



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0405-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: 3M Health Care

Manufacturer's Technical Representative: Bryan S. Behun

Mailing Address: 3M Center, 270-2N-03, St. Paul, MN 55144

Telephone: 651-737-7649 Email: bsbehun@mmm.com

Product Information

Product Name: 3M™ Steri-Vac™ Sterilizer/Aerator GS Series

Product Type: EO Sterilizer/Aerator

Product Model Number: Models GS8, GS8X ; Jeffrey Y. Kikumoto

3M Steri-Vac Sterilizer/ Aerator GS Series is a 100% ethylene oxide sterilization system that is an effective and safe low temperature sterilization method for medical devices and other applications. Model GS8 is designed for use in health care, and Model GS8X for use in life science, medical device, contract sterilization, R&D laboratory applications, and other research and industrial applications for terminal sterilization.

General Description:

Applicant Information

Applicant Company Name: Plump Engineering, Inc.

Contact Person: Gregory Panek, PE

Mailing Address: 914 E. Katella Avenue, Anaheim, CA 92805

Telephone: 714-385-1835 Email: gpanek@peica.com

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

Signature of Applicant: [Signature] Date: 01/20/17

Title: Director of Engineering Company Name: Plump Engineering

"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: Plump Engineering, Inc.

Name: Gregory Panek, PE California License Number: C79148

Mailing Address: 914 E. Katella Avenue, Anaheim, CA 92805

Telephone: 714-385-1835 Email: gpanek@peica.com

OSHPD Special Seismic Certification Preapproval (OSP)

- Special Seismic Certification is preapproved under OSP-
(Separate application for OSP is required)
- Special Seismic Certification is not preapproved

Certification Method(s)

- Testing in accordance with: ICC-ES AC156 FM 1950-16
- Other* (Please Specify): _____

OPM-0405-13

*Use of criteria other than those adopted by the California Building Standards Code, 2016 (CBSC 2016) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2016 may be used when approved by OSHPD prior to testing.

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

DATE: 03/08/2018

List of Attachments Supporting the Manufacturer's Certification

- Test Report Drawings Calculations Manufacturer's Catalog
- Other(s) (Please Specify): _____

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2016 & ALL PRE-2016 CODE BASED PROJECTS

Signature:  Date: 03-08-2018

Print Name: Jeffrey Kikumoto

Title: SSE

Condition of Approval (if applicable): _____



DESIGN CRITERIA:

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2016 CALIFORNIA BUILDING CODE. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2016 CALIFORNIA BUILDING CODE.
2. SEISMIC DESIGN LOADS ARE BASED ON 2016 CALIFORNIA BUILDING CODE - ASCE 7-10.
3. SEISMIC FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2, 13.3-3 WHERE $S_{DS} = 2.0$, $\alpha_p = 1.0$, $R_p = 1.5$, $I_p = 1.5$, $\Omega_o = 1.5$.
4. THE DETAILS IN THIS PRE-APPROVAL MAY BE USED AT ANY HEIGHT ON A BUILDING AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE S_{DS} IS NOT GREATER THAN 2. ($Z/H \leq 1.0$)
5. ALL ANCHOR FORCES ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
6. THIS APPROVAL ONLY COVERS THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
7. MAXIMUM WEIGHT IS 722 LBS. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THIS MAXIMUM WEIGHT AND FOR ALL THE DIMENSIONS SHOWN ON THE DRAWINGS.

RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD:

1. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENTS WHICH THE UNIT IS ANCHORED TO. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENTS WHICH THE UNIT IS ANCHORED TO FOR THE FORCES EXERTED ON THEM BY THE UNIT IN ADDITION TO ALL OTHER LOADS AND FORCES.
2. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2016 CBC AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS PRE-APPROVAL.
3. EXPANSION ANCHORS
 - A. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE SLAB EDGES, 12" AWAY MINIMUM (I.E - CORNER)
 - B. TESTING OF EXPANSION ANCHORS PER 2016 CBC S1910A.5 TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD.
 - (i) AFTER AT LEAST 24 HOURS HAVE ELAPSED SINCE INSTALLATION
 - (ii) ACCEPTANCE CRITERIA
 - TORQUE TEST: THE APPLICABLE TORQUE MUST BE ACHIEVED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: 1/2 TURN OF THE NUT
 - (iii) IF THE ANCHOR FAILS, TEST ALL ANCHORS
 - C. AVOID DAMAGING EXISTING STEEL REINFORCING IN CONCRETE SLAB WHEN INSTALLING CONCRETE EXPANSION ANCHORS.
 - D. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.



03/07/18

USER NAME: BRENDEN BROWN
 PLOT DATE/TIME: 3/7/2018 10:33 AM
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	Project: 3M GS8 & GS8X		PLUMP ENGINEERING INC. CONSULTING ENGINEERS STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, CIVIL, SURVEYING, ARCHITECTURAL 914 E. KATELLA AVENUE, ANAHEIM, CA 92805 P (714) 385-1835 F(714) 385-1834 www.peica.com	Project # S.1610071
	Sheet Title: GENERAL NOTES			Date 03/07/18
				Sheet GN1

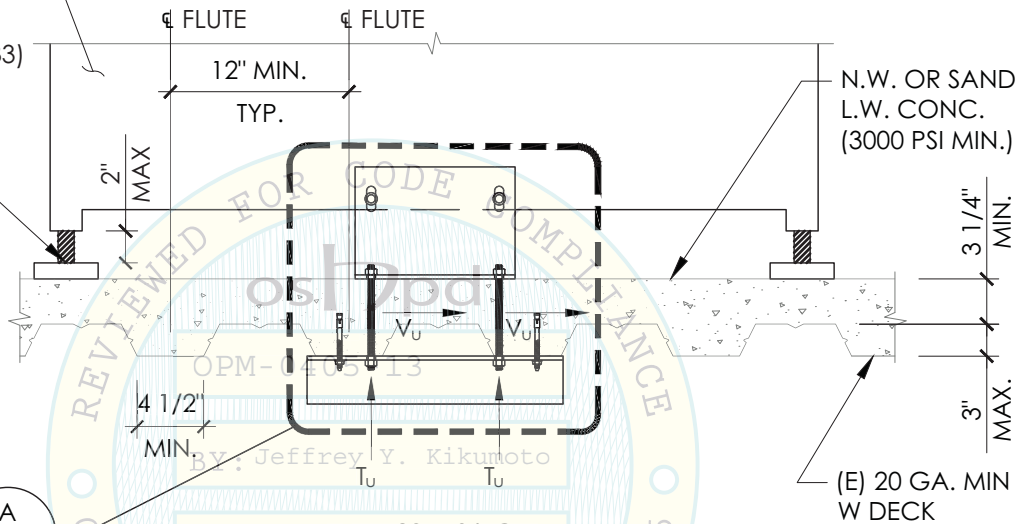
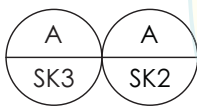


03/07/18

EQUIPMENT PER MFGR
SEE REFERENCE SHEETS
(RF3 - RF4) FOR ADD'L
INFORMATION (MIN
20GA. ASTM A653 GR. 33)

3/8"Ø (Gr. 36)
LEVELING LEG PER
MFGR. (LEVELING LEG
TO HAVE FULL THREAD
ENGAGEMENT INSIDE
SUPPORT) SEE RF1

@ SLAB ON
GRADE



DATE: 03/07/18
 $V_u = 720 \text{ LBS/BOLT}$
 $T_u = 1583 \text{ LBS/BOLT}$
 $\Omega_0 V_u = 1080 \text{ LBS/BOLT}$
 $\Omega_0 T_u = 2375 \text{ LBS/BOLT}$
 HEIGHT COG = 37.7" MAX
 $C_{WF} = 722 \text{ LBS @ COG}$

NOTES:

- FORCES ARE DETERMINED PER 2016 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED ($S_{DS} = 2.00$, $\alpha_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$, $\Omega = 1.5$, $z/h \leq 1$)
- CENTER OF GRAVITY (COG) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORTS STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
- (E) - INDICATES EXISTING CONSTRUCTION.
- (N) - INDICATES NEW CONSTRUCTION.

UNIT SUPPORTS & ATTACHMENT DETAIL

1

SCALE:

--



Project:
3M GS8 & GS8X

Sheet Title:
**PARTIAL UNIT ELEVATION AT
CONC. OVER METAL DECK**



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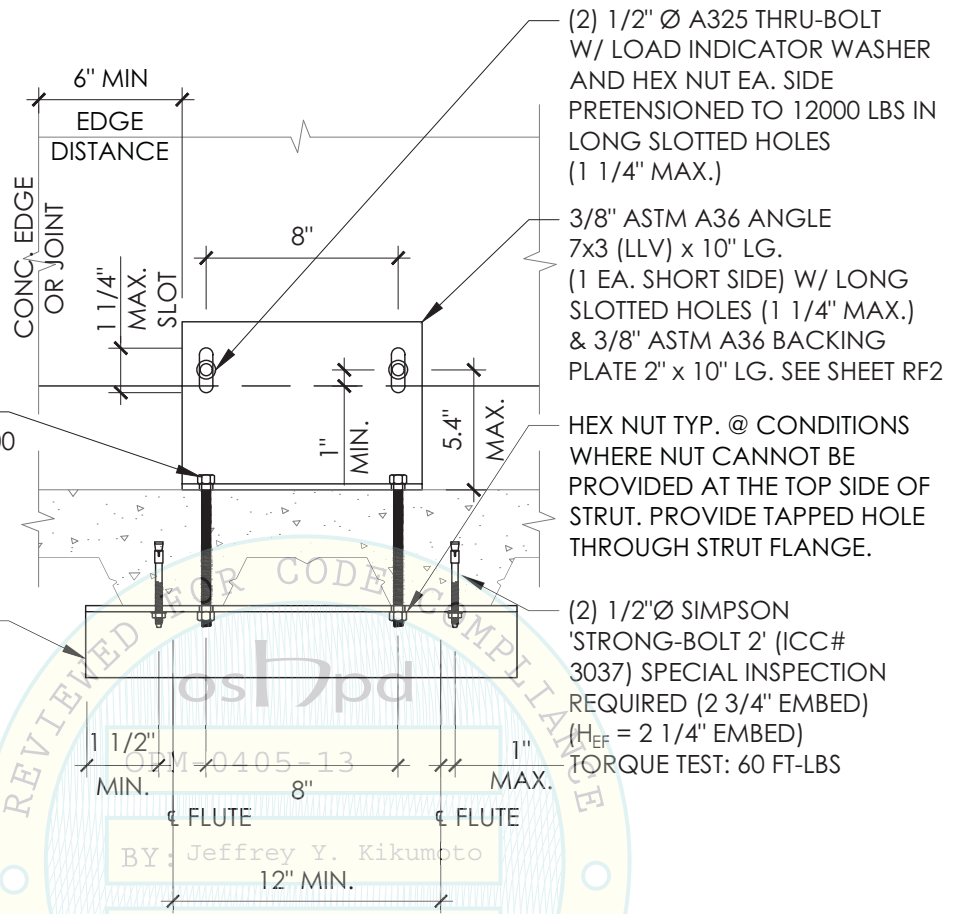
Sheet
SK1



03/07/18

(2) 1/2" Ø A325 BOLT
PRETENSIONED TO 12000
LBS W/ SHORT SLOTTED
HOLES (11/16" MAX.)
SEE SHEET RF2

L3x3x1/4" x 15" (MIN.)
LONG STRUT
(ASTM GR. 36)



(2) 1/2" Ø A325 THRU-BOLT
W/ LOAD INDICATOR WASHER
AND HEX NUT EA. SIDE
PRETENSIONED TO 12000 LBS IN
LONG SLOTTED HOLES
(1 1/4" MAX.)

3/8" ASTM A36 ANGLE
7x3 (LLV) x 10" LG.
(1 EA. SHORT SIDE) W/ LONG
SLOTTED HOLES (1 1/4" MAX.)
& 3/8" ASTM A36 BACKING
PLATE 2" x 10" LG. SEE SHEET RF2

HEX NUT TYP. @ CONDITIONS
WHERE NUT CANNOT BE
PROVIDED AT THE TOP SIDE OF
STRUT. PROVIDE TAPPED HOLE
THROUGH STRUT FLANGE.

(2) 1/2"Ø SIMPSON
'STRONG-BOLT 2' (ICC#
3037) SPECIAL INSPECTION
REQUIRED (2 3/4" EMBED)
(H_{EF} = 2 1/4" EMBED)
TORQUE TEST: 60 FT-LBS

BY: Jeffrey Y. Kikumoto
DATE: 03/08/2018

- THROUGH BOLT HOLES IN CONC. OVER METAL DECK SHALL HAVE UP TO 1/16" OVER SIZING (HOLE SIZE = BOLT SIZE + 1/16") SPECIFIED ON THE DRAWINGS WITH TOLERANCE OF 1/16". HOLES IN CONC. WILL BE FILLED WITH EPOXY GROUT WHEN HOLE SIZE EXCEED BOLT SIZE BY MORE THAN 3/16" (HOLE SIZE IS > BOLT SIZE + 3/16")
 - CATEGORY 1 SHALL BE ASSUMED FOR HOLE SIZE OF d + 1/16".
 - CATEGORY 2 SHALL BE ASSUMED FOR HOLE SIZE OF d + 1/8".
 - CATEGORY 2 SHALL BE ASSUMED FOR HOLE SIZE OF d + 3/16".
- THROUGH BOLTS IN CONC. SHALL RECEIVE SPECIAL INSPECTION AND TESTING (THROUGH BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TENSION TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST INSTALLED ANCHORS.
- THROUGH BOLT SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER THE SNUG TIGHT (THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTION PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED U.N.O.

ANGLE CLIP & STRUT DETAIL

A

UNIT TO METAL DECK W/ CONCRETE FILL

SCALE: --

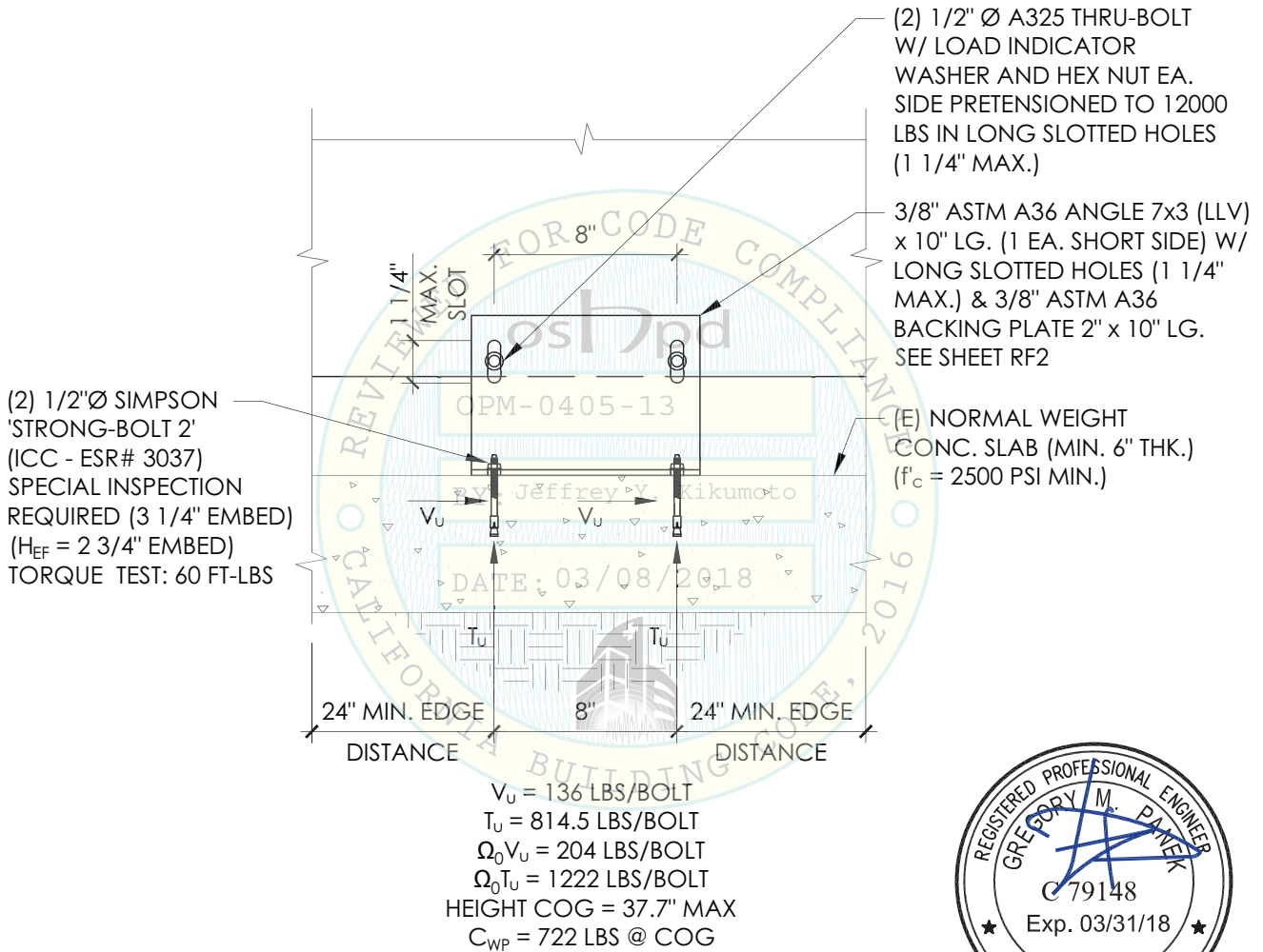


Project:
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Sheet Title:
UNIT ELEVATION AT CONC.
OVER METAL DECK



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SK2



03/07/18

ANGLE CLIP DETAIL A

UNIT TO SLAB ON GRADE

SCALE: --



Project:
3M GS8 & GS8X
Sheet Title:

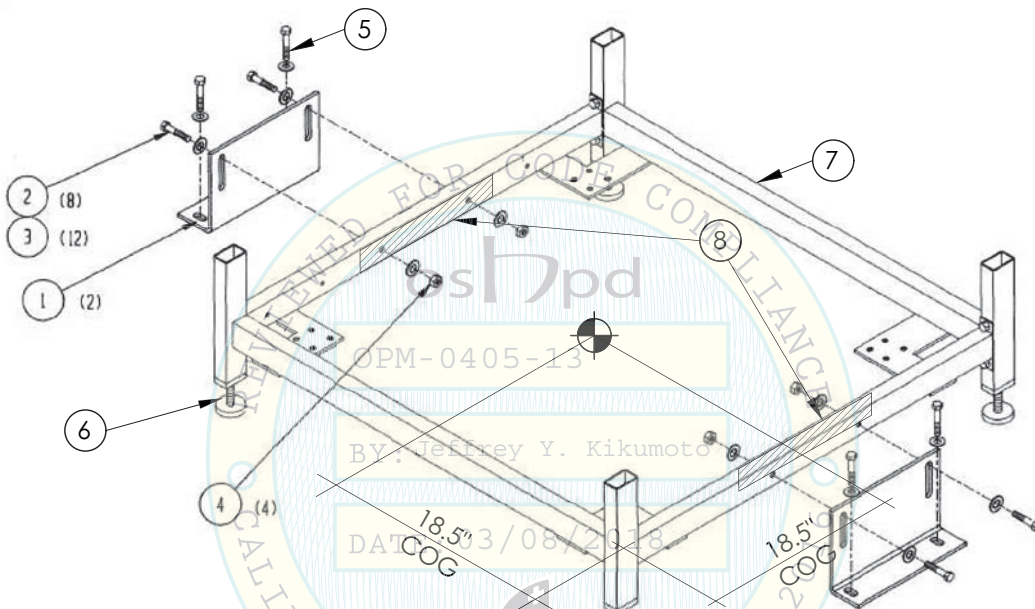
UNIT ELEVATION AT SLAB ON GRADE



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SK3



1. ANGLE CLIP W/ BACKING PLATE SEE RF2.
2. MOUNTING BOLT SEE SK2.
3. WASHER SEE SK2.
4. NUT & WASHER SEE SK2.
5. BOLT AND WASHER SEE SK1.
6. 3/8"Ø (GR. 36) LEVELING LEG.
7. 1 1/2"x2"x16GA. (ASTM A513) TUBE FRAME (Fy = 65 KSI MIN.)
8. 3/8" THICK 2"x10" ASTM A36 BACKING PLATE



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Sheet Title:
EQUIPMENT FRAME



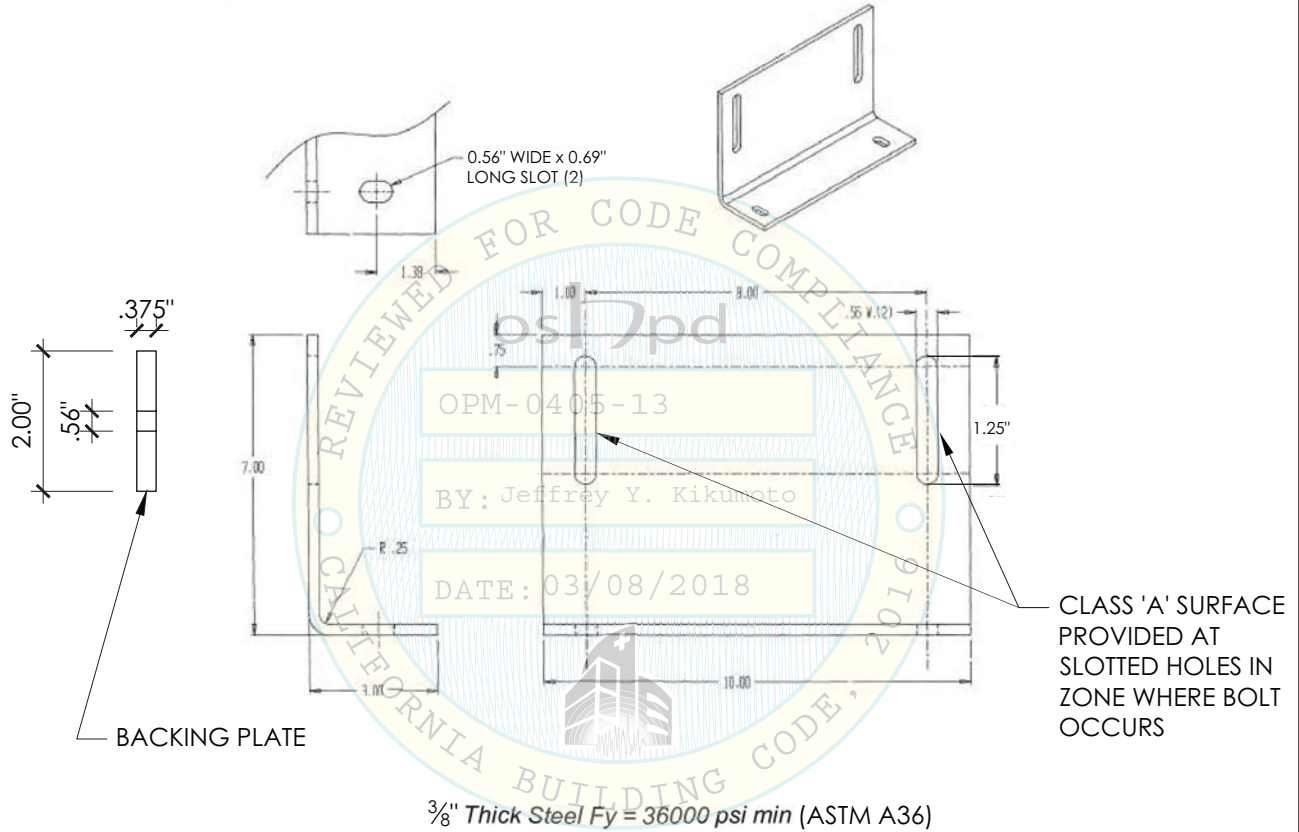
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RF1



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NOTE: CLASS 'A' SURFACES ARE UNPAINTED, CLEAN MILL SCALE STEEL SURFACES OR SURFACES WITH CLASS A COATINGS ON BLAST-CLEANED STEEL OR HOT-DIPPED GALVANIZED & ROUGHENED SURFACES.

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Project:
3M GS8 & GS8X

Sheet Title:
MOUNTING ANGLE



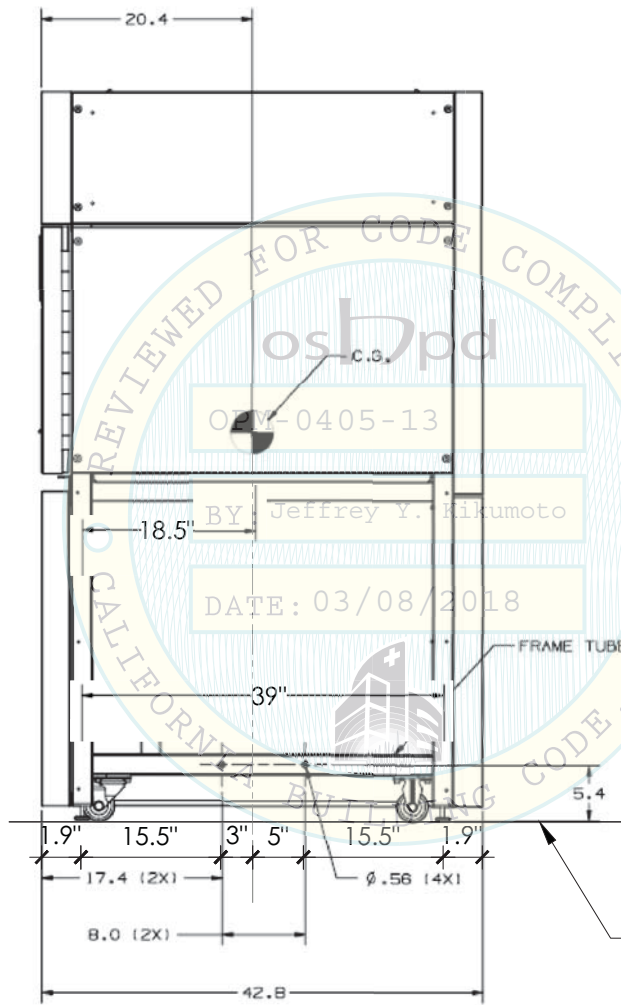
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RF2

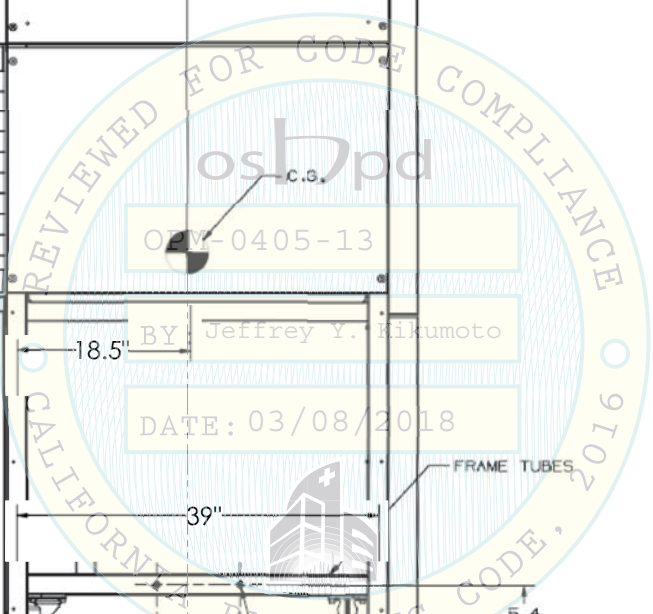


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(E) STRUCTURE; SEE SHEETS SK1, SK2, OR SK3 AS APPLICABLE

NOTE: FOR REFERENCE ONLY



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Project:
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 Sheet Title:
EQUIPMENT ELEVATION

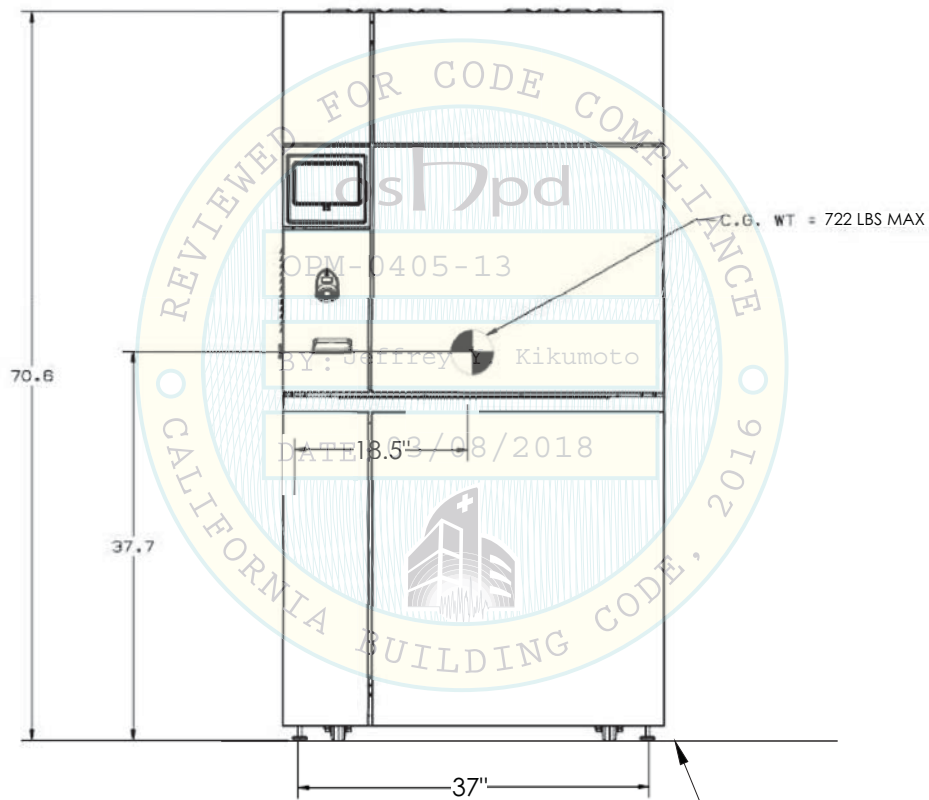


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(E) STRUCTURE; SEE SHEETS SK1, SK2, OR SK3 AS APPLICABLE

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EQUIPMENT ELEVATION



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RF4