



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY
APPLICATION #: OPM-0299-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

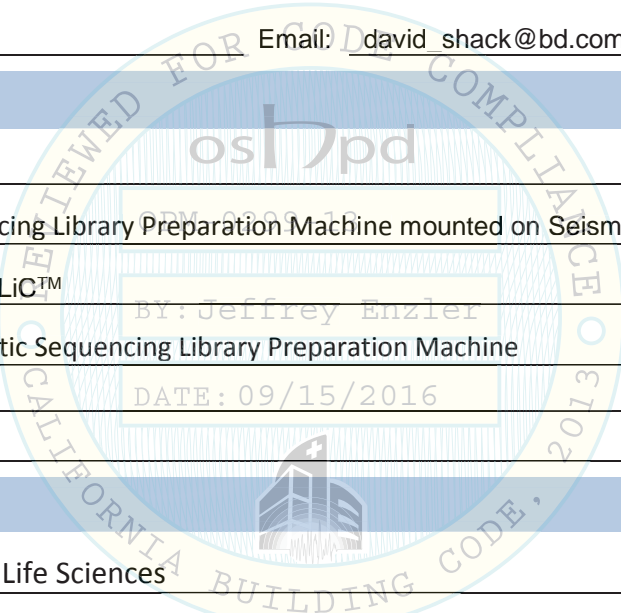
Type: [X] New [ ] Renewal [ ] Update to Pre-CBC 2013 OPA Number:

Manufacturer Information

Manufacturer: BD Life Sciences
Manufacturer's Technical Representative: David Shack
Mailing Address: 4040 Campbell Ave., Menlo Park, CA 94025
Telephone: 408-464-6433 Email: david\_shack@bd.com

Product Information

Product Name: BD CLiC™
Product Type: Genetic Sequencing Library Preparation Machine mounted on Seismic Table
Product Model Number: BD CLiC™
General Description: Genetic Sequencing Library Preparation Machine



Applicant Information

Applicant Company Name: BD Life Sciences
Contact Person: David Shack
Mailing Address: 4040 Campbell Ave., Menlo Park, CA 94025
Telephone: 408-464-6433 Email: david\_shack@bd.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: [Handwritten Signature] Date: 01/20/2016
Title: Sr. Director Systems & Hardware Engineering, BD Genomics Company Name: BD Life Sciences

"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: 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 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 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: *J Enzler* Date: 09-15-2016

Print Name: Jeffrey Enzler

Title: DSE

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

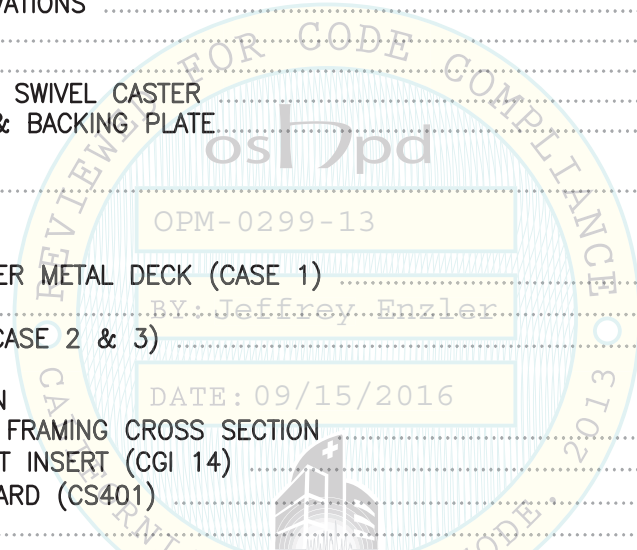
"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





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OPM-0299-13

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- NOTES:**
1. THESE DRAWINGS ARE PREPARED FOR BD LIFE SCIENCES - DIAGNOSTIC SYSTEMS, SPARKS, MARYLAND.
  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, SEISMIC TABLE & SUPPORT/ATTACHMENT HARDWARE ARE SUPPLIED BY BD. THRU-BOLTS, STRUT PLATES & EXPANSION BOLTS SHOWN ON PAGES 20 TO 22 SHALL BE SUPPLIED & INSTALLED BY THE CONTRACTOR.



SHEET TITLE: TABLE OF CONTENTS

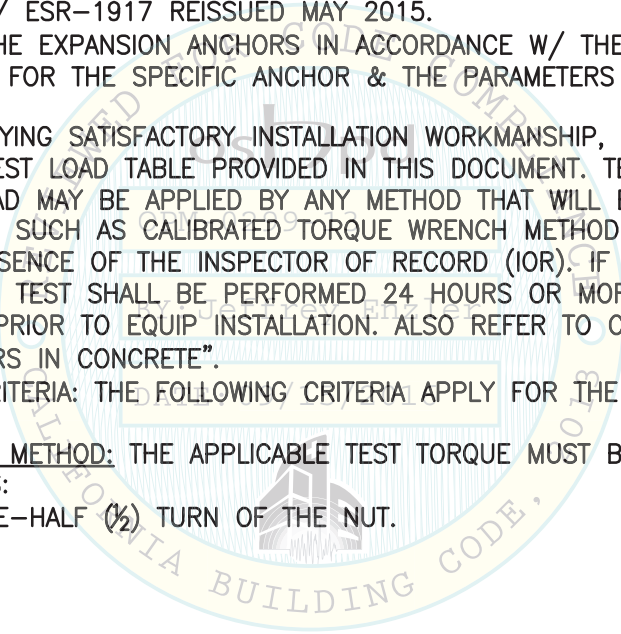
<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 15064 Date: 08-24-2016 Page: 1 of 26
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**GENERAL NOTES:**

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 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 SPACING SHOWN IN THE TEST LOADS TABLE ON PAGE 3 IS THE REQ MIN SPACING OF THE 1/2" DIA AB'S. THE REQ SPACING FROM ANCHORS OF OTHER DIAMETERS & EMBEDMENTS MAY VARY & SHALL BE EVALUATED BY THE SEOR.
  - D. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE CBC 2013 & 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 INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.
3. EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE CARBON STEEL HILTI KB-TZ EXPANSION ANCHORS COMPLYING W/ ESR-1917 REISSUED MAY 2015.
  - 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 PAGE 3.
  - B. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOBSITE 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 TORQUE WRENCH METHOD. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD (IOR). 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 CBC 1913A.7 "FIELD TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".
  - 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 (1/2) TURN OF THE NUT.

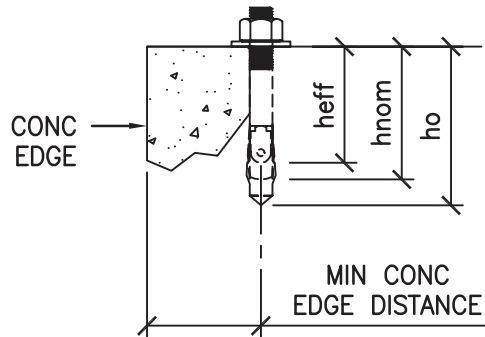


SHEET TITLE: GENERAL NOTES

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**GENERAL NOTES CONTINUED:**

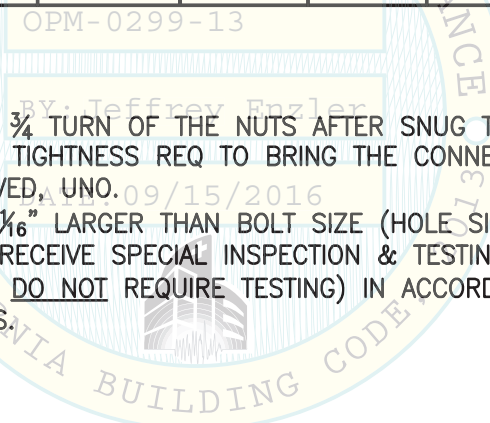


ANCHOR DIA (INCH)	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) heff	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h	MIN * CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST TORQUE (FT-LBS)	CONDITION OF ANCHORAGE
1/2	2 3/8	2	2 5/8	4	12	4.00	40	CASE 2
1/2	3 5/8	3 1/4	4	6	12	4.00	40	CASE 3

\* OCCURRING IN TWO DIRECTIONS

**4. BOLTS THRU CONC ON MTL DECK:**

- A. BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER SNUG TIGHT (THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQ TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNO.
- 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 (THRU-BOLTS W/ STL TO STL CONN IN TENSION DO NOT REQUIRE TESTING) IN ACCORDANCE W/ REQUIREMENTS FOR POST-INSTALLED ANCHORS.



SHEET TITLE: GENERAL NOTES (CONTINUED)



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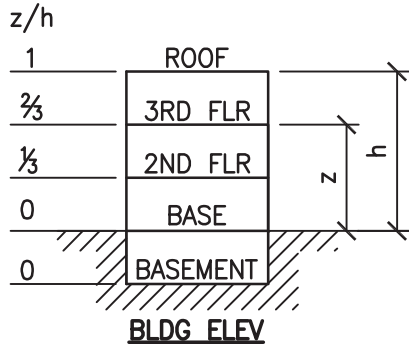
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**GENERAL NOTES CONTINUED:**

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



**CASE 1:** ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG ( $z/h \leq 0.8$ ), THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER MTL DECK ( $f'c = 3000$  PSI, MIN).

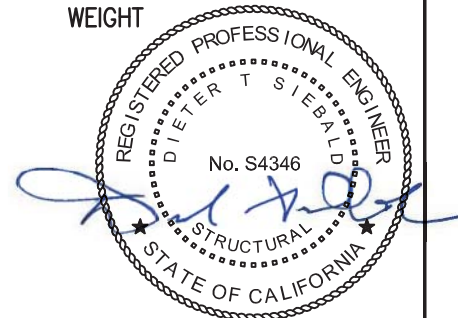
**CASE 2:** ATTACHMENT DETAILS LOCATED AT OR BLW THE BASE OF A BLDG ( $z/h=0$ ). THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 6" NWC SLAB ( $f'c = 3000$  PSI, MIN).

**CASE 3:** ATTACHMENT DETAILS 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).

6. THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA WHERE  $S_{DS}$  IS LESS THAN OR EQ TO 2.50, EXCEPT FOR CASE 3 WHERE  $S_{DS}$  IS LIMITED TO 1.80. HT LIMITATIONS ( $z/h$ ) ARE INDICATED PER NOTE 5.

**ABBREVIATIONS:**

@	AT	$F_v$	VERTICAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS	R/H	RIGHT HAND
AB	ANCHOR BOLT	$F_y$	SPECIFIED MINIMUM YIELD STRESS OF STEEL	SEOR	STRUCTURAL ENGINEER OF RECORD
ABV	ABOVE	GA	GAUGE	SS	STAINLESS STEEL
ALUM	ALUMINUM	HT	HEIGHT	SLWC	SAND-LIGHTWEIGHT CONCRETE
ASD	ALLOWABLE STRENGTH DESIGN	ICC	INTERNATIONAL CODE COUNCIL	STD	STANDARD
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	IN (")	INCH	STL	STEEL
BLDG	BUILDING	KSI	KIPS PER SQUARE INCH	THK	THICK/THICKNESS
BLW	BELOW	LBS	POUNDS	THRD	THREAD OR THREADED
BOTT	BOTTOM	L/H	LEFT HAND	Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE
CBC	CALIFORNIA BUILDING CODE	LRFD	LOAD AND RESISTANCE FACTOR DESIGN	TYP	TYPICAL
CBC	CALIFORNIA BUILDING CODE	MAX	MAXIMUM	T&B	TOP & BOTTOM
CG	CENTER OF GRAVITY	MFR	MANUFACTURER	UNO	UNLESS NOTED OTHERWISE
CL	CENTERLINE	MIN	MINIMUM	Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE
CONC	CONCRETE	MTL	METAL	W/	WITH
COORD	COORDINATE	NO. (#)	NUMBER OR POUNDS	Wp	OPERATING WEIGHT
DIA (Ø)	DIAMETER	NTS	NOT TO SCALE	WT	WEIGHT
(E)	EXISTING CONDITION	NWC	NORMAL WEIGHT CONCRETE		
EA	EACH	OPG	OPENING		
ELEV	ELEVATION	PCF	POUNDS PER SQUARE INCH		
EQ	EQUAL	PG	PAGE		
EQUIP	EQUIPMENT	PL	PLATE		
f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE	PSI	POUNDS PER SQUARE INCH		
FLR	FLOOR	REQ	REQUIRED		
FT (')	FOOT/FEET				
$F_p$	HORIZONTAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS				



SHEET TITLE: GENERAL NOTES (CONTINUED) & ABBREVIATIONS



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**DESIGN CRITERIA**

1. SUPPORT & ATTACHMENT DESIGN IS PER 2013 CBC AT LRFD LEVEL FORCES.

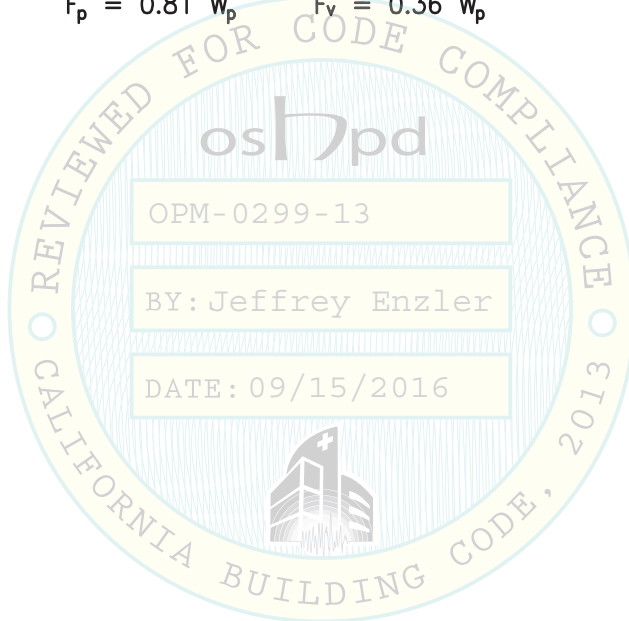
$a_p = 1.0$        $R_p = 1.5$        $I_p = 1.5$        $\Omega_0 = 1.5$  (USE FOR CONC ANCHORS ONLY)

$W_p$  AS NOTED ON DRAWING

**CASE 1:**       $z/h \leq 0.8$       (ANY LOCATION IN THE BLDG WHERE  $z/h \leq 0.8$ )  
 $S_{DS} = 2.50$        $F_p = 2.60 W_p$        $F_v = 0.50 W_p$

**CASE 2:**       $z/h = 0$       (SLAB AT OR BLW BASE)  
 $S_{DS} = 2.50$        $F_p = 1.13 W_p$        $F_v = 0.50 W_p$

**CASE 3:**       $z/h = 0$       (SLAB AT OR BLW BASE)  
 $S_{DS} = 1.80$        $F_p = 0.81 W_p$        $F_v = 0.36 W_p$



SHEET TITLE: DESIGN CRITERIA



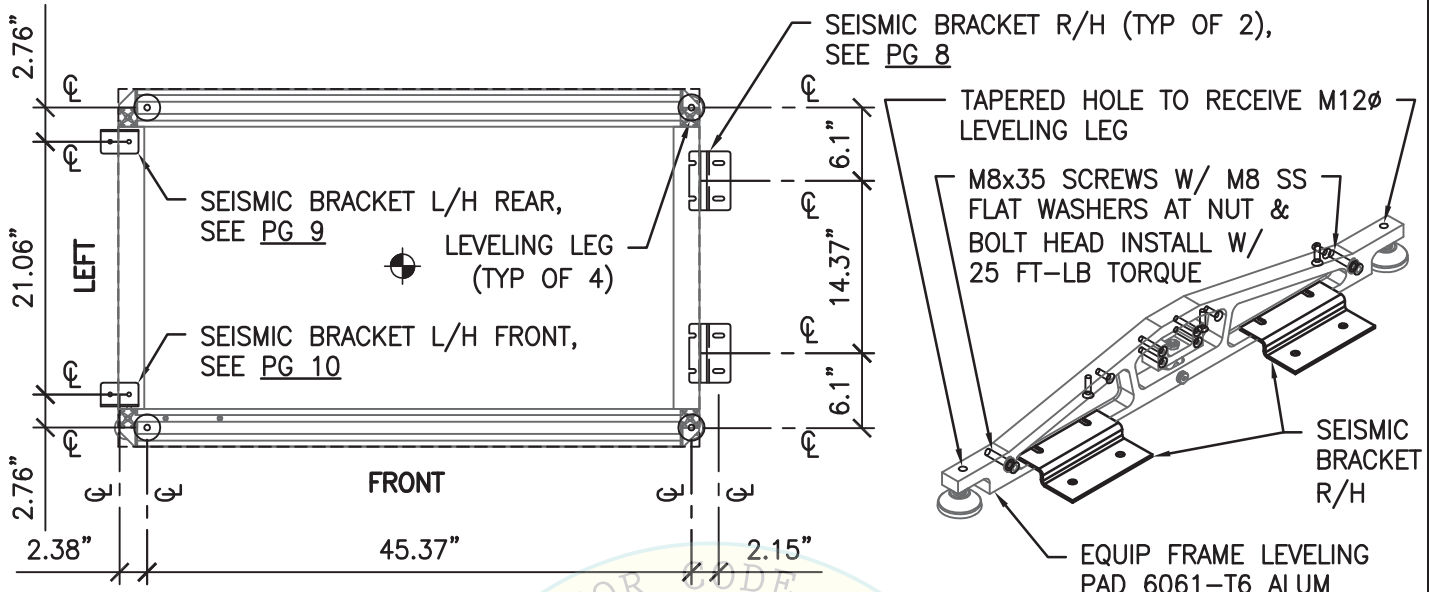
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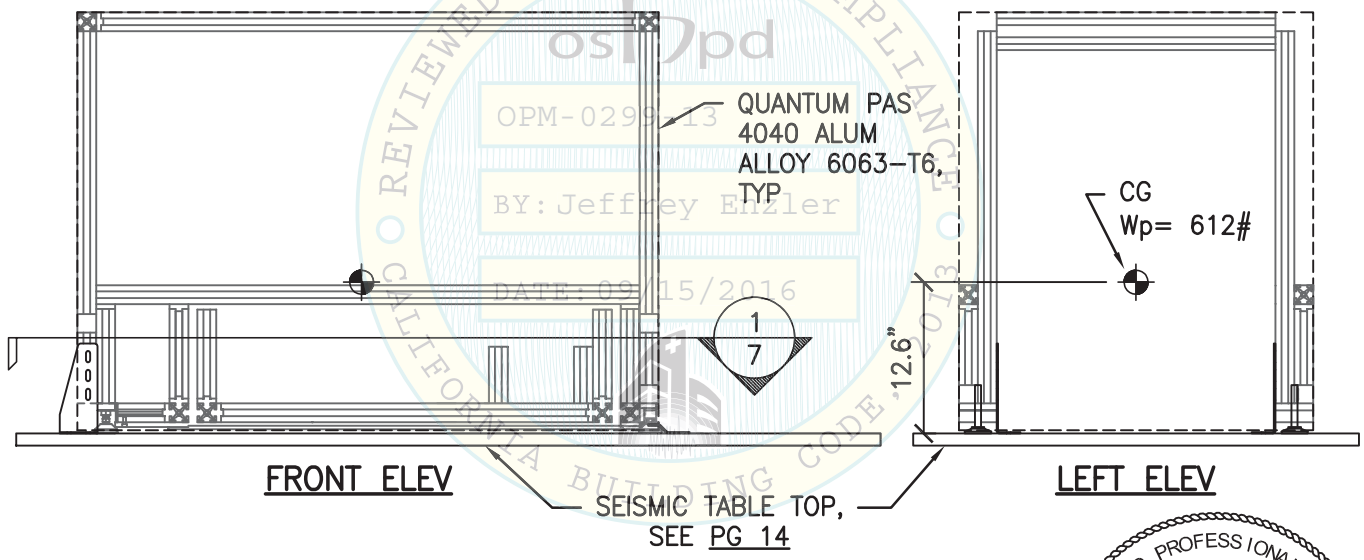
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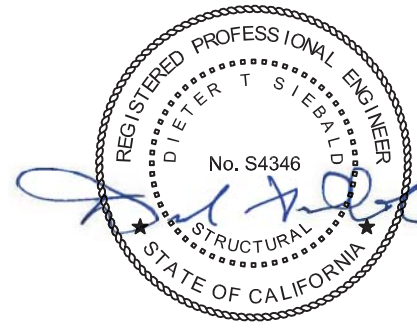
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**PLAN VIEW AT BASE FRAME**



**NOTE:**  
REFERENCE PG 26 FOR ATTACHMENT AT REAR LEGS



SHEET TITLE: CLiC™  
PLAN & ELEVATIONS



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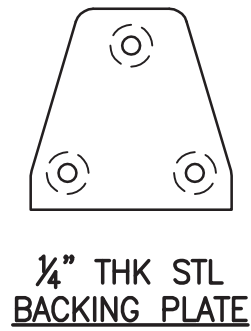
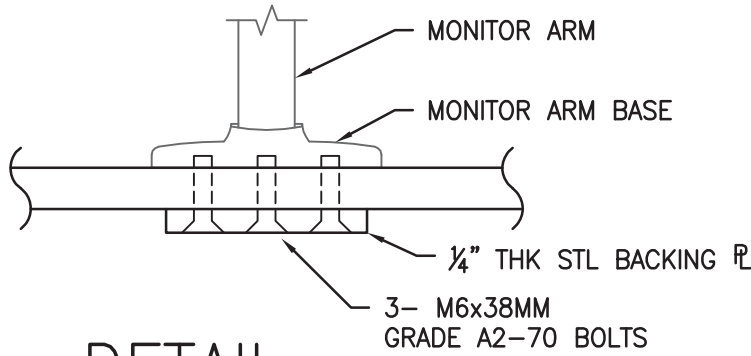
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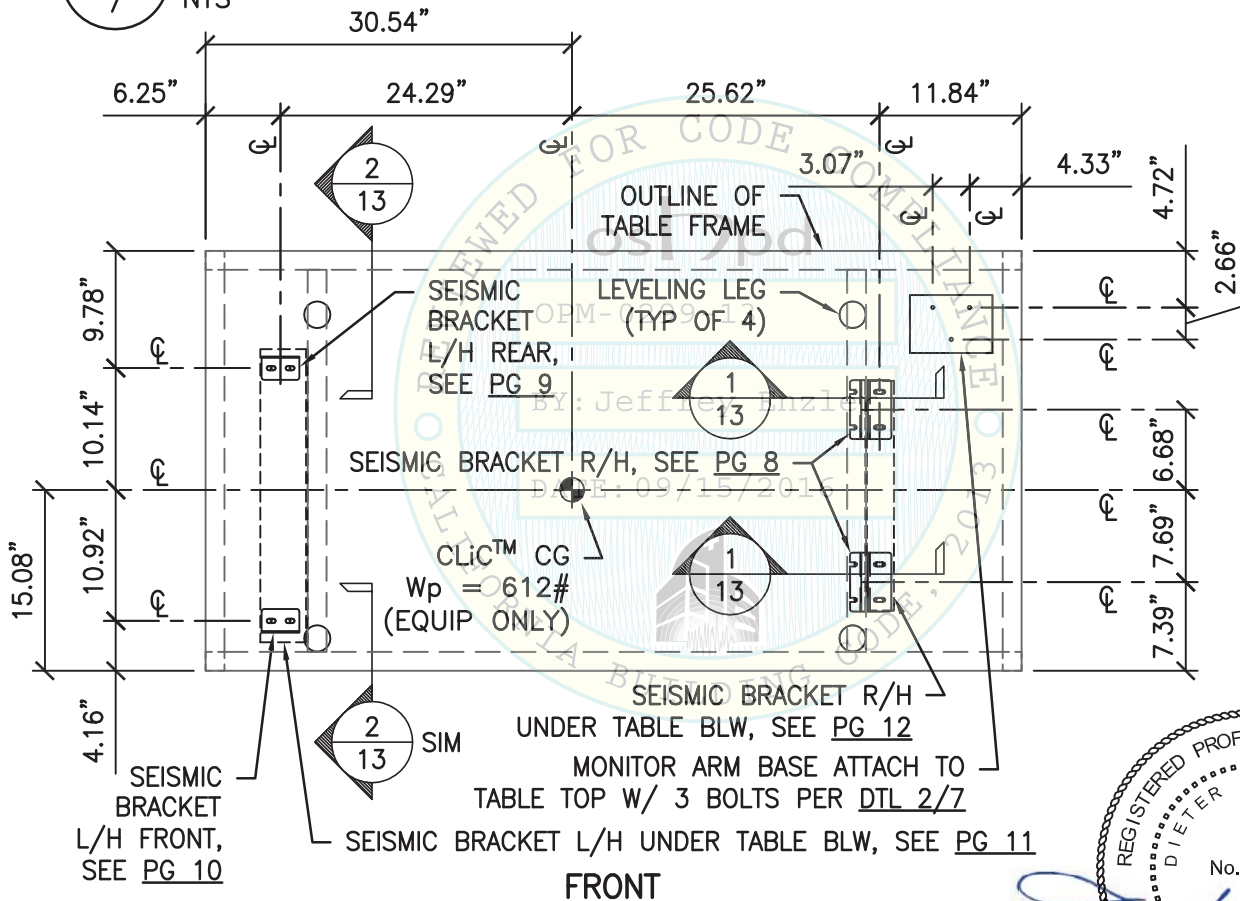
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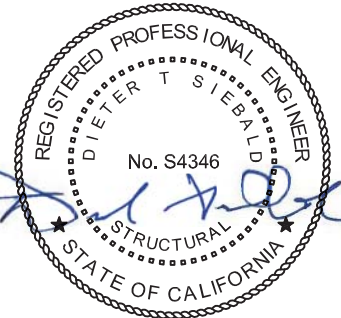




2  
7  
DETAIL



1  
7  
PLAN VIEW  
3/4" = 1'-0"



SHEET TITLE: CLiC™  
CONNECTION THRU TABLE TOP



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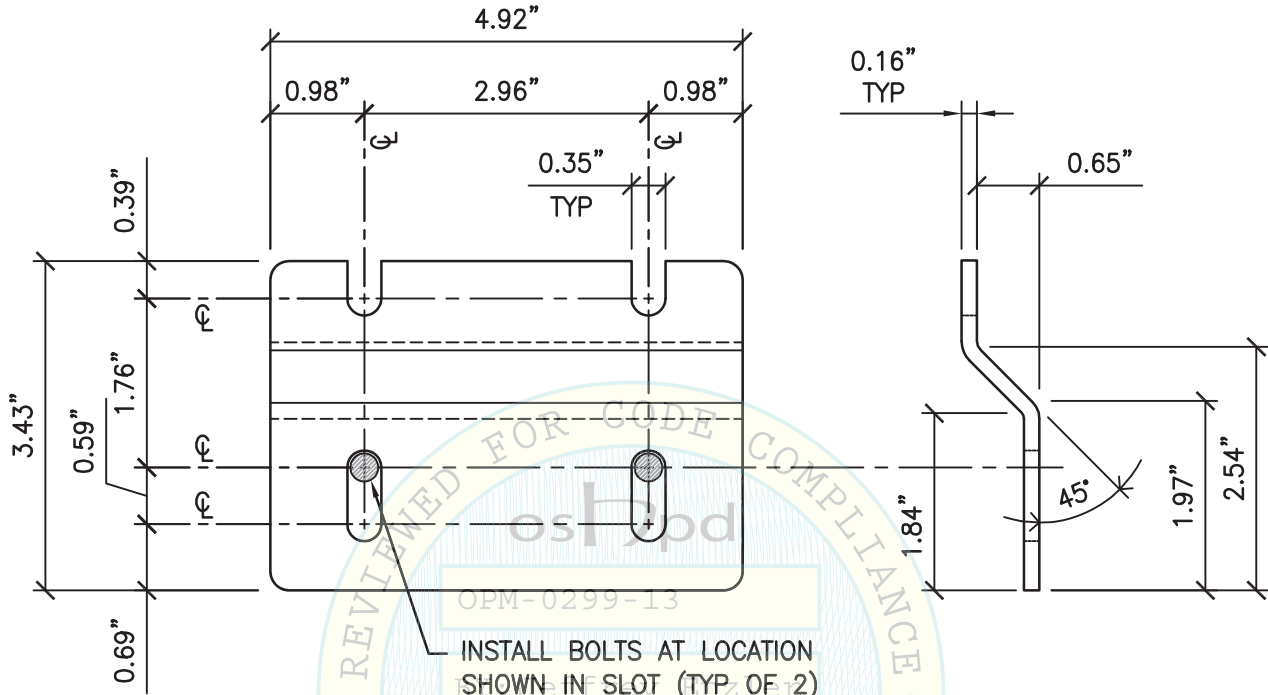
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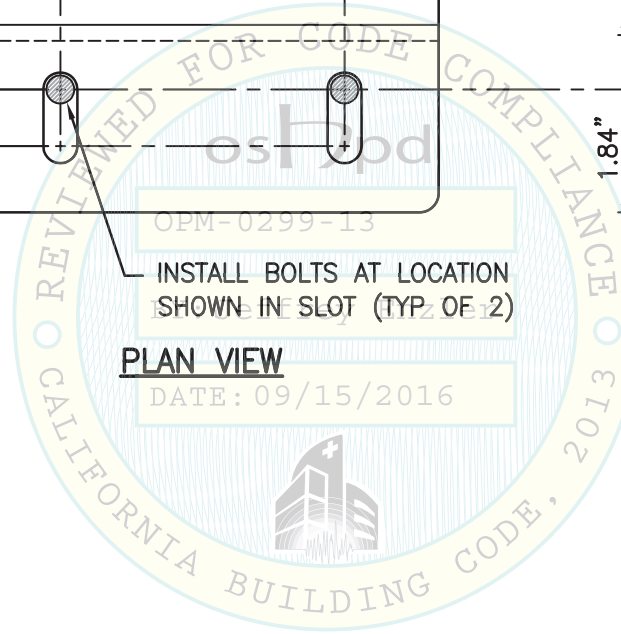
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**MATERIAL:**  
ASTM A240 TYPE 304 SS  
(Fy = 30 KSI MIN)



OPM-0299-13  
INSTALL BOLTS AT LOCATION  
SHOWN IN SLOT (TYP. OF 2)  
**PLAN VIEW**  
DATE: 09/15/2016

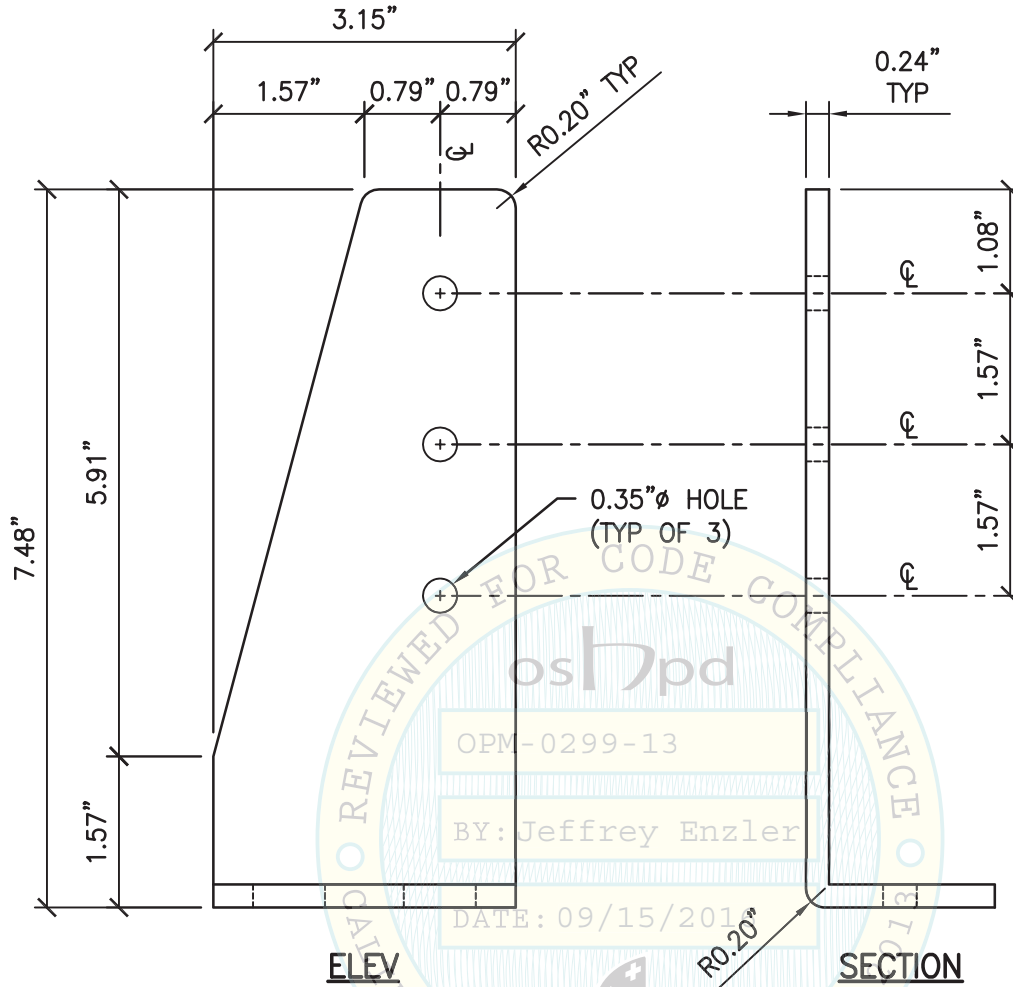
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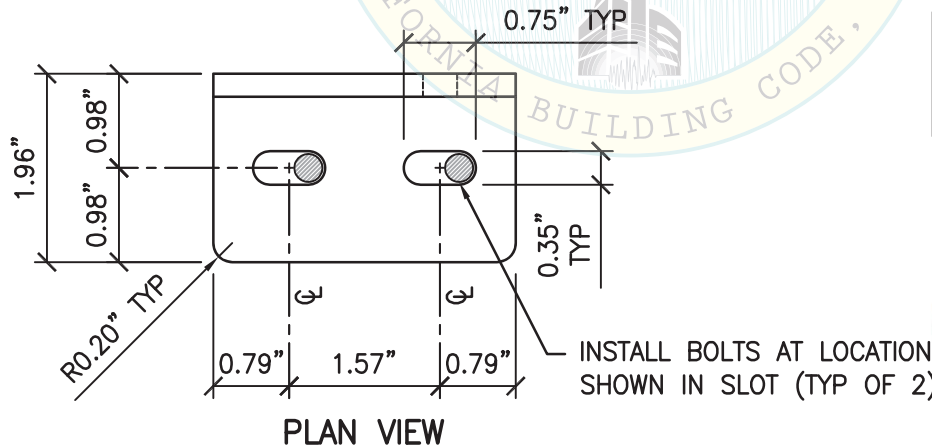
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SEISMIC BRACKET R/H

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REVIEWED FOR CODE COMPLIANCE  
OPM-0299-13  
BY: Jeffrey Enzler  
DATE: 09/15/2016  
CALIFORNIA BUILDING CODE, 2013



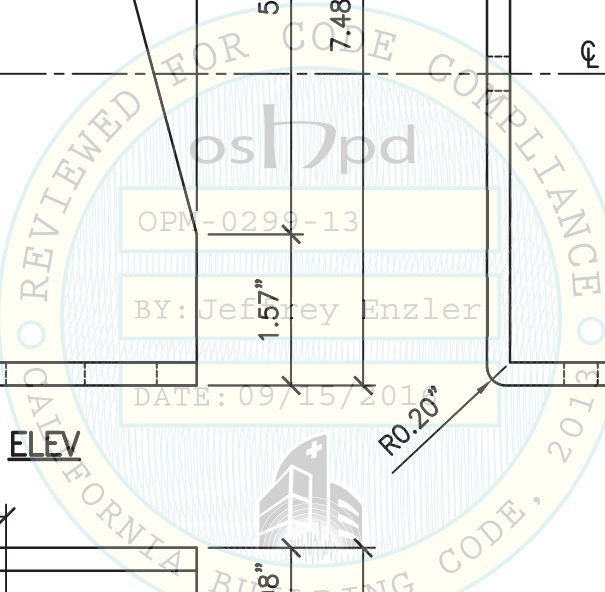
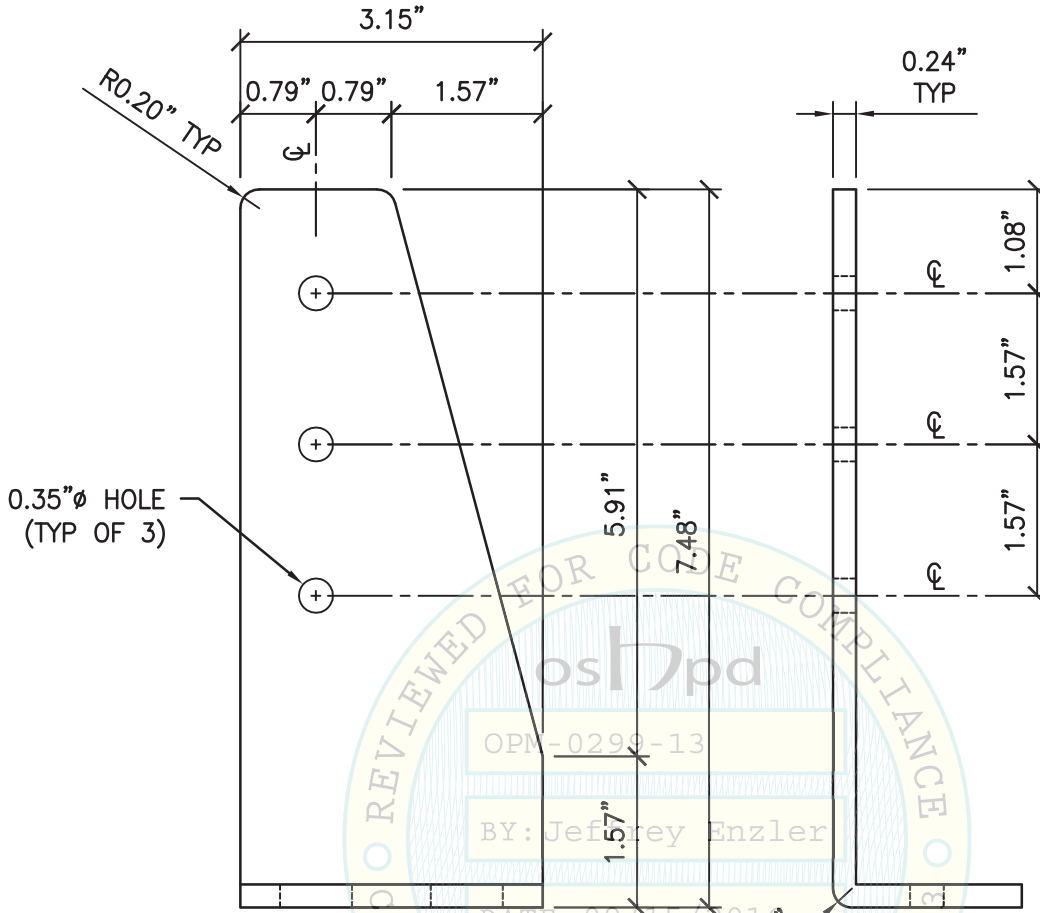
**MATERIAL:**  
ASTM A240 TYPE 304 SS  
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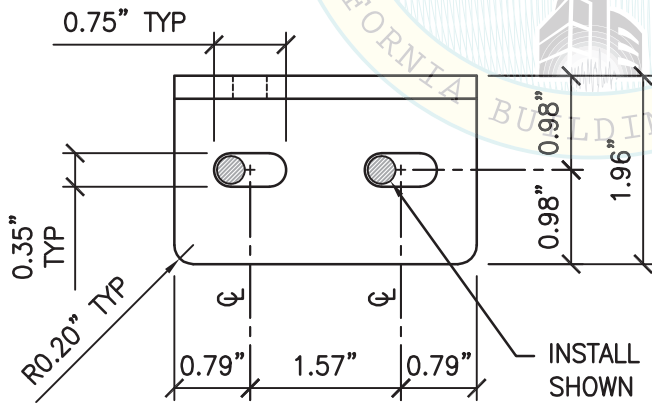
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SEISMIC BRACKET L/H REAR

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**ELEV**



**PLAN VIEW**

**MATERIAL:**  
ASTM A240 TYPE 304 SS  
(Fy = 30 KSI MIN)



INSTALL BOLTS AT LOCATION  
SHOWN IN SLOT (TYP OF 2)

SHEET TITLE: CLiC™  
SEISMIC BRACKET L/H FRONT



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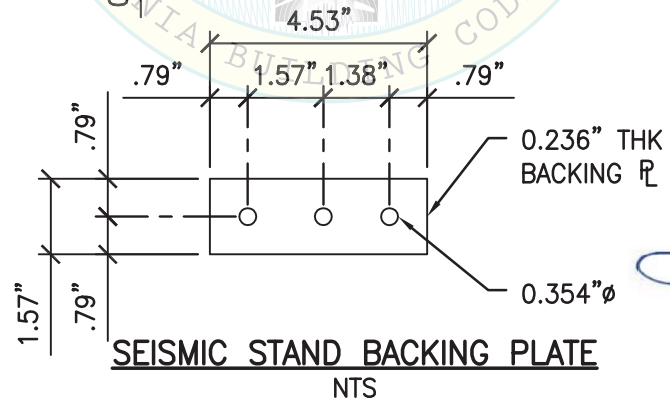
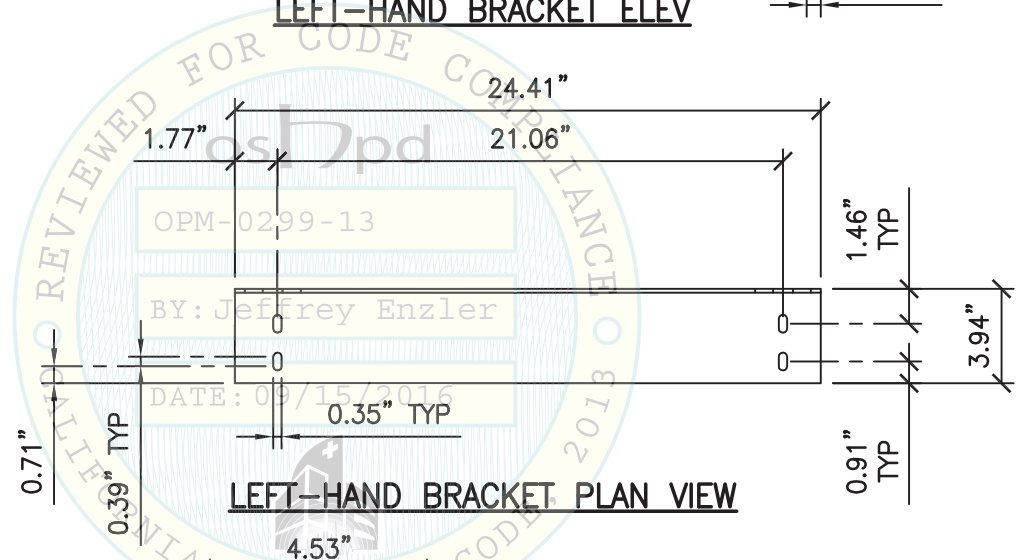
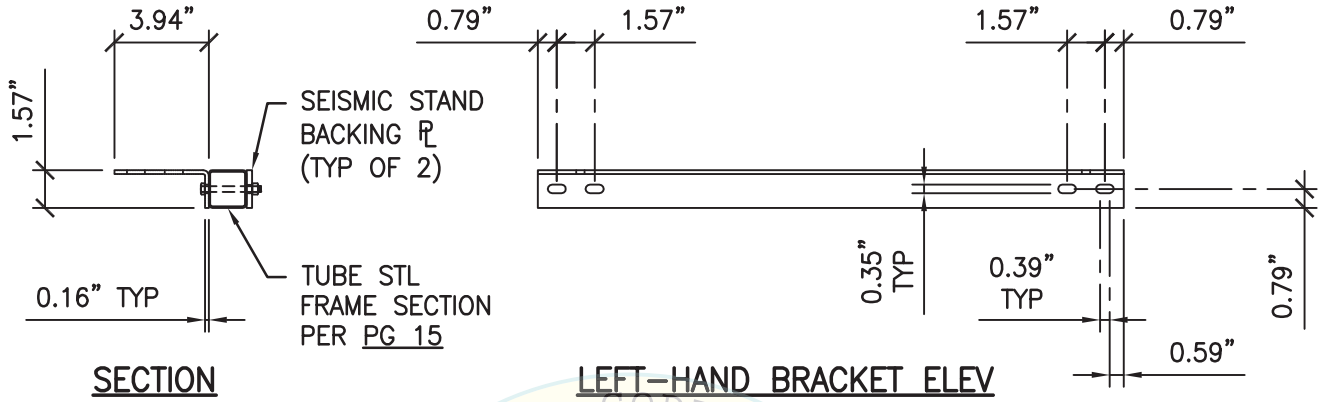
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BY: Jeffrey Enzler  
DATE: 08/15/2016

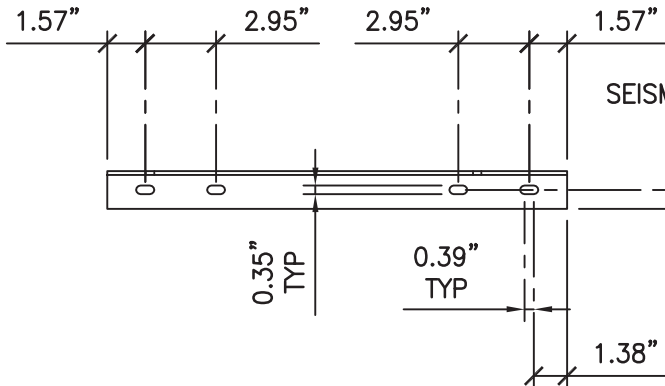
SHEET TITLE: CLiC™

SEISMIC BRACKET L/H UNDER TABLE

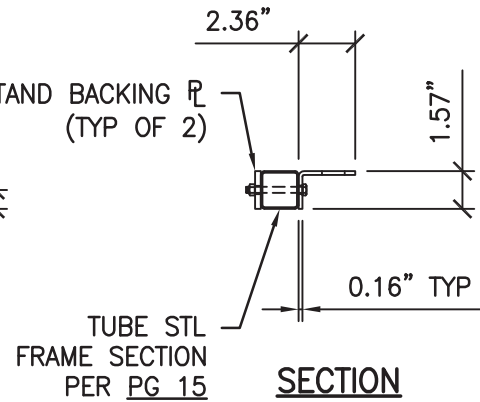
<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 15064 Date: 08-24-2016 Page: 11 of 26
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L:\Jobs\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time: Aug 24, 2016 - 02:40pm Login: mayerhoferm DimScale: 1 L1Scale: 6

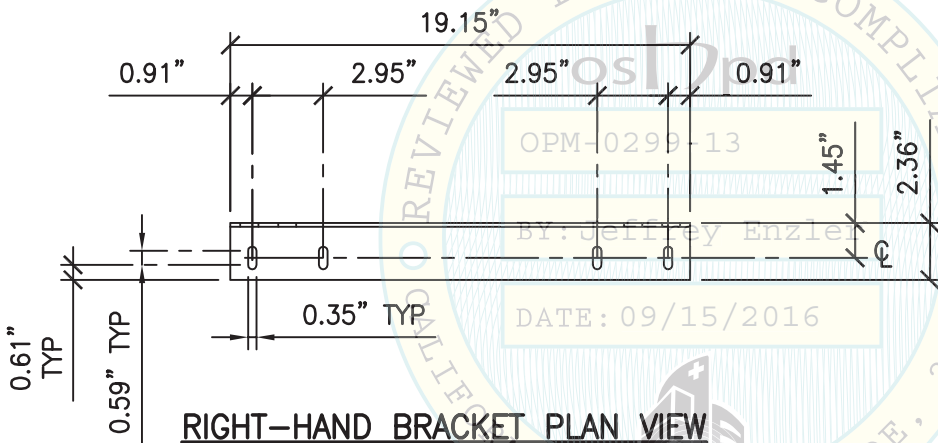
**MATERIAL:**  
ASTM A240 TYPE 304 SS  
(Fy = 30 KSI MIN)



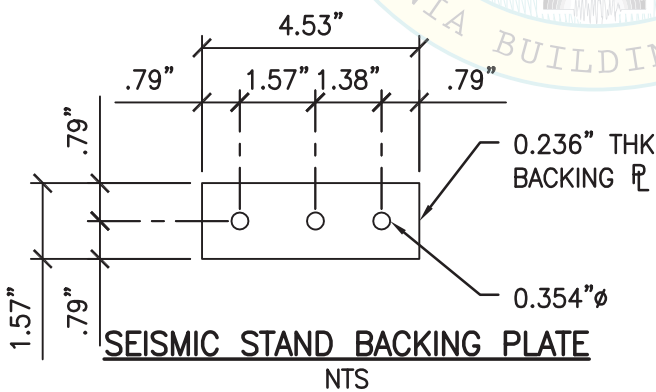
**RIGHT-HAND BRACKET ELEV**



**SECTION**

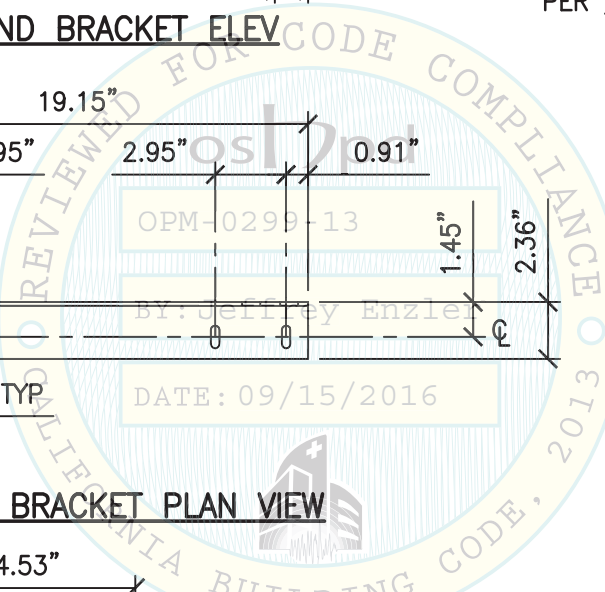


**RIGHT-HAND BRACKET PLAN VIEW**



**SEISMIC STAND BACKING PLATE**

NTS



SHEET TITLE: CLiC™  
SEISMIC BRACKET R/H UNDER TABLE



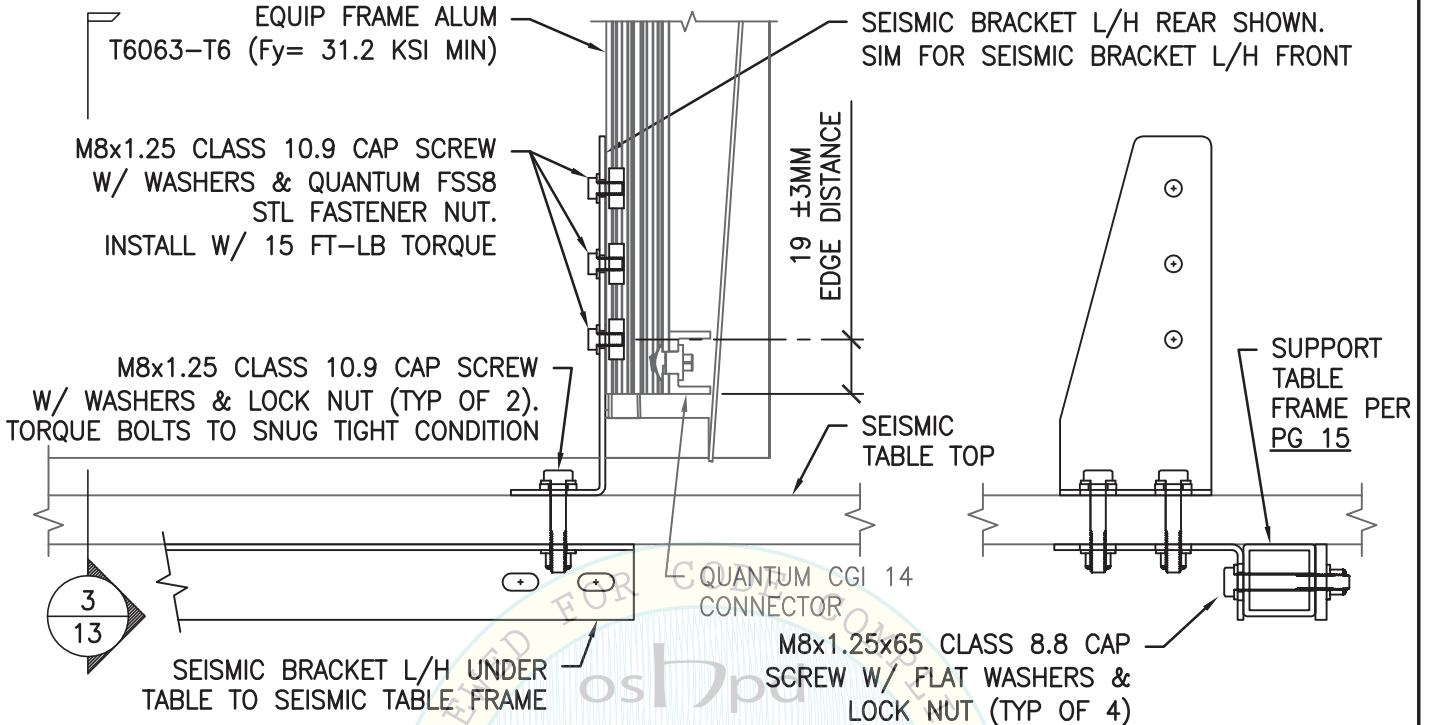
**CYS STRUCTURAL ENGINEERS, INC.**

2495 NATOMAS PARK DRIVE, SUITE 650  
SACRAMENTO, CA 95833

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

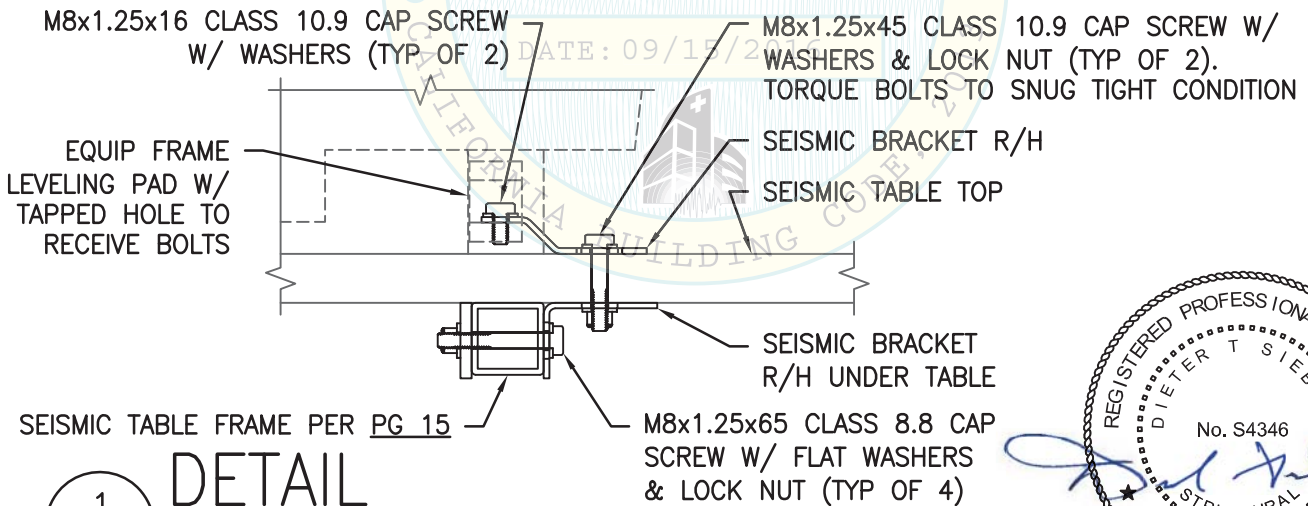
Job No:	15064
Date:	08-24-2016
Page:	12 of 26

L:\Jobs\15\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:41pm Login:mayerhoferm DimScale:1 LTScale:6



2  
13  
DETAIL  
3" = 1'-0"

3  
13  
DETAIL  
3" = 1'-0"



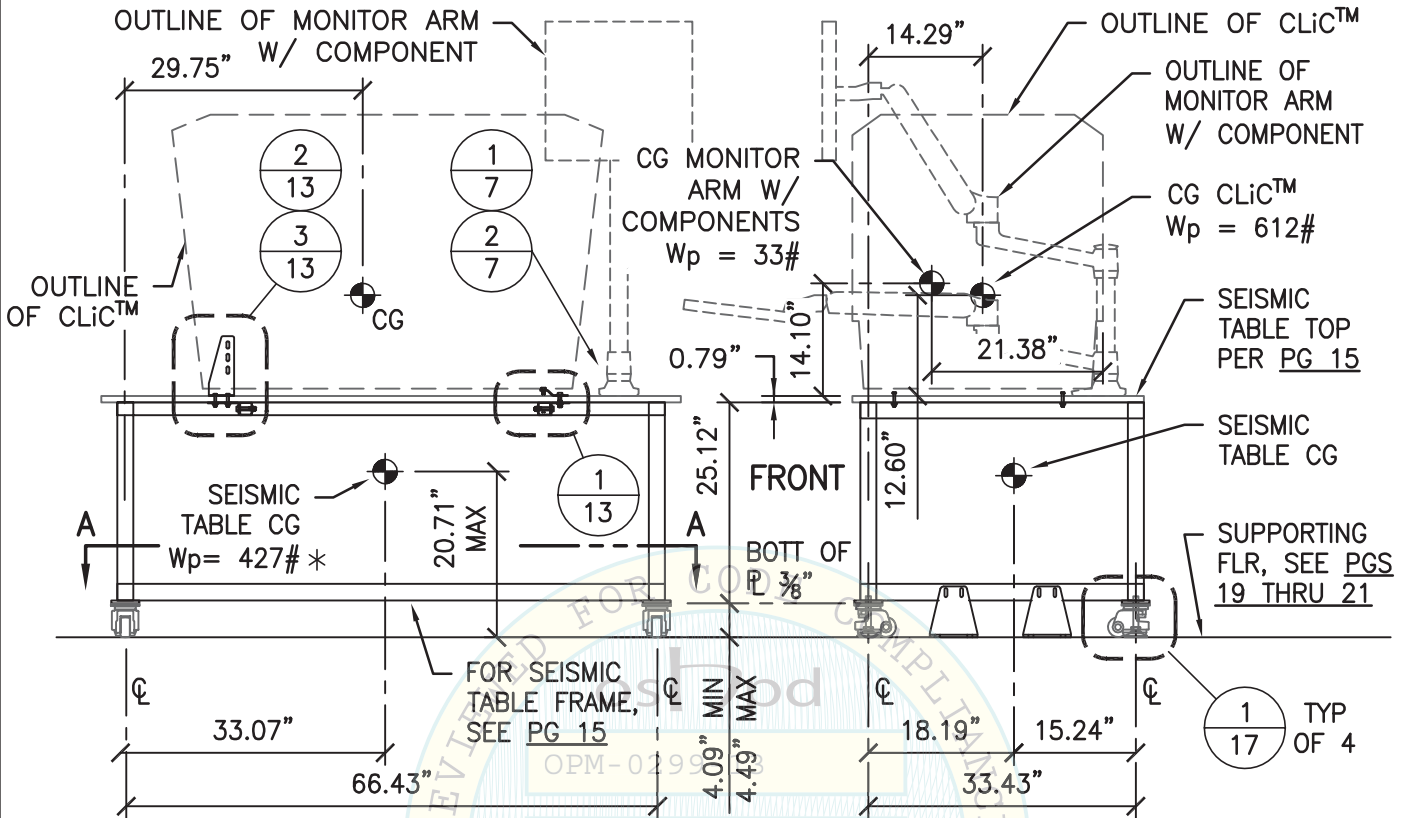
1  
13  
DETAIL  
3" = 1'-0"



SHEET TITLE: CLiC™  
CONNECTION DETAILS

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 15064 Date: 08-24-2016 Page: 13 of 26
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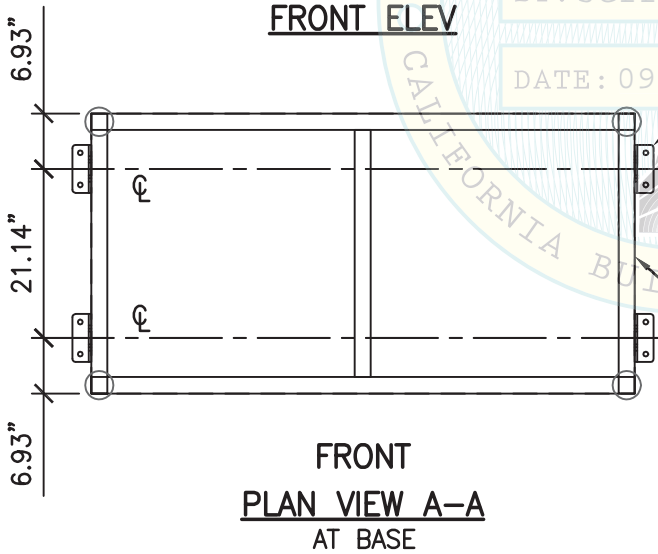
L:\Jobs\15\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:41pm Login:mayerhoferm DimScale:1 LTScale:6



\* INCLUDES MONITOR ARM W/ COMPONENTS & 3 SHELF COMPONENTS SHOWN ON PG 19

**FRONT ELEV**

**RIGHT SIDE ELEV**



SEISMIC BRACKET TABLE TO GROUND (TYP OF 4).  
SEE PG 18. FOR ATTACHMENT TO FLR,  
SEE PGS 20 THRU 22.

NOTE: VERTICAL MAY BE ATTACHED TO EITHER  
FACE OF FRAME MEMBER. WHEN INSTALLED ON  
THE INSIDE, ATTACHMENT IS UNDER HORIZONTAL  
TUBE AS SHOWN ON PG 22.

SEISMIC TABLE FRAME

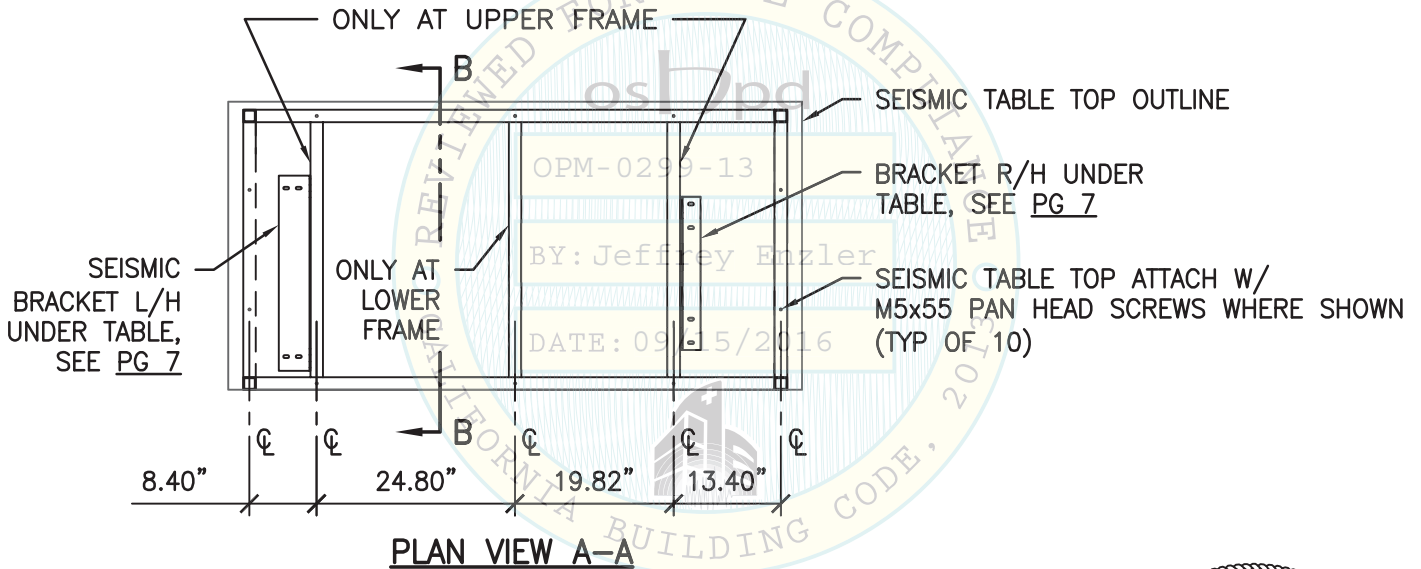
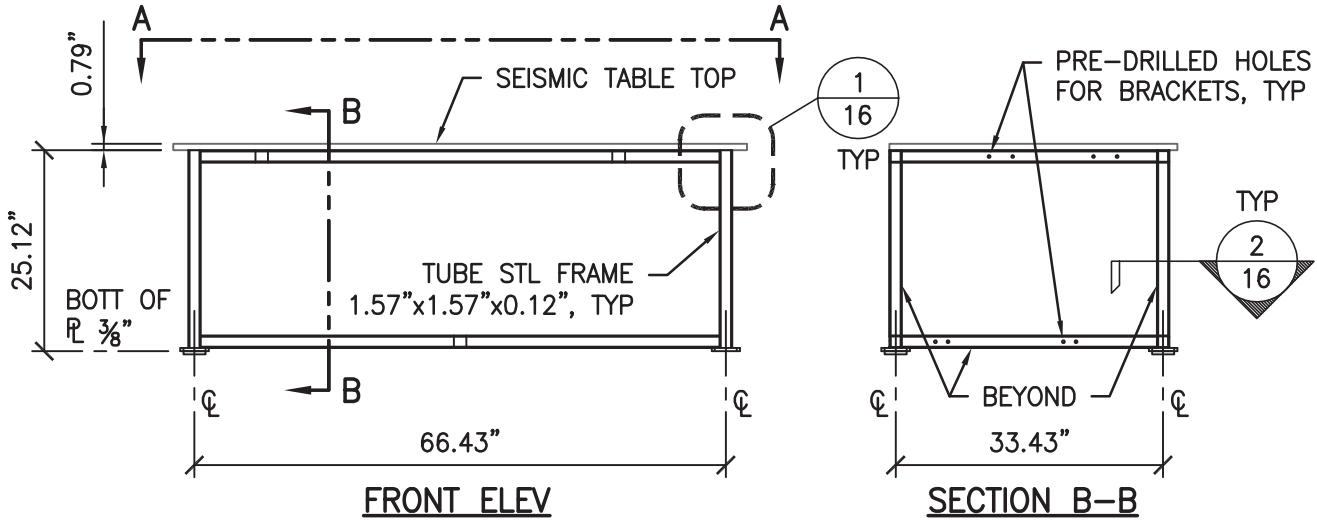


SHEET TITLE: SEISMIC TABLE  
BASE PLAN & ELEVATIONS

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 15064 Date: 08-24-2016 Page: 14 of 26
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L:\Jobs\15\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:41pm Login:mayerhoferm DimScale:1 L1Scale:6





**NOTES:**

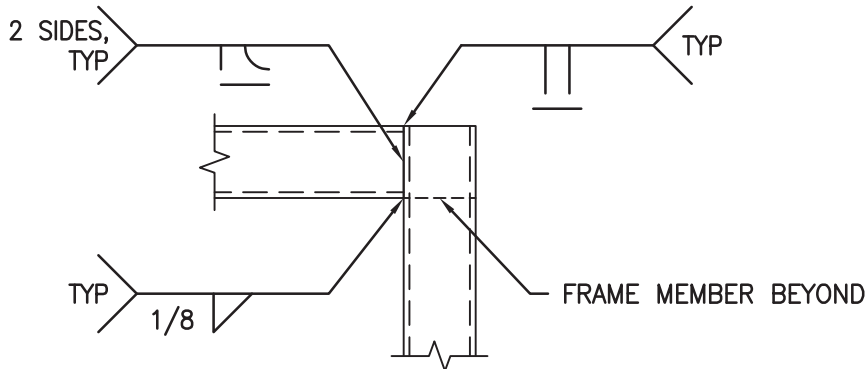
1. FRAME MATERIAL IS COLD-FORMED MILD STL PER EN 10219:2006 GRADE S355J2H (Fy= 50 KSI MIN).
2. ALL JOINTS ARE FULLY WELDED ALL AROUND W/ 1/8" MIN FILLET WELDS.
3. REAR & SIDE PANELS NOT SHOWN FOR CLARITY.
4. TABLE BASE SHELF NOT SHOWN FOR CLARITY.
5. ONLY SEISMIC TABLE FRAME CONSIDERED FOR SEISMIC LOAD PATH.
6. TABLE TOP MATERIAL IS FORMICA COMPACT LAMINATE.  
Fy = 11.6 KSI PER TEST METHOD EN ISO 178:2003 (d).
7. HOLES DRILLED IN TABLE TOP SHALL BE OVERSIZED 1/16", MAX



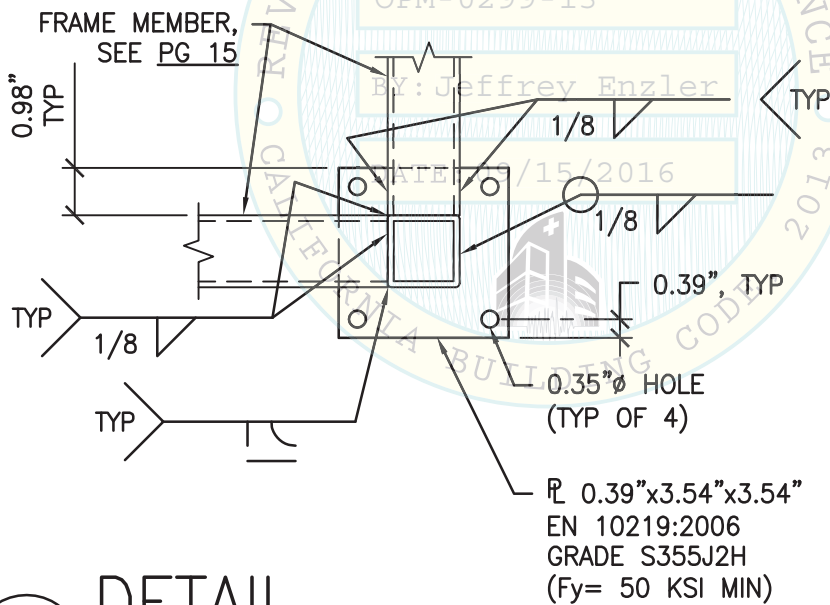
SHEET TITLE: SEISMIC TABLE  
FRAME

 <p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 15064 Date: 08-24-2016 Page: 15 of 26
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L:\Jobs\15\15064 BD - CLIC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016-02:42pm Login:mayerhoferm DimScale:1 LTScale:6



**1**  
DETAIL  
16 3" = 1'-0"



**2**  
DETAIL  
16 3" = 1'-0"



SHEET TITLE: SEISMIC TABLE  
DETAILS



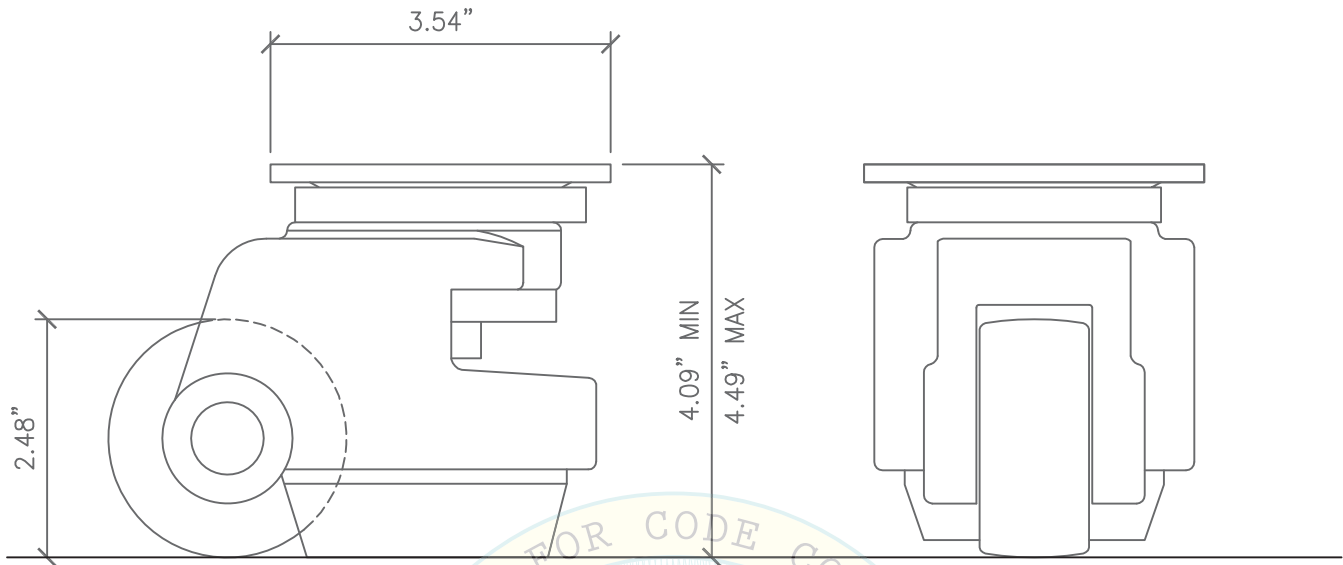
**CYS STRUCTURAL ENGINEERS, INC.**

2495 NATOMAS PARK DRIVE, SUITE 650  
SACRAMENTO, CA 95833

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

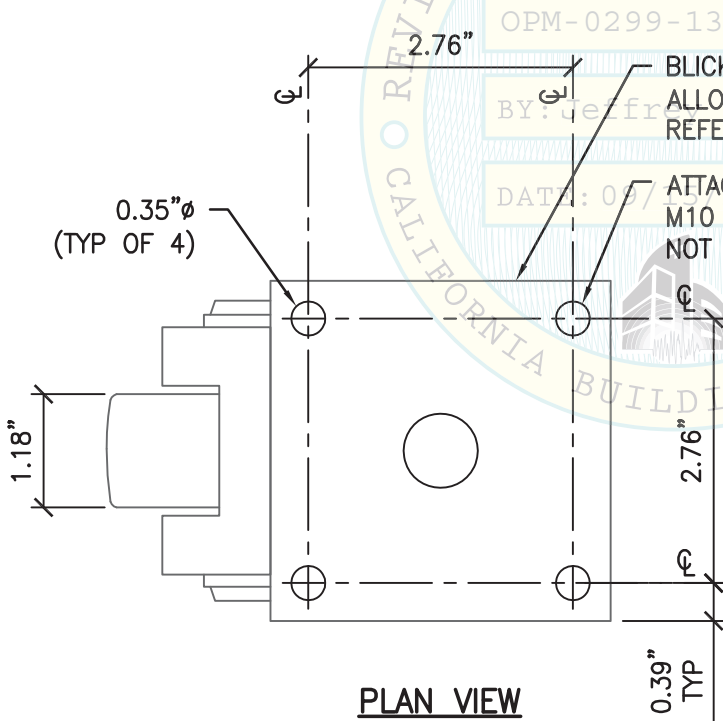
Job No:	15064
Date:	08-24-2016
Page:	16 of 26

L:\Jobs\15\15064 BD - CLIC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:42pm Login:mayerhoferm DimScale:1 LTScale:6



ELEV

SECTION



PLAN VIEW

BLICKLE CASTER MODEL NO. HRP-POA 63G.  
ALLOWABLE LOAD CAPACITY IS 500 KILGRAMS (1100#),  
REFERENCE ONLY

ATTACH CASTER TO  $\frac{3}{8}$ " (PG 16) W/ MFR SUPPLIED  
M10 SCREWS, NUT & WASHER (TYP OF 4).  
NOT PART OF THIS OPM



SHEET TITLE: SEISMIC TABLE  
LEVELING LEG WITH SWIVEL CASTER



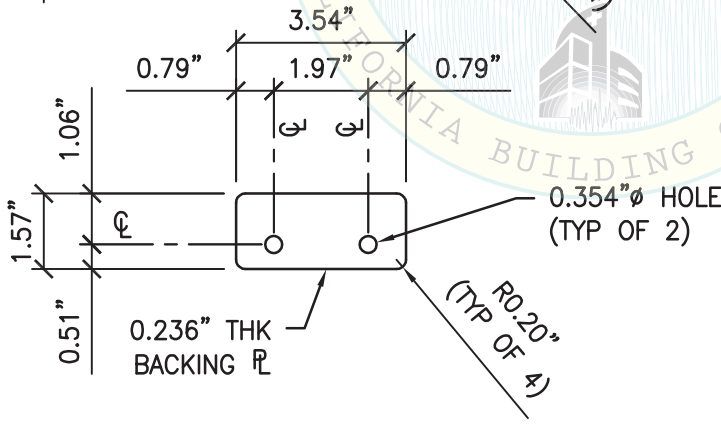
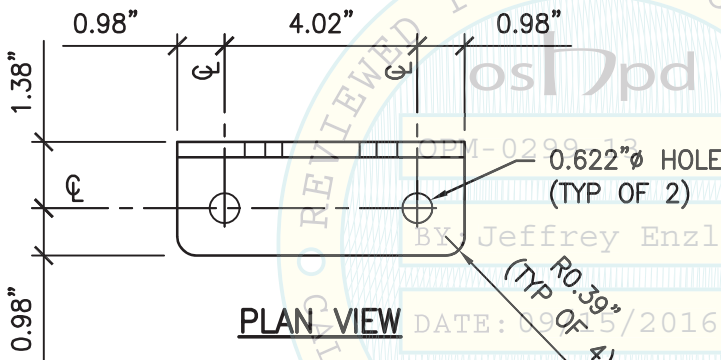
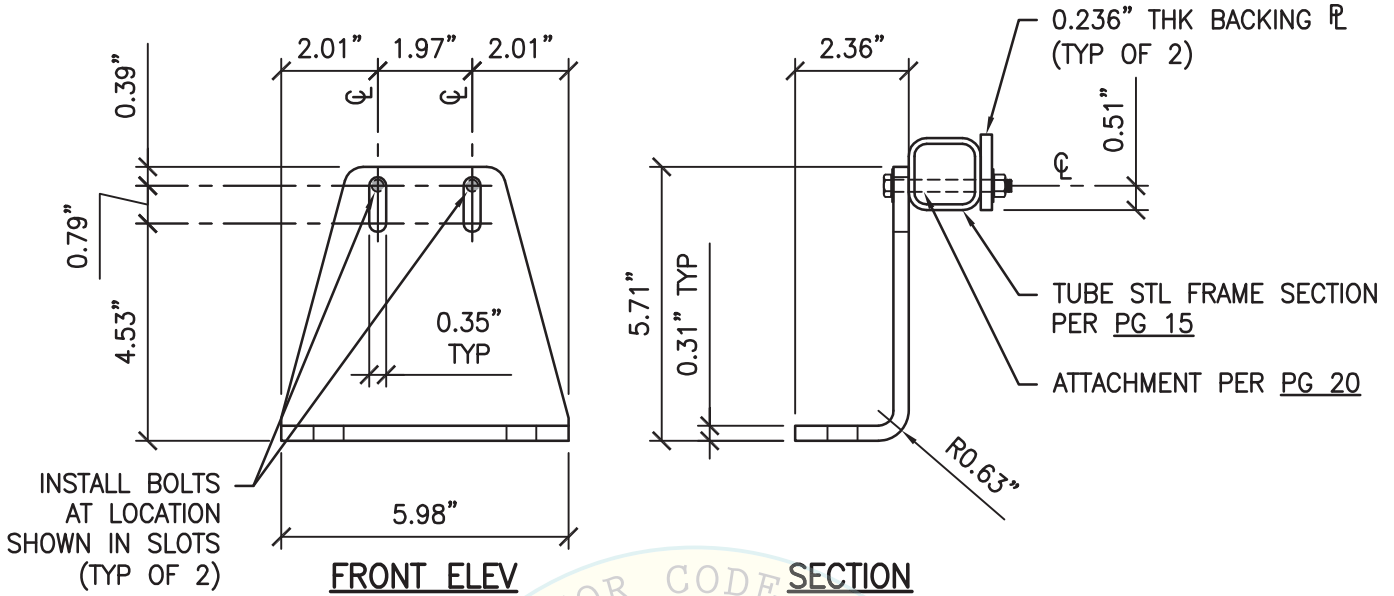
**CYS STRUCTURAL ENGINEERS, INC.**

2495 NATOMAS PARK DRIVE, SUITE 650  
SACRAMENTO, CA 95833

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

Job No:	15064
Date:	08-24-2016
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L:\Jobs\15\15064 BD - CLIC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:42pm Login:mayerhoferm DimScale:1 LTScale:6



**SEISMIC STAND BACKING PLATE**

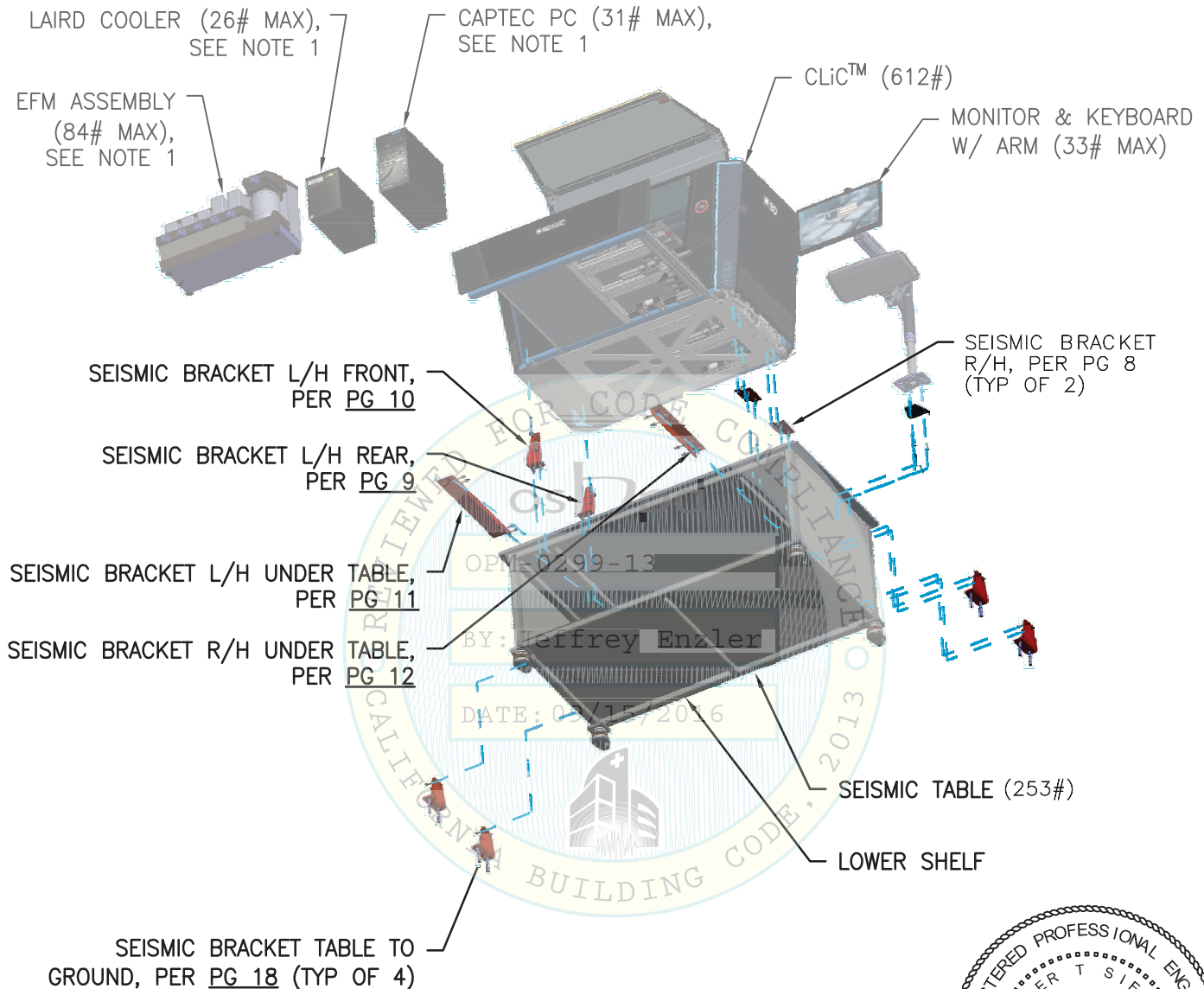
**MATERIAL:**  
ASTM A240 TYPE 304 SS  
(F<sub>y</sub> = 30 KSI MIN)



SHEET TITLE: SEISMIC TABLE  
SEISMIC BRACKET & BACKING PLATE

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020	Job No: 15064
	www.cyseng.com	Date: 08-24-2016
		Page: 18 of 26

L:\Jobs\15064 BD - CLIC OPM-0299-13\STRU\S1.dwg Time: Aug 24, 2016 - 02:42pm Login: mayerhoferm DimScale: 1 LTScale: 6



**NOTE:**

1. POSITIVE ATTACHMENT TO LOWER SHELF OF COMPONENT RESTING ON LOWER SHELF PROVIDED BY BD.



SHEET TITLE: ASSEMBLY DRAWING



**CYS STRUCTURAL ENGINEERS, INC.**

2495 NATOMAS PARK DRIVE, SUITE 650  
SACRAMENTO, CA 95833

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

Job No:	15064
Date:	08-24-2016
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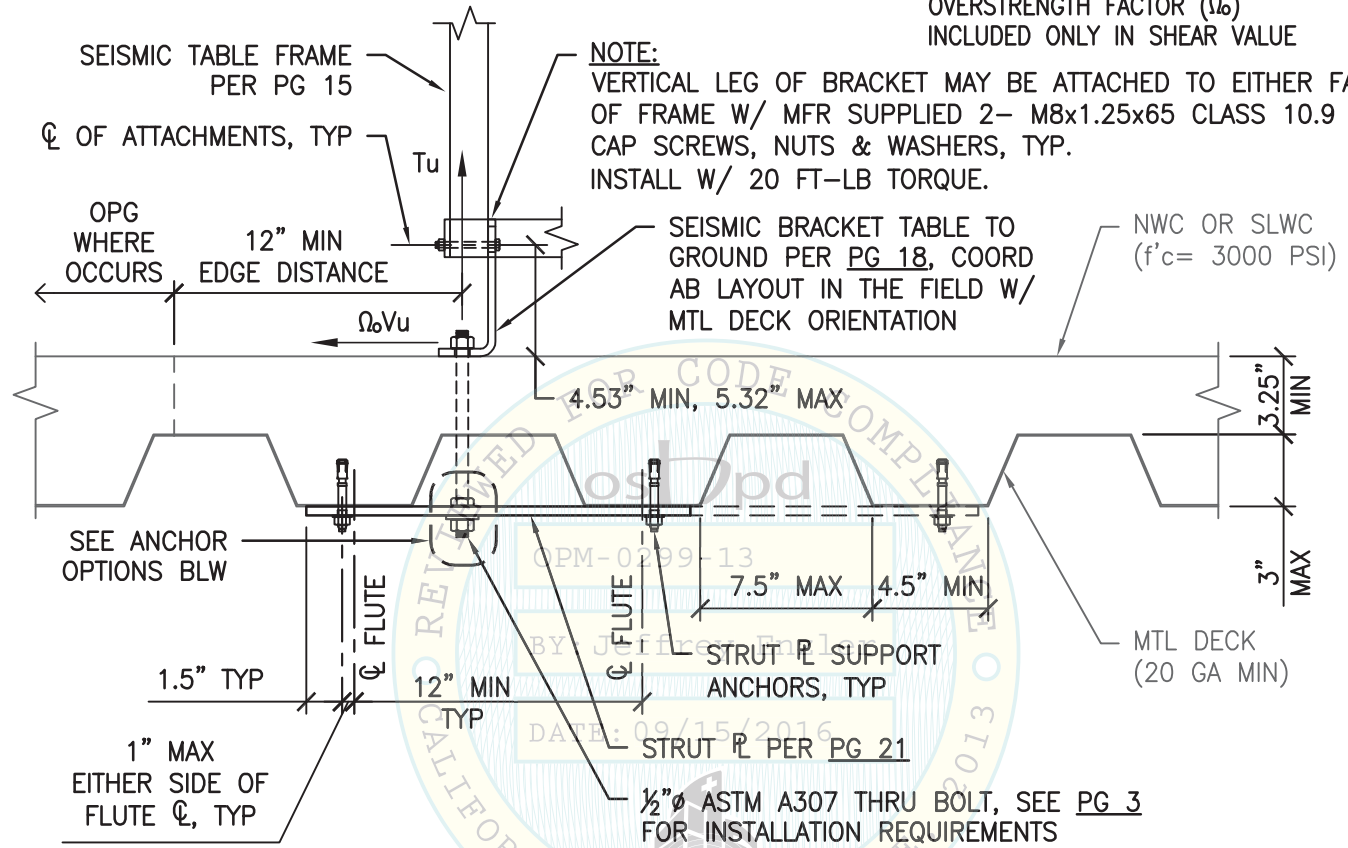
L:\Jobs\15\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -05:04pm Login:mayerhoferm DimScale:1 LTScale:6

MAX LRFD FORCES  
AT EA ANCHOR

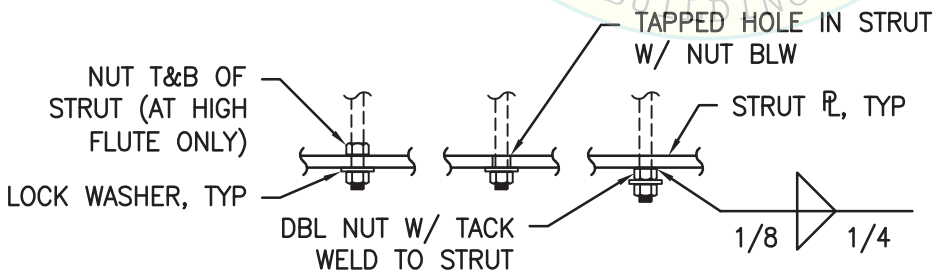
	$T_u$	$\Omega_o V_u$
CASE 1	2731#	359#

OVERSTRENGTH FACTOR ( $\Omega_o$ )  
INCLUDED ONLY IN SHEAR VALUE

**NOTE:**  
VERTICAL LEG OF BRACKET MAY BE ATTACHED TO EITHER FACE  
OF FRAME W/ MFR SUPPLIED 2- M8x1.25x65 CLASS 10.9  
CAP SCREWS, NUTS & WASHERS, TYP.  
INSTALL W/ 20 FT-LB TORQUE.



**SUSPENDED FLR (CASE 1)**



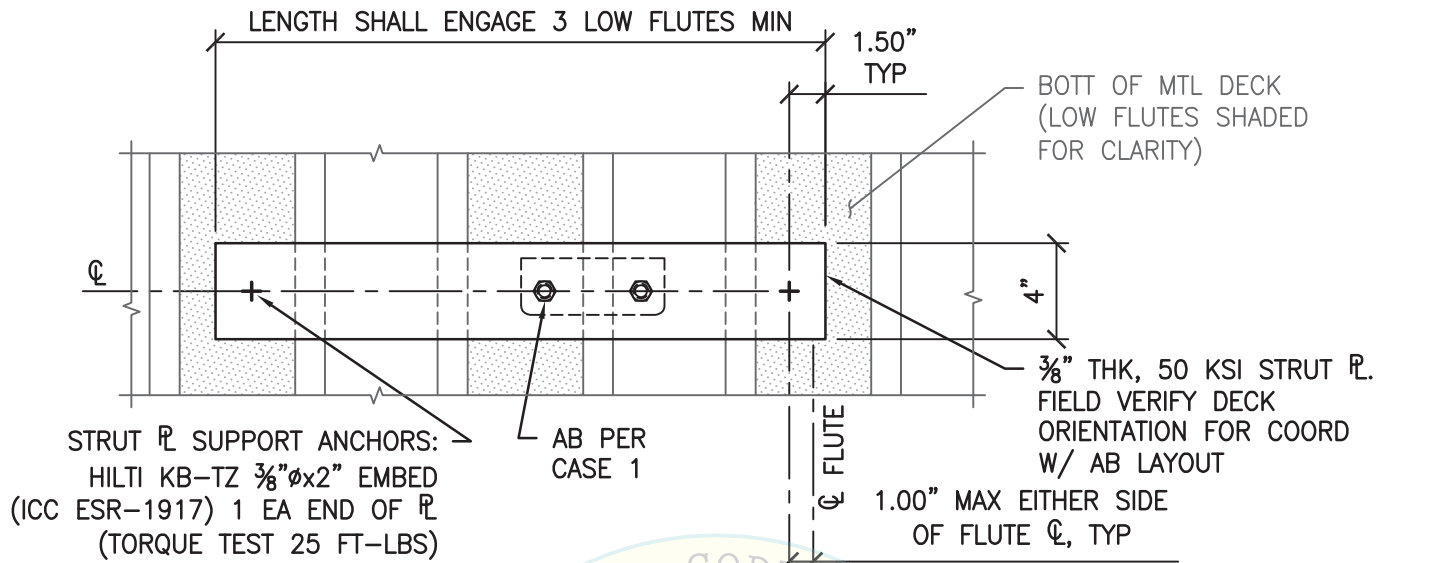
**ANCHOR OPTIONS**



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

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	Job No: 15064
	Date: 08-24-2016
	Page: 20 of 26

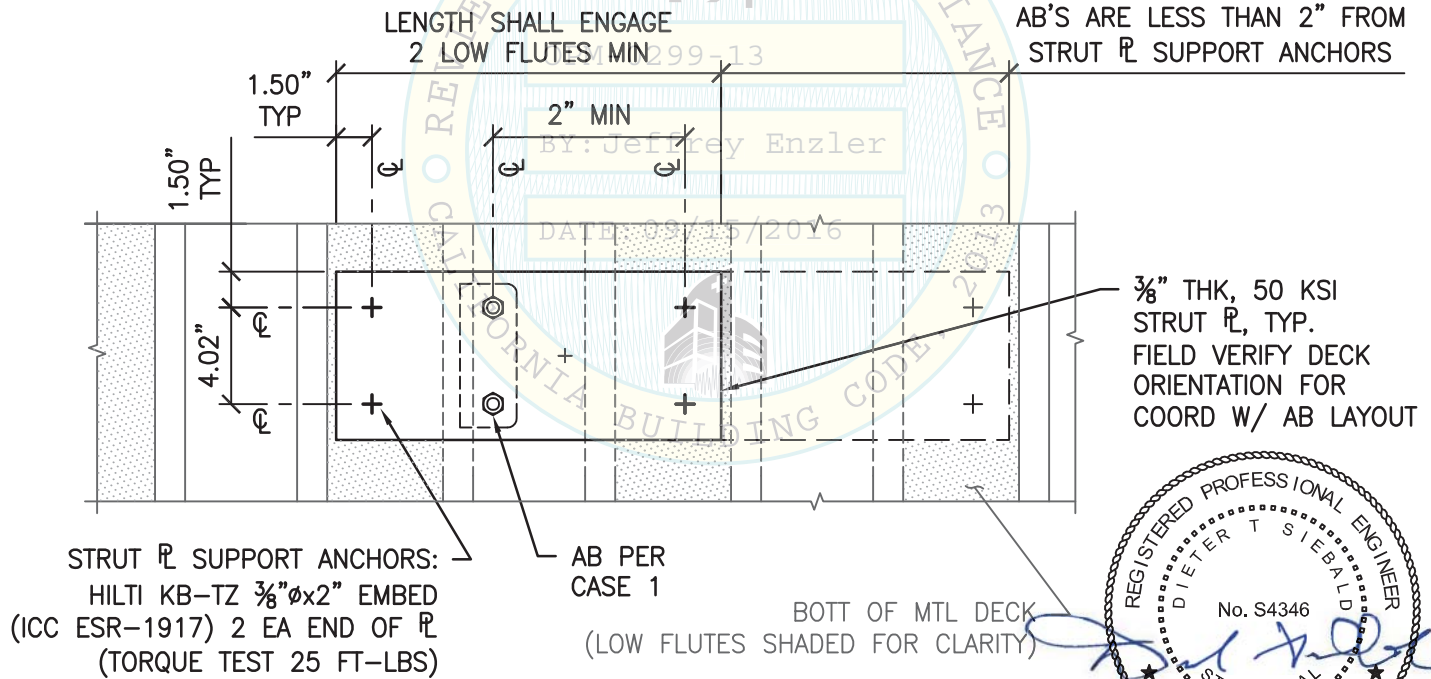
L:\Jobs\15\15064 BD - CLIC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:44pm Login:mayerhoferm DimScale:1 LTScale:6



**PLAN VIEW**

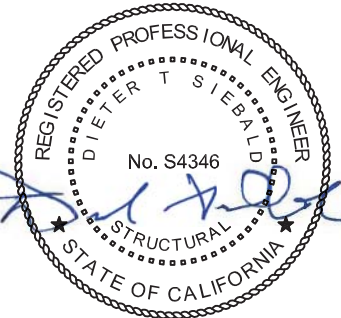
BRACKET PERPENDICULAR TO FLUTES

EXTEND STRUT LENGTH TO NEXT ADJACENT LOW FLUTE IF AB'S ARE LESS THAN 2" FROM STRUT  $\bar{r}$  SUPPORT ANCHORS



**PLAN VIEW**

BRACKET PARALLEL TO FLUTES



SHEET TITLE: ATTACHMENT DETAIL  
TYPICAL STRUT



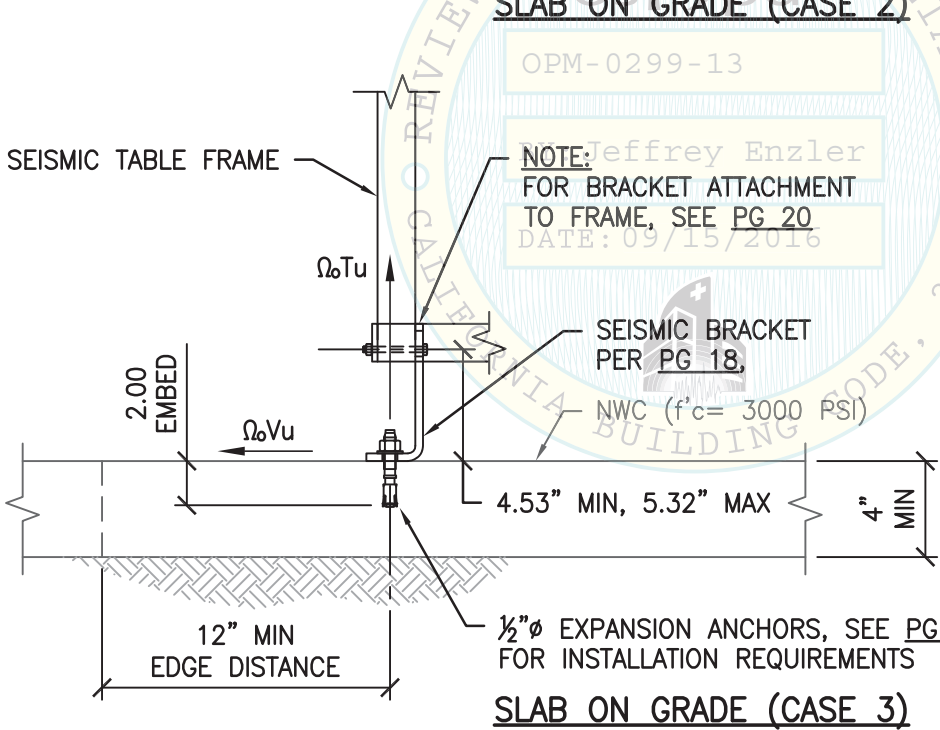
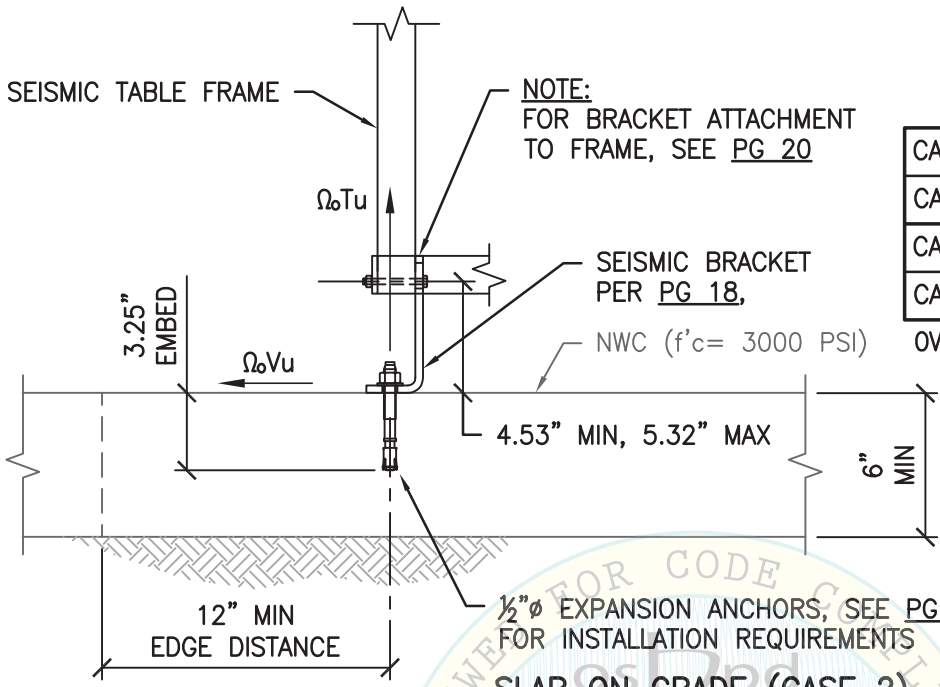
**CYS STRUCTURAL ENGINEERS, INC.**

2495 NATOMAS PARK DRIVE, SUITE 650  
SACRAMENTO, CA 95833

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

Job No:	15064
Date:	08-24-2016
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L:\Jobs\15\15064 BD - CLIC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:44pm Login:mayerhoferm DimScale:1 LScale:6



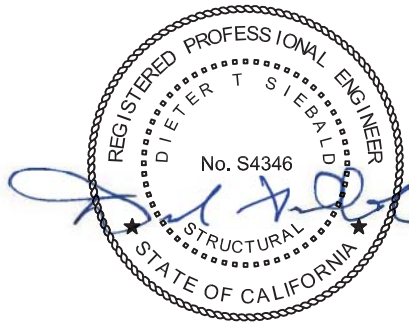
	MAX LRFD FORCES AT EA ANCHOR	
	$\Omega_b T_u$	$\Omega_b V_u$
CASE 2, MAX V	1678#	233#
CASE 2, MAX T	1678#	233#
CASE 3, MAX V	1170#	168#
CASE 3, MAX T	1170#	168#

OVERSTRENGTH FACTOR ( $\Omega_b$ ) INCLUDED

**SLAB ON GRADE (CASE 2)**

OPM-0299-13  
Reviewed for Code Compliance by Jeffrey Enzler  
DATE: 09/15/2016

**SLAB ON GRADE (CASE 3)**

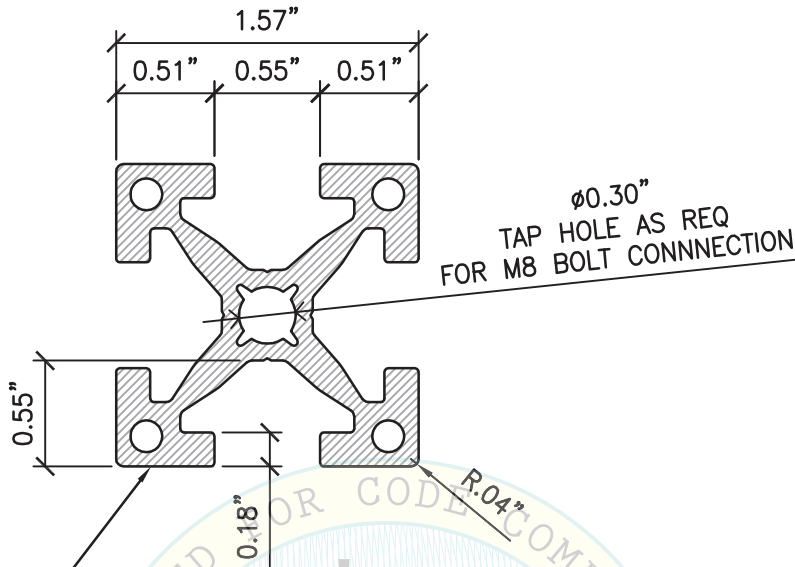


SHEET TITLE: ATTACHMENT DETAIL  
SLAB ON GRADE (CASE 2 & 3)

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 15064 Date: 08-24-2016 Page: 22 of 26
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L:\Jobs\15\15064 BD - CLIC OPM-0299-13\STRU\S1.dwg Time: Aug 24, 2016 - 02:44pm Login: mayerhoferm DimScale: 1 LTScale: 6





QUANTUM PAS 4040-EXTRUDED ALUM FRAME CROSS SECTION.  
ATTACHMENTS TO FRAMING USING M6 OR M8 ISO4762 GRADE 8.8 BOLTS, TYP.  
Fy= 92 KSI MIN, TORQUE TO 8 FT-LBS. ATTACHMENT BY BD  
BY: Jeffrey Enzler

**SECTION PROPERTIES:**

AREA (A) = 1.493 in<sup>2</sup>

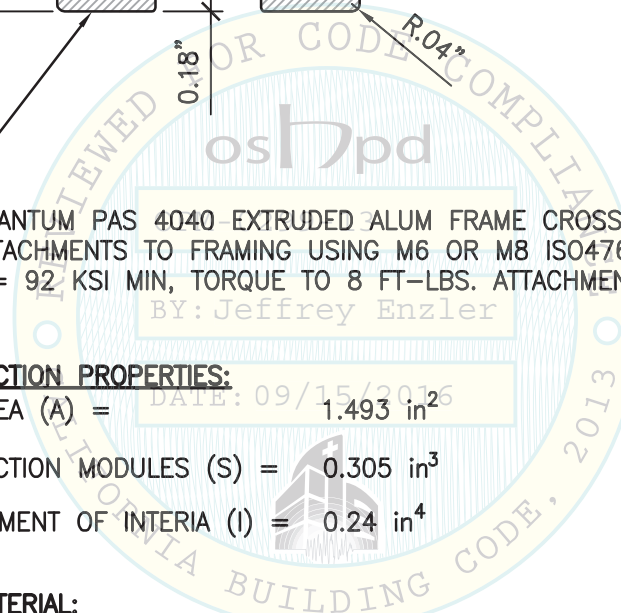
SECTION MODULES (S) = 0.305 in<sup>3</sup>

MOMENT OF INTERIA (I) = 0.24 in<sup>4</sup>

**MATERIAL:**

ALUM 6063-T6

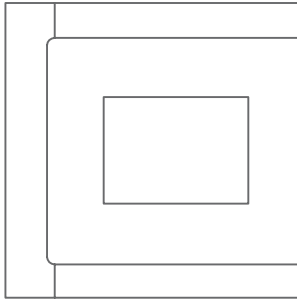
Fy = 30 KSI



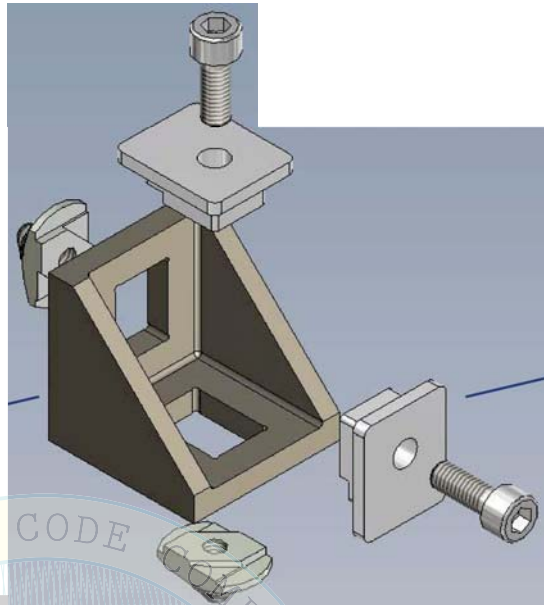
SHEET TITLE: CLiC™ FRAME INFORMATION  
TYPICAL ALUMINUM FRAMING CROSS SECTION

<p><b>CYS STRUCTURAL ENGINEERS, INC.</b> 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 15064 Date: 08-24-2016 Page: 23 of 26
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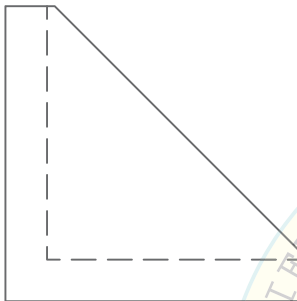
L:\Jobs\15\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016-02:45pm Login:mayerhoferm DimScale:1 LTScale:6



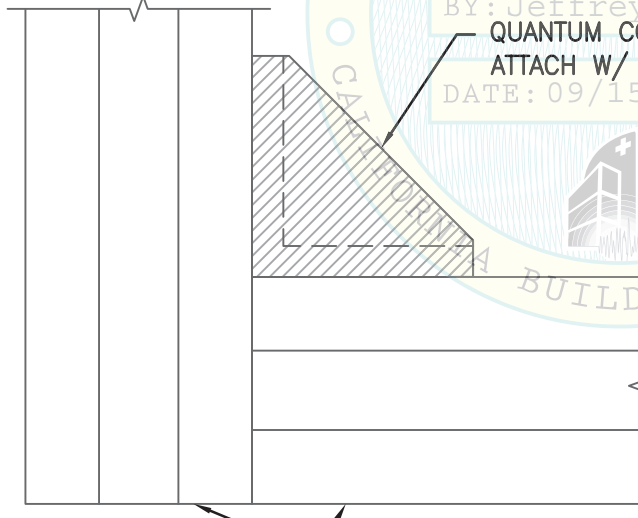
PLAN VIEW



ISOMETRIC VIEW



SIDE ELEV

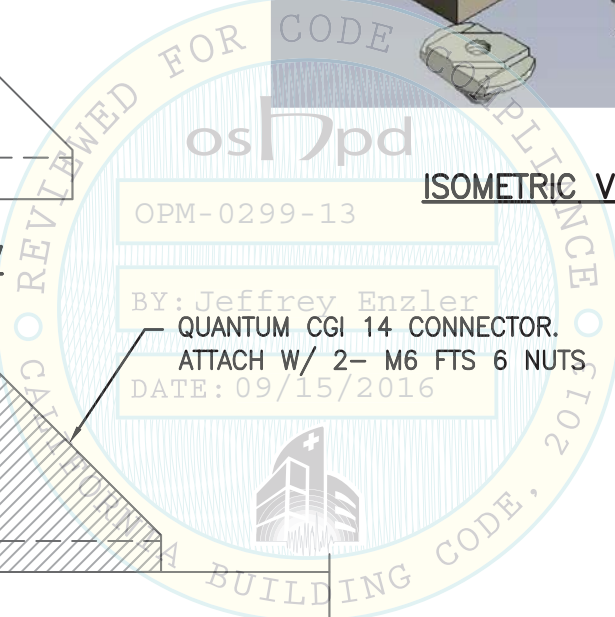


FRAME SECTIONS

CONN "A"

OPM-0299-13

BY: Jeffrey Enzler  
QUANTUM CGI 14 CONNECTOR.  
ATTACH W/ 2- M6 FTS 6 NUTS  
DATE: 09/15/2016



SHEET TITLE: CLiC™ FRAME INFORMATION  
CONNECTOR GUSSET INSERT (CGI 14)



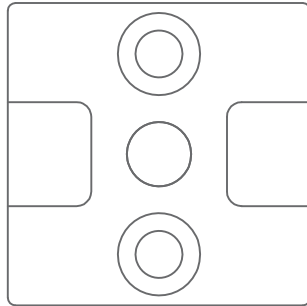
**CYS STRUCTURAL ENGINEERS, INC.**

2495 NATOMAS PARK DRIVE, SUITE 650  
SACRAMENTO, CA 95833

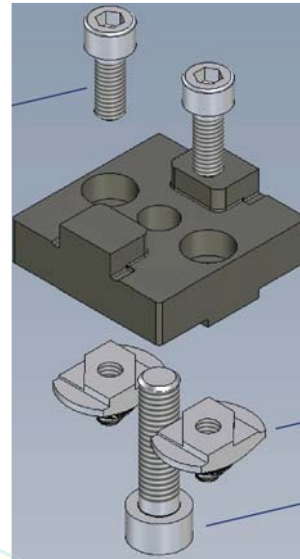
TEL (916) 920-2020  
www.cyseng.com

Job No:	15064
Date:	08-24-2016
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L:\Jobs\15\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:45pm Login:mayerhoferm DimScale:1 LTScale:6



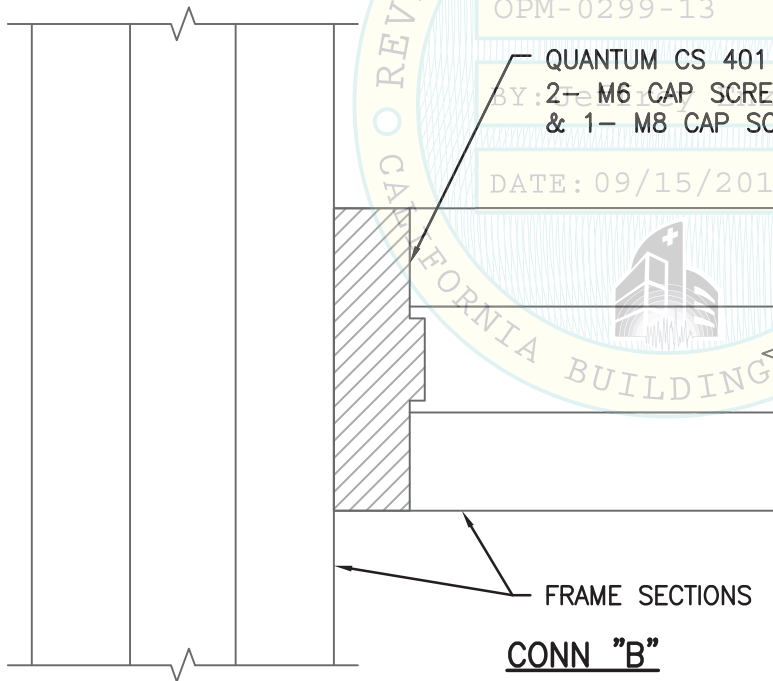
PLAN VIEW



ISOMETRIC VIEW



ELEV



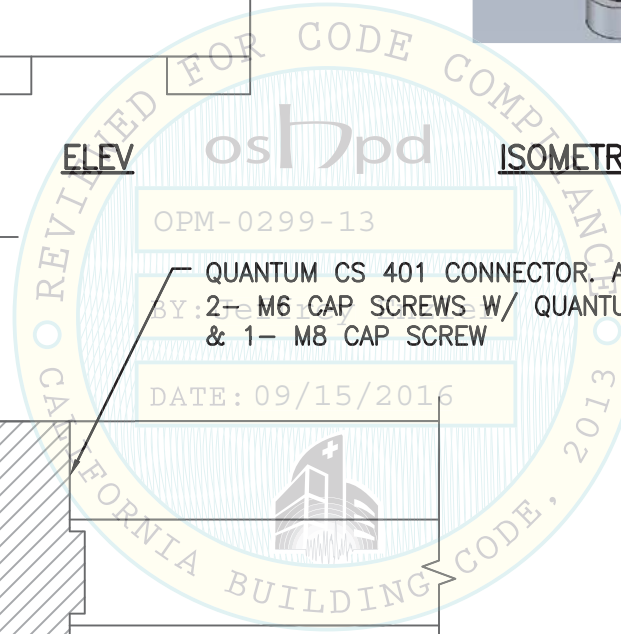
OPM-0299-13

QUANTUM CS 401 CONNECTOR. ATTACH W/  
2- M6 CAP SCREWS W/ QUANTUM FTS 6 NUTS  
& 1- M8 CAP SCREW

DATE: 09/15/2016

FRAME SECTIONS

CONN "B"



SHEET TITLE: CLiC™ FRAME INFORMATION  
CONNECTOR STANDARD (CS401)



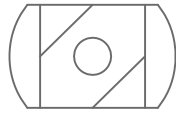
**CYS STRUCTURAL ENGINEERS, INC.**

2495 NATOMAS PARK DRIVE, SUITE 650  
SACRAMENTO, CA 95833

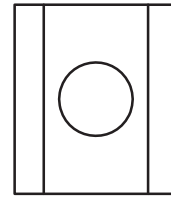
TEL (916) 920-2020  
www.cyseng.com

Job No:	15064
Date:	08-24-2016
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L:\Jobs\15\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016 -02:45pm Login:mayerhoferm DimScale:1 LTScale:6



PLAN VIEW



PLAN VIEW



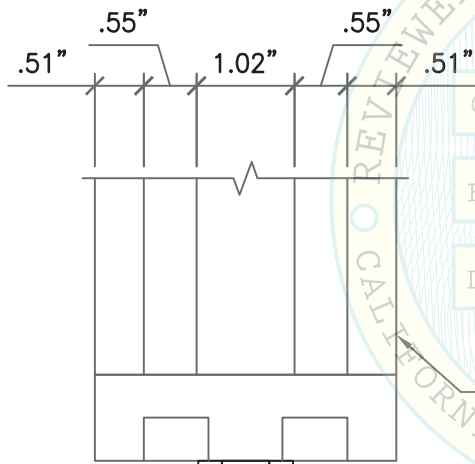
ELEV



ELEV

FASTENER T-NUT (FTS 6)

FASTENER SLIDING NUT (FSS8)

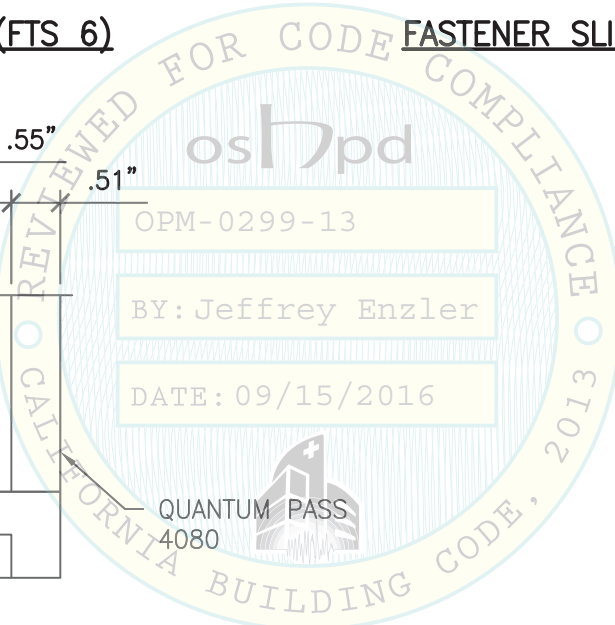


LOCKING NUT

M12Ø LEVELING  
LEG & FOOT

ELEV

ATTACHMENT AT REAR LEGS



QUANTUM PASS  
4080



SHEET TITLE: CLiC™ FRAME INFORMATION  
NUT FASTENERS



**CYS STRUCTURAL ENGINEERS, INC.**

2495 NATOMAS PARK DRIVE, SUITE 650  
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TEL (916) 920-2020  
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Job No:	15064
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L:\Jobs\15\15064 BD - CLiC OPM-0299-13\STRU\S1.dwg Time:Aug24,2016-02:46pm Login:mayerhoferm DimScale:1 LTScale:6