



**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-0399

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 ARM SYSTEMS

Product Type: LIGHT, FLAT PANEL, VIDEO TOWER ACCESSORIES

Product Model Number: VARIOUS

General Description: SINGLE, DUAL, TRIPLE, QUAD, SINGLE HYBRID, DUAL HYBRID ARM SYSTEM AND CEILING MOUNTED EXAM LIGHT.

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: 2710 Gateway Oaks Drive, Suite 190N, 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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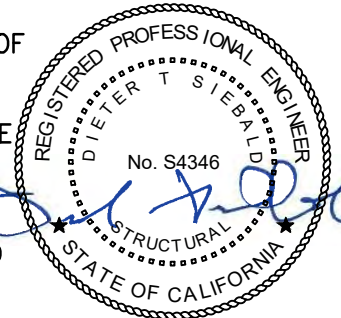
STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY



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OPM-0399-13

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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 SURGICAL LIGHTS TO THE SUPPORTING STRUCTURE. THE SURGICAL LIGHTS & SURGICAL LIGHT BASE PLATE WITH CONNECTION HARDWARE ARE SUPPLIED BY BAXTER. ALL THREADED RODS, MOUNTING PLATE & REQUIRED ABOVE CEILING SUPPORT ELEMENTS SHALL BE SUPPLIED & INSTALLED BY THE CONTRACTOR.



SHEET TITLE: TABLE OF CONTENTS



CYS STRUCTURAL ENGINEERS, INC.

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

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

Job No:	16070.02
Date:	06-22-2018
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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.

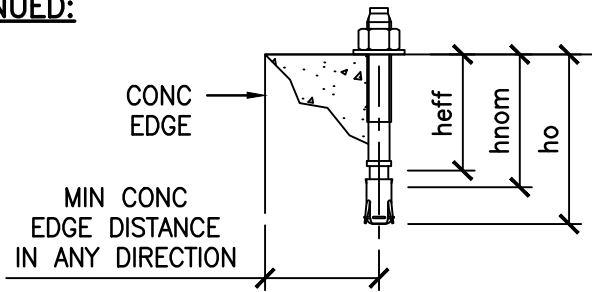


SHEET TITLE: GENERAL NOTES

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 2 of 28

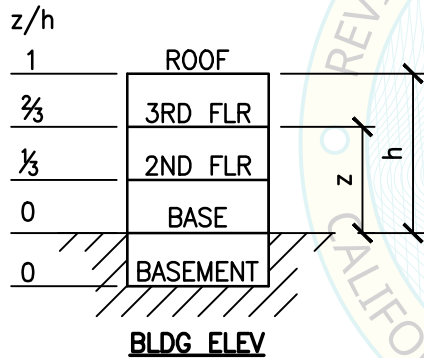
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GENERAL NOTES CONTINUED:



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	3/4	4	6	4.5	10	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 3/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK ($f'_c = 3000$ PSI, MIN). FOR z/h RATIOS & S_{ps} 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_{ps} IS LESS THAN OR EQ TO MAX S_{ps} VALUE AT EACH COMPONENT AS NOTED ON DRAWINGS.



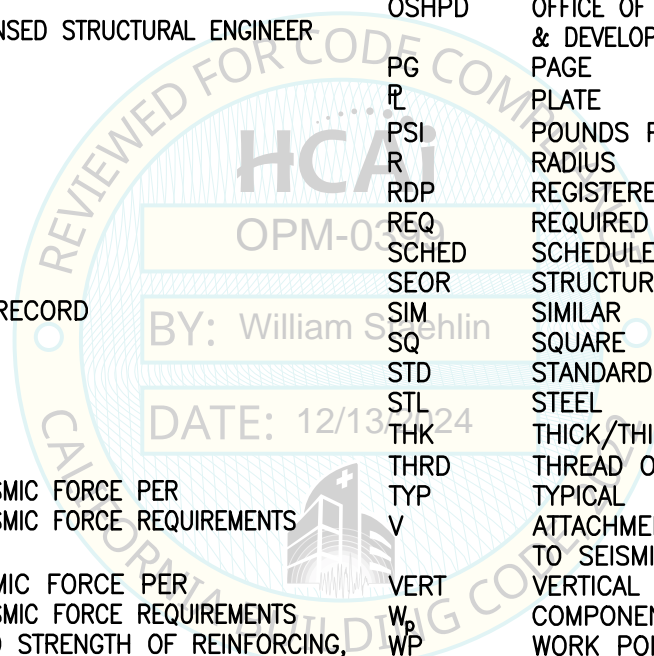
SHEET TITLE: GENERAL NOTES (CONTINUED)

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 16070.02
	2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833		Date: 06-22-2018
	TEL (916) 920-2020 www.cyseng.com		Page: 3 of 26

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ABBREVIATIONS:

@	AT	ICC	INTERNATIONAL CODE COUNCIL
AB	ANCHOR BOLT	IN (")	INCH
ABV	ABOVE	KSI	KIPS PER SQUARE INCH
ASD	ALLOWABLE STRENGTH DESIGN	LBS	POUNDS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	LRFD	LOAD & RESISTANCE FACTOR DESIGN
BLDG	BUILDING	LWC	LIGHT WEIGHT CONCRETE
BLW	BELOW	MAX	MAXIMUM
BOTT	BOTTOM	MFR	MANUFACTURER
BRCG	BRACING	MIN	MINIMUM
BRG	BEARING	MTL	METAL
BTW	BETWEEN	NWC	NORMAL WEIGHT CONCRETE
CBC	CALIFORNIA BUILDING CODE	OPG	OPENING
CG	CENTER OF GRAVITY	OPM	OSPHD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION
CLG	CEILING		OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
CLR	CLEAR	OSHPD	
CLSE	CALIFORNIA LICENSED STRUCTURAL ENGINEER	PG	PAGE
☐	CENTERLINE	PL	PLATE
CONN	CONNECTION	PSI	POUNDS PER SQUARE INCH
DBL	DOUBLE	R	RADIUS
DEG	DEGREE	RDP	REGISTERED DESIGN PROFESSIONAL
DTL(S)	DETAIL(S)	REQ	REQUIRED
DIA (φ)	DIAMETER	SCHED	SCHEDULE
EA	EACH	SEOR	STRUCTURAL ENGINEER OF RECORD
ELEV	ELEVATION	SIM	SIMILAR
EOR	ENGINEER OF RECORD	SQ	SQUARE
EQ	EQUAL	STD	STANDARD
EQUIP	EQUIPMENT	STL	STEEL
ES	EACH SIDE	THK	THICK/THICKNESS
FIN	FINISH	THRD	THREAD OR THREADED
FLR	FLOOR	TYP	TYPICAL
Fp	HORIZONTAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS	V	ATTACHMENT SHEAR REACTION DUE TO SEISMIC FORCE
FT (')	FOOT/FEET	VERT	VERTICAL
F _{pv}	VERTICAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS	W _p	COMPONENT OPERATING WEIGHT
F _y	SPECIFIED YIELD STRENGTH OF REINFORCING, PSI OR SPECIFIED MINIMUM YIELD STRESS OF STEEL, KSI	WP	WORK POINT
GA	GAUGE	WT	WEIGHT
		W/	WITH



SHEET TITLE: ABBREVIATIONS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	Job No: 16070.02
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SUPPORT & ATTACHMENT DESIGN CRITERIA

DESIGN FOR OVERHEAD EXAM LIGHTS IS PER 2016 CBC AT LRFD LEVEL FORCES.

- W_p = AS PROVIDED ON ELEVS
- z/h = SEE COMPONENT DWGS UPPER FLRS ABV THE BASE
- S_{DS} = SEE COMPONENT DWGS
- I_p = 1.5
- q_p = 2.5
- R_p = 2.5
- Ω_o = 2.5
- MIN $F_p = 0.30 S_{DS} I_p W_p =$
- MAX $F_p = 1.60 S_{DS} I_p W_p =$
- $F_p = 0.4q_p S_{DS} I_p W_p (1+2 z/h)/R_p =$
- $F_{pv} = \pm 0.20 S_{DS} W_p =$

DESIGN FOR CEILING MOUNTED EXAM LIGHT

DESIGN FOR CEILING MOUNTED EXAM LIGHT

- | | |
|---|---|
| W_p = AS PROVIDED ON ELEVS | W_p = AS PROVIDED ON ELEVS |
| $z/h \leq 1.0$ UPPER FLRS ABV THE BASE | $z/h \leq 0.5$ UPPER FLRS ABV THE BASE |
| $S_{DS} = 2.50$ | $S_{DS} = 2.50$ |
| $I_p = 1.5$ | $I_p = 1.5$ |
| $q_p = 2.5$ | $q_p = 2.5$ |
| $R_p = 2.5$ | $R_p = 2.5$ |
| MIN $F_p = 0.30 S_{DS} I_p W_p = 1.125 W_p$ | MIN $F_p = 0.30 S_{DS} I_p W_p = 1.125 W_p$ |
| MAX $F_p = 1.60 S_{DS} I_p W_p = 6.000 W_p$ | MAX $F_p = 1.60 S_{DS} I_p W_p = 6.000 W_p$ |
| $F_p = 0.4q_p S_{DS} I_p W_p (1+2 z/h)/R_p = 4.5 W_p$ | $F_p = 0.4q_p S_{DS} I_p W_p (1+2 z/h)/R_p = 3.0 W_p$ |
| $F_{pv} = \pm 0.20 S_{DS} W_p = \pm 0.50 W_p$ | $F_{pv} = \pm 0.20 S_{DS} W_p = \pm 0.50 W_p$ |

LOAD COMBINATIONS

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

COMPONENT FORCES (LRFD W/O Ω_o)

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

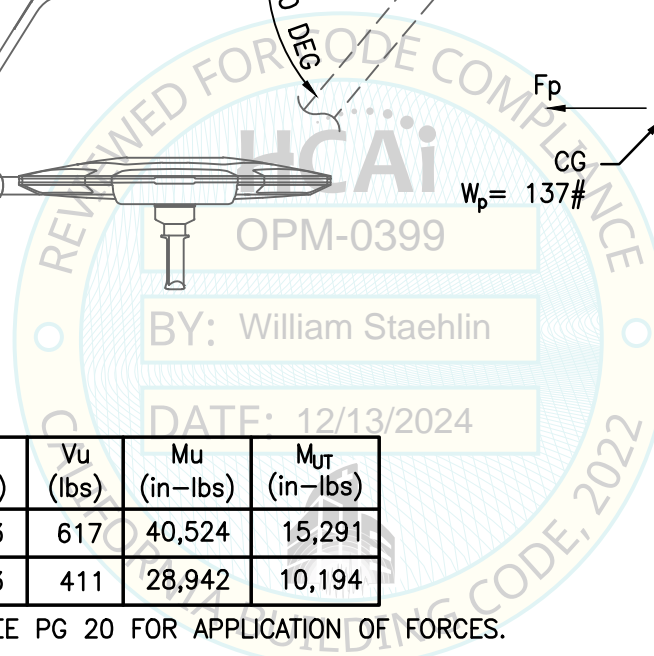
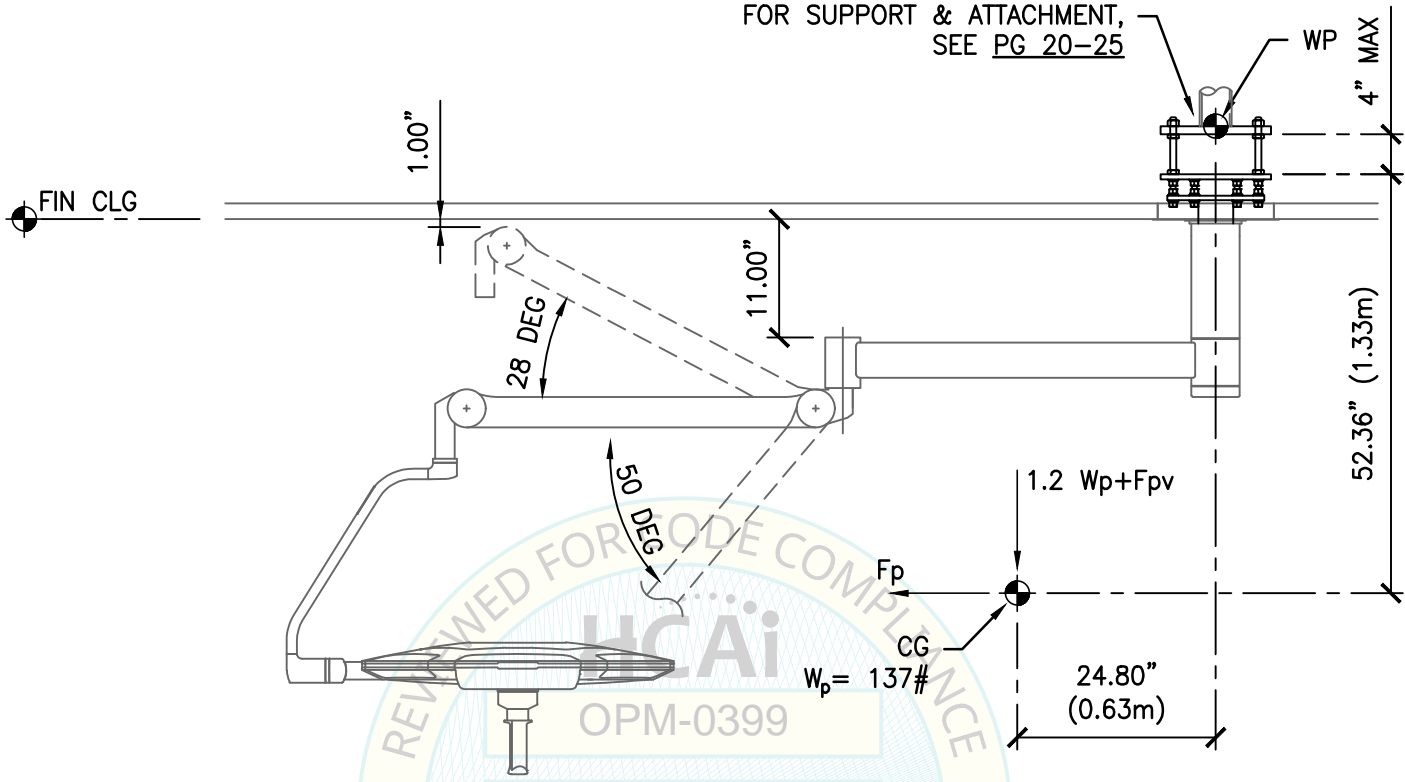


SHEET TITLE: DESIGN CRITERIA

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 5 of 26
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FOR SUPPORT & ATTACHMENT,
SEE PG 20-25



z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	2.5	233	617	40,524	15,291
0.5	2.5	233	411	28,942	10,194

LRFD FORCES W/O Ω_o . SEE PG 20 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 SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.

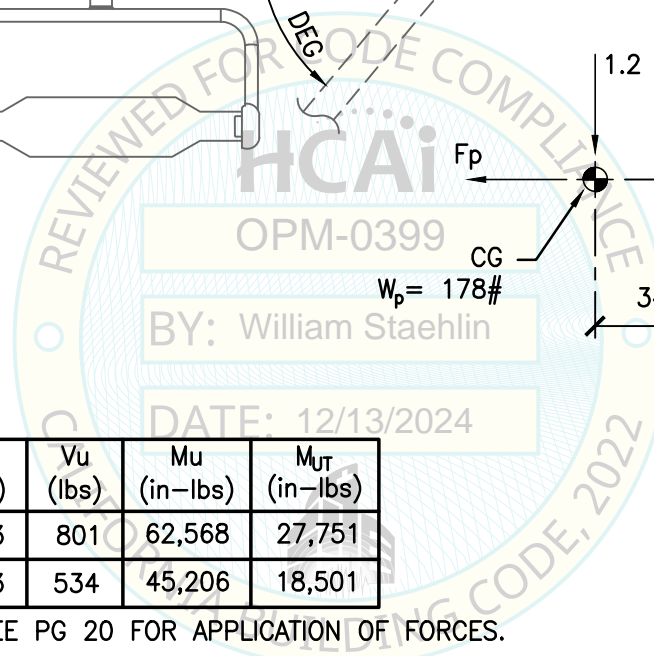
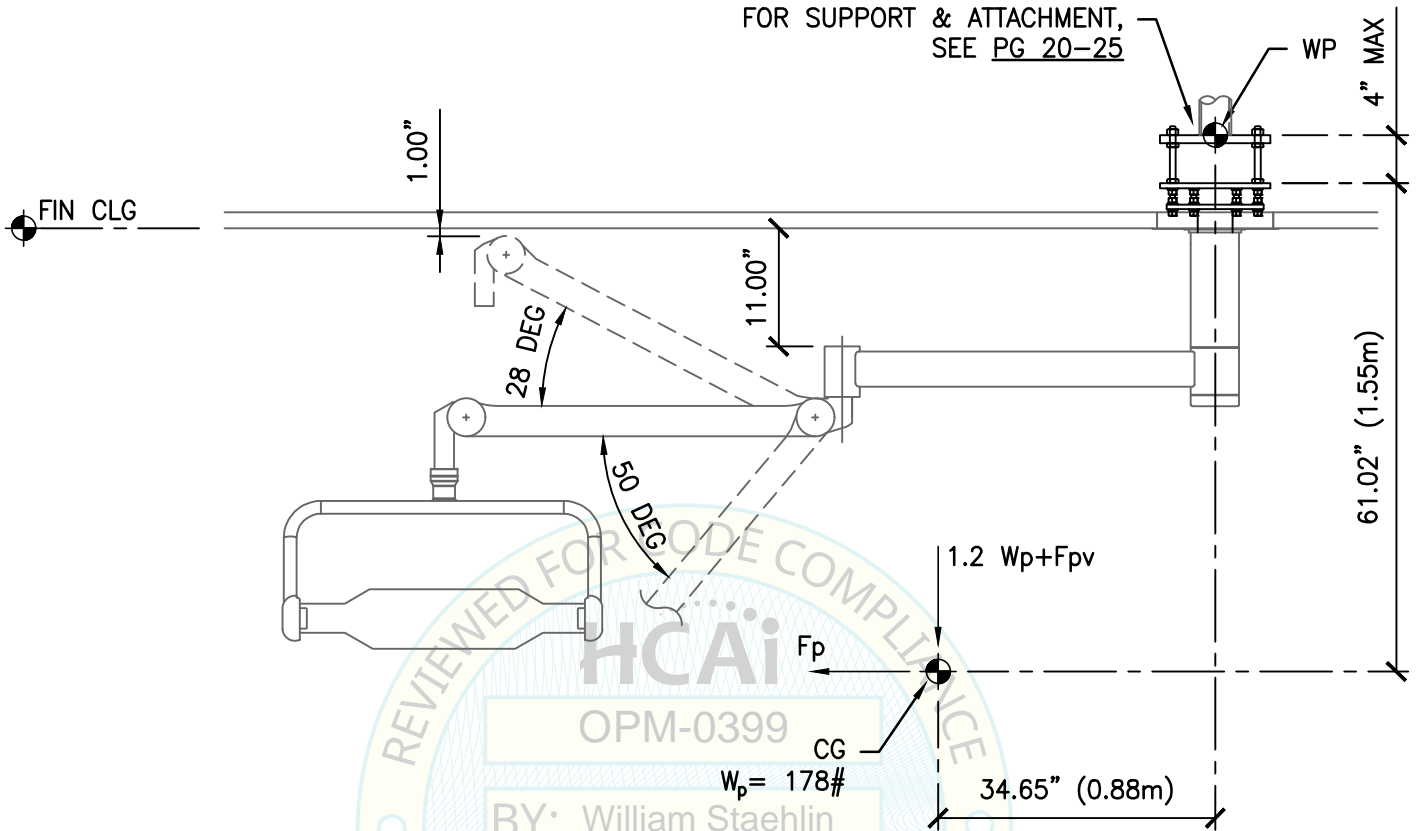


SHEET TITLE: SINGLE ARM SYSTEM
LIGHT

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 6 of 26
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FOR SUPPORT & ATTACHMENT,
SEE PG 20-25



z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	2.5	303	801	62,568	27,751
0.5	2.5	303	534	45,206	18,501

LRFD FORCES W/O Ω_o . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

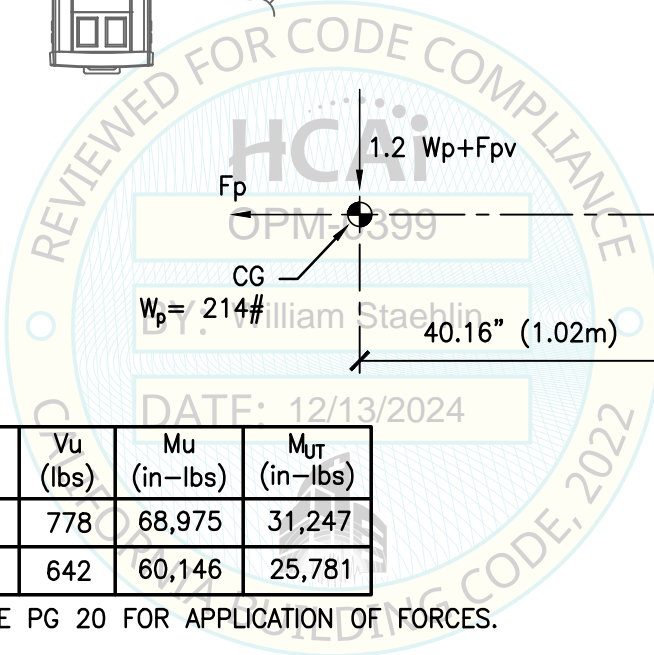
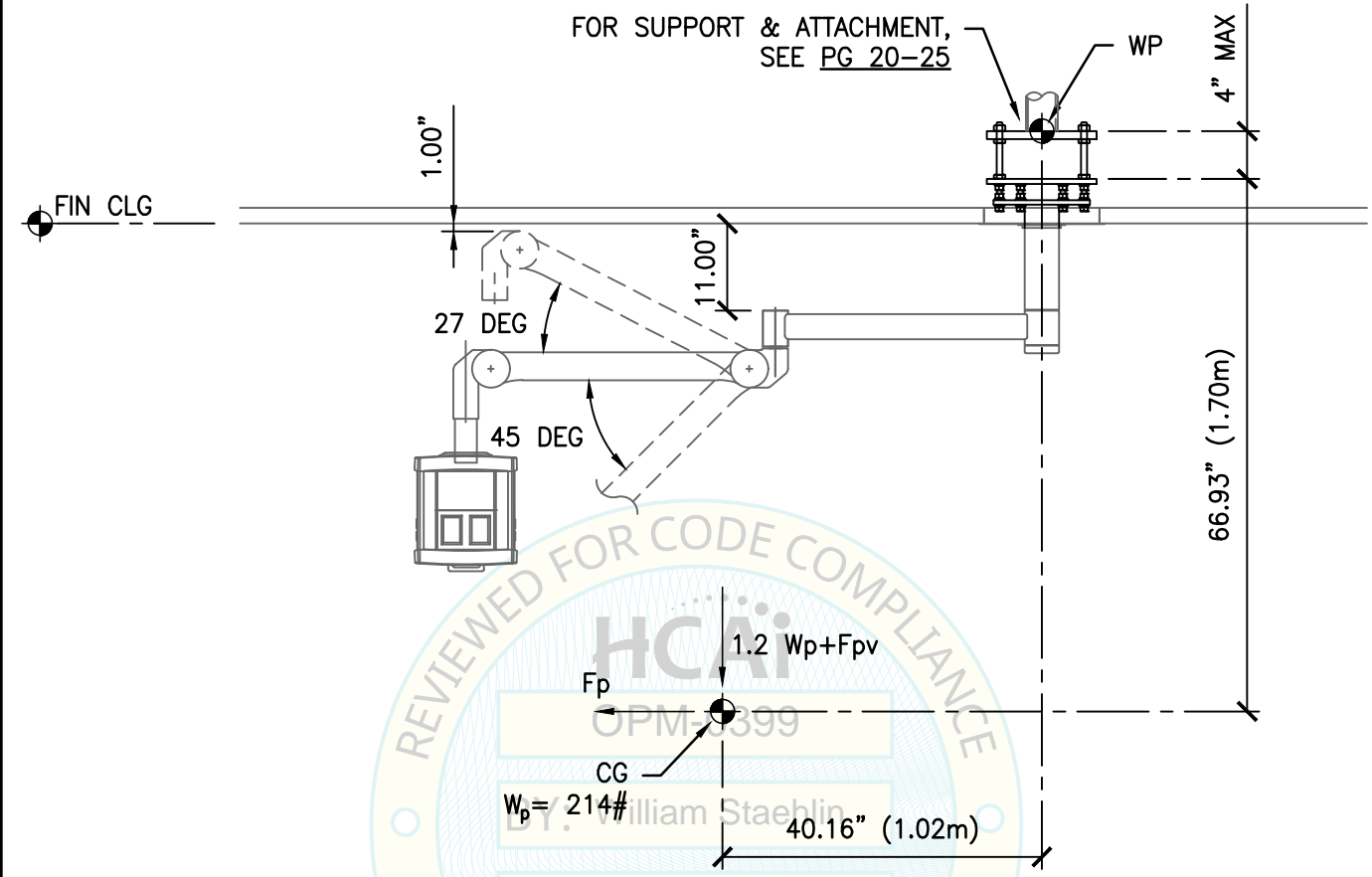
1. CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
2. SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
3. THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: SINGLE ARM SYSTEM
FLAT PANEL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 7 of 26
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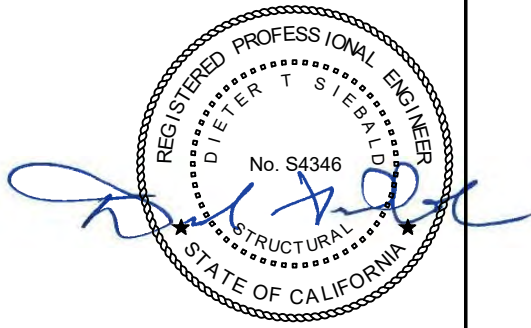


z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	2.02	343	778	68,975	31,247
0.5	2.5	364	642	60,146	25,781

LRFD FORCES W/O Ω_o . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

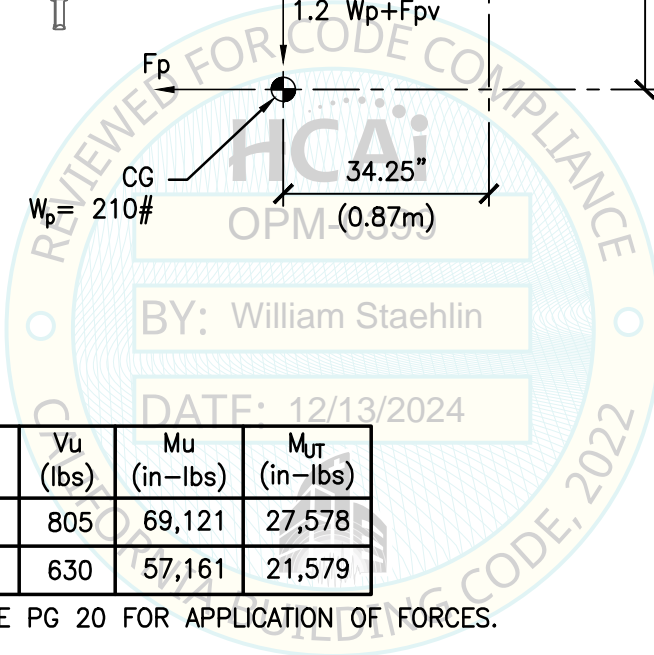
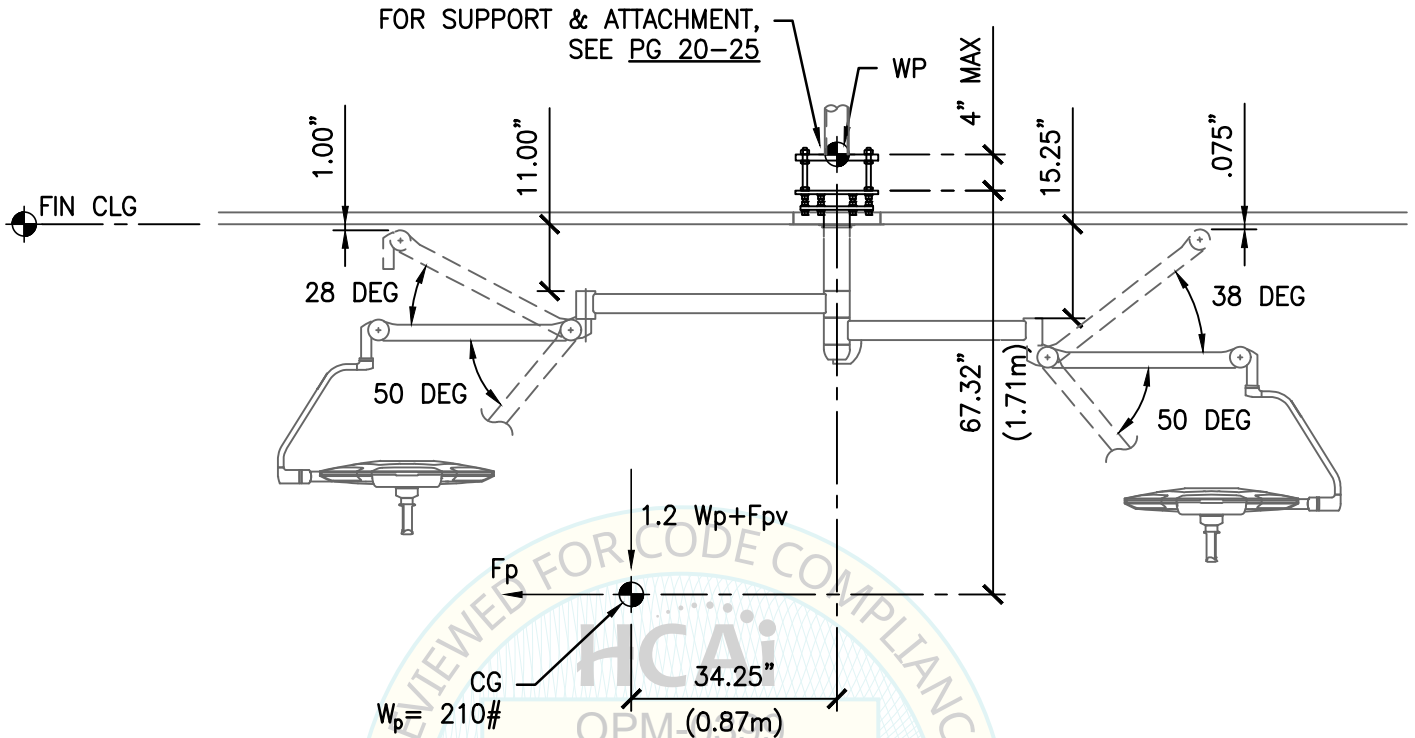
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- THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: SINGLE ARM SYSTEM
VIDEO TOWER ACCESSORY (VPA)

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 8 of 26
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z/h	MAX S _{DS}	T _u (lbs)	V _u (lbs)	M _u (in-lbs)	M _{UT} (in-lbs)
1	2.13	341	805	69,121	27,578
0.5	2.5	357	630	57,161	21,579

LRFD FORCES W/O Ω_b . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

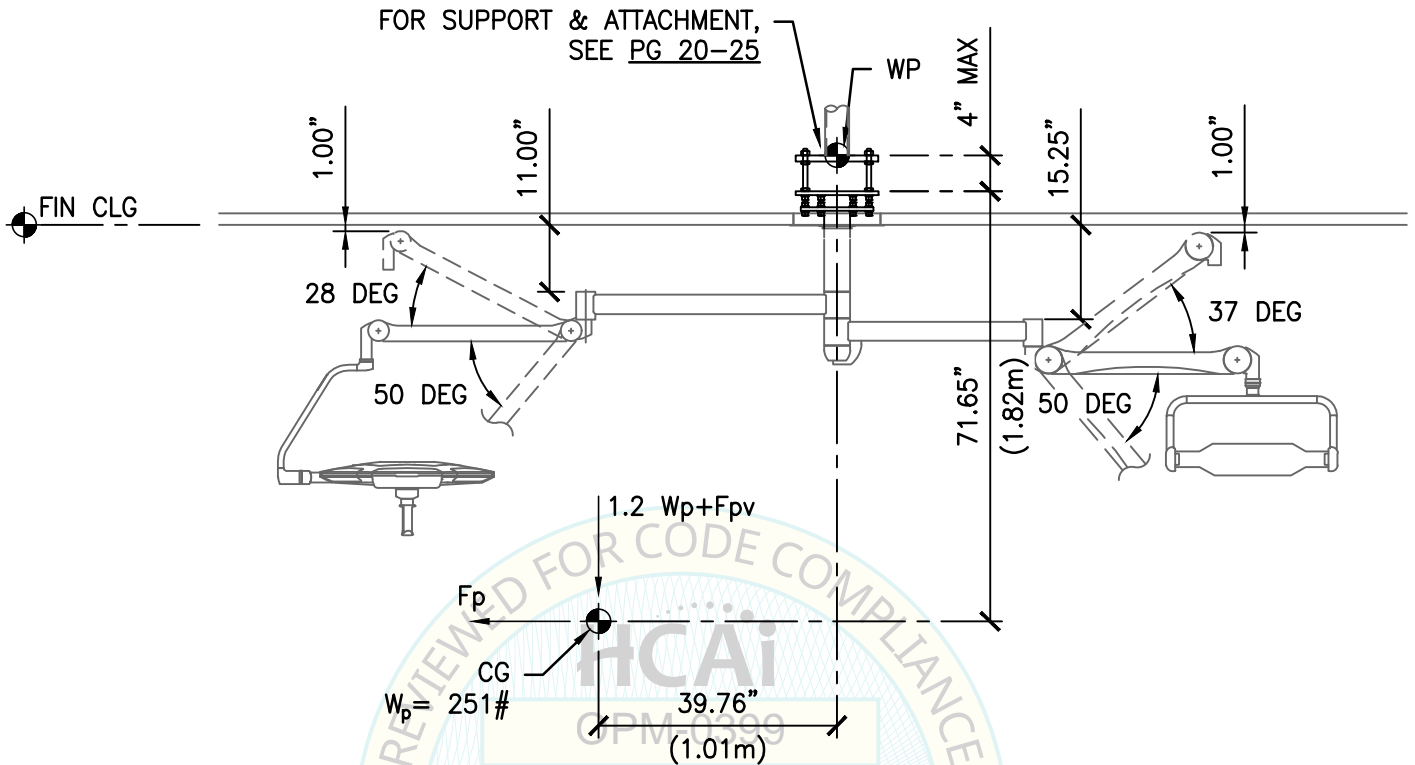
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2. SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
3. THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: DUAL ARM SYSTEM
LIGHT-LIGHT

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 9 of 26
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REVIEWED FOR CODE COMPLIANCE
BY: William Staehlin
DATE: 12/13/2024
OPM-399

z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	1.57	380	709	68,774	28,205
0.5	2.28	416	687	68,482	27,307

LRFD FORCES W/O Ω_b . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

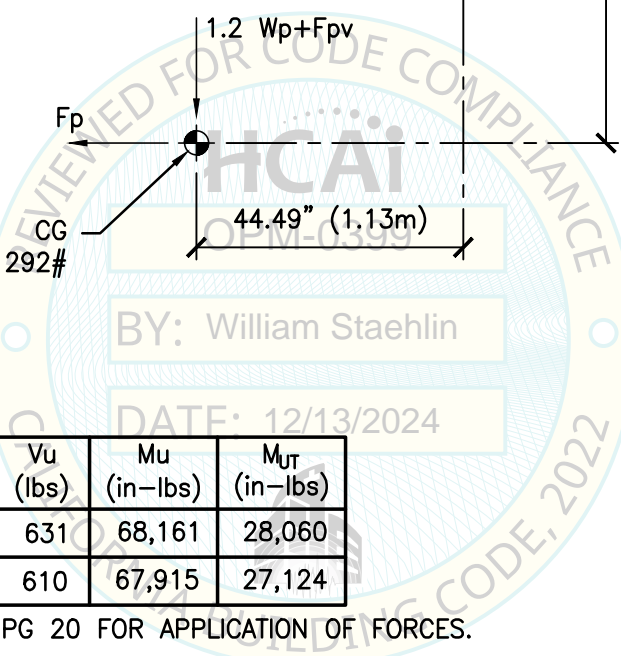
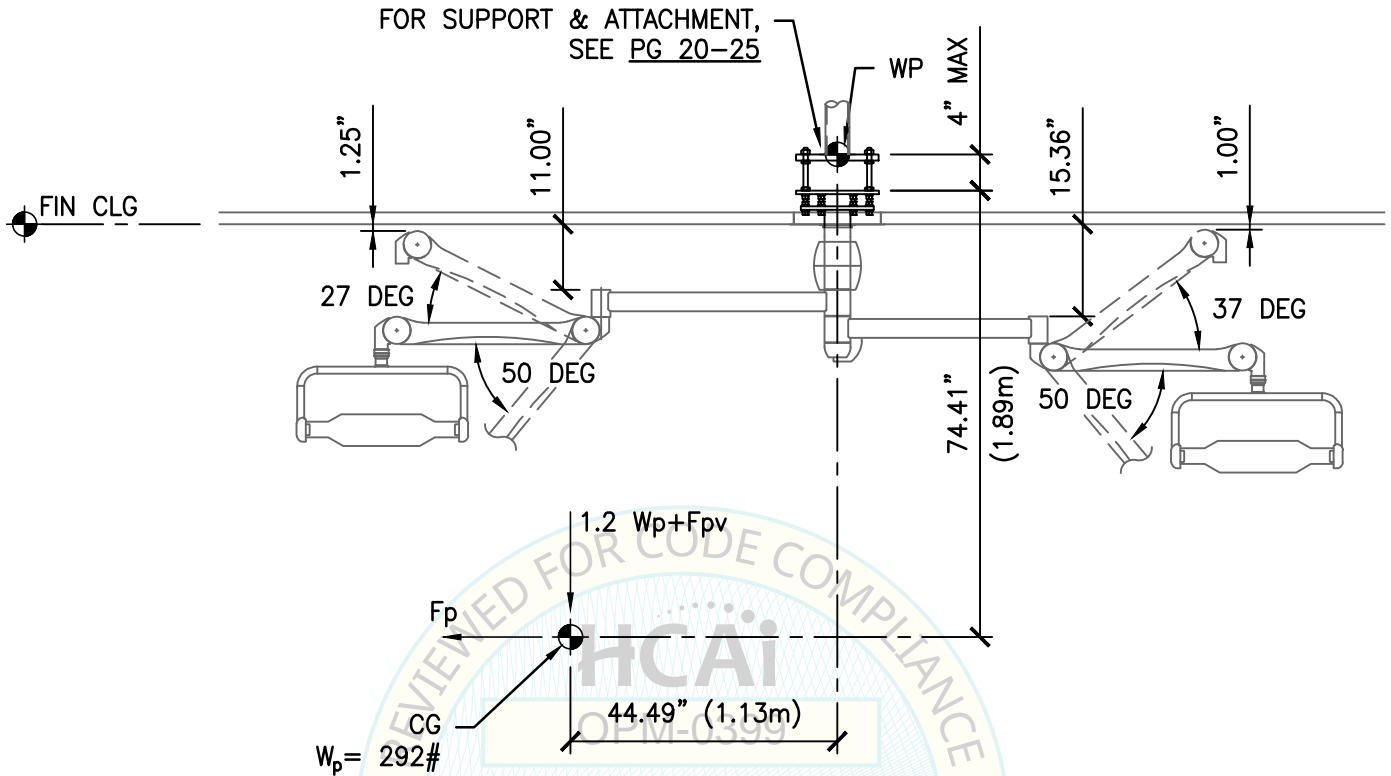
- CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
- SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: DUAL ARM SYSTEM
LIGHT-FLAT PANEL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 10 of 26
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c:\Users\comachom\appdata\local\temp\AcPublish_54132\S1_TASK 02.dwg Time:Nov20,2024-11:47am Login:comachom Dimscale:1 LTScale:6



z/h	MAX S _{DS}	T _u (lbs)	V _u (lbs)	M _u (in-lbs)	M _{UT} (in-lbs)
1	1.2	420	631	68,161	28,060
0.5	1.74	452	610	67,915	27,124

LRFD FORCES W/O Ω_o. SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

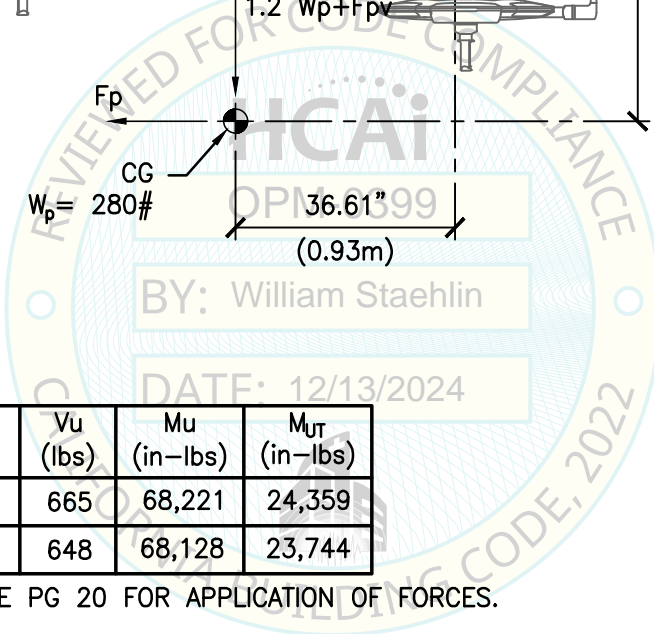
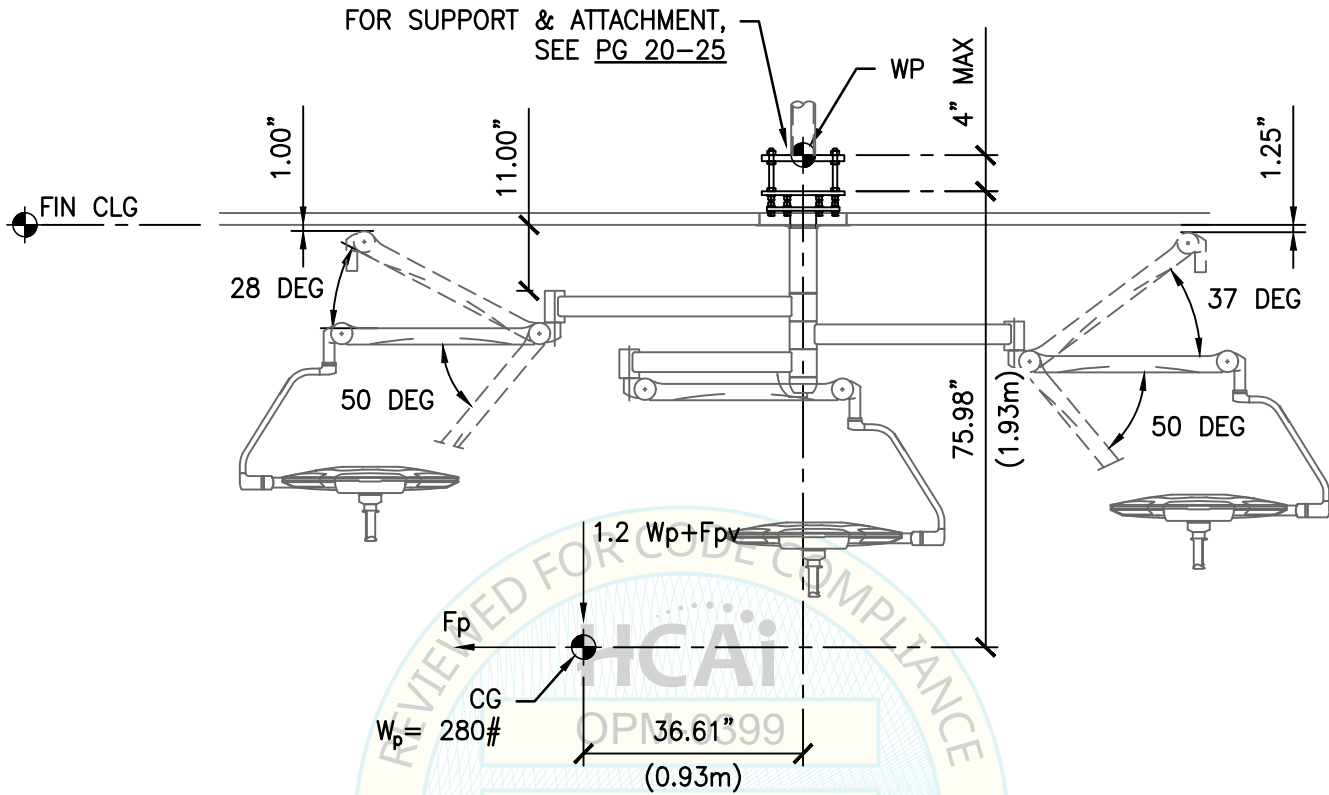
- CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
- SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: DUAL ARM SYSTEM
FLAT PANEL-FLAT PANEL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 11 of 26
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z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	1.32	410	665	68,221	24,359
0.5	1.93	444	648	68,128	23,744

LRFD FORCES W/O Ω_b . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

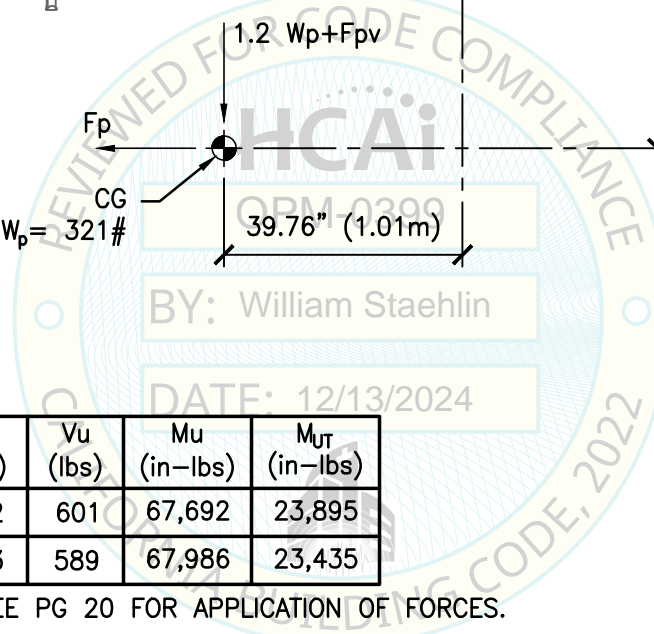
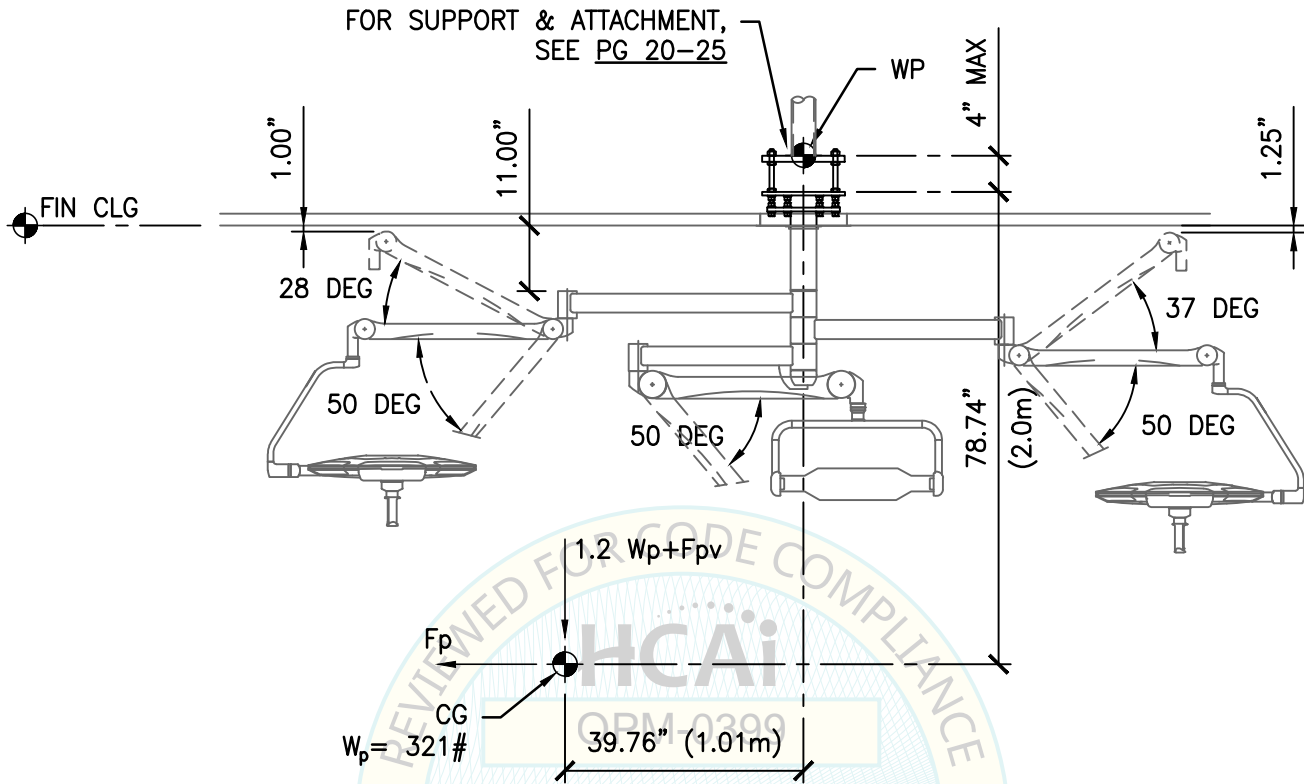
- CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
- SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: TRIPLE ARM SYSTEM
LIGHT-LIGHT-LIGHT

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 12 of 26
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z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	1.04	452	601	67,692	23,895
0.5	1.53	483	589	67,986	23,435

LRFD FORCES W/O Ω_b . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

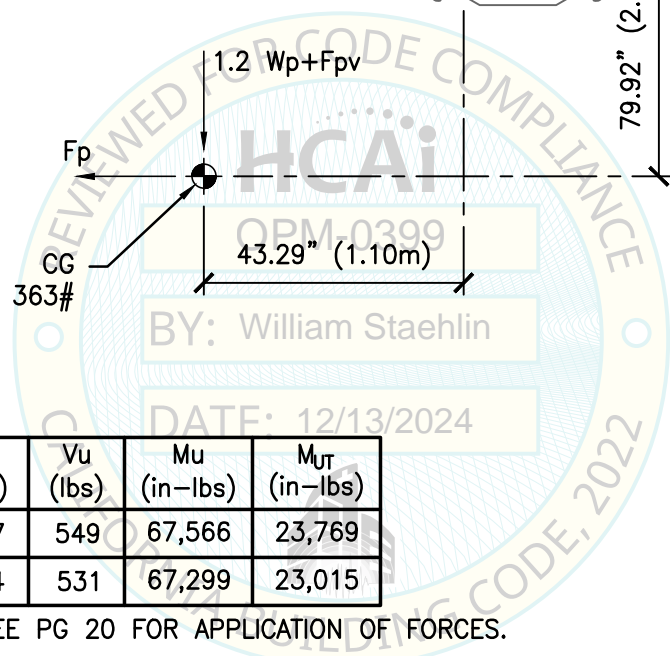
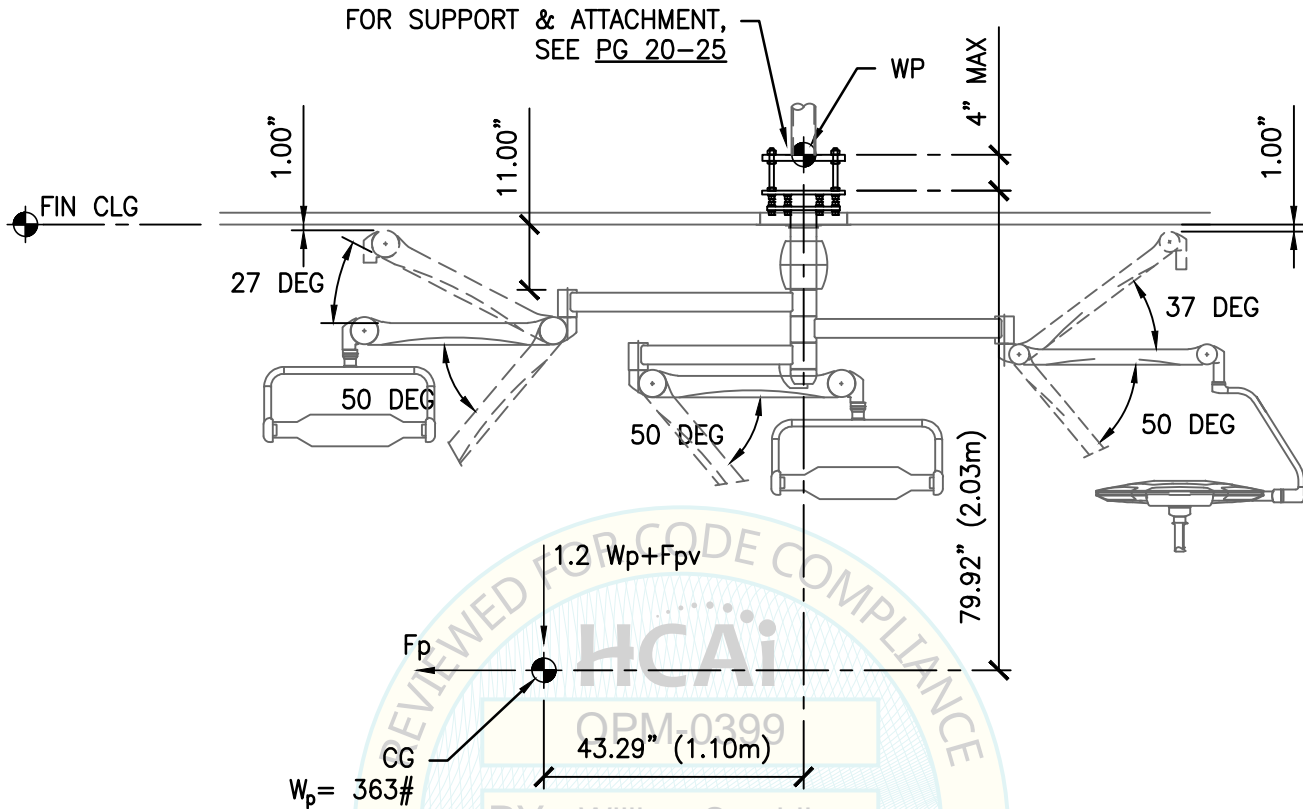
- CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
- SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: TRIPLE ARM SYSTEM
LIGHT-LIGHT-FLAT PANEL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 13 of 28
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z/h	MAX S _{DS}	T _u (lbs)	V _u (lbs)	M _u (in-lbs)	M _{UT} (in-lbs)
1	0.84	497	549	67,566	23,769
0.5	1.22	524	531	67,299	23,015

LRFD FORCES W/O Ω_b. SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

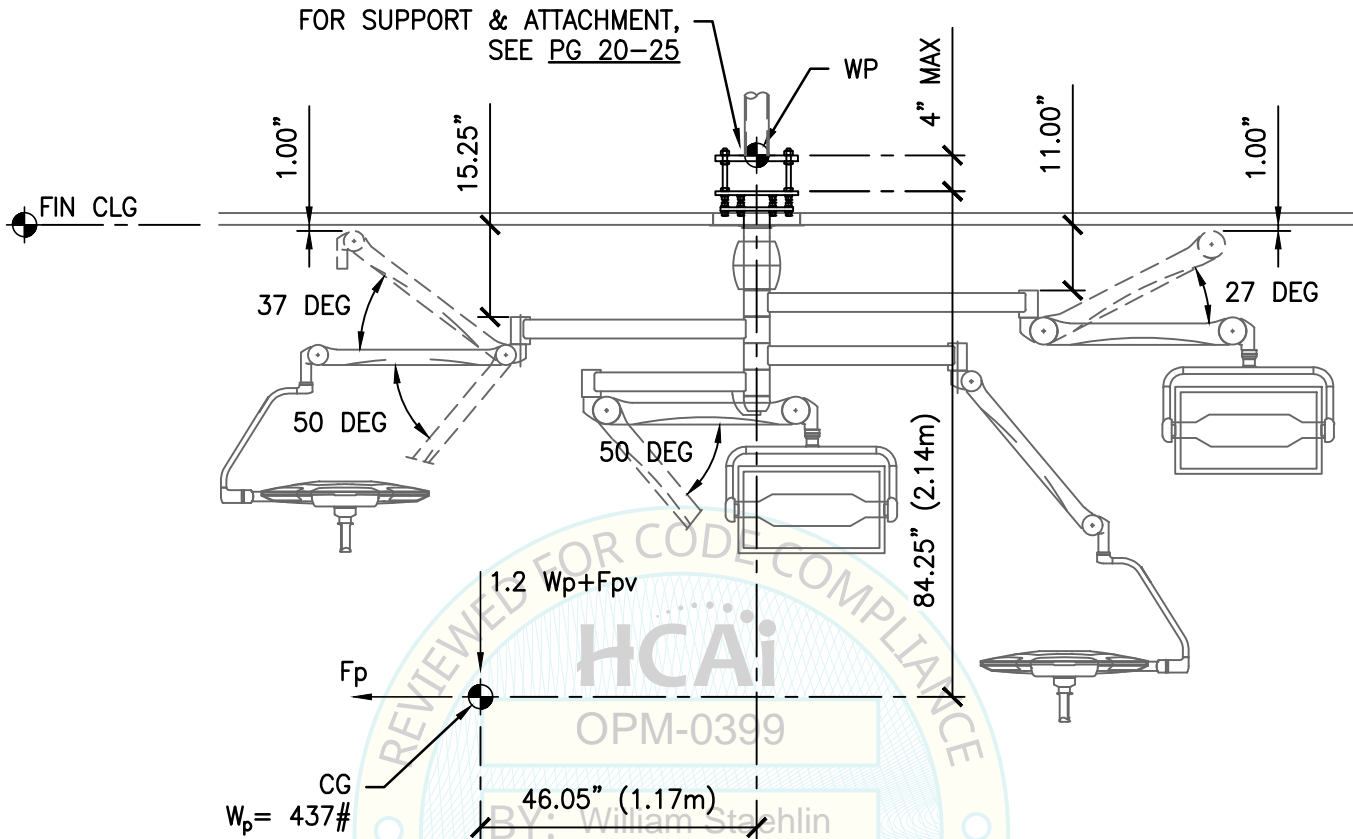
- CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
- SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: TRIPLE ARM SYSTEM
FLAT PANEL-LIGHT-FLAT PANEL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 14 of 26
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z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	0.58	575	456	66,753	21,015
0.5	0.85	599	446	66,915	20,532

LRFD FORCES W/O Ω_b . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

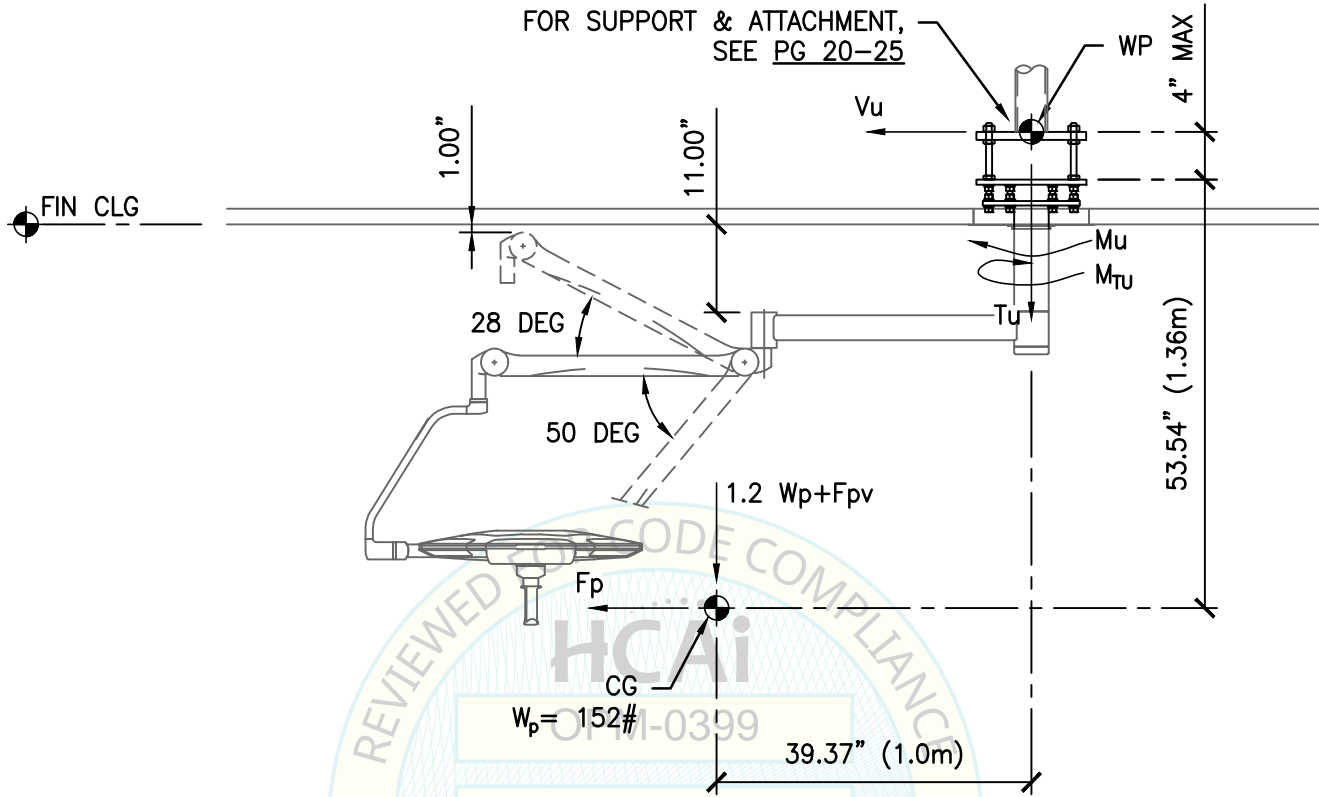
1. CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
2. SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
3. THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: QUAD ARM SYSTEM
FLAT PANEL-LIGHT-LIGHT-FLAT PANEL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 15 of 26
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$W_p = 152\#$

BY: William Staehlin
DATE: 12/13/2024

z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{TU} (in-lbs)
1	2.5	258	684	49,533	26,929
0.5	2.5	258	456	36,413	17,953

LRFD FORCES W/O Ω_o . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

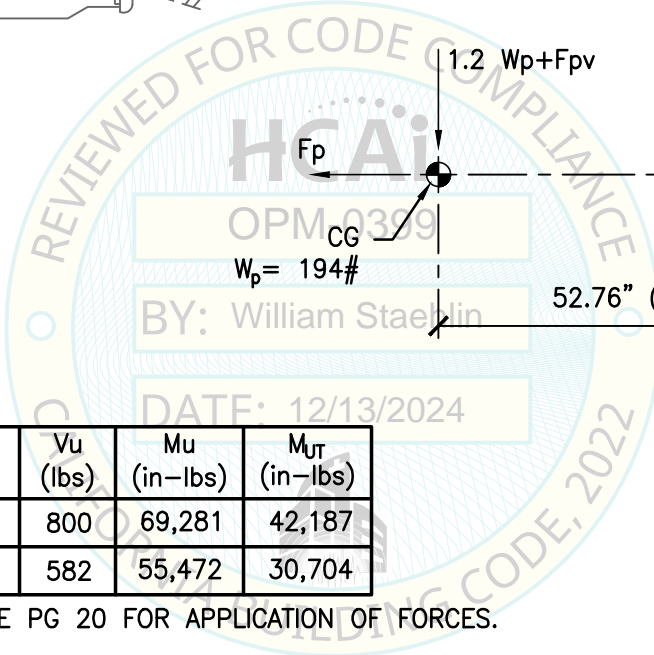
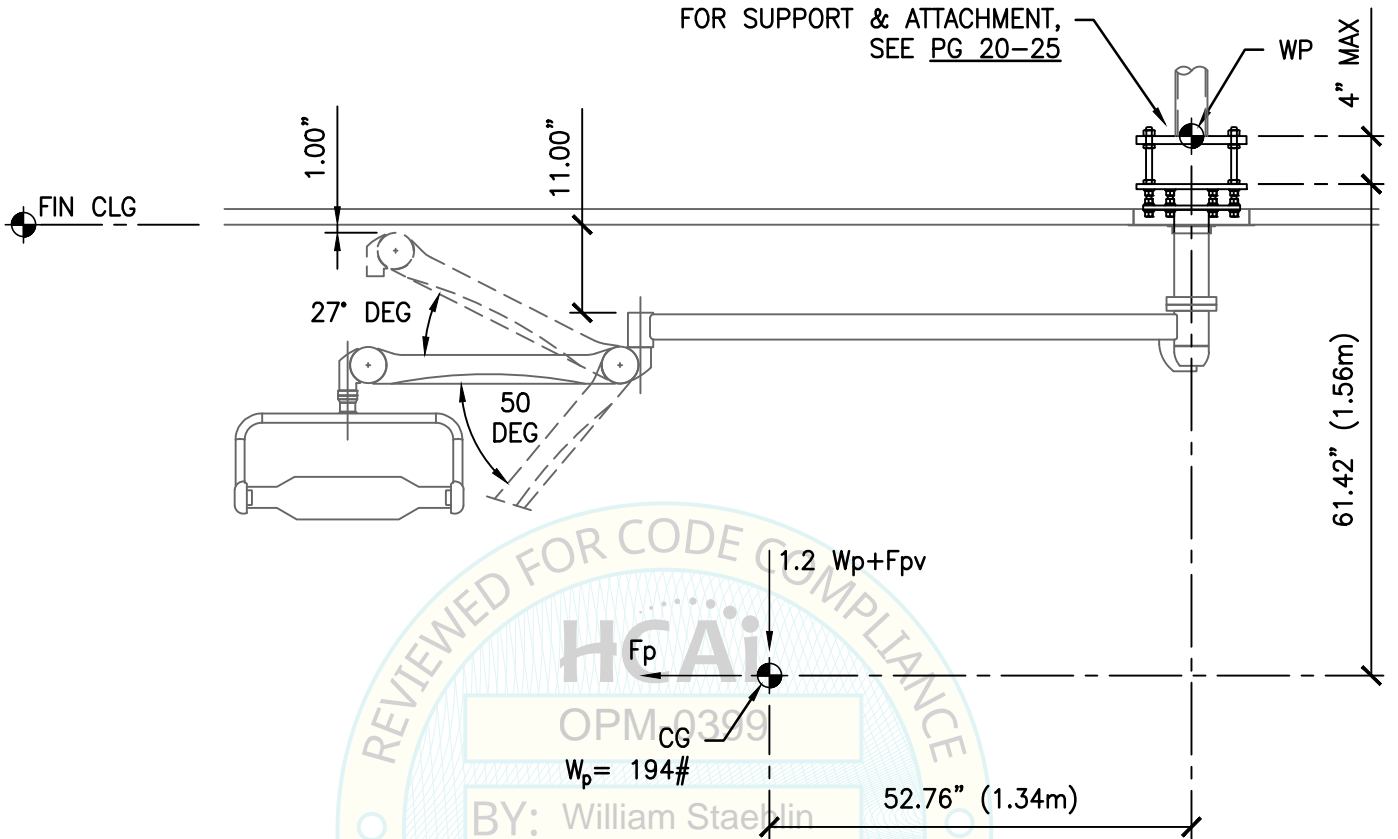
1. CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
2. SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
3. THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: SINGLE HYBRID ARM SYSTEM
LIGHT

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 16 of 26
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c:\Users\comachom\appdata\local\temp\AcPublish_54132\S1_TASK 02.dwg Time:Nov20,2024-11:47am Login:comachom Dimscale:1 LTScale:6

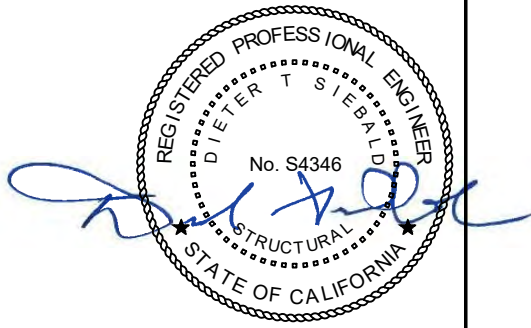


z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	2.29	322	800	69,281	42,187
0.5	2.5	330	582	55,472	30,704

LRFD FORCES W/O Ω_b . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

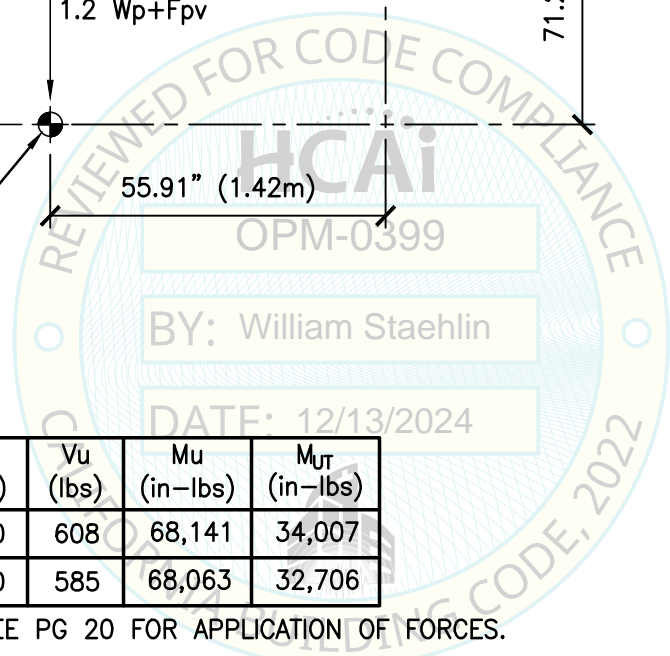
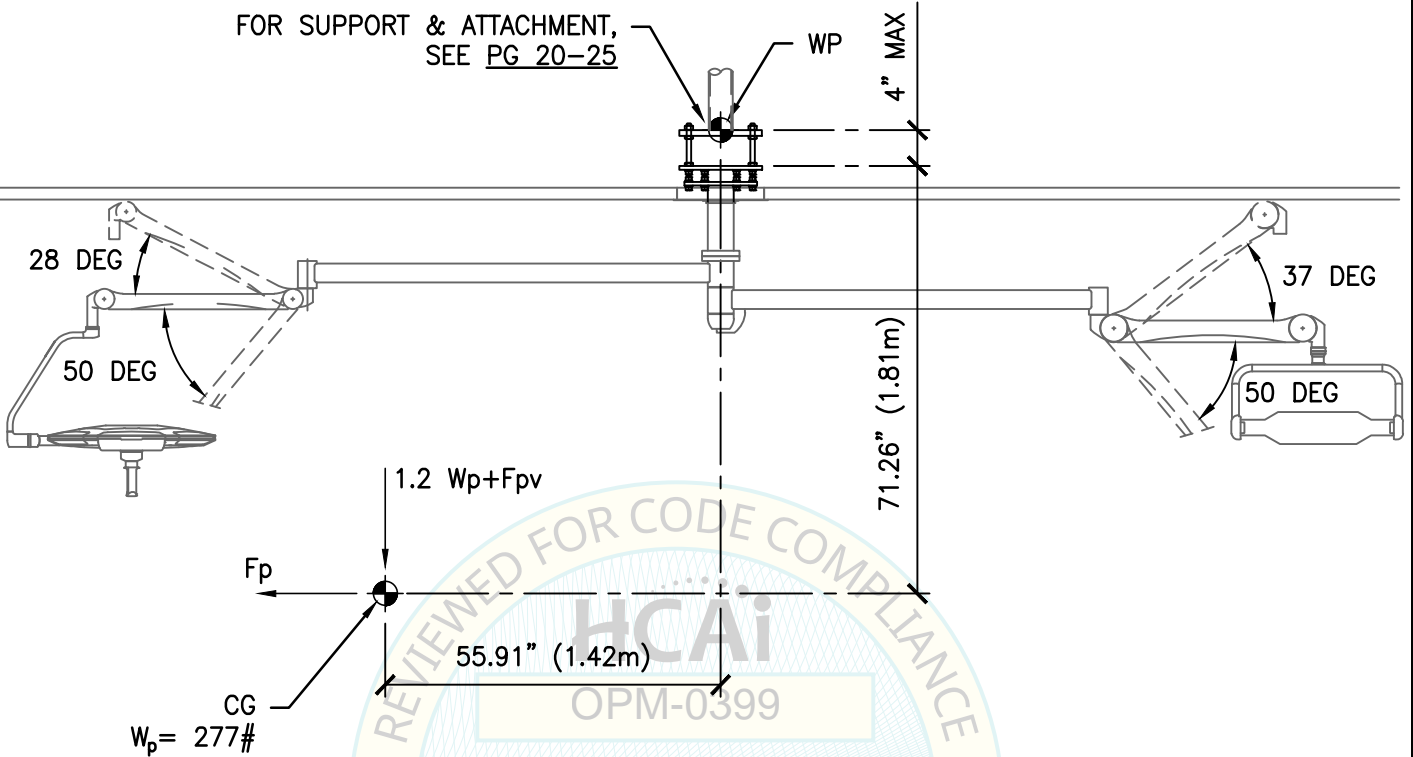
1. CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
2. SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
3. THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: SINGLE HYBRID ARM SYSTEM
FLAT PANEL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 17 of 28
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c:\Users\comachom\appdata\local\temp\AcPublish_54132\S1_TASK 02.dwg Time:Nov20,2024-11:47am Login:comachom Dimscale:1 LTScale:6



z/h	MAX S_{DS}	T_u (lbs)	V_u (lbs)	M_u (in-lbs)	M_{UT} (in-lbs)
1	1.22	400	608	68,141	34,007
0.5	1.76	430	585	68,063	32,706

LRFD FORCES W/O Ω_b . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

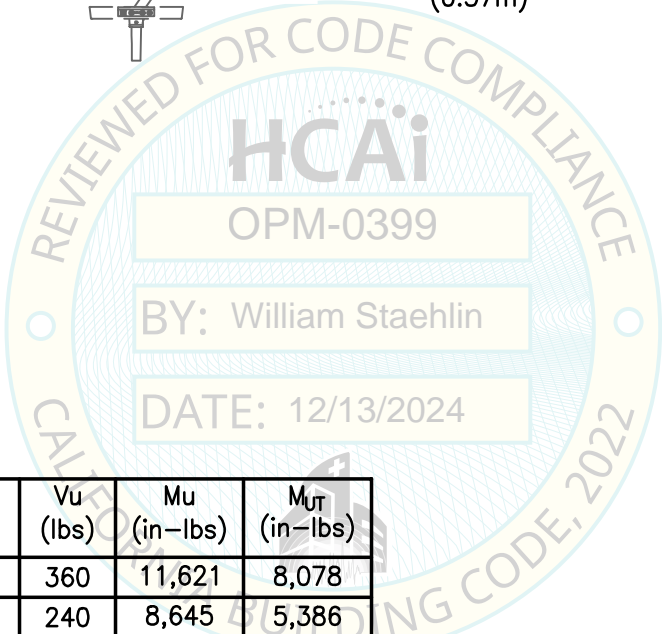
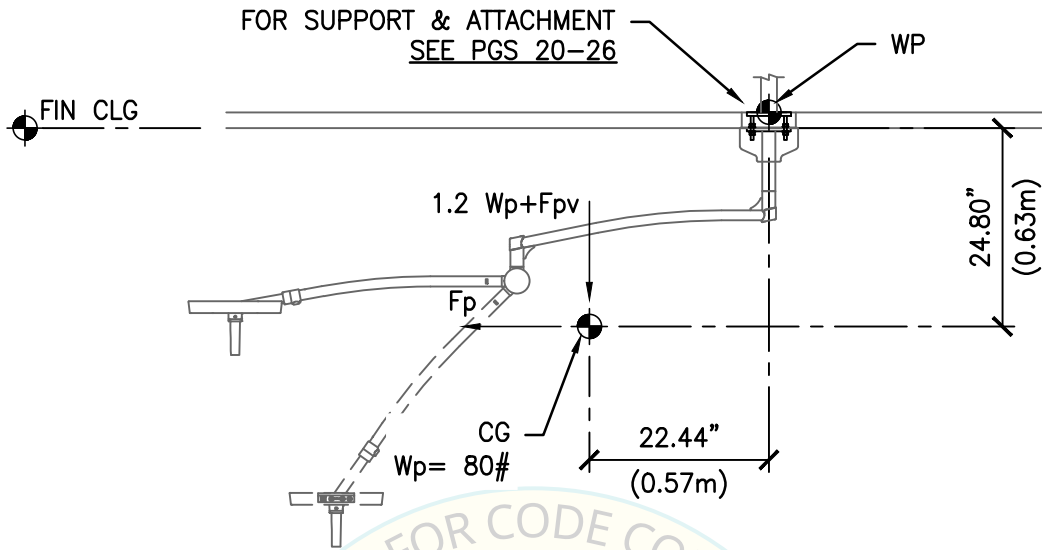
- CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
- SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: DUAL HYBRID ARM SYSTEM
LIGHT-FLAT PANEL

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 18 of 26
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z/h	MAX S_{ps}	Tu (lbs)	Vu (lbs)	Mu (in-lbs)	M _{UT} (in-lbs)
1	2.5	136	360	11,621	8,078
0.5	2.5	136	240	8,645	5,386

LRFD FORCES W/O Ω_b . SEE PG 20 FOR APPLICATION OF FORCES.

NOTES:

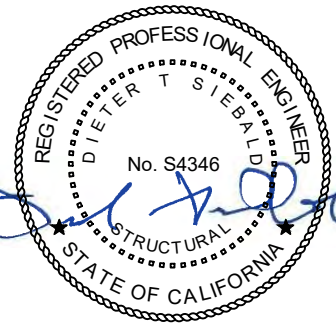
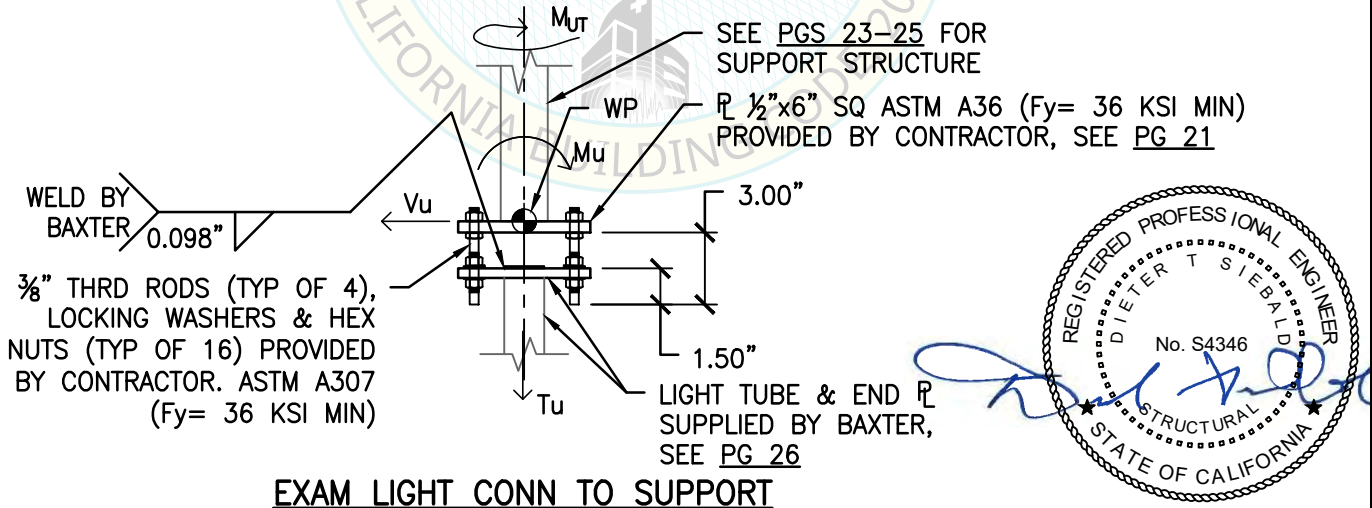
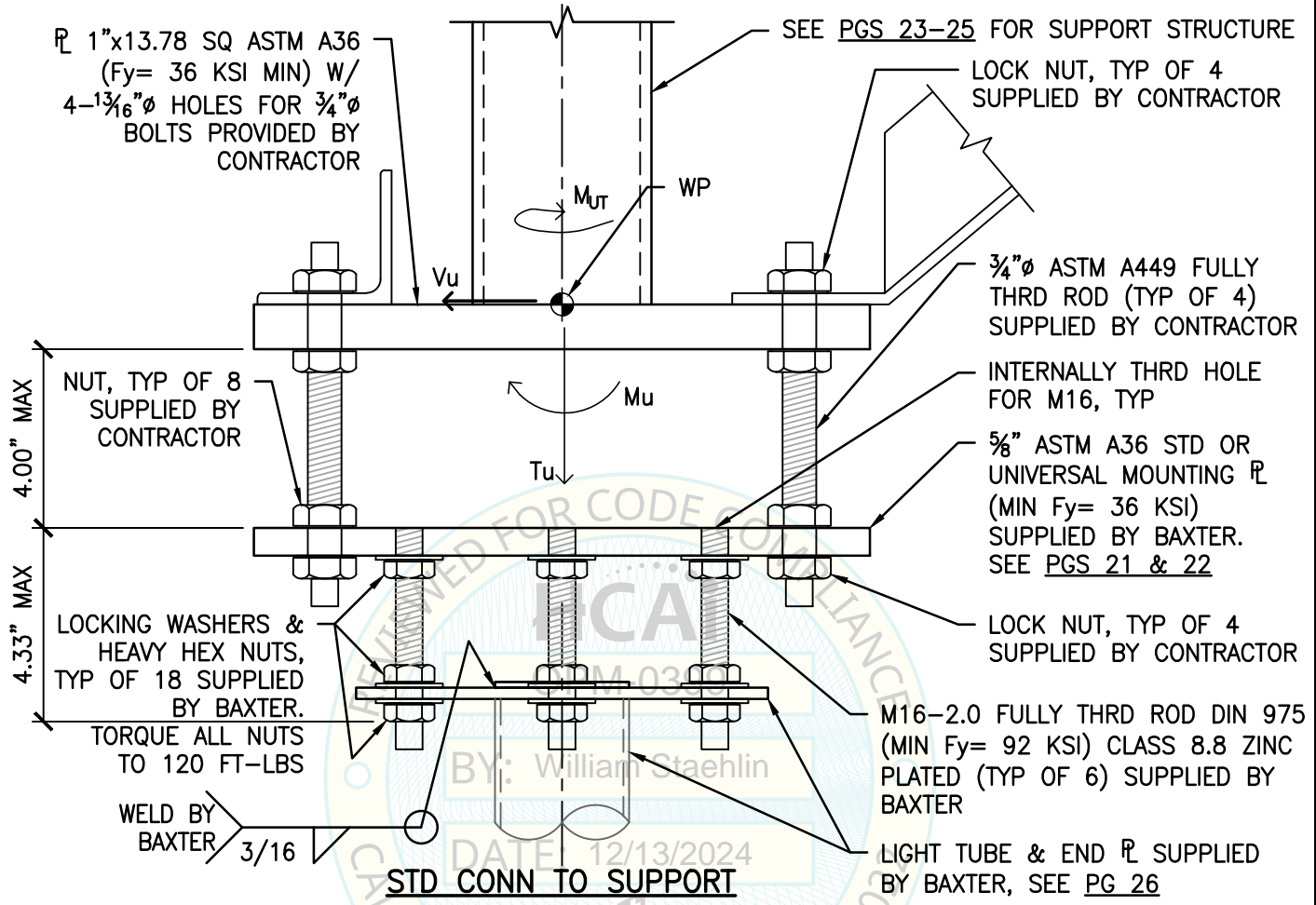
1. CG WT IS A MAX. THIS PRE-APPROVAL ENCOMPASSES ALL WTS UP TO THE MAX WT SHOWN.
2. SEOR FOR THE BLDG SHALL PROVIDE SUPPORTING STRUCTURE DESIGNED TO SUPPORT WTS & FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
3. THIS OPM CONSIDERS THAT THE COMPONENT IS IN A LOCKED POSITION.



SHEET TITLE: CEILING MOUNTED EXAM LIGHT

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 19 of 26
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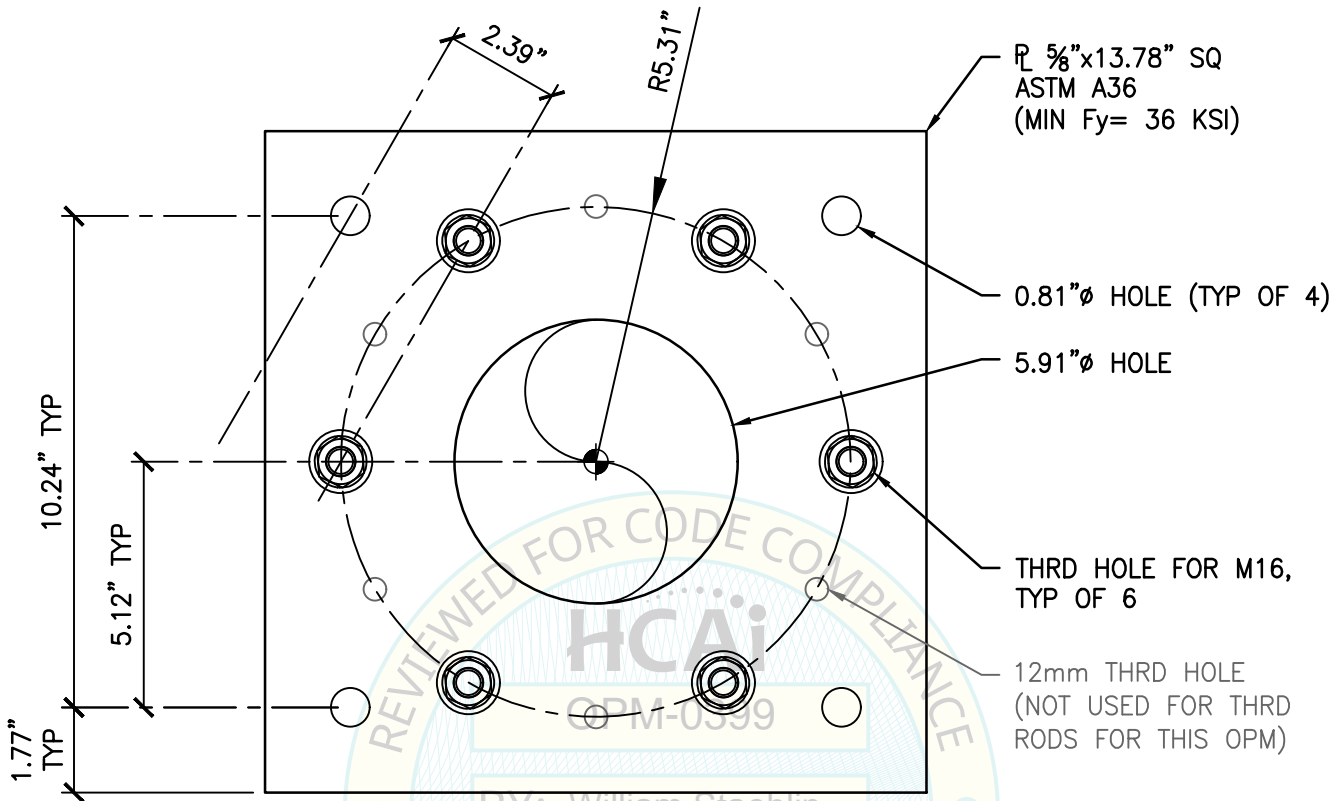
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SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
CONNECTIONS TO SUPPORT STRUCTURE

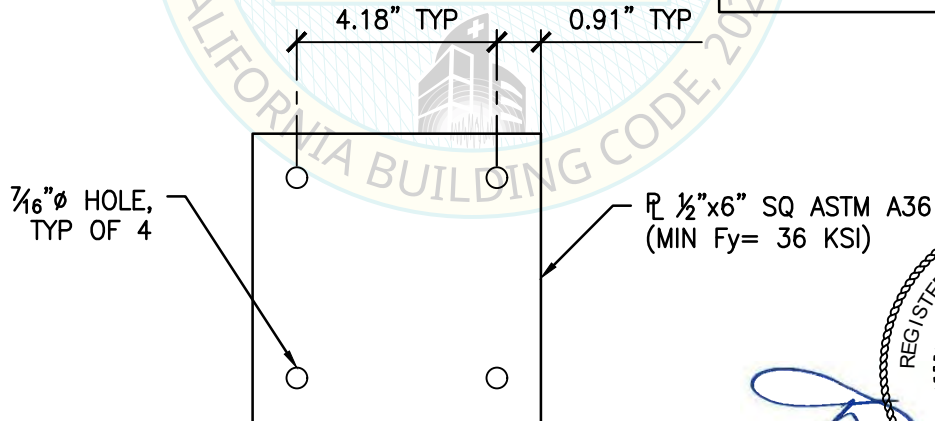
<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 20 of 26
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C:\Users\comachom\appdata\local\temp\AcPublish_54132\S1_TASK 02.dwg Time:Nov20,2024-11:47am Login:comachom DimScale:1 LTScale:6

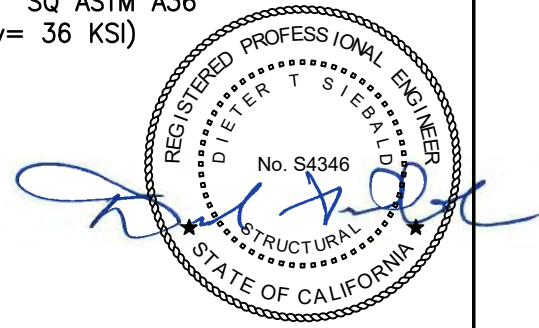


STANDARD MOUNTING PLATE DTL

NOTE:
THE STD LIGHT MOUNTING PLATE IS USED FOR NEW CONSTRUCTION



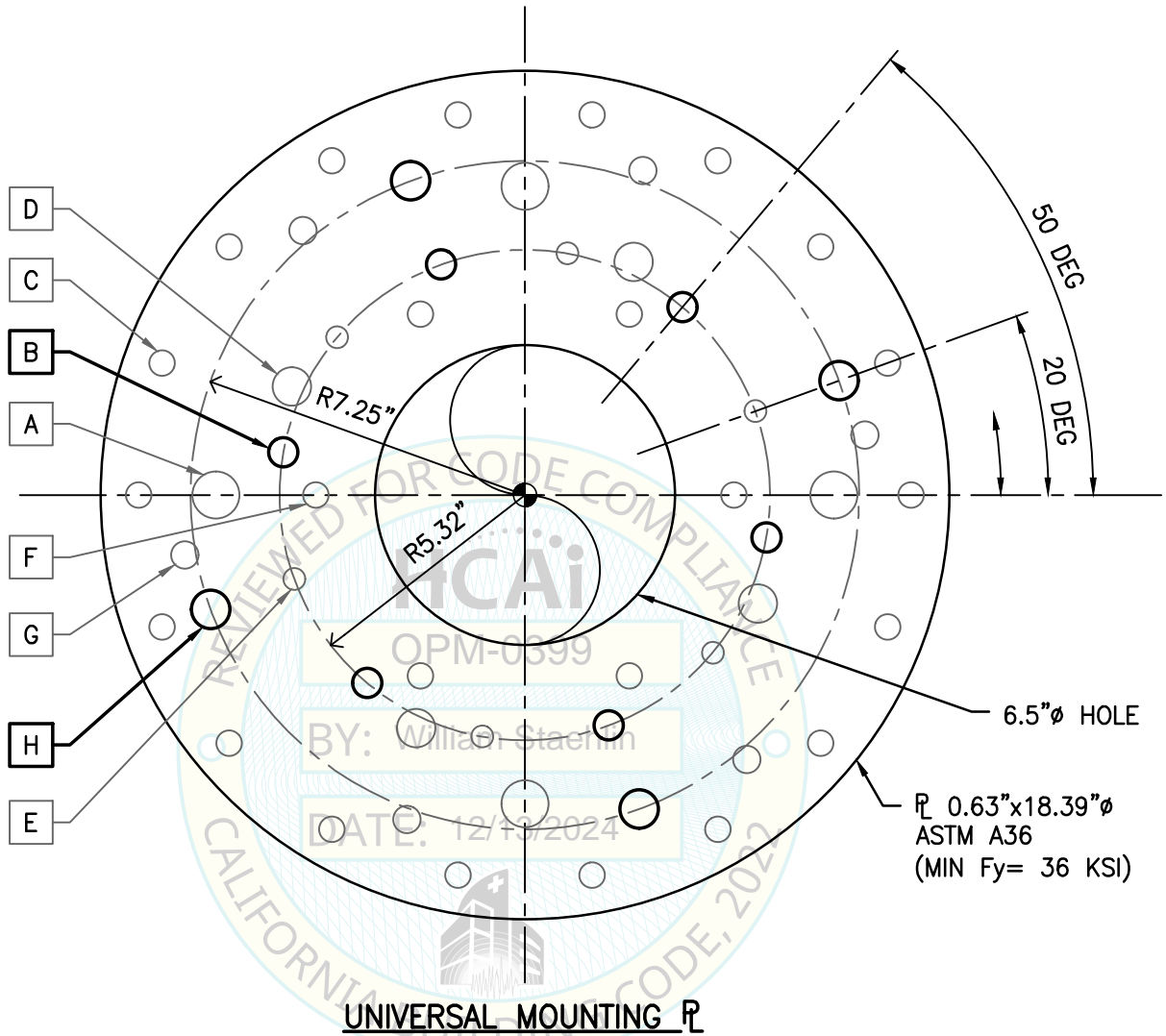
**CLG MOUNTED EXAM LIGHT
MOUNTING PLATE DTL**



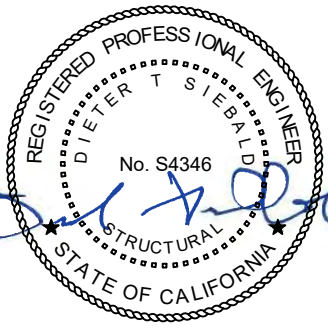
SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
MOUNTING PLATE DETAILS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020	Job No: 16070.02
	www.cyseng.com	Date: 06-22-2018
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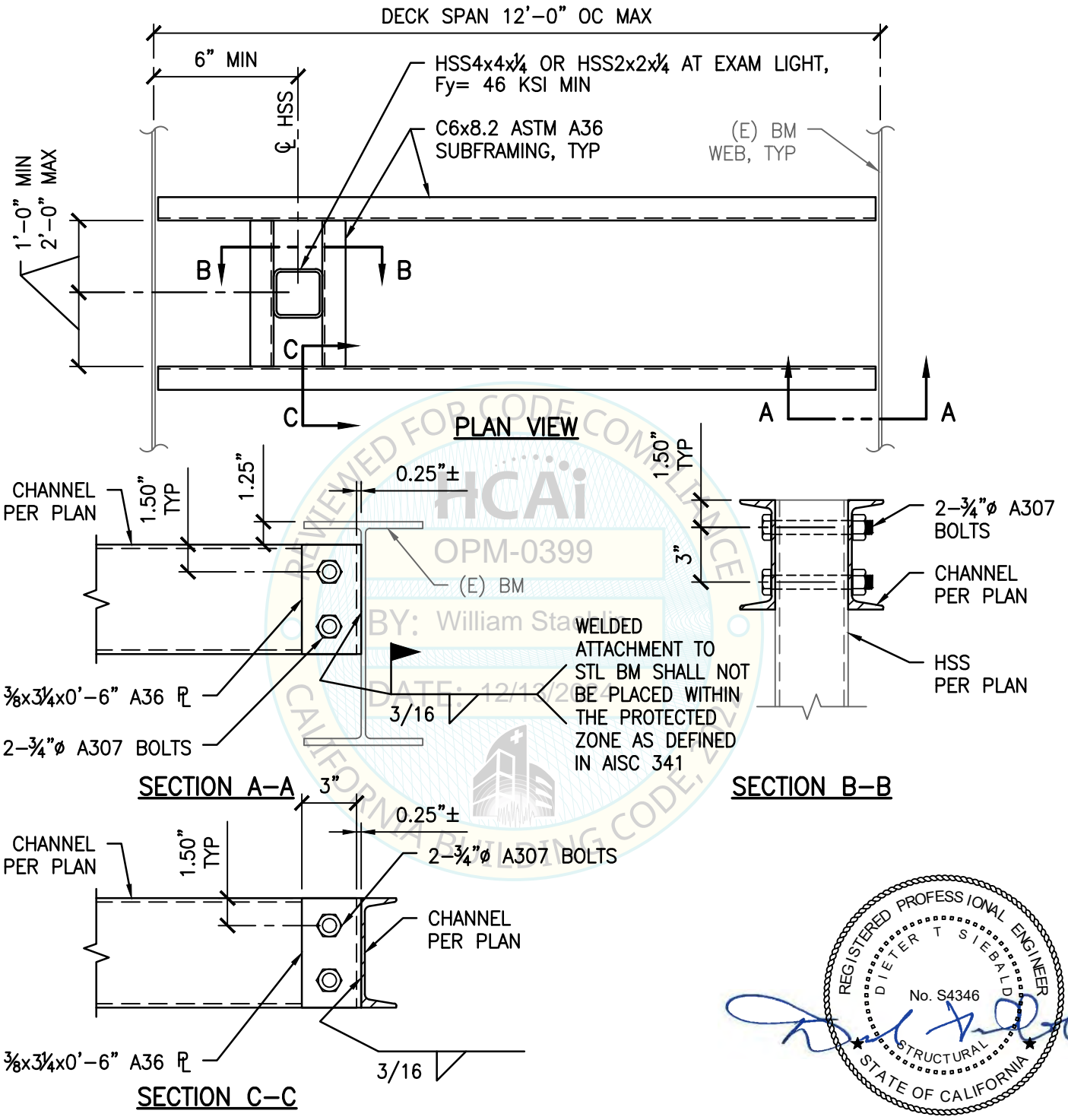
Pattern Use	HOLE PATTERN	HOLE DIAMETER (mm)	PATTERN DIAMETER [mm (In.)]	START ANGLE FROM X-AXIS (DEGREES)	NUMBER OF HOLES (QTY.)	ANGULAR SPACING (DEGREES)
Optional Mounting Patten	A	26	340 (13 3/8")	0	4	90
* For BAXTER use - With Hardware	B	M16-2.0 TAPPED	270 (10 5/8")	50	6	60
Optional Mounting Patten	C	14	425 (16 3/4")	0	18	20
Optional Mounting Patten	D	21	283 (11 1/8")	65	4	90
For BAXTER use	E	M12-1.75 TAPPED	270 (10 5/8")	20	6	60
Optional Mounting Patten	F	14	230 (9")	0	6	60
Optional Mounting Patten	G	15	380 (15")	10	6	60
* Ideal Mounting Pattern	H	21	368 (14 1/2")	20	4	90



SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
MOUNTING PLATE 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: 16070.02 Date: 06-22-2018 Page: 22 of 26
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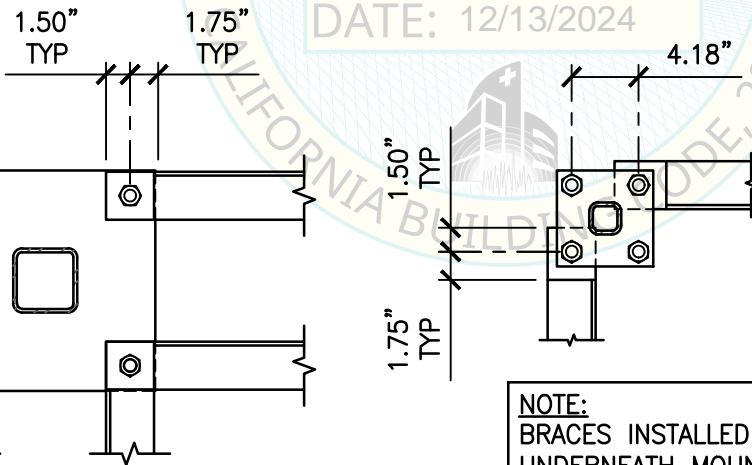
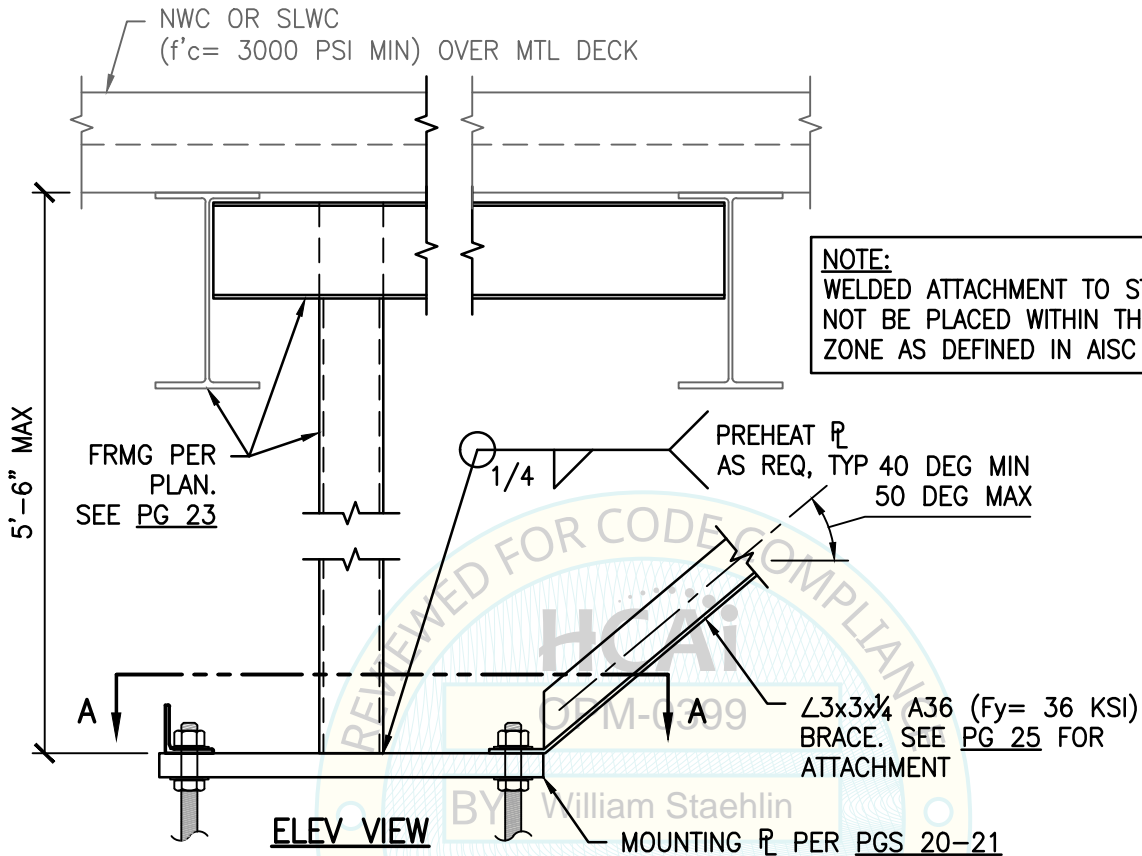
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SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
SUPPORT DETAILS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 23 of 26
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NOTE:
BRACES INSTALLED
UNDERNEATH MOUNTING PLATE

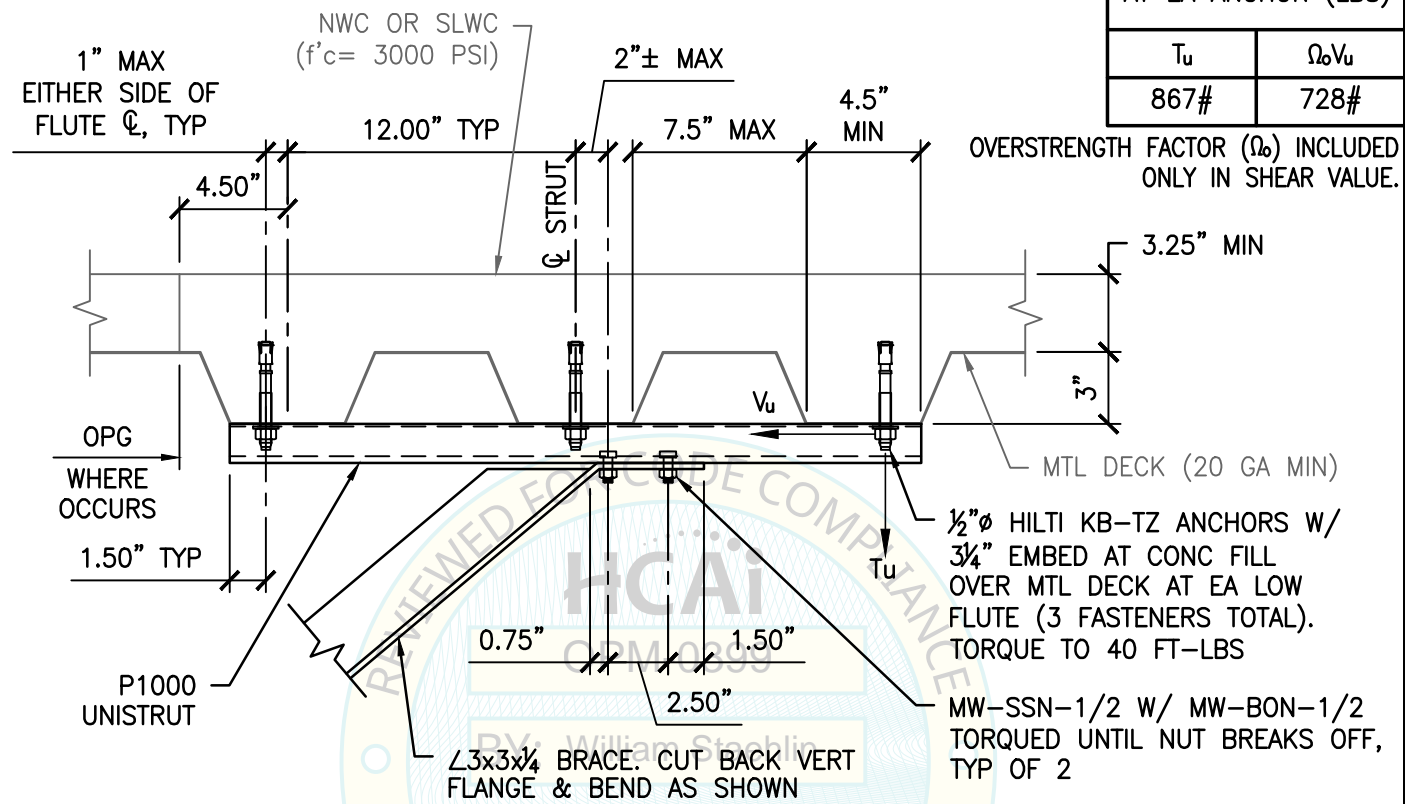


SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
SUPPORT DETAILS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 24 of 26
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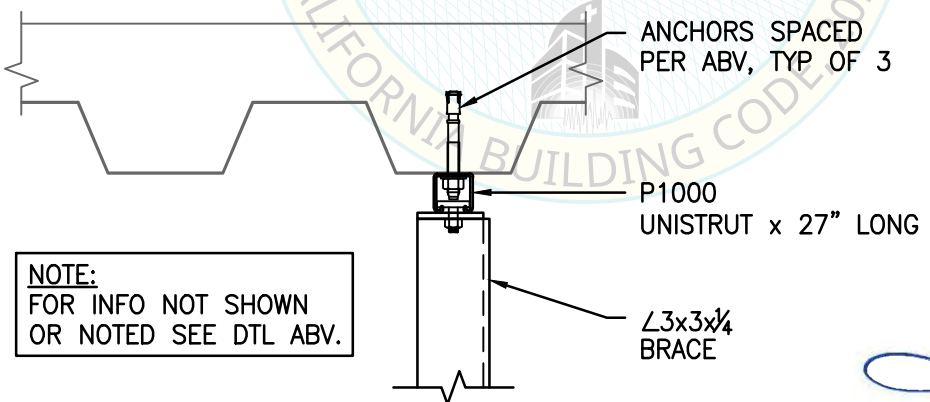
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MAX LRFD FORCES AT EA ANCHOR (LBS)	
T_u	$\Omega_o V_u$
867#	728#



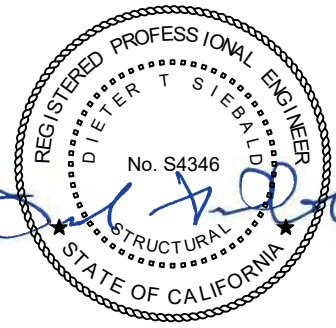
OVERSTRENGTH FACTOR (Ω_o) INCLUDED ONLY IN SHEAR VALUE.

BRACE ATTACHMENT PERP TO MTL DECK FLUTES



NOTE:
FOR INFO NOT SHOWN OR NOTED SEE DTL ABV.

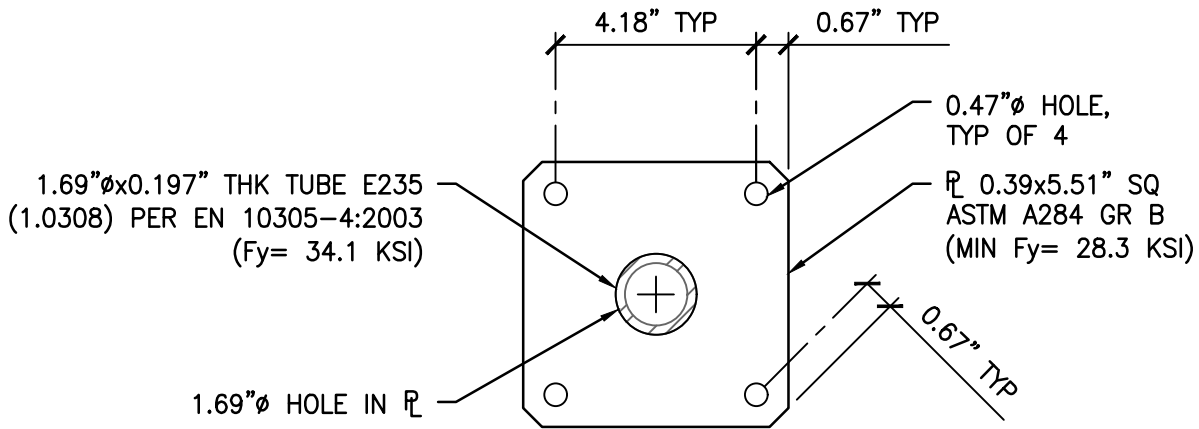
BRACE ATTACHMENT PARALLEL TO MTL DECK FLUTES



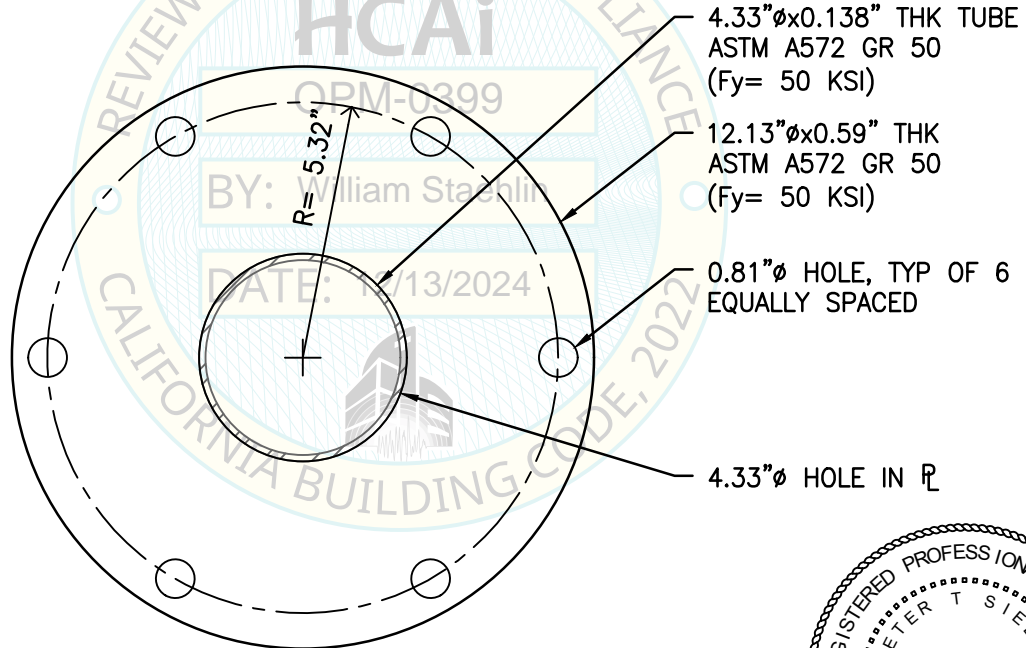
SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
BRACE ATTACHMENT DETAILS

<p>CYS STRUCTURAL ENGINEERS, INC. 2710 GATEWAY OAKS DRIVE, SUITE 190N SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 16070.02 Date: 06-22-2018 Page: 25 of 26
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**LIGHT TUBE & END PLATE
(EXAM LIGHT ONLY)**



**LIGHT TUBE & END PLATE
(STANDARD)**



SHEET TITLE: TYPICAL SUPPORT & ATTACHMENT DETAILS
LIGHT TUBE & END PLATE 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: 16070.02 Date: 06-22-2018 Page: 26 of 26
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c:\Users\comachom\appdata\local\temp\AcPublish_54132\S1_TASK 02.dwg Time:Nov20,2024-11:47am Login:comachom DimScale:1 LTScale:6