



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY
APPLICATION #: OPM-0291-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: Draeger Medical, Inc.

Manufacturer's Technical Representative: Merouane Djerbal

Mailing Address: 3135 Quarry Road, Telford, PA. 18969

Telephone: (215) 412-5868 Email: Merouane.Djerbal@draeger.com

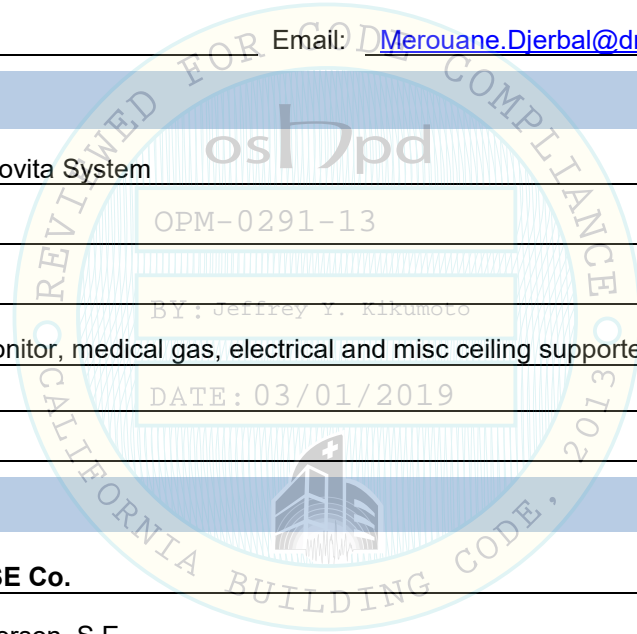
Product Information

Product Name: Polaris+Agila-Movita System

Product Type: Overhead

Product Model Number: N/A

General Description: Lights, monitor, medical gas, electrical and misc ceiling supported supply arm(s)



Applicant Information

Applicant Company Name: EASE Co.

Contact Person: Jonathan Roberson, S.E.

Mailing Address: 5877 Pine Ave. Suite 210, Chino Hills, CA. 91709

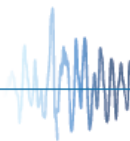
Telephone: (909) 606-7622 Email: J.Roberson@EASECo.com

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: 12/8/15

Title: Principal Engineer Company Name: EASE Co.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company

Name: EASE Co.

Name: Jonathan Roberson, S.E. California License Number: S4197

Mailing Address: 5877 Pine Ave. Suite 210, Chino Hills, CA. 91709

Telephone: 909-606-7667 Email: J.Roberson@EASECo.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 1950-10
- Other* (Please Specify): _____


*Use of test 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): _____

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2013 ONLY

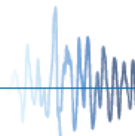
Signature:  Date: 3/1/2019

Print Name: Jeffrey Kikumoto

Title: SE

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

Office of Statewide Health Planning and Development
PREAPPROVAL OF MANUFACTURER'S CERTIFICATION
OPM-0291-13

THIS PREAPPROVAL CONFORMS TO THE 2016 CALIFORNIA BUILDING CODE

MANUFACTURER: **DRAEGER**
EQUIPMENT NAME: **POLARIS+MOVITA/AGILA SYSTEM**

Sheet: 1 of 10
Date: 2/27/19

GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2016 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2016 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 2016 CALIFORNIA BUILDING CODE.
4. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE $S_{Ds} = 1.10$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$.
5. THE DETAILS IN THIS PREAPPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE S_{Ds} IS NOT GREATER THAN 1.10.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
8. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING
 - A. PROVIDE SUPPORTING STRUCTURE REQUIRED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
 - B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2016 CBC AND WITH THE DETAILS SHOWN IN THIS PREAPPROVAL. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
 - C. VERIFY THAT THE COMBINATION OF S_{Ds} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT ARE NOT GREATER THAN THE VALUES ON THE DETAILS.



DRAEGER

DES. **J. ROBERSON**

SHEET

2

JOB NO. **11-1456**

POLARIS+MOVITA/AGILA SYSTEM

DATE **2/27/19**

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. Over Flutes	Torque Test	Direct Tension
1/2"	Sand Light Weight	3000	Hilti Kwik Bolt TZ	ESR-1917	3.25"	9.75"	24"	3.25"	40 FT-LB	N/A
5/8"	Sand Light Weight	3000	Hilti Kwik Bolt TZ	ESR-1917	4"	12"	24"	3.25"	60 FT-LB	N/A

B. TESTING OF EXPANSION ANCHORS PER 2016 CBC, 1910A.5:
TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD

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

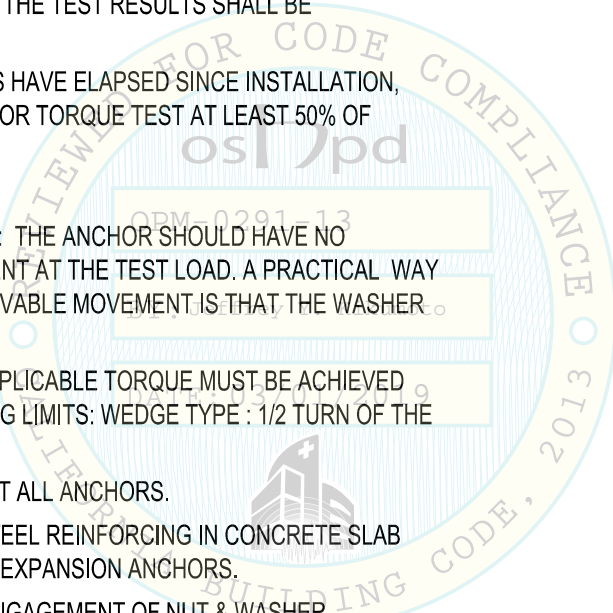
(ii) ACCEPTANCE CRITERIA:

- 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.

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

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



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SHEET

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JOB NO. **11-1456**

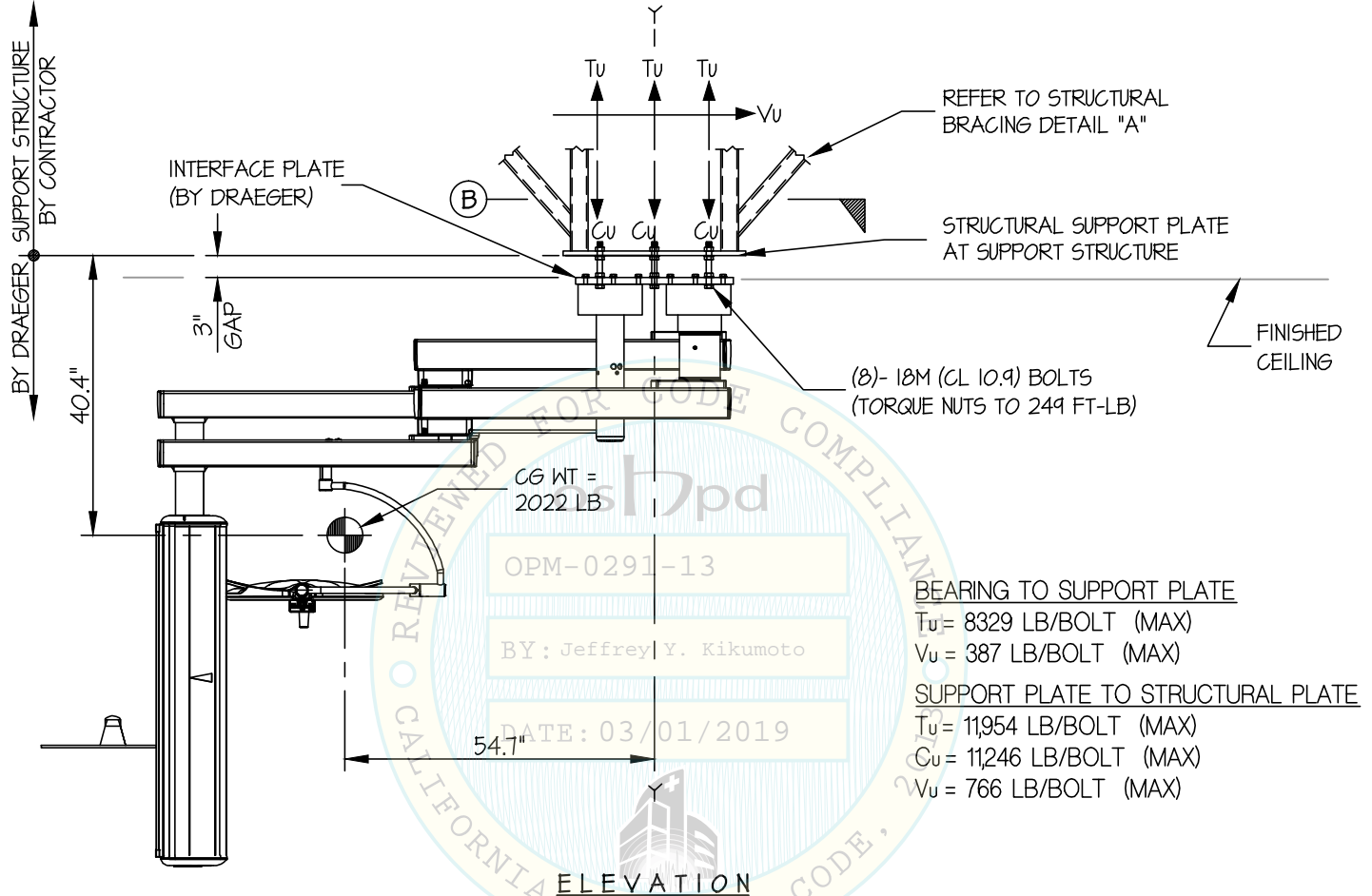
POLARIS+MOVITA/AGILA SYSTEM

DATE **2/27/19**

OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



NOTES:

1. FORCES ARE DETERMINED PER 2016 CALIFORNIA BUILDING CODE AND ASCE 7-10

STRENGTH DESIGN IS USED. ($S_{ds} = 1.10$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$)

HORIZONTAL FORCE (E_h) = $1.98 W_p$

VERTICAL FORCE (E_v) = $0.22 W_p$

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.

4. SEE GENERAL NOTES: SHEETS 1 AND 2



DRAEGER

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SHEET

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POLARIS+MOVITA/AGILA SYSTEM

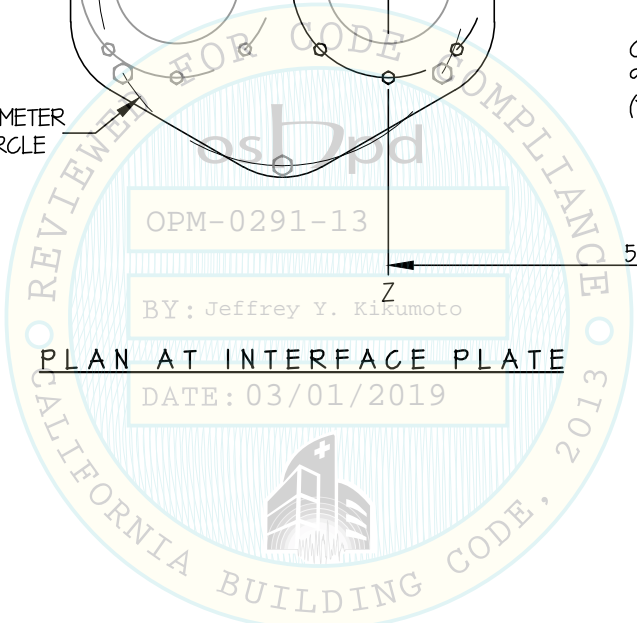
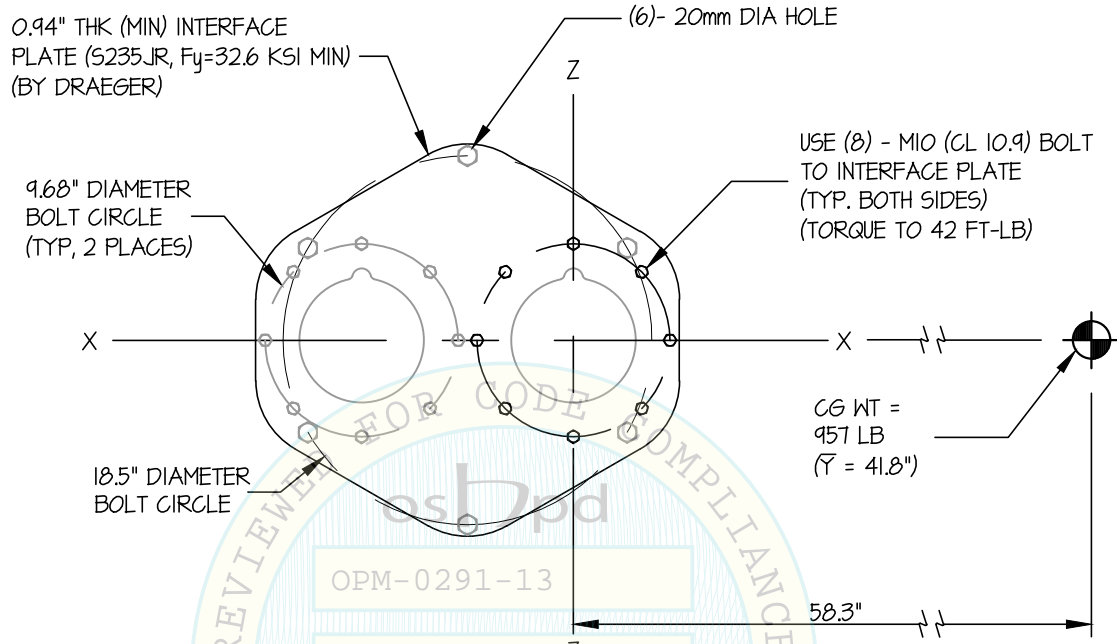
JOB NO. **11-1456**

DATE **2/27/19**

OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BEARING TO SUPPORT PLATE



Jonathan Roberson
 REGISTERED PROFESSIONAL ENGINEER
 JONATHAN ROBERSON
 No. 4197
 EXP. 6-30-2020
 2/27/19
 STRUCTURAL
 STATE OF CALIFORNIA

DRAEGER

DES. **J. ROBERSON**

SHEET

5

POLARIS+MOVITA/AGILA SYSTEM

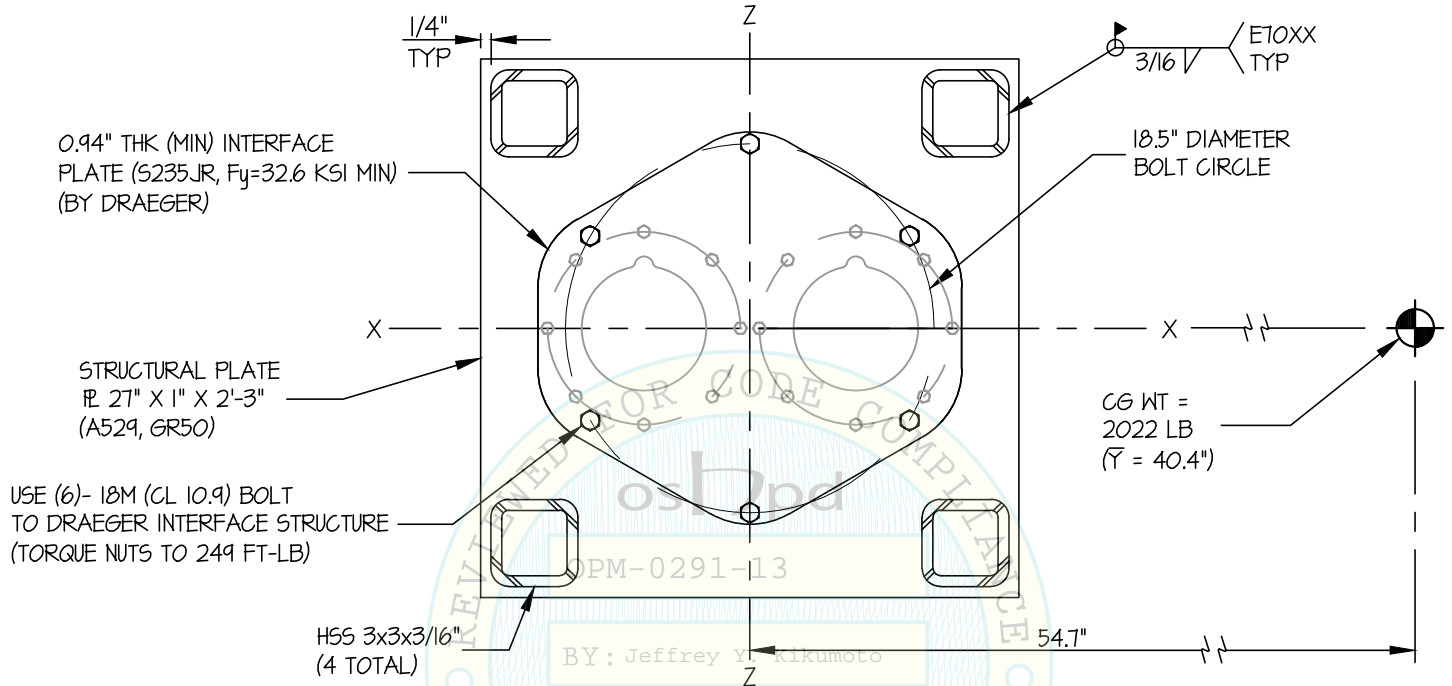
JOB NO. **11-1456**

DATE **2/27/19**

OF **10** SHEETS

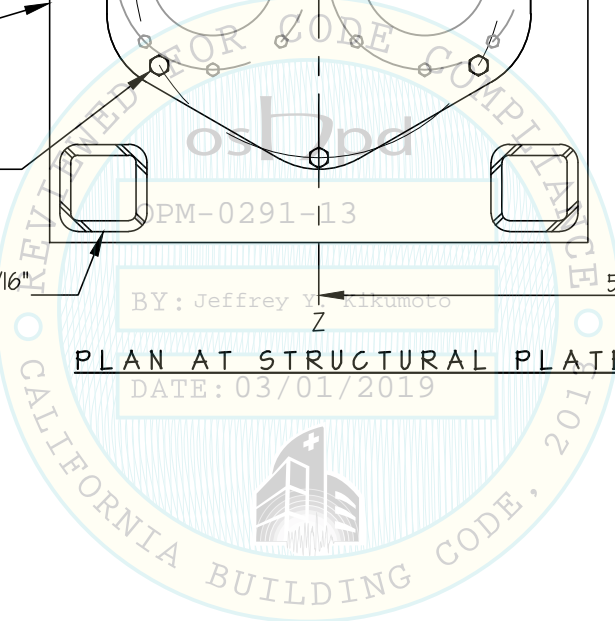
SEISMIC SUPPORTS & ATTACHMENTS

SUPPORT PLATE TO STRUCTURAL PLATE



PLAN AT STRUCTURAL PLATE

DATE: 03/01/2019



Jonathan Roberson

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2/27/19
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STATE OF CALIFORNIA

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6

JOB NO. **11-1456**

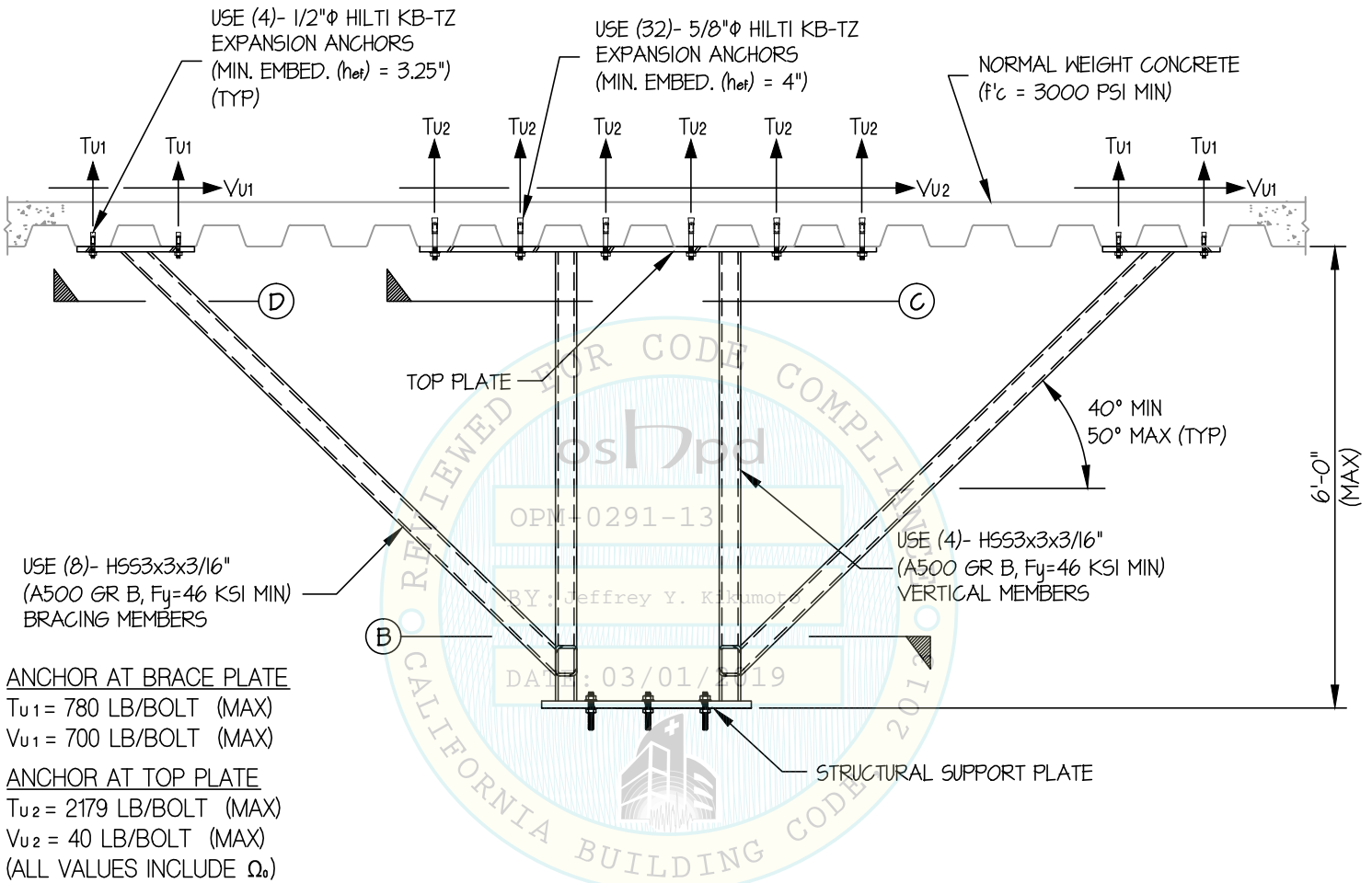
POLARIS+MOVITA/AGILA SYSTEM

DATE **2/27/19**

OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



ANCHOR AT BRACE PLATE
Tu1 = 780 LB/BOLT (MAX)
Vu1 = 700 LB/BOLT (MAX)

ANCHOR AT TOP PLATE
Tu2 = 2179 LB/BOLT (MAX)
Vu2 = 40 LB/BOLT (MAX)
(ALL VALUES INCLUDE Ω_c)

STRUCTURAL BRACING DETAIL (A)



DRAEGER

DES. J. ROBERSON

SHEET

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JOB NO. 11-1456

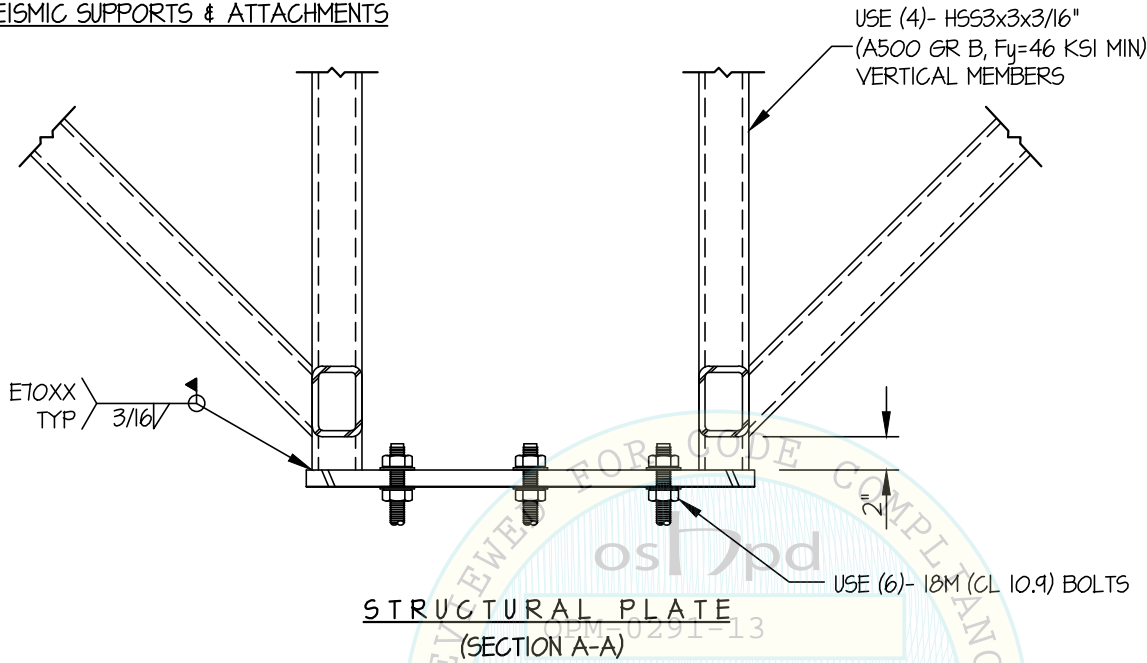
POLARIS+MOVITA/AGILA SYSTEM

DATE 2/27/19

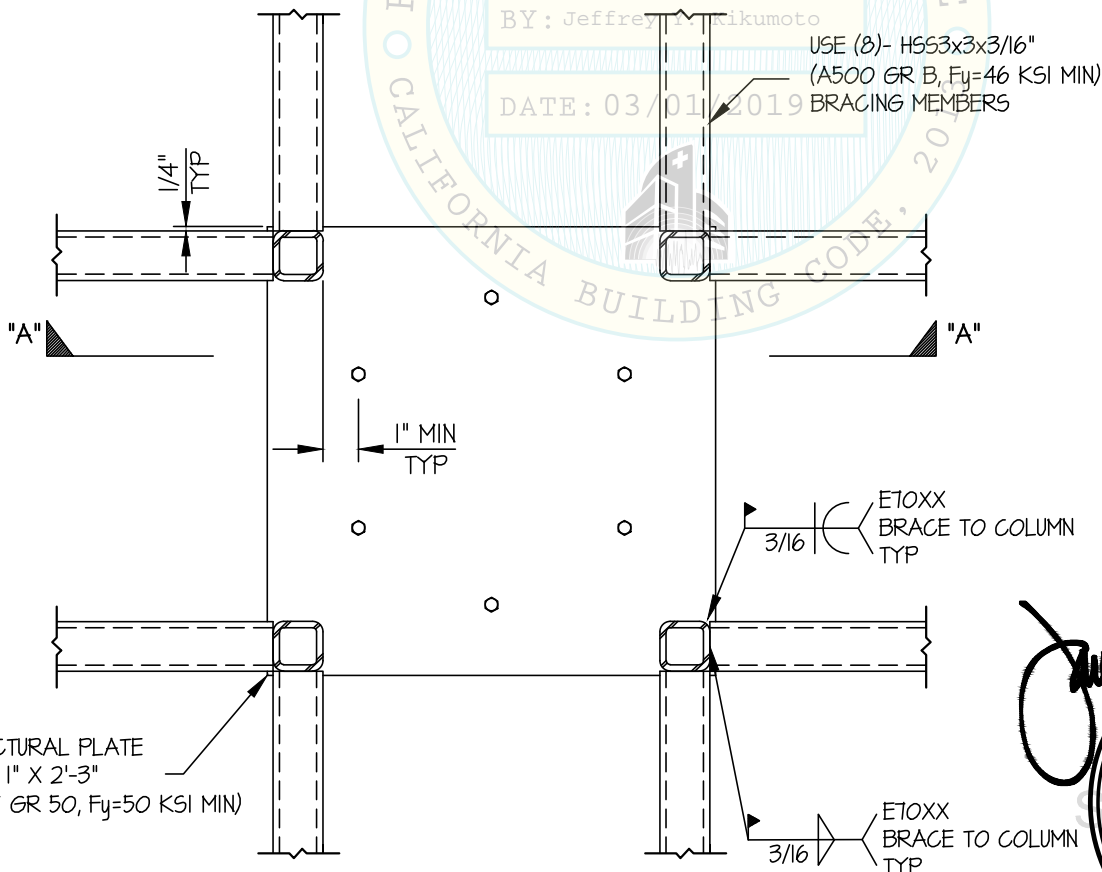
OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



STRUCTURAL PLATE
(SECTION A-A)



STRUCTURAL PLATE
27" X 1" X 2'-3"
(A529 GR 50, Fy=50 KSI MIN)

STRUCTURAL PLATE DETAIL (B)



DRAEGER

DES. **J. ROBERSON**

SHEET

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JOB NO. **11-1456**

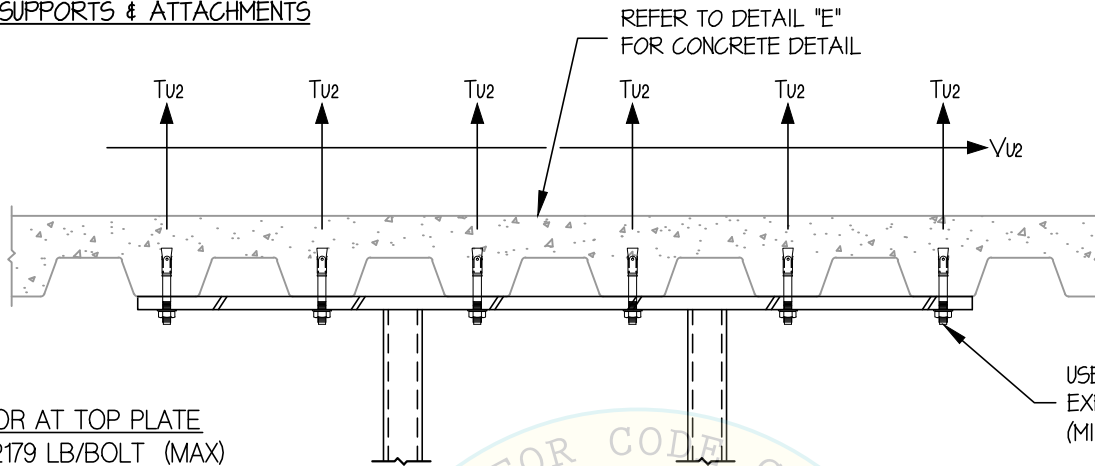
POLARIS+MOVITA/AGILA SYSTEM

DATE **2/27/19**

OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



ANCHOR AT TOP PLATE
 $T_{u2} = 2179$ LB/BOLT (MAX)
 $V_{u2} = 40$ LB/BOLT (MAX)
 (VALUES INCLUDE Ω_c)

USE (32)- 5/8" ϕ HILTI KB-TZ EXPANSION ANCHORS (MIN. EMBED. (h_{ef}) = 4")

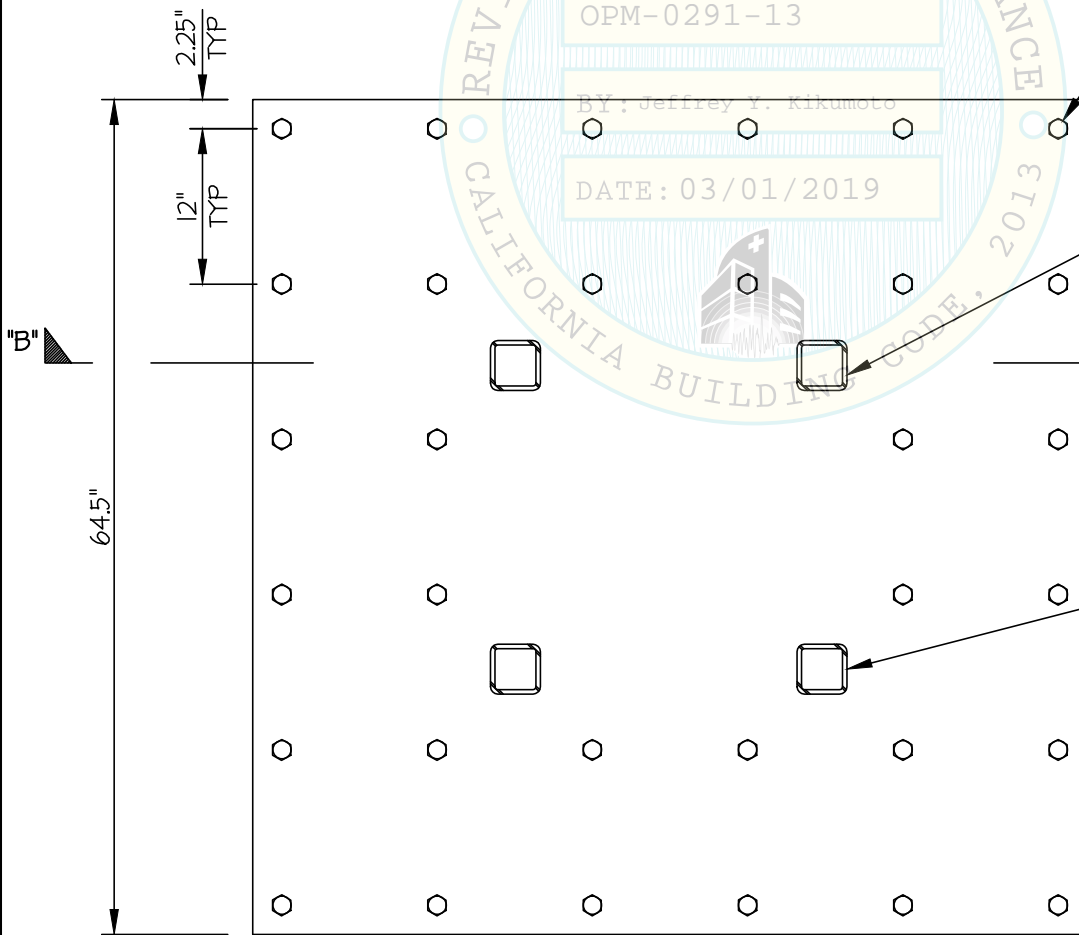
TOP PLATE
(SECTION B-B)

OPM-0291-13

BY: Jeffrey Y. Kikumoto

DATE: 03/01/2019

USE (32)- 5/8" ϕ HILTI KB-TZ EXPANSION ANCHORS (MIN. EMBED. (h_{ef}) = 4")



3/16" ∇ E70XX TYP

\square 64.5" X 3/4" X 5'-4.5" (A36, $F_y = 36$ KSI MIN)

HSS 3 X 3 X 3/16" (4 TOTAL)

TOP PLATE DETAIL (C)

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 EXP. 6-30-2020
 2/27/19
 STRUCTURAL
 STATE OF CALIFORNIA

DRAEGER

DES. **J. ROBERSON**

SHEET

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POLARIS+MOVITA/AGILA SYSTEM

JOB NO. **11-1456**

DATE **2/27/19**

OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

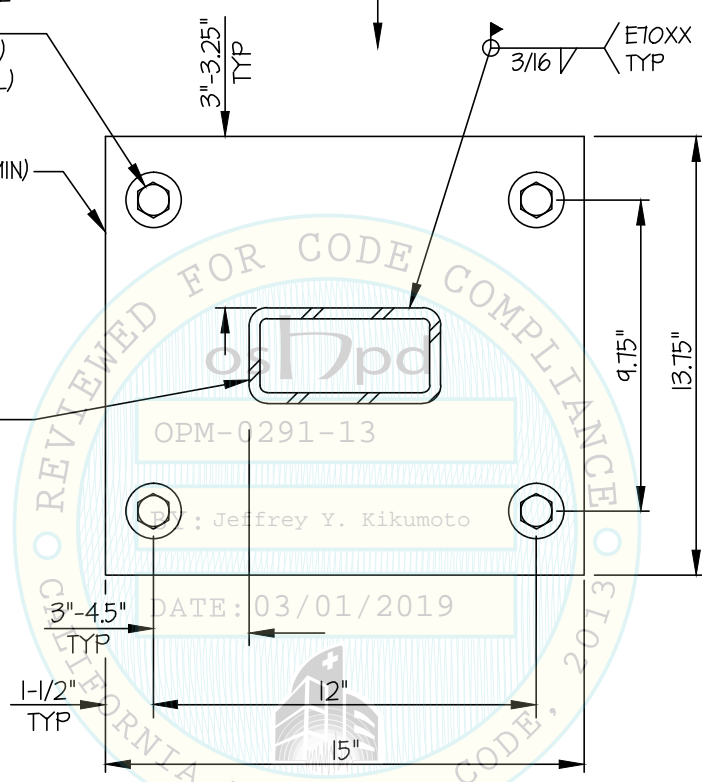
CEILING MOUNTED

USE (4)- 1/2"φ HILTI KB-TZ
EXPANSION ANCHORS
(MIN. EMBED. (h_{ef}) = 3.25")
(4 PER BRACE, 32 TOTAL)

3/8" R (A36, F_y=50 KSI MIN)

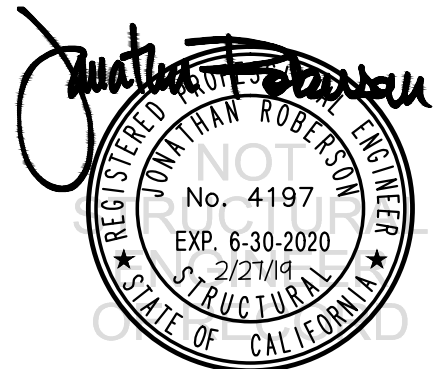
BRACING MEMBER

DIRECTION OF
DECK FLUTES
(SEE DETAIL "E")



ANCHOR AT BRACE PLATE
T_{u1} = 780 LB/BOLT (MAX)
V_{u1} = 700 LB/BOLT (MAX)
(VALUES INCLUDE Ω_c)

BRACE PLATE DETAIL (D)



DRAEGER

DES. J. ROBERSON

SHEET

10

POLARIS+MOVITA/AGILA SYSTEM

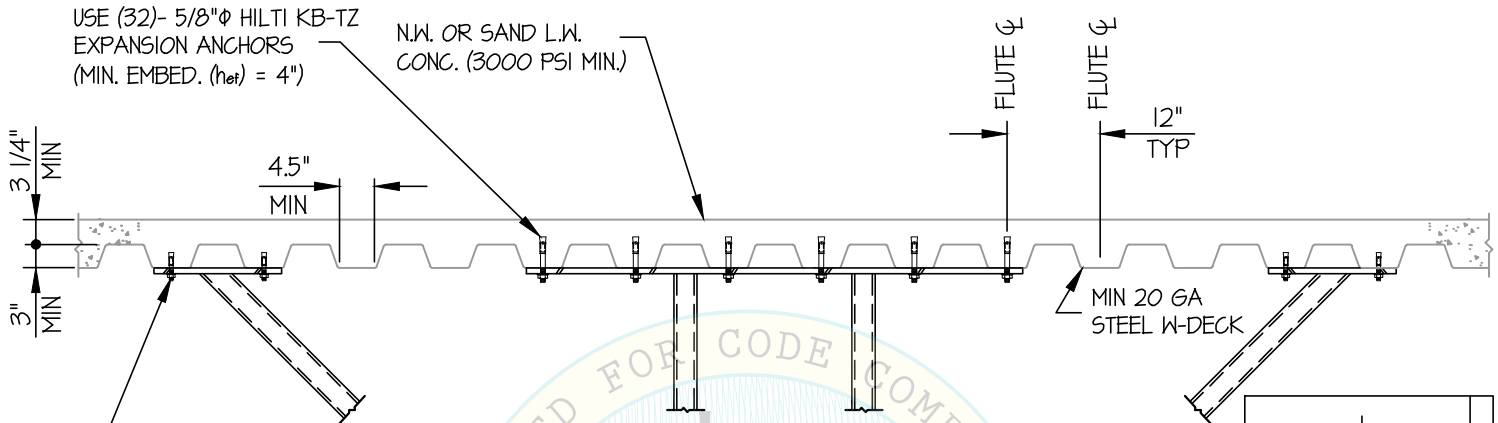
JOB NO. 11-1456

DATE 2/27/19

OF 10 SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

BRACING DETAILS



USE (4)- 1/2"φ HILTI KB-TZ EXPANSION ANCHORS (MIN. EMBED. (het) = 3.25") (TYP)

MIN STEEL DECK REQUIREMENTS AND STRUT DETAIL (E)

