



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

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

OFFICE USE ONLY

APPLICATION #: OPM-0400

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal/Update

Manufacturer Information

Manufacturer: Baxter Healthcare Corporation

Manufacturer's Technical Representative: Mike Weldon

Mailing Address: One Baxter Parkway, Deerfield, IL 60015

Telephone: (703) 213-6025

Email: Michael_Weldon@baxter.com

Product Information

Product Name: OVERHEAD BOOM MOUNTING SYSTEMS

Product Type: DOUBLE ARM SOLO BOOM AND DOUBLE ARM TANDEM BOOM

Product Model Number: TRUPOINT

General Description: BOOM MOUNTING SYSTEMS WITH AN 8-INCH AND 12-INCH INTERSTITIAL SPACE

Applicant Information

Applicant Company Name: Baxter Healthcare Corporation

Contact Person: Mike Weldon

Mailing Address: One Baxter Parkway, Deerfield, IL 60015

Telephone: (703) 213-6025

Email: Michael_Weldon@baxter.com

Title: US Commercial Marketing Manager

"A healthier California where all receive equitable, affordable, and quality health care"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT**

Registered Design Professional Preparing Engineering Recommendations

Company Name: CYS STRUCTURAL ENGINEERS, INC.

Name: Dieter Siebald California License Number: S4346

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

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

HCAI Special Seismic Certification Preapproval (OSP)

Special Seismic Certification is preapproved under OSP OSP Number: _____

Certification Method

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

Other(s) (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2022 (CBSC 2022) 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 2022 may be used when approved by HCAI prior to testing.

Analysis

Experience Data

Combination of Testing, Analysis, and/or Experience Data (Please Specify): _____

HCAI Approval

Date: 12/13/2024

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable): _____

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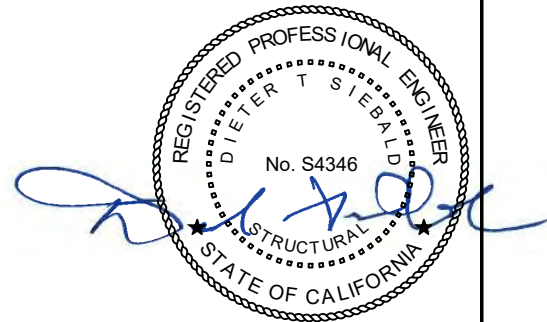
STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY



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OPM-0400-13

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- NOTES:**
1. THESE DRAWINGS ARE PREPARED FOR BAXTER HEALTHCARE CORPORATION, ONE BAXTER PARKWAY, DEERFIELD, IL 60015.
 2. THE CONTRACTOR & 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 OVERHEAD BOOMS TO THE SUPPORTING STRUCTURE. THE BOOMS & BOOM MOUNTING PLATES WITH CONNECTION HARDWARE ARE SUPPLIED BY BAXTER. ALL THREADED RODS, STRUCTURAL SUPPORT PLATE & REQUIRED ABOVE CEILING SUPPORT ELEMENTS SHALL BE SUPPLIED & INSTALLED BY THE CONTRACTOR.



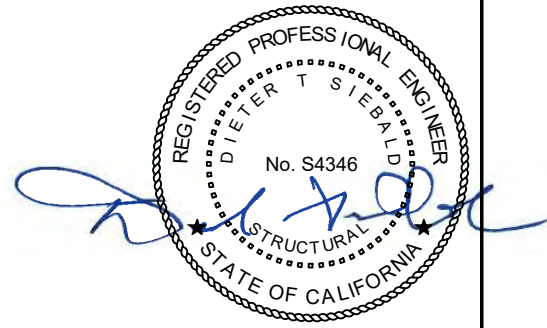
SHEET TITLE: TABLE OF CONTENTS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 1 of 19

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GENERAL NOTES:

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2016. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2016.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD (SEOR) OF 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 ANCHORS INTO THE SOFFIT OF CONCRETE OVER METAL DECK FLOOR AND ROOF ASSEMBLIES ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
 - C. THAT THE ANCHORS INTO THE SOFFIT OF CONCRETE OVER METAL DECK FLOOR AND ROOF ASSEMBLIES ARE AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN IN THE TEST TORQUE TABLE ON PG 3 IS THE REQUIRED MINIMUM SPACING OF THE GIVEN DIAMETER ANCHORS. THE REQUIRED 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 2016 & W/ THE DETAILS SHOWN IN THIS PRE-APPROVAL.
 - E. THAT THE ACTUAL EQUIP'S WT, CENTER OF GRAVITY (CG) LOCATION, SUPPORT & ATTACHMENT LOCATIONS, SUPPORT & ATTACHMENT DETAILS, & THE MATERIAL & GA 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 AND REVISED SEPTEMBER 2016.
 - 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. 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 1910A.5 "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



CYS STRUCTURAL ENGINEERS, INC.

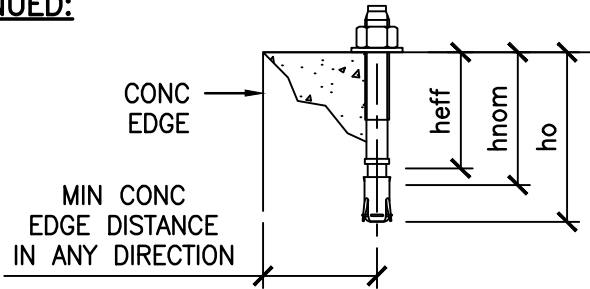
2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833

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

Job No:	16070.03
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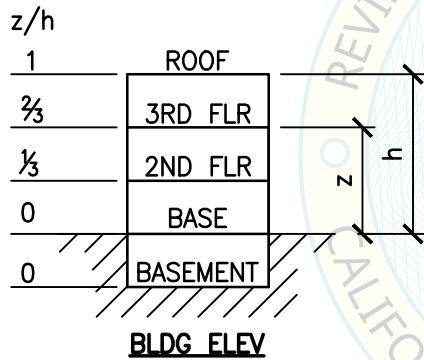
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GENERAL NOTES CONTINUED:



ANCHOR DIA (INCH)	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) heff	HOLE DEPTH (INCH) ho	MIN CONC THK (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN ANCHOR SPCG (INCH)	TEST TORQUE (FT-LBS)
1/2	3 5/8	3 1/4	4	SEE PG 18	SEE PG 18	SEE PG 18	40

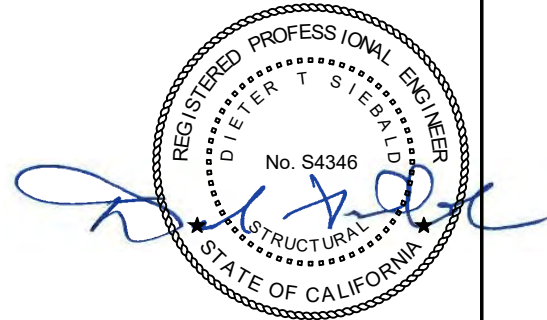
4. A SINGLE CASE OF ATTACHMENT IS SPECIFIED & PRESENTED IN THIS PRE-APPROVAL:



ATTACHMENT DETAILS LOCATED AT UPPER FLRS & ROOF ABV THE BASE OF A BLDG. THE FLRS & ROOFS ARE ASSUMED TO BE BUILT OF A MIN 3 1/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN).
FOR z/h RATIOS & S_{DS} VALUES SEE DESIGN CRITERIA & COMPONENT DWGS

DATE: 12/13/2024

5. THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA, WHERE S_{DS} IS LESS THAN OR EQ TO MAX S_{DS} VALUE AT EACH COMPONENT AS NOTED ON DRAWINGS.



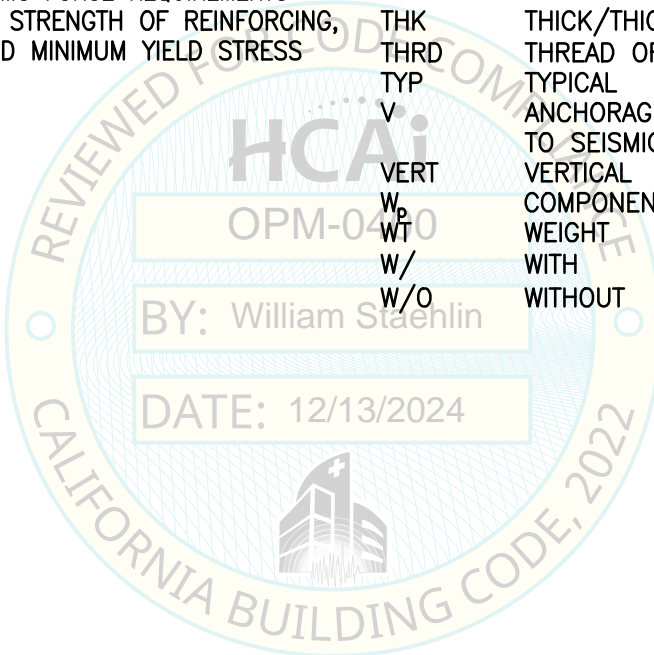
SHEET TITLE: GENERAL NOTES (CONTINUED)

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 3 of 19

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ABBREVIATIONS:

ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	IN (")	INCH
BLDG	BUILDING	KSI	KIPS PER SQUARE INCH
BRCG	BRACING	LBS	POUNDS
CBC	CALIFORNIA BUILDING CODE	LRFD	LOAD & RESISTANCE FACTOR DESIGN
CG	CENTER OF GRAVITY	MAX	MAXIMUM
CLG	CEILING	MIN	MINIMUM
CL	CENTERLINE	OPM	OSPHD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION
DIA (∅)	DIAMETER	OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
(E)	EXISTING	PG	PAGE
FIN	FINISH	PL	PLATE
F _p	HORIZONTAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS	SEOR	STRUCTURAL ENGINEER OF RECORD
FT (')	FOOT/FEET	STL	STEEL
F _{pv}	VERTICAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS	STRUC	STRUCTURAL
F _y	SPECIFIED YIELD STRENGTH OF REINFORCING, PSI OR SPECIFIED MINIMUM YIELD STRESS OF STEEL, KSI	THK	THICK/THICKNESS
GRD	GRADE	THRD	THREAD OR THREADED
		TYP	TYPICAL
		V	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE
		VERT	VERTICAL
		W _p	COMPONENT OPERATING WEIGHT
		WT	WEIGHT
		W/	WITH
		W/O	WITHOUT



SHEET TITLE: ABBREVIATIONS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 4 of 19
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SUPPORT & ATTACHMENT DESIGN CRITERIA

DESIGN FOR OVERHEAD BOOM MOUNTING SYSTEM IS PER 2016 CBC AT LRFD LEVEL FORCES.

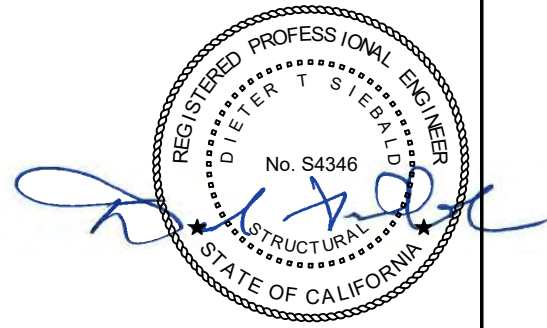
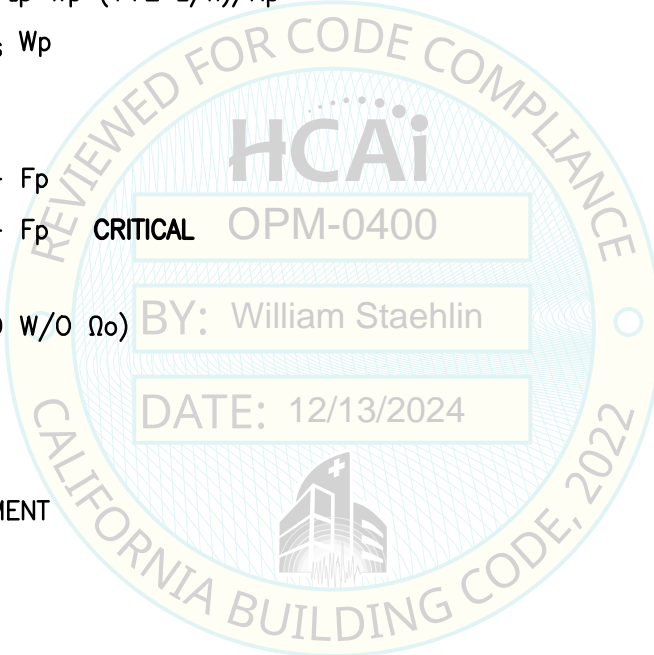
$W_p = \text{SEE PGS 6 \& 7}$
 $z/h = \text{SEE PGS 6 \& 7}$
 $S_{DS} = \text{SEE PGS 6 \& 7}$
 $I_p = 1.5$
 $q_p = 2.5$
 $R_p = 2.5 \quad \Omega_o = 2.0 \text{ (FOR ATTACHMENT TO CONCRETE)}$
 MIN $F_p = 0.30 S_{DS} I_p W_p$
 MAX $F_p = 1.60 S_{DS} I_p W_p$
 $F_p = 0.4q_p S_{DS} I_p W_p (1+2 z/h)/R_p$
 $F_{pv} = \pm 0.20 S_{DS} W_p$

LOAD COMBINATIONS

$(0.9 - 0.2 S_{DS}) D - F_p$
 $(1.2 + 0.2 S_{DS}) D + F_p$ **CRITICAL** OPM-0400

COMPONENT FORCES (LRFD W/O Ω_o)

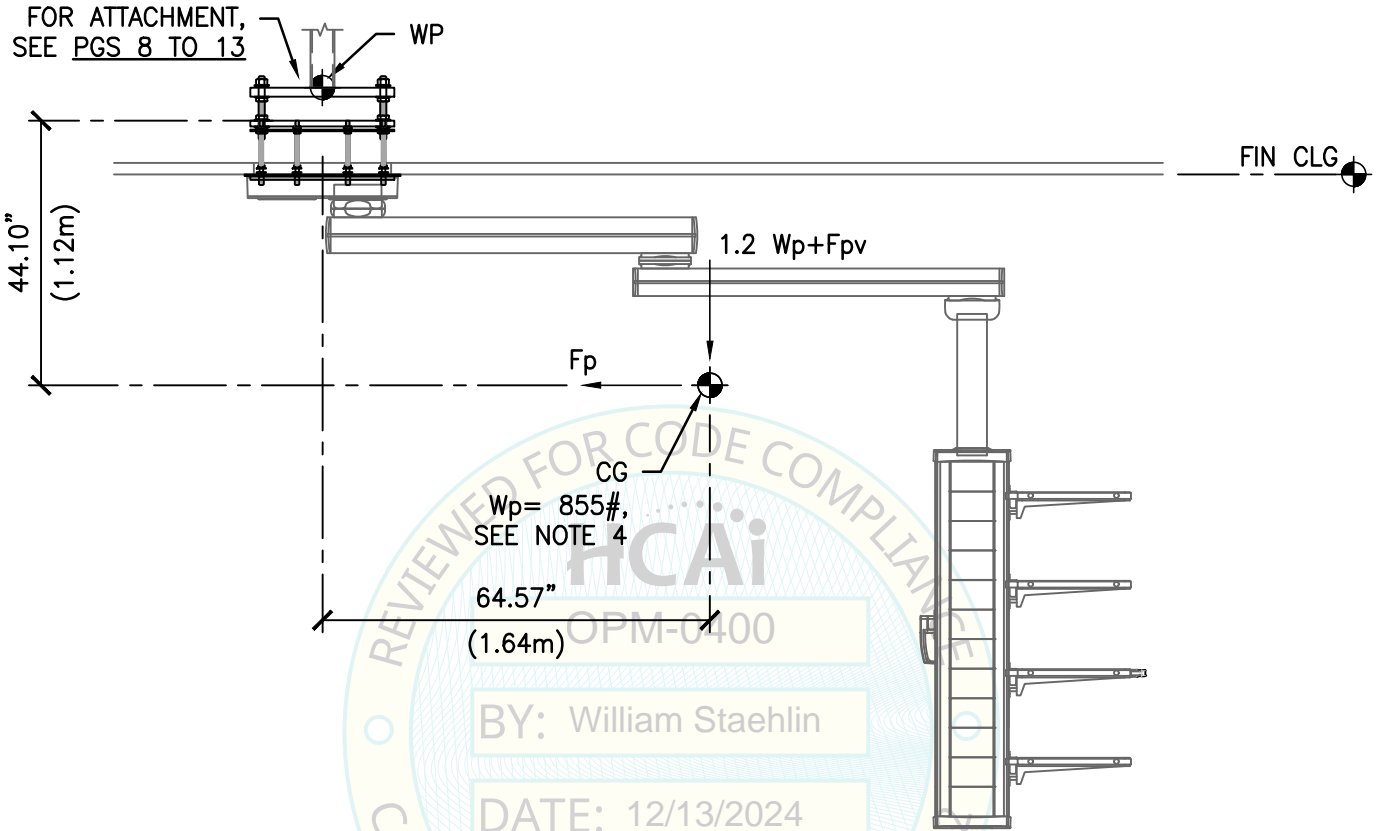
- T_u = TENSION
- V_u = SHEAR
- M_u = MOMENT
- M_{T_u} = TORSIONAL MOMENT



SHEET TITLE: DESIGN CRITERIA

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 5 of 19

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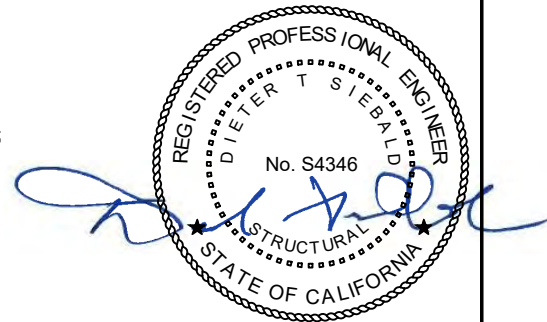
REVIEWED FOR CODE COMPLIANCE
BY: William Staehlin
DATE: 12/13/2024

z/h \leq	MAX S_{ps} \leq	T_u (LBS)	V_u (LBS)	M_u (LB-FT)	M_{TU} (LB-FT)
1.0	2.40	1436	3694	22,993	215
0.9	2.50	1454	3591	22,661	215

LRFD FORCES W/O Ω . SEE PGS 8 & 9 FOR APPLICATION OF FORCES.

NOTES:

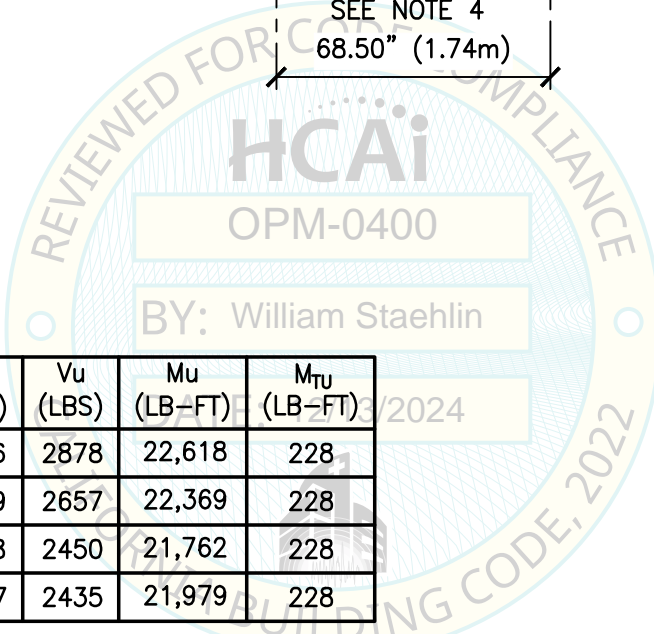
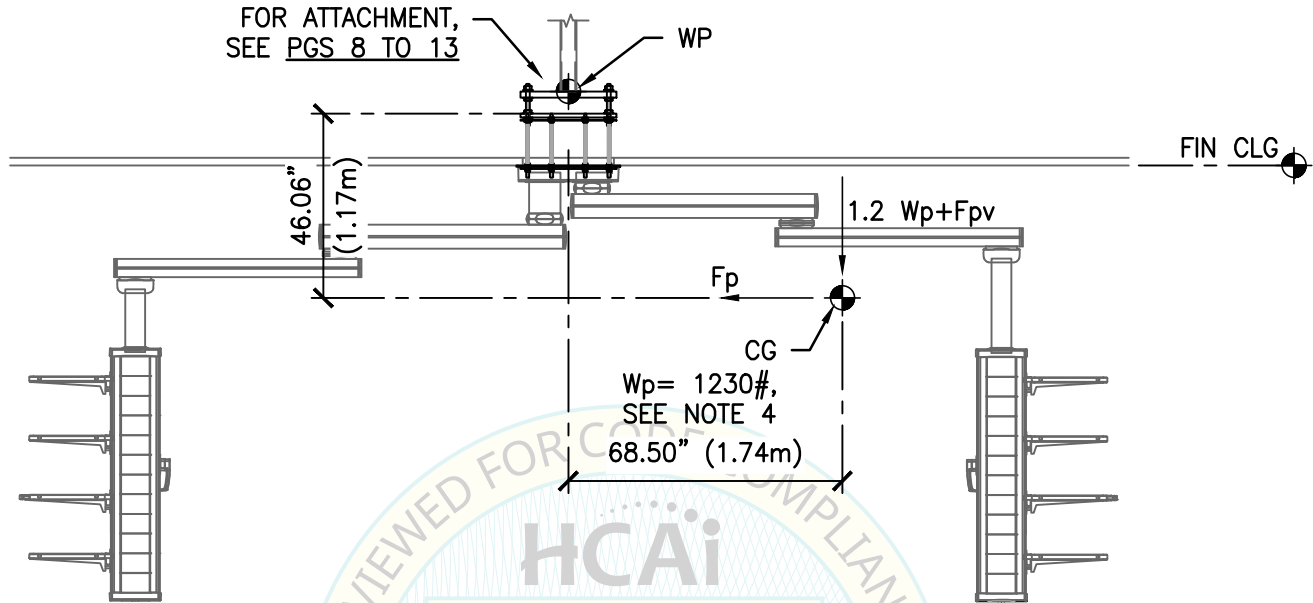
- CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
- SEOR FOR THE BLDG SHALL PROVIDE SUPPORT STRUCTURE & BRCC DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN AN UNLOCKED POSITION AFTER OVERCOMING A BRAKE FORCE OF 40 LBS (160N).
- W_p INCLUDES WEIGHT OF ALL ITEMS SUPPLIED BY BAXTER, INCLUDING BOOM R_L & BOOM MOUNTING R_L .



SHEET TITLE: TRUPOINT DOUBLE ARM SOLO BOOM

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 6 of 19
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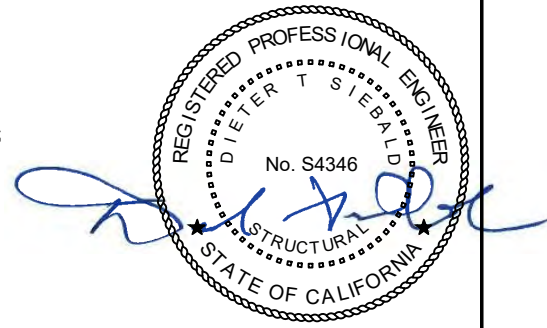


z/h \leq	MAX S_{ps} \leq	T_u (LBS)	V_u (LBS)	M_u (LB-FT)	M_{TU} (LB-FT)
1.0	1.30	1796	2878	22,618	228
0.5	1.80	1919	2657	22,369	228
0.33	2.00	1968	2450	21,762	228
0.25	2.20	2017	2435	21,979	228

LRFD FORCES W/O Ω . SEE PGS 8 & 9 FOR APPLICATION OF FORCES.

NOTES:

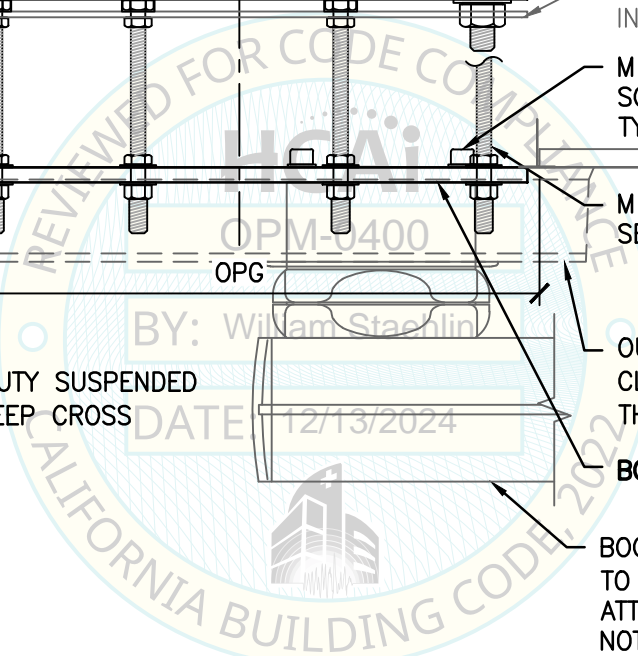
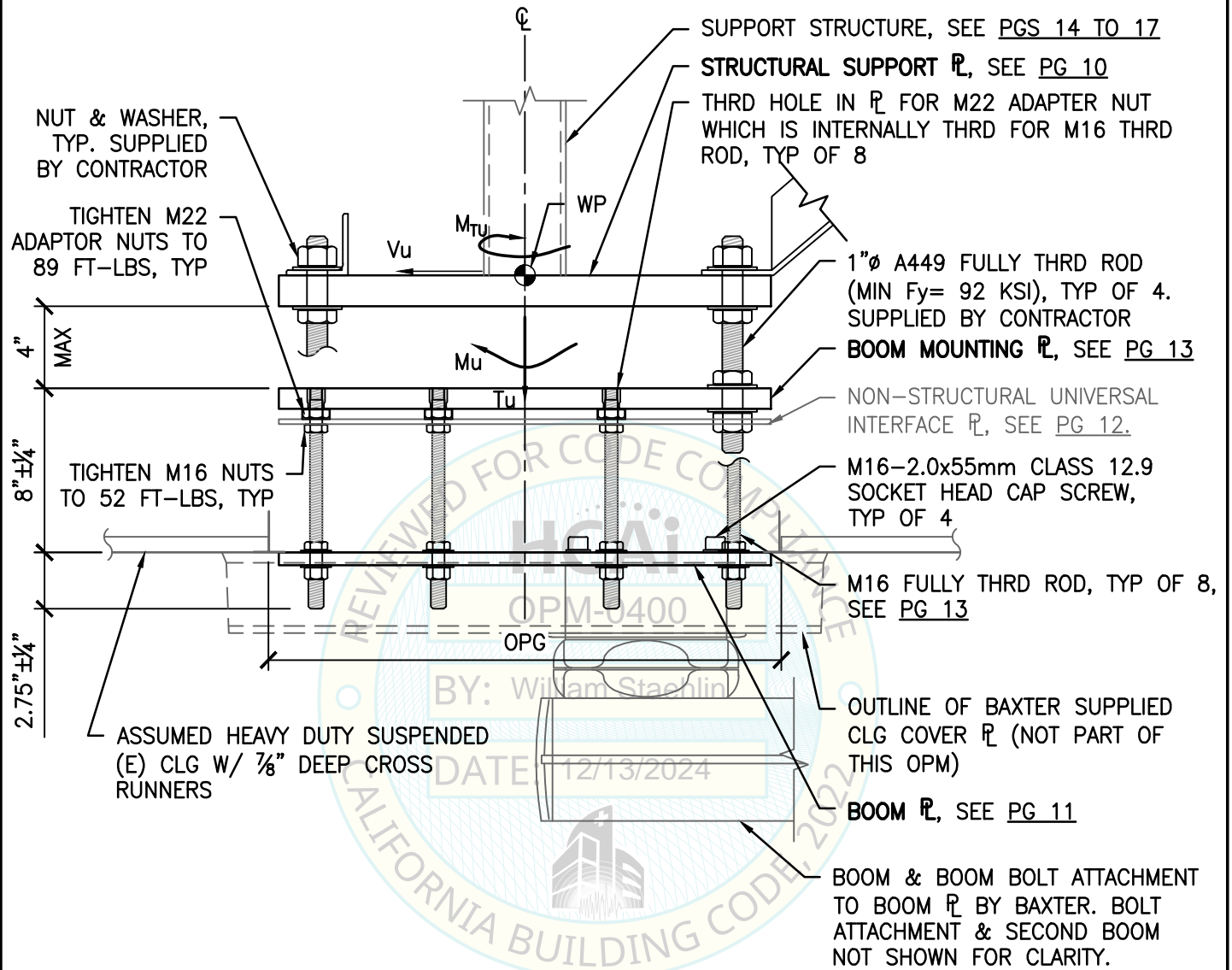
- CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
- SEOR FOR THE BLDG SHALL PROVIDE SUPPORT STRUCTURE & BRCC DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN AN UNLOCKED POSITION AFTER OVERCOMING A BRAKE FORCE OF 40 LBS (160N).
- W_p INCLUDES WEIGHT OF ALL ITEMS SUPPLIED BY BAXTER, INCLUDING BOOM R_L & BOOM MOUNTING R_L .



SHEET TITLE: TRUPOINT DOUBLE ARM TANDEM BOOM

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 7 of 19
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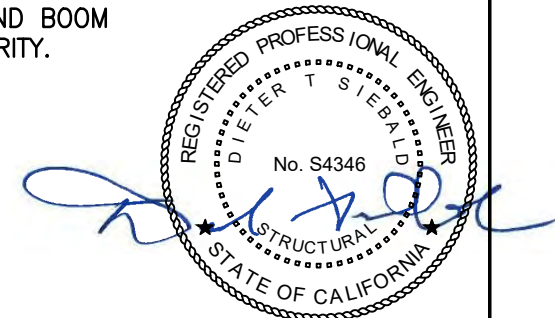
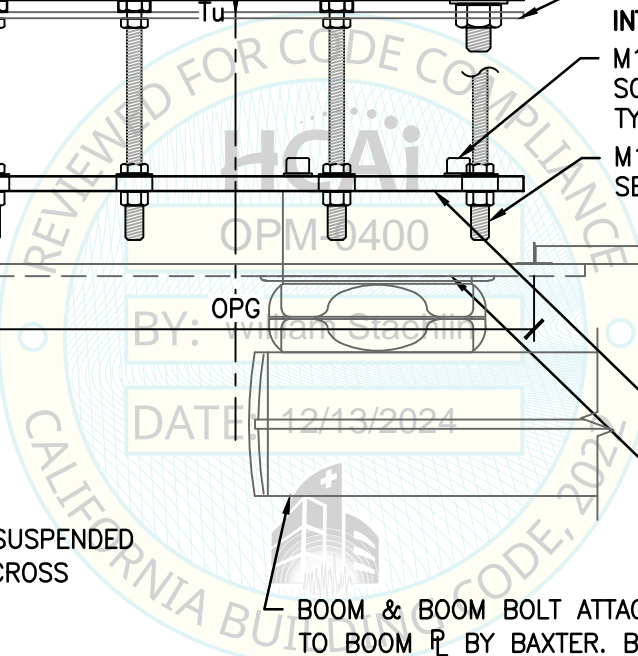
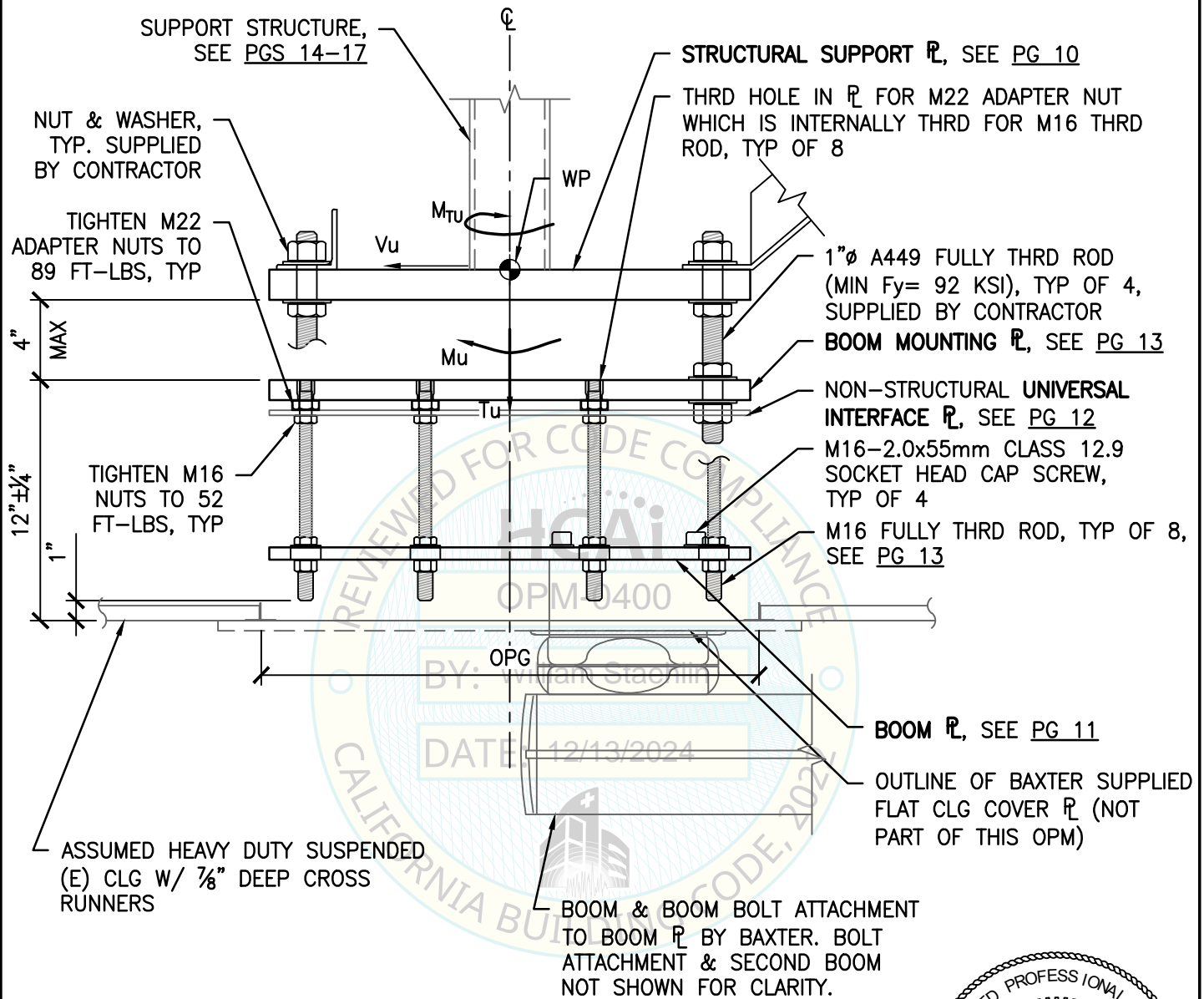
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SHEET TITLE: MOUNTING PLATE DETAIL W/ 8" INTERSTITIAL SPACE

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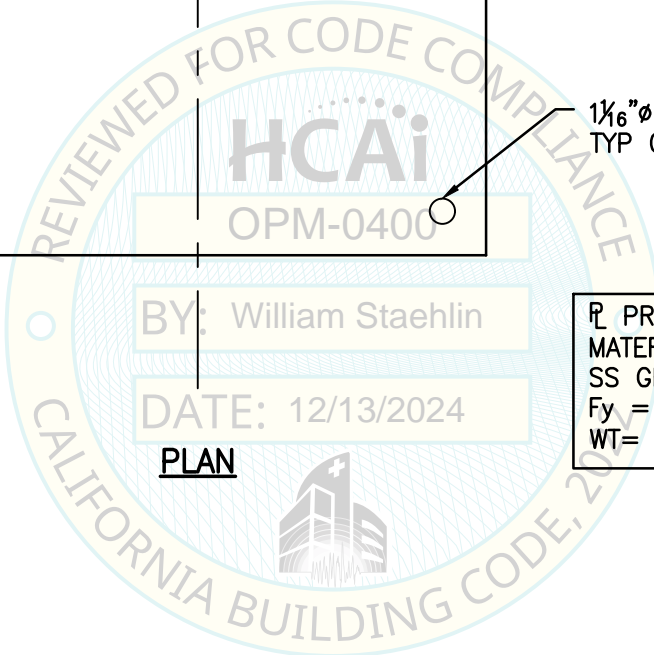
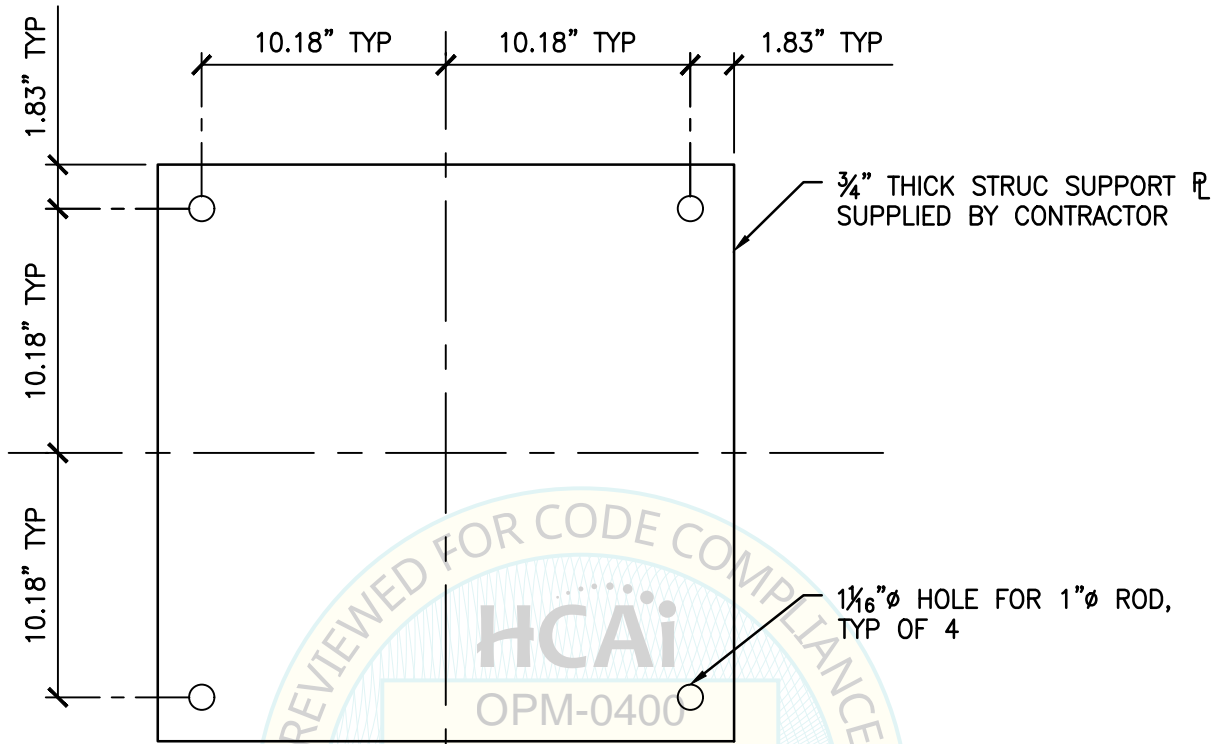
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SHEET TITLE: MOUNTING PLATE DETAIL WITH 12" INTERSTITIAL SPACE

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BY: William Staehlin

DATE: 12/13/2024

PLAN

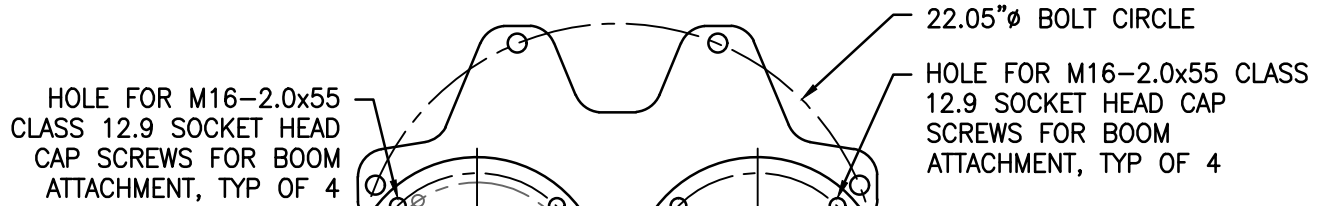
PLATE PROPERTIES:
MATERIAL = ASTM A1011,
SS GRD 50
Fy = 50 KSI, MIN
WT = 73#



SHEET TITLE: STRUCTURAL SUPPORT PLATE DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020</p>	<p>Job No: 16070.03</p>
	<p>www.cyseng.com</p>	<p>Date: 12-7-2017</p>
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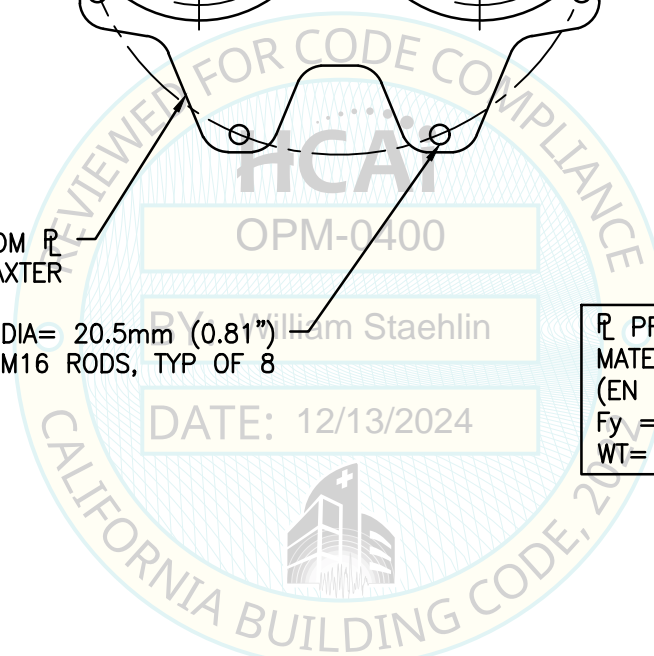
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25mm (1") THICK BOOM \bar{R} SUPPLIED BY BAXTER

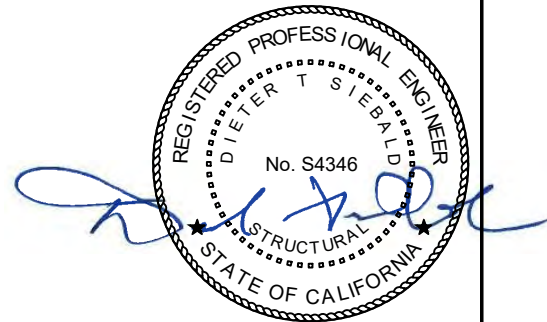
HOLE DIA= 20.5mm (0.81") FOR M16 RODS, TYP OF 8

\bar{R} PROPERTIES:
MATERIAL = S355J2+N
(EN 10025, EN 10029)
Fy = 50 KSI MIN
WT= 77#



NOTES:

1. FOUR (4) M16 BOLTS RESIST SOLO BOOM.
2. EIGHT (8) M16 BOLTS (2x4) RESIST TWO TANDEM BOOMS.



SHEET TITLE: BOOM PLATE FOR SOLO OR TANDEM BOOMS



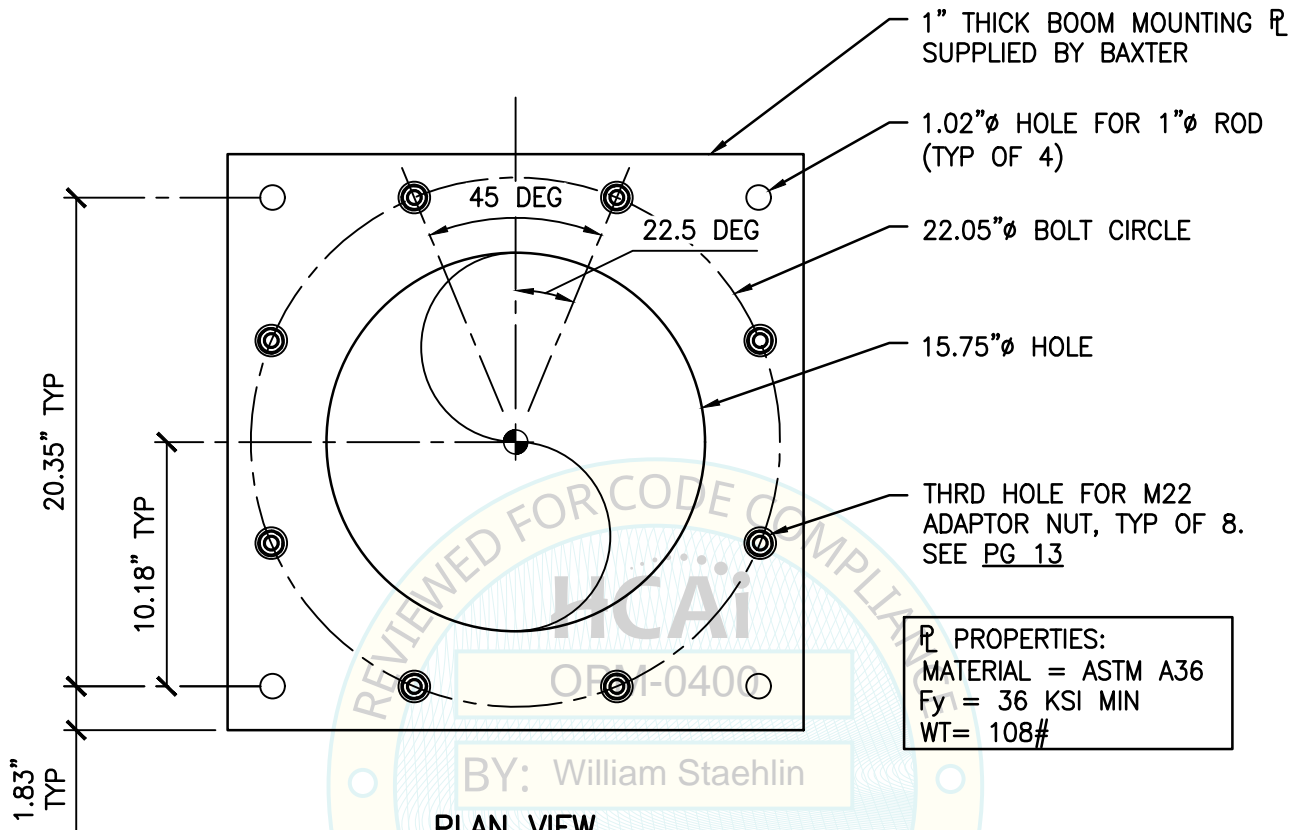
CYS STRUCTURAL ENGINEERS, INC.

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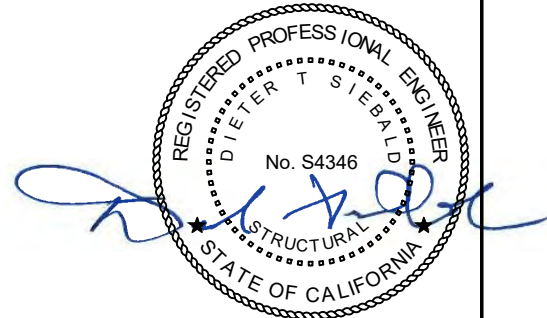
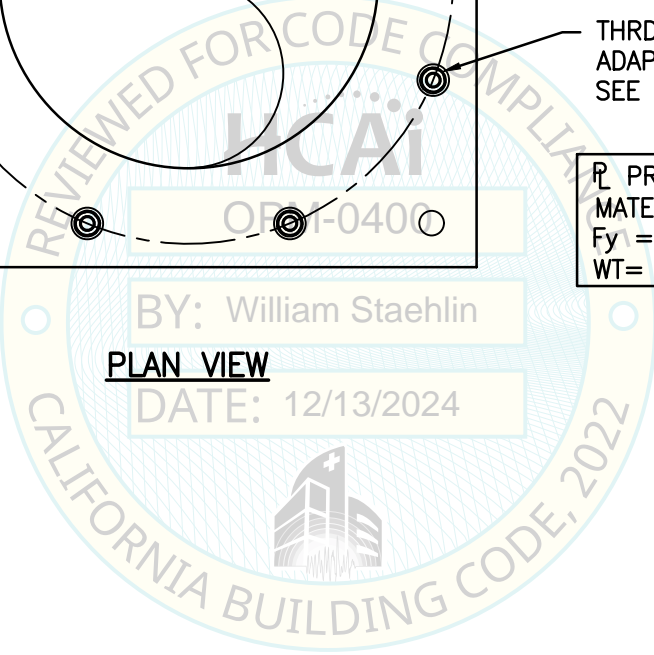


PL PROPERTIES:
MATERIAL = ASTM A36
Fy = 36 KSI MIN
WT = 108#

BY: William Staehlin

PLAN VIEW

DATE: 12/13/2024



SHEET TITLE: BOOM MOUNTING PLATE DETAIL

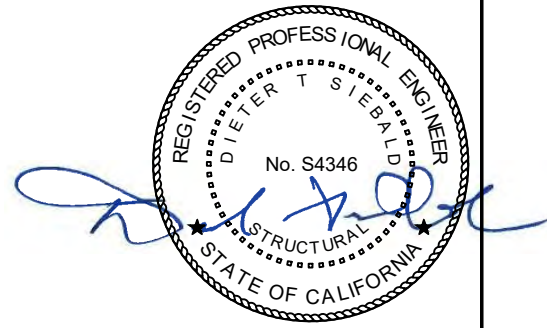
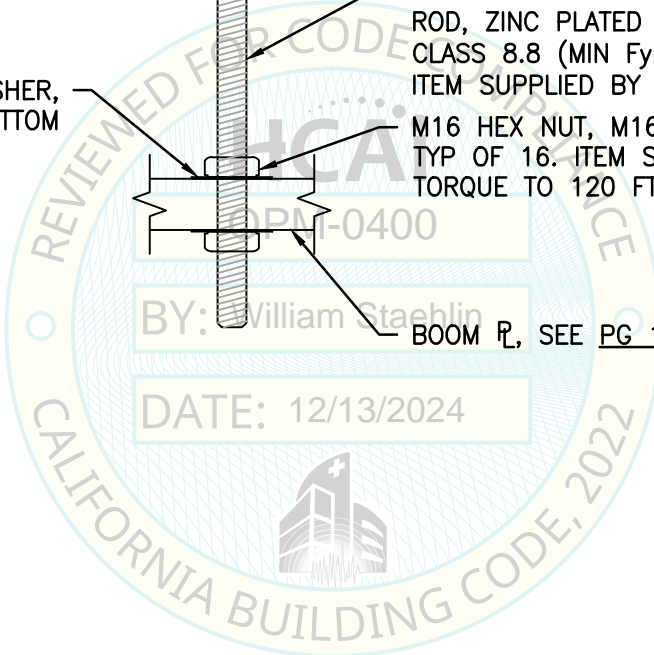
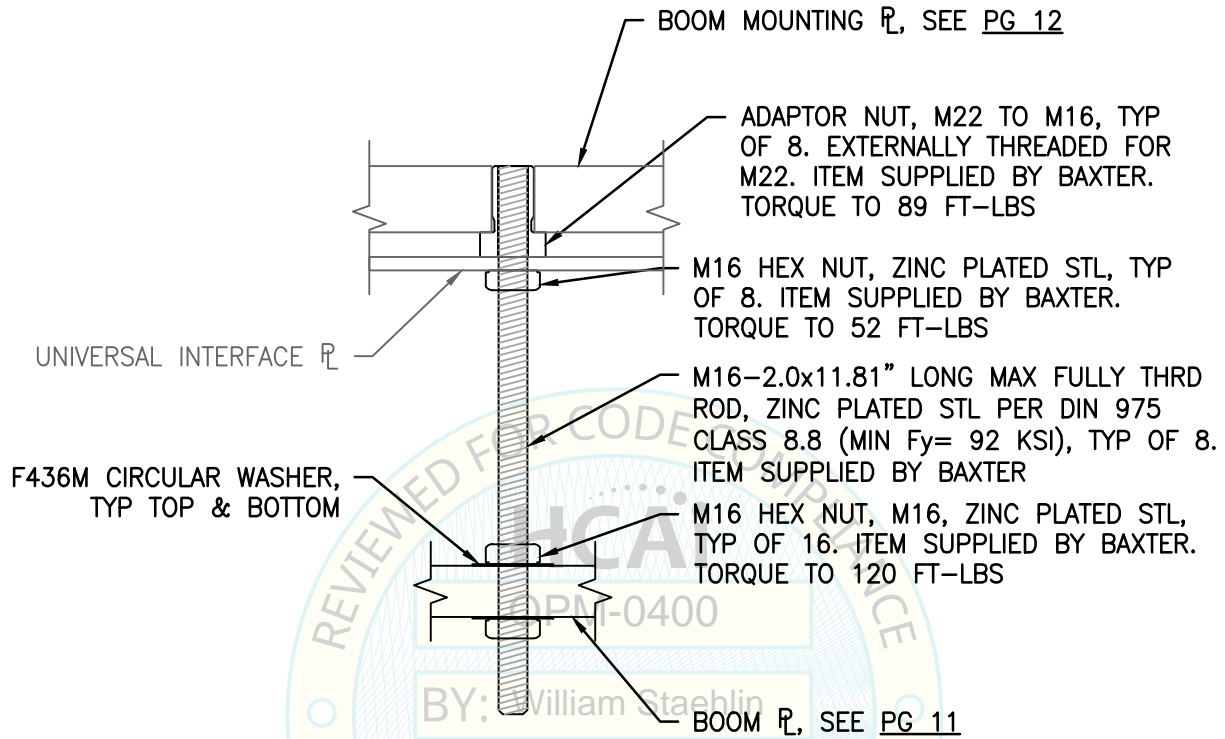


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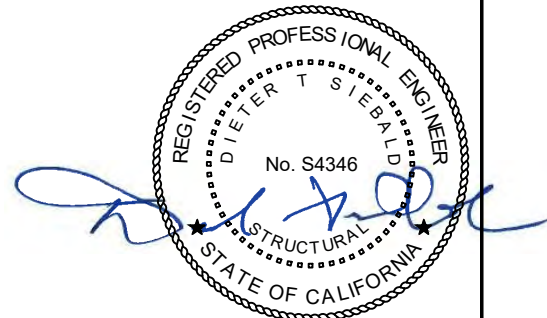
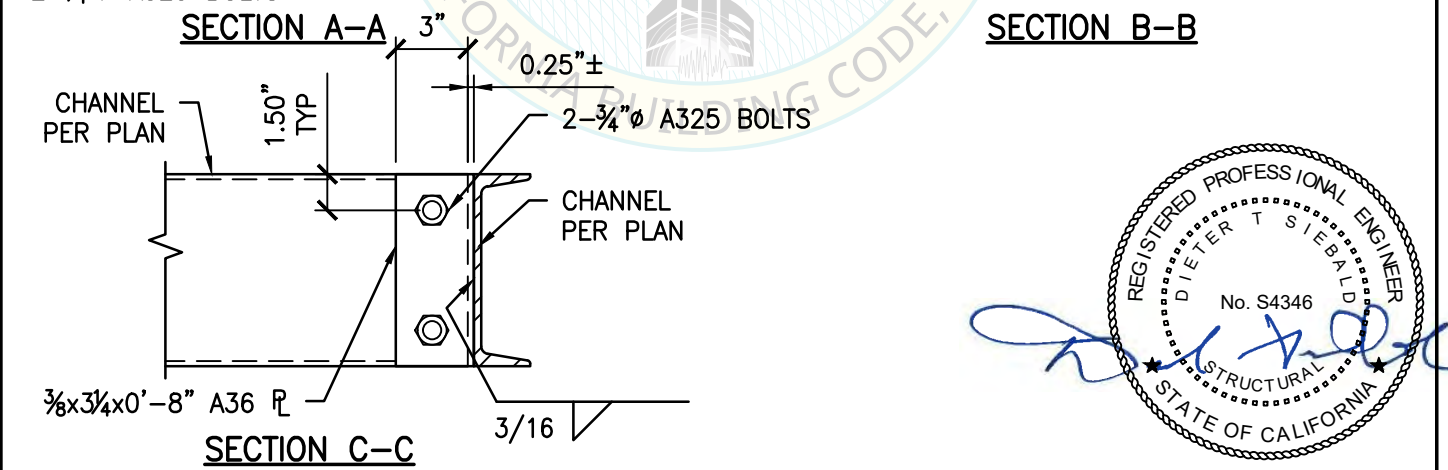
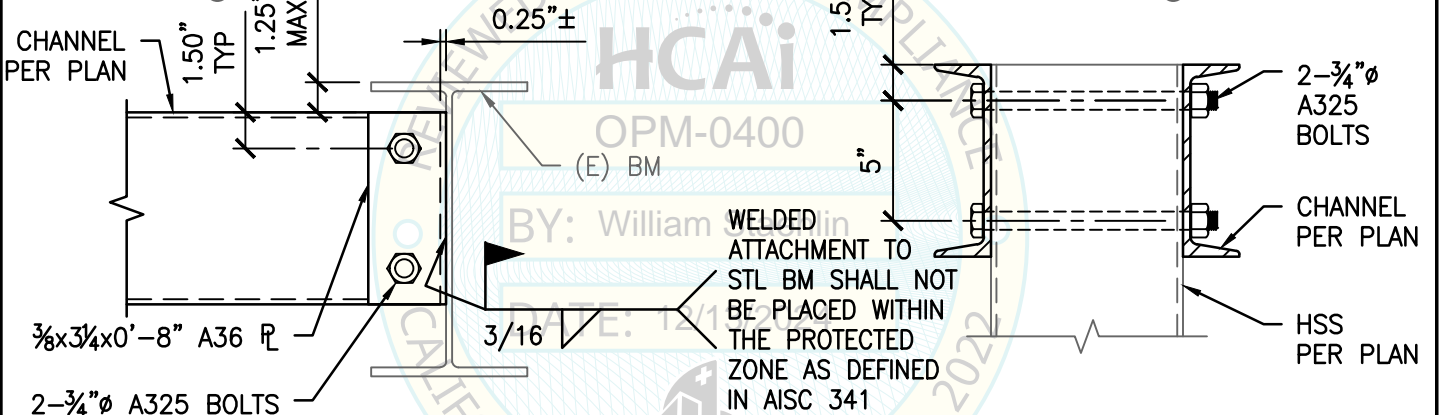
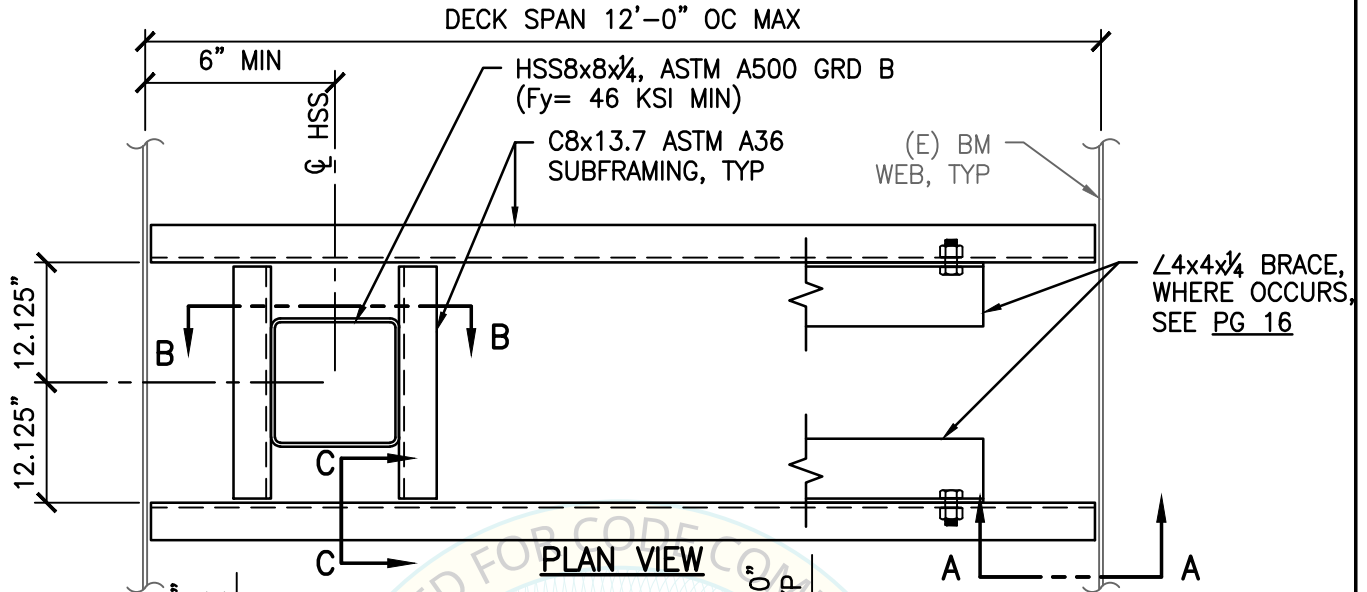
Job No:	16070.03
Date:	12-7-2017
Page:	12 of 19



SHEET TITLE: THREADED ROD DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 13 of 19

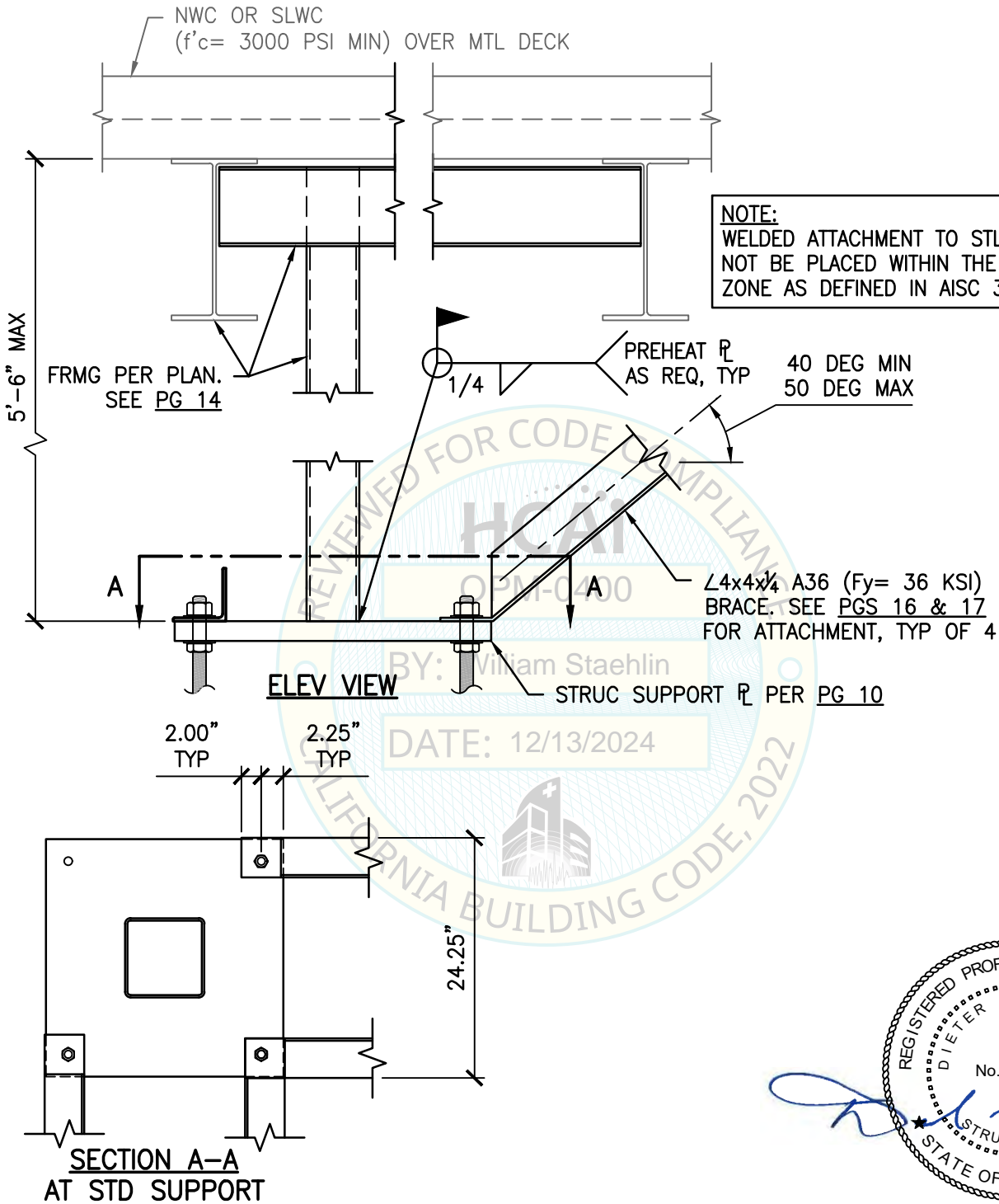
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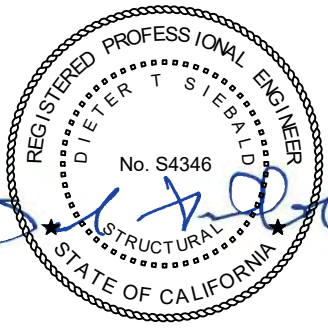
SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
SUPPORT DETAILS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 14 of 19
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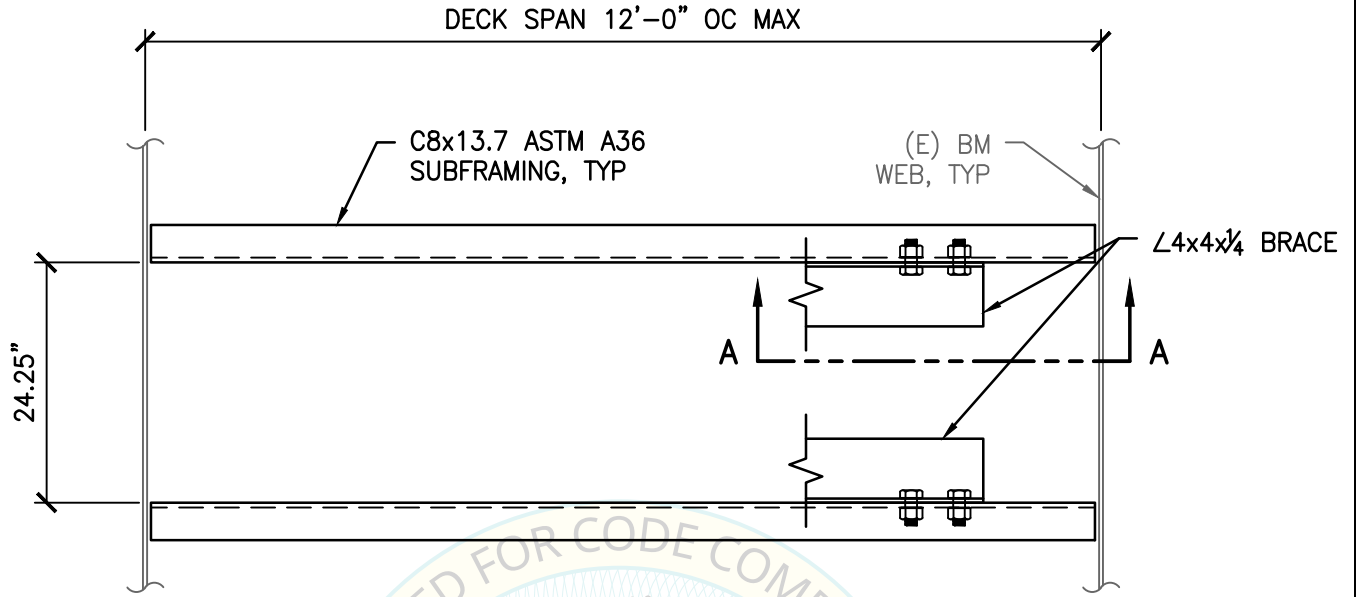
NOTE:
WELDED ATTACHMENT TO STL BM SHALL NOT BE PLACED WITHIN THE PROTECTED ZONE AS DEFINED IN AISC 341.



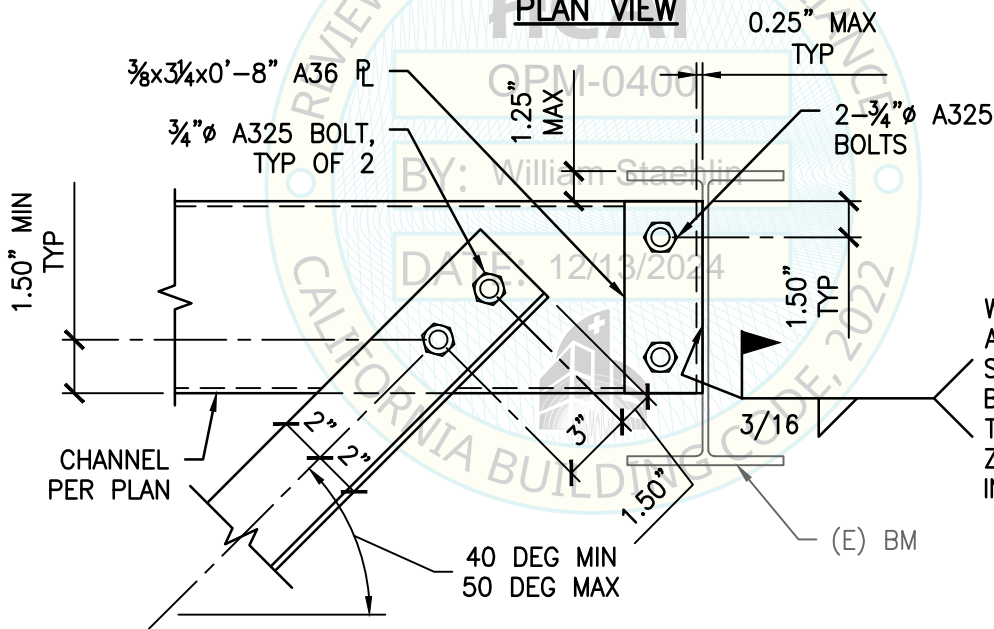
SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
SUPPORT DETAILS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 15 of 19
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PLAN VIEW



SECTION A-A

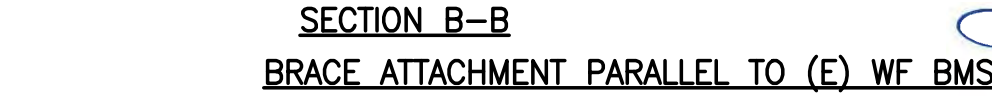
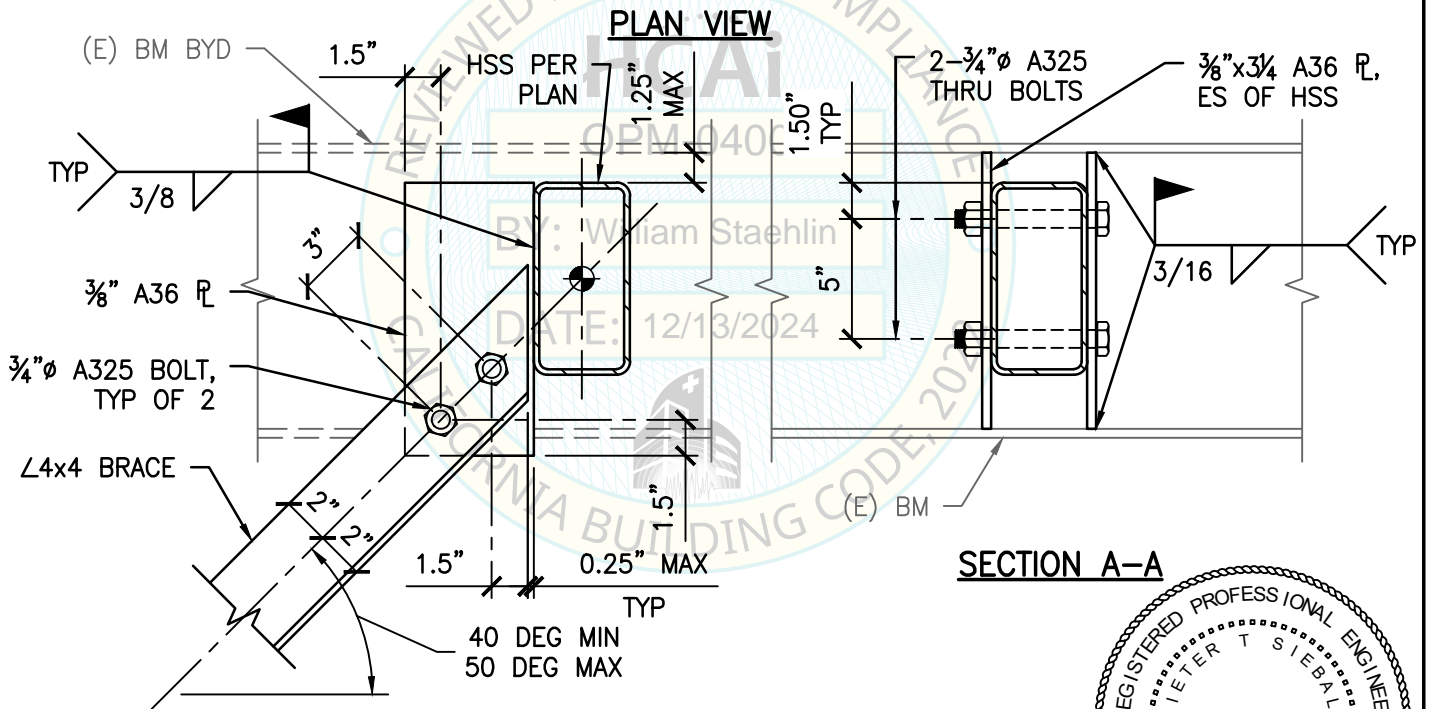
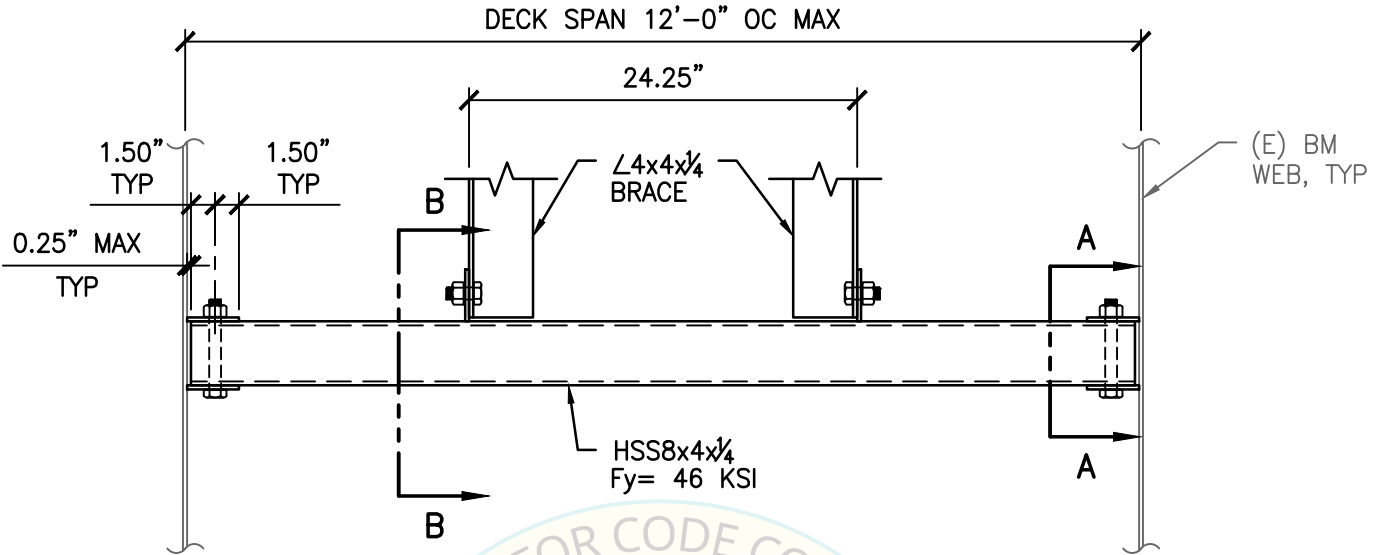
BRACE ATTACHMENT PERP TO (E) WF BMS



SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
BRACE ATTACHMENT DETAILS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 16 of 19
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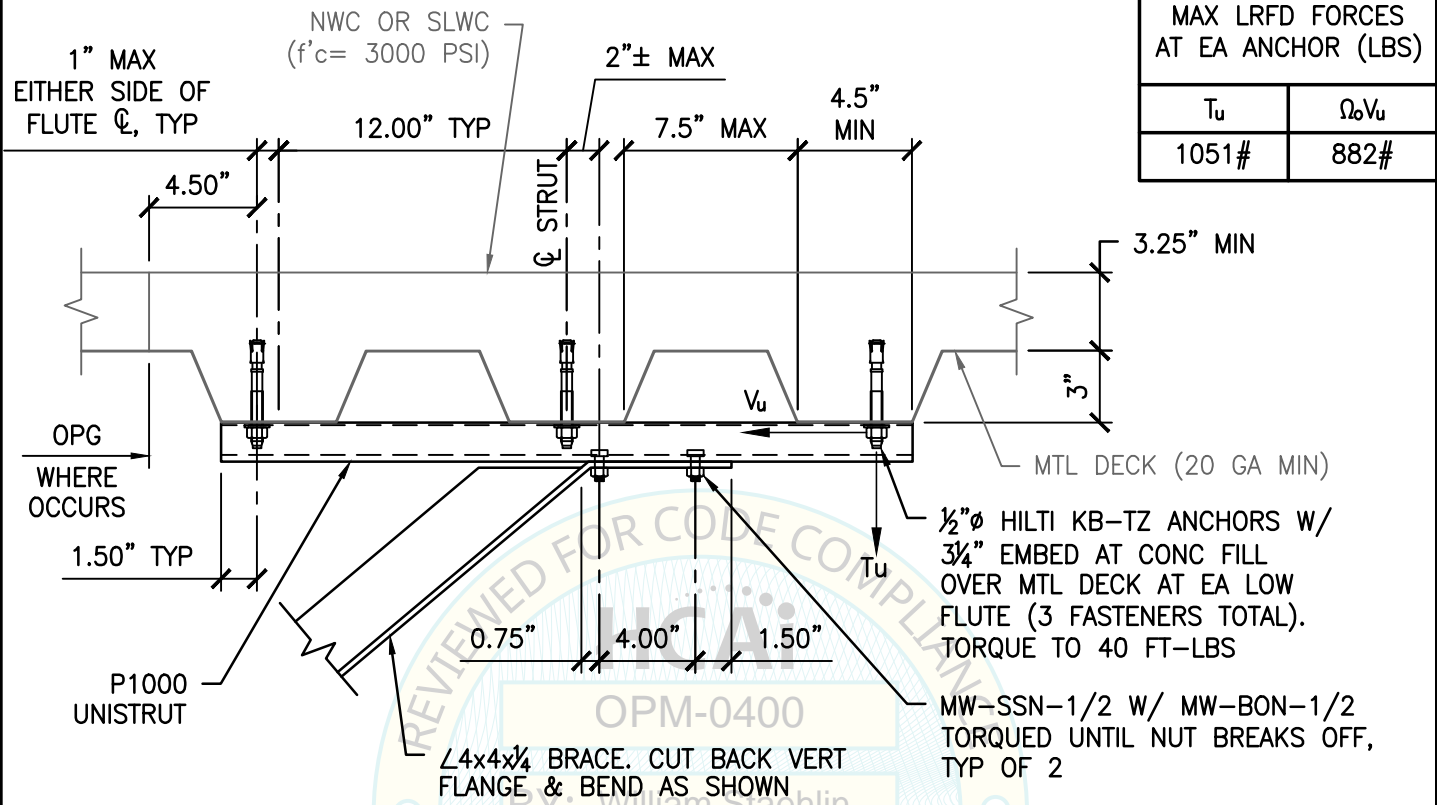
SECTION A-A

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

SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
BRACE ATTACHMENT DETAILS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 17 of 19
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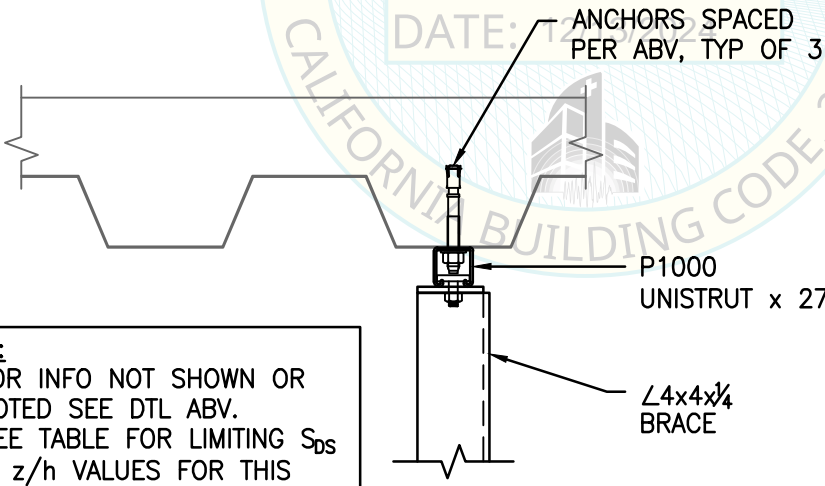
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MAX LRFD FORCES
AT EA ANCHOR (LBS)

T_u	$\Omega_0 V_u$
1051#	882#

BRACE ATTACHMENT PERP TO MTL DECK FLUTES

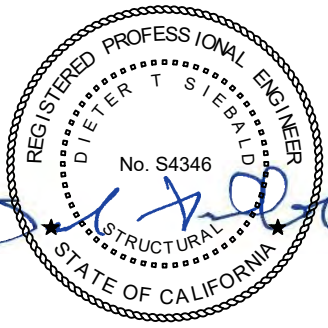


LIMITING S_{DS} & z/h VALUES

	SOLO BOOM		TANDEM BOOM	
z/h	1.00	0.50	1.00	0.50
S_{DS}	1.20	1.80	0.90	1.30

- NOTES:**
- FOR INFO NOT SHOWN OR NOTED SEE DTL ABV.
 - SEE TABLE FOR LIMITING S_{DS} & z/h VALUES FOR THIS BRACE ATTACHMENT OPTION.

BRACE ATTACHMENT PARALLEL TO MTL DECK FLUTES

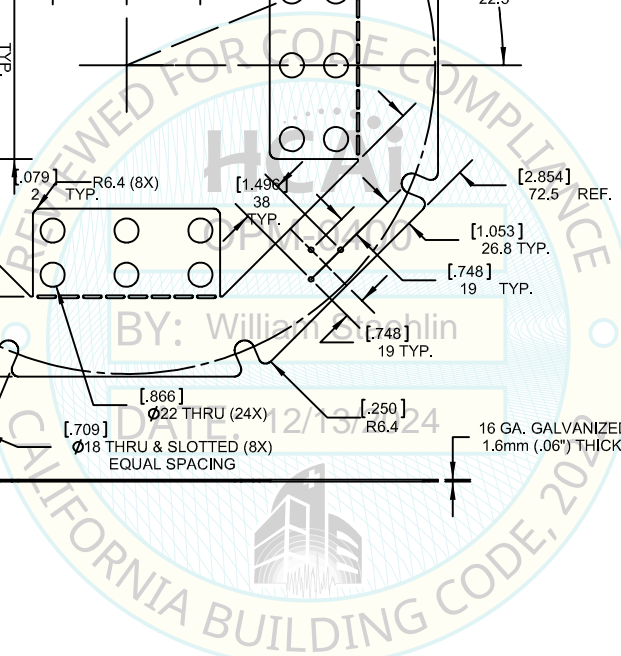
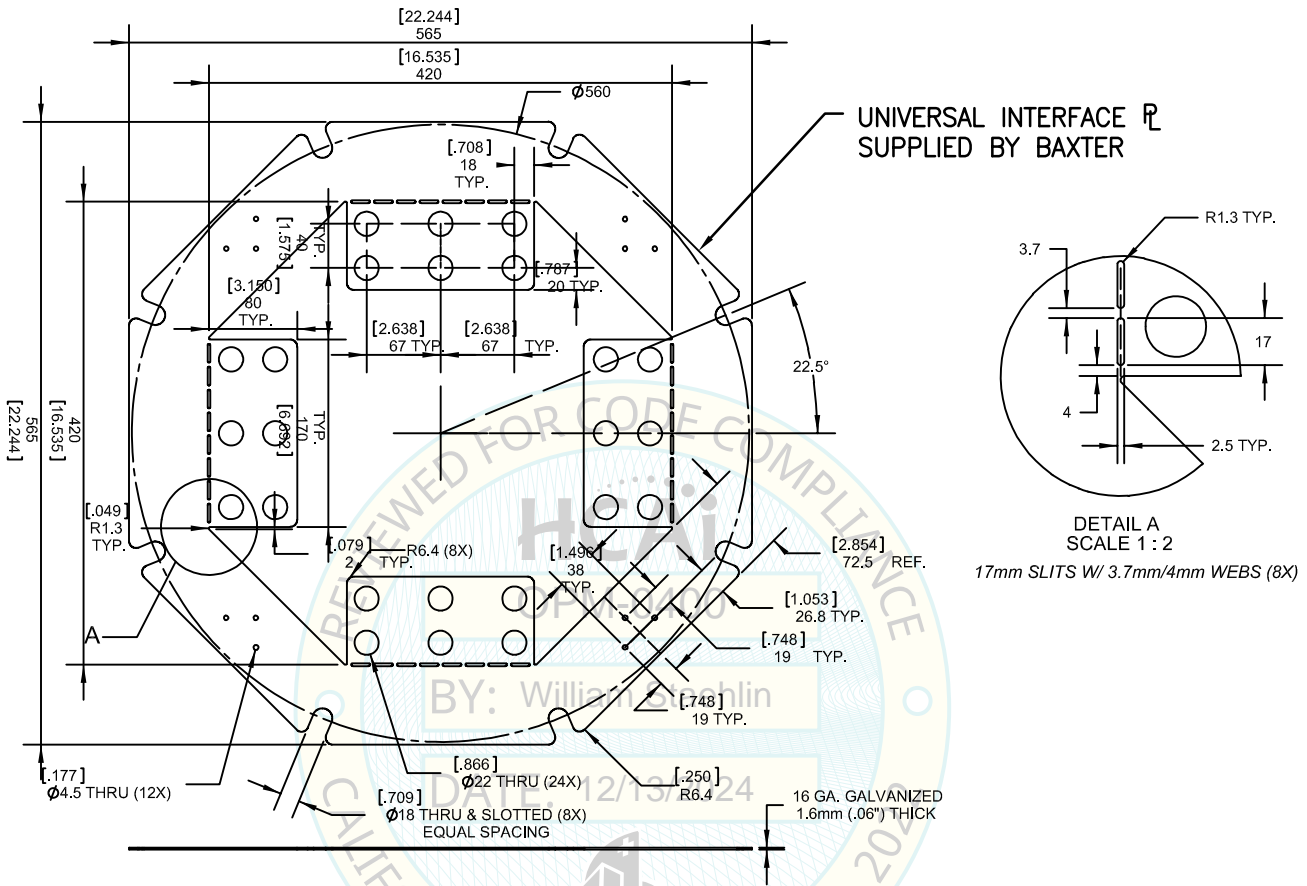


SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
BRACE ATTACHMENT DETAILS (OPTIONAL)

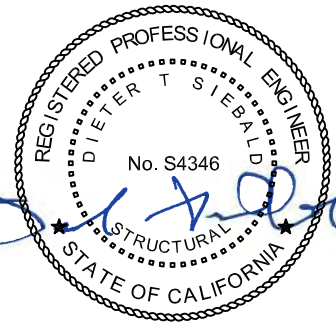
<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.03 Date: 12-7-2017 Page: 18 of 19
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NOTE:
NON-STRUCTURAL, SHOWN FOR INFO ONLY, NOT PART OF THIS OPM



SHEET TITLE: APPENDIX UNIVERSAL INTERFACE PLATE		Job No: 16070.03
CYS STRUCTURAL ENGINEERS, INC.		Date: 12-7-2017
2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Page: 19 of 19