



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY
APPLICATION #: OPM-0495-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal [ ] Update to Pre-CBC 2013 OPA Number:

Manufacturer Information

Manufacturer: LAP Laser

Manufacturer's Technical Representative: Tom Gaudet

Mailing Address: 161 Commerce Rd., Suite 3, Boynton Beach, FL 33426-9285

Telephone: 561-416-9250 Email: T.Gaudet@lap-laser.com

Product Information

Product Name: DORADOnova Floor, Portal, Wall, and Ceiling mounted laser systems

Product Type: Hospital Laser System OPM-0495-13

Product Model Number: DORADOnova post 1F, DORADOnova 3 Bridge, DORADOnova wall 1F and DORADOnova ceiling 1F

General Description: The LAP Laser DORADOnova floor, portal, Wall, and ceiling mounted laser systems are used for precision patient positioning and marking during radiation therapy. Note each unit can be supplied with red, blue, or green laser color. Laser color does not change any of the weights or dimensions. All 3 colors are included in this OPM.

Applicant Information

Applicant Company Name: W.E. Gundy & Associates, Inc. (WEGAI)

Contact Person: Frank Eckwright

Mailing Address: PO Box 9121, Boise, ID, 83707

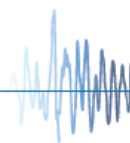
Telephone: 208-342-5989 Ext. 123 Email: feckwright@wegai.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: [Signature] Date: 6/12/2018

Title: Project Manager Company Name: W.E. Gundy & Associates, Inc. (WEGAI)

"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: W.E. Gundy & Associates, Inc. (WEGAI)

Name: Frank Eckwright, PE California License Number: 82375 (Civil)

Mailing Address: PO Box 9121, Boise, ID, 83707

Telephone: 208-342-5989 Ext. 123 Email: feckwright@wegai.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, 2016 (CBSC 2016) 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 2016 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 2016 & ALL PRE-2016 CODE BASED PROJECTS**

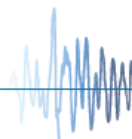
Signature:  Date: 2/8/2019

Print Name: Jeffrey Kikumoto

Title: SSE

Condition of Approval (if applicable): \_\_\_\_\_

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



**GENERAL NOTES**

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATE (OPM) IS BASED ON THE CBC 2016. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2016.
2. SEISMIC DEMAND CRITERIA PER THE 2016 CBC AND ASCE 7-10:
  - $S_{DS} = 2.50$ ,  $a_p = 1.0$ ,  $R_p = 1.50$ ,  $I_p = 1.50$ ,  $z/h \leq 1.0$ ,  $\Omega_0 = 1.50$ ,  $E_h = F_p = 3.0W_p$ ,  $E_v = 0.5W_p$
3. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
4. ALL LOADS SHOWN ON THE DRAWINGS ARE FACTORED LOADS AND SHALL BE USED FOR STRENGTH DESIGN.
5. MINIMUM MATERIAL PROPERTIES:
  - A. CONCRETE
    - A. SLABS/BEAMS: NORMAL WEIGHT OR SAND LIGHTWEIGHT, THICKNESS  $\geq 4"$ ,  $3,000 \text{ PSI} \leq f_c \leq 10,000 \text{ PSI}$ .
    - B. SLAB ON METAL DECK: NORMAL WEIGHT OR SAND LIGHTWEIGHT,  $f_c \geq 3,000 \text{ PSI}$ .
  - B. STEEL
    - a. ANGLES: A36
    - b. STRUT: 1 5/8" x 1 5/8" x 12 GA SOLID STRUT, COLD ROLLED STEEL MEETING ASTM A1011SS GRADE 33

WEIGHT (lb/ft)	AREA (in <sup>2</sup> )	lxx (in <sup>2</sup> )	Sxx (in <sup>3</sup> )	rx (in)	lyy (in <sup>4</sup> )	Syy (in <sup>3</sup> )	ry (in)
1.89	0.544	0.18	0.195	0.575	0.233	0.287	0.655

6. POST INSTALLED ANCHORS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE EVALUATION SERVICE REPORT (ICC ESR-1917) AND THE PARAMETERS GIVEN IN THESE DRAWINGS.
7. TESTING OF POST INSTALLED ANCHORS SHALL BE ACCORDING TO 2016 CBC SECTION 1910A.5. A MINIMUM OF 50% OF POST INSTALLED ANCHORS SHALL BE TESTED NO LESS THAN 24 HOURS AFTER INSTALLATION. A CALIBRATED TORQUE WRENCH SHALL BE USED TO VERIFY THE INSTALLATION TORQUE IS OBTAINED WITHIN 1/2 TURN OF THE NUT. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD AND THE TEST RESULTS SHALL BE REPORTED TO OSHPD.
8. IF ANY ANCHOR FAILS TESTING, ALL OF THE ANCHORS OF THE SAME TYPE SHALL BE TESTED, WHICH ARE INSTALLED BY THE SAME TRADE, NOT PREVIOUSLY TESTED UNTIL (20) CONSECUTIVE ANCHORS PASS, THEN RESUME THE INITIAL TEST FREQUENCY.
9. AT A MINIMUM ALL CONCRETE SLABS, BEAMS, AND WALLS MUST HAVE (1) #4 BAR BETWEEN ANY POST INSTALLED ANCHOR AND THE EDGE OF CONCRETE.
10. DESIGN IS CONTROLLED BY SEISMIC FORCES. NON-SEISMIC FORCES SUCH AS GRAVITY ARE OUTSIDE THE SCOPE OF THIS OPM.

**RESPONSIBILITIES OF THE BUILDING STRUCTURAL ENGINEER OF RECORD**

1. VERIFY THE INSTALLATION CONFORMS TO CBC 2016 AND THIS OPM, INCLUDING MATERIAL PROPERTIES AND DIMENSIONS OF THE SUPPORT.
2. VERIFY ALL THE PROJECTS SPECIFIC  $S_{DS}$  AND  $z/h$  VALUES DO NOT RESULT IN SEISMIC FORCES EXCEEDING THE VALUES IN THIS OPM
3. VERIFY ALL ANCHORS ARE A MINIMUM OF 12" FROM ALL CONCRETE EDGES AND ARE SUFFICIENTLY SPACED FROM ANY NEW OR EXISTING ANCHORS.
4. VERIFY MINIMUM OF 5/8" COVER TO TOP OF SLAB AT ALL POST INSTALLED ANCHORS INTO UPPER FLUTE OF SLAB ON METAL DECK.

DORADOnova Components				
Component	LENGTH (in.)	WIDTH (in.)	HEIGHT (in.)	MAXIMUM WEIGHT (lbs.)
DORADOnova Floor Mount (Post)	6.46	8.86	68.00	55.20
DORADOnova Portal (Bridge)	118.90	8.86	94.49	198.40
DORADOnova Wall Mount	5.91	8.66	61.14	48.50
DORADOnova Ceiling Mount	61.14	8.66	7.95	72.75



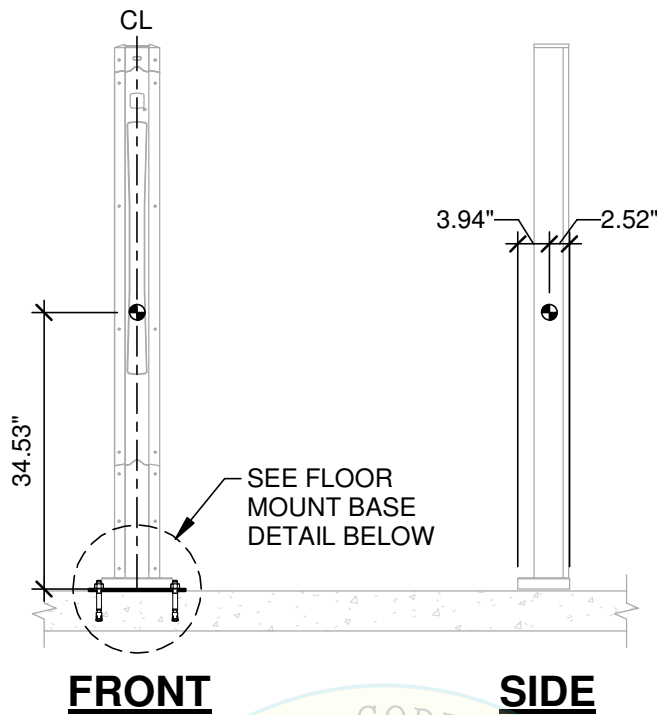
**WEGAI**  
 W.E. GUNDY & ASSOCIATES, INC.  
 STRUCTURAL & EARTHQUAKE ENGINEERING

W.E. Gundy & Associates, Inc.  
 1199 Shoreline Dr., Suite 310, Boise, ID 83702  
 (208) 342-5989  
 feckwright@wegai.com

02/06/2019

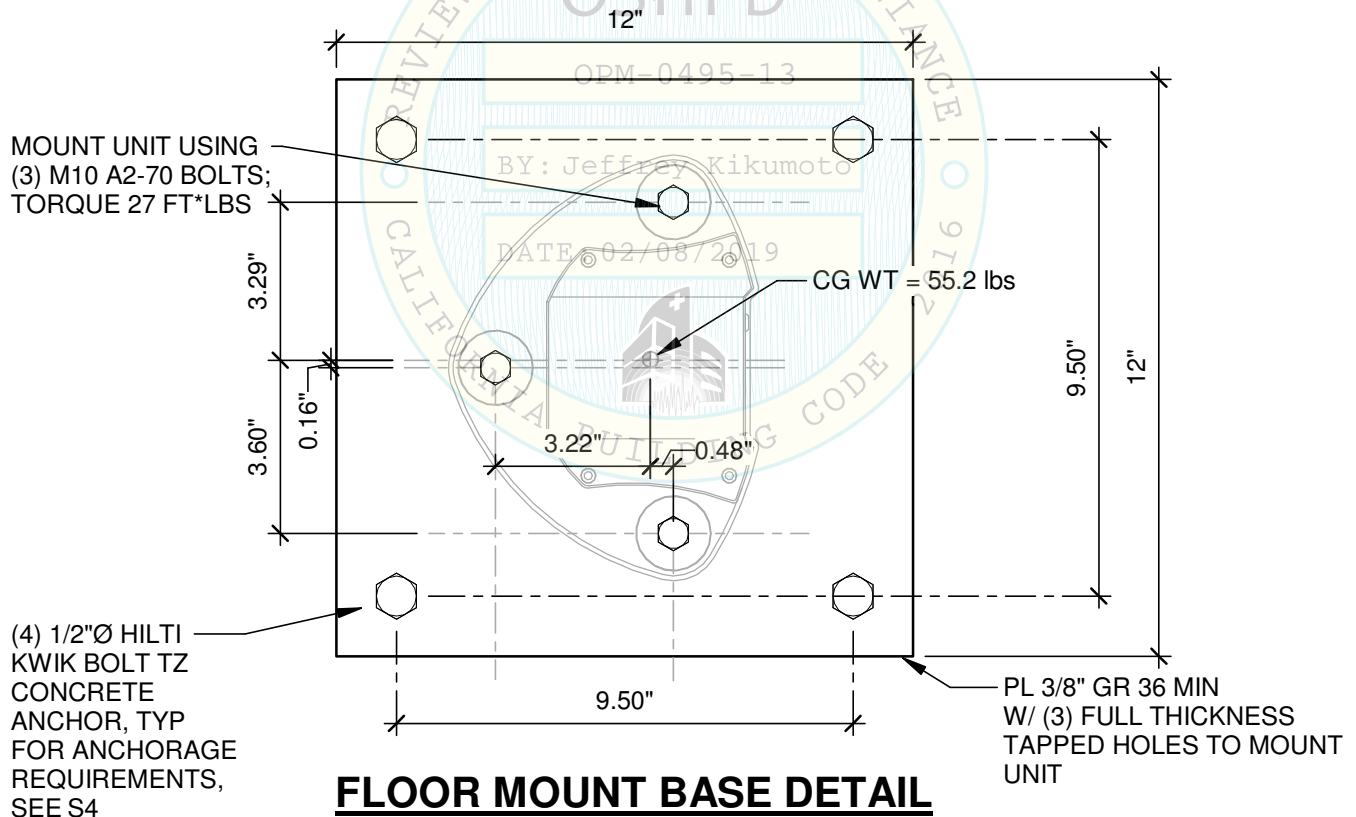
**GENERAL NOTES - DORDOnova**

Project No.18001	Date:2018.03.30	<b>S1</b>
Drawn By: JM	Checked By: FE	



**FRONT**                      **SIDE**

**FLOOR MOUNT - ELEVATION**



**W.E. GUNDY & ASSOCIATES, INC.**  
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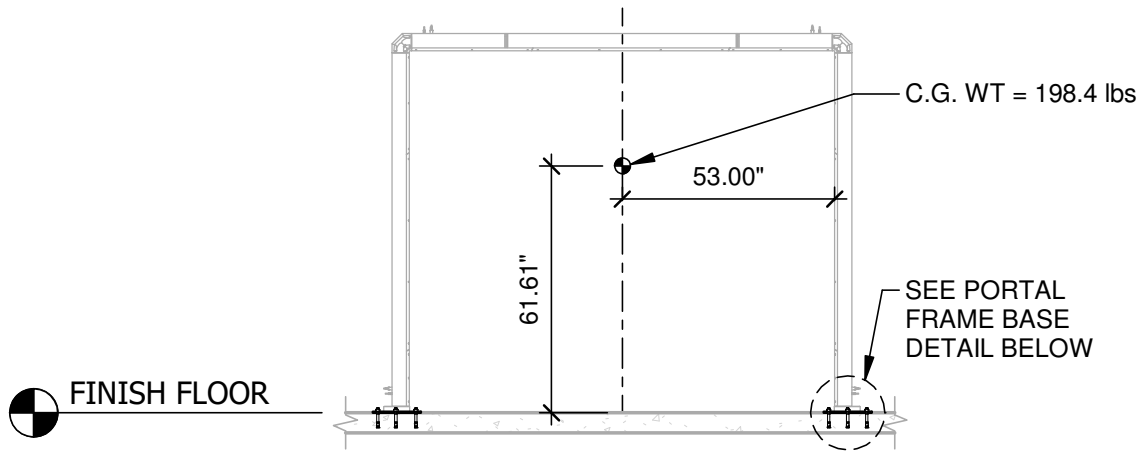
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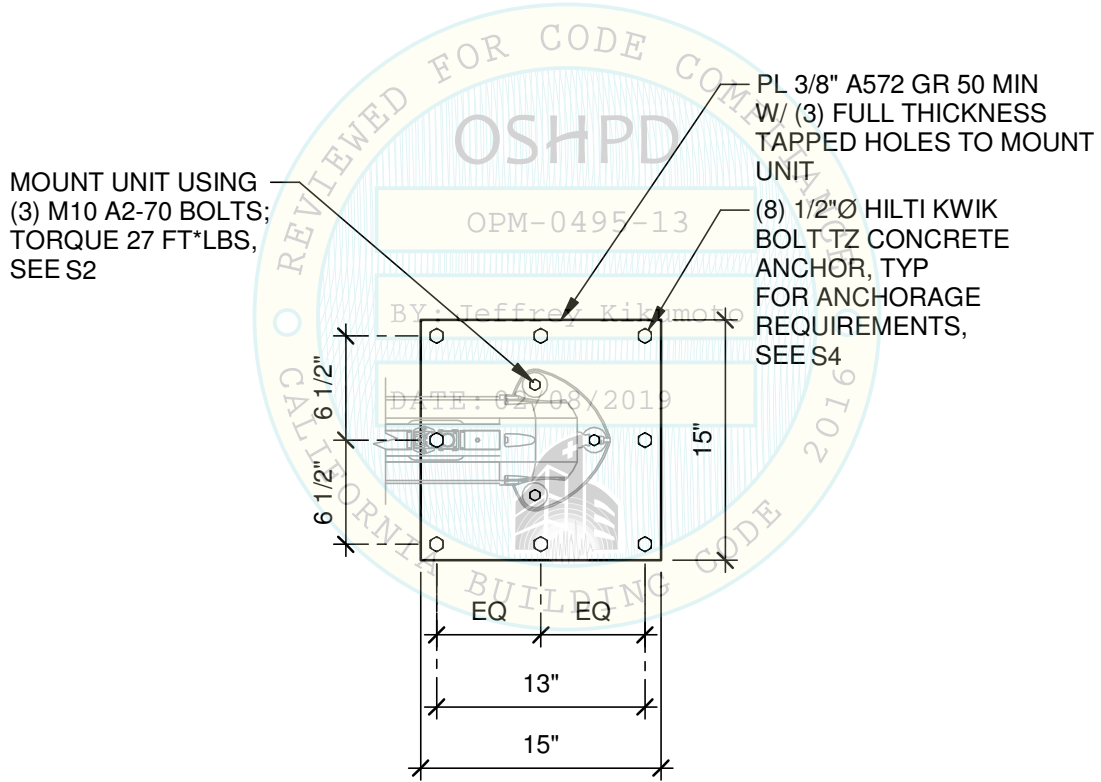
**FLOOR MOUNT - DORDOnova**

Project No.18001	Date:2018.03.30	<b>S2</b>
Drawn By: JM	Checked By: FE	



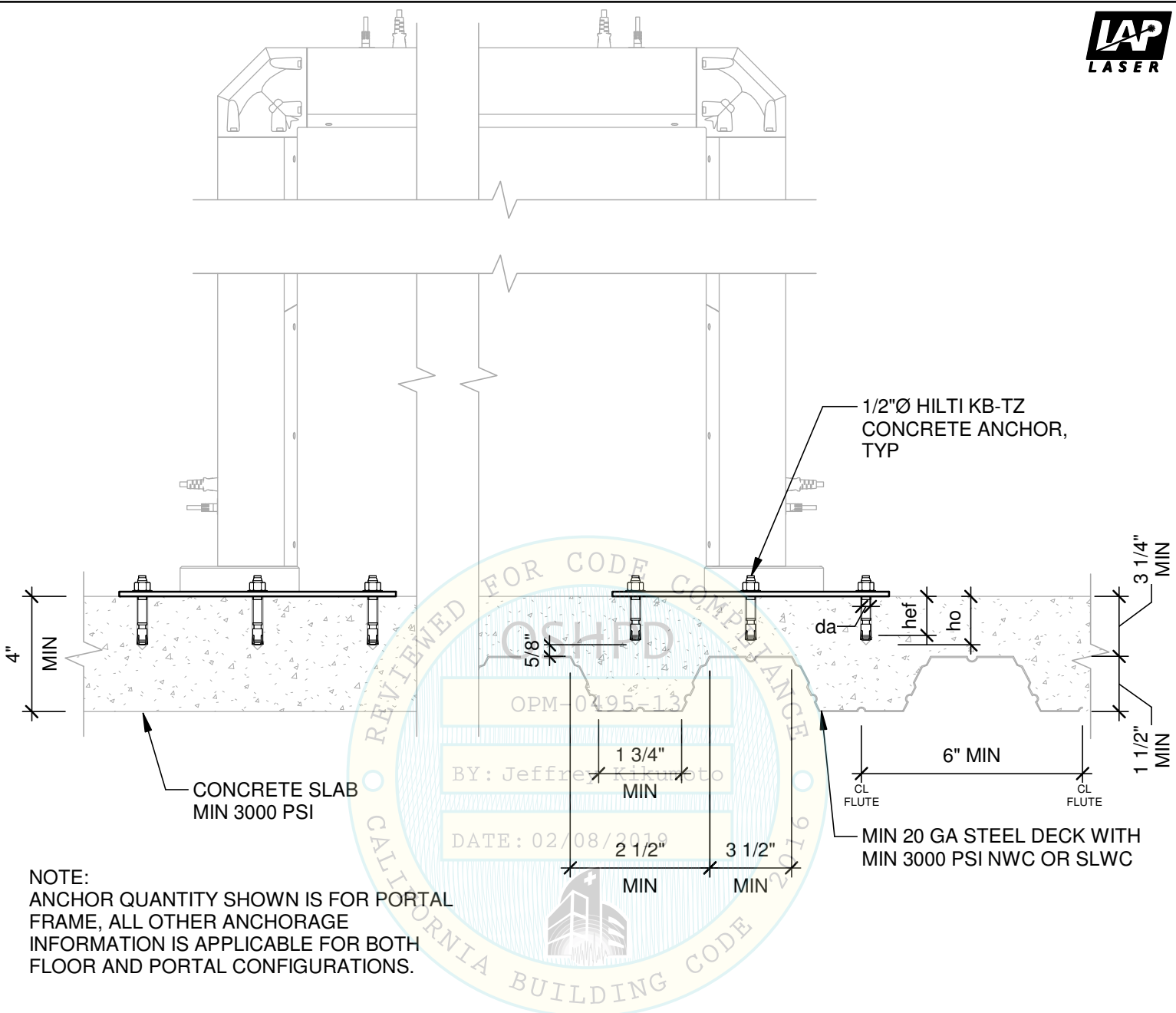


### PORTAL FRAME - ELEVATION



### PORTAL FRAME BASE DETAIL

<p><b>W.E. GUNDY &amp; ASSOCIATES, INC.</b> STRUCTURAL &amp; EARTHQUAKE ENGINEERING</p> <p>W.E. Gundy &amp; Associates, Inc. 1199 Shoreline Dr., Suite 310, Boise, ID 83702 (208) 342-5989 feckwright@wegai.com</p>	<p>02/06/2019</p>	<p><b>PORTAL FRAME - DORDOnova</b></p>		
		Project No.18001	Date:2018.03.30	<b>S3</b>
		Drawn By: JM	Checked By: FE	

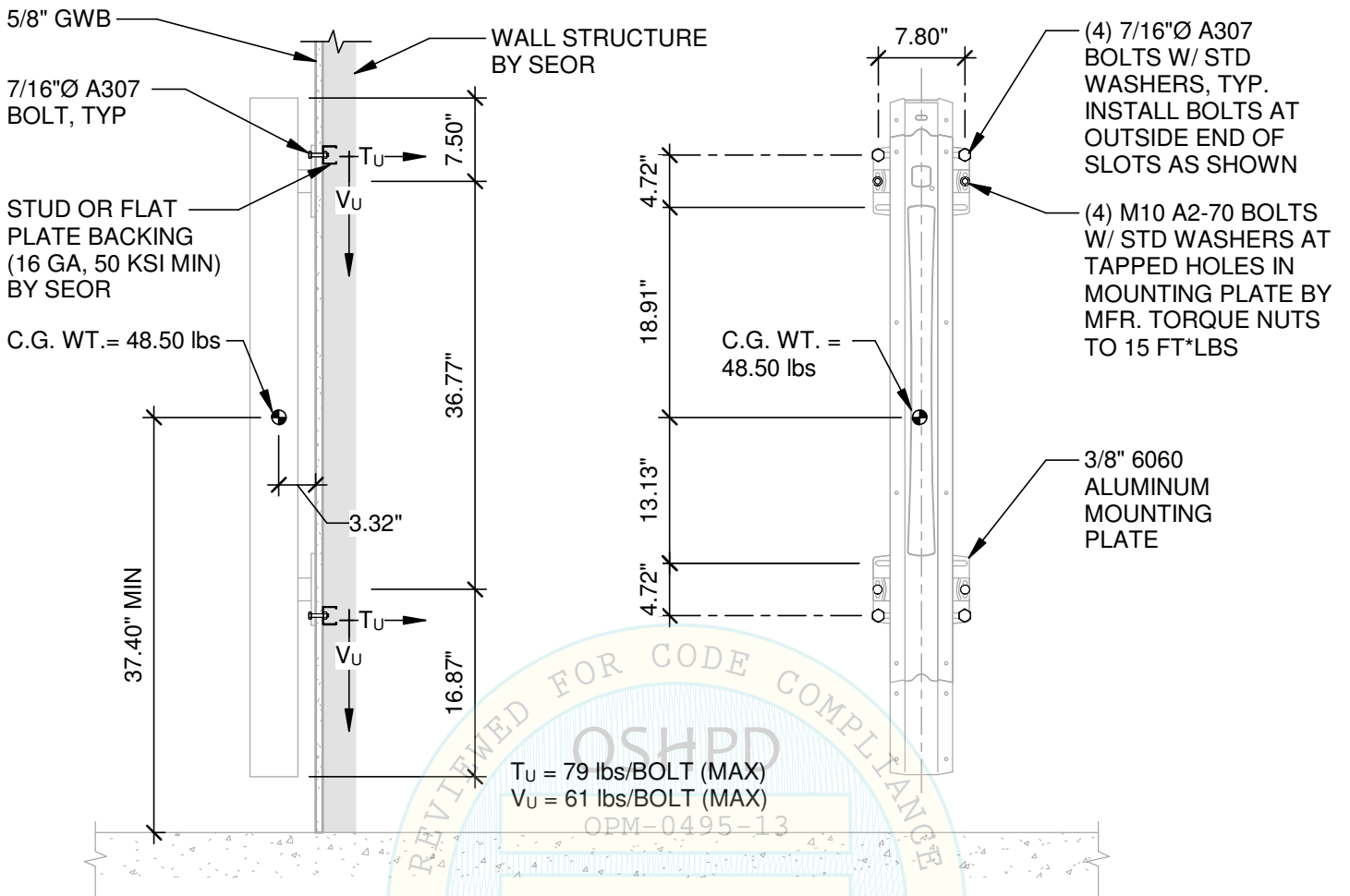


NOTE:  
ANCHOR QUANTITY SHOWN IS FOR PORTAL  
FRAME, ALL OTHER ANCHORAGE  
INFORMATION IS APPLICABLE FOR BOTH  
FLOOR AND PORTAL CONFIGURATIONS.

Floor Type	da (in)	hef (in)	ho (in)	Cmin (in)	Smin (in)	Required Torque (ft-lbs)
CONCRETE SLAB	1/2"	2.00	2.625	5.000	2.750	40
CONCRETE FILLED METAL DECK	1/2"	2.00	2.625	6.000	6.500	40

## ANCHORAGE TO CONCRETE SLAB AND CONCRETE FILLED METAL DECK

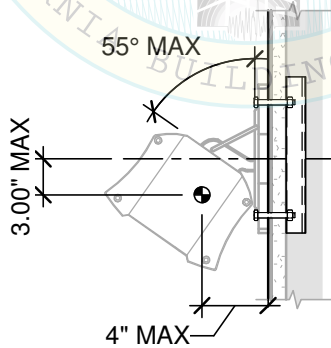
<p><b>W.E. GUNDY &amp; ASSOCIATES, INC.</b> STRUCTURAL &amp; EARTHQUAKE ENGINEERING</p> <p>W.E. Gundy &amp; Associates, Inc. 1199 Shoreline Dr., Suite 310, Boise, ID 83702 (208) 342-5989 feckwright@wegai.com</p>	<p>02/06/2019</p>	<p><b>ANCHORAGE TO CONCRETE SLAB AND CONCRETE FILLED METAL DECK - DORDOnova</b></p>		
		Project No.18001	Date:2018.03.30	S4
		Drawn By: JM	Checked By: FE	Scale: NTS



**SIDE**

**FRONT**

**WALL MOUNT - ELEVATION**



**WALL MOUNT - TOP VIEW**



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REGISTERED PROFESSIONAL ENGINEER  
FRANK A. ECKWRIGHT  
C82375  
CIVIL  
STATE OF CALIFORNIA

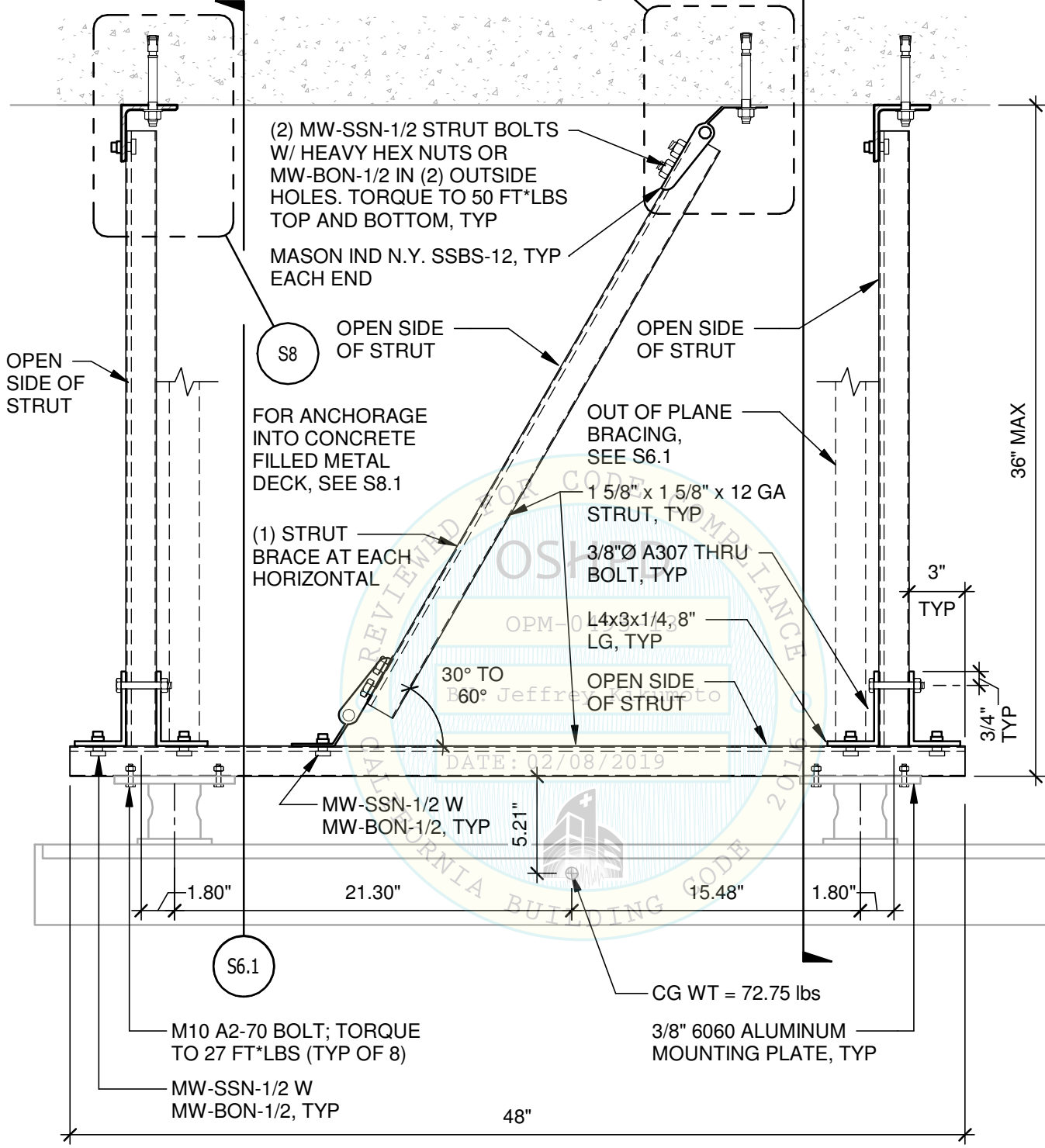
*Frank Eckwright*

02/06/2019

WALL MOUNT - DORDOnova		
Project No.18001	Date:2018.03.30	
Drawn By: JM	Checked By: FE	Scale: NTS
		<b>S5</b>

FOR ANCHORAGE INTO  
CONCRETE FILLED  
METAL DECK, SEE S7.1

S7 S6.1



**CEILING MOUNT - SIDE VIEW**

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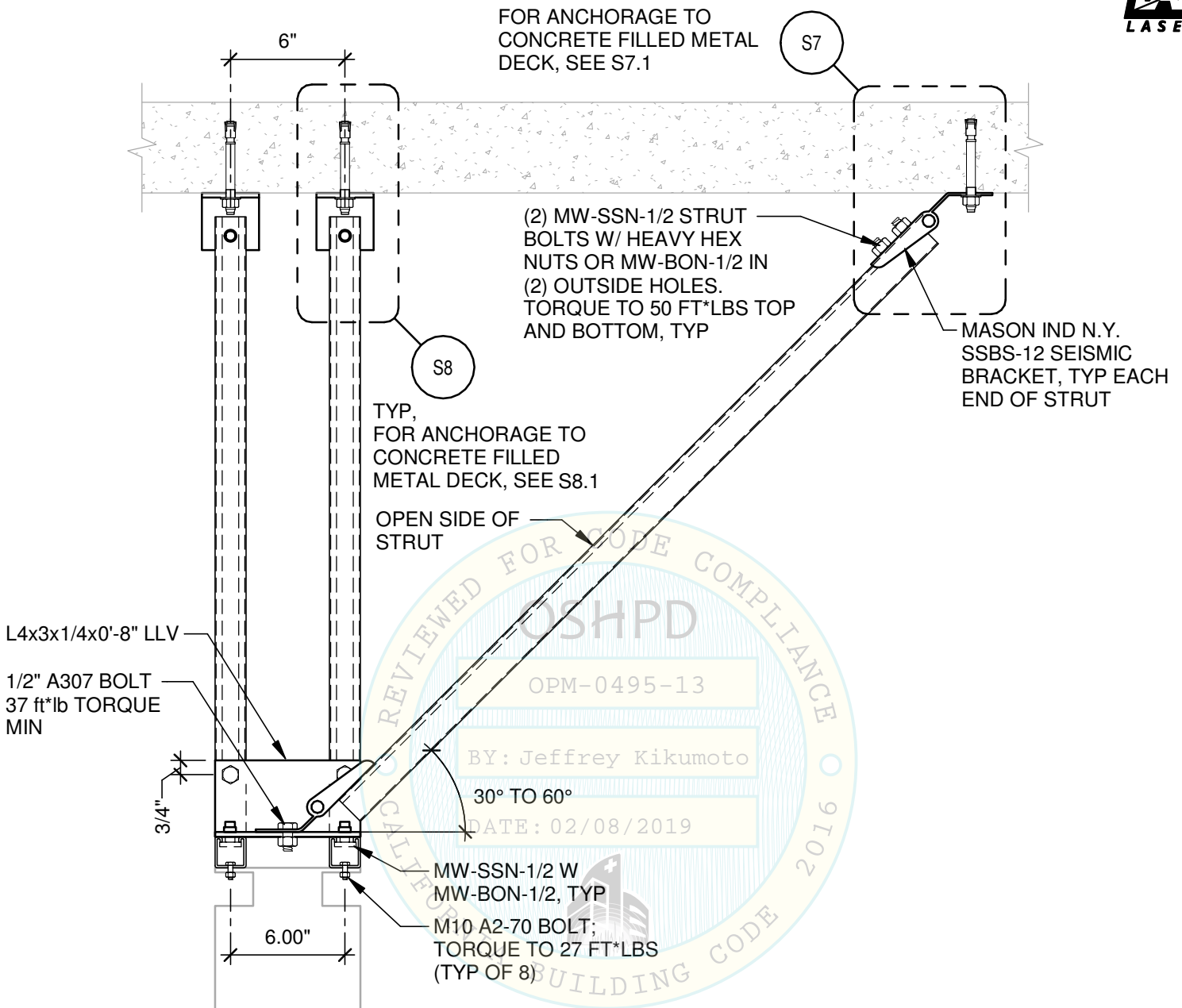
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REGISTERED PROFESSIONAL ENGINEER  
FRANK A. ECKWRIGHT  
82375  
CIVIL  
STATE OF CALIFORNIA

02/06/2019

CEILING MOUNT - DORDOnova

Project No.18001	Date:2018.03.30	S6
Drawn By: JM	Checked By: FE	



### CEILING MOUNT - END VIEW

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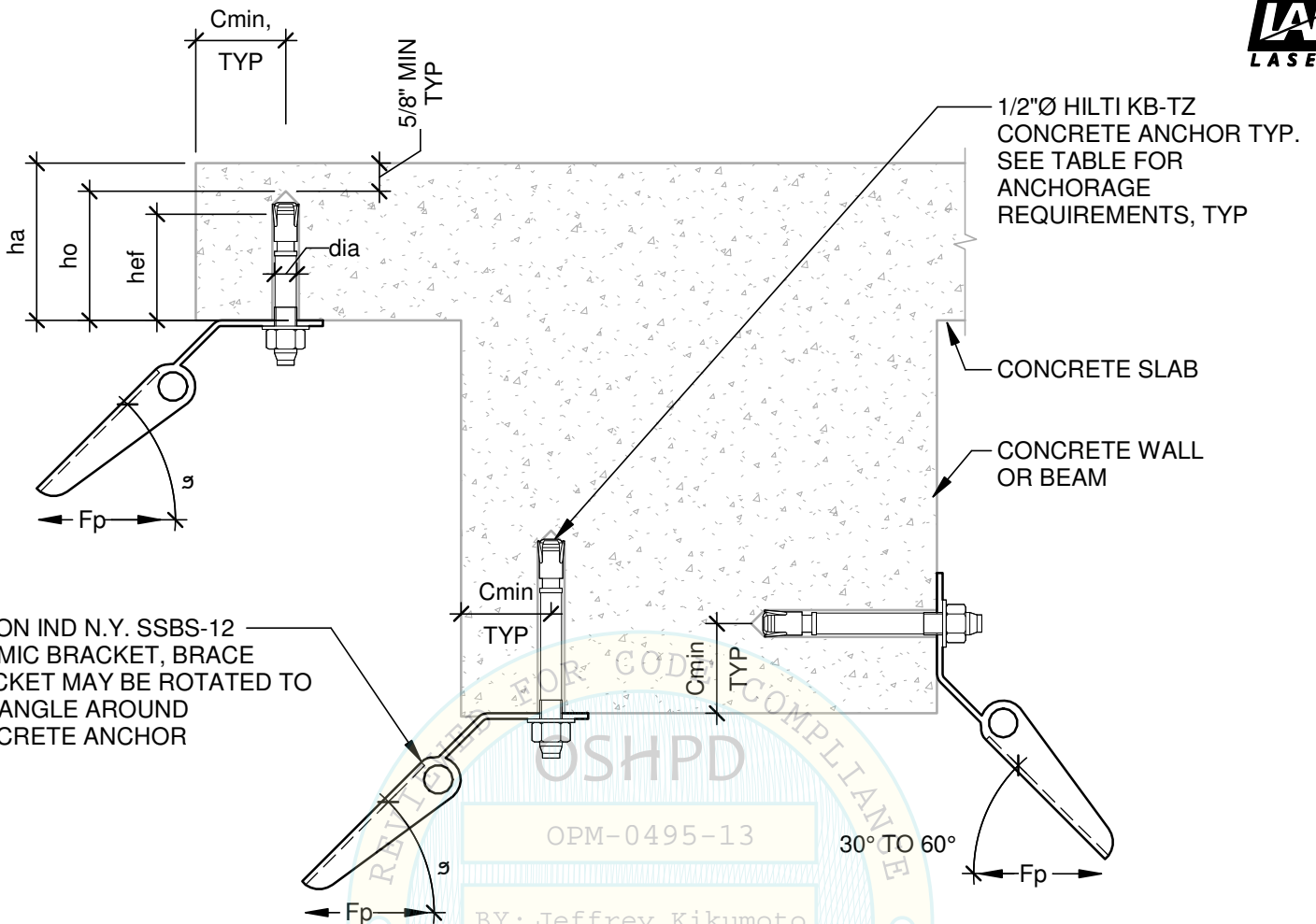
02/06/2019

### CEILING MOUNT - DORDOnova

Project No.18001	Date:2018.03.30
Drawn By: JM	Checked By: FE Scale: NTS

# S6.1





MASON IND N.Y. SSBS-12 SEISMIC BRACKET, BRACE BRACKET MAY BE ROTATED TO ANY ANGLE AROUND CONCRETE ANCHOR

1/2"Ø HILTI KB-TZ CONCRETE ANCHOR TYP. SEE TABLE FOR ANCHORAGE REQUIREMENTS, TYP

CONCRETE SLAB  
CONCRETE WALL OR BEAM

NOTE:  
CONCRETE STRENGTH SHALL BE MIN 3,000 PSI NWC

ALLOWABLE LATERAL LOAD,  $F_p = 370$  lbs FOR  $30^\circ - 45^\circ$   
 $= 220$  lbs FOR  $46^\circ - 60^\circ$

SEISMIC BRACKET SUPPORT ANCHORAGE	da (in)	hef (in)	ho (in)	Cmin (in)	REQUIRED TORQUE (ft-lbs)	ha (in)
CONCRETE SLAB/BEAM	1/2	2.00	2.625	4.500	40	4

## BRACKET ANCHORAGE INTO CONCRETE SLAB/BEAM

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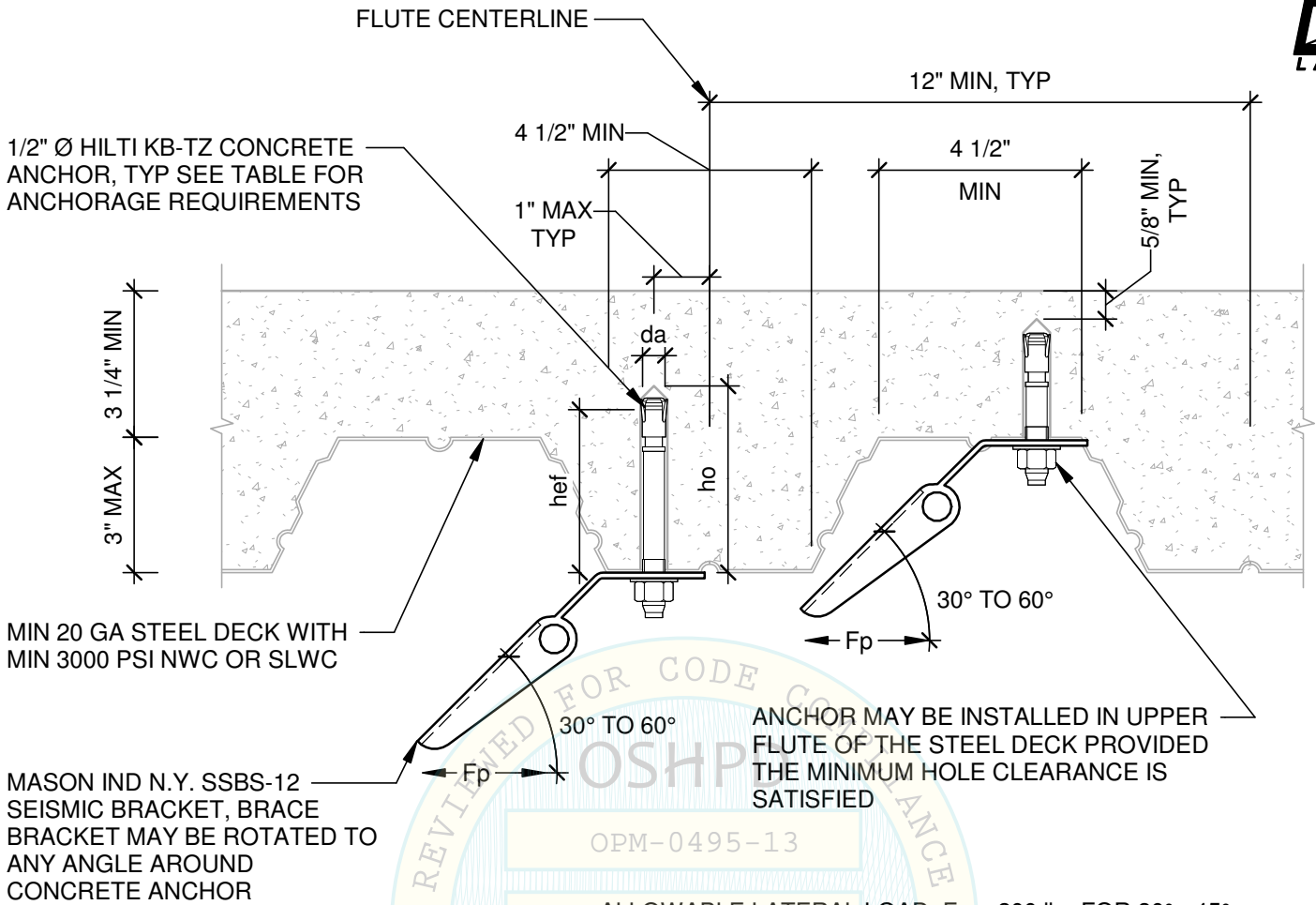
02/06/2019

### BRACKET ANCHORAGE TO CONCRETE SLAB/BEAM - DORDOnova

Project No.18001      Date:2018.03.30

Drawn By: JM      Checked By: FE      Scale: NTS

**S7**



REVIEWED FOR CODE COMPLIANCE  
 OPM-0495-13  
 BY: Jeffrey Kikumoto  
 DATE: 02/08/2019  
 CALIFORNIA BUILDING CODE 2016

ALLOWABLE LATERAL LOAD,  $F_p = 200$  lbs FOR  $30^\circ - 45^\circ$   
 $= 120$  lbs FOR  $46^\circ - 60^\circ$

SEISMIC BRACKET SUPPORT ANCHORAGE	da (in)	hef (in)	ho (in)	Cmin (in)	REQUIRED TORQUE (ft-lbs)	ha (in)
CONCRETE FILLED METAL DECK	1/2	2.00	2.625	3.375	40	N/A

NOTE: MINIMUM SPACING SHALL BE GREATER OF  $3 \cdot hef$  OR  $1.5 \cdot$  FLUTE WIDTH, PARALLEL TO FLUTE.

## BRACKET ANCHORAGE INTO CONCRETE FILLED METAL DECK

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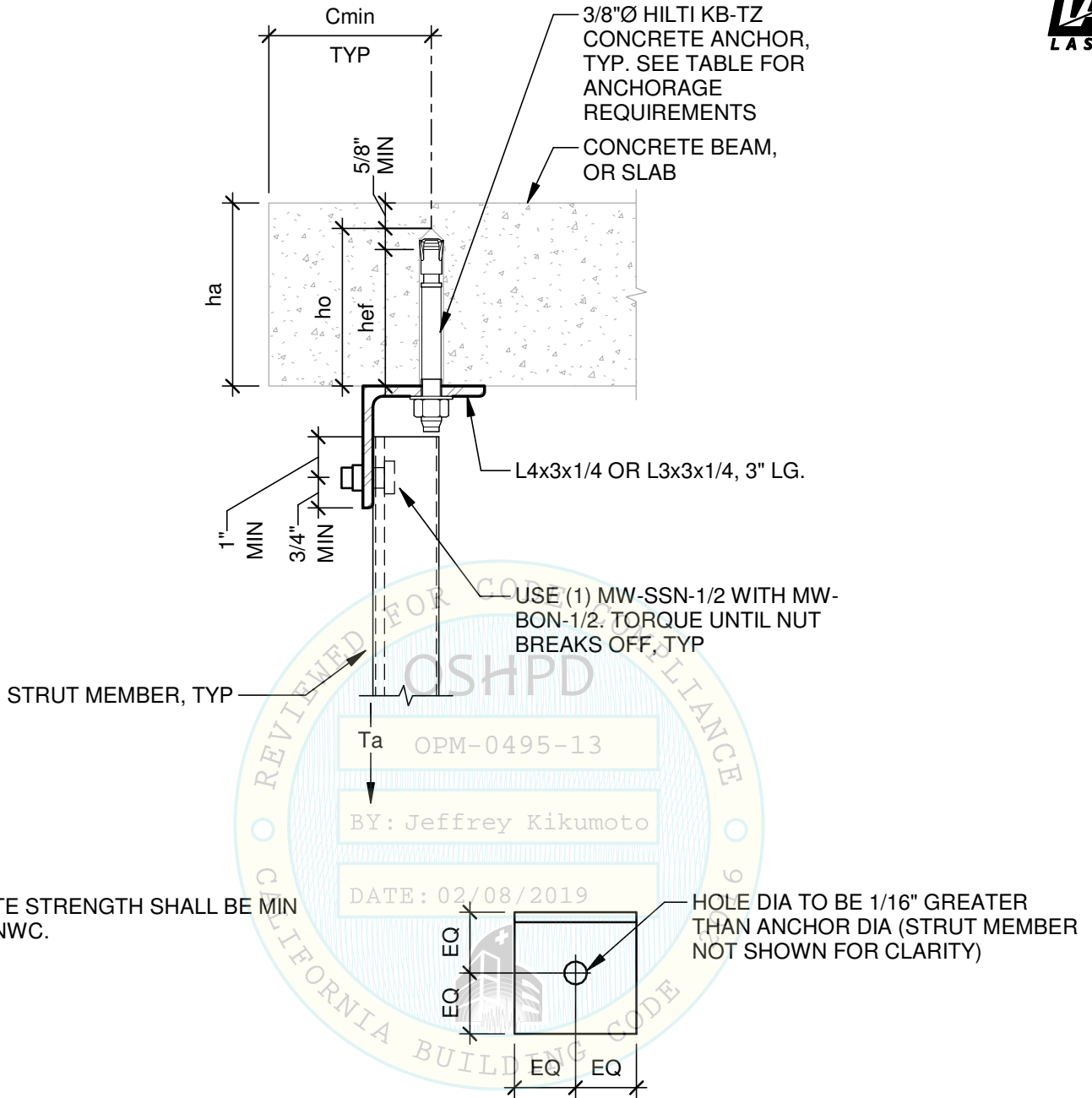
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BRACKET ANCHORAGE INTO METAL DECK - DORDOnova

Project No.18001 Date:2018.03.30  
 Drawn By: JM Checked By: FE Scale: NTS

**S7.1**



NOTE:  
CONCRETE STRENGTH SHALL BE MIN  
3000 PSI NWC.

ANGLE CLIP ATTACHMENT ANCHORAGE	da (in)	hef (in)	ho (in)	Cmin (in)	Min Spacing (in)	Required Torque (ft-lbs)
CONCRETE SLAB/BEAM	3/8	2.00	2.625	4.500	6.000	25

## ANGLE CLIP ATTACHMENT TO CONCRETE SLAB/BEAM

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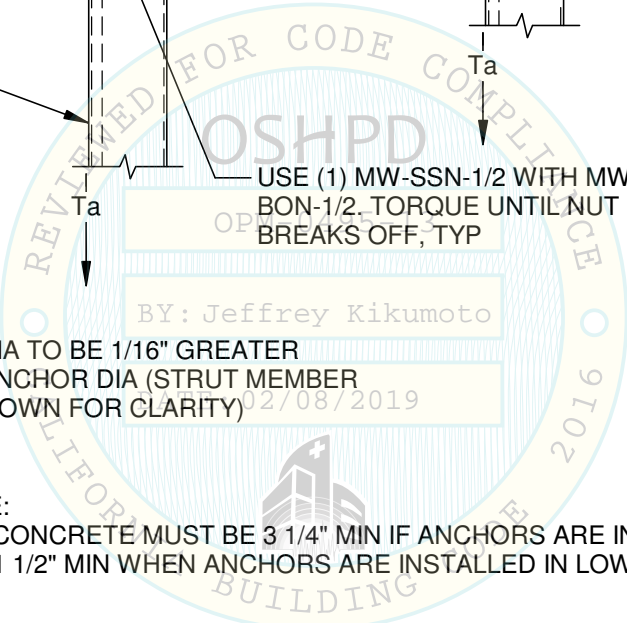
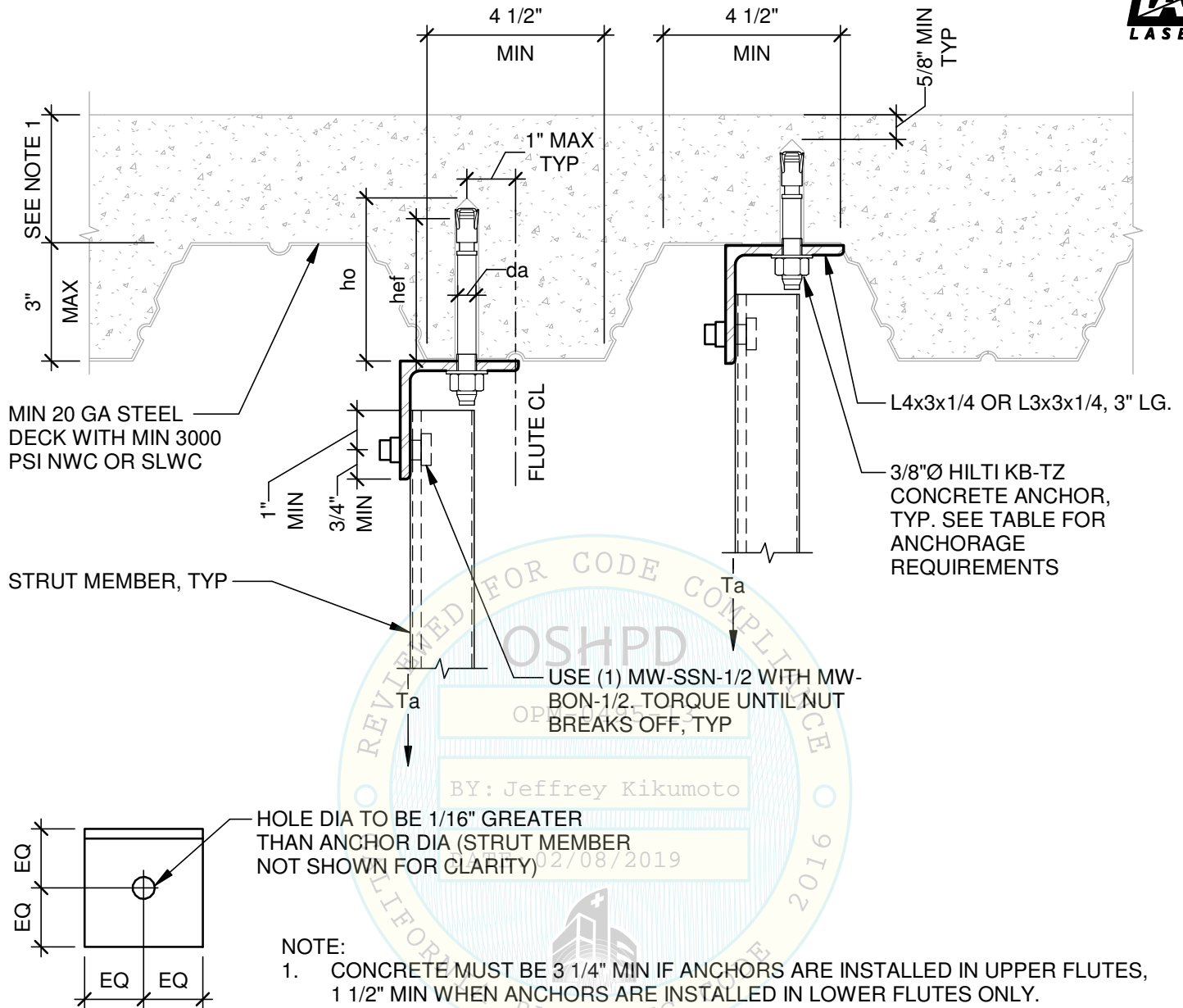
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### ANGLE CLIP ATTACHMENT TO CONCRETE SLAB /BEAM - DORDOnova

Project No.18001      Date:2019.01.22

Drawn By: JM      Checked By: FE      Scale: NTS

S8



ANGLE CLIP ANCHORAGE	da (in)	hef (in)	ho (in)	Cmin (in)	REQUIRED TORQUE (ft-lbs)
CONCRETE FILLED METAL DECK	3/8	2.00	2.625	3.375	25

NOTE: MINIMUM SPACING SHALL BE GREATER OF 3\*hef OR 1.5\* FLUTE WIDTH, PARALLEL TO FLUTE.

## ANGLE CLIP INTO CONCRETE FILLED METAL DECK

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02/06/2019

## ANGLE CLIP ATTACHMENT INTO METAL DECK - DORDOnova

Project No.18001 Date:2018.03.30

Drawn By: JM Checked By: FE Scale: NTS

**S8.1**