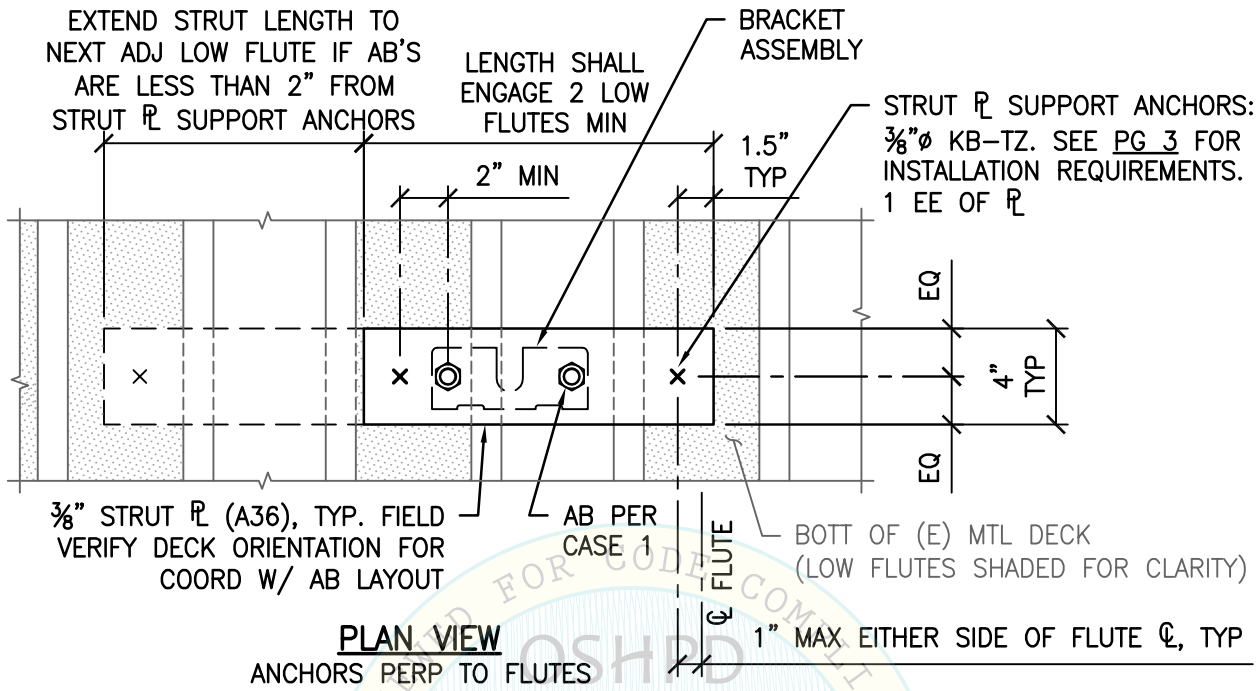
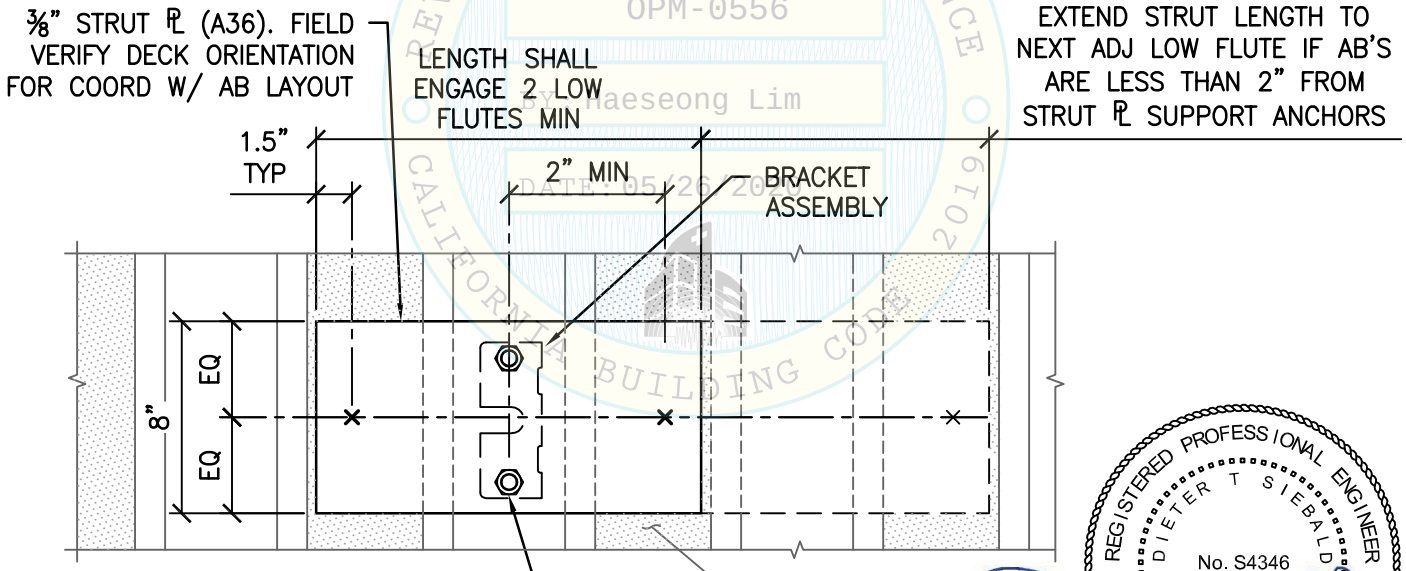


PLAN VIEW
ANCHORS PERP TO FLUTES



PLAN VIEW
ANCHORS PARALLEL TO FLUTES

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

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

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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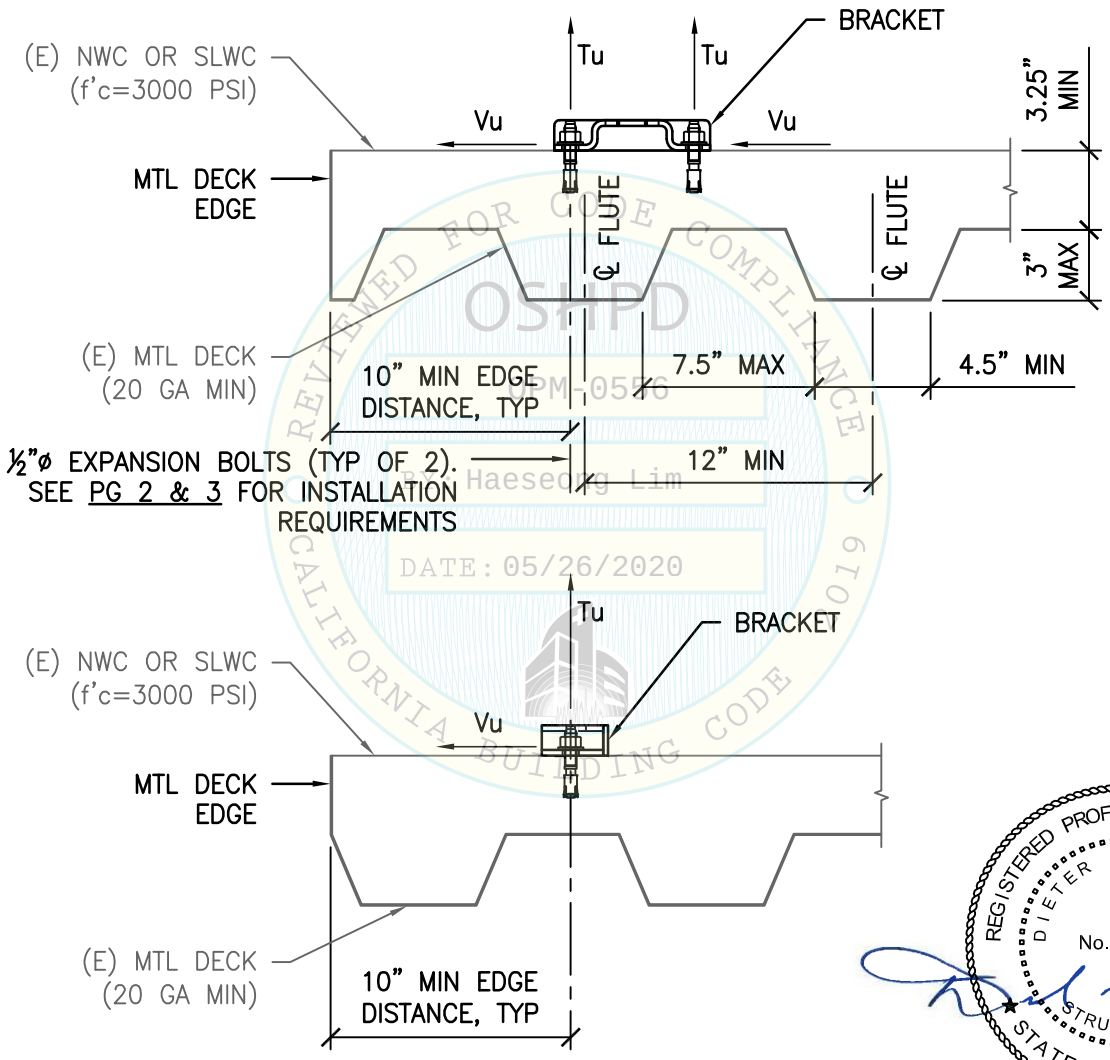
	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 2 z/h≤0.75	688#	174#

INCLUDES OVERSTRENGTH FACTOR (Ω_0=1.5)



SHEET TITLE: ATTACHMENT DETAIL
CONCRETE FILL OVER METAL DECK (CASE 2)

CYS STRUCTURAL ENGINEERS, INC.
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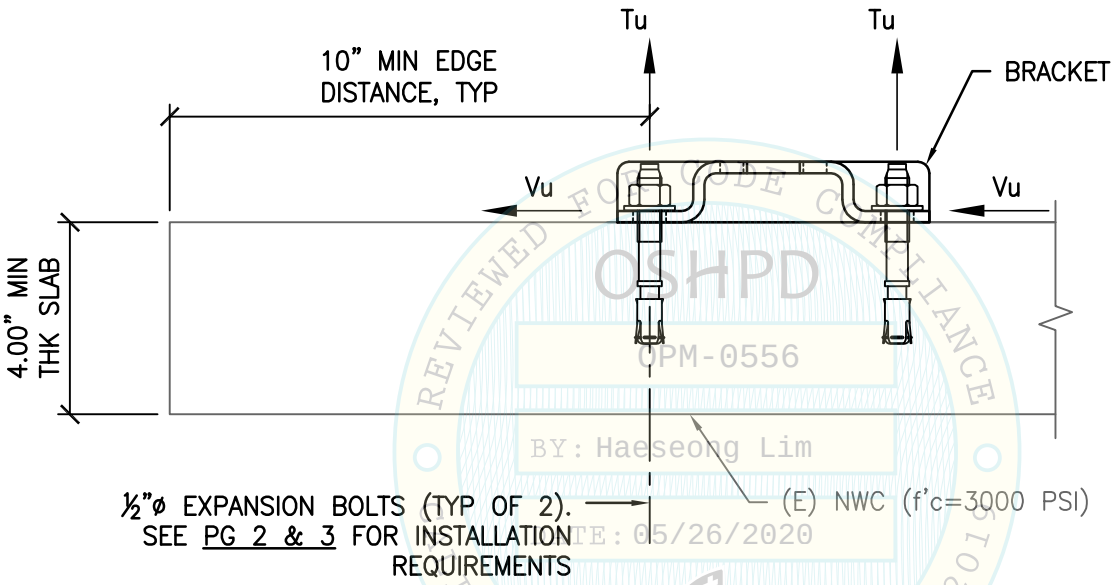
BD Life Sciences - Diagnostic Systems
BD Kiestra™ - ReadA

	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 3 z/h=0	1164#	280#

INCLUDES OVERSTRENGTH FACTOR (Ω_0=1.5)



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

SHEET TITLE: ATTACHMENT DETAIL
4" CONCRETE SLAB ON GRADE (CASE 3)

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