



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0055-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: Abbott Laboratories

Manufacturer's Technical Representative: Jason Harris

Mailing Address: 1921 Hurd Drive, MS 2-15, Irving, TX 75038

Telephone: (972) 518-7672 Email: jason.n.harris@abbott.com

Product Information

Product Name: ACCELERATR® a3600

Product Type: Unified workstation automated pre/post analytical processing laboratory instruments

De-capper, De-sealer, Re-capper, Re-sealer, c4000, c8000, c16000, i1000sr, i2000sr, Cartesian Centrifuge, Input/Output Module, Aliquoter, Tube Storage (15,000 tube capacity), Bulk Input Module, Bulk Output Module, Rack Input Module, Rack Input Module, Rack Output Module, U-Turn Module, T-Turn Module, L-Turn Module, Tube Storage (9,000 tube capacity).

Product Model Number:

General Description: The ACCELERATOR a3600 is a modular system designed to automate pre-analytical and post-analytical processing, sample-handling, and processing in the laboratory. The system consolidates multiple analytical instruments into a unified workstation by employing a common sample processing capability.

Applicant Information

Applicant Company Name: CYS STRUCTURAL ENGINEERS, INC.

Contact Person: David Calia

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

Telephone: (916) 920-2020 Email: davidc@cyseng.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: David M. Calia Date: 04/13/2018

Title: V.P. of Bus. Dev. & Marketing Company Name: CYS STRUCTURAL ENGINEERS, INC.

"Access to Safe, Quality Healthcare Environments that Meet California's





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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Registered Design Professional Preparing Engineering Recommendations

Company Name: CYS STRUCTURAL ENGINEERS, INC.

Name: David Calia California License Number: S5614

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

Telephone: (916) 920-2020 Email: davidc@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): Calculation in accordance with 2013 CBC

OPM-0055-13

*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): _____

DATE: 08/14/2018

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 2013 ONLY

Signature: Date: 08-14-2018

Print Name: Jeffrey Kikumoto

Title: SSE

Condition of Approval (if applicable): _____

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ACCELERATOR® a3600
AUTOMATED ANALYTICAL LABORATORY INSTRUMENTS
OPM-0055-13

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NOTES: THESE DRAWINGS ARE PREPARED FOR ABBOTT LABORATORIES, AN ILLINOIS CORPORATION, ABBOTT PARK, ILLINOIS.

1. THE CONTRACTOR SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE OSHPD WEBSITE AND PROVIDE ONE COPY FOR THE INSPECTOR OF RECORD.
2. THIS PRE-APPROVAL COVERS THE SUPPORTS AND ATTACHMENTS OF THE LABORATORY EQUIPMENT TO THE STRUCTURE.



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CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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www.cyseng.com

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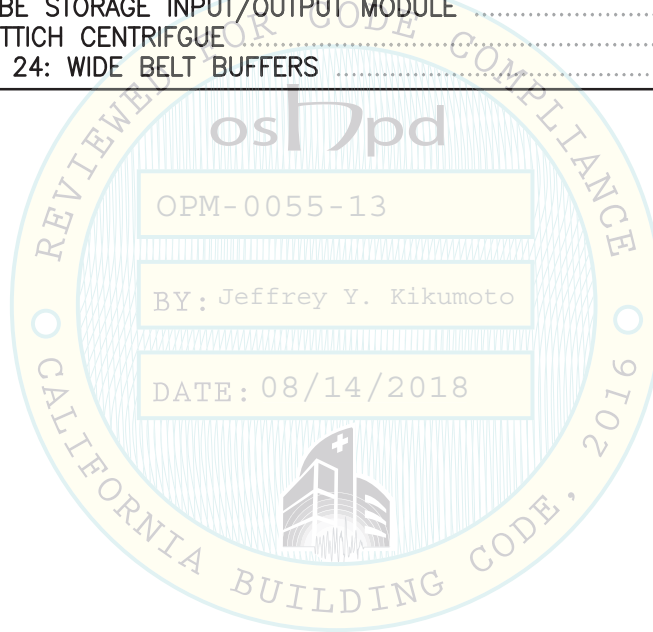
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EQUIPMENT SUPPORTS & ATTACHMENTS

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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. THIS OPM PROVIDES ANCHORAGE DESIGN RECOMMENDATIONS AND INFORMATION FOR INCORPORATION INTO A CONSTRUCTION DOCUMENT SUBMITTAL TO BE PREPARED BY A REGISTERED DESIGN PROFESSIONAL APPROPRIATELY LICENSED TO DO SO AND WHOM SHALL FURNISH THE SUBMITTAL TO THE CODE-ENFORCEMENT OFFICIAL FOR APPROVAL AND PERMITTING PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
 - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH COMPONENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
 - B. THAT THE ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
 - C. THAT THE ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN IN THE TEST VALUES TABLE ON PAGE 5 IS THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS WILL VARY.
 - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2013 CBC AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL.
 - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.
 - F. THE SEOR SHALL VERIFY THAT THESE SEISMIC BRACKETS ARE COMPATIBLE WITH THE SITE CONDITIONS. THE RELATIVE FLATNESS OF THE FLOOR OR SLAB ON GRADE THAT WILL SUPPORT THE COMPONENTS MUST BE KNOWN SO THAT VARIATIONS IN THE RELATIVE FINISH FLOOR ELEVATION CAN BE COORDINATED WITH THE INSTALLATION REQUIREMENTS OF THE ABBOTT INSTRUMENTS. EACH SEISMIC BRACKET HAS BEEN DESIGNED TO ACCOMMODATE SOME AMOUNT OF VERTICAL HEIGHT ADJUSTMENT FOR LEVELING OF THE INSTRUMENT. IN SOME CASES THE FLOOR SURFACE IRREGULARITIES MAY EXCEED THE ABILITY OF THE INSTRUMENT TO BE RAISED OR LOWERED TO ACHIEVE THE SPECIFIED ELEVATION OF THE INSTRUMENT REQUIRED BY ABBOTT. IN SUCH CASES, ALTERATIONS TO THESE ANCHORAGE DESIGNS MAY BE NECESSARY. IT SHALL BE THE RESPONSIBILITY OF THE SEOR TO REVISE THESE DESIGNS AS DEEMED APPROPRIATE BY THE SEOR OR TO PROVIDE NEW ORIGINAL DESIGNS TO ANCHOR THE INSTRUMENTS. ALTERATIONS TO WORK CONTAINED WITHIN THIS OPM SHALL BE SUBMITTED TO OSHPD FOR REVIEW AND APPROVAL FOR ISSUANCE OF A CONSTRUCTION PERMIT.
 - G. CYS STRUCTURAL ENGINEERS, INC. IS NOT THE SEOR AS IT RELATES TO VERIFICATION OF SITE CONDITIONS AND REQUIRED OBSERVATIONS PER CHAPTER 17/17A OF THE IBC/CBC, UNLESS CYS STRUCTURAL ENGINEERS, INC. IS LISTED AS THE SEOR ON THE APPROVED CONSTRUCTED DOCUMENTS.



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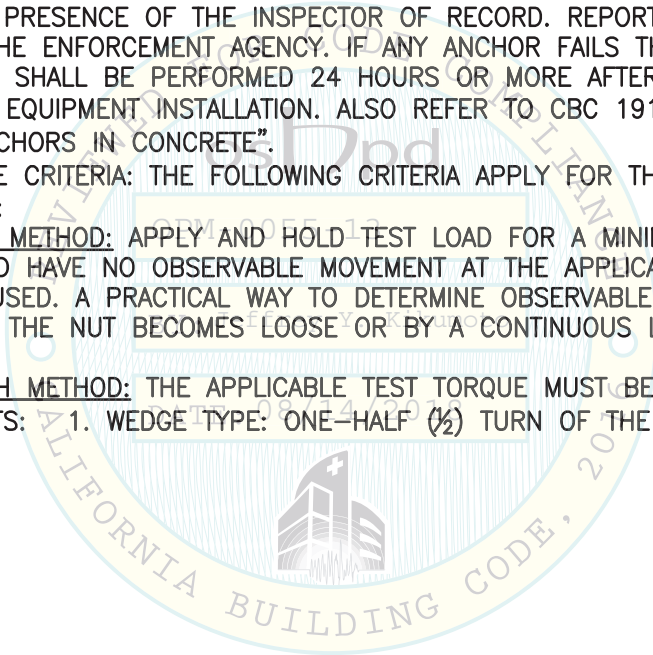
SHEET TITLE: GENERAL NOTES

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GENERAL NOTES CONTINUED:

- 4A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND-LIGHTWEIGHT CONCRETE SHALL BE STAINLESS STEEL HILTI KB-TZ EXPANSION ANCHORS COMPLYING WITH ICC-ES ESR-1917 REISSUED MAY, 2015, REVISED SEPTEMBER 2016. ADHESIVE ANCHORS INSTALLED IN NORMAL WEIGHT CONCRETE SHALL BE ASTM F593 CW1 (316) INSTALLED USING HILTI HIT-RE 500 V3 ADHESIVE COMPLYING WITH ICC-ES ESR-3814, REVISED JANUARY 2017.
- B. INSTALLATION: INSTALL THE POST-INSTALLED ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PAGE 5.
- C. TESTING:
- JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TEST LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. FOR TENSION TESTING, THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR SUCH AS DIRECT PULL WITH A HYDRAULIC JACK OR CALIBRATED SPRING LOADING DEVICES. FOR TORQUE TESTING, THE TEST LOAD SHALL BE APPLIED WITH A CALIBRATED TORQUE WRENCH. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. REPORT OF TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY. 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 EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1913A.7 "FIELD TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".
 - FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
 - HYDRAULIC RAM METHOD: APPLY AND HOLD TEST LOAD FOR A MINIMUM OF 15 SECONDS. THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD WHERE WASHERS ARE USED. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE OR BY A CONTINUOUS LOSS OF JACKING PRESSURE.
 - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS:
 1. WEDGE TYPE: ONE-HALF (1/2) TURN OF THE NUT.



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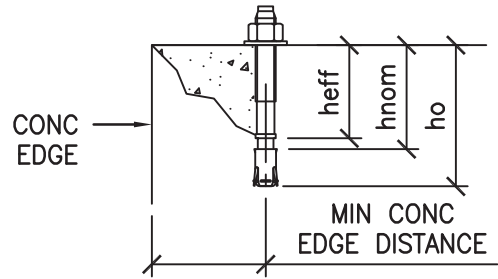
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GENERAL NOTES CONTINUED:

- 4D. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BELOW.
 4E. POST-INSTALLED ANCHORS SHALL BE INSTALLED WITH FULL THREADED ENGAGEMENT OF THE NUT AND WASHER.

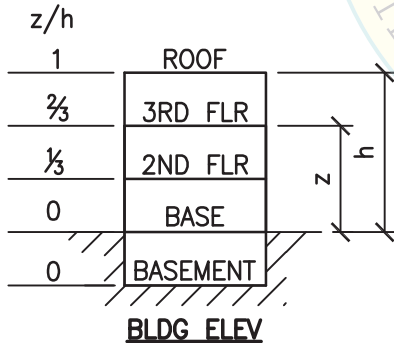


MECHANICAL ANCHOR

POST-INSTALLED MECHANICAL ANCHOR SCHEDULE

ANCHOR TYPE & 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 UNO (INCH)	TEST LOAD		CONDITION OF ANCHORAGE
							TENSION LOAD (LBS)	TORQUE (FT-LBS)	
KB-TZ 304 SS 0.375"φ	2.3125	2.00	2.625	SEE DETAILS	12	4	1426	25	CASE 1
KB-TZ 304 SS 0.50"φ	2.375	2.00	2.625	4	12	6	1550	40	CASE 2
KB-TZ 304 SS 0.75"φ	3.5625	3.75	4.375	6	12	6	3844	60	CASE 2

5. TWO (2) CONDITIONS OF ANCHORAGE ARE SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:



CASE 1: ANCHORAGE DTLS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG ($z/h \leq 1.0$), IT IS ASSUMED THAT THE FLRS ARE BUILT OF A MIN 3.25" NWC OR SAND-LWC TOPPING OVER MTL DECK ($f'c = 3000$ PSI, MIN).

CASE 2: ANCHORAGE DTLS 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), EXCEPT AT TUBE STORAGE UNITS WHERE THE SOG THICKNESS MUST BE AT LEAST 6", UNO.



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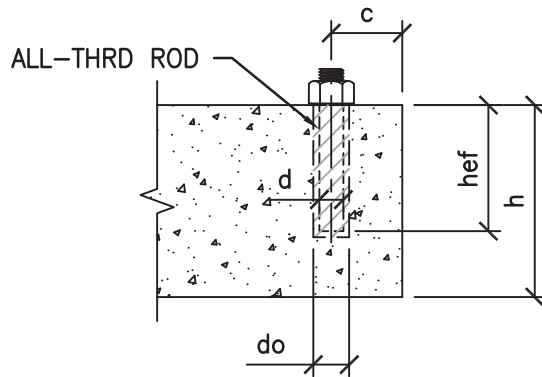
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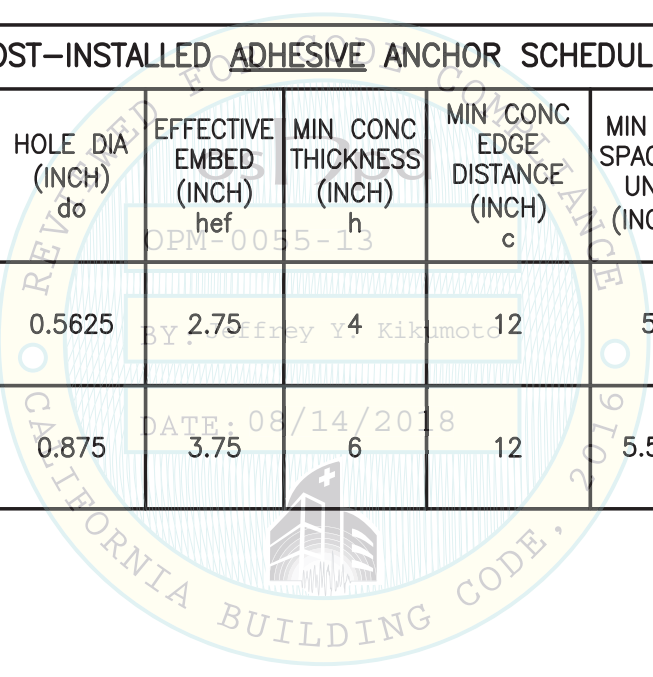
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ADHESIVE ANCHOR
(THRD ROD / REINFORCING BAR)

POST-INSTALLED ADHESIVE ANCHOR SCHEDULE

ANCHOR TYPE & DIA (INCH) d	HOLE DIA (INCH) do	EFFECTIVE EMBED (INCH) hef	MIN CONC THICKNESS (INCH) h	MIN CONC EDGE DISTANCE (INCH) c	MIN AB SPACING UNO (INCH)	TENSION TEST LOAD (LBS)	CONDITION OF ANCHORAGE
1/2"Ø HILTI HAS-R (ASTM F593 CW1 316 SS) ALL THRD ROD	0.5625	2.75	4	12	5	2350	CASE 2
3/4"Ø HILTI HAS-R (ASTM F593 CW1 316 SS) ALL THRD ROD	0.875	3.75	6	12	5.50	3720	CASE 2



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GENERAL NOTES CONTINUED:

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 2.49.
7. COORDINATE THE ANCHOR BOLT LAYOUT WITH THE COMPONENT IN THE FIELD PRIOR TO SETTING ANCHOR BOLTS.
8. ANCHOR BRACKETS SHALL BE PAINTED WITH A RUST INHIBITIVE PRIMER FOLLOWED BY A COLOR COAT SELECTED BY THE HOSPITAL FACILITY OR MATCH THE COLOR OF THE BASE OF THE EQUIPMENT IF A COLOR IS NOT SPECIFIED BY THE HOSPITAL.
9. FASTENERS AND ASSOCIATED HARDWARE SHALL BE FIELD PAINTED TO MATCH BRACKETS AFTER INSTALLATION IS COMPLETE.
10. STRUCTURAL STEEL SHAPES AND CONNECTORS SHALL CONFORM TO THE FOLLOWING, UNO:
 - A. PLATES, ANGLES, BARS & MISCELLANEOUS SHAPES ASTM A36
 - B. PLATES AS NOTED ASTM A572 GR 50
 - C. MACHINE BOLTS ASTM A307
11. UNIT COMPONENTS, TRACK SUPPORTS AND INTER-CONNECTION OF THE COMPONENTS TO BE PROVIDED BY ABBOTT. CONTRACTOR SHALL FURNISH AND INSTALL THE SEISMIC SUPPORTS AND ATTACHMENTS (INCLUDING SEISMIC BRACKETS, EXPANSION ANCHORS, THRU-BOLTS, STRUT PLATES BELOW SLABS, HIGH STRENGTH BOLTS TO REPLACE LEVELING LEGS, ETC.) IN CONJUNCTION WITH COMPONENT SETTING INSTRUCTIONS FROM ABBOTT FIELD INSTALLATION PERSONNEL.
12. DRAWING SCALES ARE NOT PROVIDED. DO NOT SCALE OFF OF THESE DRAWINGS. THE INTENT OF THESE DRAWINGS IS TO SHOW HOW TO FABRICATE THE SEISMIC BRACKET TO ANCHOR THE EQUIPMENT SPECIFIED. THE REPRESENTATIONS OF THE EQUIPMENT ARE ONLY INTENDED TO SHOW THE COORDINATION WITH THE SEISMIC BRACKETS.
13. BOLTS THROUGH CONCRETE ON METAL DECK: 55-13
 - A. BOLTS SHALL BE TORQUED BY $\frac{3}{4}$ TURN OF THE NUTS AFTER SNUG TIGHT (THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNLESS NOTED OTHERWISE.
 - B. THROUGH BOLT HOLES SHALL BE 0.0625" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 0.0625")
 - C. THROUGH BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION & TESTING (THROUGH BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.
14. TAKE CARE TO AVOID DAMAGING REBAR OR POST-TENSIONING TENDONS WHEN INSTALLING ANCHORS TO CONCRETE.
15. DRY BOLT AND NUT INSTALLATION TORQUES SHALL BE AS FOLLOWS:

BOLT OR NUT DIA	TORQUE (FT-LBS)
M5	5
M8	8
M10	15
M16	67
M20	136
0.25"	10
0.50"	40

THESE VALUES DO NOT APPLY TO POST-INSTALLED CONCRETE ANCHORS.
16. FUTURE ALTERATIONS TO TRACK SYSTEMS, INCLUSIVE OF BUT NOT LIMITED TO TRACK AND TRACK COMPONENTS, TRACK MODULES AND OTHER INSTRUMENTS ATTACHED TO THE TRACK SYSTEM MUST BE REVIEWED BY OSHPD.



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WELDING NOTES:

1. ALL WELDING IS TO BE DONE BY CERTIFIED WELDERS USING E70XX ELECTRODES (UNO). THE USE OF E70-T4 WELDING WIRE IS NOT ALLOWED FOR ANY APPLICATION. ALL WELDS SHALL BE IN CONFORMITY WITH THE PROJECT SPECIFICATIONS AND STRUCTURAL WELDING CODE-STEEL OF THE AMERICAN WELDING SOCIETY (AWS D1.1-10). SEE SPECIAL INSPECTIONS SECTION FOR WELDING INSPECTION REQUIREMENT. SUBMIT ALL WELDING PROCEDURES AND SPECIFICATIONS TO OWNER'S TESTING LABORATORY FOR REVIEW AND APPROVAL PRIOR TO BEGINNING FABRICATION.
2. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC 360-10, SECTION J2.2b.

DESIGN CRITERIA

ANCHORAGE DESIGN FOR ALL EQUIPMENT COMPONENTS IS PER 2013 CBC

ALL EQUIP (UNO)
ASCE 7-10 TABLE 13.6-1
OTHER MECHANICAL OR
ELECTRICAL COMPONENTS

$$S_{Ds} = 2.49$$

$$I_p = 1.5$$

$$q_p = 1.0$$

$$R_p = 1.5$$

$$\Omega_b = 1.5$$

TUBE STORAGE MODULES
(COMPONENTS #13 & #20)
ASCE 7-10 TABLE 13.6-1
WET-SIDE HVAC, CHILLERS

$$S_{Ds} = 2.49$$

$$I_p = 1.5$$

$$q_p = 1.0$$

$$R_p = 2.5$$

$$\Omega_b = 2.5$$

W_p AS NOTED ON COMPONENT DIMENSIONS SCHEDULE SHOWN ON PAGE 10 & 11

SEISMIC LOADS FOR CASE 1 - UPPER FLRS ABV THE BASE, $z/h \leq 1.0$ (LRFD)

ALL EQUIP, UNO

$$F_p = 2.98 W_p$$

$$F_v = 0.50 W_p$$

TUBE STORAGE MODULES
(COMPONENT #13 & #20)

$$F_p = 1.79 W_p$$

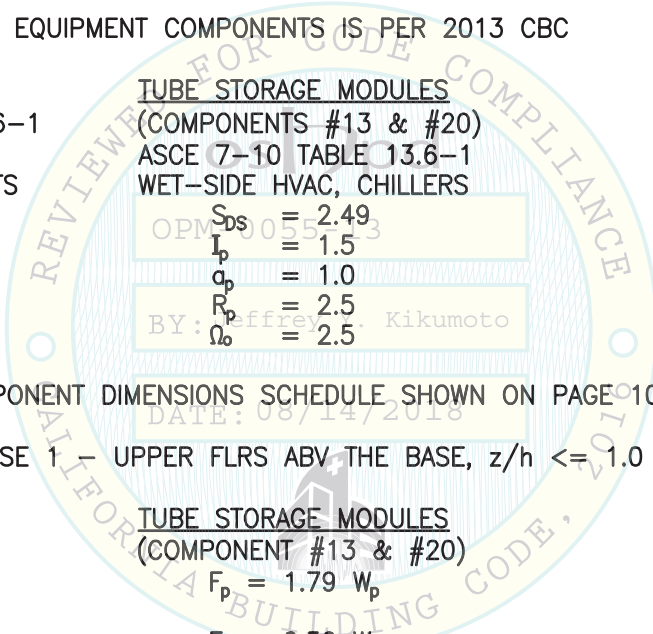
$$F_v = 0.50 W_p$$

SEISMIC LOADS FOR CASE 2 - SLAB AT OR BLW BASE, $z/h = 0$ (LRFD)

ALL EQUIP

$$F_p = 1.12 W_p$$

$$F_v = 0.50 W_p$$



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SHEET TITLE: GENERAL NOTES & DESIGN CRITERIA



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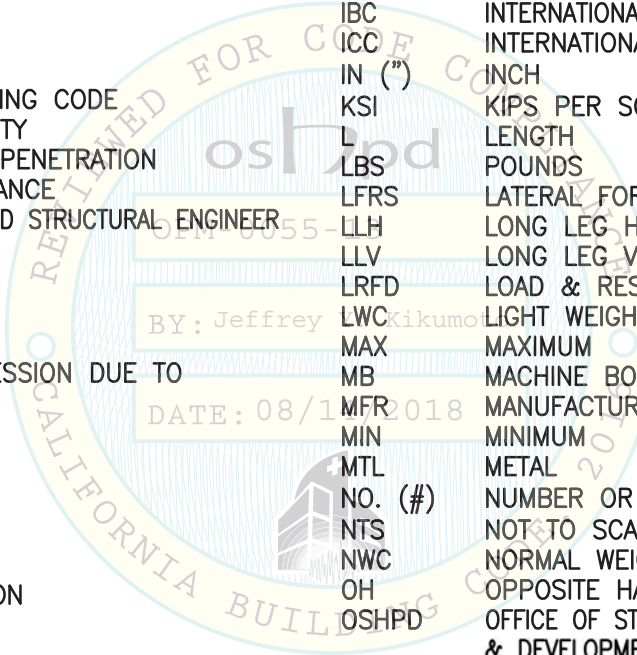
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**ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS**

ABBREVIATIONS:

⊙	AT	F_p	HORIZONTAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS
AB	ANCHOR BOLT	FRMG	FRAMING
ABV	ABOVE	FT (')	FOOT/FEET
ADDNL	ADDITIONAL	F_u	SPECIFIED TENSILE STRENGTH OF REINFORCING, PSI OR SPECIFIED MINIMUM YIELD STRESS OF STEEL, KSI
ADJ	ADJACENT	F_v	VERTICAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS
AISC	AMERICAN INSTITUTE FOR STEEL CONSTRUCTION	F_y	SPECIFIED YIELD STRENGTH OF REINFORCING, PSI OR SPECIFIED MINIMUM YIELD STRESS OF STEEL, KSI
ALT	ALTERNATE	GA	GAUGE
ALUM	ALUMINUM	GC	GENERAL CONTRACTOR
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	HEIGHT	HT
ASD	ALLOWABLE STRENGTH DESIGN	IBC	INTERNATIONAL BUILDING CODE
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	ICC	INTERNATIONAL CODE COUNCIL
AWS	AMERICAN WELDING SOCIETY	IN (")	INCH
BLDG	BUILDING	KSI	KIPS PER SQUARE INCH
BLW	BELOW	L	LENGTH
BOTT	BOTTOM	LBS	POUNDS
B.O.	BOTTOM OF	LFRS	LATERAL FORCE RESISTING SYSTEM
BRCC	BRACING	LLH	LONG LEG HORIZONTAL
BTW	BETWEEN	LLV	LONG LEG VERTICAL
CBC	CALIFORNIA BUILDING CODE	LRFD	LOAD & RESISTANCE FACTOR DESIGN
CG	CENTER OF GRAVITY	LWC	LIGHT WEIGHT CONCRETE
CJP	COMPLETE JOINT PENETRATION	MAX	MAXIMUM
CLR	CLEAR OR CLEARANCE	MB	MACHINE BOLT
CLSE	CALIFORNIA LICENSED STRUCTURAL ENGINEER	MFR	MANUFACTURER
Ⓞ	CENTERLINE	MIN	MINIMUM
CONC	CONCRETE	MTL	METAL
CONN	CONNECTION	NO. (#)	NUMBER OR POUNDS
CTR	CENTER	NTS	NOT TO SCALE
C_{max}	MAXIMUM COMPRESSION DUE TO SEISMIC FORCES	NWC	NORMAL WEIGHT CONCRETE
DBL	DOUBLE	OH	OPPOSITE HAND
DTL(S)	DETAIL(S)	OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
DIA (⌀)	DIAMETER	PG(S)	PAGE(S)
DIM (S)	DIMENSION(S)	Ⓡ	PLATE
DWG	DRAWING	PSI	POUNDS PER SQUARE INCH
(E)	EXISTING CONDITION	R	RADIUS OF GYRATION REQUIRED
EA	EACH	REQ	
EE	EACH END		
ELEV	ELEVATION		
EQ	EQUAL		
EQUIP	EQUIPMENT		
ES	EACH SIDE		
f'_c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE		
FF	FINISHED FLOOR		
FLG	FLANGE		
FLR	FLOOR		



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SHEET TITLE: ABBREVIATIONS

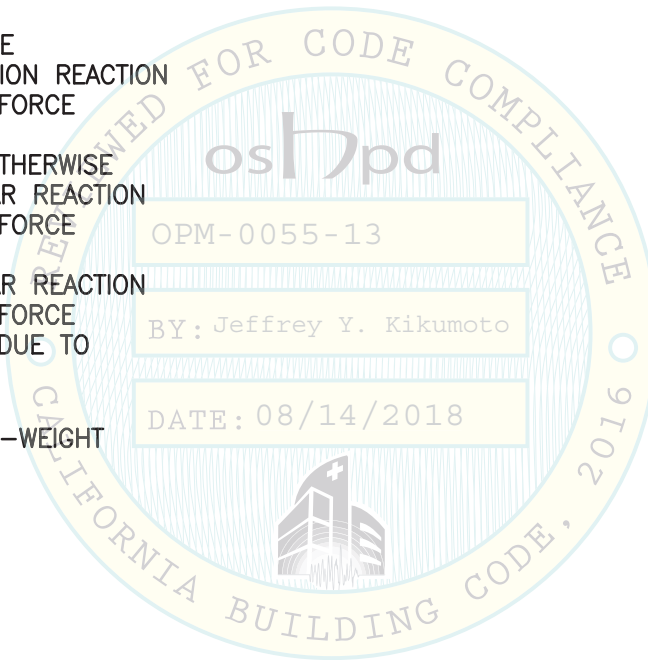
	CYS STRUCTURAL ENGINEERS, INC.		Job No:	13027
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ABBREVIATIONS (CONT):

SC	SLIP CRITICAL
SCHED	SCHEDULE
SEOR	STRUCTURAL ENGINEER OF RECORD
SIM	SIMILAR
SLWC	SAND LIGHT WEIGHT CONCRETE
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STIFF	STIFFENER
STL	STEEL
T&B	TOP & BOTTOM
TEMP	TEMPORARY
THRD	THREAD OR THREADED
T_{max}	MAXIMUM TENSION DUE TO SEISMIC FORCE
T.O.	TOP OF
TOC	TOP OF CONCRETE
T_u	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE
VERT	VERTICAL
V_u	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE
V_{max}	MAXIMUM SHEAR DUE TO SEISMIC FORCE
W/	WITH
W_p	COMPONENT SELF-WEIGHT



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SHEET TITLE: ABBREVIATIONS



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**ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS**

	NO.	COMPONENT	LEVELING FOOT DIMS		CG LOCATION			WEIGHT (W _p)
			WIDTH	DEPTH	\bar{x}	\bar{y}	\bar{z}	
TRACK SUPPORTED COMPONENTS		TYPICAL TRACK MODULE	90" MAX	11.50"	MIDSPAN	5.75"	26.9"	165#
	1.	DE-SEALER MODULE W/ TRACK MODULE ²	90" MAX	11.50"	14" MIN	4.33"	27.95"	247#
	2.	DE-CAPPER MODULE W/ TRACK MODULE ²	90" MAX	11.50"	14" MIN	4.33"	27.95"	247#
	3.	RE-CAPPER MODULE W/ TRACK MODULE ²	90" MAX	11.50"	10" MIN	4.52"	34.5"	247#
	4.	SEALER MODULE W/ TRACK MODULE ²	90" MAX	11.50"	7" MIN	3.96"	29.13"	234#
FREELY STANDING COMPONENTS	5.	ARCHITECT c4000 ANALYZER	45.67"	19.72"	21.75"	11.61"	41.50"	1132#
	6.	ARCHITECT c8000 ANALYZER	58.58"	23.86"	31.49"	10.87"	39.25"	1425#
	7.	ARCHITECT c16000 ANALYZER	58.82"	23.86"	28.65"	10.47"	39.25"	1545#
	8.	ARCHITECT i1000sr ANALYZER	46.20"	20.64"	26.00"	9.61"	40.00"	636#
	9.	ARCHITECT i2000sr ANALYZER	42.00"	30.25"	21.56"	13.57"	42.00"	1081#
	10.	CARTESIAN CENTRIFUGE MODULE	31.61"	12.40"	15.81"	6.20"	39.37"	827#
	11.	a3600 INPUT/OUTPUT MODULE	62.52"	15.63"	31.26"	7.81"	38.19"	882#
	12.	a3600 ALIQUOTER MODULE	45.83"	19.25"	24.41"	10.04"	25.12"	661#

NOTES:

- SEE PG 12 FOR MORE INFORMATION.
- COMPONENT WEIGHT (W_p) INCLUDES WEIGHT OF 2- TOP TRACKS, BOTTOM TRACK, AND TWO SUPPORT FRAMES AS SHOWN ON PG 16. ALSO REFER TO FOOTNOTE 1 ON PG 16.
- THE DIMENSIONS FURNISHED ABOVE ARE NOT INTENDED TO BE USED TO LAYOUT THE COMPONENTS. THIS INFORMATION IS BEING FURNISHED FOR USE BY THE SEOR.



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SHEET TITLE: COMPONENT DIMENSIONS SCHEDULE

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**ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS**

NO.	COMPONENT	LEVELING FOOT DIMS		CG LOCATION			WEIGHT (W _p)
		WIDTH	DEPTH	\bar{x}	\bar{y}	\bar{z}	
13	INPECO TUBE STORAGE MODULE (15,038 TUBE CAPACITY)	67.52"	29.53"	40.26"	14.76"	46.14"	3087#
14.	BULK INPUT MODULE	22.99"	27.05"	7.32"	14.45"	23.62"	441#
15.	RACK INPUT MODULE	11.22"	43.09"	4.76"	20.47"	24.49"	441#
16.	RACK OUTPUT MODULE	11.22"	43.09"	4.76"	20.47"	24.49"	441#
17.	U-TURN MODULE	90" MAX	11.50"	6" MIN	9.80"	31.5"	222#
18.	T-TURN MODULE	14.09"	32.91"	9.29"	7.83"	27.10"	440#
19.	L-TURN MODULE	26.22"	25.43"	14.17"	12.01"	26.97"	302#
20.	INPECO TUBE STORAGE MODULE (9,000 TUBE CAPACITY)	67.52"	29.53"	42.43"	14.76"	42.70"	2392#
21.	TUBE STORAGE INPUT/OUTPUT MODULE	67.05"	24.30"	36.79"	8.44"	23.30"	449#
22.	HETTICH CENTRIFUGE	17.72"	18.50"	8.86"	9.25"	19.69"	827#
23.	WIDE BELT BUFFER (240 SAMPLE CAPACITY)	11.50"	20.19"	5.91"	13.73"	29.65"	209#
24.	WIDE BELT BUFFER (600 SAMPLE CAPACITY)	41.34"	11.50"	20.17"	9.1"	29.53"	342#

NOTE: SEE PG 12 FOR MORE INFORMATION.

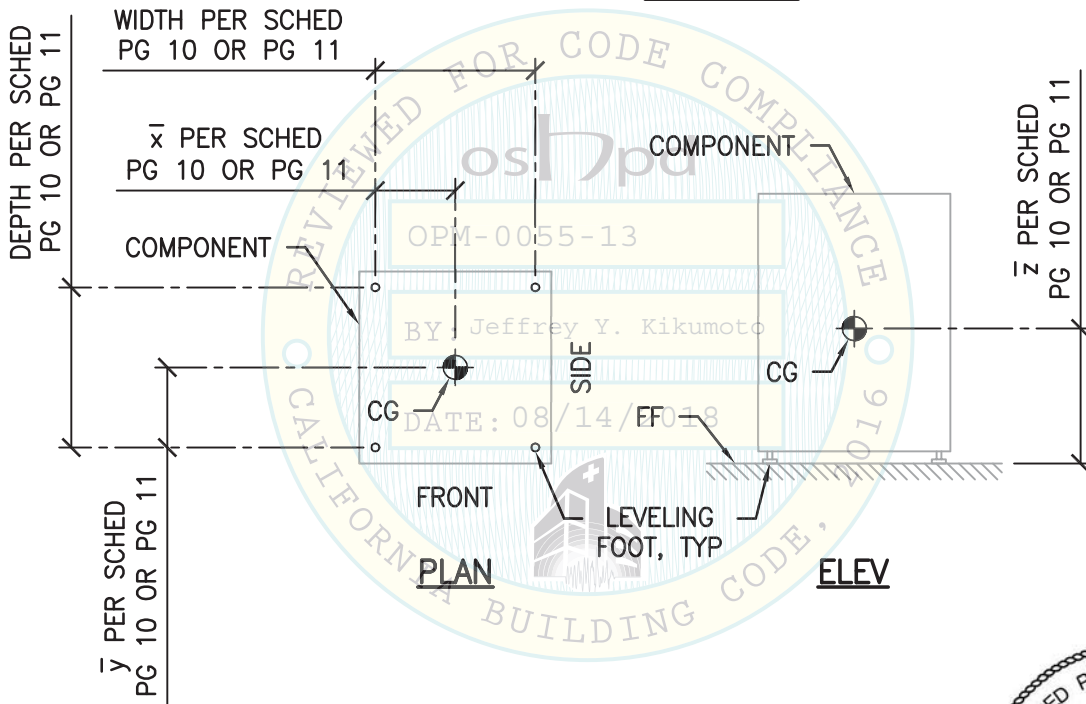
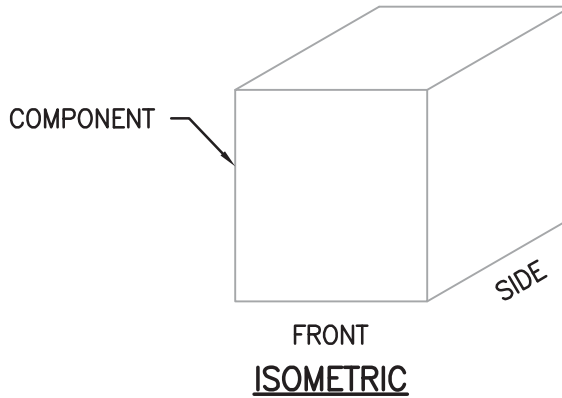


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SHEET TITLE: COMPONENT DIMENSIONS SCHEDULE

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



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SHEET TITLE: COMPONENT DIMENSIONS DETAIL



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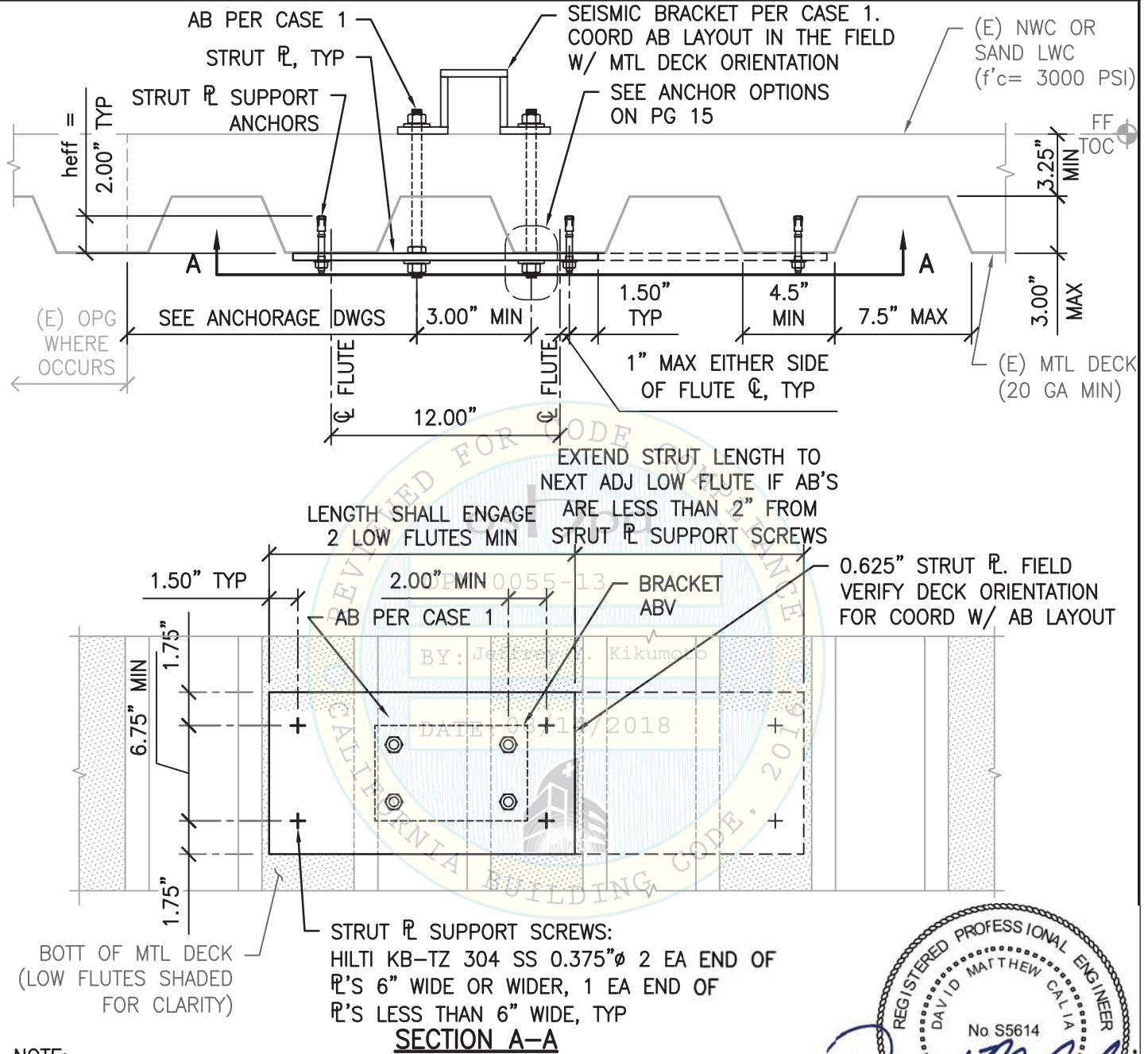
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



NOTE:

1. THE GENERAL CONTRACTOR SHALL PROVIDED AND INSTALL ALL STRUTS, SEISMIC BRACKETS, SHIMS AND FASTENERS.
2. FOR AB SPACED MORE THAN 3.5" APART 2-3.5" WIDE STRUT \varnothing 'S SIM TO DTL ON PG 14 MAY BE USED



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SHEET TITLE: TYPICAL STRUT DETAIL



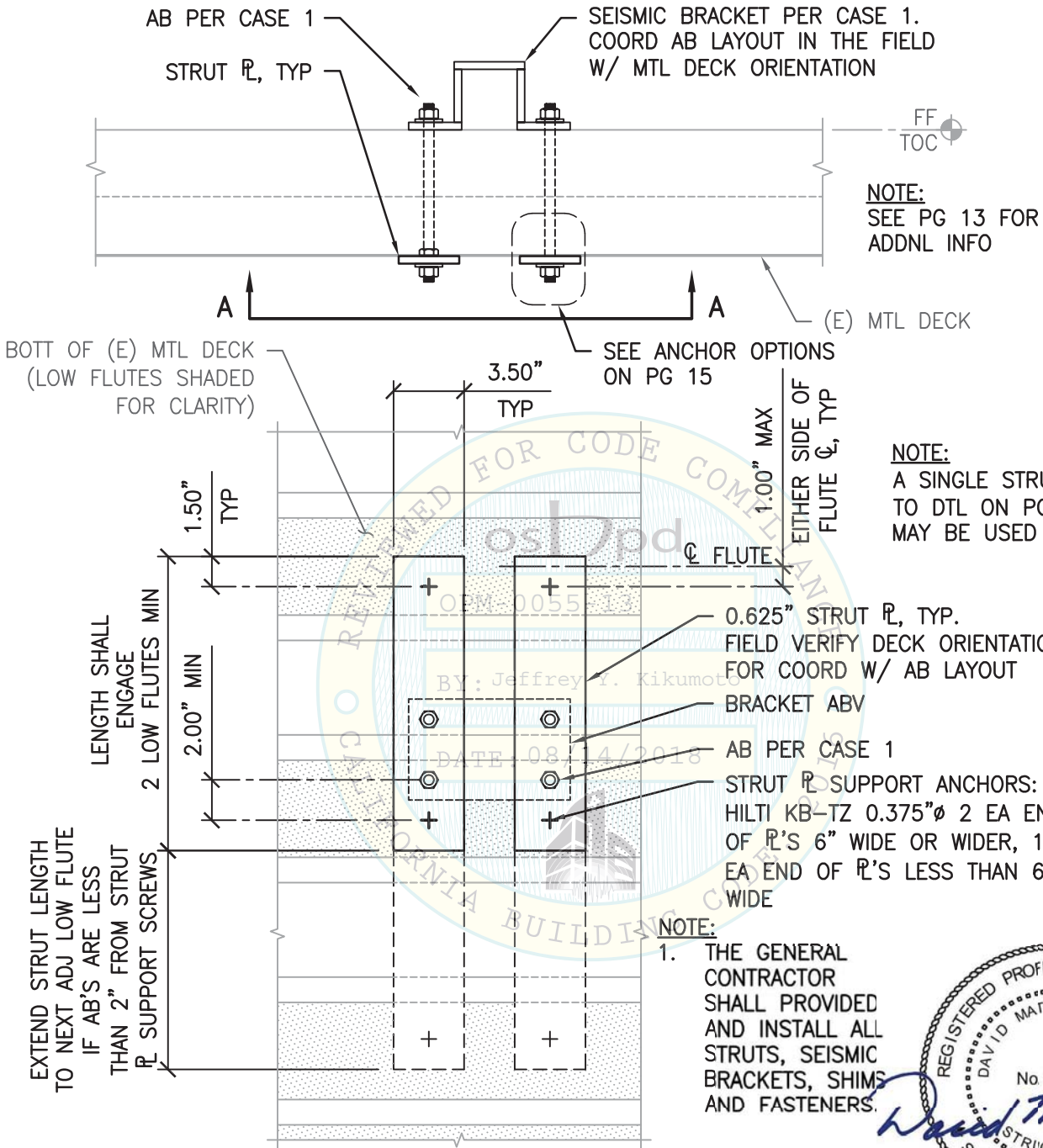
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



SECTION A-A

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SHEET TITLE: TYPICAL STRUT DETAIL



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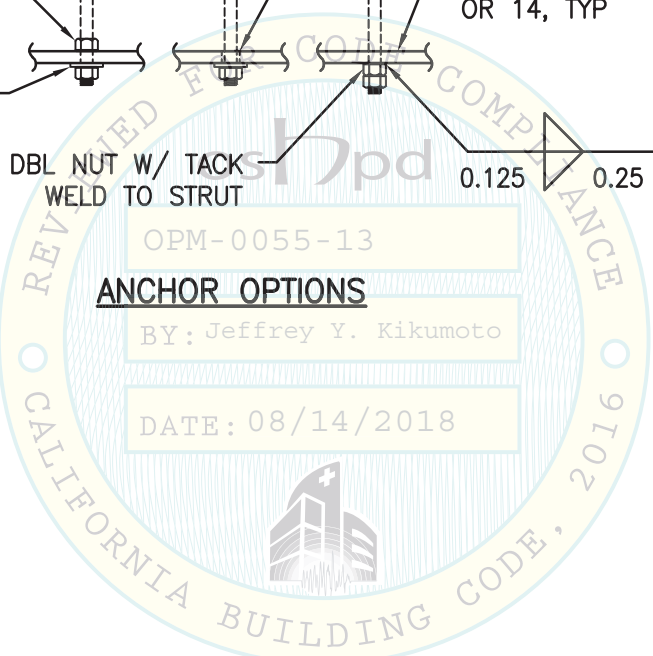
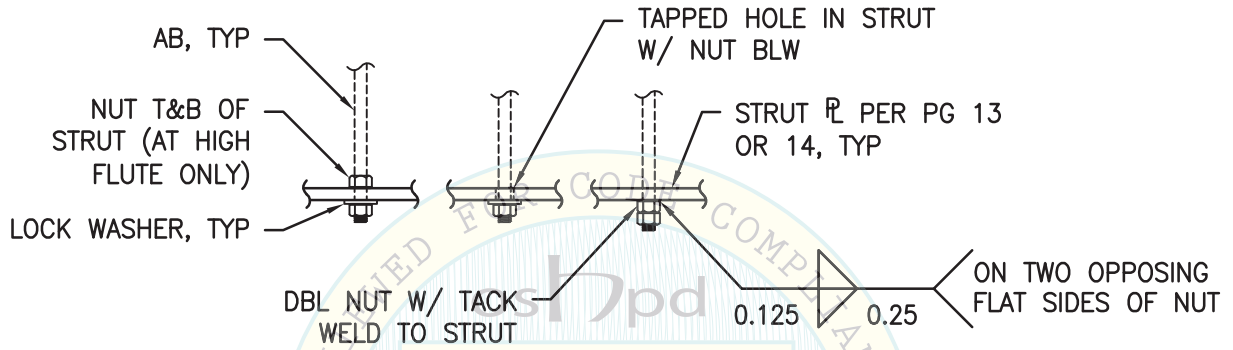
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



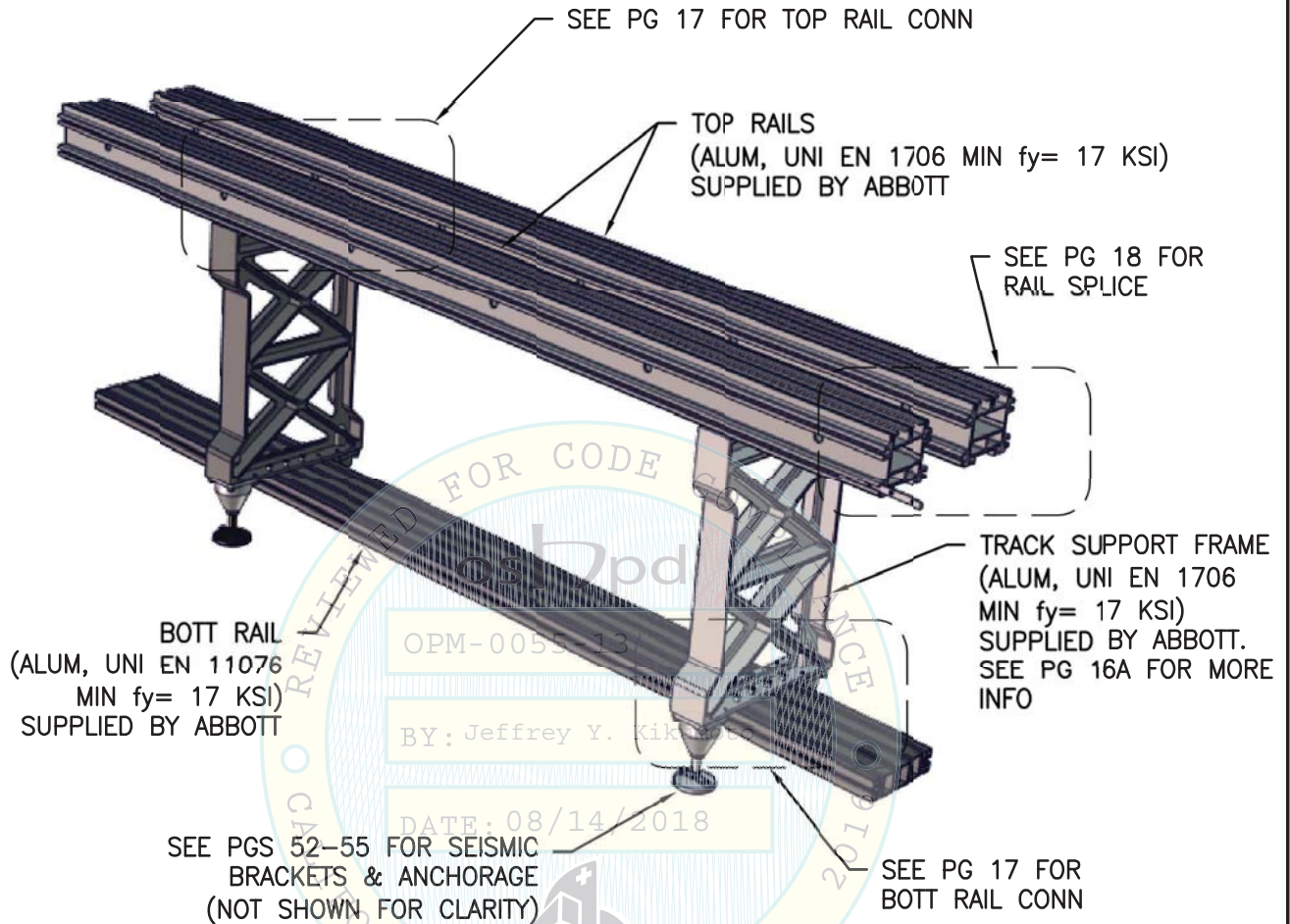
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SHEET TITLE: TYPICAL STRUT DETAIL

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



NOTES:

1. MAX OPERATING WEIGHT $W_p = 165.00$ LBS INCLUDING SUPPORT FRAMES, T&B RAIL, TRACK, COVERS, ETC.
2. COMPONENT SUB-ASSEMBLY CONNECTIONS SHALL BE PERFORMED BY ABBOTT, NOT BY THE GENERAL CONTRACTOR.
3. THE TYP TRACK MODULE IS USED FOR COMPONENTS 1, 2, 3, 4 & 17. SEE PGS 19-41.
4. THE TYP TRACK MODULE COMPONENTS (TRACK SUPPORT FRAMES, T&B RAILS) ARE USED FOR COMPONENTS 18 & 19. SEE PGS 42-51.
5. SEISMIC BRACKETS ARE REQUIRED AT ALL TRACK FRAMES.
16. FUTURE ALTERATIONS TO TRACK SYSTEMS, INCLUSIVE OF BUT NOT LIMITED TO TRACK AND TRACK COMPONENTS, TRACK MODULES AND OTHER INSTRUMENTS ATTACHED TO THE TRACK SYSTEM MUST BE REVIEWED BY OSHPD.



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SHEET TITLE: TYPICAL TRACK MODULE



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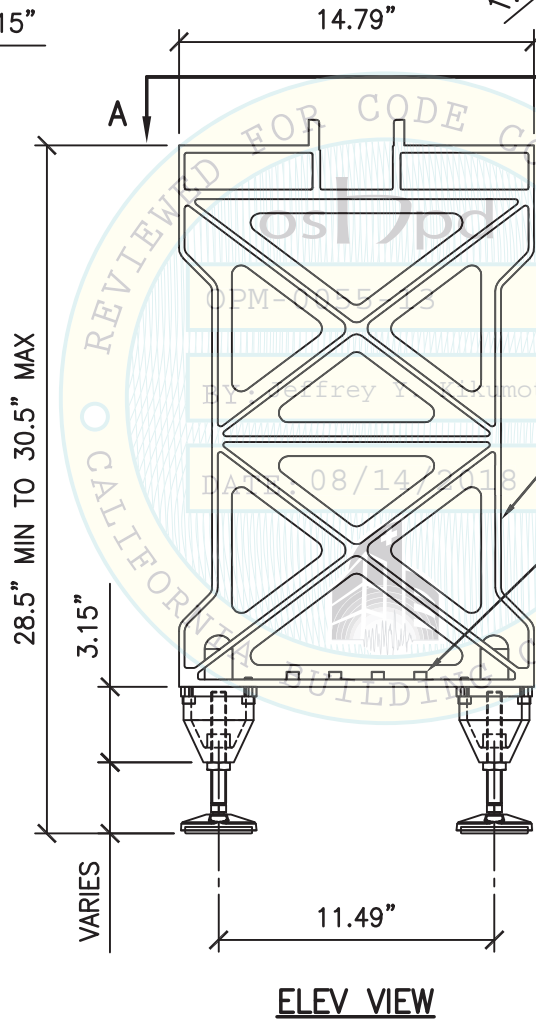
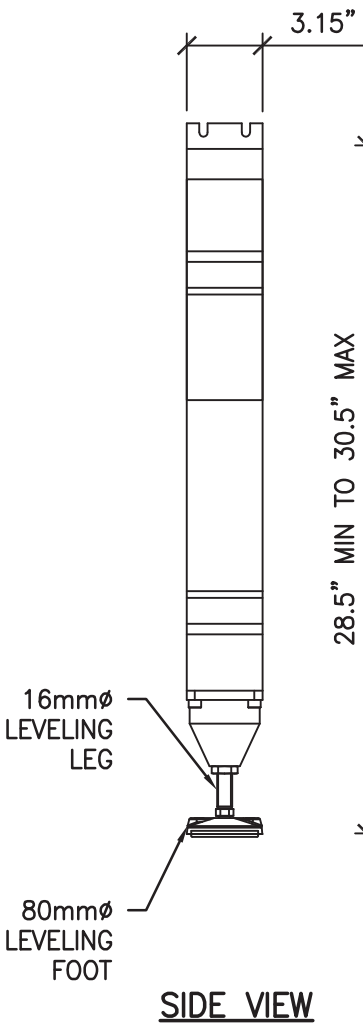
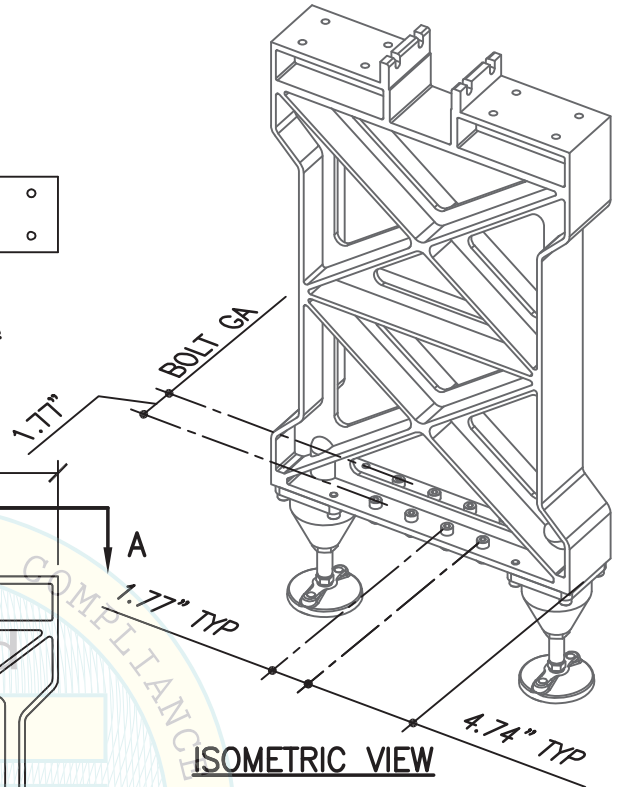
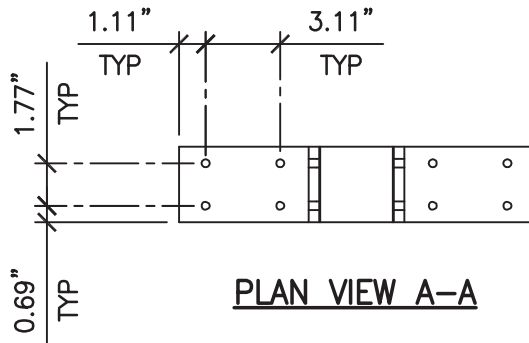
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



TRACK SUPPORT FRAME
M8x20 UNI 5931-8.8, TYP
(8 TOTAL AT BOTT RAIL, NOT SHOWN, 6 TOTAL AT EA TOP RAIL, NOT SHOWN)
Fy= 96 KSI.



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SHEET TITLE: TYPICAL TRACK MODULE
TRACK SUPPORT FRAME

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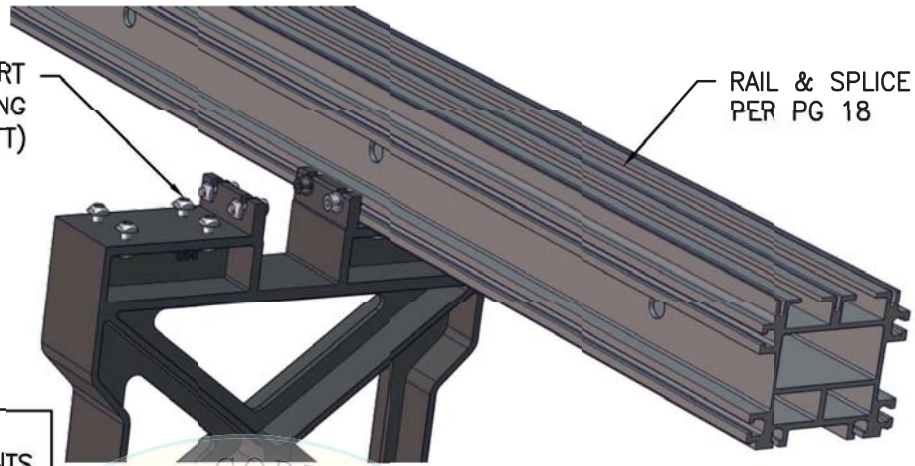
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

CONNECT TOP RAILS TO SUPPORT
FRAME W/ 6- M8 BOLTS W/ SPRING
NUTS EA RAIL. (CONN BY ABBOTT)

RAIL & SPLICE
PER PG 18

SEE PG 16A FOR MORE INFO
REGARDING BOLTED ATTACHMENTS
OF THE RAILS TO THE TRACK
SUPPORT FRAME.



TOP RAIL CONN

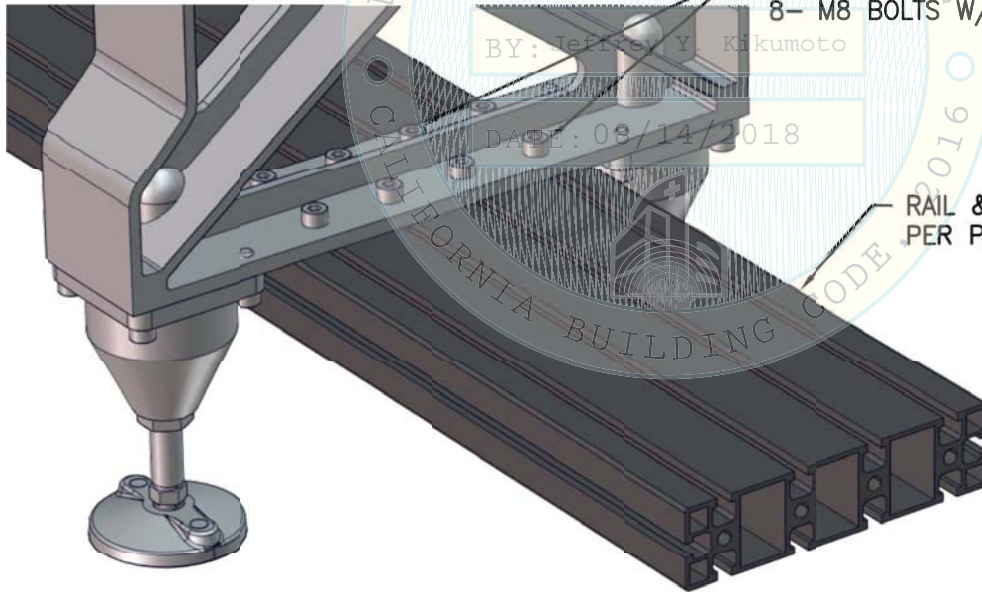
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BY: Jeffrey Y. Kikumoto

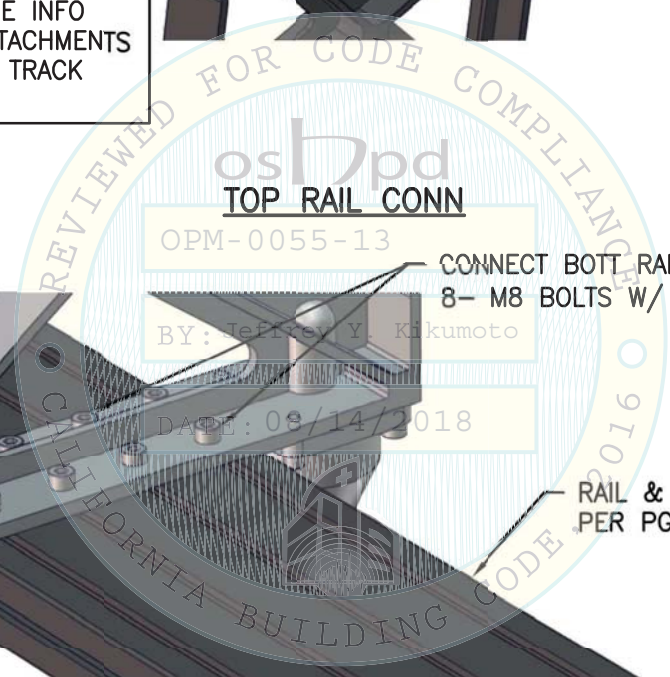
DATE: 08/14/2018

CONNECT BOTT RAIL TO SUPPORT FRAME W/
8- M8 BOLTS W/ SPRING NUTS EA RAIL.

RAIL & SPLICE
PER PG 18



BOTT RAIL CONN



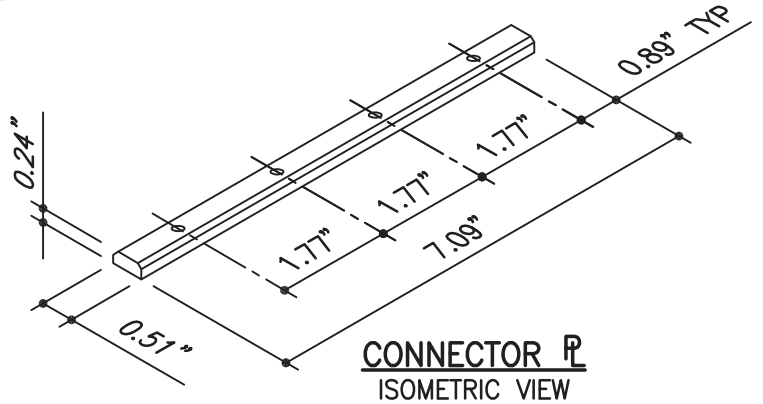
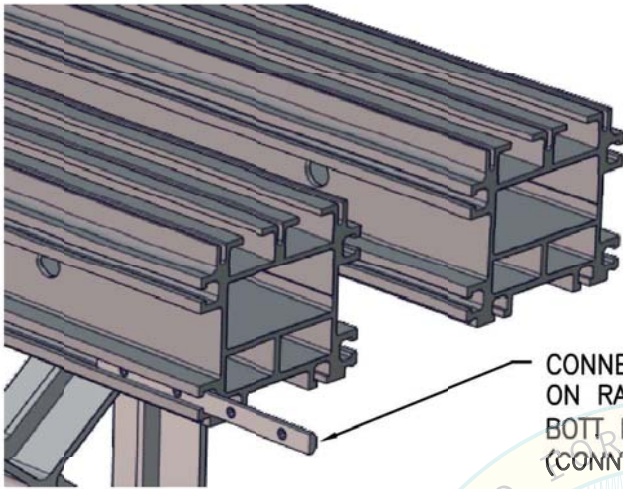
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SHEET TITLE: TYPICAL TRACK MODULE
TOP & BOTTOM RAIL CONNECTION

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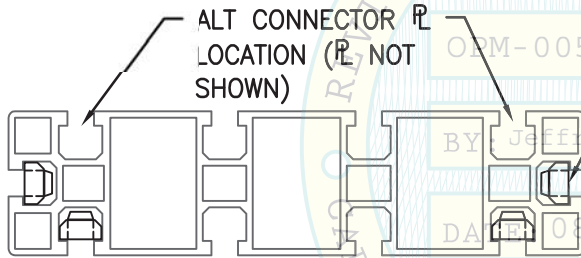
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



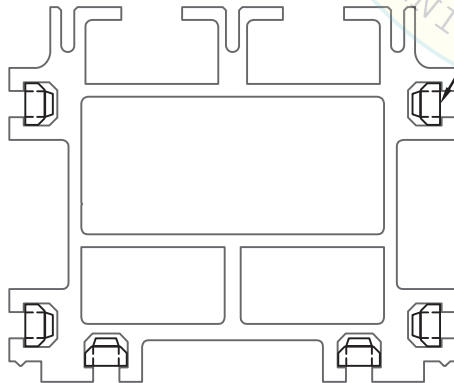
CONNECTOR PL W/ 4- M8 SET SCREWS. CTR ON RAIL SPLICE. 6 EA TOP RAIL & 4 AT BOTT RAIL. (16 TOTAL) ($f_y = 96$ KSI MIN) (CONN BY ABBOTT)

RAIL SPLICE



CONNECTOR PL (STEEL, Fe 37 GALVANIZED MIN $f_y = 37$ KSI), TYP OF 4 AT BOTT RAIL SECTION
 PROPERTIES:
 $A = 0.1070$ IN²; $S = 0.00353$ IN³; $I = 0.000454$ IN⁴
 TWO CONNECTOR PLATES ARE REQ AT ES OF THE RAIL IN ANY OF THE 3 LOCATIONS.

BOTT RAIL



CONNECTOR PL (STEEL, Fe 37 GALVANIZED MIN $f_y = 36$ KSI), TYP OF 6 AT TOP RAIL SECTION PROPERTIES:
 $A = 0.1070$ IN²; $S = 0.00353$ IN³; $I = 0.000454$ IN⁴

TOP RAIL



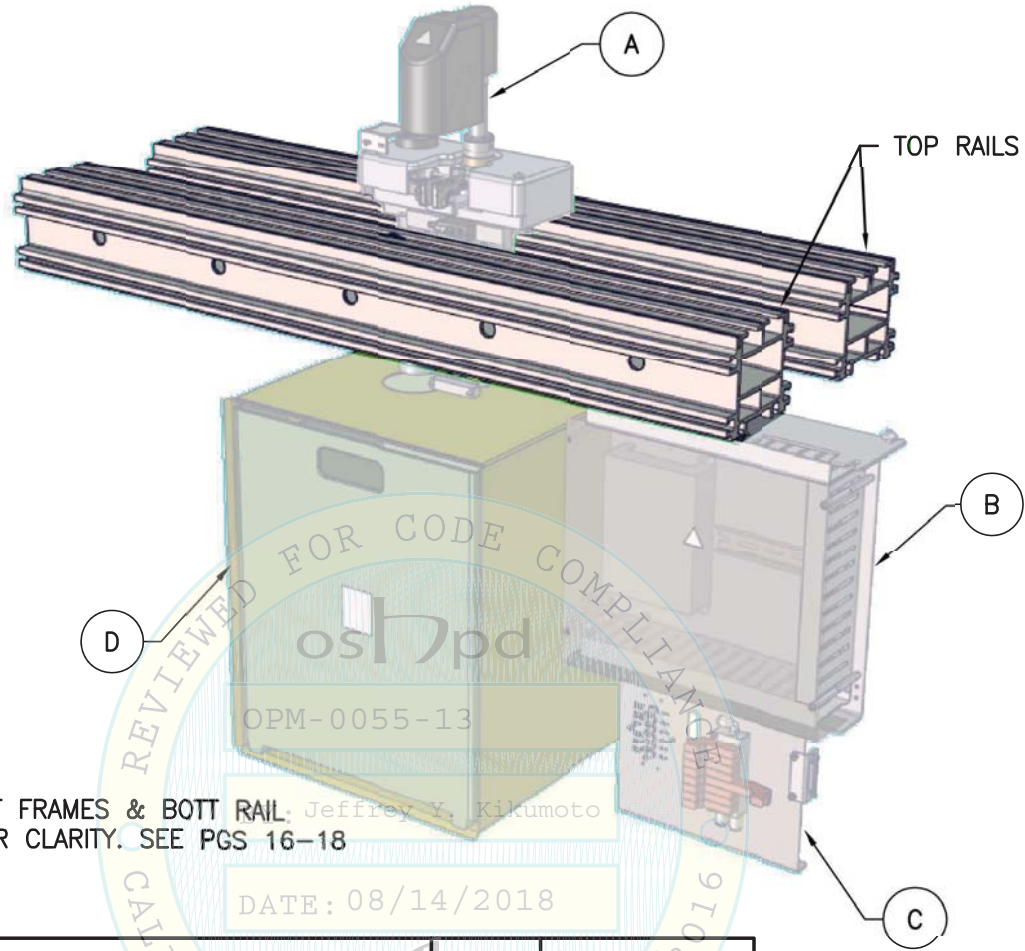
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SHEET TITLE: TYPICAL TRACK MODULE
RAIL SPLICE DETAIL

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



TRACK SUPPORT FRAMES & BOTT RAIL: NOT SHOWN FOR CLARITY. SEE PGS 16-18

ITEM	SUB-ASSEMBLY DESCRIPTION	WEIGHT Wp(LBS)	SUB-ASSEMBLY ATTACHMENT DTL PG
A	DE-SEALER BODY	10	20
B	ELECTRICAL CONTROL PANEL	11	21
C	PNEUMATIC PANEL	6	22
D	WASTE BIN	26	23
MISC	PIT LANE, COVERS, WIRES, TUBES	29	N/A
TRACK	SUPPORT FRAMES, T&B RAILS	165	16-18
	TOTAL WEIGHT	247	

*COMPONENT SUB-ASSEMBLY ATTACHMENTS SHALL BE PERFORMED BY ABBOTT, NOT BY THE GENERAL CONTRACTOR

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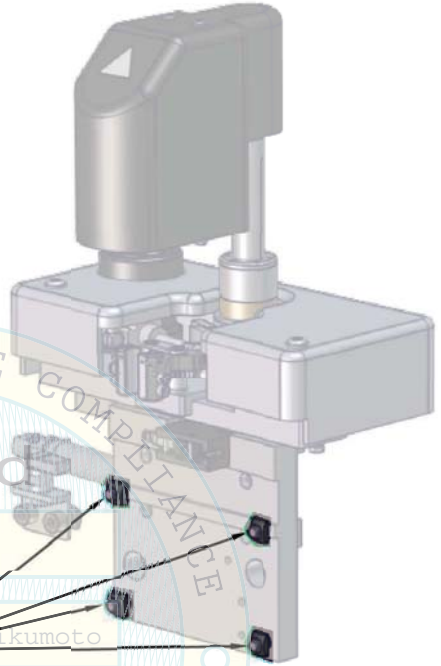


SHEET TITLE: COMPONENT 1: DE-SEALER MODULE

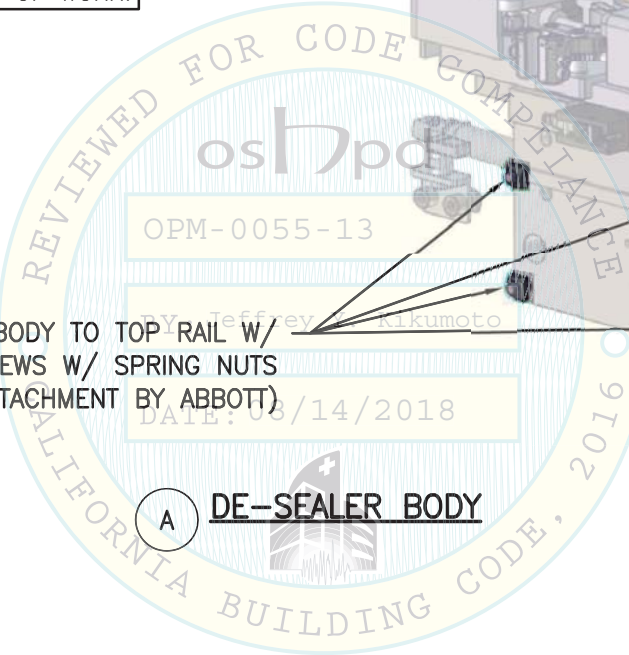
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.



ATTACH DE-SEALER BODY TO TOP RAIL W/
4- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)



A

DE-SEALER BODY



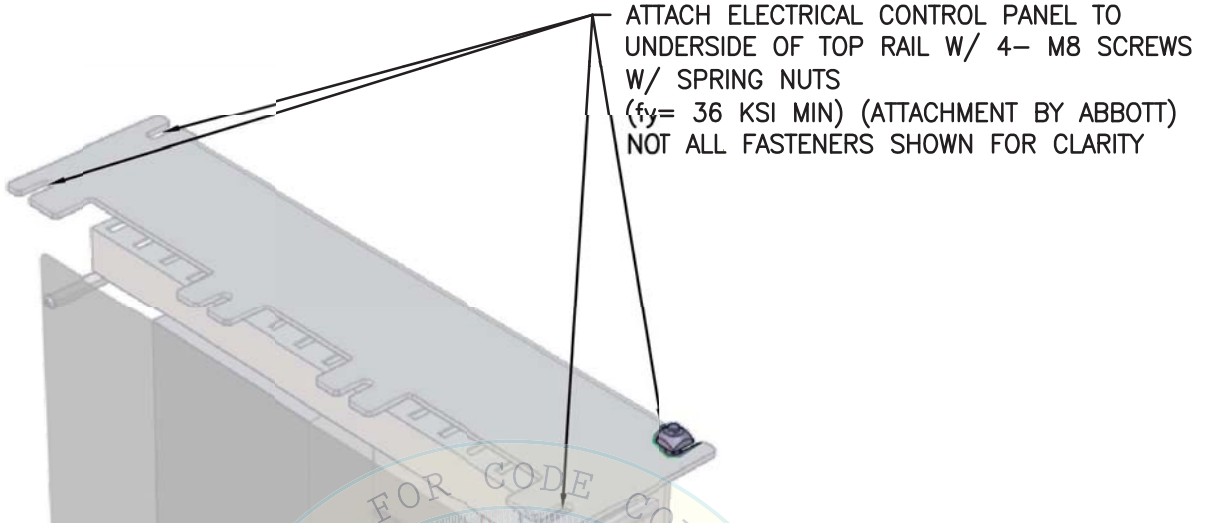
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 1: DE-SEALER MODULE
DE-SEALER BODY ATTACHMENT

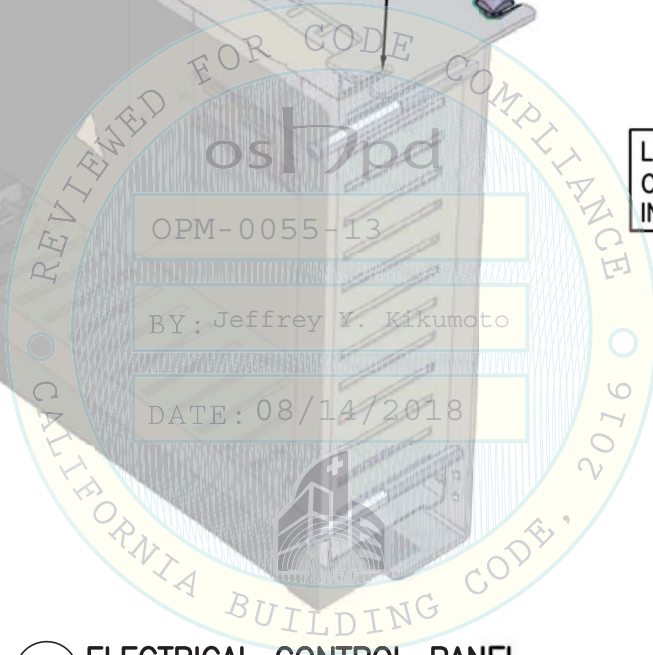
	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 20 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:21am Login:camachom Dimscale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.



(B) ELECTRICAL CONTROL PANEL



03/02/17 NOT SEOR

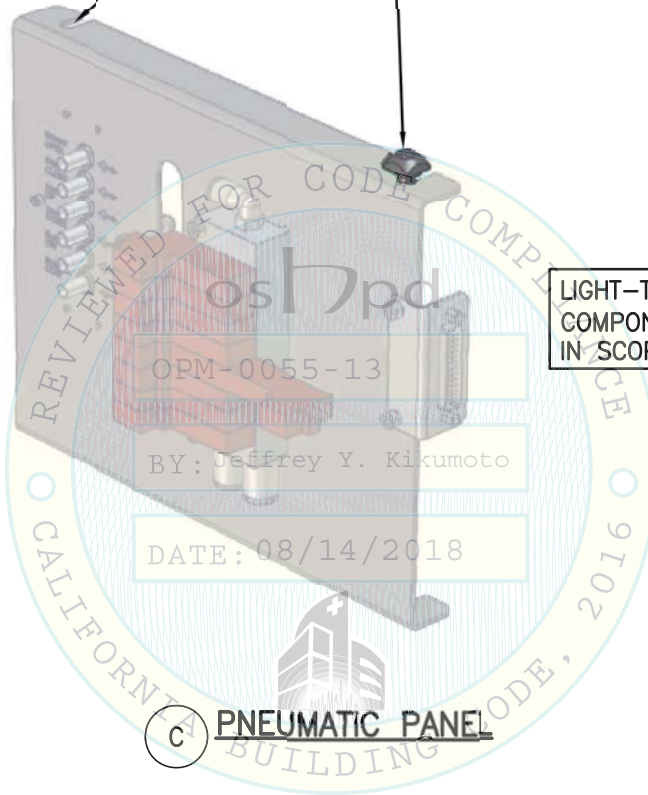
SHEET TITLE: COMPONENT 1: DE-SEALER MODULE
ELECTRICAL CONTROL PANEL ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 21 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:21am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ATTACH PNEUMATIC PANEL TO UNDERSIDE
OF ELECTRICAL CONTROL PANEL W/ 2- M8
SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)
NOT ALL FASTENERS SHOWN FOR CLARITY



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.



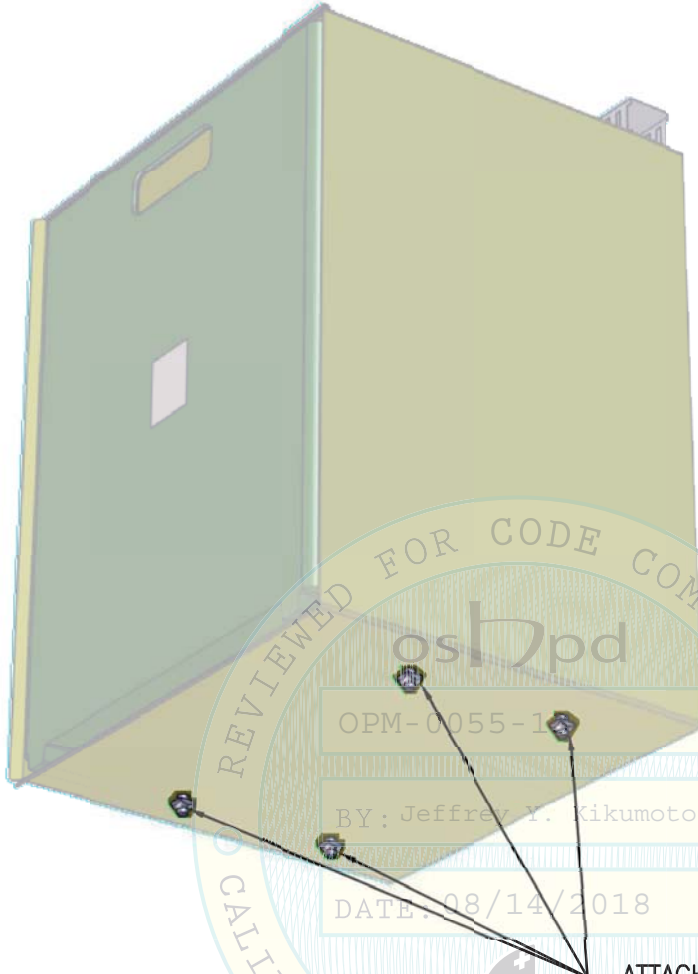
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 1: DE-SEALER MODULE
PNEUMATIC PANEL ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 22 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:21am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

ATTACH WASTE BIN TO TOP OF BOTT RAIL
W/ 4- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)

D WASTE BIN



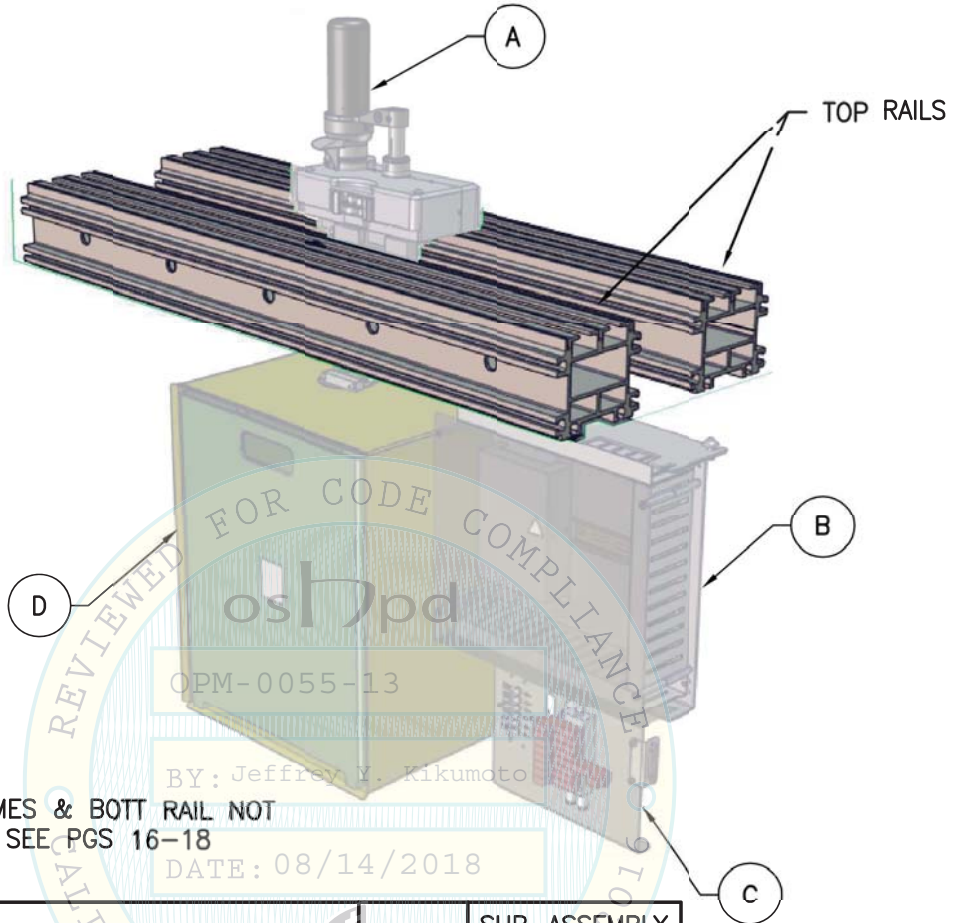
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 1: DE-SEALER MODULE
WASTE BIN ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 23 of 148

L:\Jobs\13\13027 Abbott o3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:21am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

TRACK SUPPORT FRAMES & BOTT RAIL NOT
SHOWN FOR CLARITY. SEE PGS 16-18

	SUB-ASSEMBLY DESCRIPTION	WEIGHT Wp(LBS)	SUB-ASSEMBLY ATTACHMENT DTL PG
A	DE-CAPPER BODY	15	25
B	ELECTRICAL CONTROL PANEL	11	26
C	PNEUMATIC PANEL	6	27
D	WASTE BIN	26	28
MISC	PIT LANE, COVERS, WIRES, TUBES, ETC.	24	N/A
TRACK	SUPPORT FRAMES, T&B RAILS, ETC.	165	16-18
	TOTAL WEIGHT	247	

*COMPONENT SUB-ASSEMBLY ATTACHMENTS SHALL BE PERFORMED BY ABBOTT,
NOT BY THE GENERAL CONTRACTOR

03/02/17 NOT SEOR

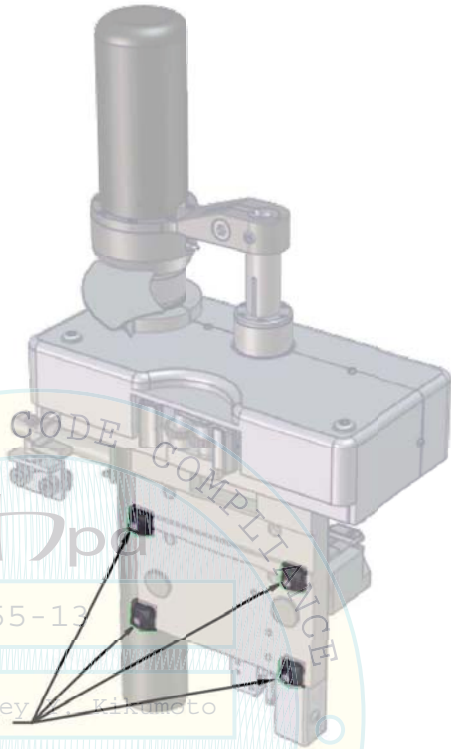


SHEET TITLE: COMPONENT 2: DE-CAPPER MODULE

	CYS STRUCTURAL ENGINEERS, INC.		Job No:	13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date:	2-2-2017
	SACRAMENTO, CA 95833		Page:	24 of 148
	TEL (916) 920-2020	www.cyseng.com		

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:22am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

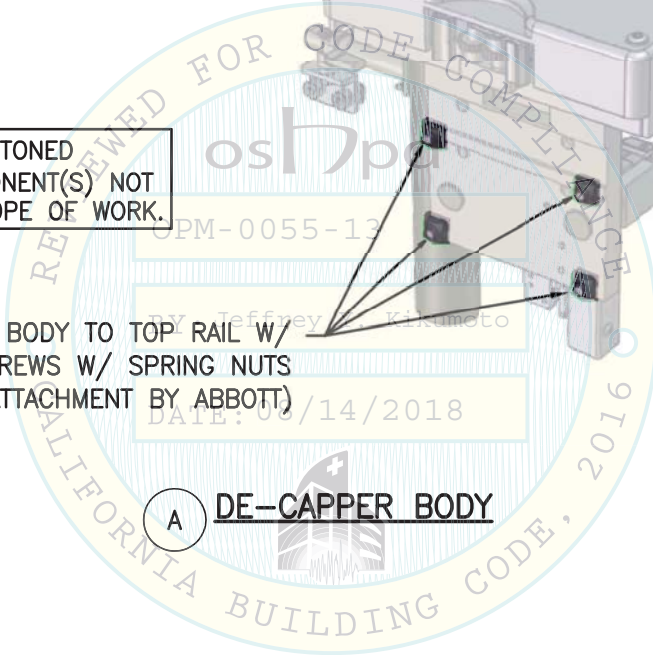


LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

ATTACH DE-CAPPER BODY TO TOP RAIL W/
4- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)

A

DE-CAPPER BODY



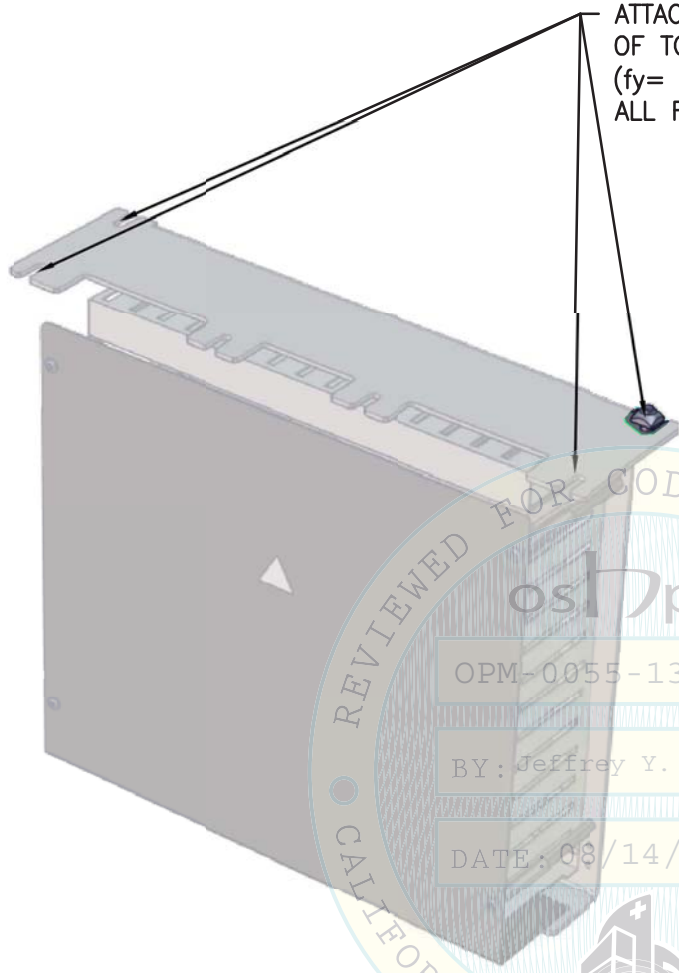
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 2: DE-CAPPER MODULE
DE-CAPPER BODY ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 25 of 148

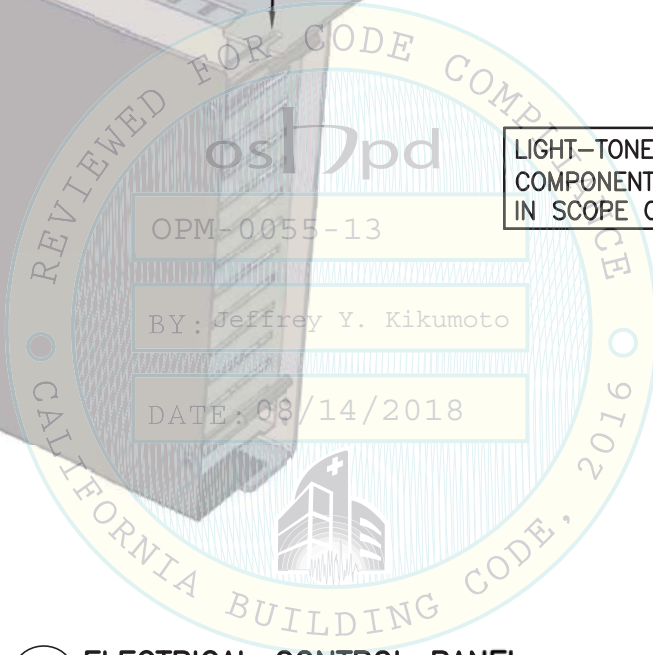
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



ATTACH ELECTRICAL CONTROL PANEL TO UNDERSIDE OF TOP RAIL W/ 4- M8 SCREWS W/ SPRING NUTS (fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT) NOT ALL FASTENERS SHOWN FOR CLARITY

LIGHT-TONED COMPONENT(S) NOT IN SCOPE OF WORK.



B ELECTRICAL CONTROL PANEL



03/02/17 NOT SEOR

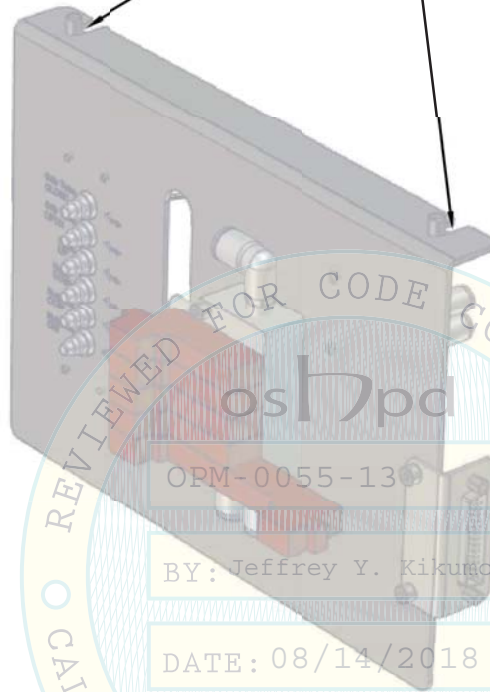
SHEET TITLE: COMPONENT 2: DE-CAPPER MODULE
ELECTRICAL CONTROL PANEL ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650	TEL (916) 920-2020	Date: 2-2-2017
	SACRAMENTO, CA 95833	www.cyseng.com	Page: 26 of 148

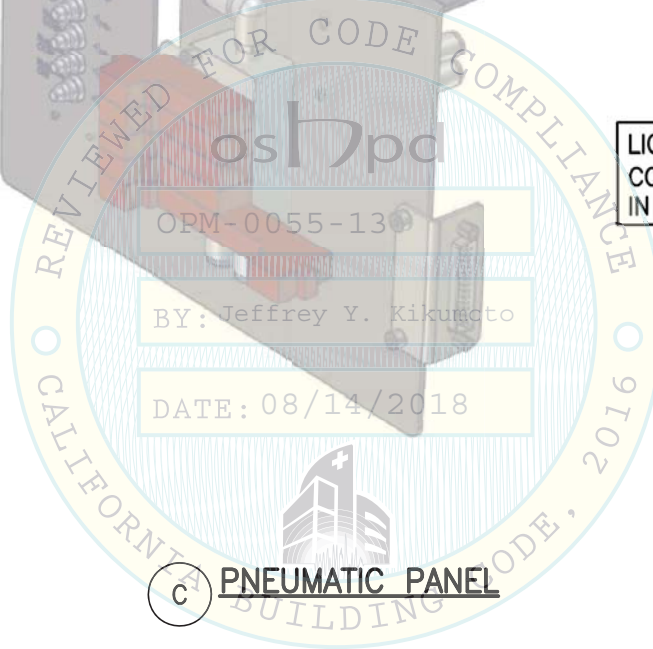
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ATTACH PNEUMATIC PANEL TO UNDERSIDE
OF ELECTRICAL CONTROL PANEL W/ 2- M8
SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)
NOT ALL FASTENERS SHOWN FOR CLARITY



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.



C PNEUMATIC PANEL



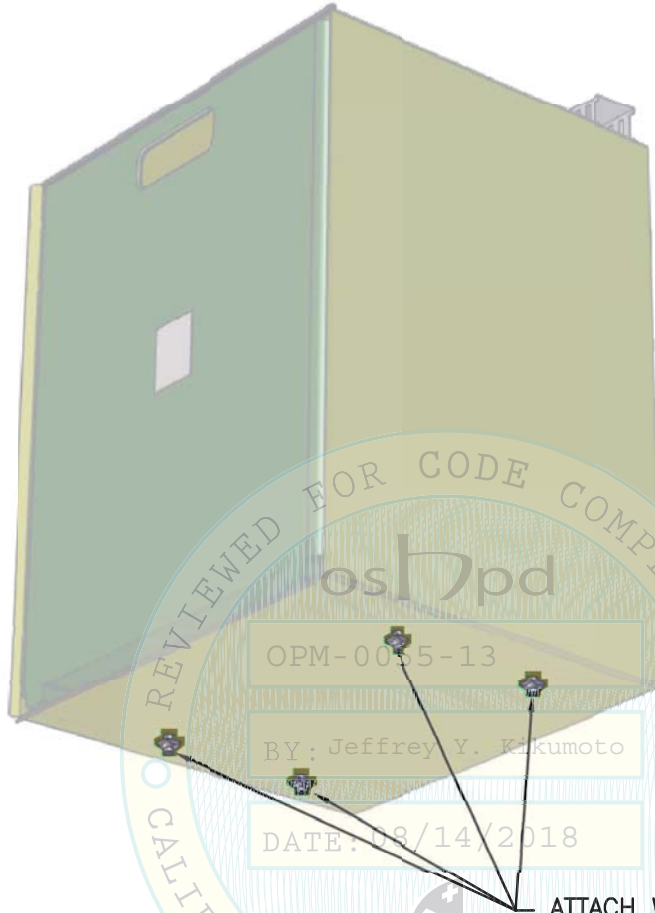
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 2: DE-CAPPER MODULE
PNEUMATIC PANEL ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650	TEL (916) 920-2020	Date: 2-2-2017
	SACRAMENTO, CA 95833	www.cyseng.com	Page: 27 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:22am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

ATTACH WASTE BIN TO TOP OF BOTT RAIL
W/ 4- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)

D WASTE BIN



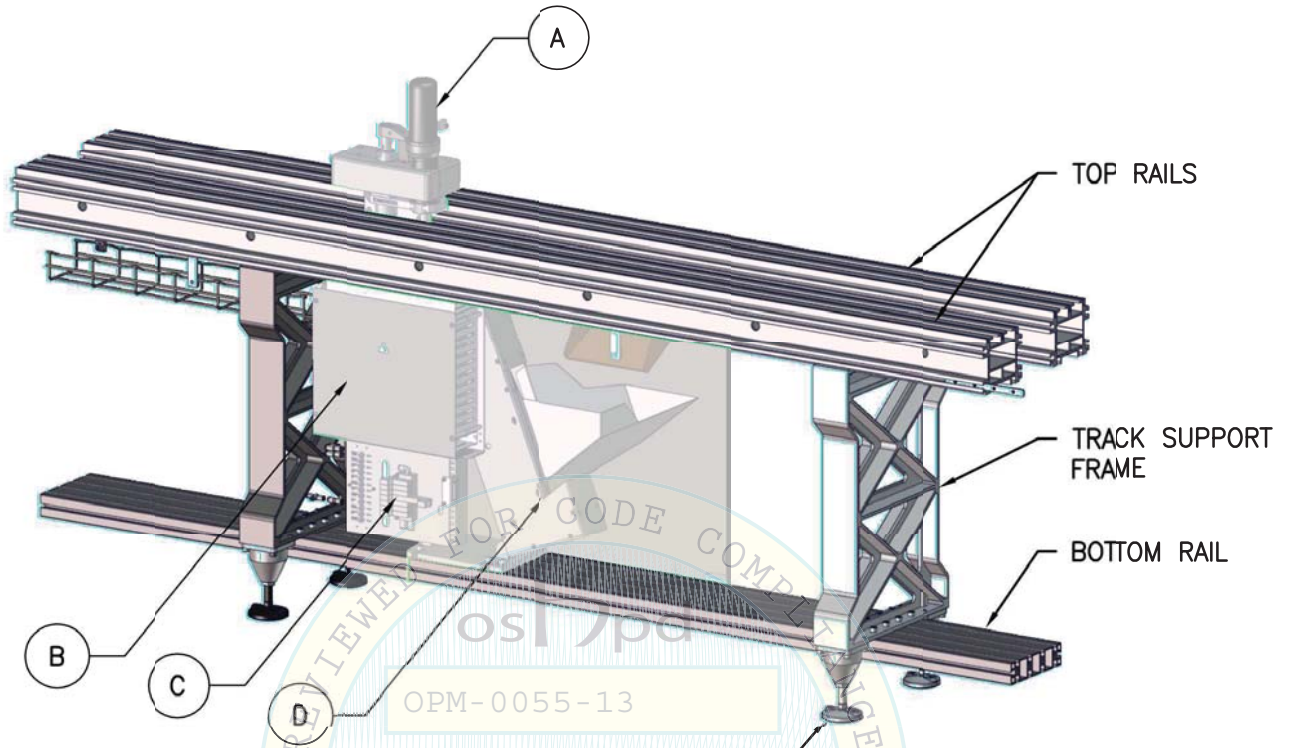
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 2: DE-CAPPER MODULE
WASTE BIN ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 28 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:22am Login:camachom Dimstyle:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

SEE PGS 52-55 FOR SEISMIC
BRACKETS & ANCHORAGE
(NOT SHOWN FOR CLARITY)

DATE: 08/14/2018

ITEM	SUB-ASSEMBLY DESCRIPTION	WEIGHT Wp(LBS)	SUB-ASSEMBLY ATTACHMENT DTL PG
A	RE-CAPPER ASSEMBLY	13	30
B	ELECTRICAL CONTROL PANEL	11	31
C	PNEUMATIC PANEL	4	32
D	RE-CAPPER SWITCH CAP GROUP	21	33
MISC	BUFFER LANE, COVERS, WIRES, TUBES, ETC.	33	N/A
TRACK	SUPPORT FRAMES, T&B RAILS, ETC.	165	16-18
TOTAL WEIGHT		247	

*COMPONENT SUB-ASSEMBLY ATTACHMENTS SHALL BE PERFORMED BY ABBOTT,
NOT BY THE GENERAL CONTRACTOR



03/02/17 NOT SEOR

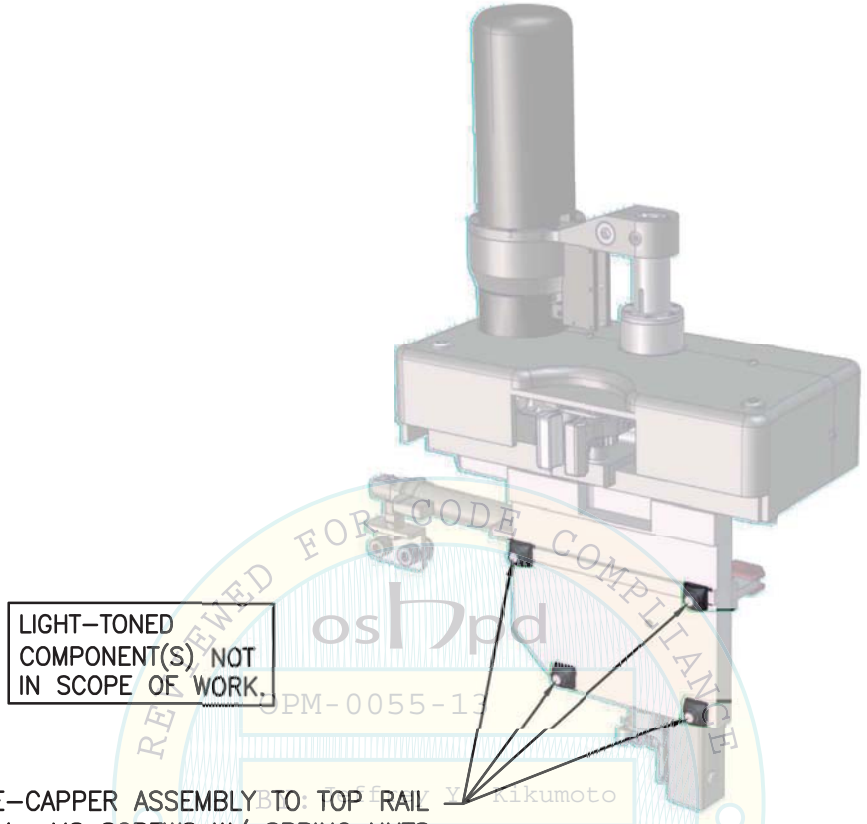
SHEET TITLE: COMPONENT 3: RE-CAPPER MODULE

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 29 of 148
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L:\Jobs\13\13027 Abbott c3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:22am Login:camachom DimScale:1 LTScale:4

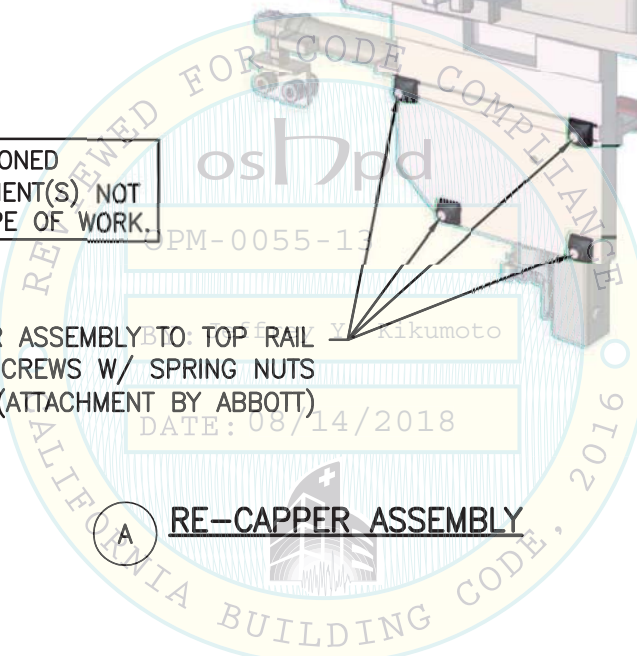
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

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LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

ATTACH RE-CAPPER ASSEMBLY TO: TOP RAIL
W/ 4- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)



RE-CAPPER ASSEMBLY



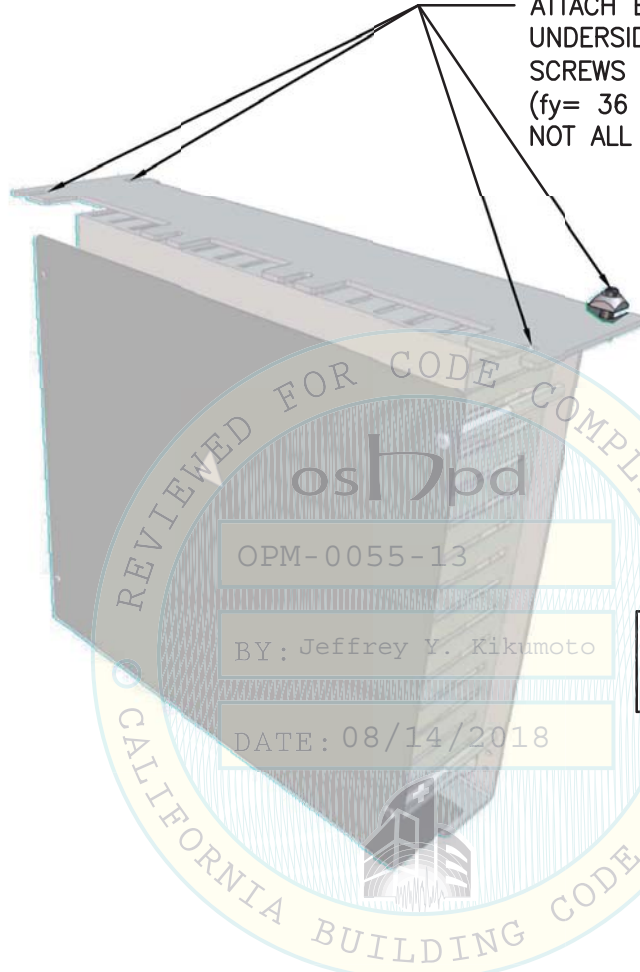
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SHEET TITLE: COMPONENT 3: RE-CAPPER MODULE
RE-CAPPER ASSEMBLY ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 30 of 148

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ATTACH ELECTRICAL CONTROL PANEL TO
UNDERSIDE OF TOP RAIL W/ 4- M8
SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)
NOT ALL FASTENERS SHOWN FOR CLARITY



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

B ELECTRICAL CONTROL PANEL



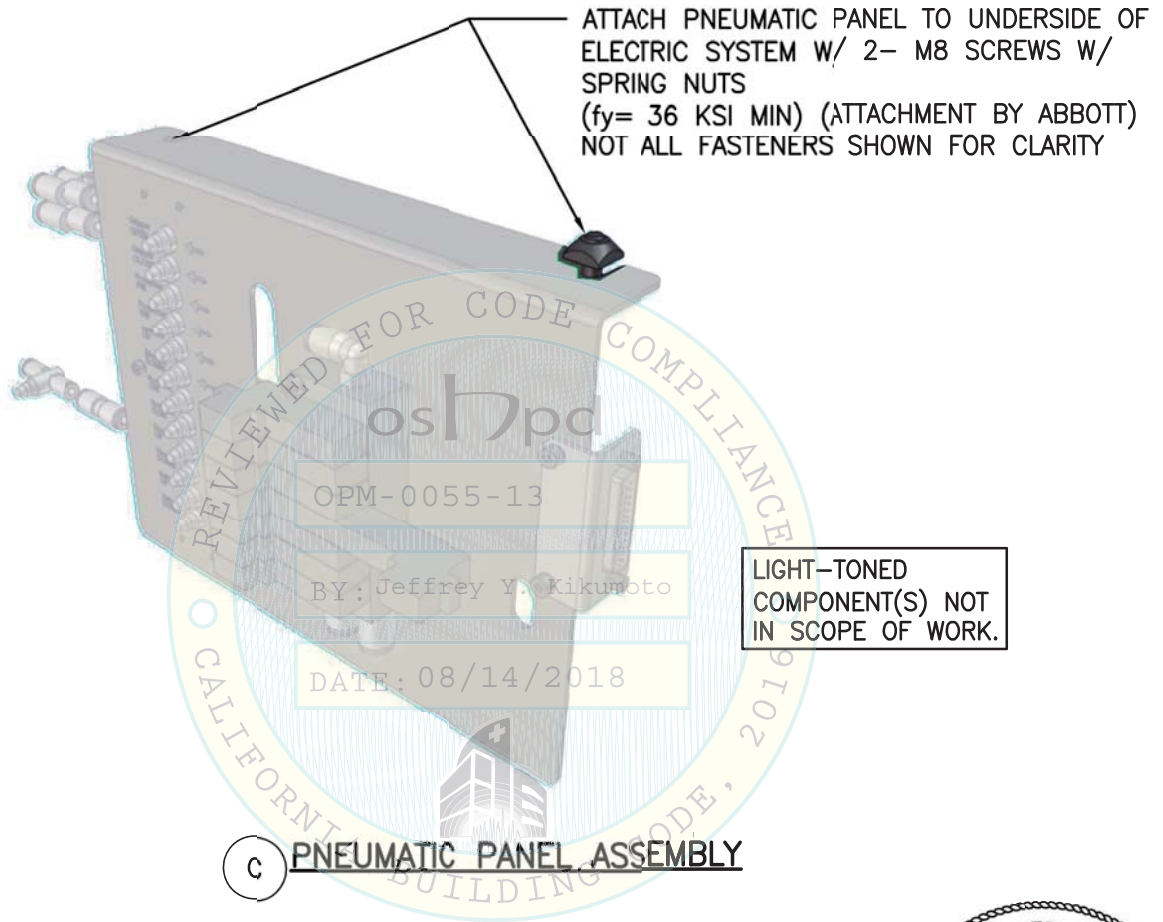
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SHEET TITLE: COMPONENT 3: RE-CAPPER MODULE
ELECTRICAL CONTROL PANEL ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 31 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:22am Login:camachom Dimstyle:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 3: RE-CAPPER MODULE
PNEUMATIC PANEL ATTACHMENT

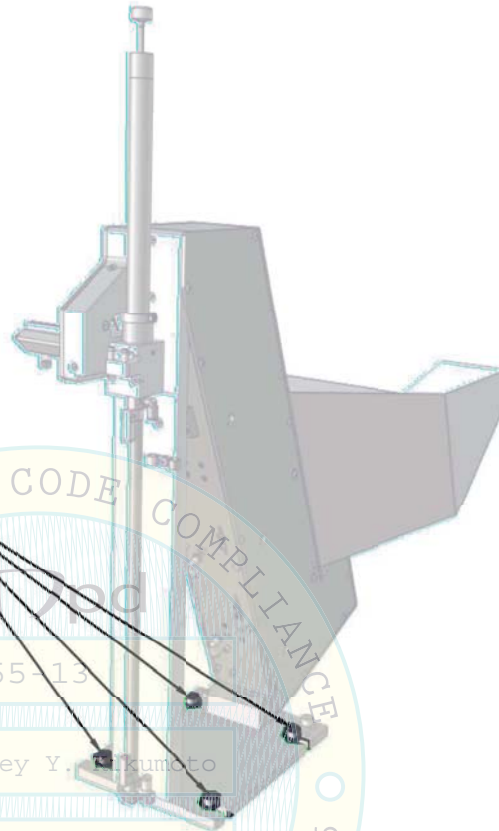
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			Date: 2-2-2017
			Page: 32 of 148

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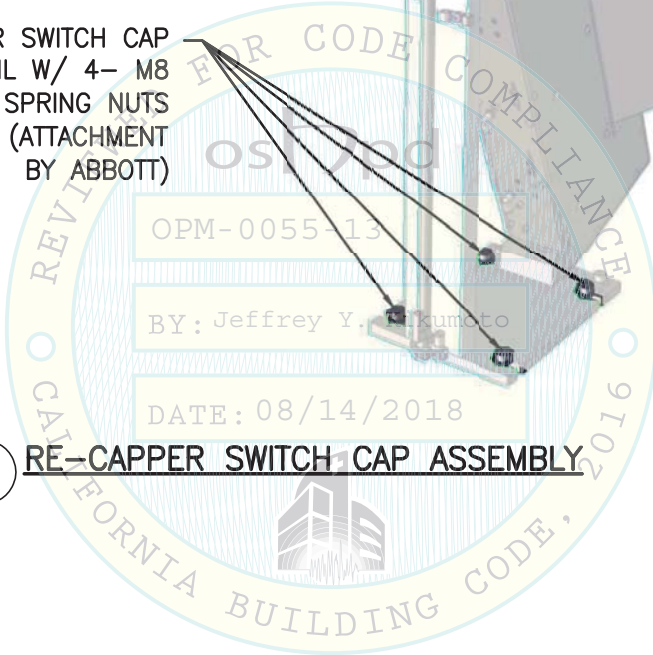
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

ATTACH RE-CAPPER SWITCH CAP
GROUP TO BOTT RAIL W/ 4- M8
SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT
BY ABBOTT)



D RE-CAPPER SWITCH CAP ASSEMBLY



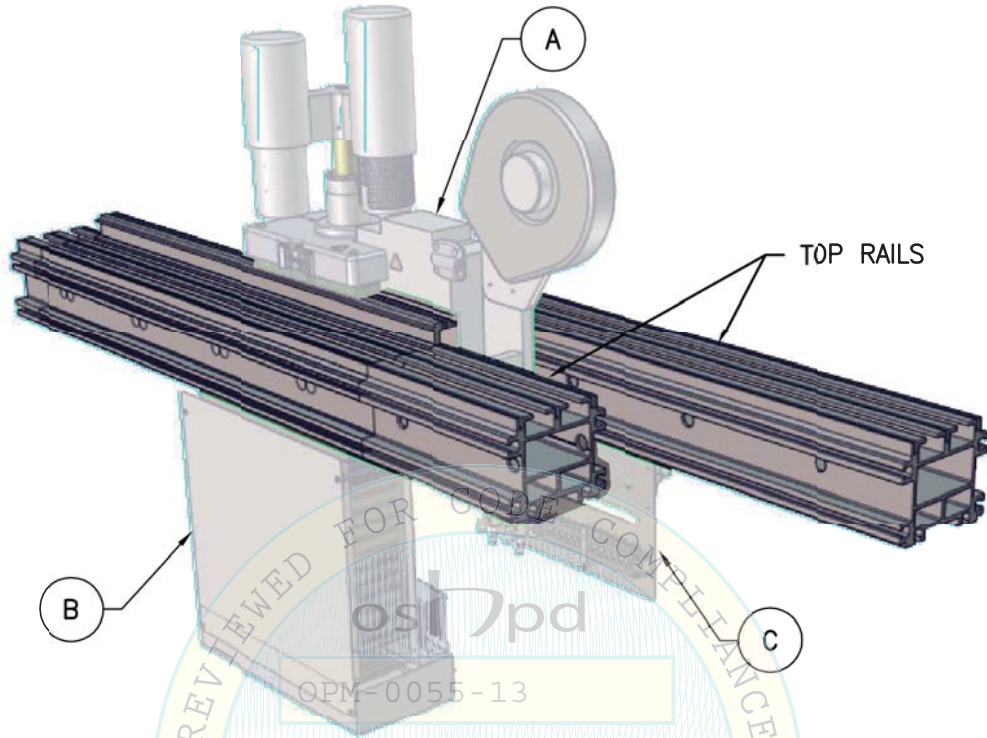
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 3: RE-CAPPER MODULE
RE-CAPPER SWITCH CAP GROUP ATTACHMENT

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 33 of 148
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:22am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



TRACK SUPPORT FRAMES & BOTT RAIL NOT SHOWN FOR CLARITY. SEE PGS 16-18

LIGHT-TONED COMPONENT(S) NOT IN SCOPE OF WORK.

ITEM	SUB-ASSEMBLY DESCRIPTION	WEIGHT Wp(LBS)	SUB-ASSEMBLY ATTACHMENT DTL PG
A	SEALER ASSEMBLY	23	35
B	ELECTRICAL CONTROL PANEL	11	36
C	PNEUMATIC PANEL	5	37
MISC	MODULE SAMPLING, COVERS, WIRES, TUBES, ETC.	30	N/A
TRACK	SUPPORT FRAMES, T&B RAILS, ETC.	165	16-18
TOTAL WEIGHT		234	

*COMPONENT SUB-ASSEMBLY ATTACHMENTS SHALL BE PERFORMED BY ABBOTT, NOT BY THE GENERAL CONTRACTOR



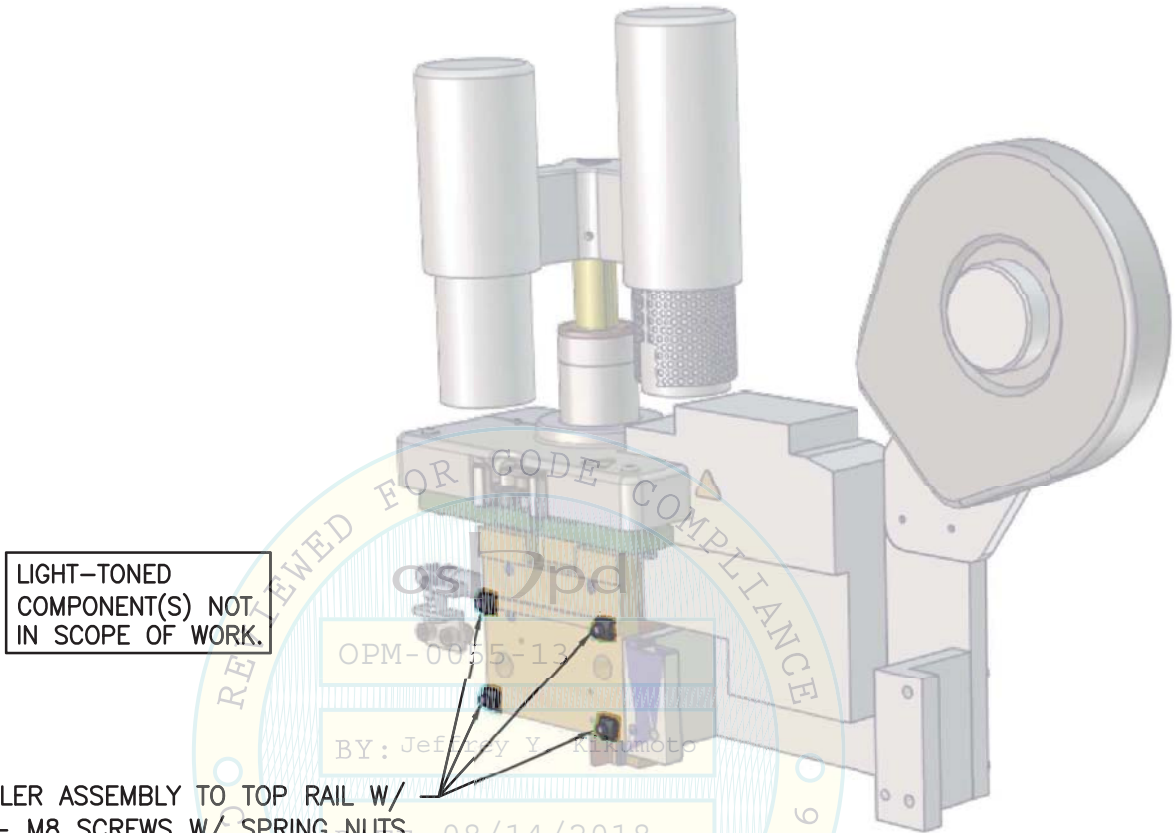
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 4: SEALER MODULE

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date: 2-2-2017
	SACRAMENTO, CA 95833		Page: 34 of 148
	TEL (916) 920-2020	www.cyseng.com	

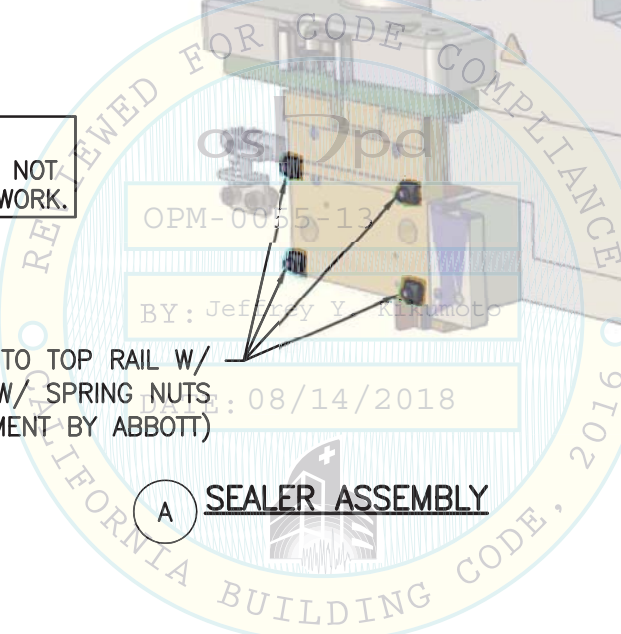
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

ATTACH SEALER ASSEMBLY TO TOP RAIL W/
4- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)



(A) SEALER ASSEMBLY



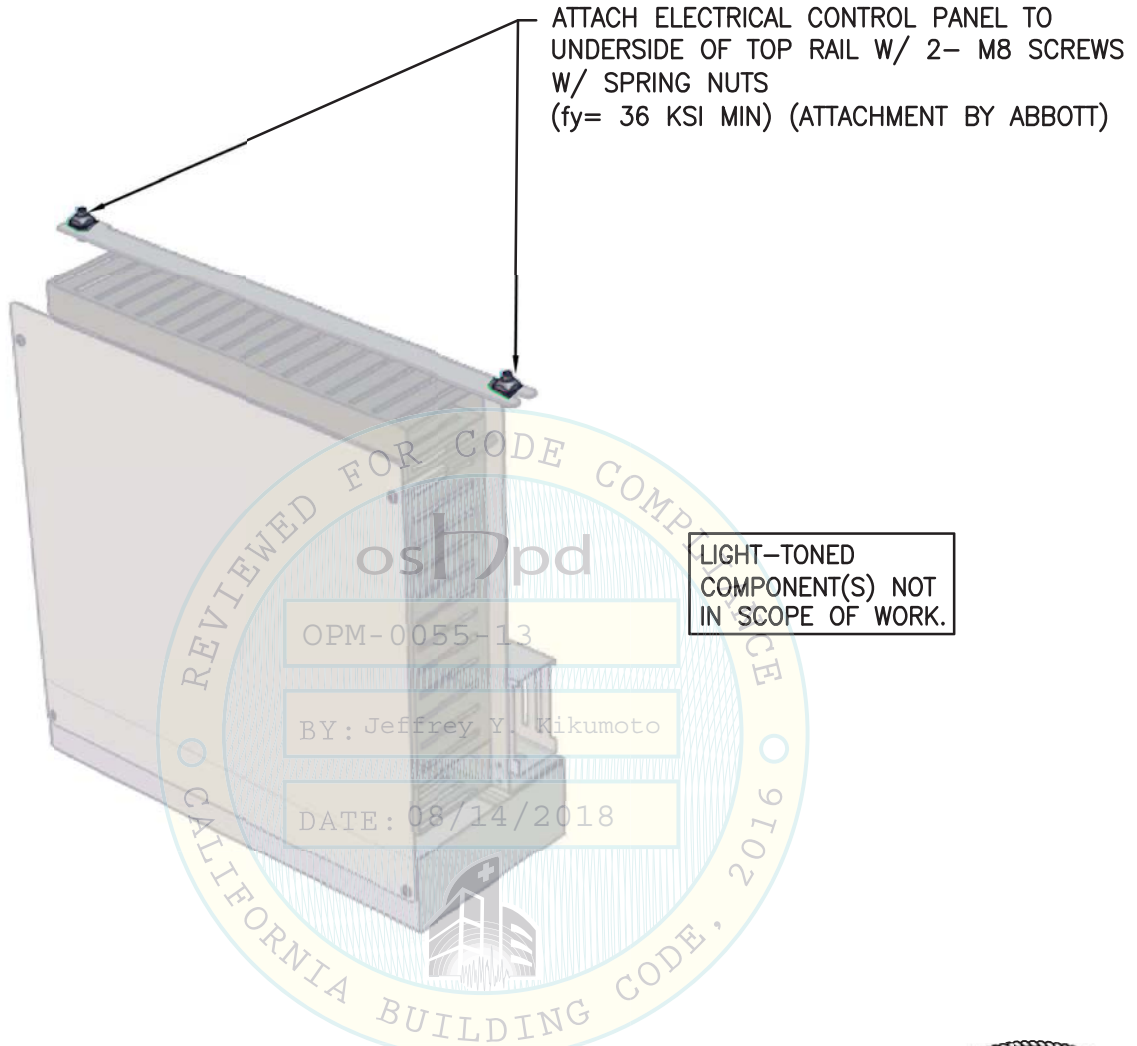
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 4: SEALER MODULE
SEALER ASSEMBLY ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 35 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:22am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



B ELECTRIC CONTROL PANEL



03/02/17 NOT SEOR

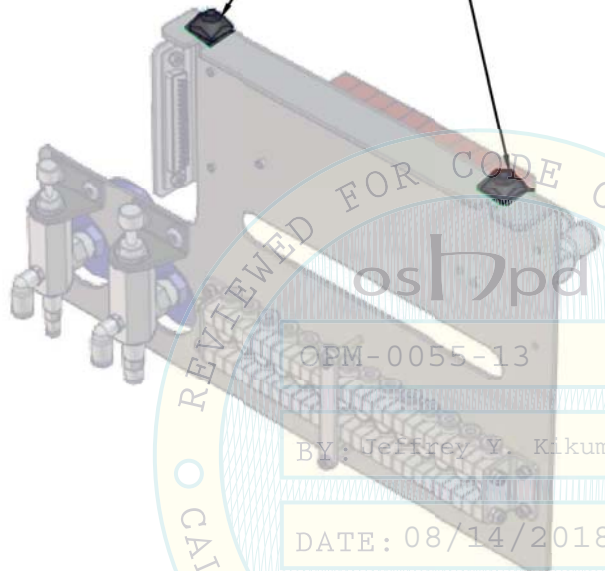
SHEET TITLE: COMPONENT 4: SEALER MODULE
ELECTRICAL CONTROL PANEL ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 36 of 148

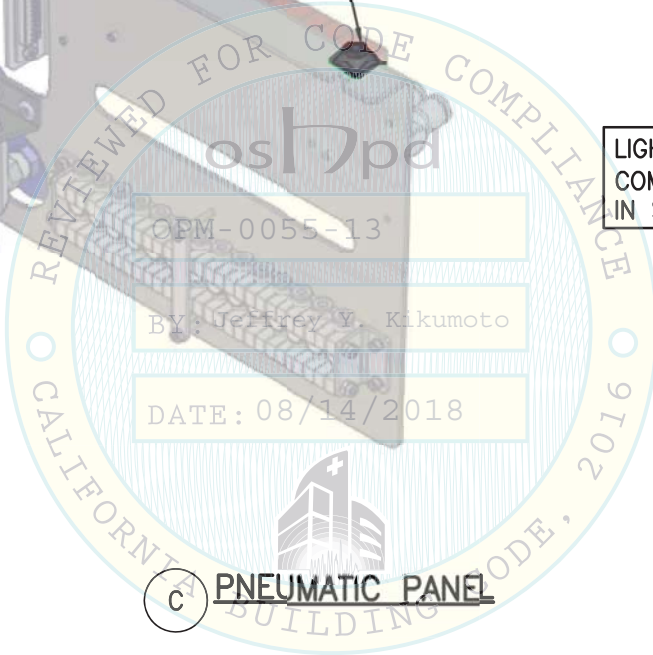
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ATTACH PNEUMATIC PANEL TO UNDERSIDE OF TOP RAIL W/ 2- M8 SCREWS W/ SPRING NUTS (fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)



LIGHT-TONED COMPONENT(S) NOT IN SCOPE OF WORK.



PNEUMATIC PANEL



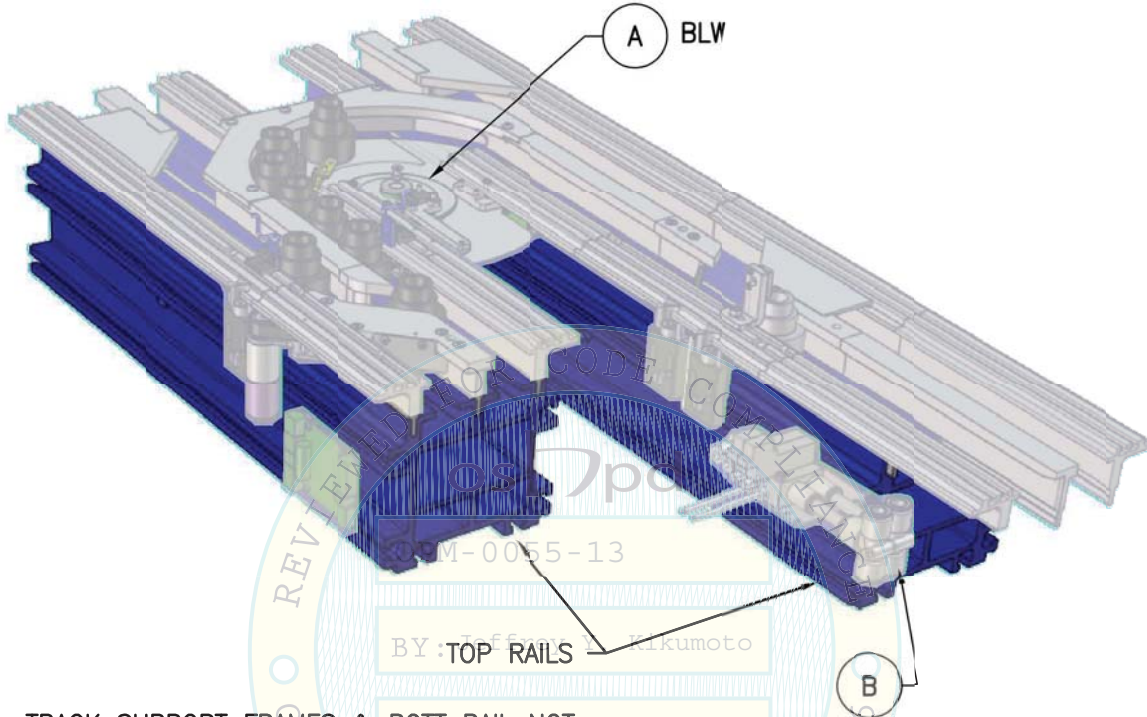
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 4: SEALER MODULE
PNEUMATIC PANEL ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 37 of 148

L:\Jobs\13\13027 Abbott o3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:22am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



TRACK SUPPORT FRAMES & BOTT RAIL NOT SHOWN FOR CLARITY. SEE PGS 16-18

ITEM	SUB-ASSEMBLY DESCRIPTION	WEIGHT Wp(LBS)	SUB-ASSEMBLY ATTACHMENT DTL PG
A	BYPASS DISK MOTOR	10	39
B	SOLENOID VALVES GROUP	5	40
C	ELECTRICAL CONTROL PANEL (NOT SHOWN)	11	41
MISC	BYPASS TRACK, COVERS, SENSORS, ETC.	31	N/A
TRACK	SUPPORT FRAMES, T&B RAILS, ETC.	165	16-18
TOTAL WEIGHT		222	

*COMPONENT SUB-ASSEMBLY ATTACHMENTS SHALL BE PERFORMED BY ABBOTT, NOT BY THE GENERAL CONTRACTOR



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 17: U-TURN MODULE

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833		Job No: 13027
			Date: 2-2-2017
			Page: 38 of 148
		TEL (916) 920-2020 www.cyseng.com	

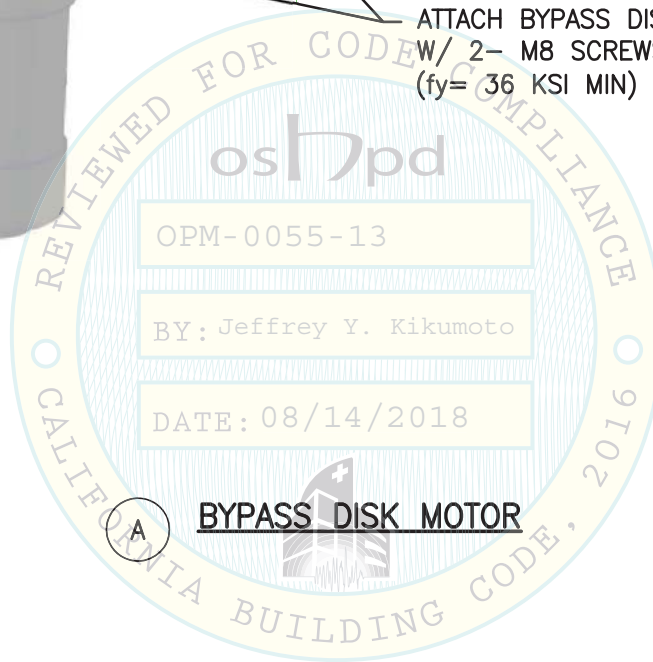
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

ATTACH BYPASS DISK MOTOR TO TOP RAIL
W/ 2- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)



BYPASS DISK MOTOR



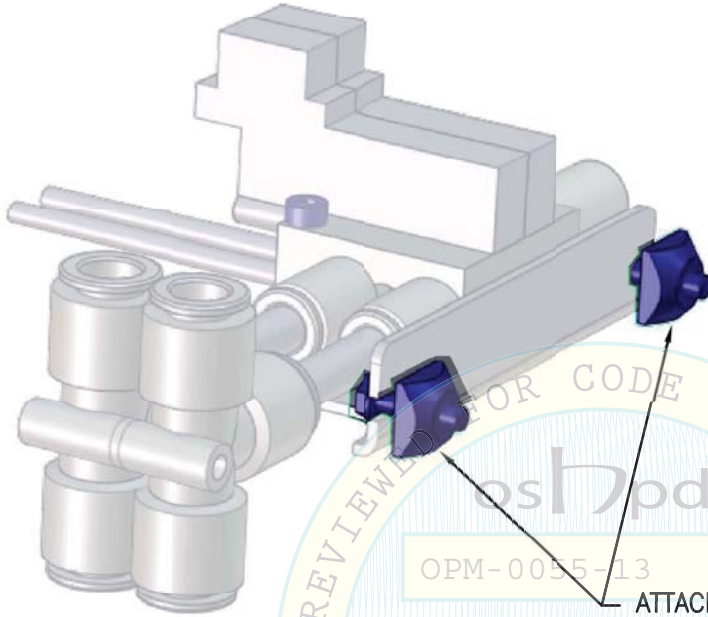
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 17: U-TURN MODULE
BYPASS DISK MOTOR ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650	TEL (916) 920-2020	Date: 2-2-2017
	SACRAMENTO, CA 95833	www.cyseng.com	Page: 39 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:23am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

OPM-0055-13

BY: Jeffrey Y. Kikumoto

DATE: 08/14/2018

ATTACH SOLENOID VALVES GROUP TO SIDE OF
TOP RAIL W/ 2- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)

B SOLENOID VALVES GROUP



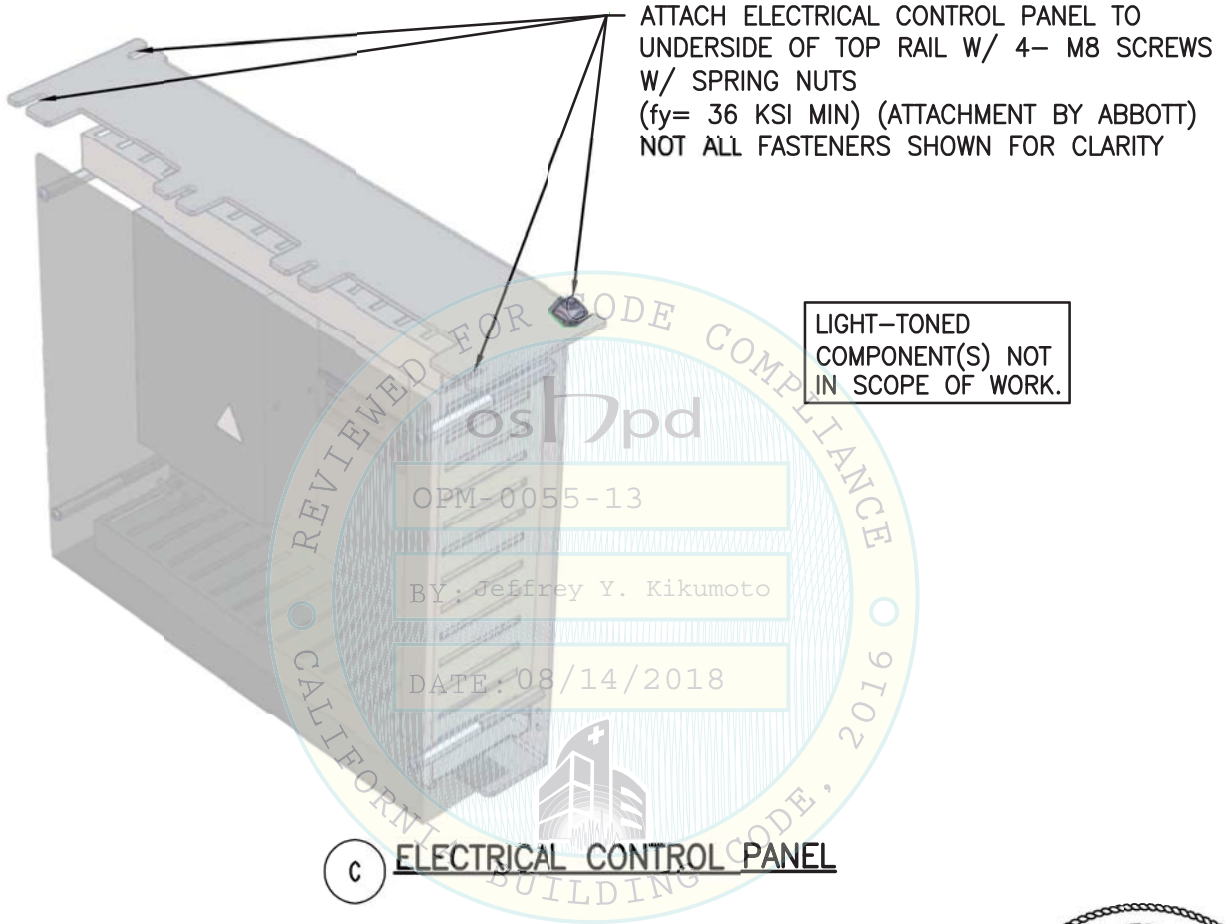
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 17: U-TURN MODULE
SOLENOID VALVES GROUP ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



ATTACH ELECTRICAL CONTROL PANEL TO
UNDERSIDE OF TOP RAIL W/ 4- M8 SCREWS
W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)
NOT ALL FASTENERS SHOWN FOR CLARITY

LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

C ELECTRICAL CONTROL PANEL



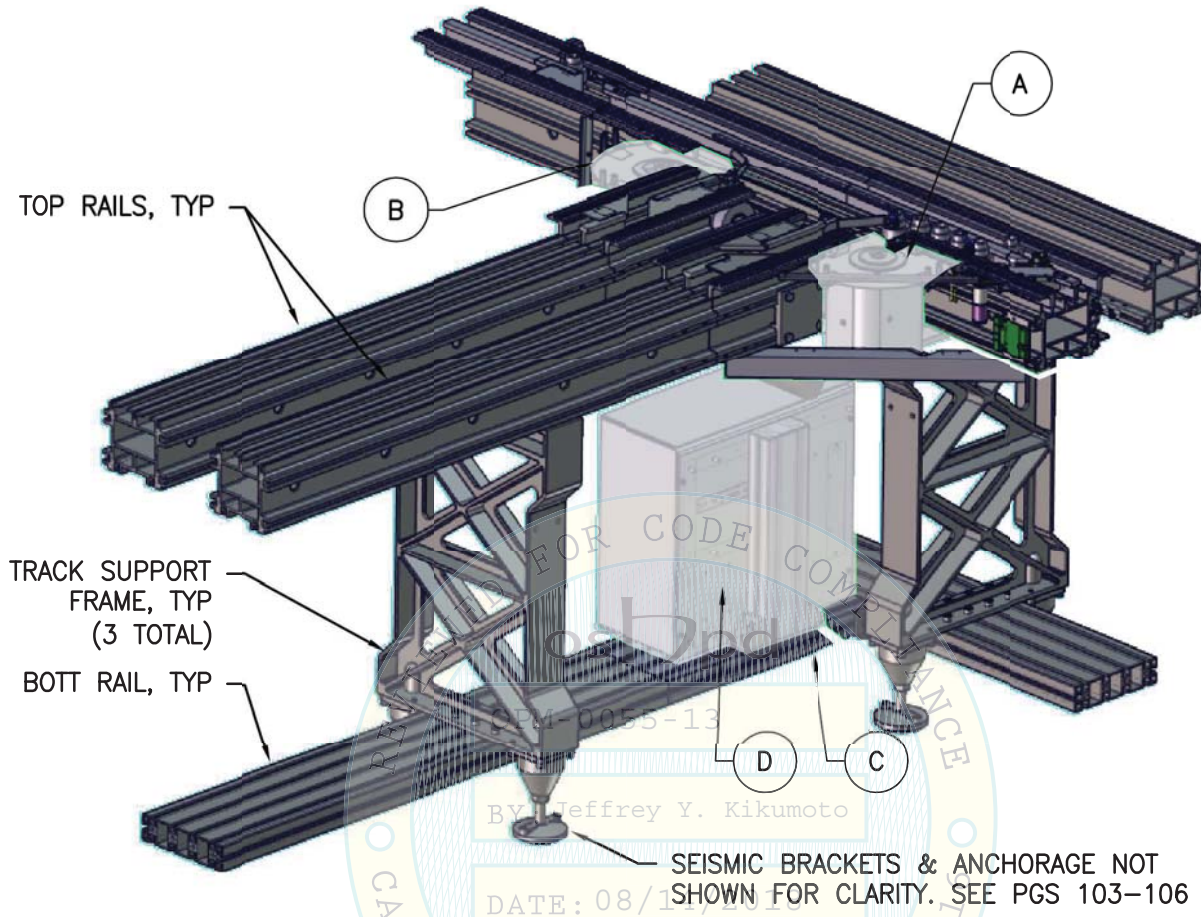
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 17: U-TURN MODULE
ELECTRICAL CONTROL PANEL ATTACMENT

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650	TEL (916) 920-2020	Date: 2-2-2017
	SACRAMENTO, CA 95833	www.cyseng.com	Page: 41 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



ITEM	SUB-ASSEMBLY DESCRIPTION	WEIGHT Wp(LBS)	SUB-ASSEMBLY ATTACHMENT DTL PG
A	RIGHT DISK ASSEMBLY	20	43
B	LEFT DISK ASSEMBLY	20	44
C	LOWER TRACK ASSEMBLY	20	45
D	ELECTRICAL CONTROL PANEL	20	46
MISC	DIVERSION LANES, COVERS, WIRES, ETC.	30	N/A
TRACK	SUPPORT FRAMES, T&B RAILS, ETC.	330	16-18 SIM
	TOTAL WEIGHT	440	

*COMPONENT SUB-ASSEMBLY ATTACHMENTS SHALL BE PERFORMED BY ABBOTT, NOT BY THE GENERAL CONTRACTOR

03/02/17 NOT SEOR

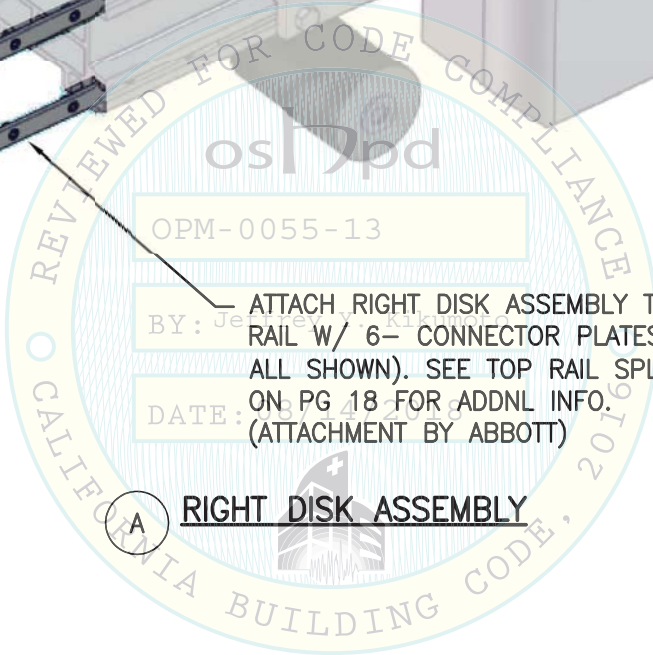
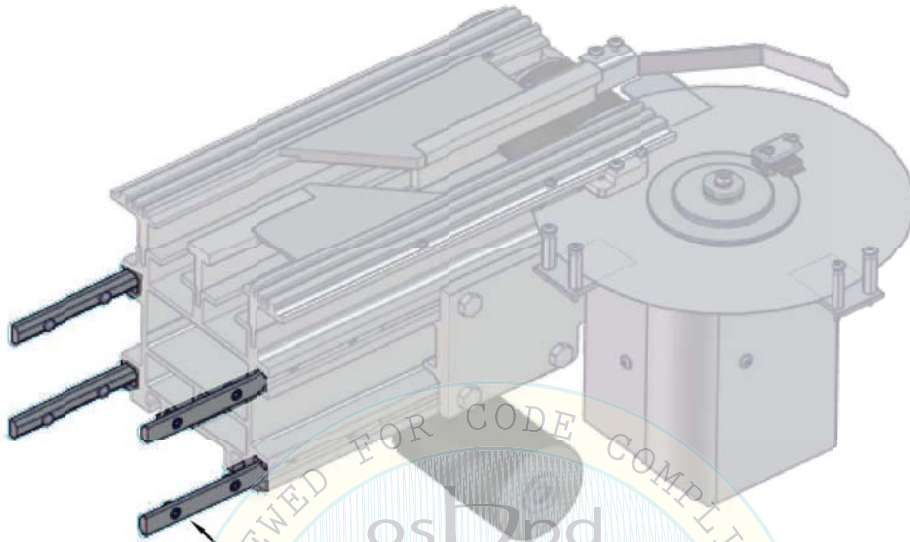


SHEET TITLE: COMPONENT 18: T-TURN MODULE

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 42 of 148
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



OPM-0055-13

BY: Jeffrey Kikumoto
DATE: 03/02/2017
— ATTACH RIGHT DISK ASSEMBLY TO TOP RAIL W/ 6- CONNECTOR PLATES (NOT ALL SHOWN). SEE TOP RAIL SPLICE DTL ON PG 18 FOR ADDNL INFO. (ATTACHMENT BY ABBOTT)

A RIGHT DISK ASSEMBLY



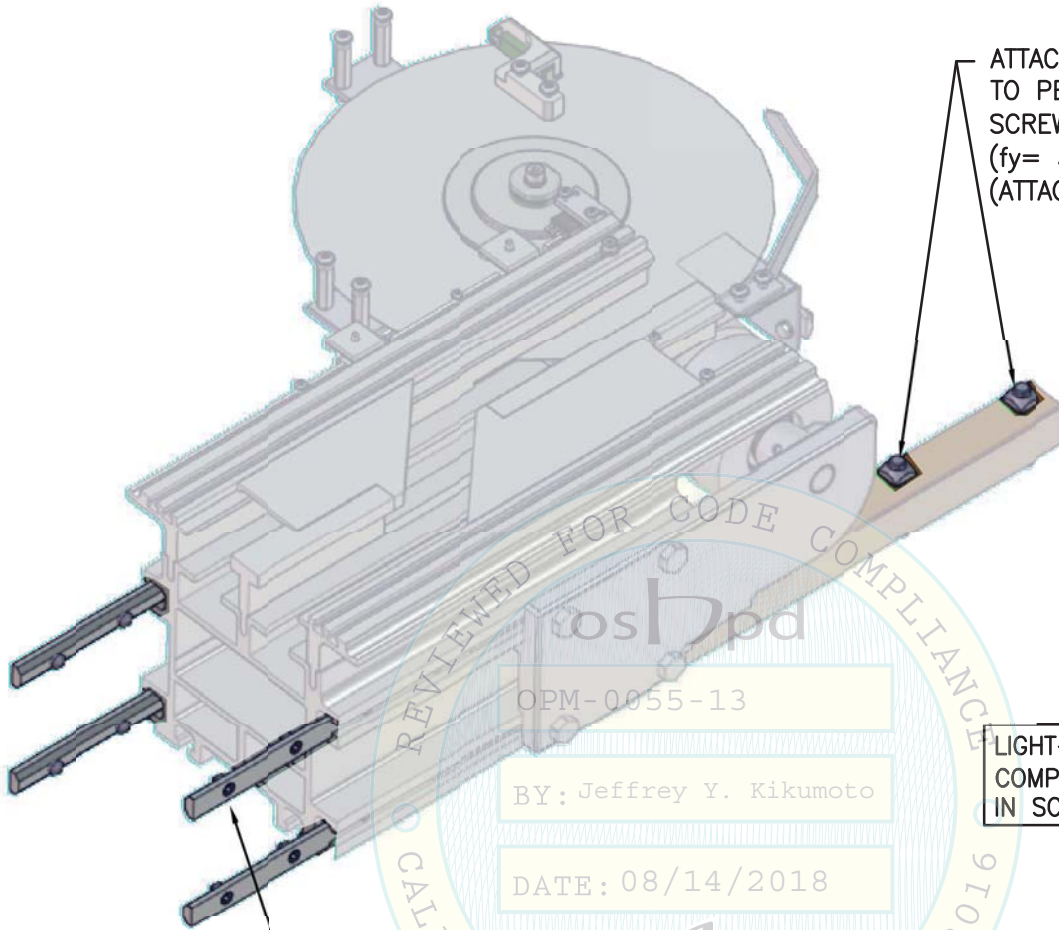
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 18: T-TURN MODULE
RIGHT DISK ASSEMBLY ATTACHMENT

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 43 of 148
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

B LEFT DISK ASSEMBLY



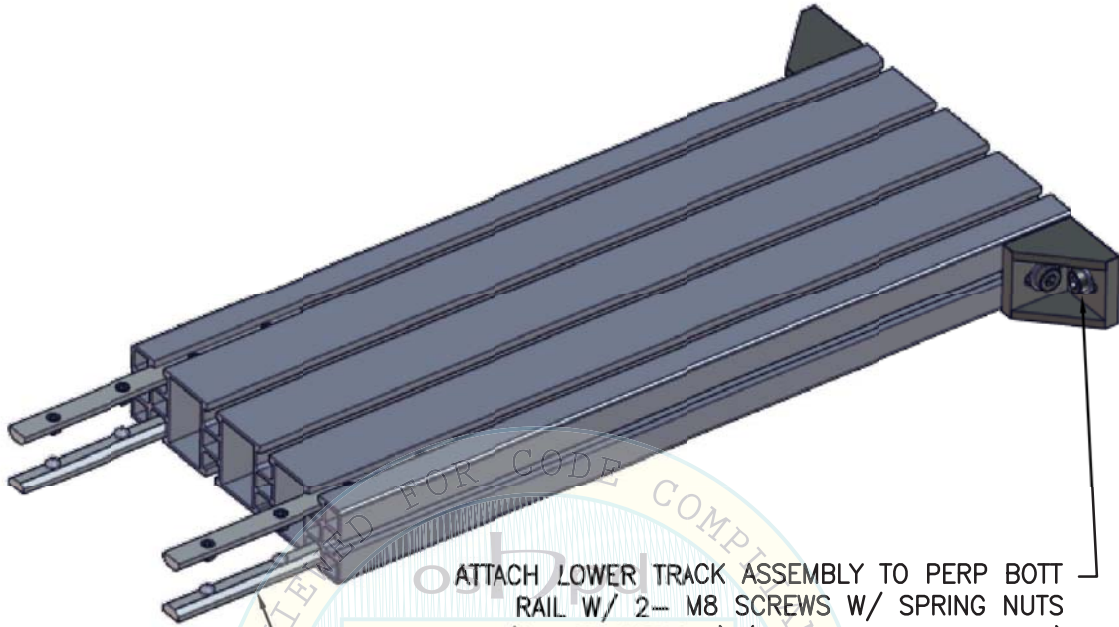
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 18: T-TURN MODULE
LEFT DISK ASSEMBLY ATTACHMENT

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020	Job No: 13027
	www.cyseng.com	Date: 2-2-2017
		Page: 44 of 148

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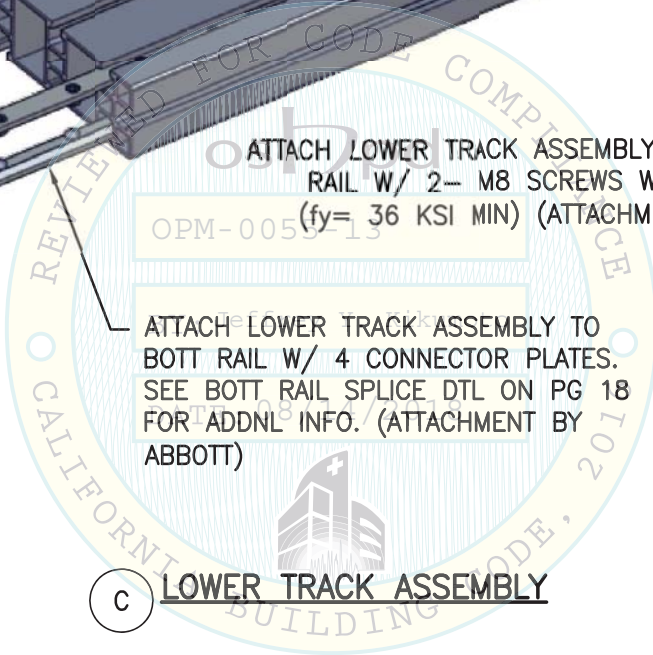
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



ATTACH LOWER TRACK ASSEMBLY TO PERP BOTT
RAIL W/ 2- M8 SCREWS W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)

ATTACH LOWER TRACK ASSEMBLY TO
BOTT RAIL W/ 4 CONNECTOR PLATES.
SEE BOTT RAIL SPLICE DTL ON PG 18
FOR ADDNL INFO. (ATTACHMENT BY
ABBOTT)

C LOWER TRACK ASSEMBLY



David M Cali
REGISTERED PROFESSIONAL ENGINEER
DAVID MATTHEW CALI
No S5614
STRUCTURAL
STATE OF CALIFORNIA

03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 18: T-TURN MODULE
LOWER TRACK ASSEMBLY ATTACHMENT



CYS STRUCTURAL ENGINEERS, INC.

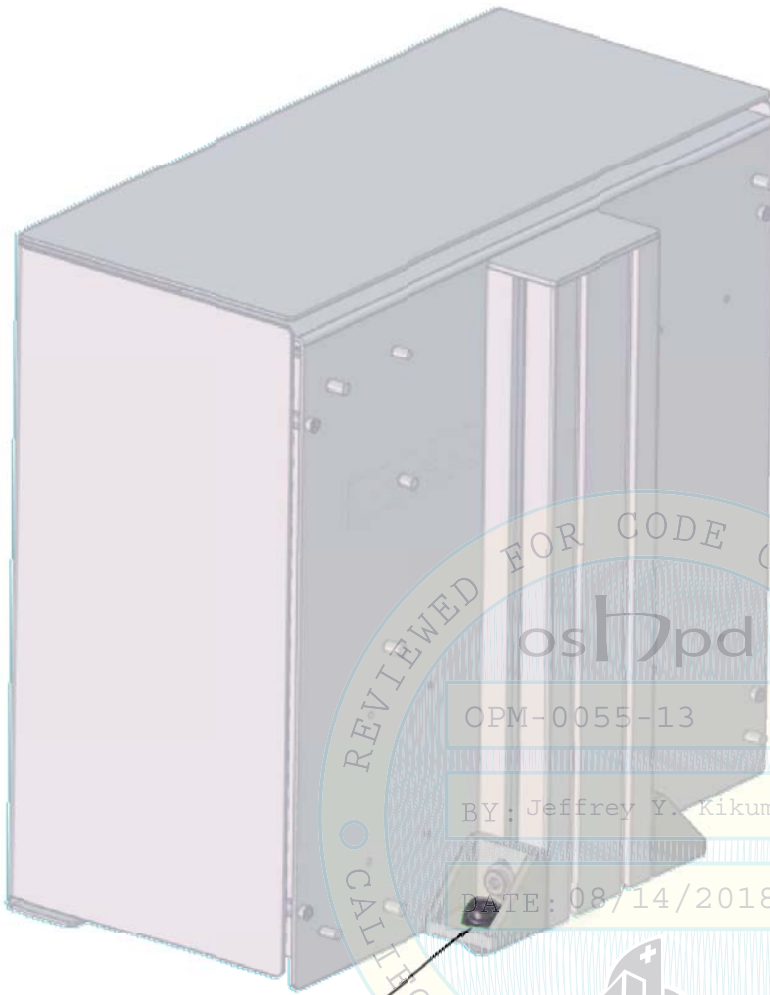
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



ATTACH ELECTRICAL CONTROL PANEL TO LOWER TRACK ASSEMBLY W/ 2- M8 SCREWS W/ SPRING NUTS (fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)

LIGHT-TONED COMPONENT(S) NOT IN SCOPE OF WORK.

D ELECTRICAL CONTROL PANEL



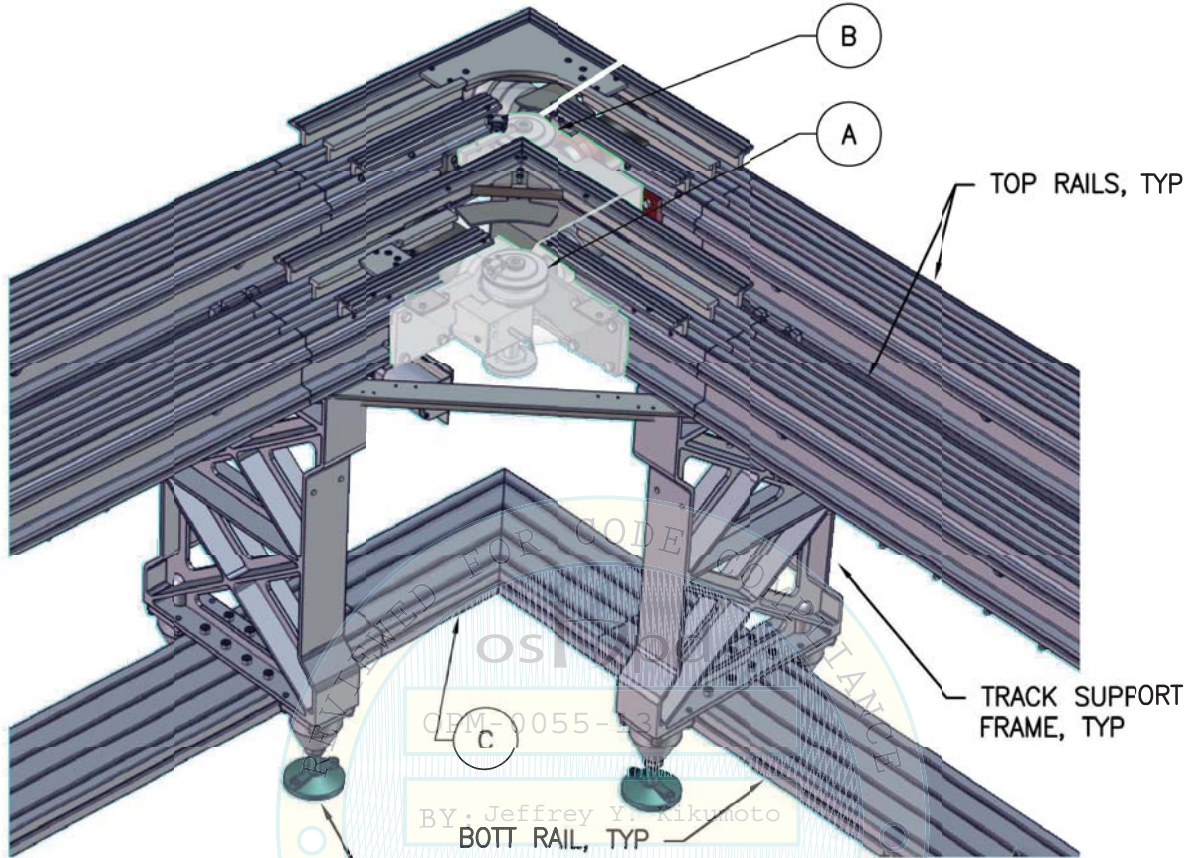
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 18: T-TURN MODULE
ELECTRICAL CONTROL PANEL ATTACHMENT

 <p>2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>CYS STRUCTURAL ENGINEERS, INC.</p> <p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 46 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



SEISMIC BRACKETS & ANCHORAGE NOT SHOWN FOR CLARITY. SEE PGS 107-110

ITEM	SUB-ASSEMBLY DESCRIPTION	WEIGHT Wp(LBS)	SUB-ASSEMBLY ATTACHMENT DTL PG
A	INTERNAL DISK ASSEMBLY	30	48
B	EXTERNAL DISK ASSEMBLY	30	49
C	LOWER TRACK ASSEMBLY	30	50
D	ELECTRICAL CONTROL PANEL (NOT SHOWN)	15	51
MISC	BUFFER LANES, COVERS, WIRES, ETC.	32	N/A
TRACK	SUPPORT FRAMES, T&B RAILS, ETC.	165	16-18 SIM
	TOTAL WEIGHT	302	

LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.



03/02/17 NOT SEOR

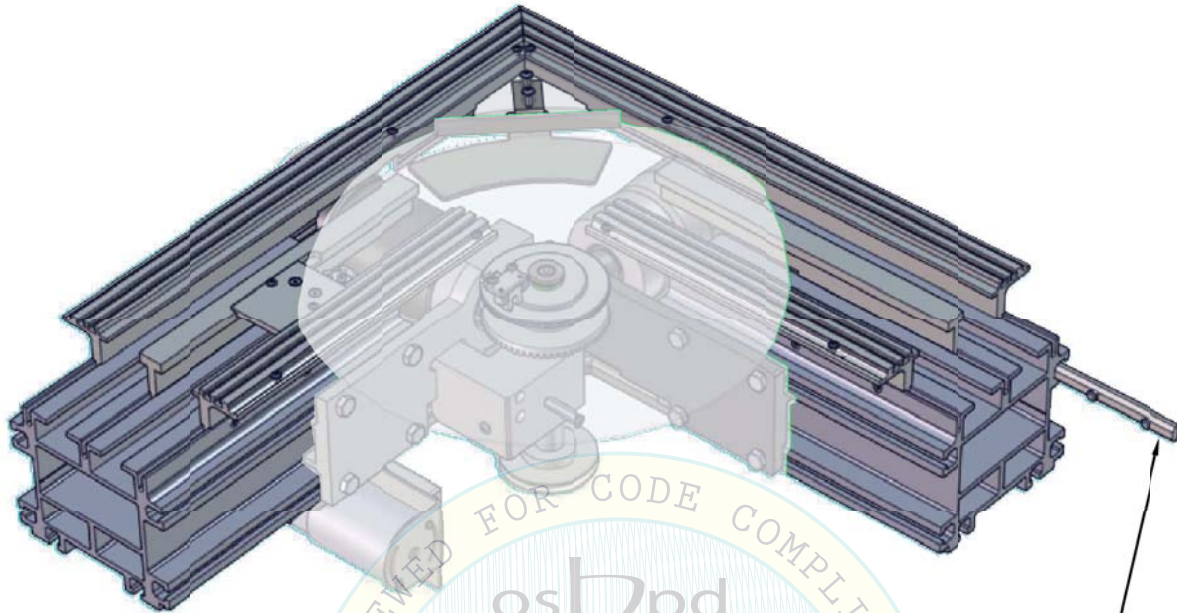
*COMPONENT SUB-ASSEMBLY ATTACHMENTS SHALL BE PERFORMED BY ABBOTT,
NOT BY THE GENERAL CONTRACTOR

SHEET TITLE: COMPONENT 19: L-TURN MODULE

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 47 of 148
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

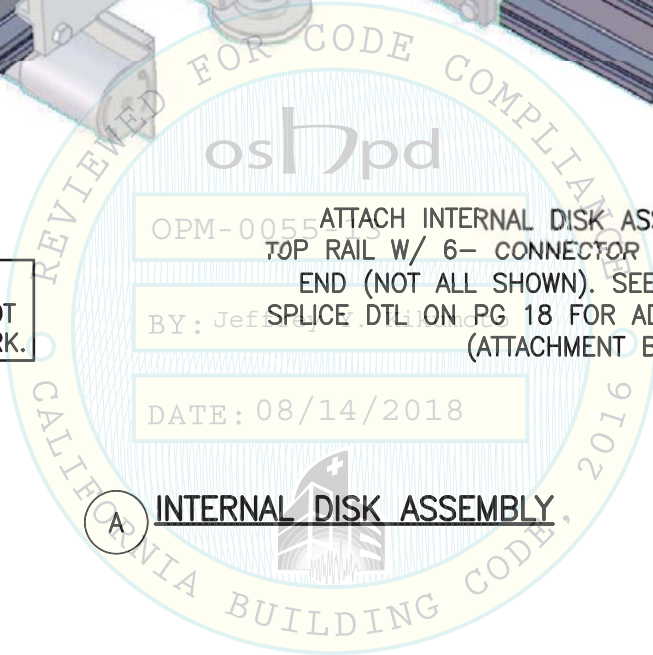


LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

OPM-0055 ATTACH INTERNAL DISK ASSEMBLY TO
TOP RAIL W/ 6- CONNECTOR PLATES EA
END (NOT ALL SHOWN). SEE TOP RAIL
BY: Jeffrey Kikumoto SPLICE DTL ON PG 18 FOR ADDNL INFO.
(ATTACHMENT BY ABBOTT)

DATE: 08/14/2018

A INTERNAL DISK ASSEMBLY



03/02/17 NOT SEOR

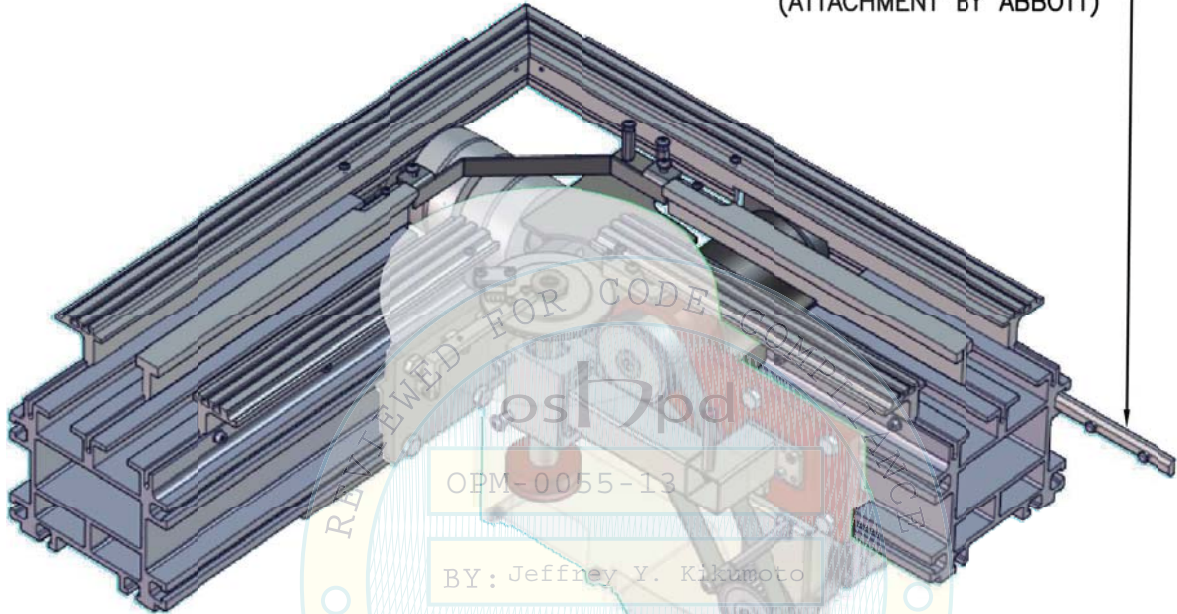
SHEET TITLE: COMPONENT 19: L-TURN MODULE
INTERNAL DISK ASSEMBLY ATTACHMENT

 <p>2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>CYS STRUCTURAL ENGINEERS, INC.</p> <p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
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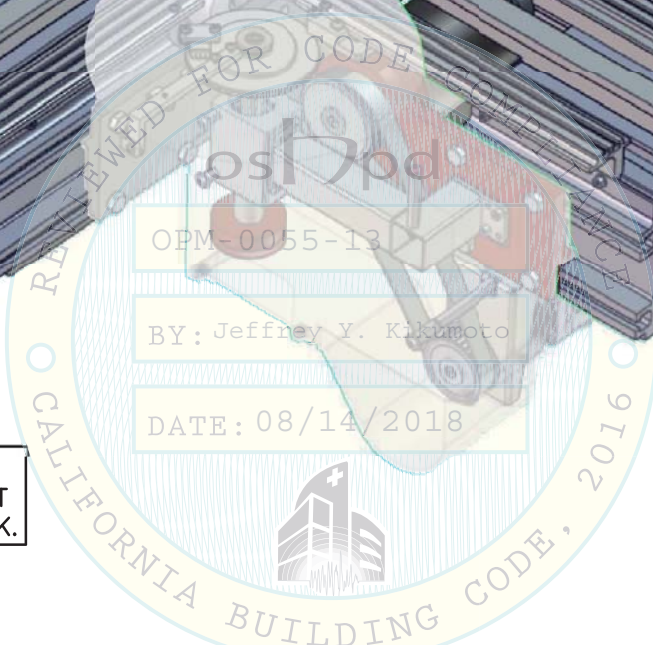
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ATTACH EXTERNAL DISK ASSEMBLY TO
TOP RAIL W/ 6- CONNECTOR PLATES EA
END (NOT ALL SHOWN). SEE TOP RAIL
SPLICE DTL ON PG 18 FOR ADDNL INFO.
(ATTACHMENT BY ABBOTT)



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.



B EXTERNAL DISK ASSEMBLY



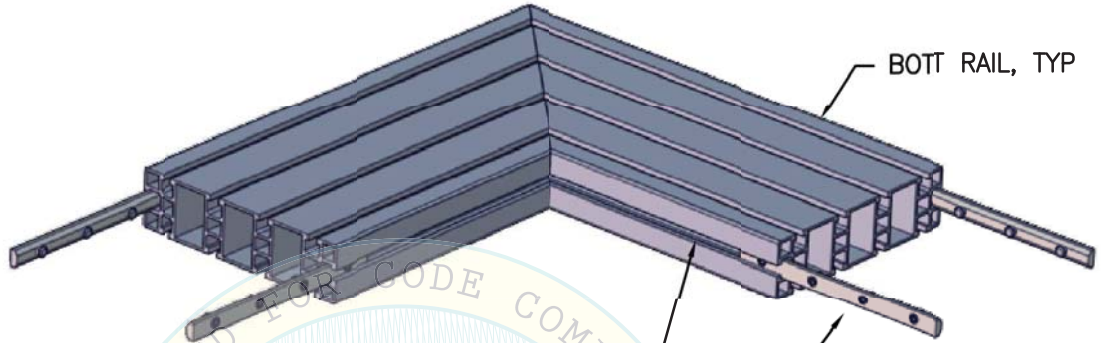
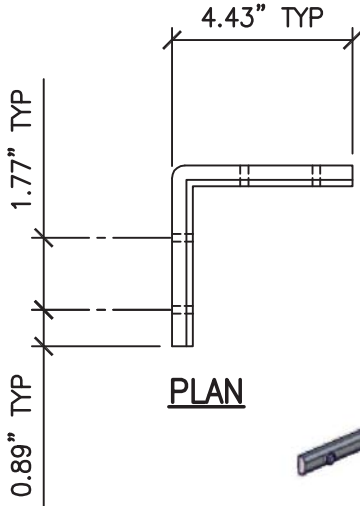
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 19: L-TURN MODULE
EXTERNAL DISK ASSEMBLY ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date: 2-2-2017
	SACRAMENTO, CA 95833		Page: 49 of 148
	TEL (916) 920-2020	www.cyseng.com	

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

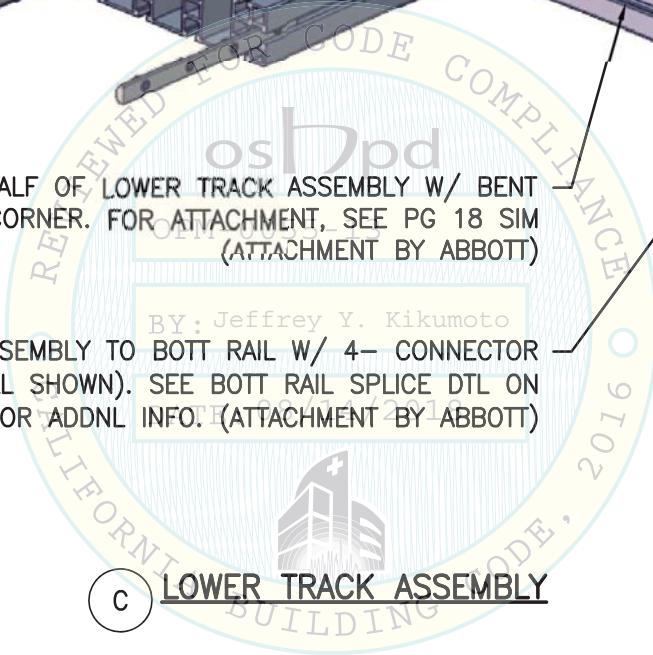


ATTACH EA HALF OF LOWER TRACK ASSEMBLY W/ BENT L-CONNECTOR ES OF CORNER. FOR ATTACHMENT, SEE PG 18 SIM (ATTACHMENT BY ABBOTT)

ATTACH LOWER TRACK ASSEMBLY TO BOTT RAIL W/ 4- CONNECTOR PLATES EA END (NOT ALL SHOWN). SEE BOTT RAIL SPLICE DTL ON PG 18 FOR ADDNL INFO. (ATTACHMENT BY ABBOTT)

BY: Jeffrey Y. Kikumoto

C LOWER TRACK ASSEMBLY



03/02/17 NOT SEOR

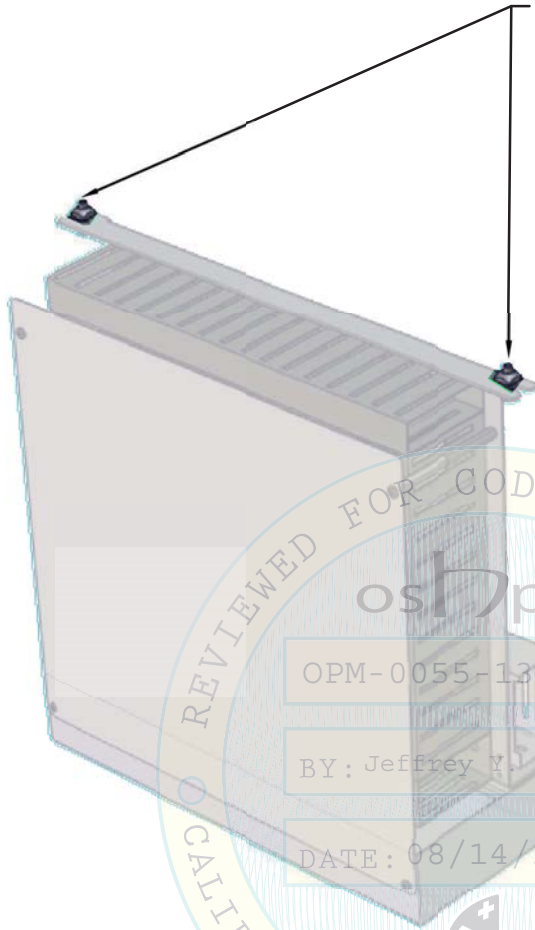
SHEET TITLE: COMPONENT 19: L-TURN MODULE
LOWER TRACK ASSEMBLY ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date: 2-2-2017
	SACRAMENTO, CA 95833		Page: 50 of 148
	TEL (916) 920-2020	www.cyseng.com	

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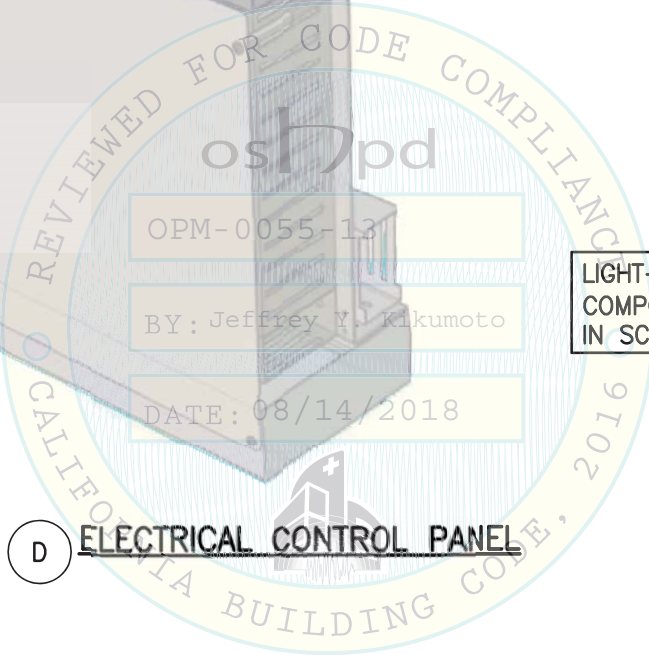
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ATTACH ELECTRICAL CONTROL PANEL TO
UNDERSIDE OF TOP RAIL W/ 2- M8 SCREWS
W/ SPRING NUTS
(fy= 36 KSI MIN) (ATTACHMENT BY ABBOTT)



LIGHT-TONED
COMPONENT(S) NOT
IN SCOPE OF WORK.

D ELECTRICAL CONTROL PANEL



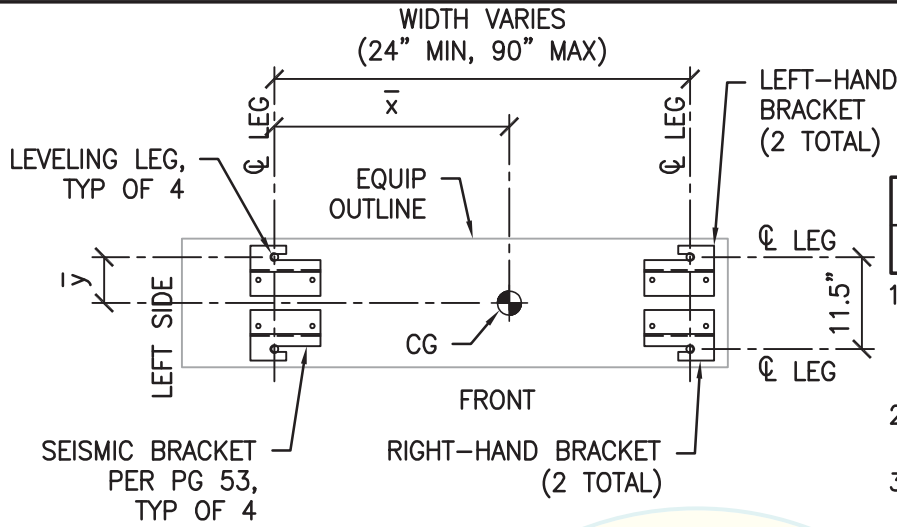
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 19: L-TURN MODULE
ELECTRICAL CONTROL PANEL ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 51 of 148

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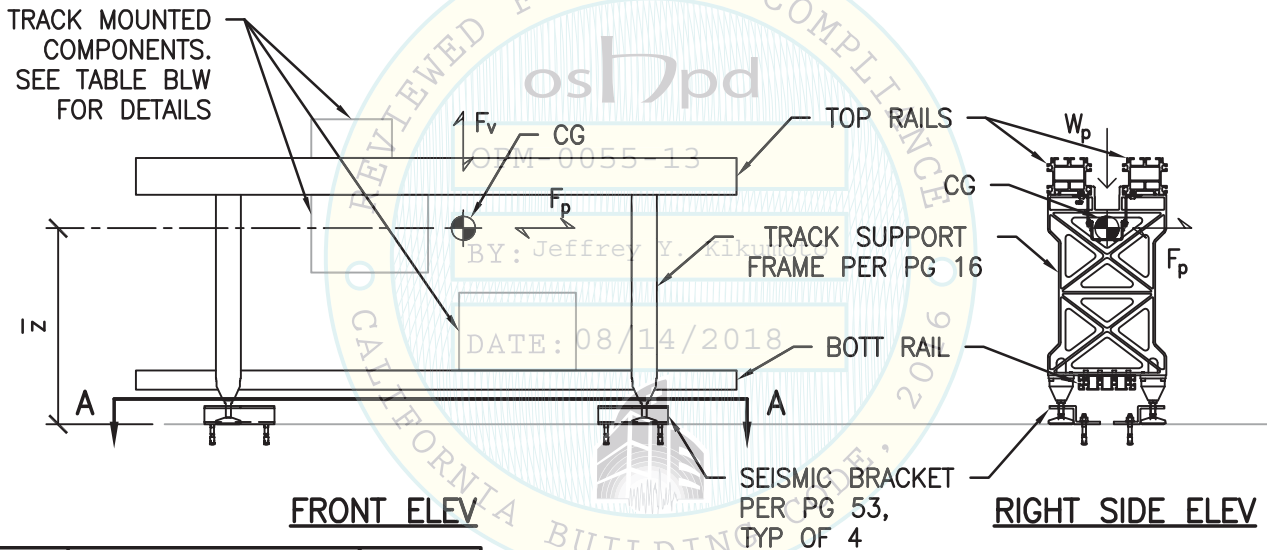
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



MAX ANCHOR FORCES AT LRFD AT LEVELING LEG ¹			
	T _{max}	C _{max}	V _{max}
CASE 1 ³	1362	1584#	508#
CASE 2 ²	748#	969#	286#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

BASE PLAN A-A



FRONT ELEV

RIGHT SIDE ELEV

NO.	COMPONENT	DTL PG
N/A	TRACK SEGMENT	16
1	DE-SEALER MODULE	19-23
2	DE-CAPPER MODULE	24-28
3	RE-CAPPER MODULE	29-33
4	SEALER MODULE	34-37
17	U-TURN MODULE	38-41

NOTE:
 1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PGS 10 & 11.
 2. A DISTANCE OF 5.5" BTW AB OF ADJ BRACKETS IS ACCEPTABLE.



03/02/17 NOT SEOR

SHEET TITLE: TYPICAL TRACK MODULE FOR COMPONENTS 1, 2, 3, 4 & 17:
BASE PLAN & ELEVATIONS

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 52 of 148

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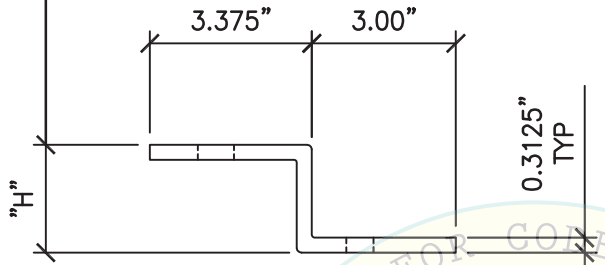
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 2.25" FOR
2.25" ≤ CLR ≤ 3.50"
BRACKET B: "H" = 3.50" FOR
3.50" ≤ CLR ≤ 4.75"

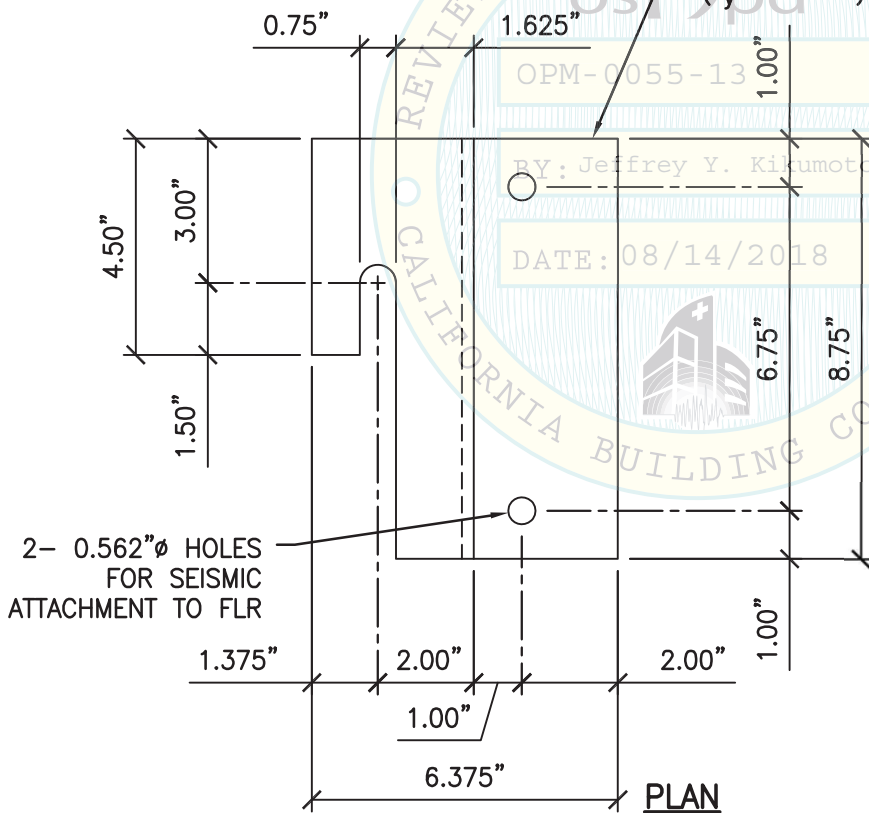
NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 54 & 55.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 52.
3. LEFT-HAND BRACKET SHOWN. SEE BASE PLAN A-A ON PG 52 FOR RIGHT-HAND BRACKET CONFIGURATION.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



ELEV

SEISMIC BRACKET ASTM A36
($F_y = 36$ KSI)



PLAN

FOR ABBOTT USE:
MAX TRACK HT
PER BRACKET
A = 888mm
B = 920mm



03/02/17 NOT SEOR

SHEET TITLE: TYPICAL TRACK MODULE FOR COMPONENTS 1, 2, 3, 4 & 17
SEISMIC BRACKET DETAIL



CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
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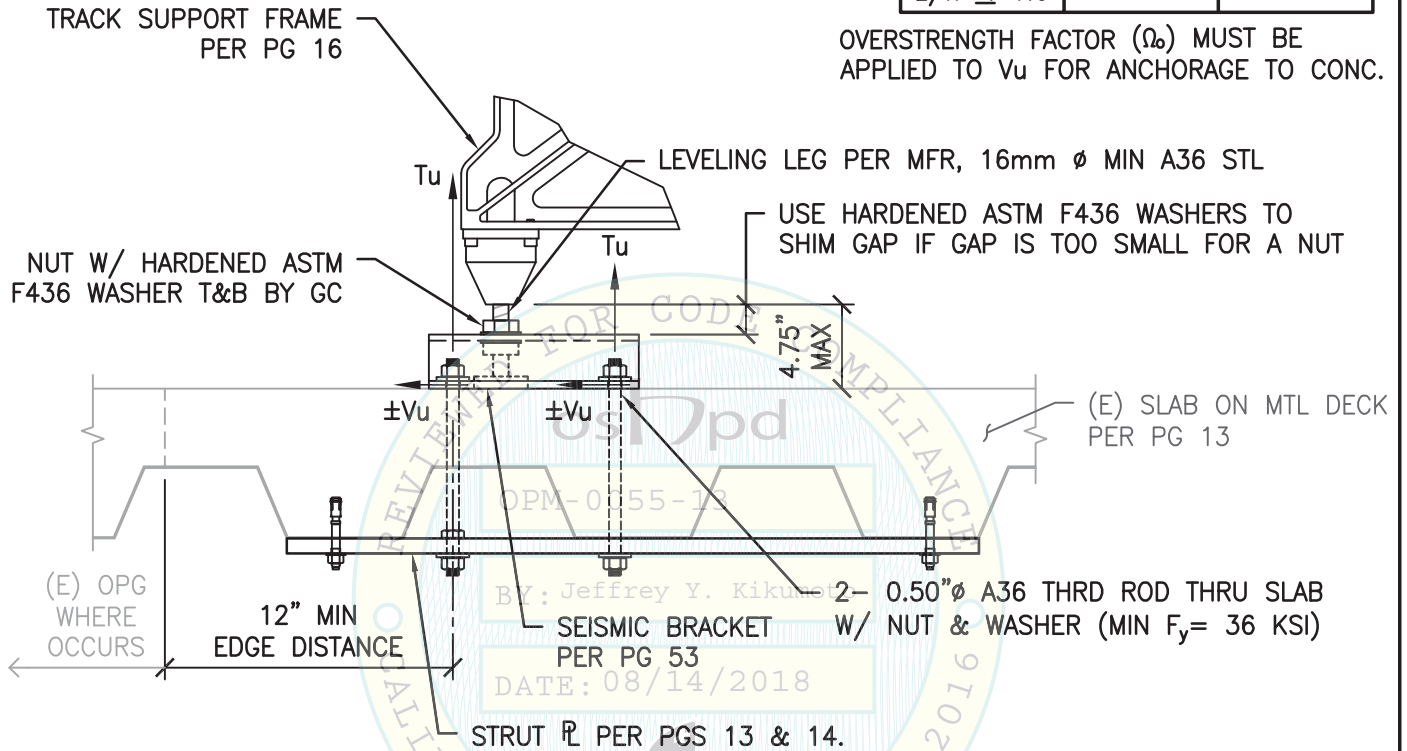
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

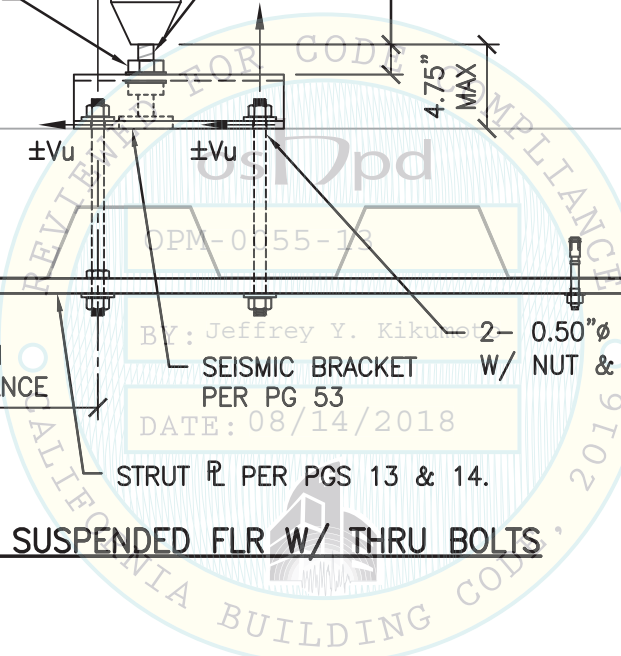
MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	2808#	364#

OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO V_u FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: TYPICAL TRACK MODULE FOR COMPONENTS 1, 2, 3, 4 & 17
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 54 of 148
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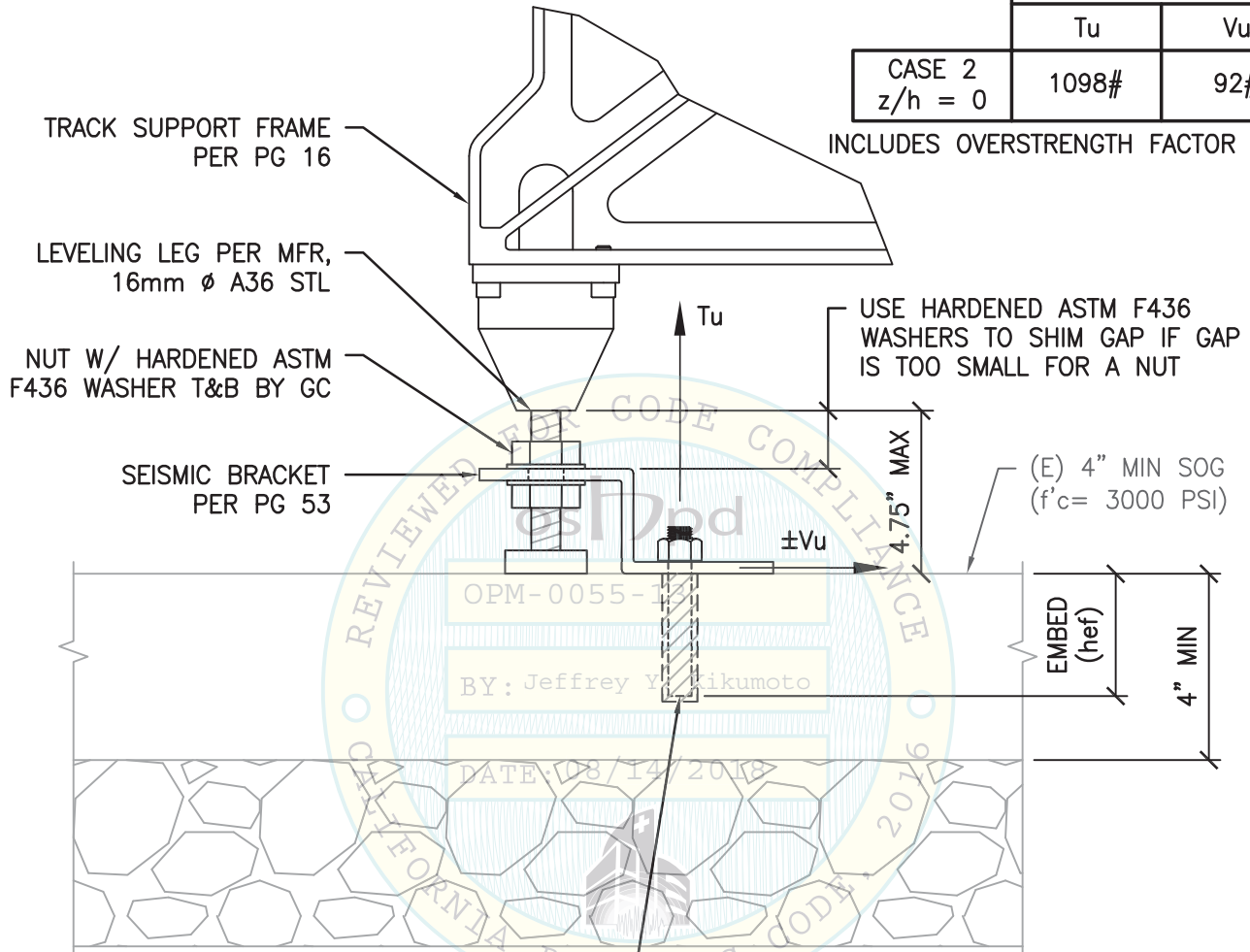
L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1098#	92#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



2- 0.50" ϕ HILTI HAS-R
(ASTM F593 CW1 316 SS) ALL THRD ROD
EMBEDDED 2.75" W/ HILTI HIT-RE 500 V3

CASE 2 - SLAB ON GRADE

(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

SHEET TITLE: TYPICAL TRACK MODULE FOR COMPONENTS 1, 2, 3, 4 & 17
SUPPORTS & ATTACHMENTS DETAIL

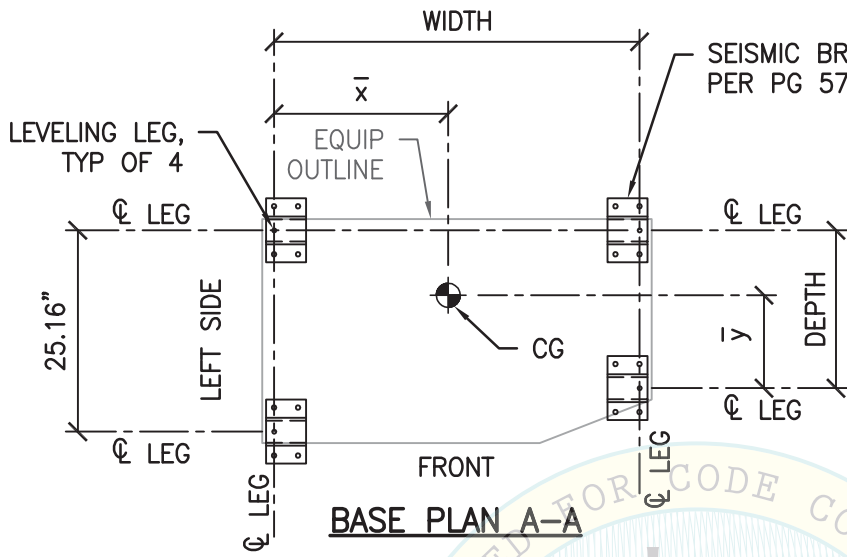
 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 55 of 148
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L:\Jobs\13\13027 Abbott c3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom DimScale:1 LTScale:4

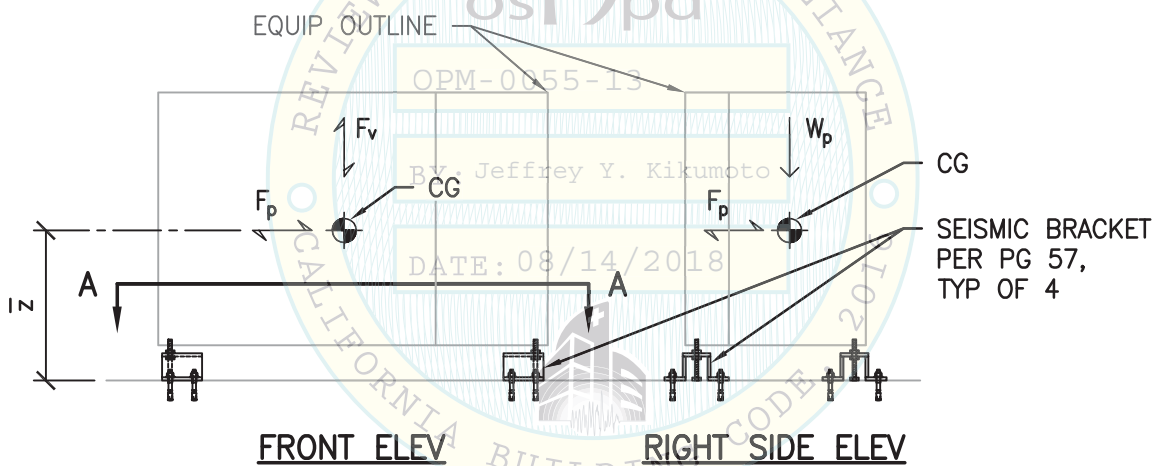
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES AT LRFD AT LEVELING LEG¹

	T _{max}	C _{max}	V _{max}
CASE 1 ³	4125#	4858#	1029#
CASE 2 ²	2259#	2992#	579#



1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.



NOTES:

1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 10.
2. THIS INSTRUMENT MAY BE INSTALLED ADJ TO A i1000sr ANALYZER. IF SO, THE DISTANCE BTW AB'S MAY BE REDUCED TO 5.0625". THIS CONDITION IS NOT SHOWN.



03/02/17 NOT SEOR

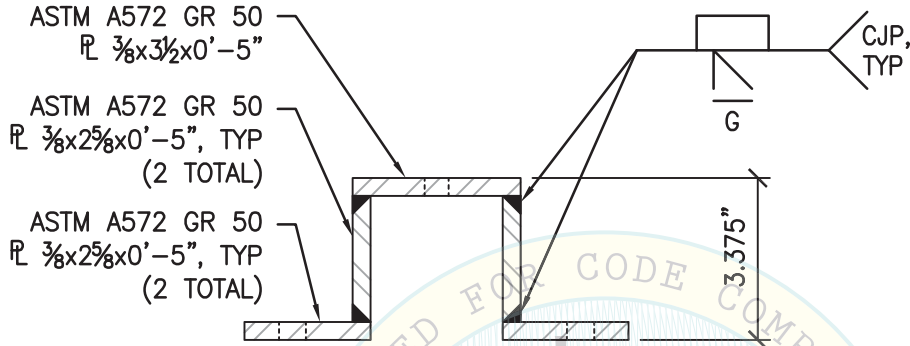
SHEET TITLE: COMPONENT 5: ARCHITECT c4000 ANALYZER
BASE PLAN & ELEVATIONS

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 56 of 148

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

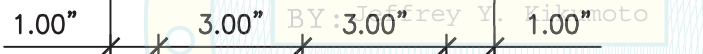
1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 58 & 59.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 56.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



ELEV

OPM-0055-13

8.00"

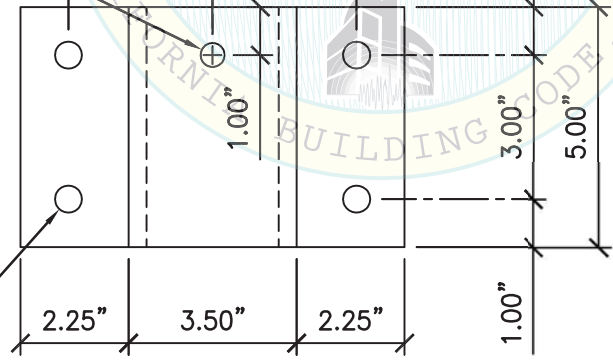


BY: Jeffrey Y. Kikumoto

DATE: 08/14/2017

0.50"Ø HOLE AT
COMPONENT
ATTACHMENT

0.5625"Ø HOLE FOR
0.50"Ø AB, TYP
(4 TOTAL)



PLAN



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 5: ARCHITECT c4000 ANALYZER
SEISMIC BRACKET DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 57 of 148
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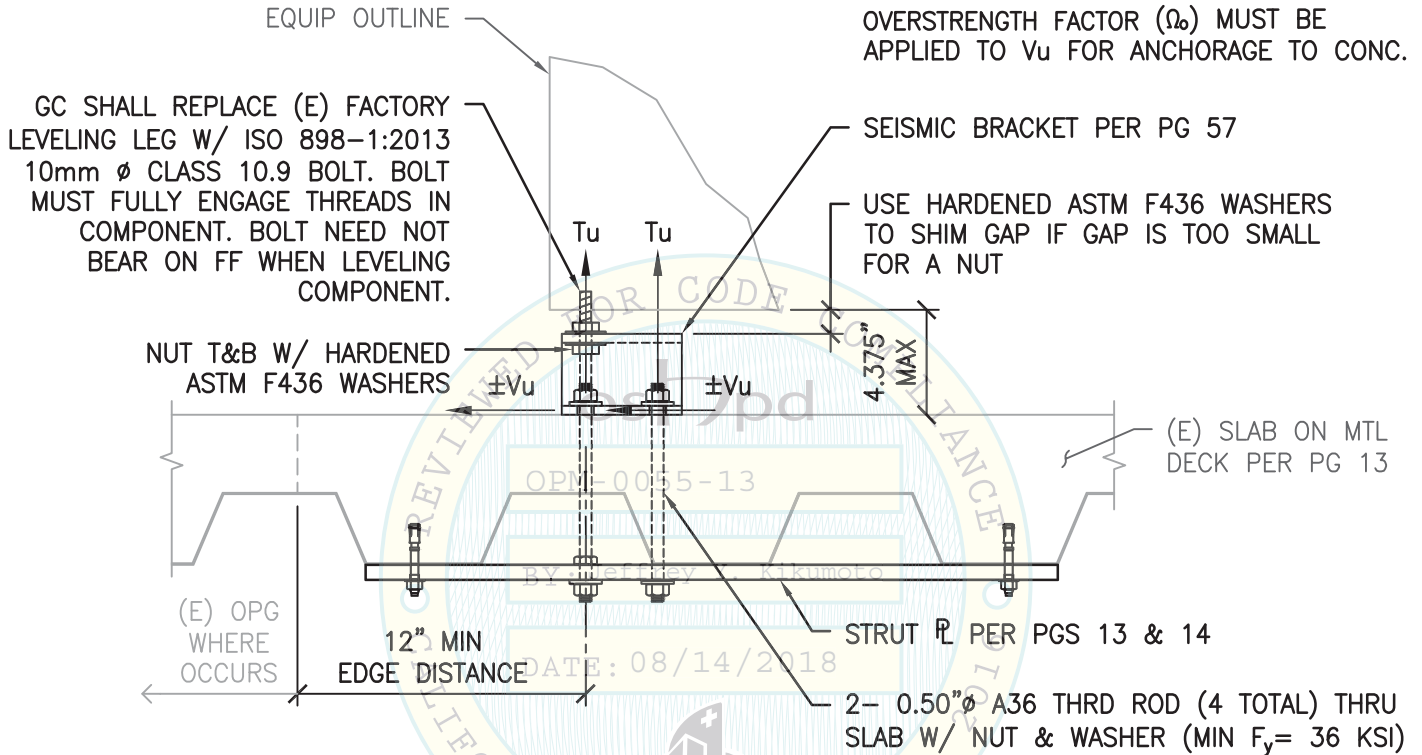
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	2117#	311#

OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO V_u FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 5: ARCHITECT c4000 ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

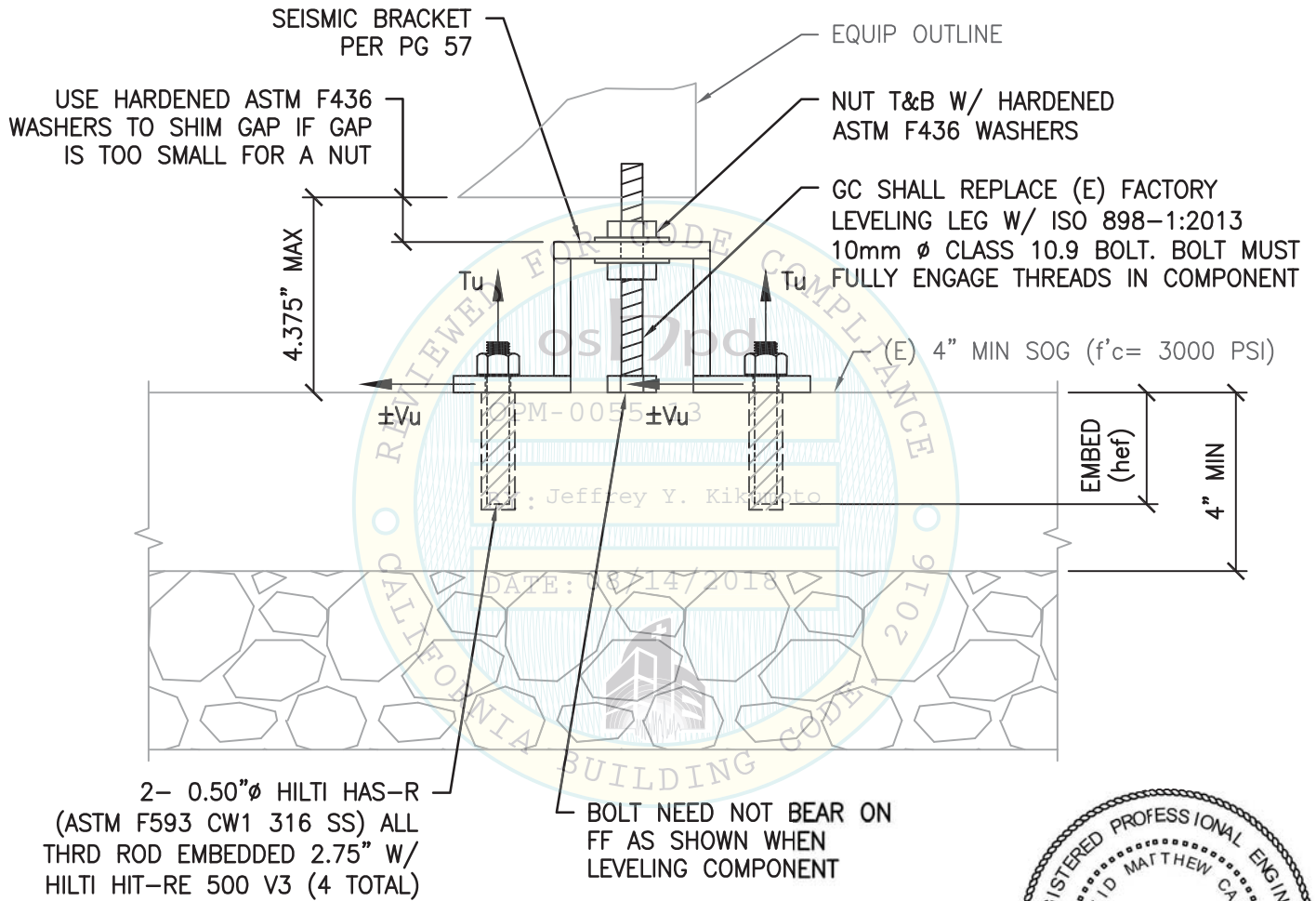
 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1116#	175#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



CASE 2 – SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



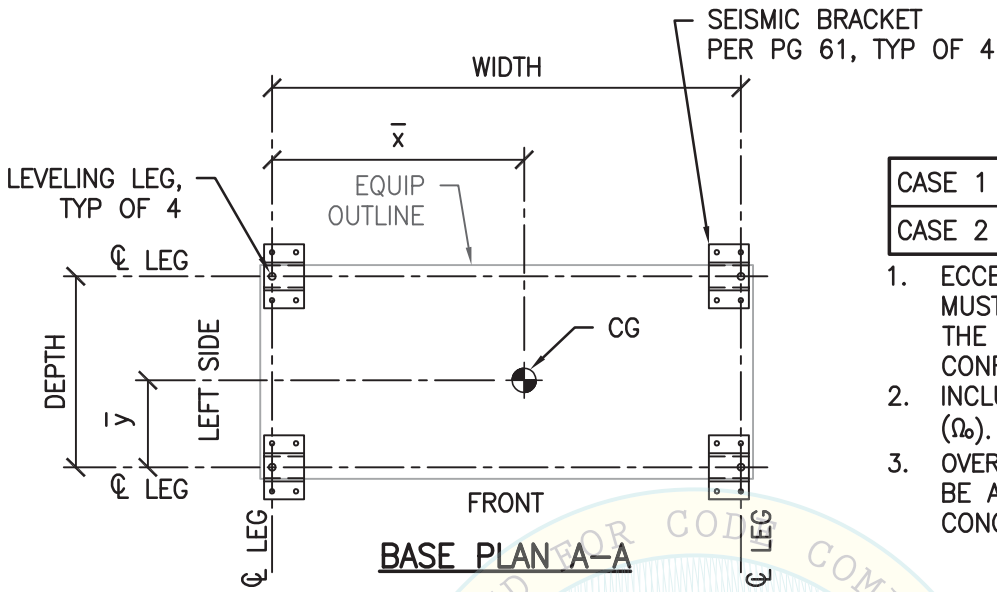
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 5: ARCHITECT c4000 ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 59 of 148

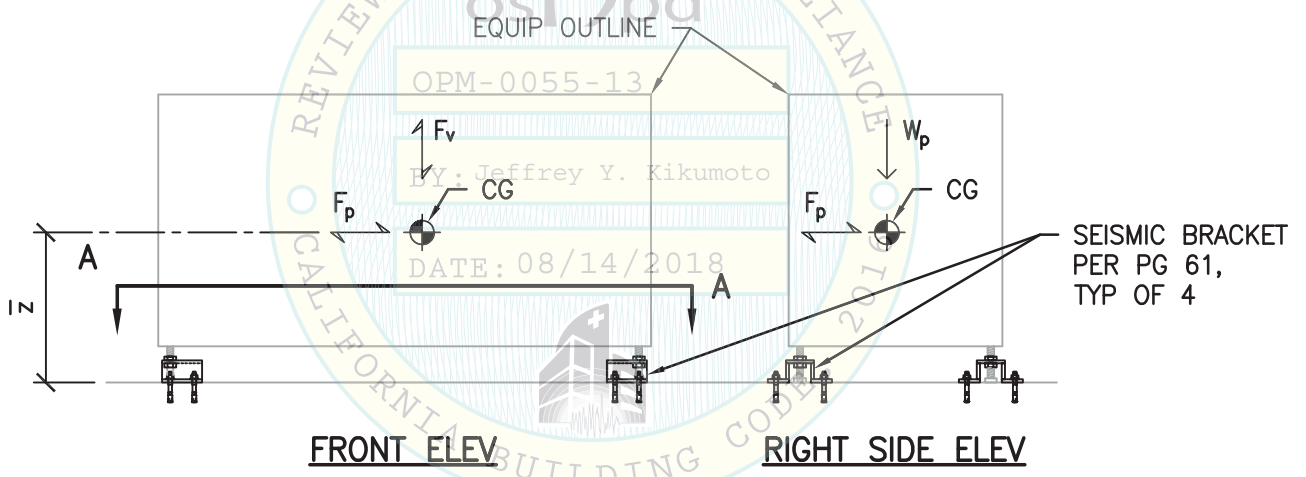
L:\Jobs\13\13027 Abbott c3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



	T _{max}	C _{max}	V _{max}
CASE 1 ³	4058#	4933#	1207#
CASE 2 ²	2209#	3085#	679#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.



NOTES:

1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 10.
2. THIS INSTRUMENT MAY BE INSTALLED ADJ TO A i2000sr ANALYZER. IF SO, THE DISTANCE BTW AB'S MAY BE REDUCED TO 5.0625". THIS CONDITION IS NOT SHOWN.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 6: ARCHITECT c8000 ANALYZER
BASE PLAN & ELEVATIONS

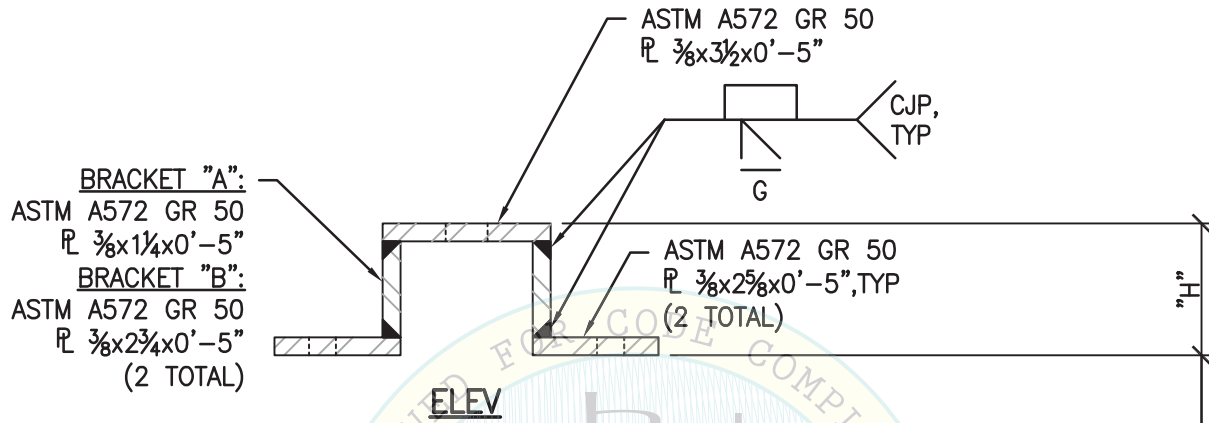
<p>2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>CYS STRUCTURAL ENGINEERS, INC.</p> <p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 60 of 148

L:\Jobs\13\13027 Abbott c3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom Dimscale:1 LTScale:4

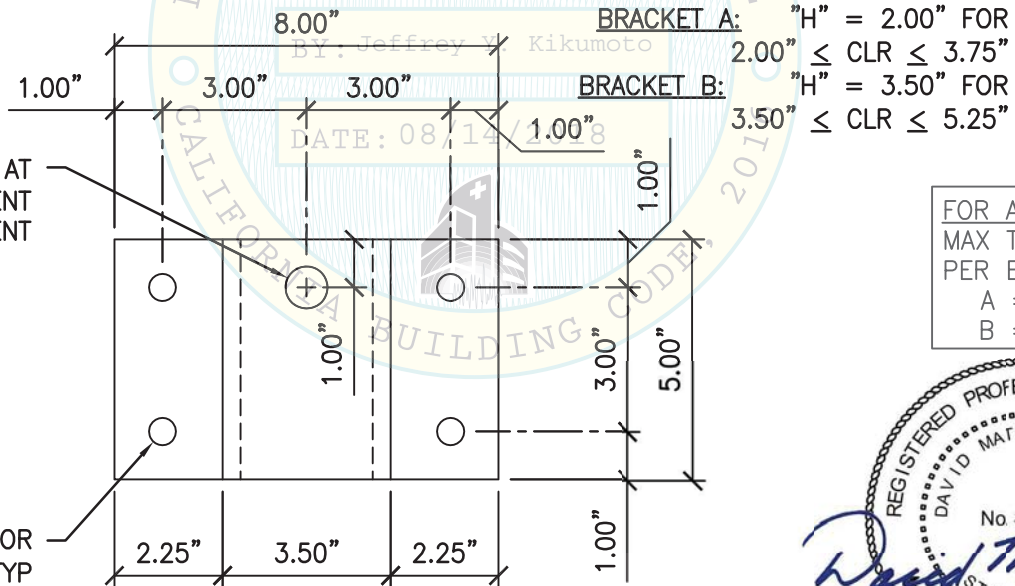
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 62 & 63.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 60.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:



FOR ABBOTT USE:
MAX TRACK HT
PER BRACKET
A = 895mm
B = 920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 6: ARCHITECT c8000 ANALYZER
SEISMIC BRACKET DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 61 of 148
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

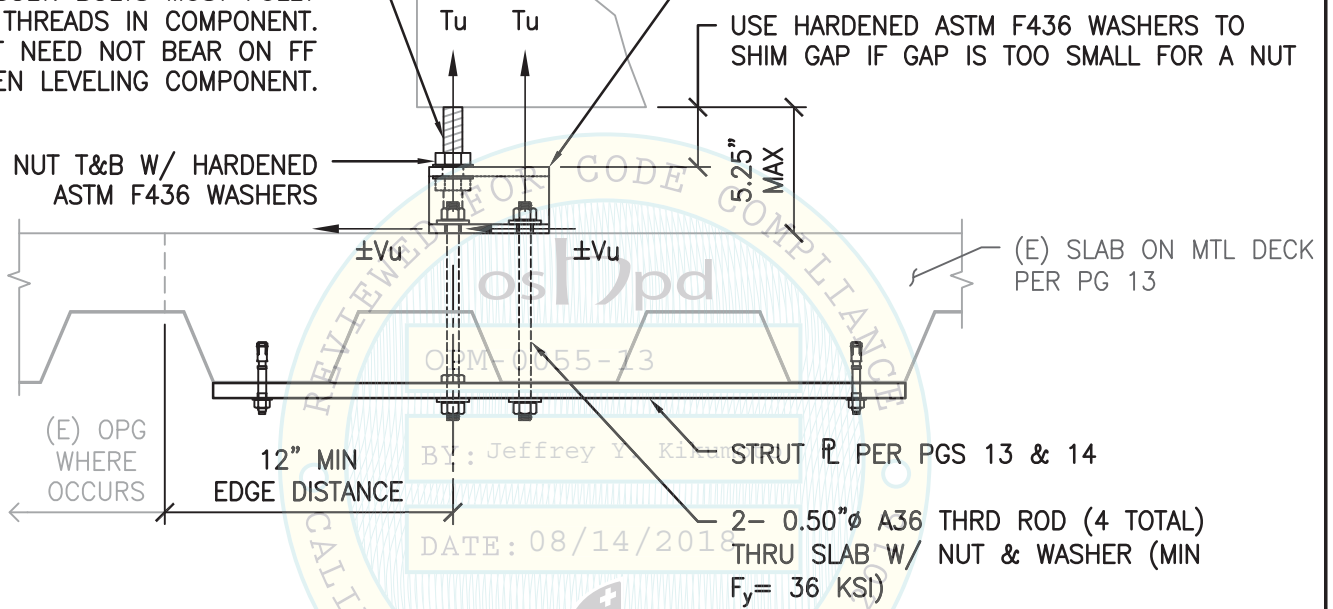
	Tu	Vu
CASE 1 $z/h \leq 1.0$	2128#	398#

EQUIP OUTLINE

GC SHALL REPLACE (E) FACTORY
LEVELING LEG W/ ISO
898-1:2013 20mmØ CLASS 10.9
BOLT. BOLTS MUST FULLY
ENGAGE THREADS IN COMPONENT.
BOLT NEED NOT BEAR ON FF
WHEN LEVELING COMPONENT.

OVERSTRENGTH FACTOR (Ω_b) MUST BE
APPLIED TO V_u FOR ANCHORAGE TO CONC.
SEISMIC BRACKET PER PG 61

USE HARDENED ASTM F436 WASHERS TO
SHIM GAP IF GAP IS TOO SMALL FOR A NUT



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 6: ARCHITECT c8000 ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 62 of 148

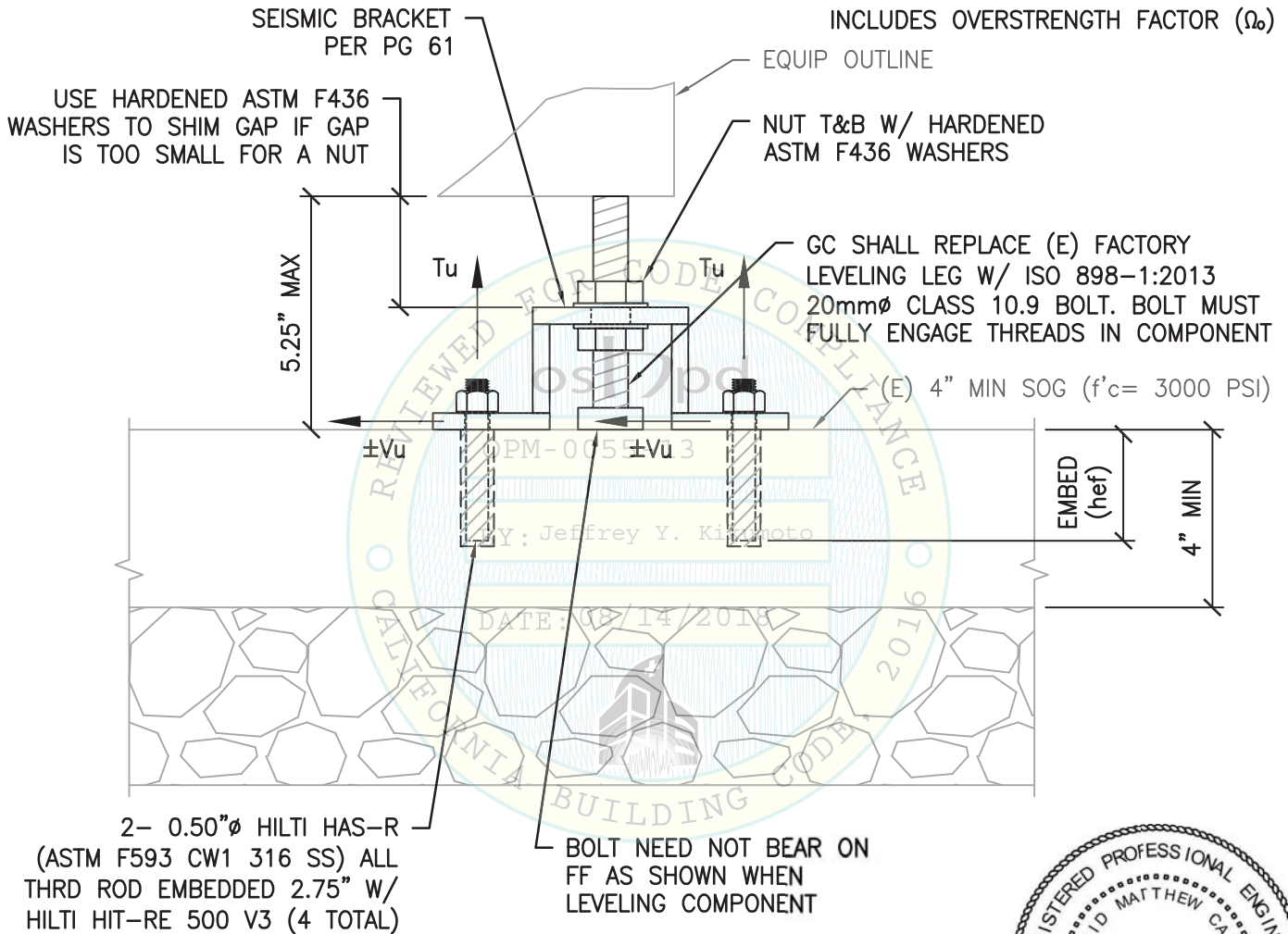
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1165#	224#

INCLUDES OVERSTRENGTH FACTOR (Ω_0)



CASE 2 - SLAB ON GRADE



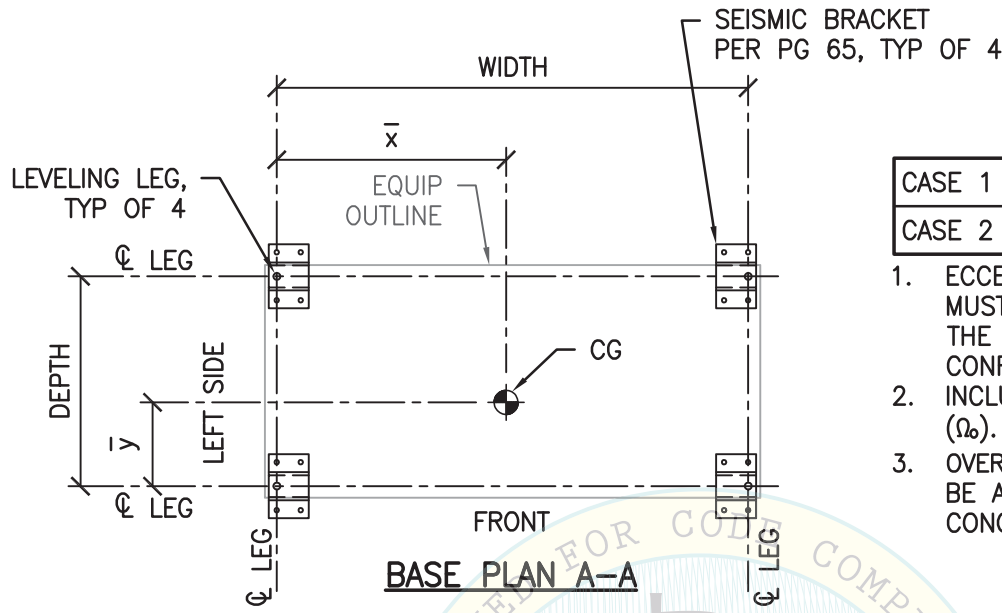
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 6: ARCHITECT c8000 ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 63 of 148

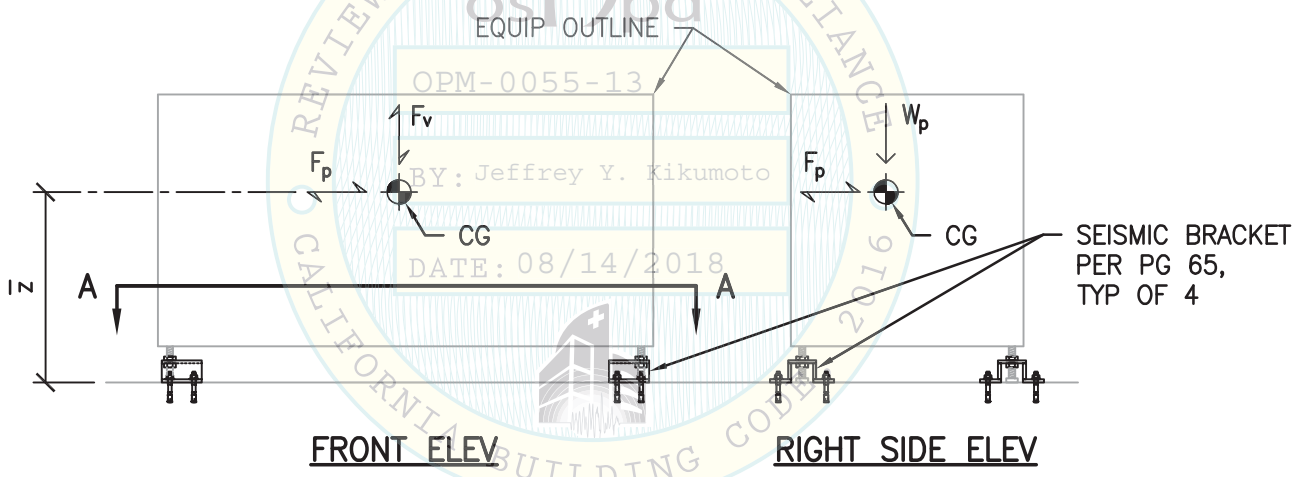
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



	T _{max}	C _{max}	V _{max}
CASE 1 ³	4229#	5163#	1341#
CASE 2 ²	2301#	3235#	755#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.



NOTES:

1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 10.
2. THIS INSTRUMENT MAY BE INSTALLED ADJ TO A i2000sr ANALYZER. IF SO, THE DISTANCE BTW AB'S MAY BE REDUCED TO 5.0625". THIS CONDITION IS NOT SHOWN.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 7: ARCHITECT c16000 ANALYZER
BASE PLAN & ELEVATIONS

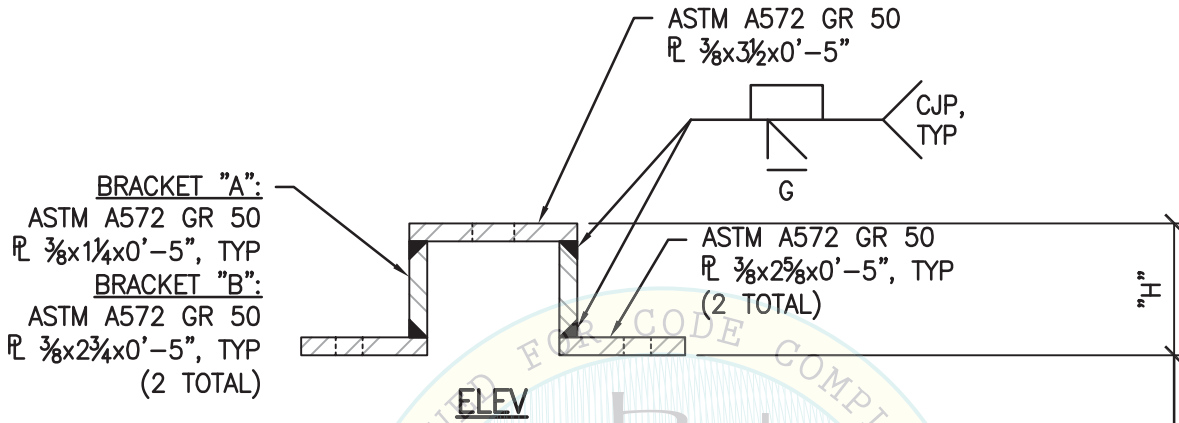
<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 64 of 148

L:\Jobs\13\13027 Abbott c3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom Dimscale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 66 & 67.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 64.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



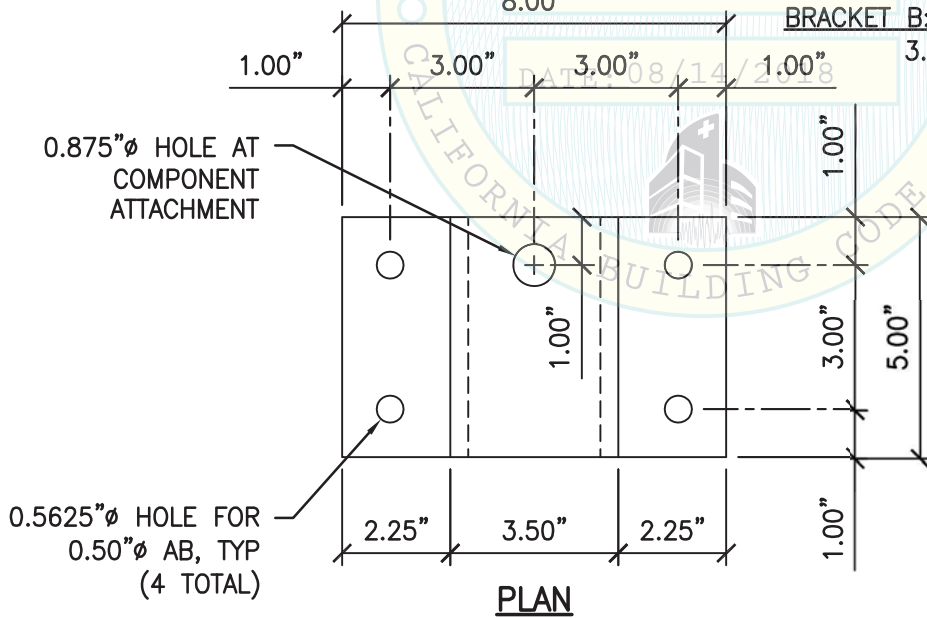
"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 2.00" FOR

2.00" ≤ CLR ≤ 3.75"

BRACKET B: "H" = 3.50" FOR

3.50" ≤ CLR ≤ 5.25"



FOR ABBOTT USE:
MAX TRACK HT
PER BRACKET
A = 895mm
B = 920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 7: ARCHITECT c16000 ANALYZER
SEISMIC BRACKET DETAIL



CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
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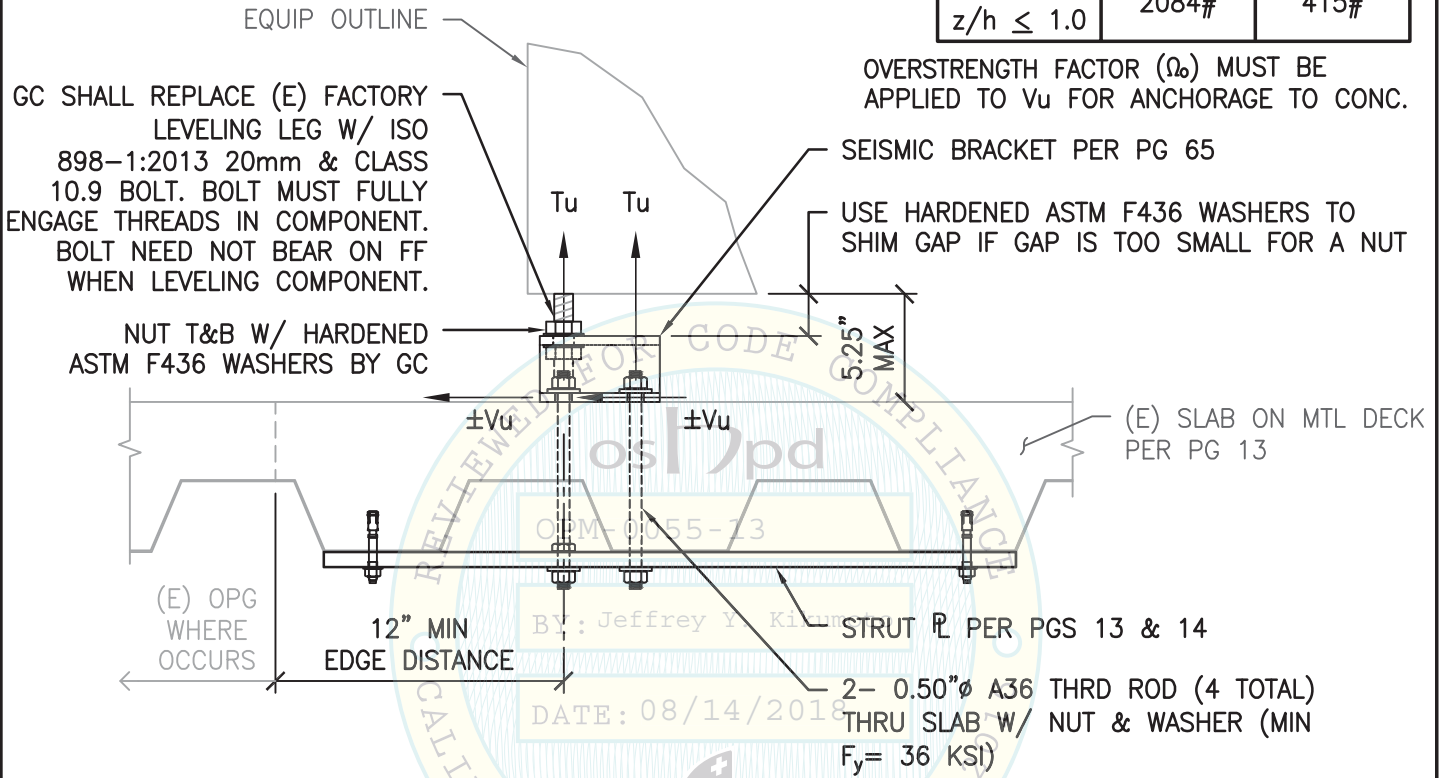
L:\Jobs\13\13027 Abbott c3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	2084#	415#

OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO V_u FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 7: ARCHITECT c16000 ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 66 of 148

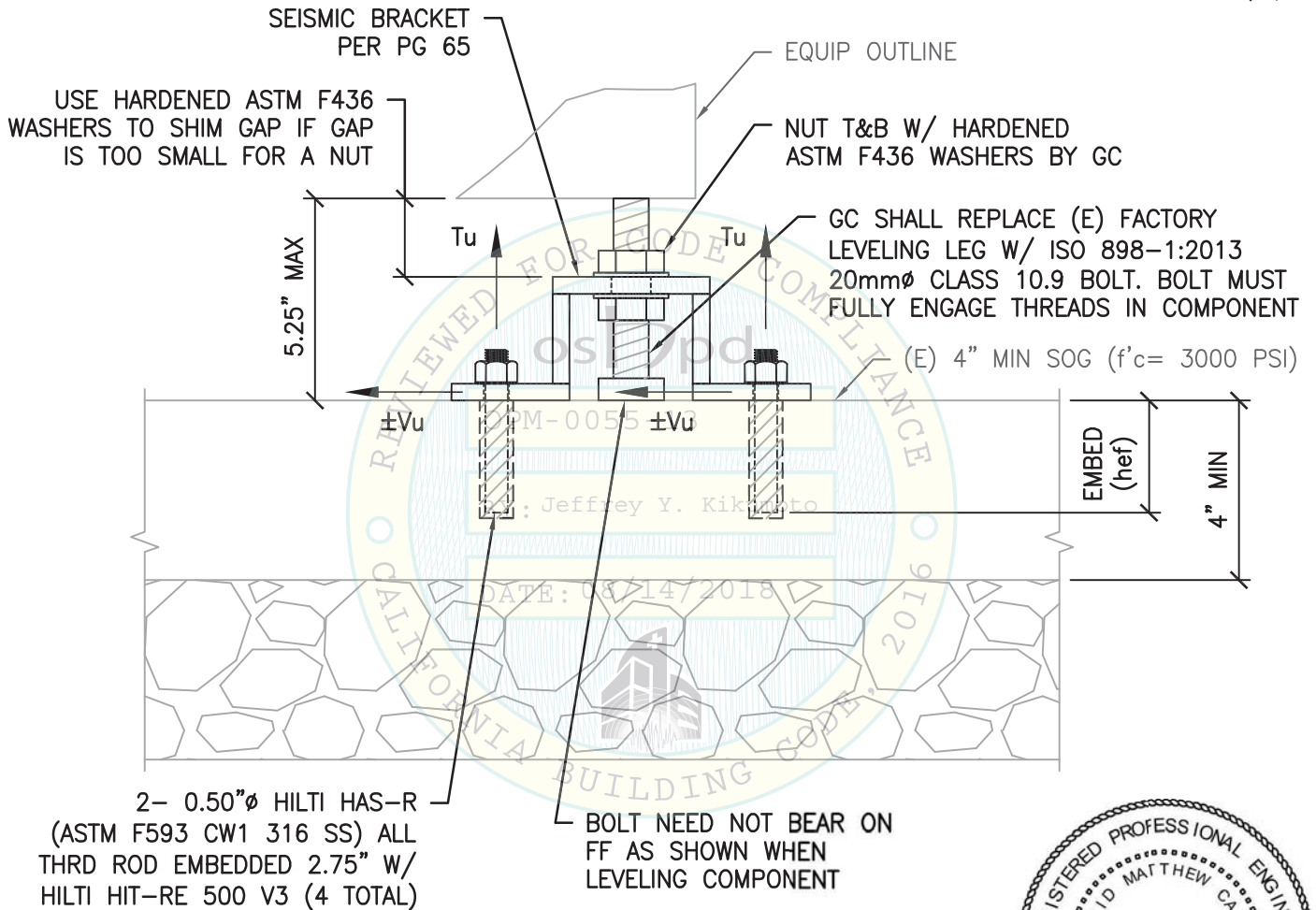
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1135#	230#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



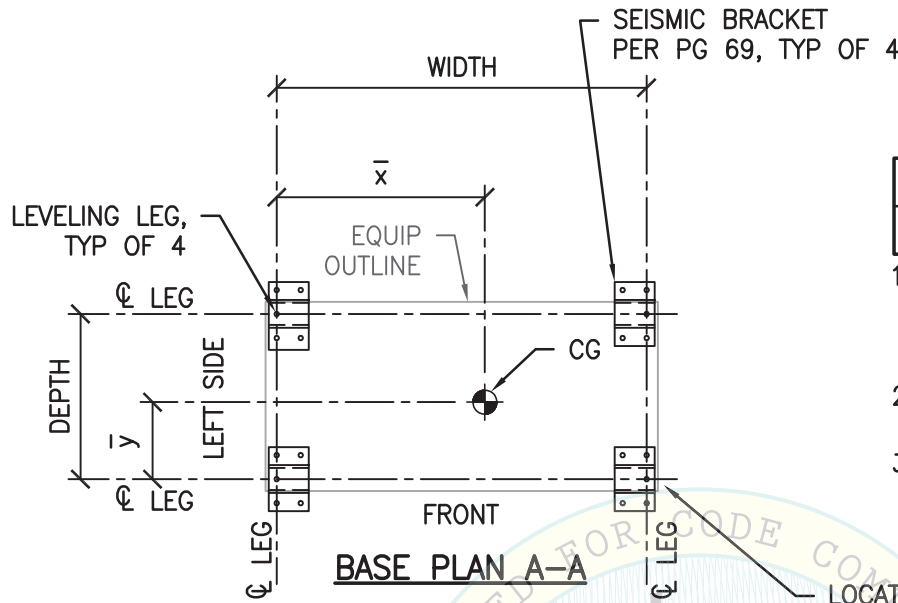
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 7: ARCHITECT c16000 ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 67 of 148
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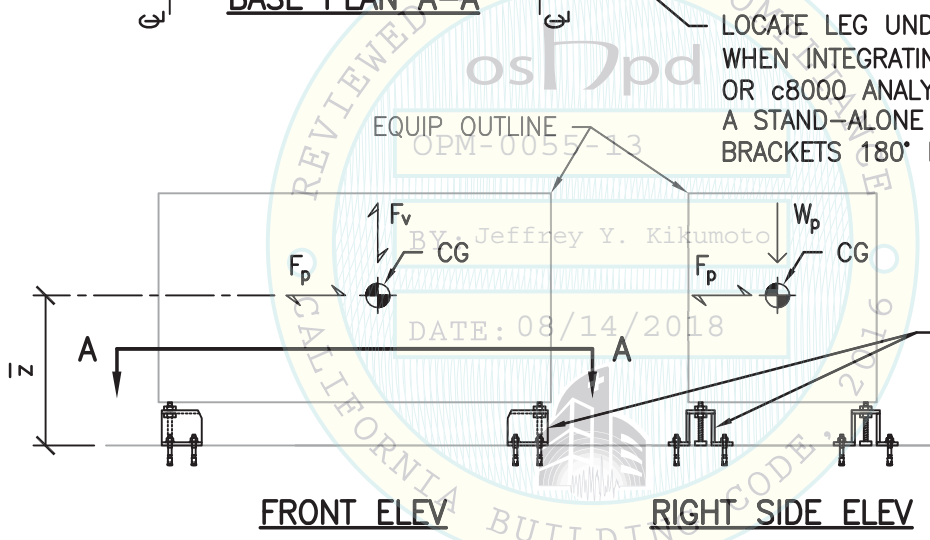
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



MAX ANCHOR FORCES AT LRFD AT LEVELING LEG ¹			
	T _{max}	C _{max}	V _{max}
CASE 1 ³	2256#	2658#	555#
CASE 2 ²	1236#	1638#	312#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.



LOCATE LEG UNDER UNIT (AS SHOWN) WHEN INTEGRATING ANALYZER W/ A c4000 OR c8000 ANALYZER. WHEN i1000sr IS A STAND-ALONE INSTRUMENT, ROTATE BRACKETS 180° IF DESIRED (NOT SHOWN).

NOTES:
 1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 10.
 2. THIS INSTRUMENT MAY BE INSTALLED ADJ TO A c4000 ANALYZER. IF SO, THE DISTANCE BTW AB'S MAY BE REDUCED TO 5.0625". THIS CONDITION IS NOT SHOWN.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 8: ARCHITECT i1000sr ANALYZER
BASE PLAN & ELEVATIONS

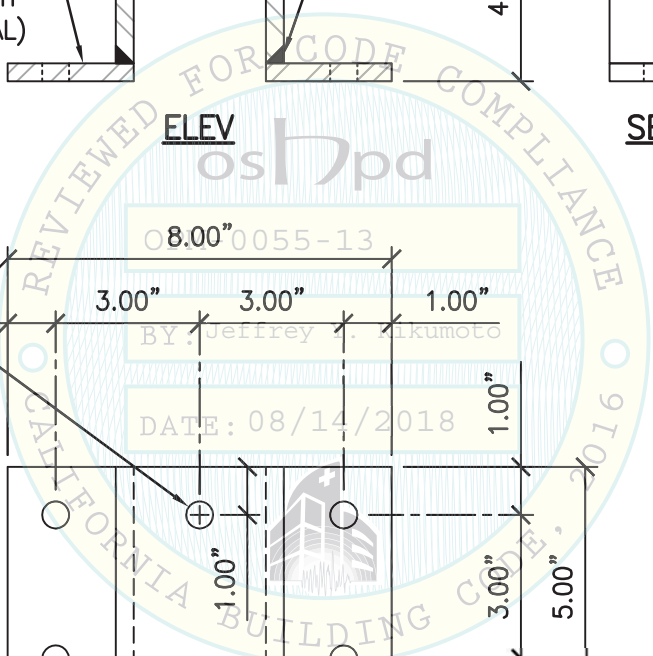
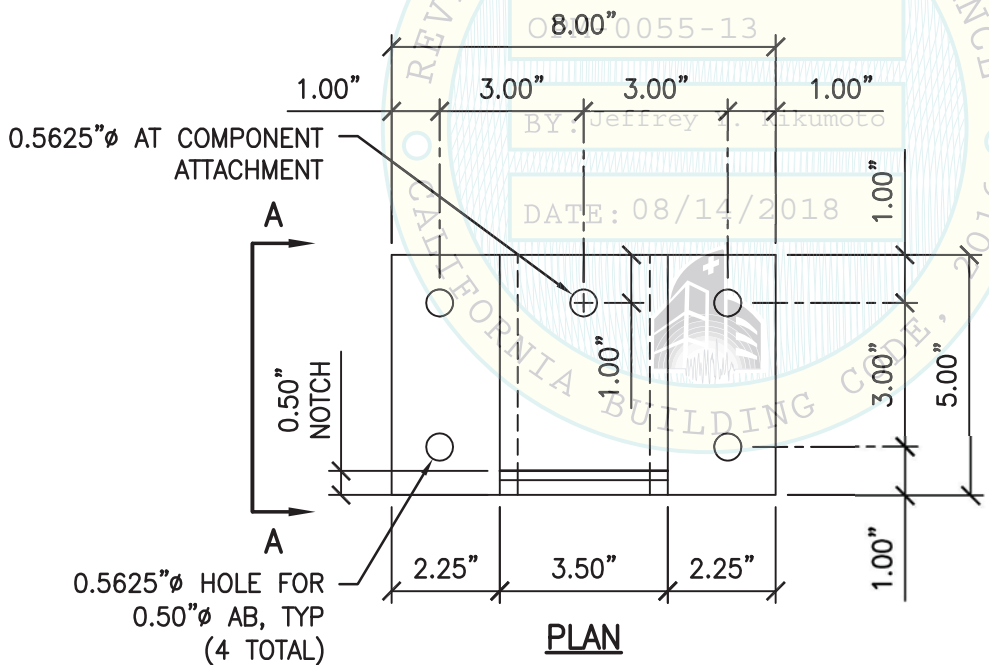
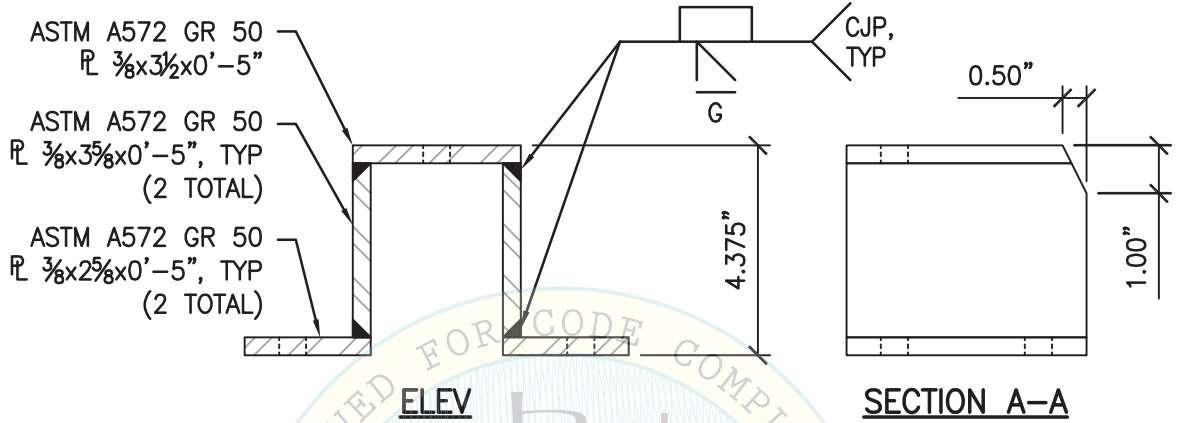
 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
		Date: 2-2-2017
		Page: 68 of 148

L:\Jobs\13\13027 Abbott c3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom Dimscale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 70 & 71.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 68.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 8: ARCHITECT i1000sr ANALYZER
SEISMIC BRACKET DETAIL

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833		Date: 2-2-2017
	TEL (916) 920-2020 www.cyseng.com		Page: 69 of 148

L:\Jobs\13\13027 Abbott OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

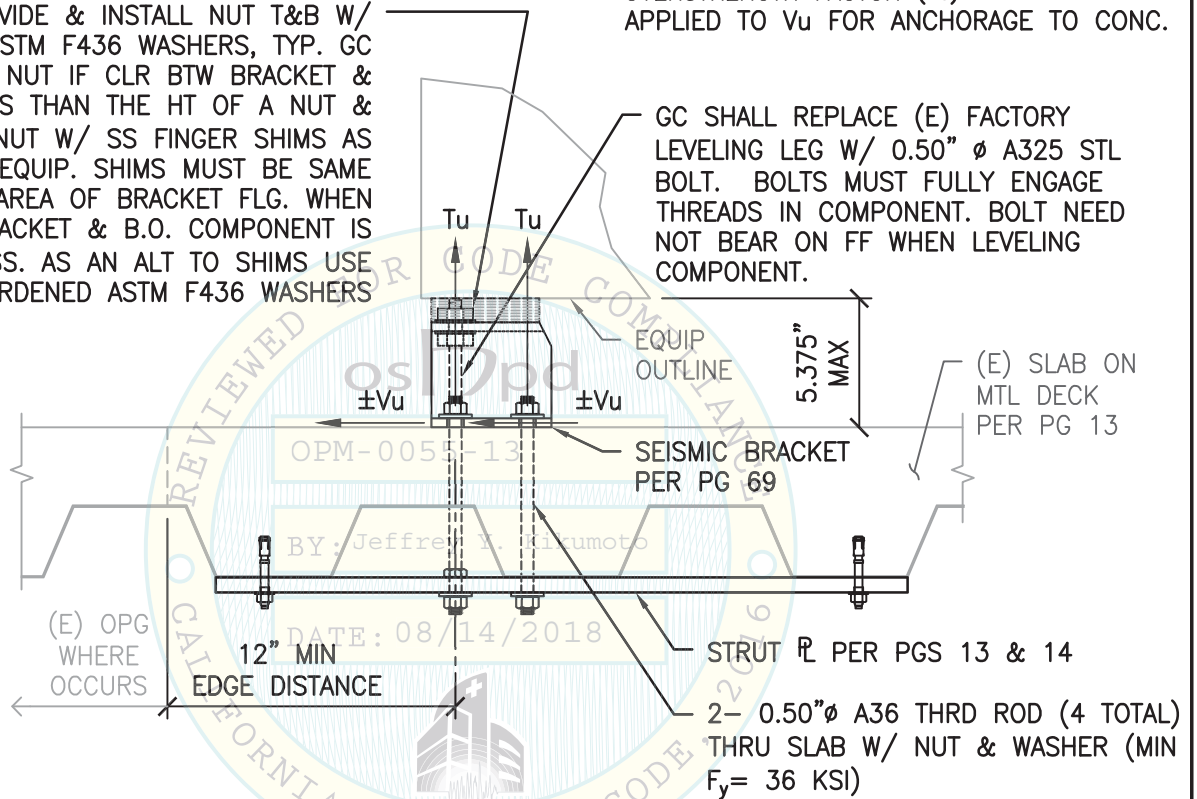
MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	1288#	184#

OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO V_u FOR ANCHORAGE TO CONC.

GC SHALL PROVIDE & INSTALL NUT T&B W/ HARDENED ASTM F436 WASHERS, TYP. GC SHALL OMIT TOP NUT IF CLR BTW BRACKET & EQUIP IS LESS THAN THE HT OF A NUT & REPLACE THIS NUT W/ SS FINGER SHIMS AS REQ TO LEVEL EQUIP. SHIMS MUST BE SAME DIMS AS BRG AREA OF BRACKET FLG. WHEN CLR BTW T.O. BRACKET & B.O. COMPONENT IS 0.50" OR LESS. AS AN ALT TO SHIMS USE STACKED HARDENED ASTM F436 WASHERS

GC SHALL REPLACE (E) FACTORY LEVELING LEG W/ 0.50" ϕ A325 STL BOLT. BOLTS MUST FULLY ENGAGE THREADS IN COMPONENT. BOLT NEED NOT BEAR ON FF WHEN LEVELING COMPONENT.



CASE 1 – SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 8: ARCHITECT i1000sr ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom DimScale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

GC SHALL PROVIDE & INSTALL NUT T&B W/
HARDENED ASTM F436 WASHERS, TYP. GC SHALL
OMIT TOP NUT IF CLR BTW BRACKET & EQUIP IS
LESS THAN THE HT OF A NUT & REPLACE THIS NUT
W/ SS FINGER SHIMS AS REQ TO LEVEL EQUIP.
SHIMS MUST BE SAME DIMS AS BRG AREA OF
BRACKET FLG. WHEN CLR BTW T.O. BRACKET & B.O.
COMPONENT IS 0.50" OR LESS. AS AN ALT TO SHIMS
USE STACKED HARDENED ASTM F436 WASHERS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	736#	104#

INCLUDES OVERSTRENGTH FACTOR (Ω_0)

EQUIP OUTLINE

SEISMIC BRACKET
PER PG 69

GC SHALL REPLACE (E) FACTORY
LEVELING LEG W/ 0.50" ϕ A325 STL
BOLT. BOLTS MUST FULLY ENGAGE
THREADS IN COMPONENT.

(E) 4" MIN SOG
($f'_c = 3000$ PSI)

5.375" MAX

$\pm Vu$

$\pm Vu$

EMBED
(hef)

4" MIN

2- 0.50" ϕ HILTI HAS-R
(ASTM F593 CW1 316 SS) ALL
THRD ROD EMBEDDED 2.75" W/
HILTI HIT-RE 500 V3 (4 TOTAL)

BOLT NEED NOT BEAR ON
FF AS SHOWN WHEN
LEVELING COMPONENT

CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

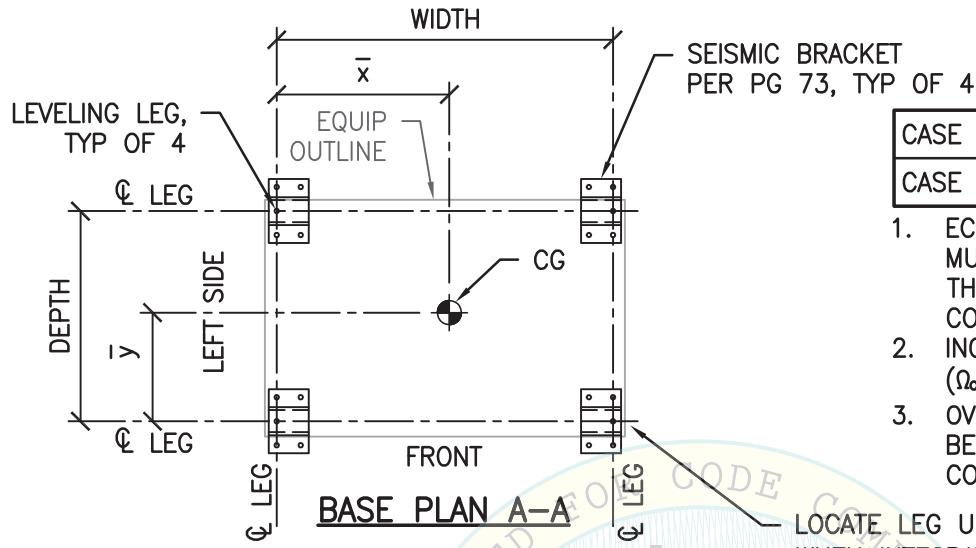
SHEET TITLE: COMPONENT 8: ARCHITECT i1000sr ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

	CYS STRUCTURAL ENGINEERS, INC.		Job No:	13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date:	2-2-2017
	SACRAMENTO, CA 95833		Page:	71 of 148

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

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom DimScale:1 LTScale:4

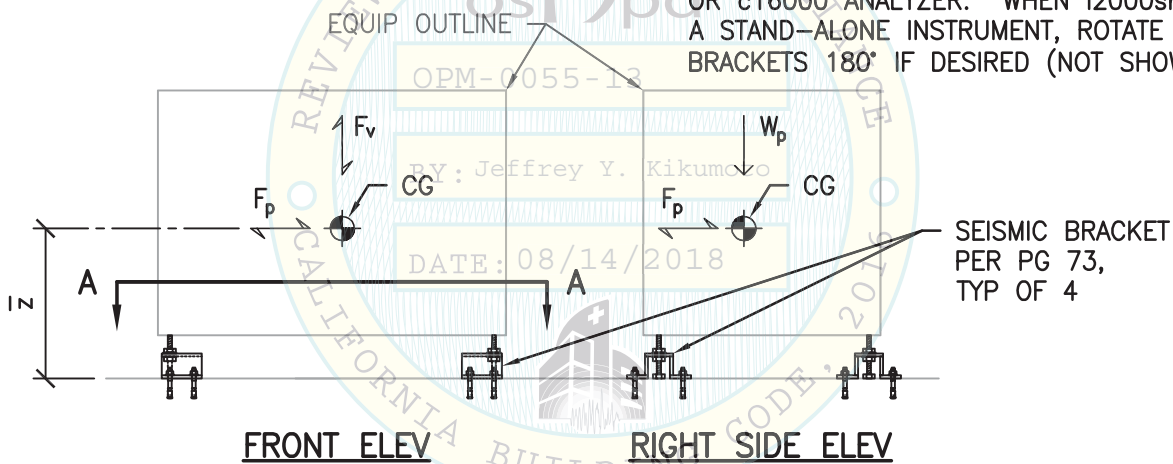
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



MAX ANCHOR FORCES AT LRFD AT LEVELING LEG¹

	T _{max}	C _{max}	V _{max}
CASE 1 ³	2710#	3352#	924#
CASE 2 ²	1471#	2113#	520#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
3. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



NOTES:

1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 10.
2. THIS INSTRUMENT MAY BE INSTALLED ADJ TO A c8000 OR c16000 ANALYZER. IF SO, THE DISTANCE BTW AB'S MAY BE REDUCED TO 5.0625". THIS CONDITION IS NOT SHOWN.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 9: ARCHITECT i2000sr ANALYZER
BASE PLAN & ELEVATIONS



CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
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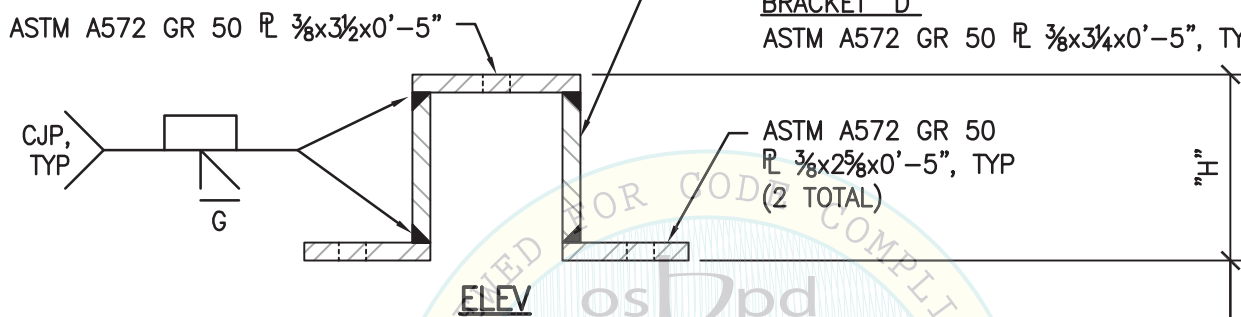
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

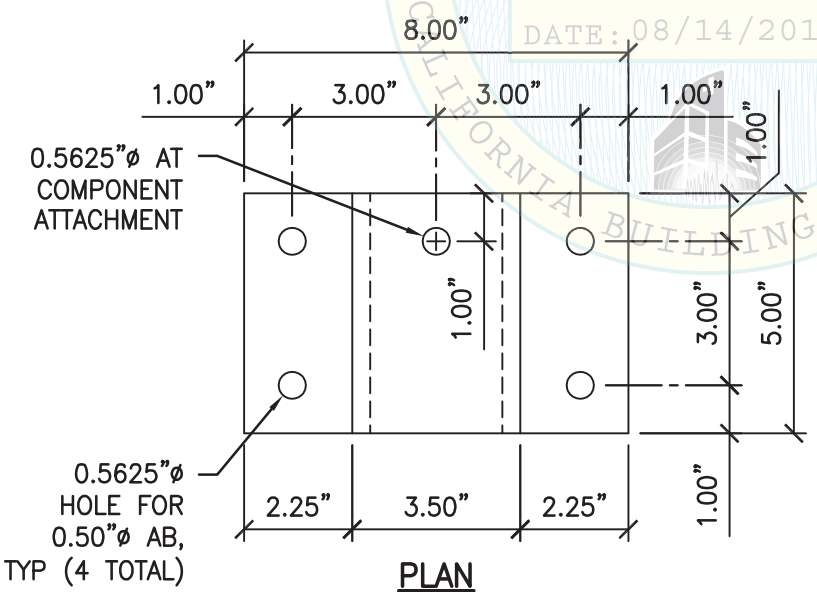
ABBOTT a3600 TRACK SYSTEMS
BRACKET "A"
 H = 2.125" FOR 2.125" ≤ CLR ≤ 3.50"
BRACKET "B"
 H = 3.375" FOR 3.375" ≤ CLR ≤ 4.75"
 ABBOTT ARCHITECT ci8200 OR ci16200
BRACKET "C" **BRACKET "D"**
 H = 3.25" H = 4.00"

FOR ABBOTT USE: MAX TRACK HT PER BRACKET
 A = 891mm
 B = 920mm

BRACKET "A"
 ASTM A572 GR 50 PL 3/8x1 3/8x0'-5", TYP (2 TOTAL)
BRACKET "B"
 ASTM A572 GR 50 PL 3/8x2 5/8x0'-5", TYP (2 TOTAL)
BRACKET "C"
 ASTM A572 GR 50 PL 3/8x2 1/2x0'-5", TYP (2 TOTAL)
BRACKET "D"
 ASTM A572 GR 50 PL 3/8x3 1/4x0'-5", TYP (2 TOTAL)



"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES. USE BRACKETS "A" OR "B" WHEN AN i2000sr IS PART OF AN AUTOMATED a3600 TRACK SYSTEM. USE BRACKETS "C" OR "D" WHEN INTEGRATING AN i2000sr WITH A c8000 OR c16000 TO FORM A ci8200 OR ci16200.



NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 74 & 75.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 72.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 9: ARCHITECT i2000sr ANALYZER
SEISMIC BRACKET DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 73 of 148
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_1-75 plot set.dwg Time:Mar02,2017-10:24am Login:camachom Dimscale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

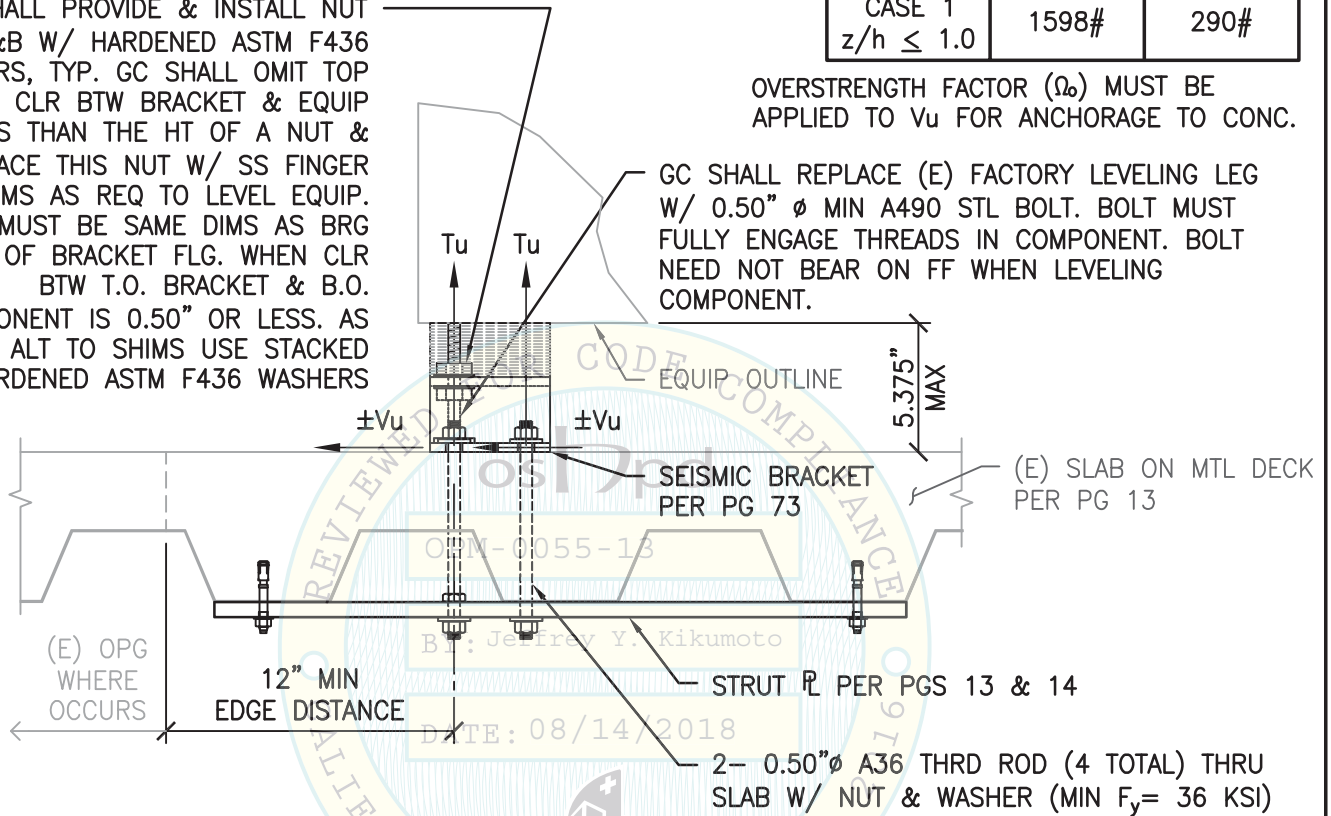
MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1	1598#	290#
$z/h \leq 1.0$		

OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO V_u FOR ANCHORAGE TO CONC.

GC SHALL PROVIDE & INSTALL NUT T&B W/ HARDENED ASTM F436 WASHERS, TYP. GC SHALL OMIT TOP NUT IF CLR BTW BRACKET & EQUIP IS LESS THAN THE HT OF A NUT & REPLACE THIS NUT W/ SS FINGER SHIMS AS REQ TO LEVEL EQUIP. SHIMS MUST BE SAME DIMS AS BRG AREA OF BRACKET FLG. WHEN CLR BTW T.O. BRACKET & B.O. COMPONENT IS 0.50" OR LESS. AS AN ALT TO SHIMS USE STACKED HARDENED ASTM F436 WASHERS

GC SHALL REPLACE (E) FACTORY LEVELING LEG W/ 0.50" ϕ MIN A490 STL BOLT. BOLT MUST FULLY ENGAGE THREADS IN COMPONENT. BOLT NEED NOT BEAR ON FF WHEN LEVELING COMPONENT.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 9: ARCHITECT i2000sr ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 74 of 148

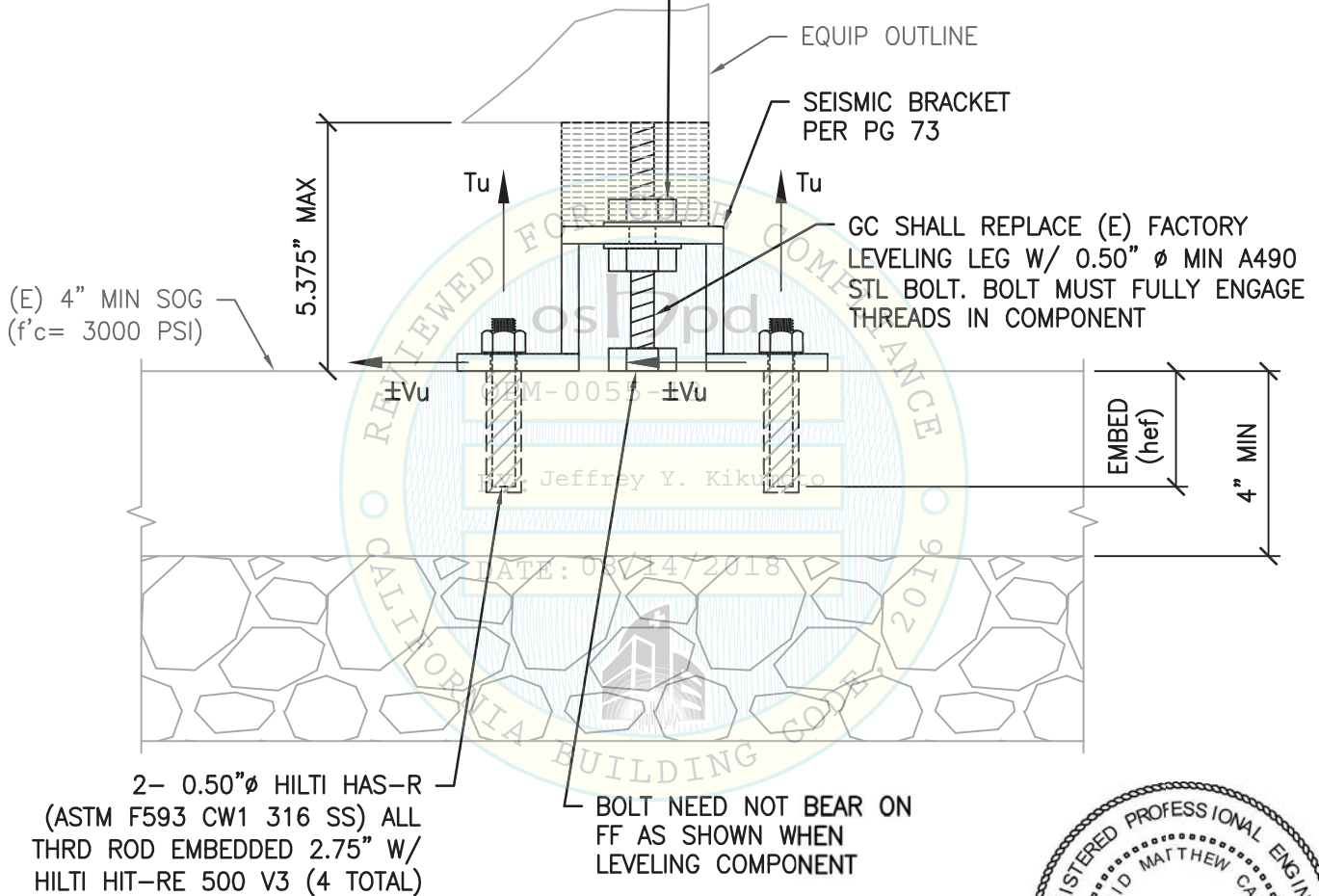
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

GC SHALL PROVIDE & INSTALL NUT T&B W/
HARDENED ASTM F436 WASHERS, TYP. GC SHALL
OMIT TOP NUT IF CLR BTW BRACKET & EQUIP IS
LESS THAN THE HT OF A NUT & REPLACE THIS NUT
W/ SS FINGER SHIMS AS REQ TO LEVEL EQUIP.
SHIMS MUST BE SAME DIMS AS BRG AREA OF
BRACKET FLG. WHEN CLR BTW T.O. BRACKET & B.O.
COMPONENT IS 0.50" OR LESS. AS AN ALT TO SHIMS
USE STACKED HARDENED ASTM F436 WASHERS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1077#	139#

INCLUDES OVERSTRENGTH FACTOR (Ω_0)



CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



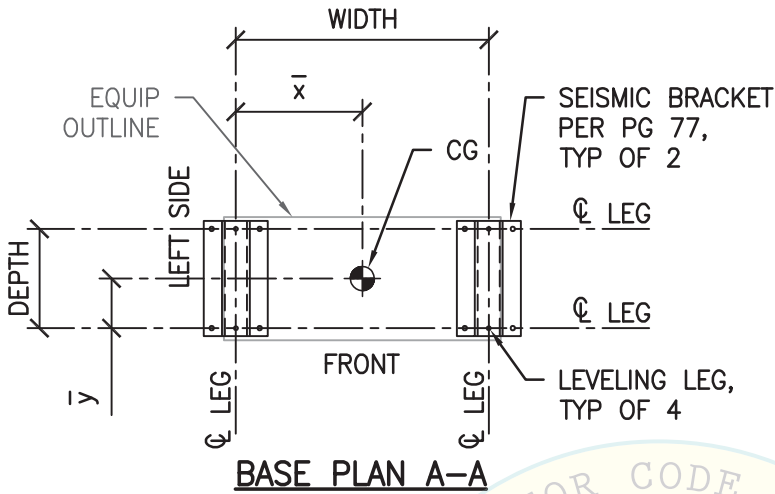
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 9: ARCHITECT i2000sr ANALYZER
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 75 of 148
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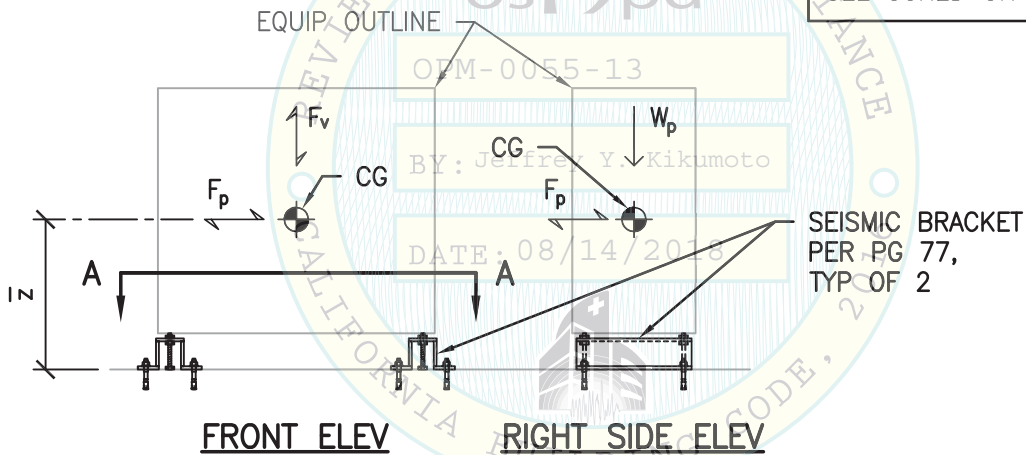
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



MAX ANCHOR FORCES AT LRFD AT LEVELING LEG ¹			
	T _{max}	C _{max}	V _{max}
CASE 1 ³	4297#	4731#	644#
CASE 2 ²	2381#	2816#	363#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
3. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTE:
FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PAGE 10.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 10: CARTESIAN CENTRIFUGE MODULE
BASE PLAN & ELEVATIONS

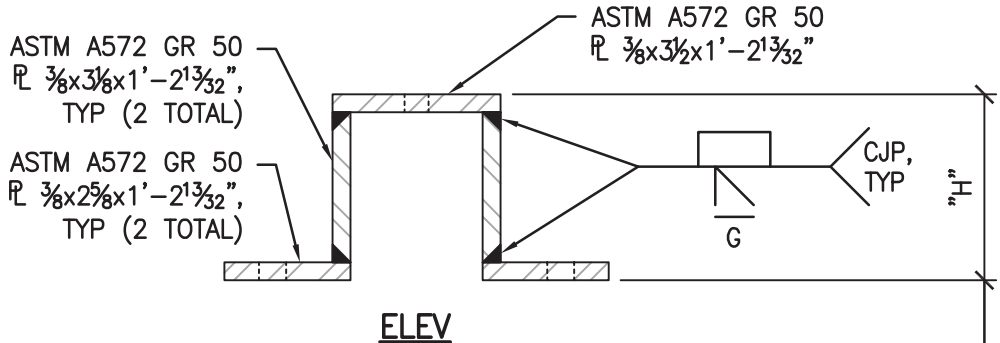
<p>2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>CYS STRUCTURAL ENGINEERS, INC.</p> <p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 76 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:camachom DimScale:1 L1Scale:4

**ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS**

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 78 & 79.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 76.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.

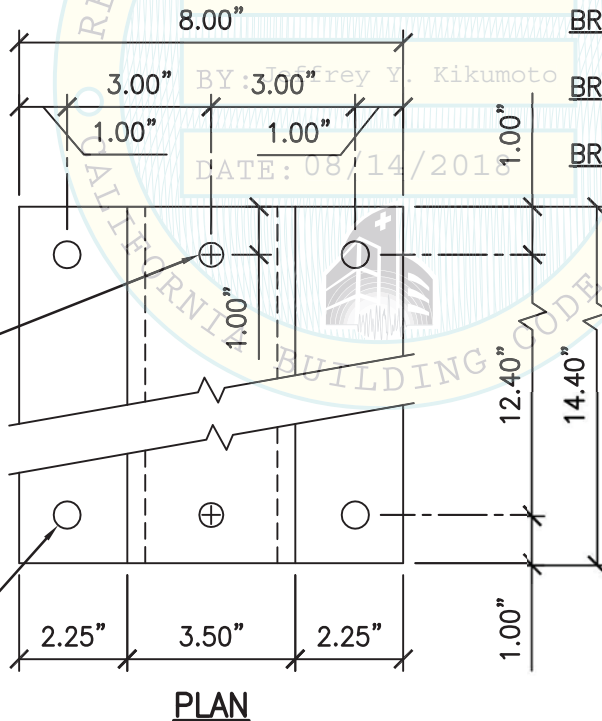


"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

- BRACKET A:** "H" = 2.125" FOR $2.125'' \leq \text{CLR} \leq 2.75''$
- BRACKET B:** "H" = 2.625" FOR $2.625'' \leq \text{CLR} \leq 3.25''$
- BRACKET C:** "H" = 3.125" FOR $3.125'' \leq \text{CLR} \leq 3.75''$
- BRACKET D:** "H" = 3.625" FOR $3.625'' \leq \text{CLR} \leq 4.25''$
- BRACKET E:** "H" = 4.125" FOR $4.125'' \leq \text{CLR} \leq 4.75''$

FOR ABBOTT USE:

- MAX TRACK HT PER BRACKET
- A = 873mm
 - B = 885mm
 - C = 898mm
 - D = 911mm
 - E = 920mm



0.50" ϕ AT COMPONENT ATTACHMENT, TYP (2 TOTAL)

0.5625" ϕ HOLE FOR 0.50" ϕ AB, TYP (4 TOTAL)



03/02/17 NOT SEOR

**SHEET TITLE: COMPONENT 10: CARTESIAN CENTRIFUGE MODULE
SEISMIC BRACKET DETAIL**

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 77 of 148
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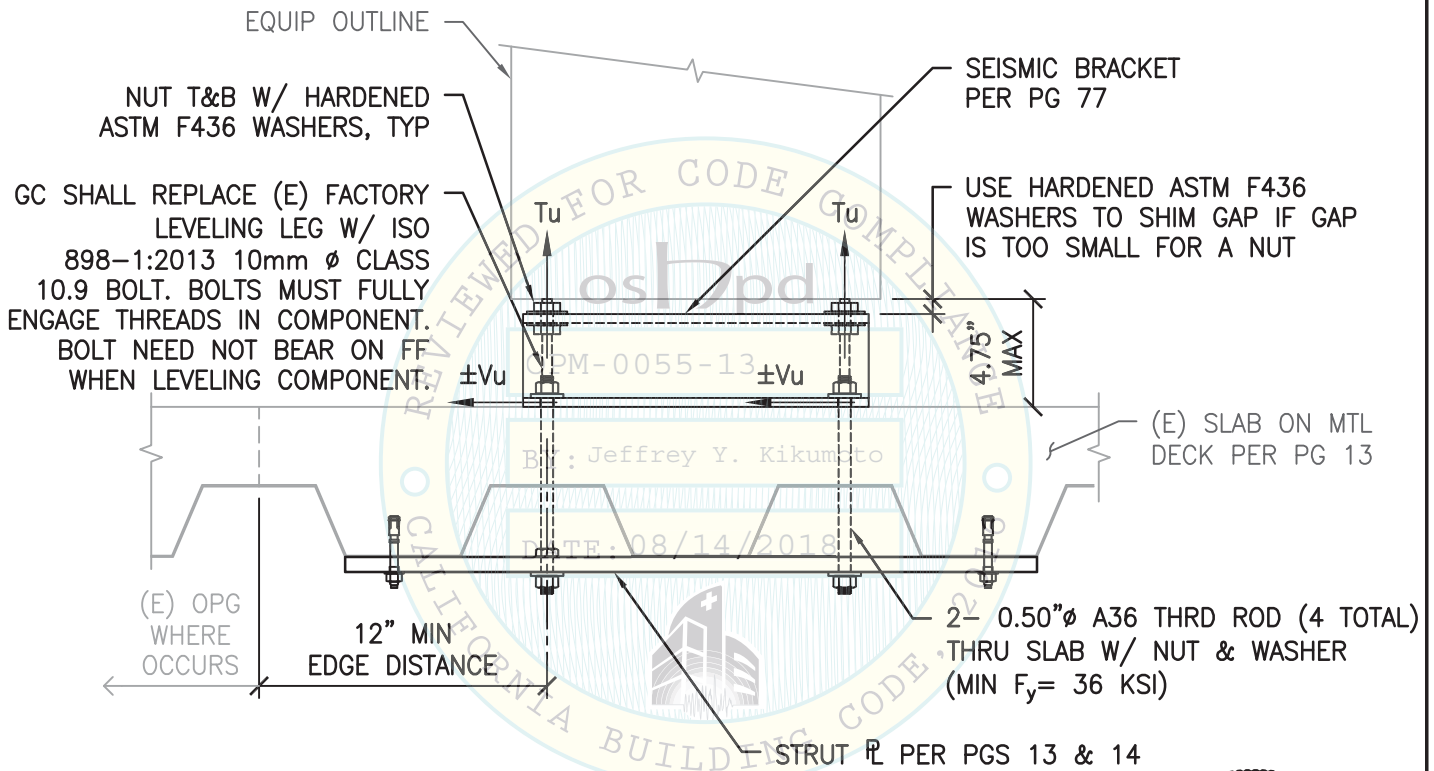
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	2293#	322#

OVERSTRENGTH FACTOR (Ω_0)
MUST BE APPLIED TO V_u
FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 10: CARTESIAN CENTRIFUGE MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 78 of 148
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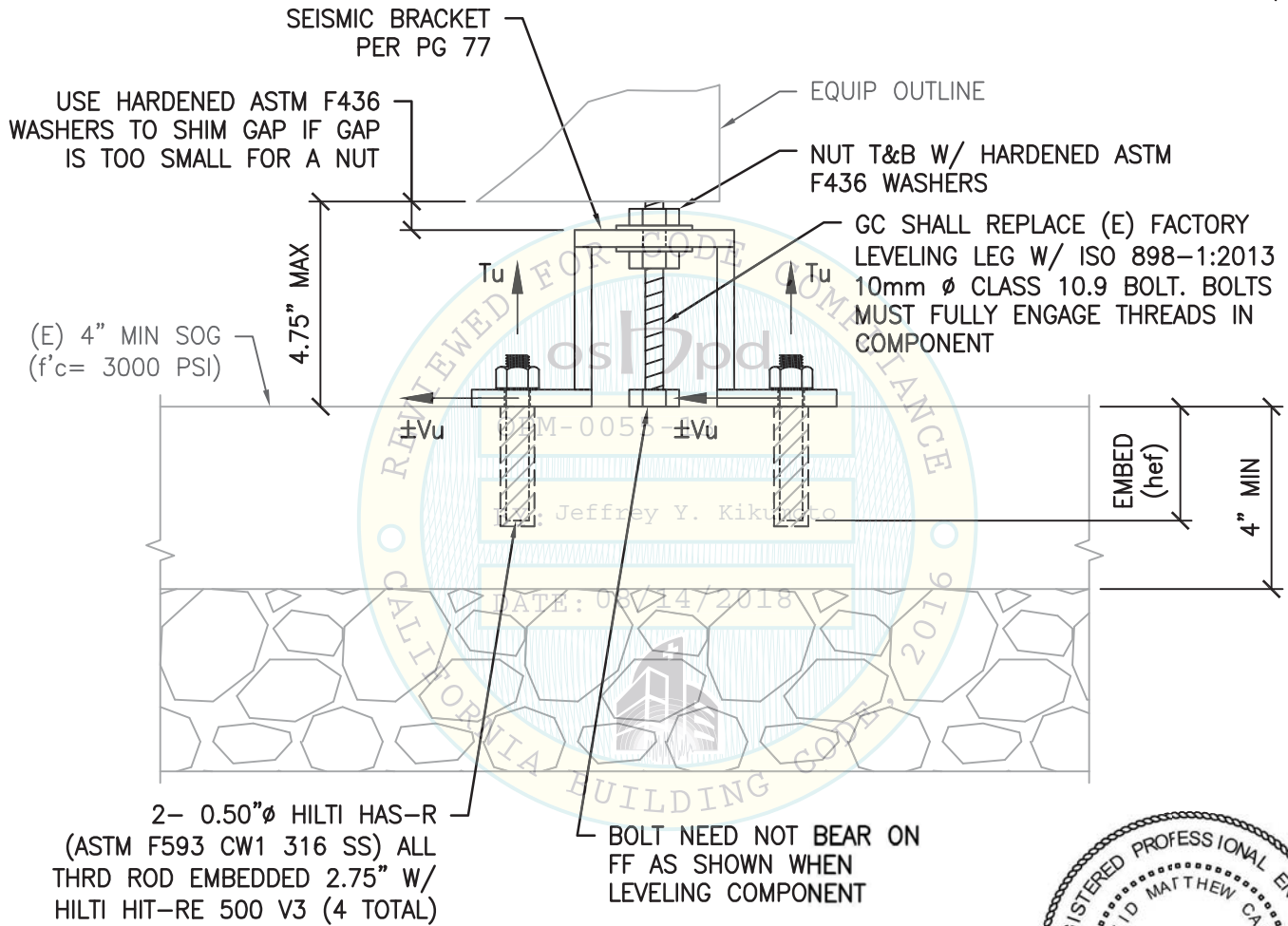
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1272#	181#

INCLUDES OVERSTRENGTH FACTOR (Ω_0)



CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



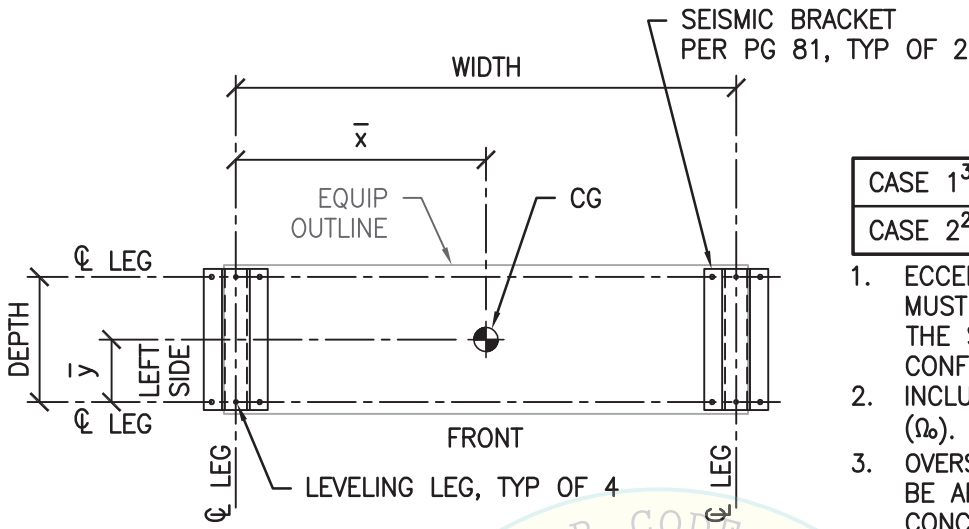
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 10: CARTESIAN CENTRIFUGE MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 79 of 148
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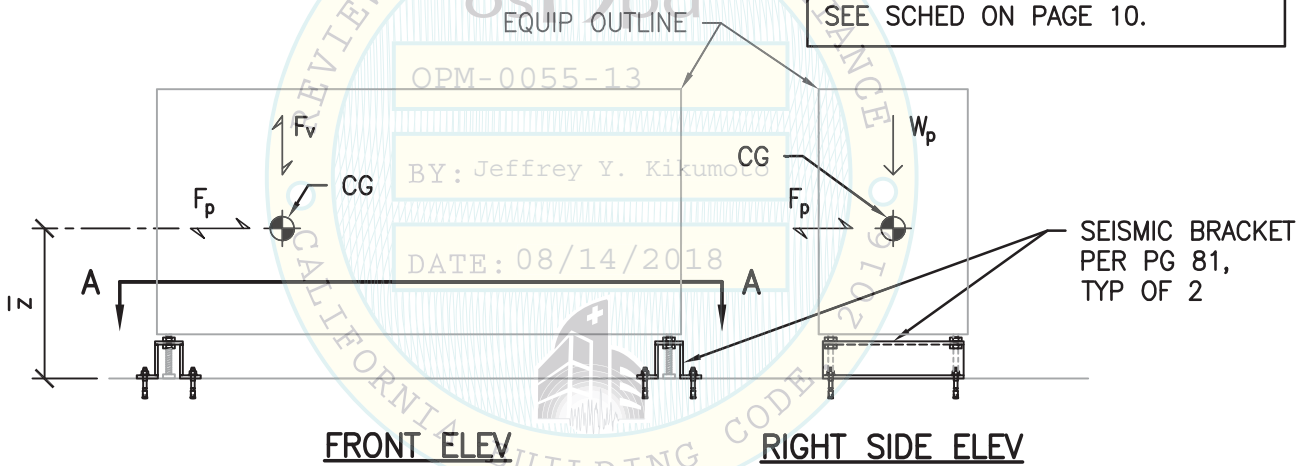
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



BASE PLAN A-A

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTE:
FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PAGE 10.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 11: a3600 INPUT / OUTPUT MODULE
BASE PLAN & ELEVATIONS

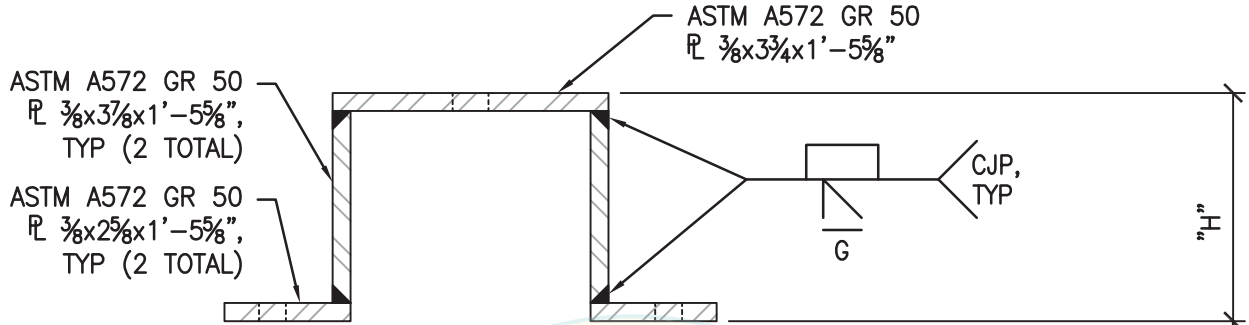
<p>2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>CYS STRUCTURAL ENGINEERS, INC.</p> <p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 80 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:cmachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 82 & 83.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 80.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



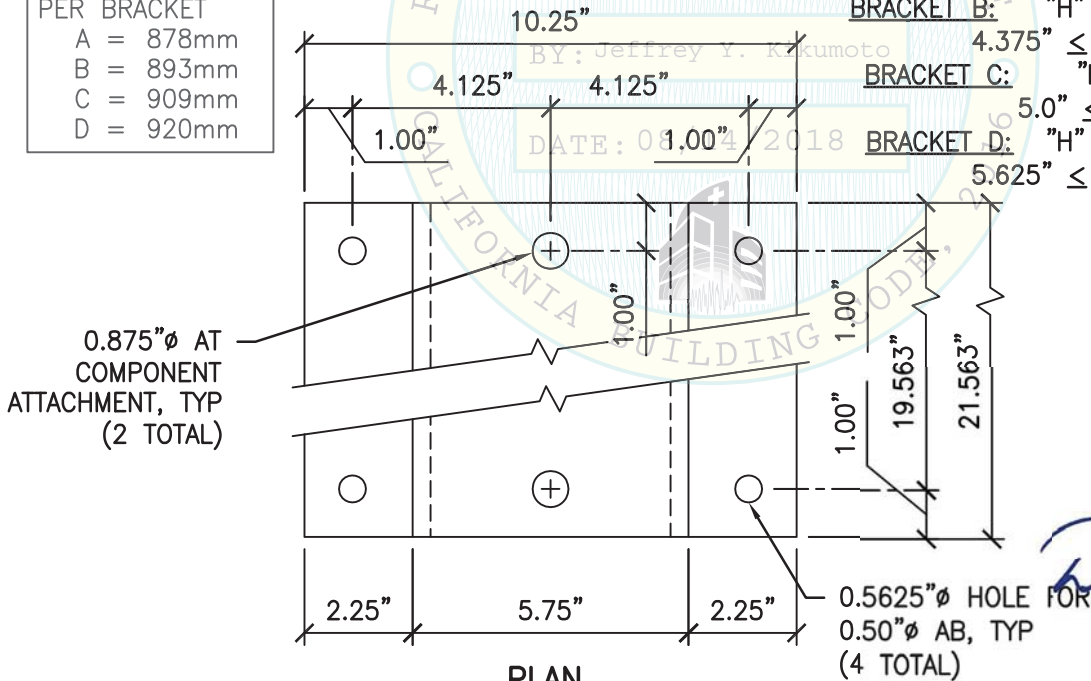
ELEV

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

FOR ABBOTT USE:
MAX TRACK HT
PER BRACKET

A	= 878mm
B	= 893mm
C	= 909mm
D	= 920mm

- BRACKET A:** "H" = 3.75" FOR 3.75" ≤ CLR ≤ 4.5"
- BRACKET B:** "H" = 4.375" FOR 4.375" ≤ CLR ≤ 5.125"
- BRACKET C:** "H" = 5.0" FOR 5.0" ≤ CLR ≤ 5.75"
- BRACKET D:** "H" = 5.625" FOR 5.625" ≤ CLR ≤ 6.375"



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 11: a3600 INPUT / OUTPUT MODULE
SEISMIC BRACKET DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 81 of 148
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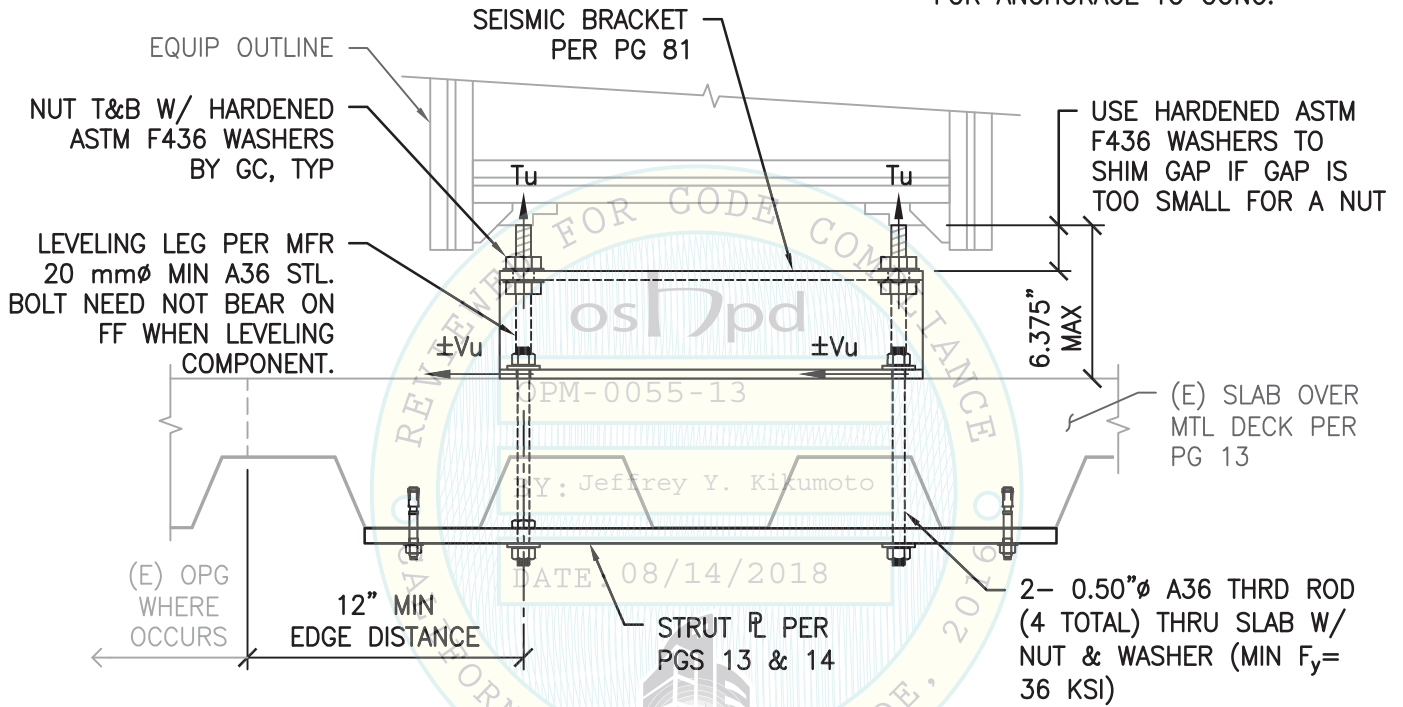
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	1843#	344#

OVERSTRENGTH FACTOR (Ω_o)
MUST BE APPLIED TO Vu
FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 11: a3600 INPUT / OUTPUT MODULE
SUPPORTS & ATTACHMENTS DETAIL



CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

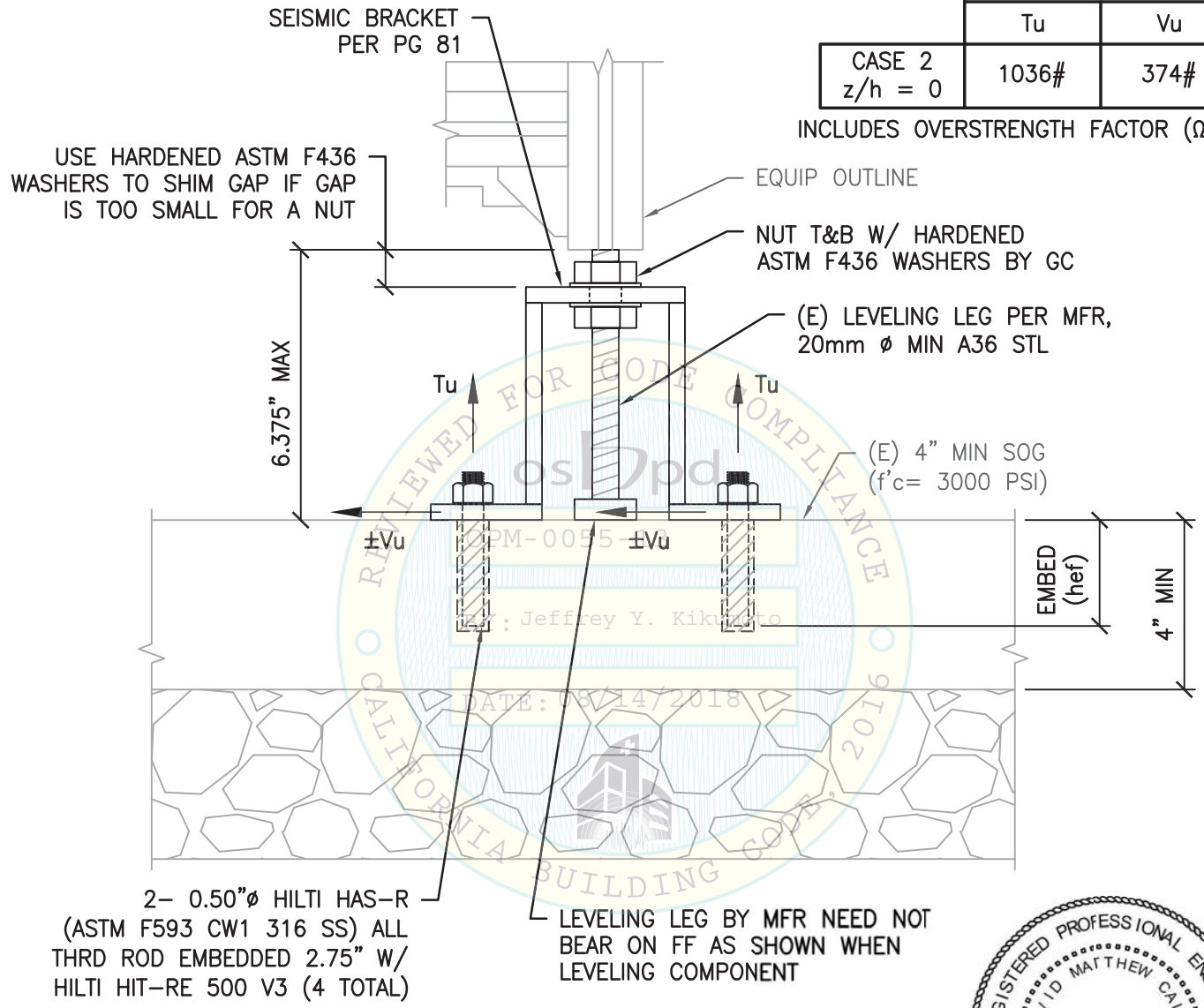
Job No:	13027
Date:	2-2-2017
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES AT LRFD AT EA AB		
	Tu	Vu
CASE 2 z/h = 0	1036#	374#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



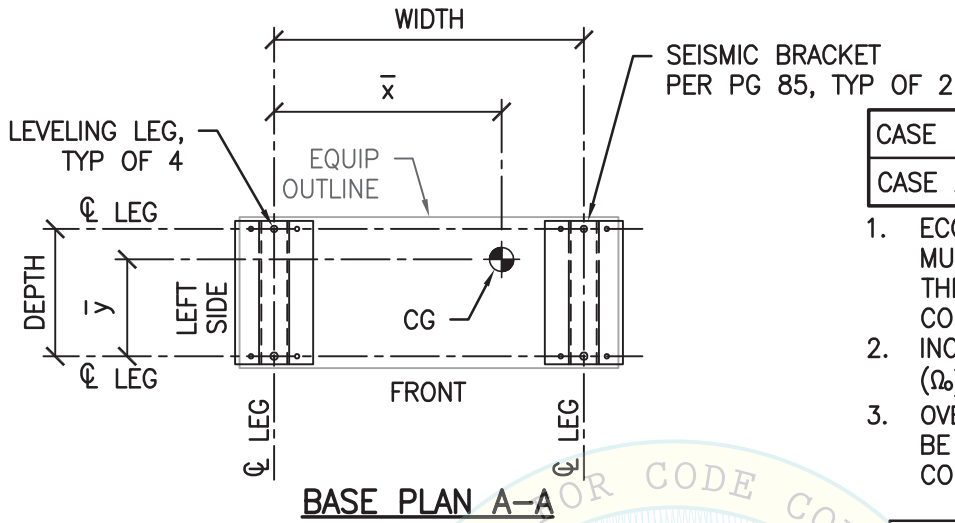
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 11: a3600 INPUT / OUTPUT MODULE
SUPPORTS & ATTACHMENTS DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 83 of 148
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:camachom Dimscale:1 LScale:4

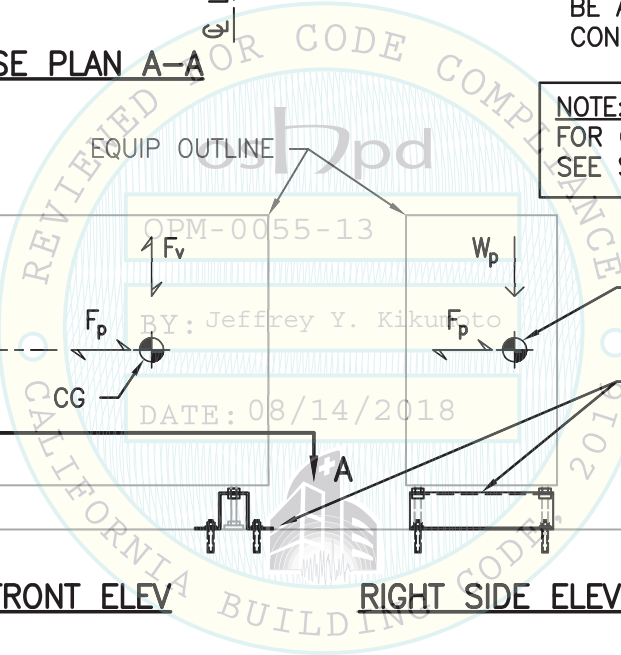
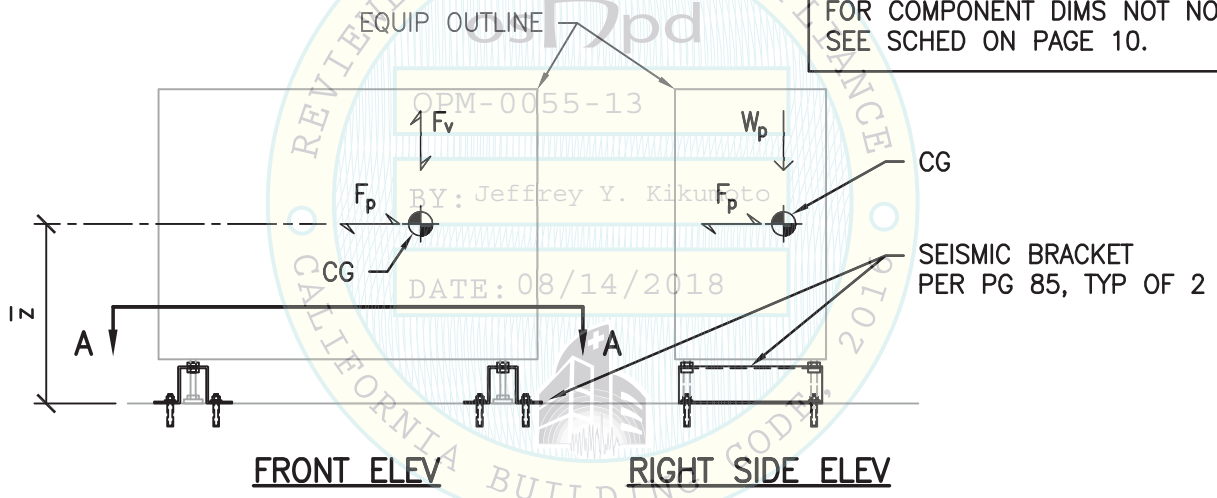
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



MAX ANCHOR FORCES AT LRFD AT LEVELING LEG ¹			
	T _{max}	C _{max}	V _{max}
CASE 1 ³	1464#	1849#	547#
CASE 2 ²	791#	1176#	307#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTE:
FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PAGE 10.



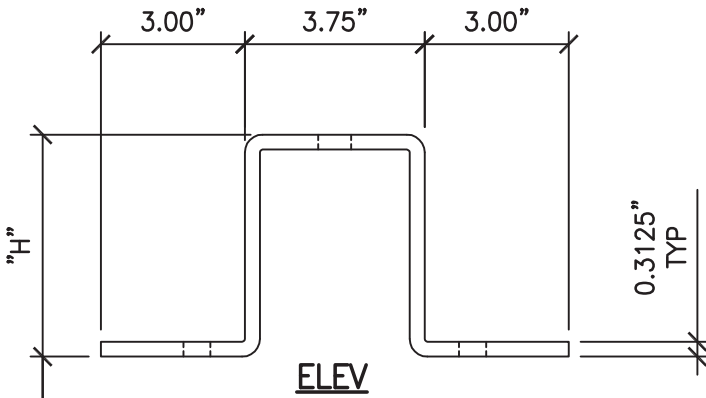
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 12: a3600 ALIQUOTER MODULE
BASE PLAN & ELEVATIONS

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 84 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:cmachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



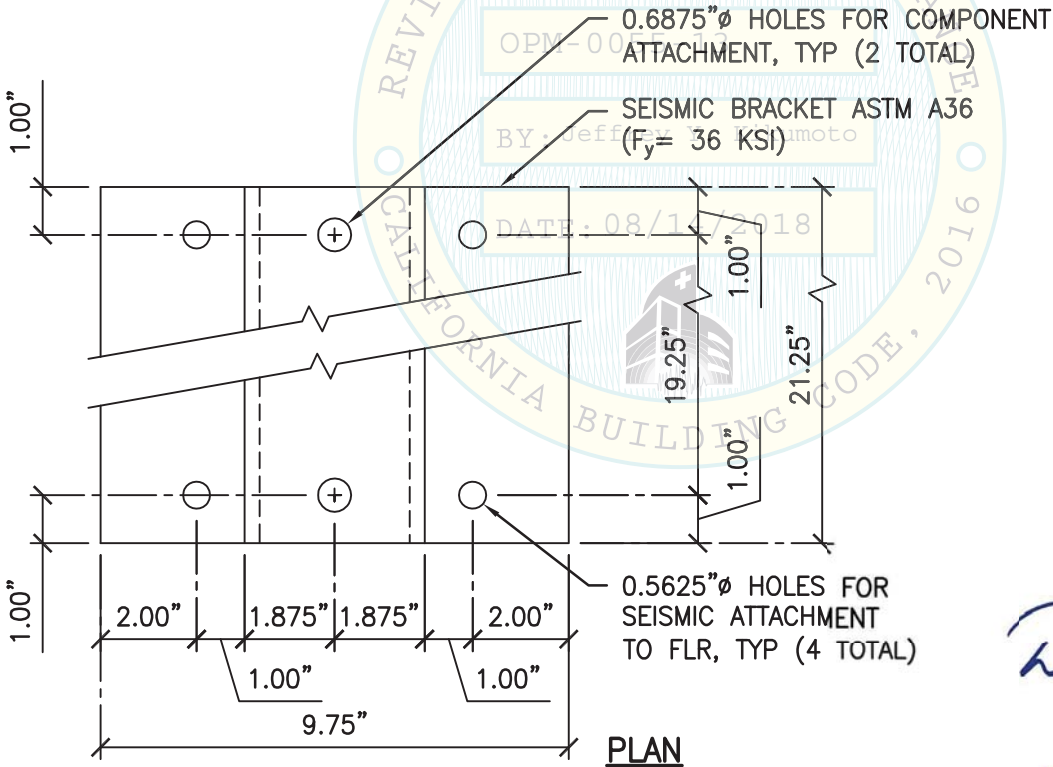
NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 86 & 87.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 84.
3. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 4.25" FOR
4.25" ≤ CLR ≤ 5.875"

BRACKET B: "H" = 5.125" FOR
5.125" ≤ CLR ≤ 6.75"



FOR ABBOTT USE:
MAX TRACK HT
PER BRACKET
A = 900mm
B = 920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 12: a3600 ALIQUOTER MODULE
SEISMIC BRACKET DETAIL

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 85 of 148

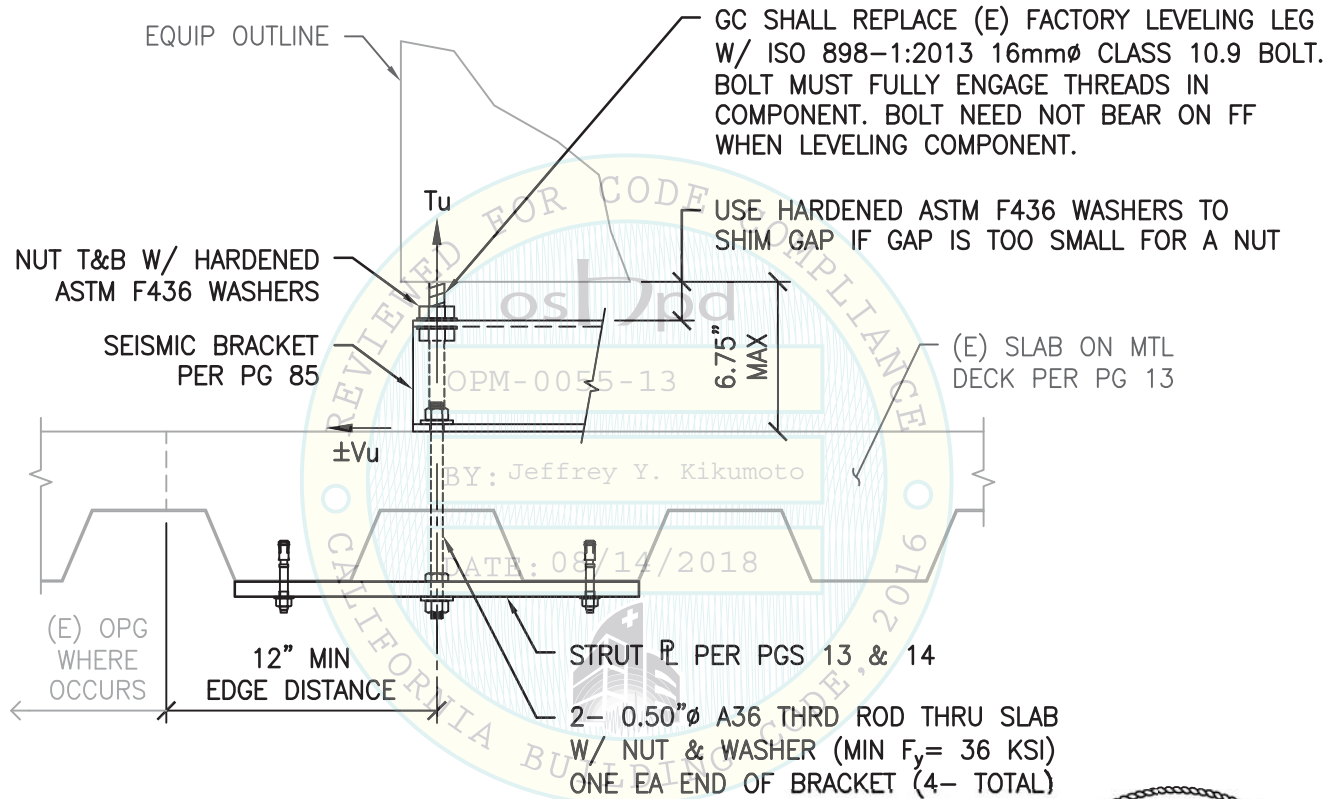
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	856#	160#

OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED TO V_u FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 12: a3600 ALIQUOTER MODULE
SUPPORTS & ATTACHMENTS DETAIL

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 86 of 148

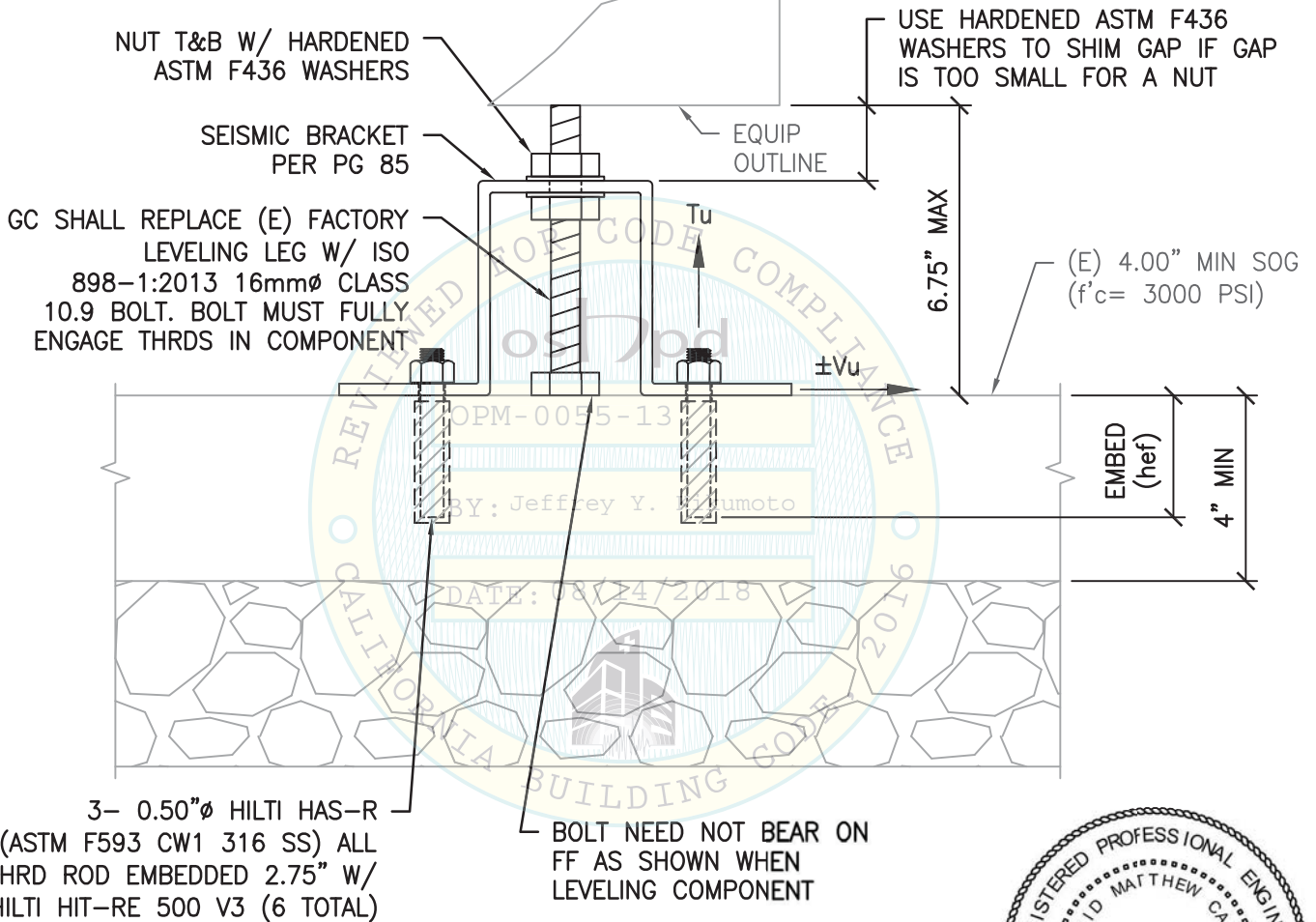
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	465#	147#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



CASE 2 – SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 12: a3600 ALIQUOTER MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:cmachom Dimscale:1 LScale:4

**ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS**

GC TO PROVIDE & INSTALL NON-STRUCTURAL \bar{P}
 $\frac{5}{16} \times \frac{5}{16}$ TEMP GUIDEWAY TO FACILITATE
COMPONENT INSTALL & REMOVAL FOR SERVICE,
TYP OF 2. REMOVE PRIOR TO $\angle 8x$ INSTALL
(OMIT GUIDEWAY AT OWNER'S OPTION).

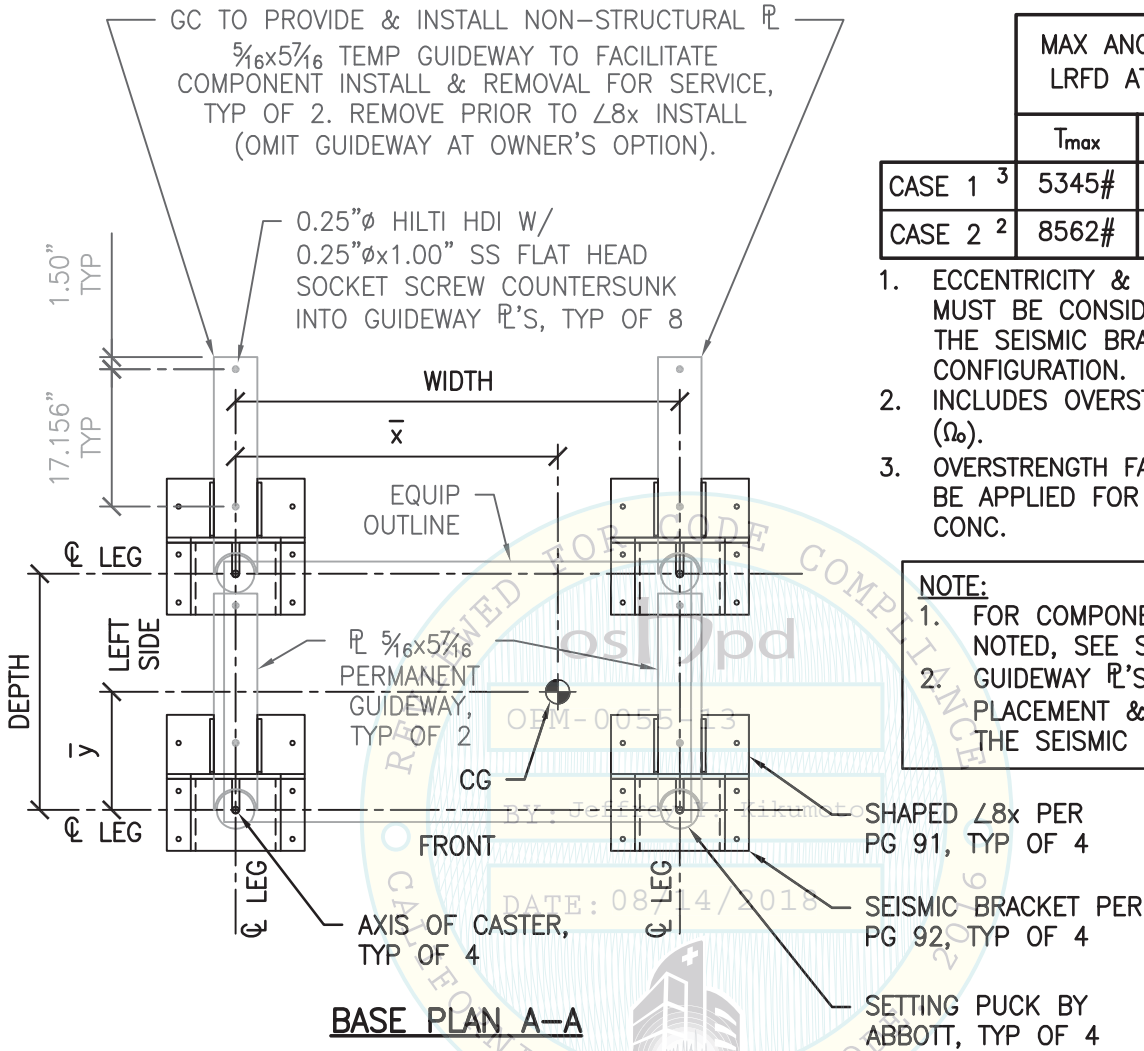
**MAX ANCHOR FORCES AT
LRFD AT LEVELING LEG¹**

	T _{max}	C _{max}	V _{max}
CASE 1 ³	5345#	109116#	21179#
CASE 2 ²	8562#	10496#	4390#

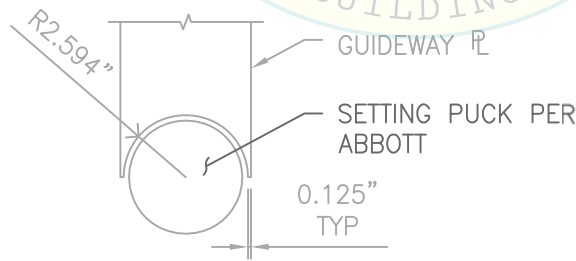
1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTE:

1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 11.
2. GUIDEWAY \bar{P} 'S ARE FOR EQUIP PLACEMENT & NOT PART OF THE SEISMIC RESTRAINT.



BASE PLAN A-A



GUIDEWAY \bar{P} AT SETTING PUCK



03/02/17 NOT SEOR

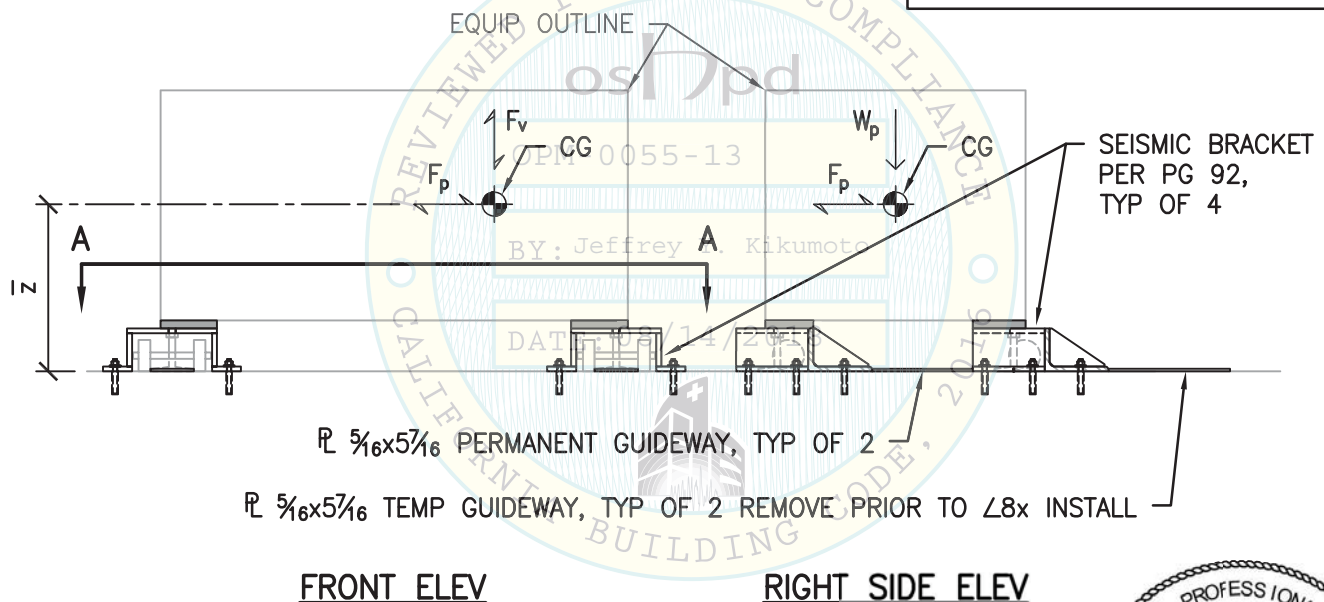
**SHEET TITLE: COMPONENT 13: INPECO TUBE STORAGE MODULE (15,038 TUBE CAPACITY)
BASE PLAN**

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 88 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:camachom DimScale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTE:
 1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 11.
 2. GUIDEWAY R'S ARE FOR EQUIP PLACEMENT & NOT PART OF THE SEISMIC RESTRAINT.



FRONT ELEV

RIGHT SIDE ELEV



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 13: INPECO TUBE STORAGE MODULE (15,038 TUBE CAPACITY)
ELEVATIONS

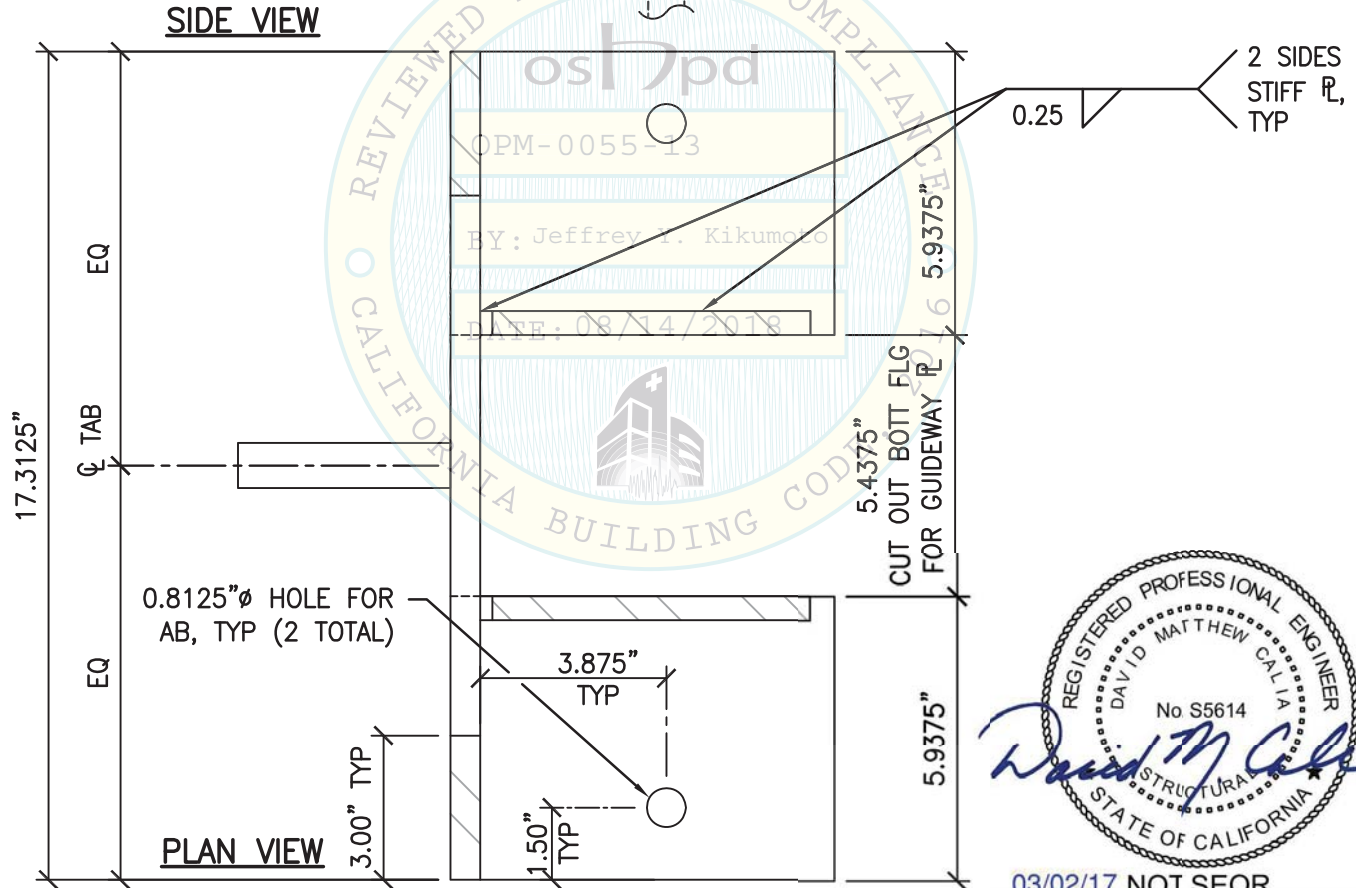
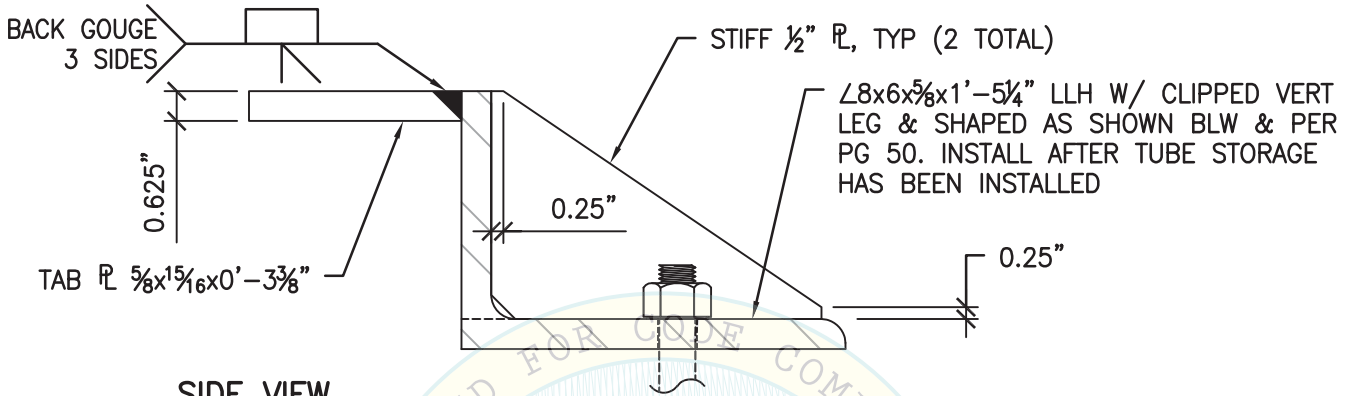
	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 89 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 93 & 94.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 88.
3. SEE PG 7 FOR WELDING NOTES.
4. SEE PG 91 FOR MORE INFO.
5. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 13: INPECO TUBE STORAGE MODULE (15,038 TUBE CAPACITY)
SHAPED ANGLE DETAIL

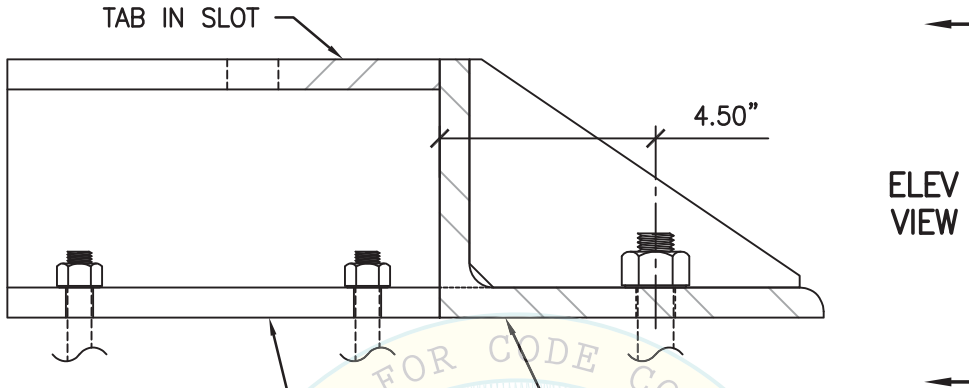
 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	Job No: 13027
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:cmachom DimScale:1 LITScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 93 & 94.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 88.
3. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



SEISMIC BRACKET PER PG 92.
INSTALL BEFORE TUBE STORAGE
IS INSTALLED

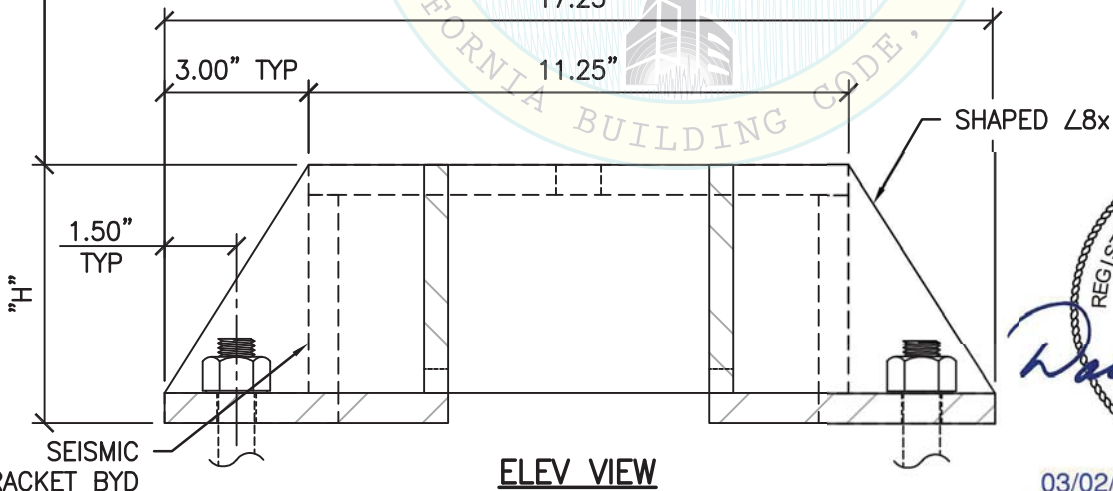
SIDE VIEW

∠8x6x $\frac{5}{8}$ x1'-5 $\frac{1}{4}$ " LLH W/ CLIPPED VERT LEG &
SHAPED AS SHOWN BLW & PER PG 90. INSTALL
AFTER TUBE STORAGE HAS BEEN INSTALLED

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING
PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE
CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

- BRACKET A:** "H" = 4.625" FOR 4.625" ≤ CLR ≤ 5.625"
BRACKET B: "H" = 5.375" FOR 5.375" ≤ CLR ≤ 6.375"
BRACKET C: "H" = 6.125" FOR 6.125" ≤ CLR ≤ 7.125"

FOR ABBOTT USE:	
MAX TRACK HT PER BRACKET	
A	= 882mm
B	= 900mm
C	= 920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 13: INPECO TUBE STORAGE MODULE (15,038 TUBE CAPACITY)
SHAPED ANGLE DETAIL



CYS STRUCTURAL ENGINEERS, INC.

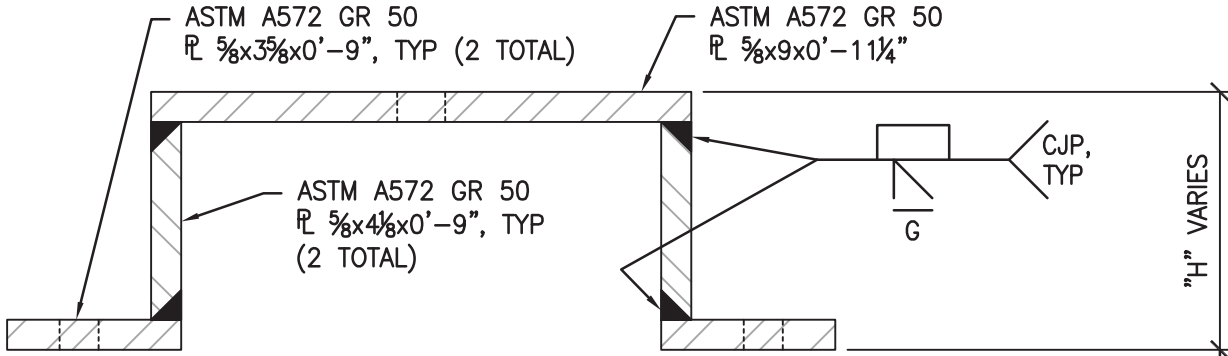
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

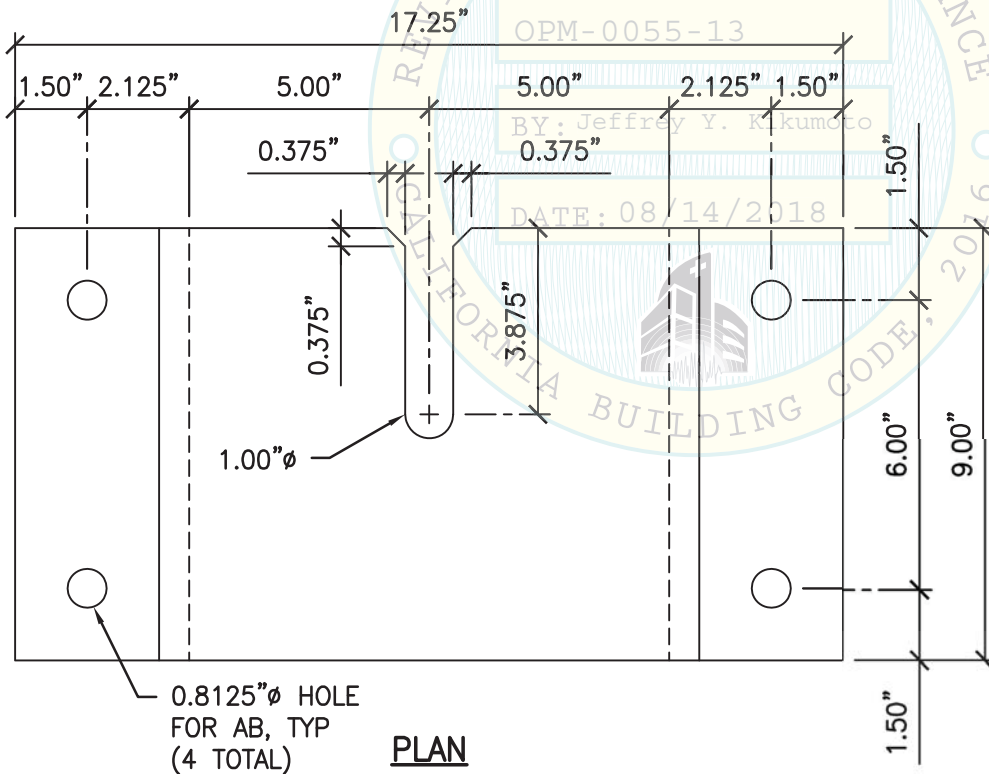


ELEV

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A:	"H" = 4.625" FOR $4.625'' \leq \text{CLR} \leq 5.625''$
BRACKET B:	"H" = 5.375" FOR $5.375'' \leq \text{CLR} \leq 6.375''$
BRACKET C:	"H" = 6.125" FOR $6.125'' \leq \text{CLR} \leq 7.125''$

FOR ABBOTT USE:	
MAX TRACK HT PER BRACKET	
A	= 882mm
B	= 900mm
C	= 920mm



NOTES:

- FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 93 & 94.
- BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 88.
- SEE PG 7 FOR WELDING NOTES.
- GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 13: INPECO TUBE STORAGE MODULE (15,038 TUBE CAPACITY)
SEISMIC BRACKET DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 92 of 148
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

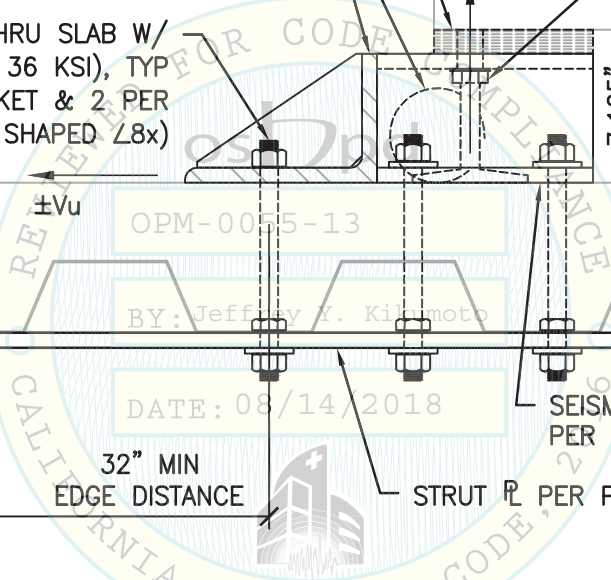
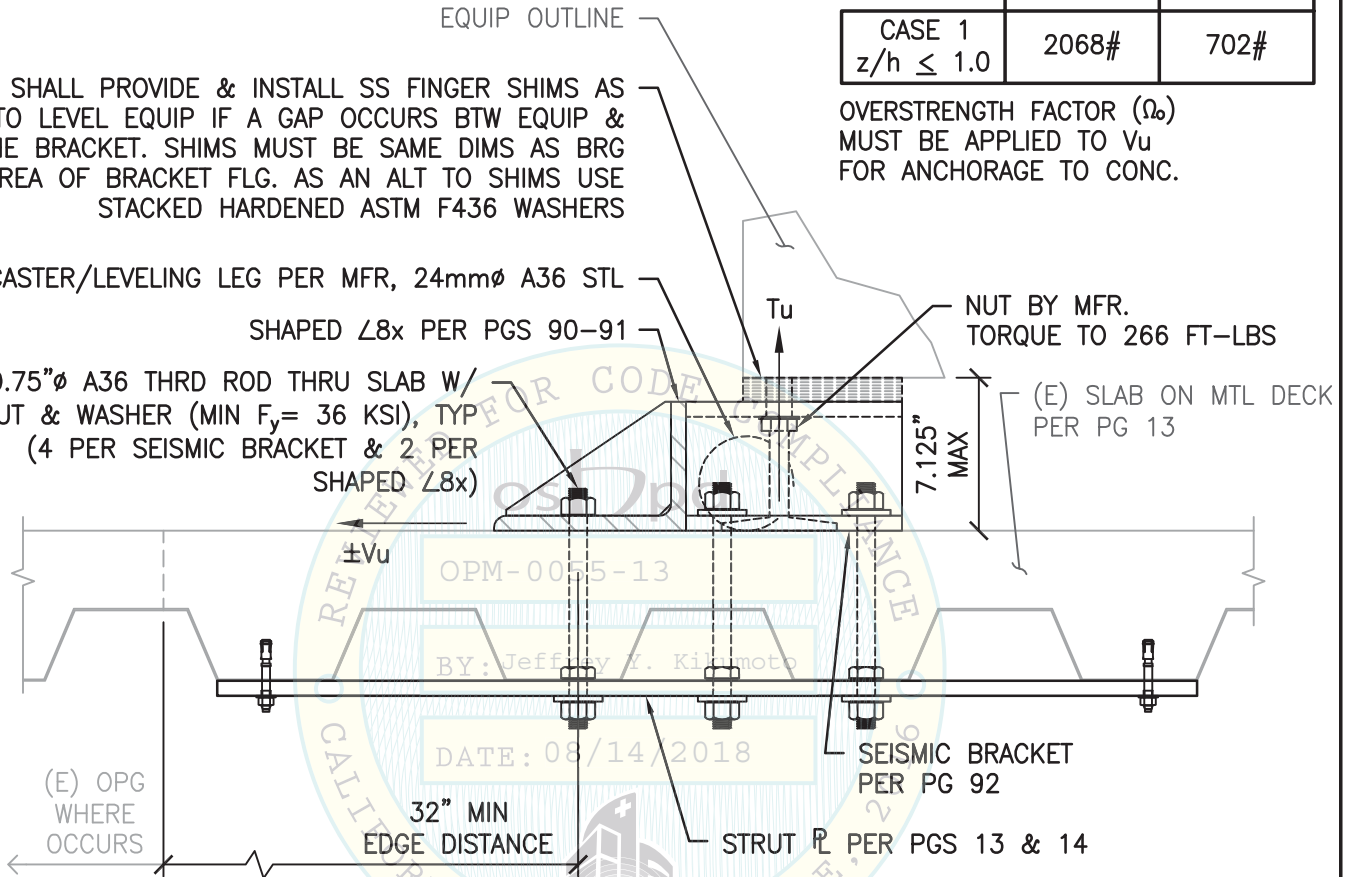
	Tu	Vu
CASE 1 $z/h \leq 1.0$	2068#	702#

OVERSTRENGTH FACTOR (Ω_o)
MUST BE APPLIED TO Vu
FOR ANCHORAGE TO CONC.

GC SHALL PROVIDE & INSTALL SS FINGER SHIMS AS
REQ TO LEVEL EQUIP IF A GAP OCCURS BTW EQUIP &
THE BRACKET. SHIMS MUST BE SAME DIMS AS BRG
AREA OF BRACKET FLG. AS AN ALT TO SHIMS USE
STACKED HARDENED ASTM F436 WASHERS

CASTER/LEVELING LEG PER MFR, 24mm ϕ A36 STL
SHAPED $\angle 8x$ PER PGS 90-91

0.75" ϕ A36 THRD ROD THRU SLAB W/
NUT & WASHER (MIN $F_y = 36$ KSI), TYP
(4 PER SEISMIC BRACKET & 2 PER
SHAPED $\angle 8x$)



REVIEWED FOR CODE COMPLIANCE
BY: Jeffrey F. Kikumoto
DATE: 08/14/2018

CASE 1 - SUSPENDED FLR W/ THRU BOLTS

NOTE:
1. GUIDEWAY R 'S NOT
SHOWN FOR CLARITY.

03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 13: INPECO TUBE STORAGE MODULE (15,038 TUBE CAPACITY)
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

Tu Vu

3416# 1288#

CASE 2
z/h = 0

INCLUDES OVERSTRENGTH FACTOR (Ω_0)

GC SHALL PROVIDE & INSTALL SS FINGER SHIMS AS REQ TO LEVEL EQUIP IF A GAP OCCURS BTW EQUIP & THE BRACKET. SHIMS MUST BE SAME DIMS AS BRG AREA BRACKET FLG. AS AN ALT TO SHIMS USE STACKED HARDENED ASTM F436 WASHERS

SEISMIC BRACKET
PER PG 92

BOTT ADHERED TO
FLR FOR FINAL POSITIONING OF TUBE STORAGE

NUT BY MFR.
TORQUE TO
266 FT-LBS

EQUIP
OUTLINE

0.125" GAP BTW AXLE
& INSIDE OF SEISMIC
BRACKET, TYP

7.125" MAX

(E) 4" MIN SOG
($f'_c = 3000$ PSI)

Tu

$\pm Vu$

Tu

$\pm Vu$

CASTER/LEVELING
LEG PER MFR,
24mm ϕ A36 STL

GUIDEWAY R,
PER PG 88

EMBED
(hef)

6" MIN

BY: Jeffrey Y. Kikumoto

DATE: 08/14/2018

USE 2- 0.75" ϕ HILTI KB-TZ 304 SS W/ 3.75"
EMBEDMENT AT EA LEG OF EA SEISMIC BRACKET &
2- 0.75" ϕ HILTI HAS-R (ASTM F593 CW1 316 SS)
AT EA SHAPED KEEPER $\angle 8x$ ($\angle 8x$ NOT SHOWN).
DO NOT LOCATE ANCHORS WITHIN 11.25" OF ADJ
ANCHOR, UNO.

CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)

03/02/17 NOT SEOR



SHEET TITLE: COMPONENT 13: INPECO TUBE STORAGE MODULE (15,038 CAPACITY)
SUPPORTS & ATTACHMENTS DETAIL



CYS STRUCTURAL ENGINEERS, INC.

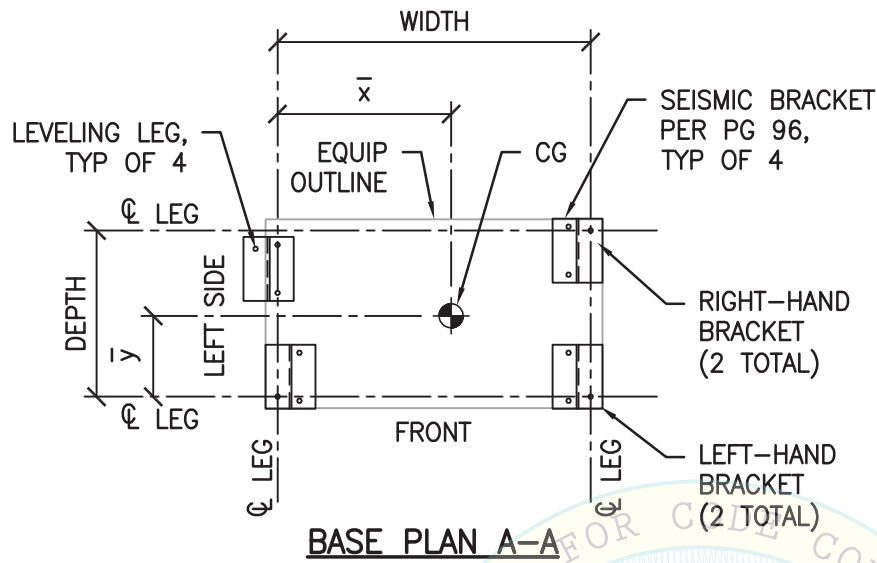
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No: 13027
Date: 2-2-2017
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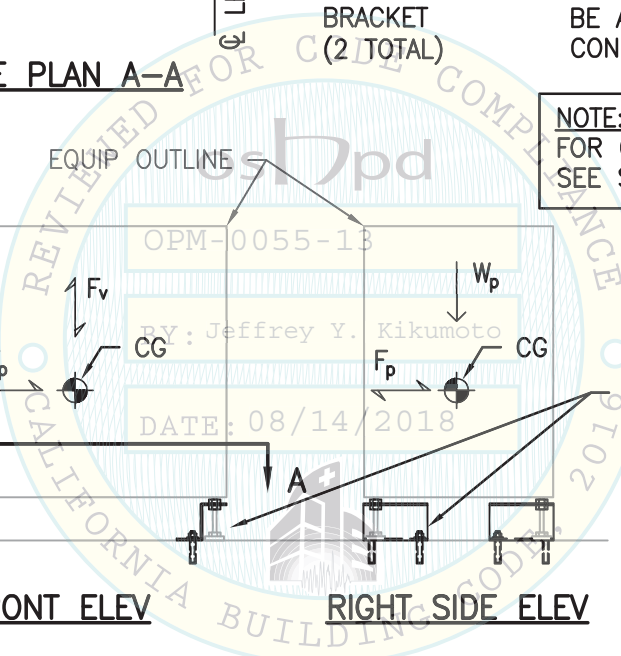
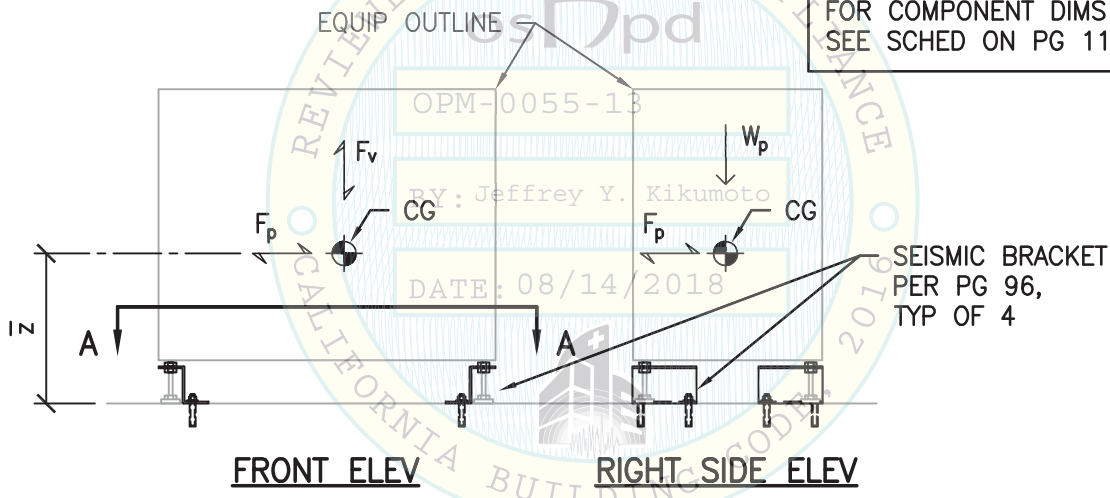
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



MAX ANCHOR FORCES AT LRFD AT LEVELING LEG ¹			
	T _{max}	C _{max}	V _{max}
CASE 1 ³	935#	1273#	461#
CASE 2 ²	498#	835#	259#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTE:
FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 11.



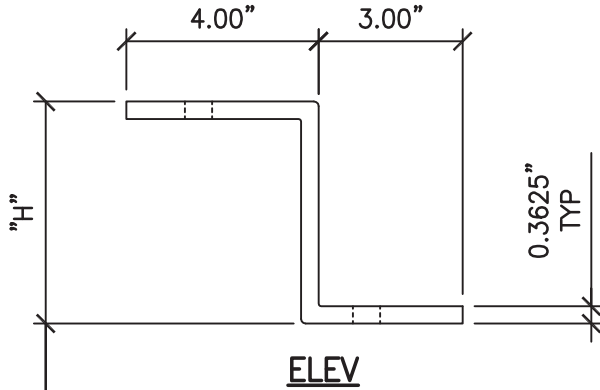
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 14: BULK INPUT MODULE
BASE PLAN & ELEVATIONS

<p>2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>CYS STRUCTURAL ENGINEERS, INC.</p> <p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 95 of 148

L:\Jobs\13\13027 Abbott OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:cmachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

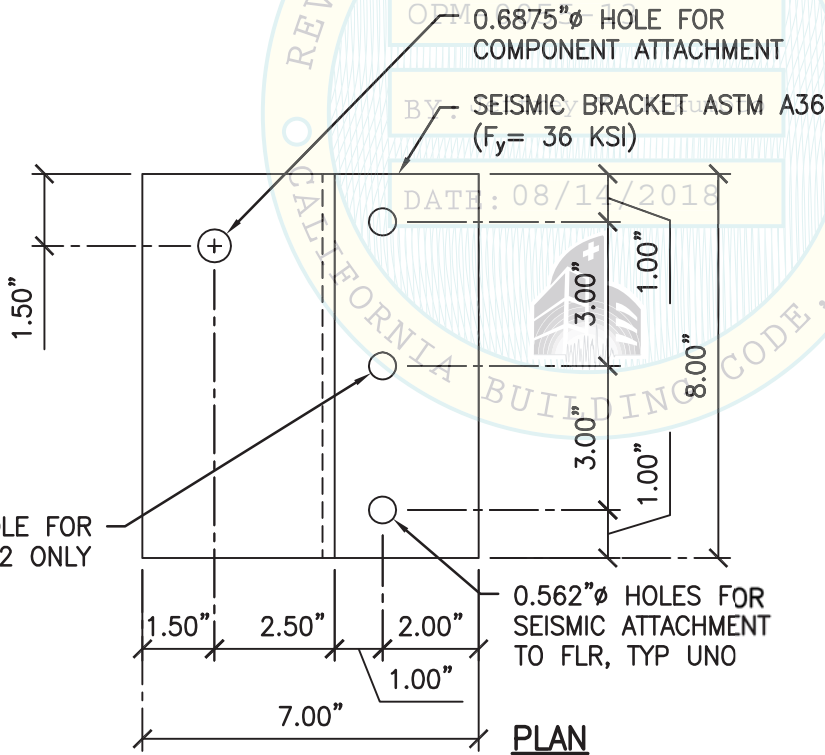


NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 97 & 98.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 95.
3. LEFT-HAND BRACKET SHOWN. SEE BASE PLAN A-A ON PG 95 FOR RIGHT-HAND BRACKET CONFIGURATION.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

<u>BRACKET A:</u>	"H" = 4.00" FOR 4.00" ≤ CLR ≤ 4.625"
<u>BRACKET B:</u>	"H" = 4.625" FOR 4.625" ≤ CLR ≤ 5.25"
<u>BRACKET C:</u>	"H" = 5.25" FOR 5.25" ≤ CLR ≤ 5.875"
<u>BRACKET D:</u>	"H" = 5.875" FOR 5.875" ≤ CLR ≤ 6.50"



FOR ABBOTT USE:

MAX TRACK HT PER BRACKET	
A =	875mm
B =	890mm
C =	906mm
D =	920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 14: BULK INPUT MODULE
SEISMIC BRACKET DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 96 of 148
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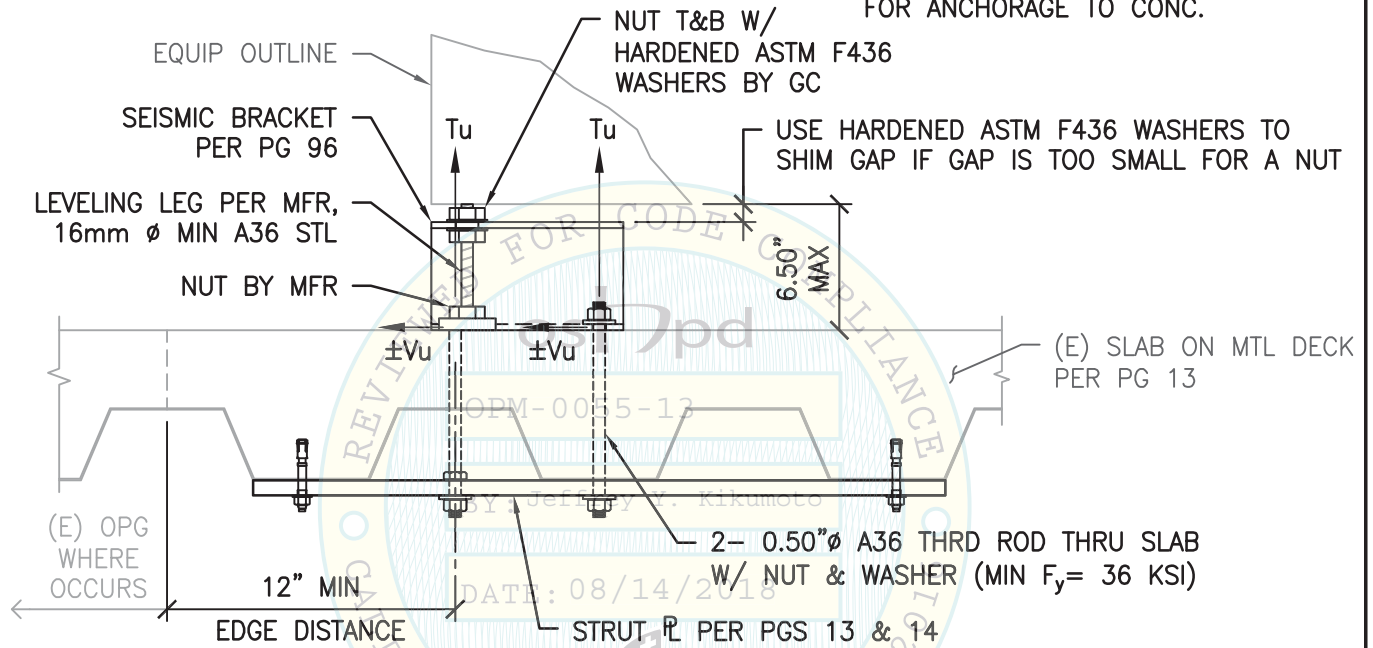
L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:cmachom Dimscale:1 LScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 z/h = 0	4712#	501#

OVERSTRENGTH FACTOR (Ω_0)
MUST BE APPLIED TO V_u
FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 14: BULK INPUT MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 97 of 148
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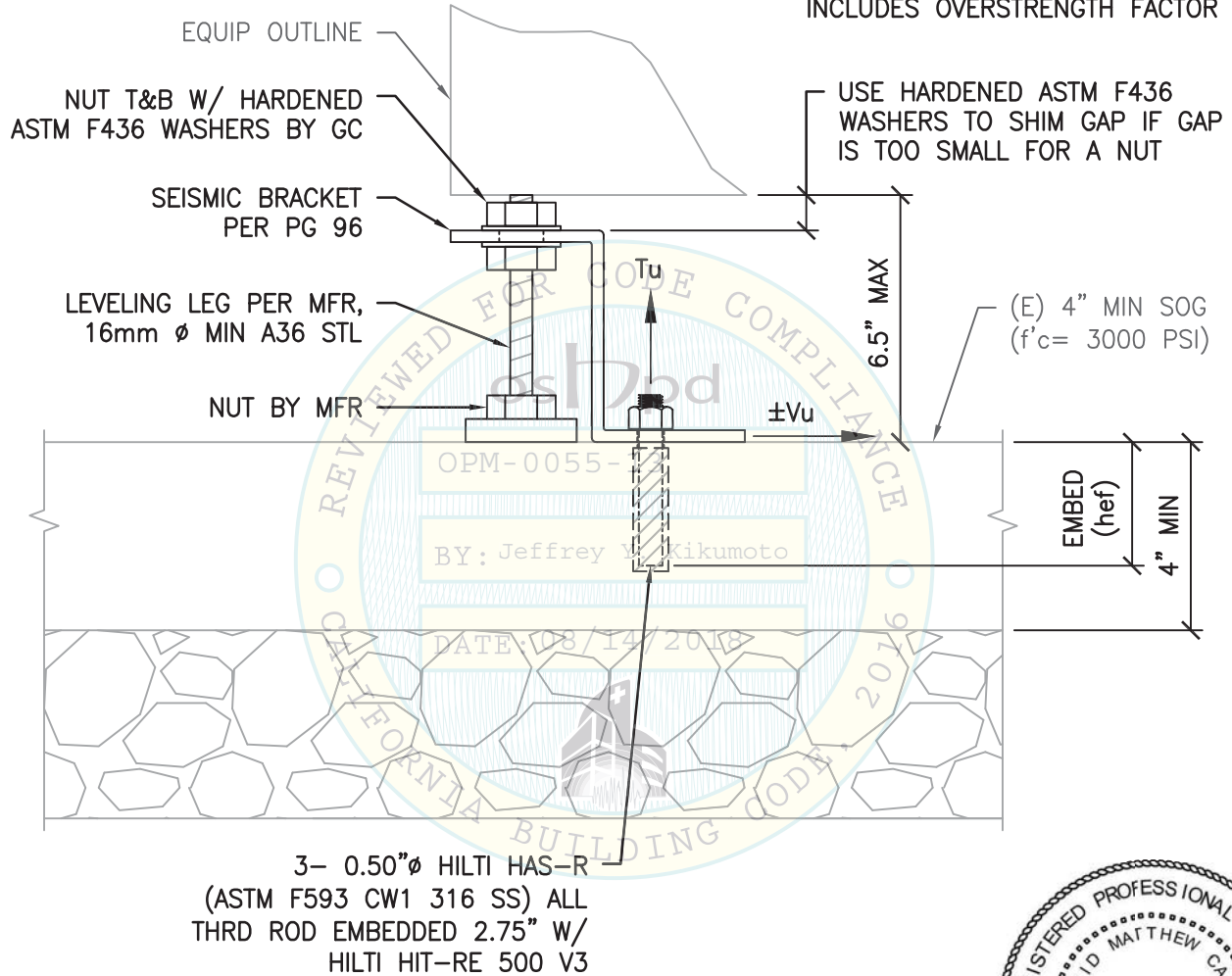
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1110#	399#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)



CASE 2 – SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 14: BULK INPUT MODULE
SUPPORTS & ATTACHMENTS DETAIL



CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
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L:\Jobs\13\13027 Abbott c3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:ccmachom DimScale:1 LScale:4

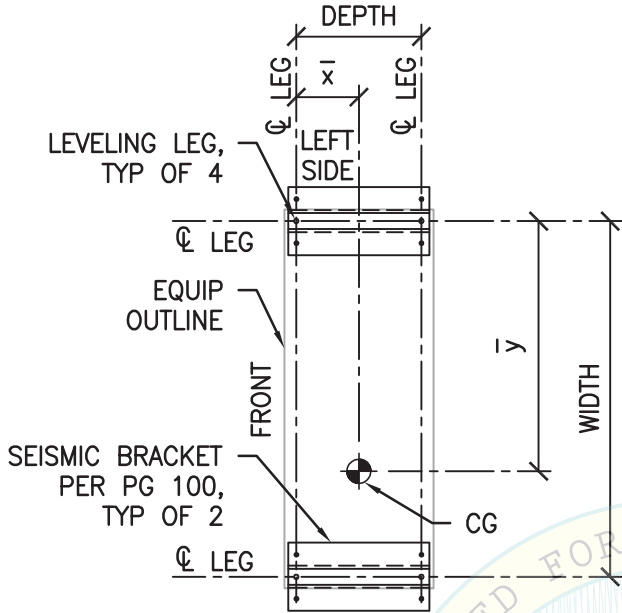
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES AT LRFD AT LEVELING LEG¹

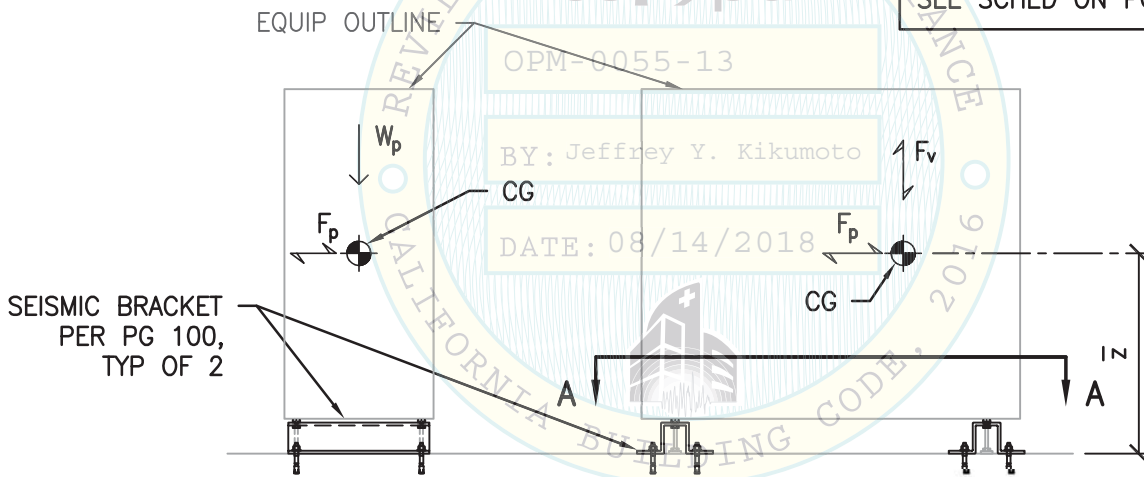
	T _{max}	C _{max}	V _{max}
CASE 1 ³	1583#	1863#	393#
CASE 2 ²	867#	1147#	221#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTE:
FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 11.

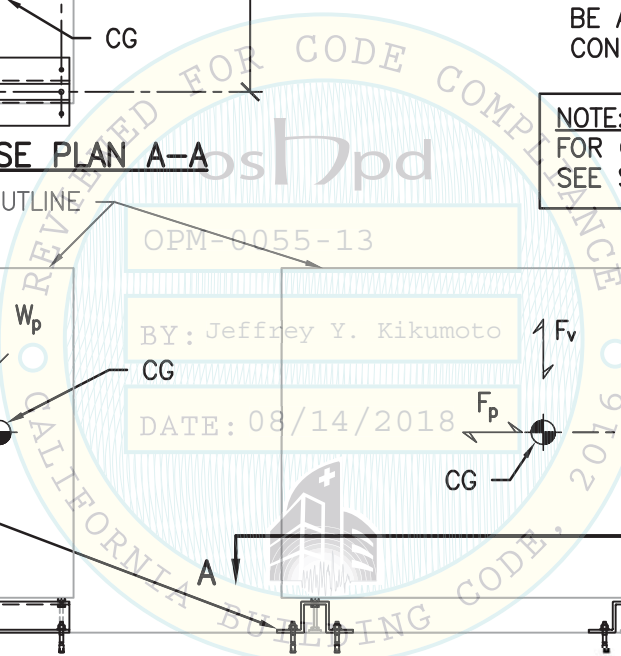


BASE PLAN A-A



RIGHT SIDE ELEV

FRONT ELEV



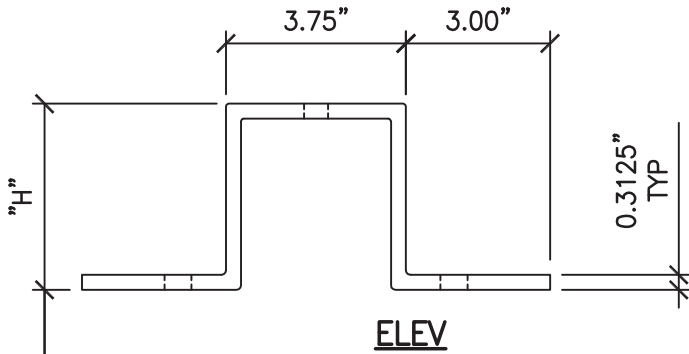
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 15 & 16: RACK INPUT / OUTPUT MODULES
BASE PLAN & ELEVATIONS

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 99 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:27am Login:camachom Dimscale:1 L1Scale:4

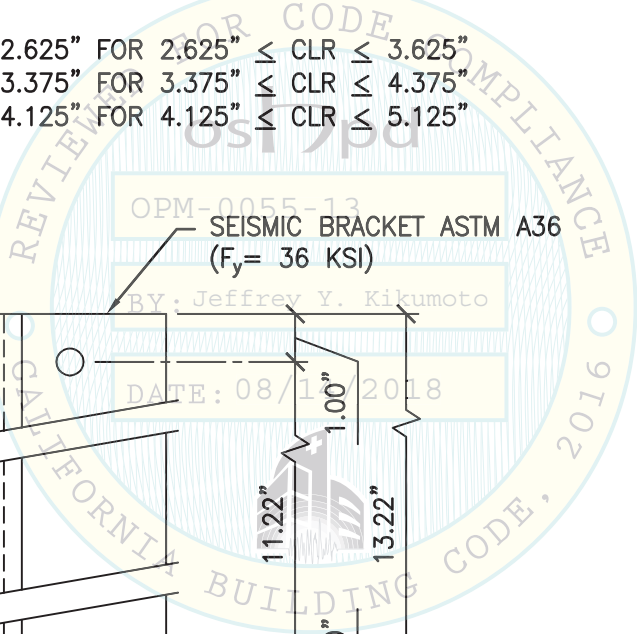
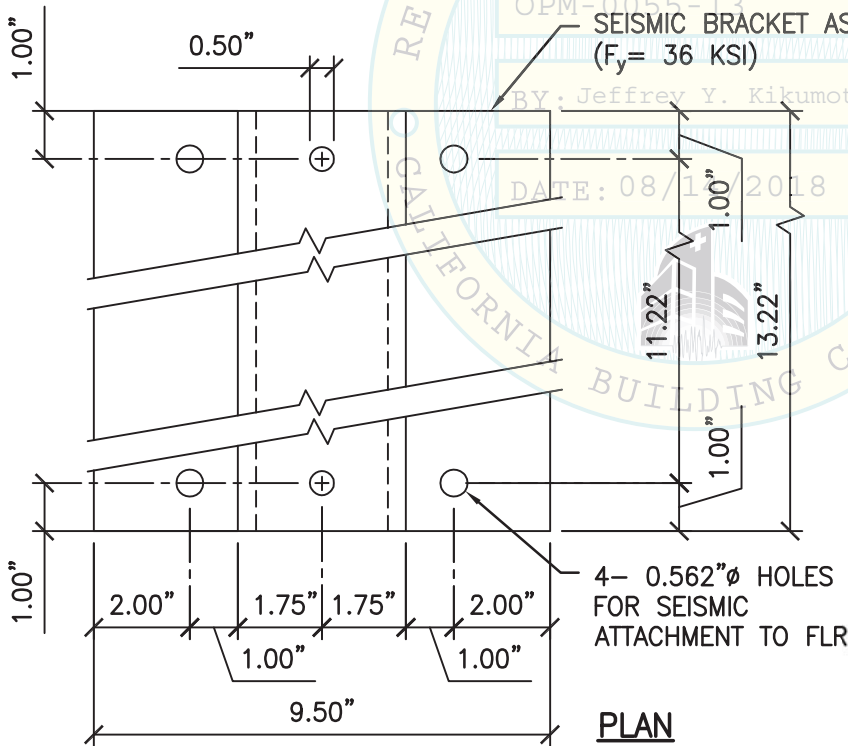
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



- NOTES:**
1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 101 & 102.
 2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 99.
 3. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

- BRACKET A:** "H" = 2.625" FOR $2.625" \leq \text{CLR} \leq 3.625"$
BRACKET B: "H" = 3.375" FOR $3.375" \leq \text{CLR} \leq 4.375"$
BRACKET C: "H" = 4.125" FOR $4.125" \leq \text{CLR} \leq 5.125"$



FOR ABBOTT USE:	
MAX TRACK HT PER BRACKET	
A	= 885mm
B	= 903mm
C	= 920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 15 & 16: RACK INPUT / OUTPUT MODULES
SEISMIC BRACKET DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
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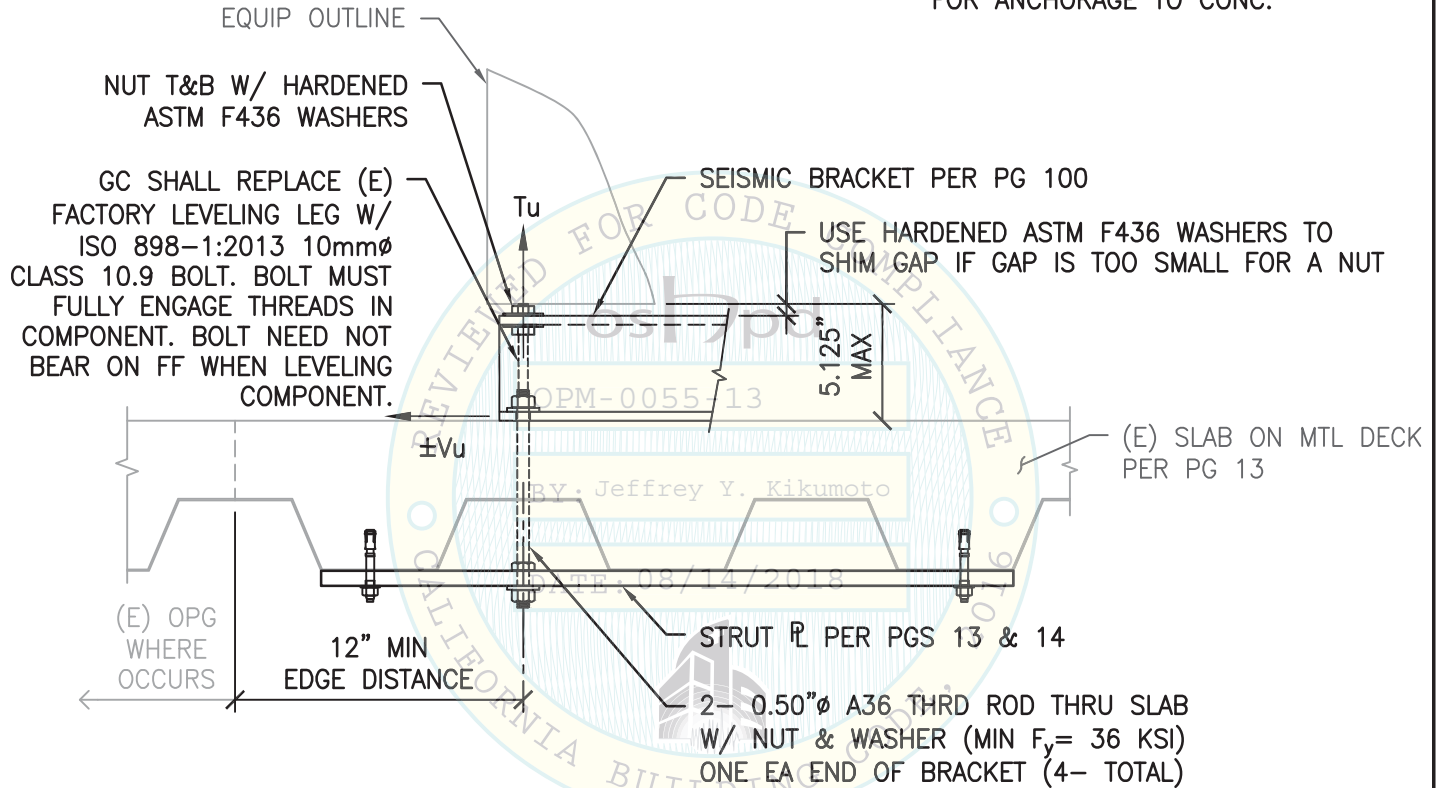
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	864#	110#

OVERSTRENGTH FACTOR (Ω_o)
MUST BE APPLIED TO V_u
FOR ANCHORAGE TO CONC.



CASE 1 – SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 15 & 16: RACK INPUT / OUTPUT MODULES
SUPPORTS & ATTACHMENTS DETAIL

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 101 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	474#	62#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)

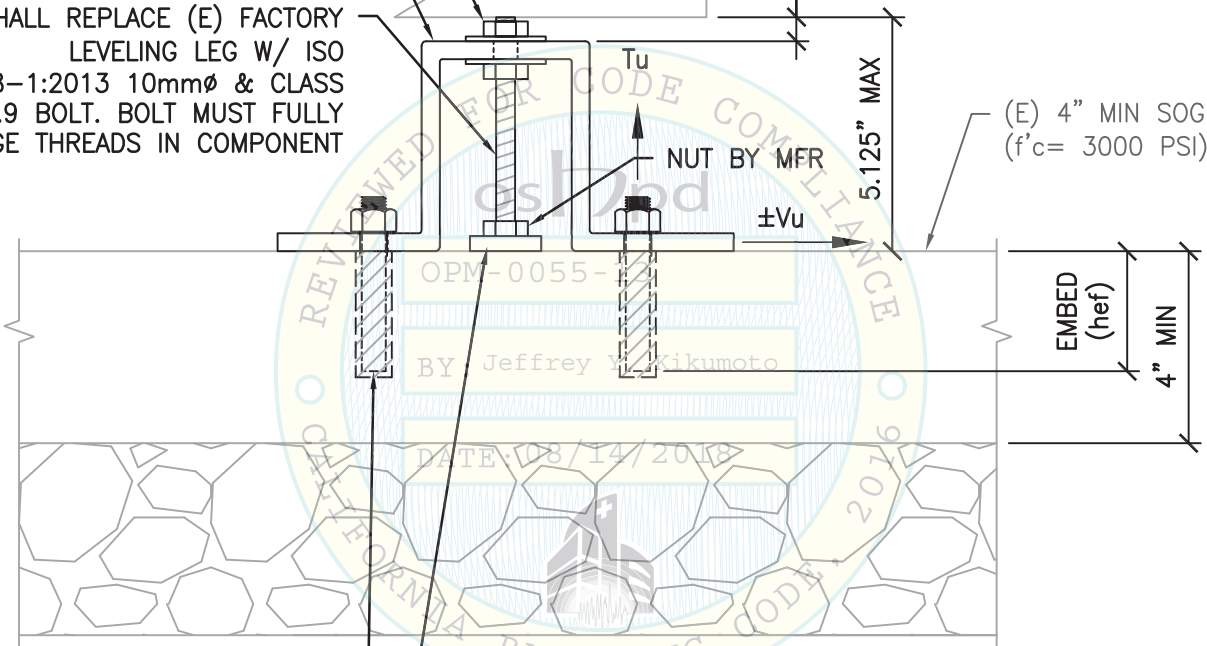
NUT T&B W/ HARDENED
ASTM F436 WASHERS

EQUIP OUTLINE

SEISMIC BRACKET
PER PG 100

USE HARDENED ASTM F436
WASHERS TO SHIM GAP IF GAP
IS TOO SMALL FOR A NUT

GC SHALL REPLACE (E) FACTORY
LEVELING LEG W/ ISO
898-1:2013 10mm ϕ & CLASS
10.9 BOLT. BOLT MUST FULLY
ENGAGE THREADS IN COMPONENT



(E) 4" MIN SOG
($f'_c = 3000$ PSI)

EMBED
(hef)
4" MIN

2- 0.50" ϕ HILTI HAS-R
(ASTM F593 CW1 316 SS) ALL
THRD ROD EMBEDDED 2.75" W/
HILTI HIT-RE 500 V3 (4 TOTAL)

BOLT NEED NOT BEAR ON
FF AS SHOWN WHEN
LEVELING COMPONENT

CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



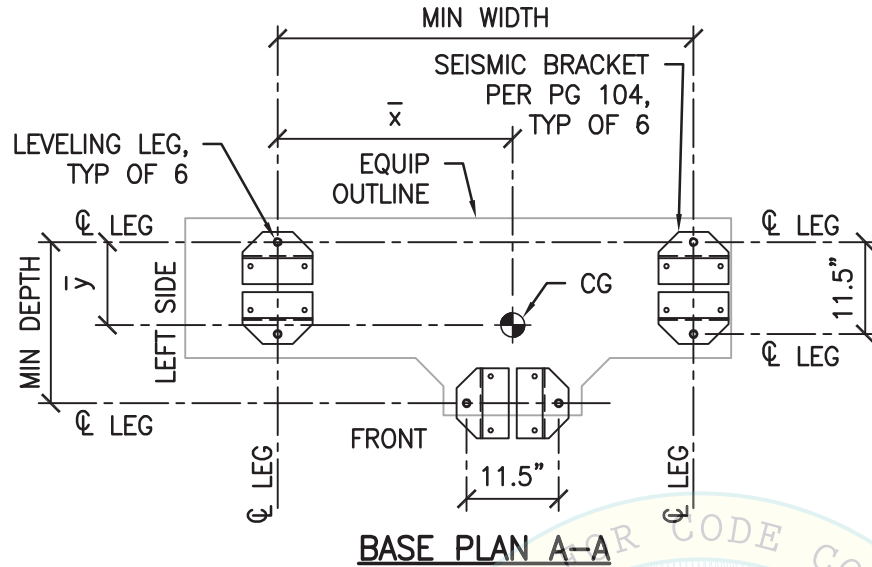
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 15 & 16: RACK INPUT / OUTPUT MODULES
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 102 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



MAX ANCHOR FORCES AT LRFD AT LEVELING LEG¹

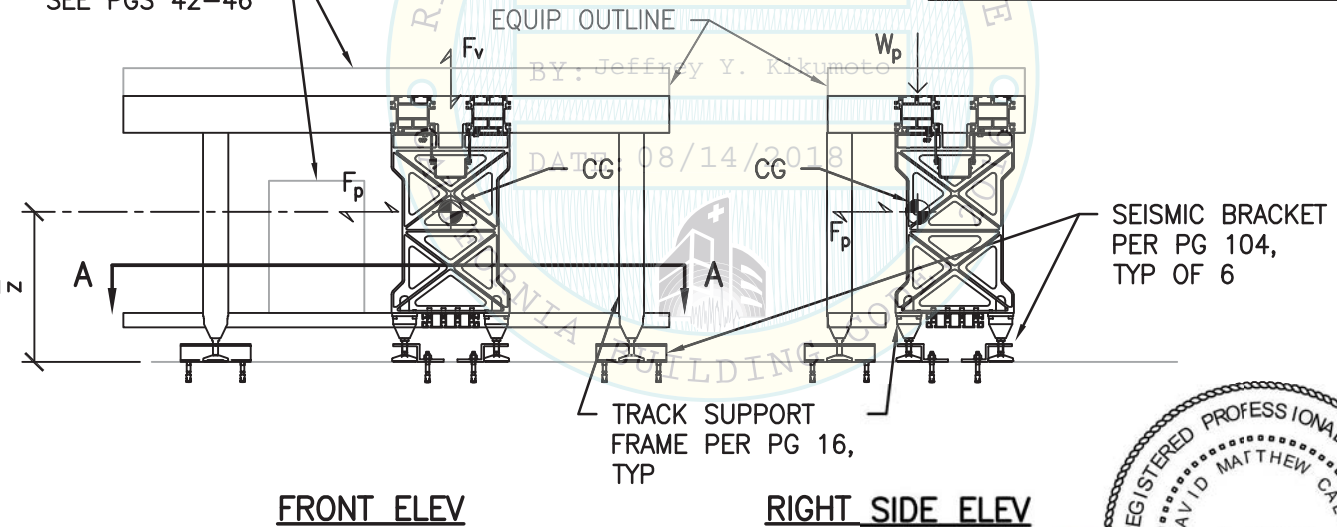
	T _{max}	C _{max}	V _{max}
CASE 1 ³	778#	1018#	275#
CASE 2 ²	438#	509#	155#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTES:

1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 11.
2. SEE PGS 16-18 FOR TYP TRACK SUPPORT FRAMES & T&B RAILS.
3. A DISTANCE OF 5.5" BTW AB OF ADJ BRACKETS IS ACCEPTABLE.

TRACK MOUNTED COMPONENTS.
SEE PGS 42-46



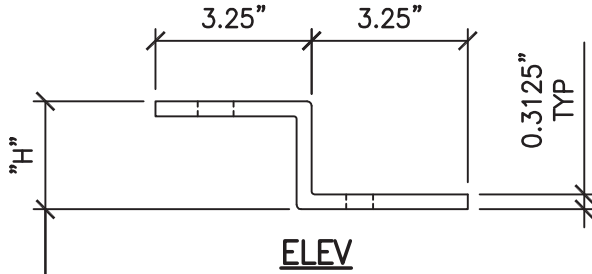
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 18: T-TURN MODULE
BASE PLAN & ELEVATIONS

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 103 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

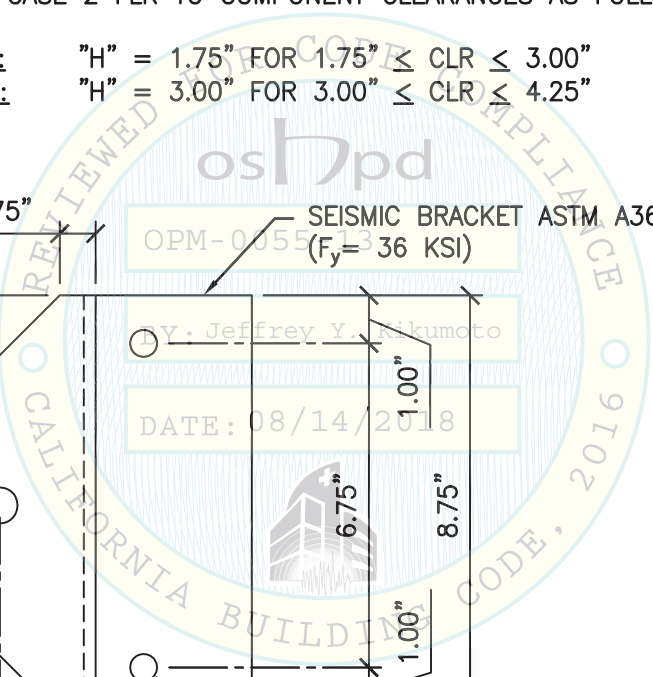
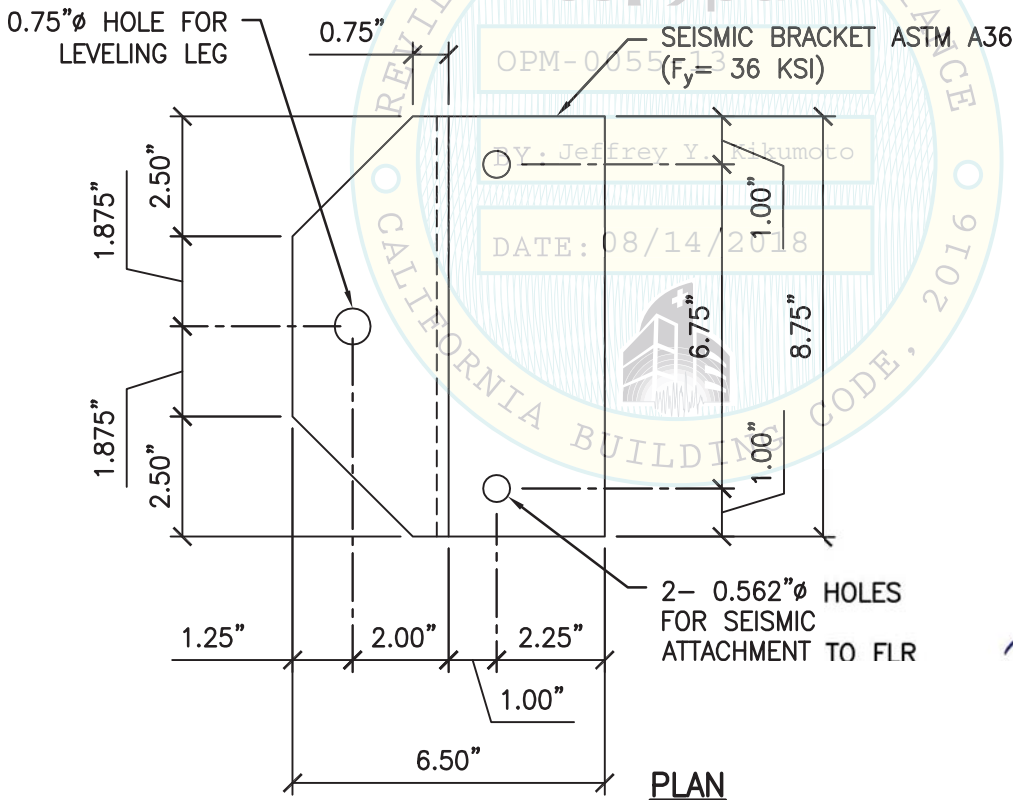


NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 105 & 106.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 103.
3. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 1.75" FOR 1.75" ≤ CLR ≤ 3.00"
BRACKET B: "H" = 3.00" FOR 3.00" ≤ CLR ≤ 4.25"



FOR ABBOTT USE:
 MAX TRACK HT
 PER BRACKET
 A = 888mm
 B = 920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 18: T-TURN MODULE
 SEISMIC BRACKET DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 104 of 148
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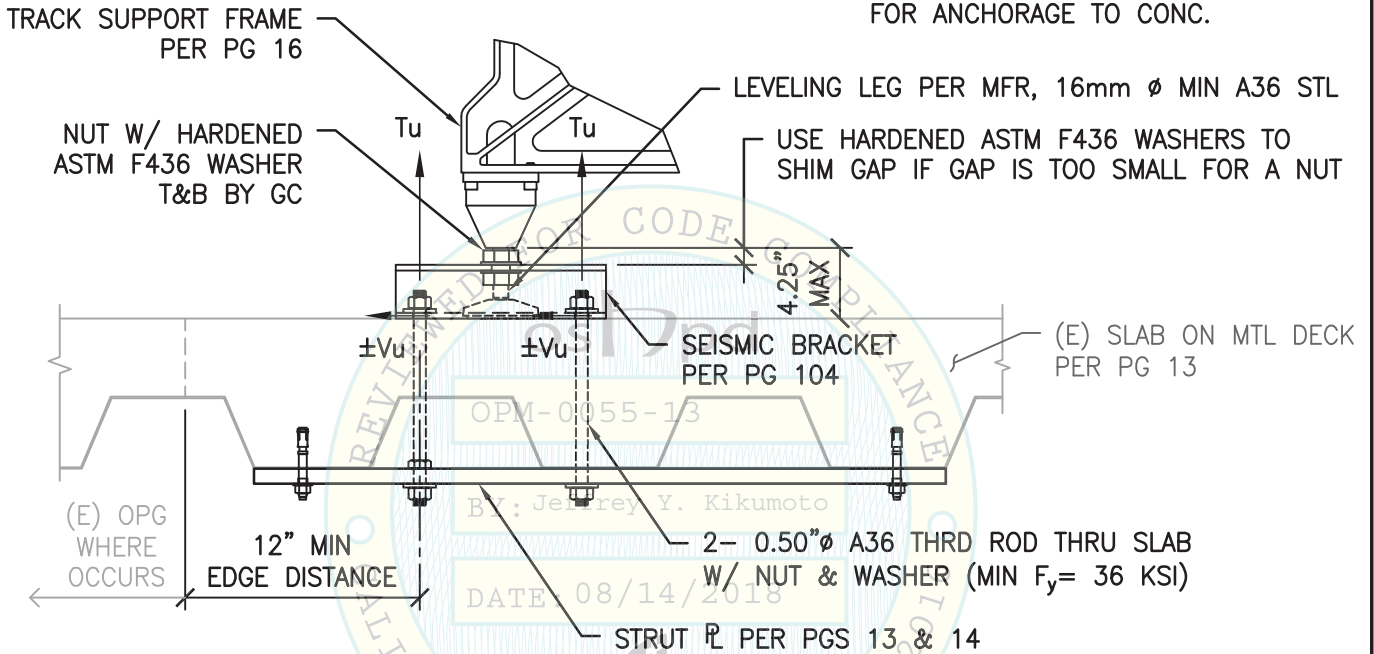
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	775#	639#

OVERSTRENGTH FACTOR (Ω_o)
MUST BE APPLIED TO V_u
FOR ANCHORAGE TO CONC.



CASE 1 – SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 18: T-TURN MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 105 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:28am Login:cmachom Dimscale:1 L1Scale:4

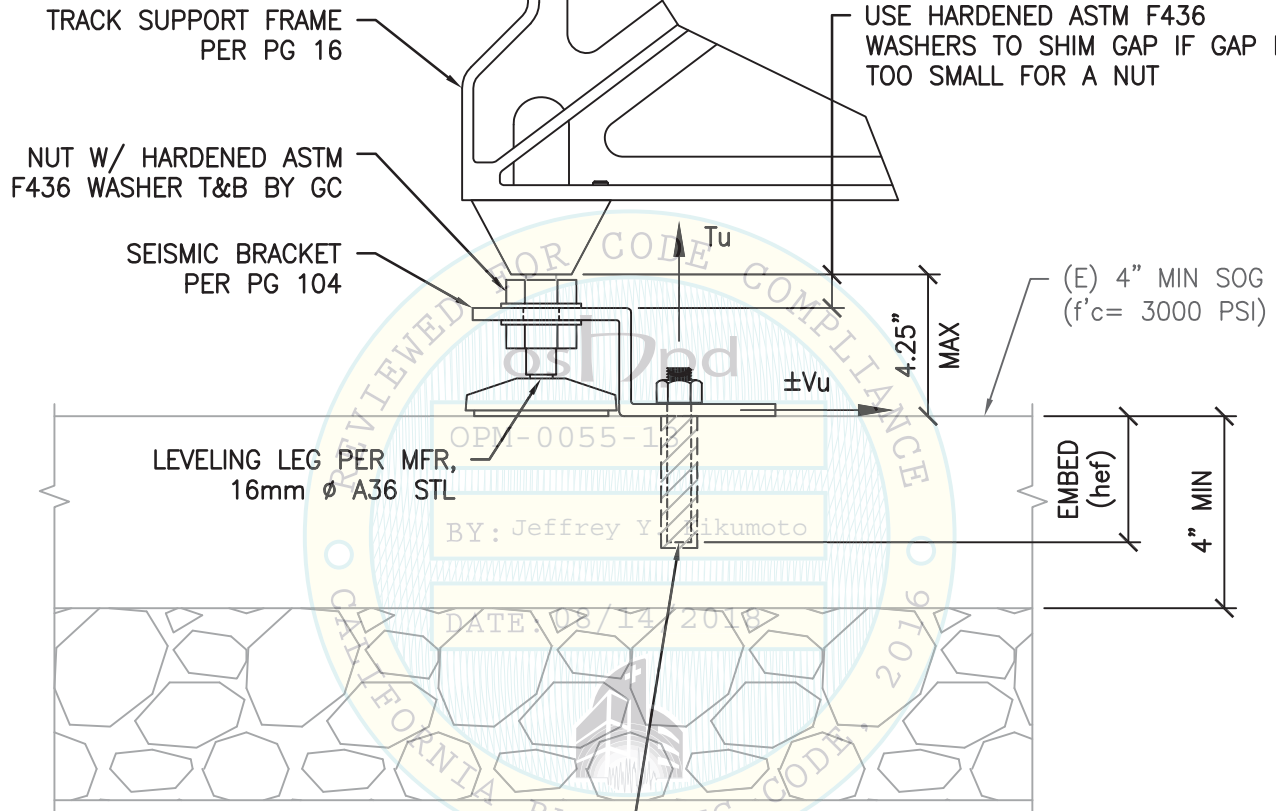
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	443#	104#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)

USE HARDENED ASTM F436
WASHERS TO SHIM GAP IF GAP IS
TOO SMALL FOR A NUT



2- 0.50" ϕ HILTI HAS-R
(ASTM F593 CW1 316 SS) ALL THRD ROD
EMBEDDED 2.75" W/ HILTI HIT-RE 500 V3

CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 18: T-TURN MODULE
SUPPORTS & ATTACHMENTS DETAIL



CYS STRUCTURAL ENGINEERS, INC.

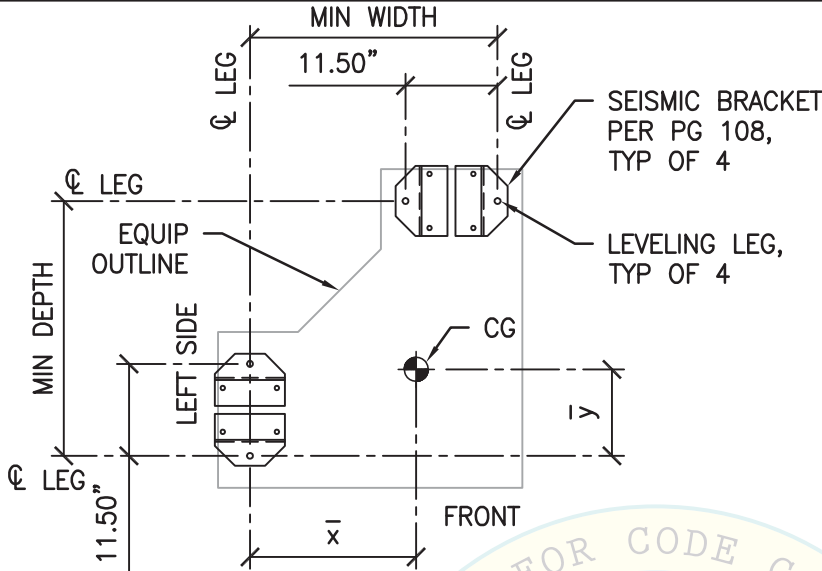
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
Page:	106 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



BASE PLAN A-A

MAX ANCHOR FORCES AT LRFD AT LEVELING LEG¹

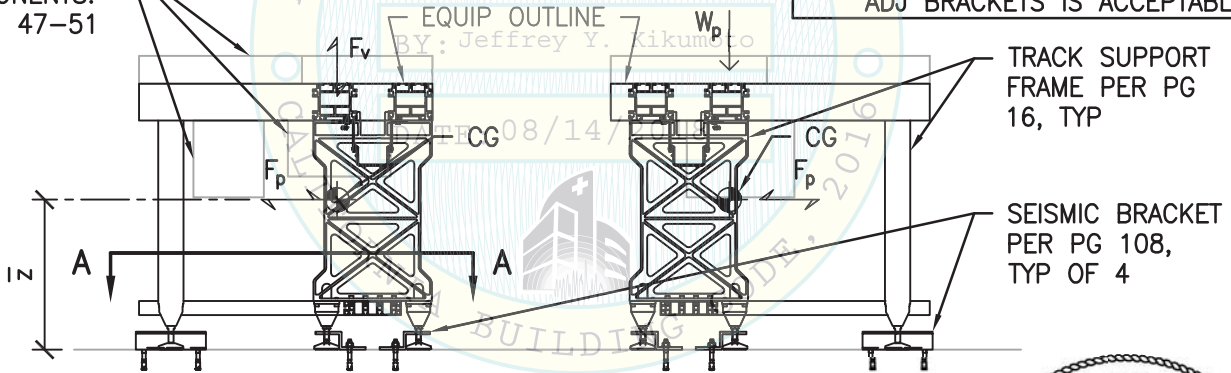
	T _{max}	C _{max}	V _{max}
CASE 1 ³	1618#	1922#	281#
CASE 2 ²	899#	987#	158#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTES:

1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 11.
2. SEE PGS 16-18 FOR TYP TRACK SUPPORT FRAMES & T&B RAILS.
3. A DISTANCE OF 5.5" BTW AB OF ADJ BRACKETS IS ACCEPTABLE.

TRACK MOUNTED COMPONENTS. SEE PGS 47-51



FRONT ELEV

RIGHT SIDE ELEV



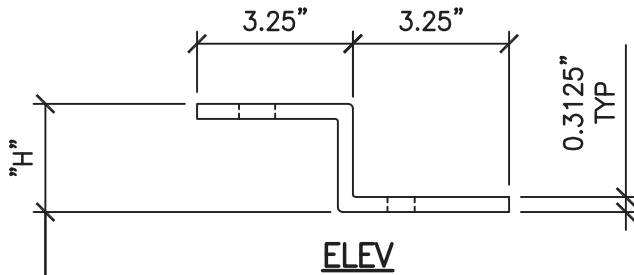
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 19: L-TURN MODULE
BASE PLAN & ELEVATIONS

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



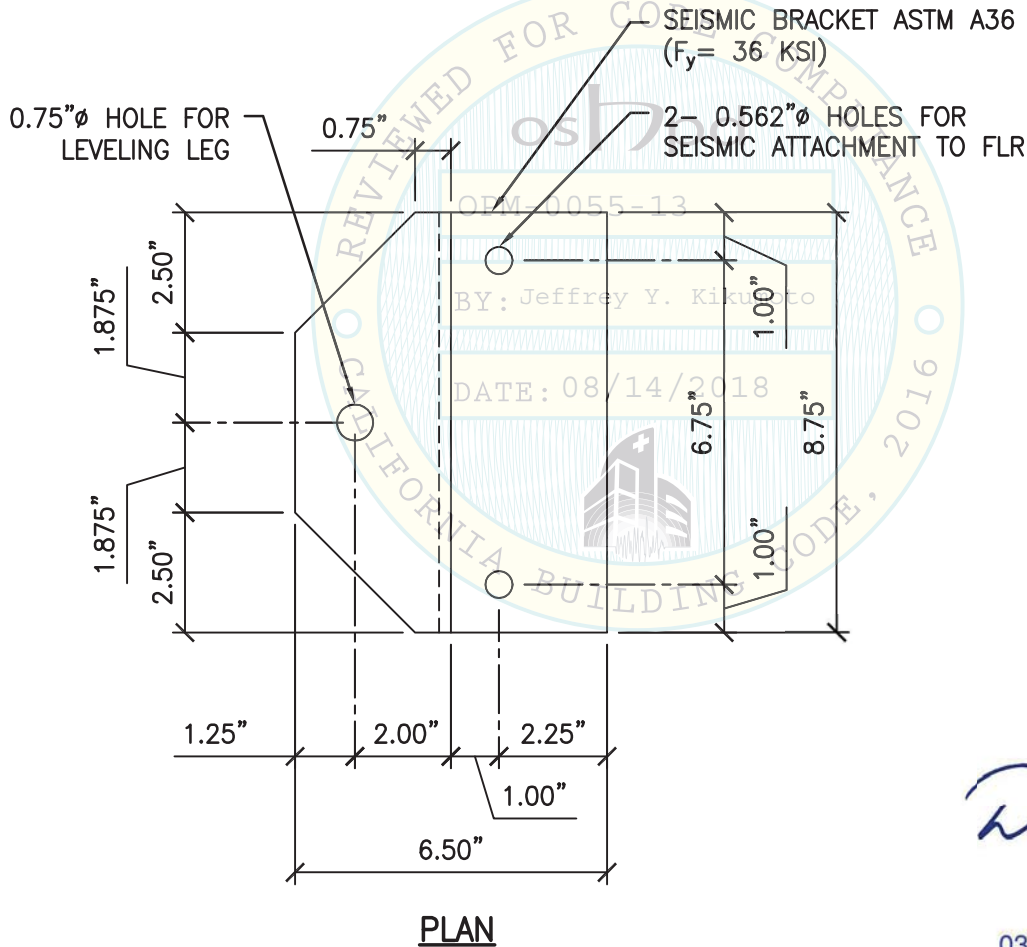
NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 109 & 110.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 107.
3. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 2.25" FOR $2.25" \leq CLR \leq 4.50"$

BRACKET B: "H" = 2.75" FOR $4.0" \leq CLR \leq 5.0"$



FOR ABBOTT USE:
MAX TRACK HT
PER BRACKET
A = 914mm
B = 920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 19: L-TURN MODULE
SEISMIC BRACKET DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 108 of 148
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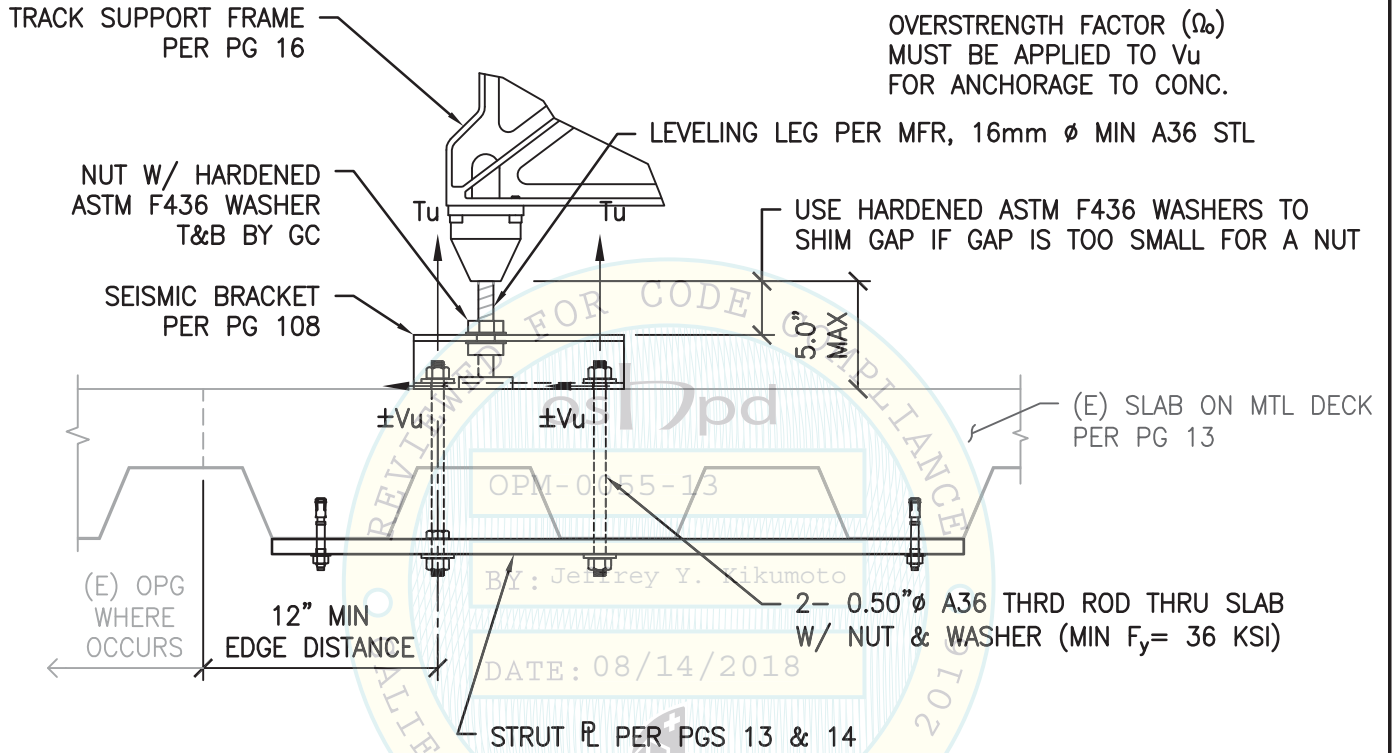
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	2066#	390#

OVERSTRENGTH FACTOR (Ω_o)
MUST BE APPLIED TO V_u
FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 19: L-TURN MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>CYS STRUCTURAL ENGINEERS, INC.</p> <p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 109 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:28am Login:cmachom DimScale:1 LScale:4

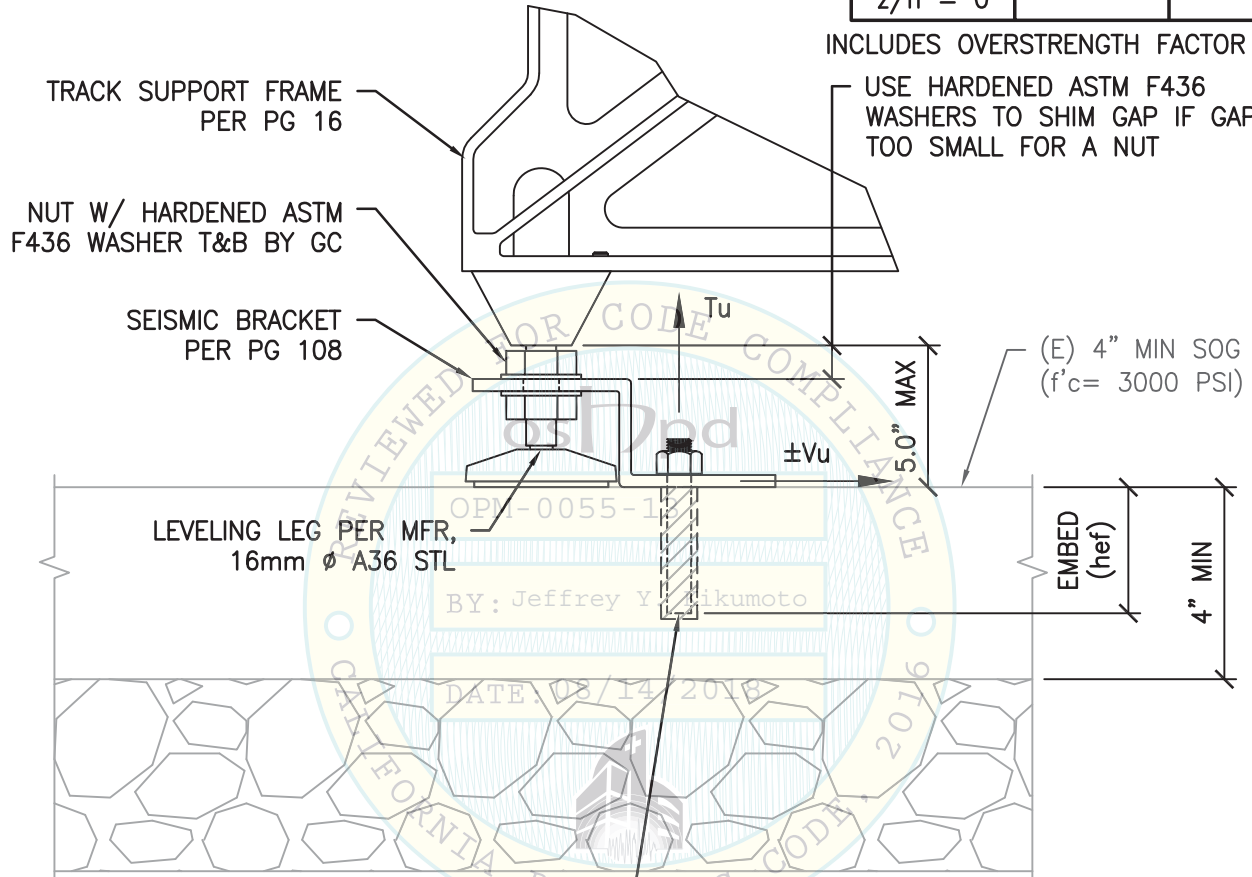
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1019#	241#

INCLUDES OVERSTRENGTH FACTOR (Ω_o)

USE HARDENED ASTM F436
WASHERS TO SHIM GAP IF GAP IS
TOO SMALL FOR A NUT



2- 0.50" ϕ HILTI HAS-R
(ASTM F593 CW1 316 SS) ALL THRD ROD
EMBEDDED 2.75" W/ HILTI HIT-RE 500 V3

CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 19: L-TURN MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 110 of 148
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**ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS**

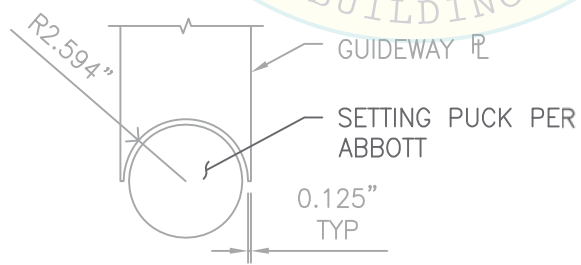
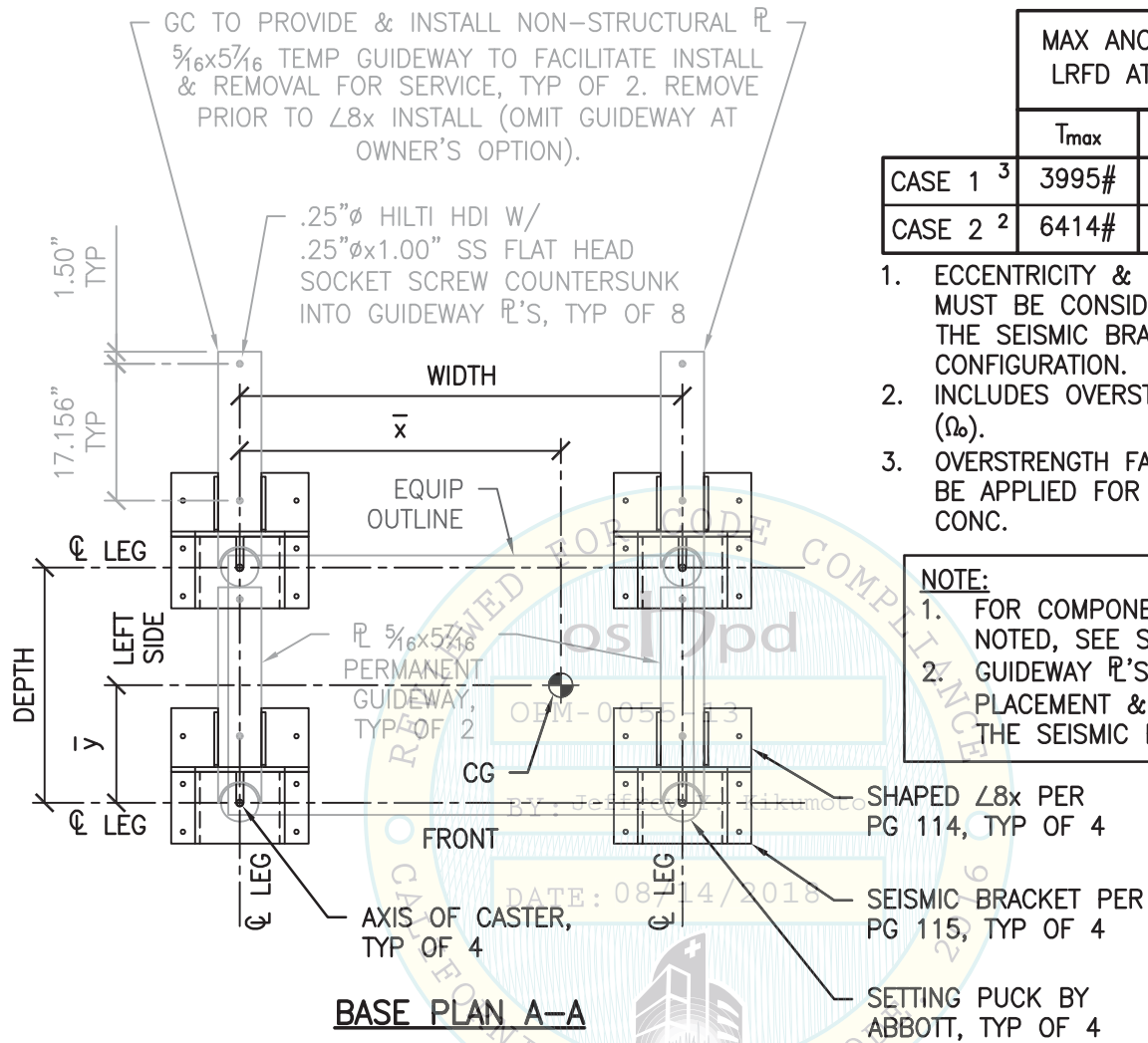
**MAX ANCHOR FORCES AT
LRFD AT LEVELING LEG¹**

	T _{max}	C _{max}	V _{max}
CASE 1 ³	3995#	5575#	21117#
CASE 2 ²	6414#	11693#	3408#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_0).
3. OVERSTRENGTH FACTOR (Ω_0) MUST BE APPLIED FOR ANCHORAGE TO CONC.

NOTE:

1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 11.
2. GUIDEWAY \bar{L} 'S ARE FOR EQUIP PLACEMENT & NOT PART OF THE SEISMIC RESTRAINT.



03/02/17 NOT SEOR

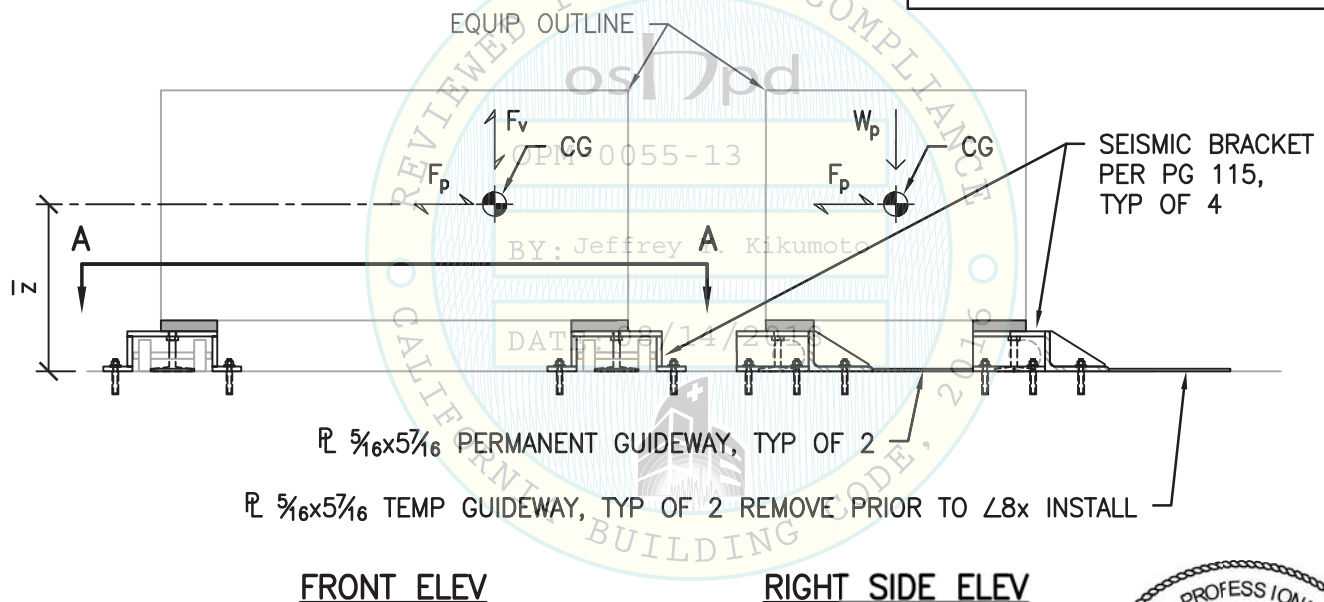
SHEET TITLE: COMPONENT 20: INPECO TUBE STORAGE MODULE (9,000 TUBE CAPACITY)
BASE PLAN

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 111 of 148
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:28am Login:camachom DimScale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTE:
 1. FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PG 11.
 2. GUIDEWAY R'S ARE FOR EQUIP PLACEMENT & NOT PART OF THE SEISMIC RESTRAINT.



FRONT ELEV

RIGHT SIDE ELEV



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 20: INPECO TUBE STORAGE MODULE (9,000 TUBE CAPACITY)
ELEVATIONS

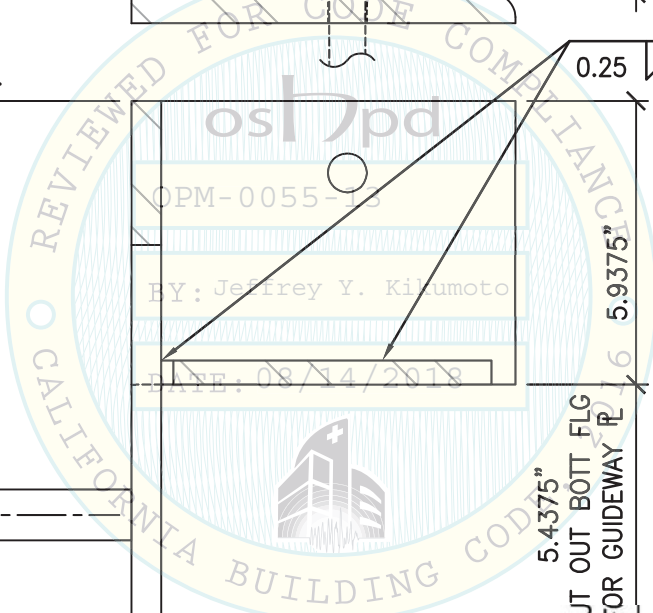
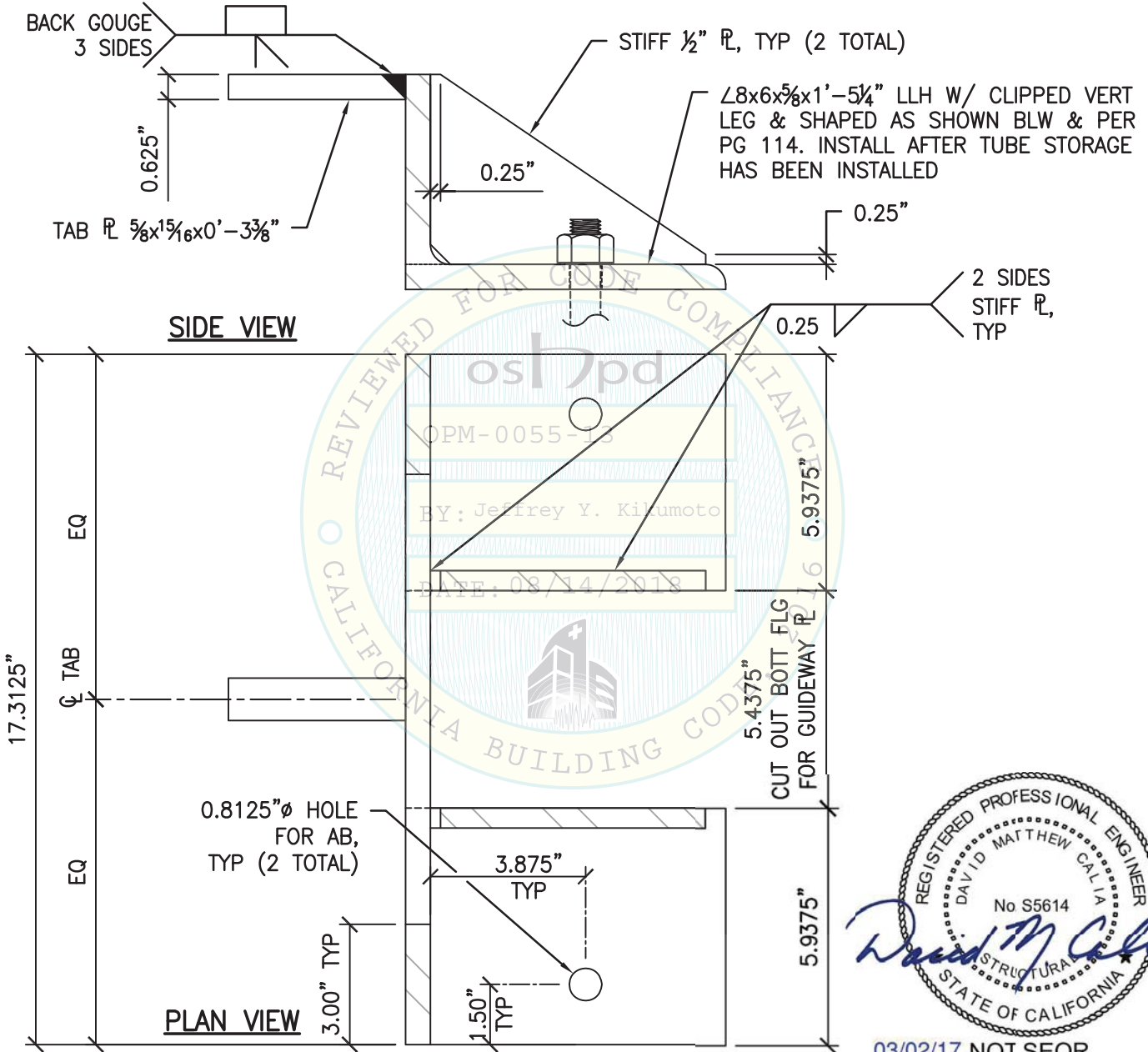
	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833		Date: 2-2-2017
	TEL (916) 920-2020 www.cyseng.com		Page: 112 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 116 & 117.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 111.
3. SEE PG 7 FOR WELDING NOTES.
4. SEE PG 114 FOR MORE INFO.
5. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 20: INPECO TUBE STORAGE MODULE (9,000 TUBE CAPACITY)
SHAPED ANGLE DETAIL

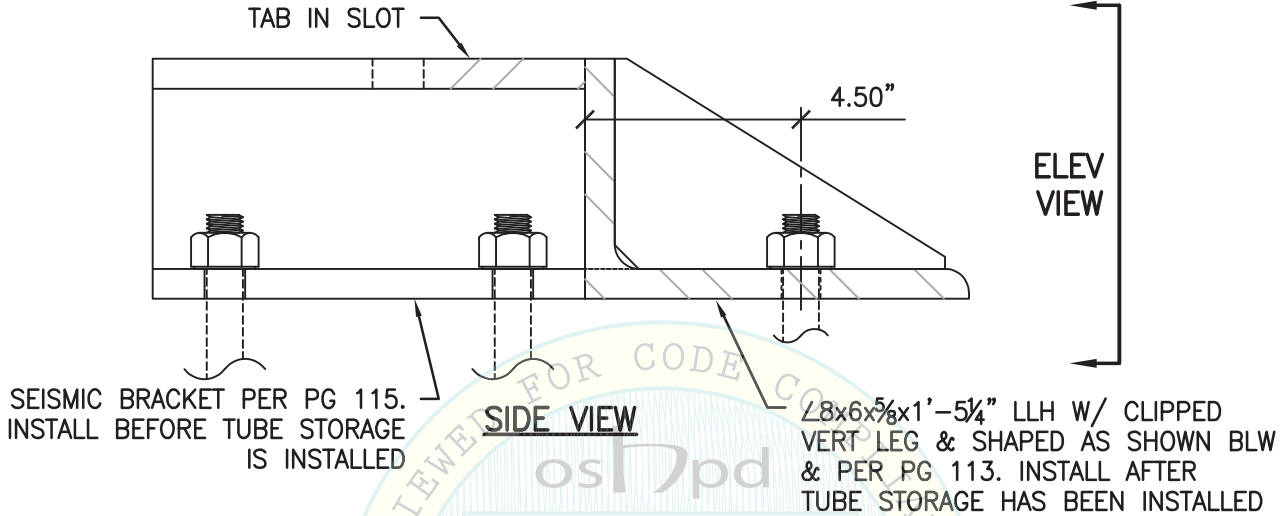
 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 113 of 148
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:28am Login:cmachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

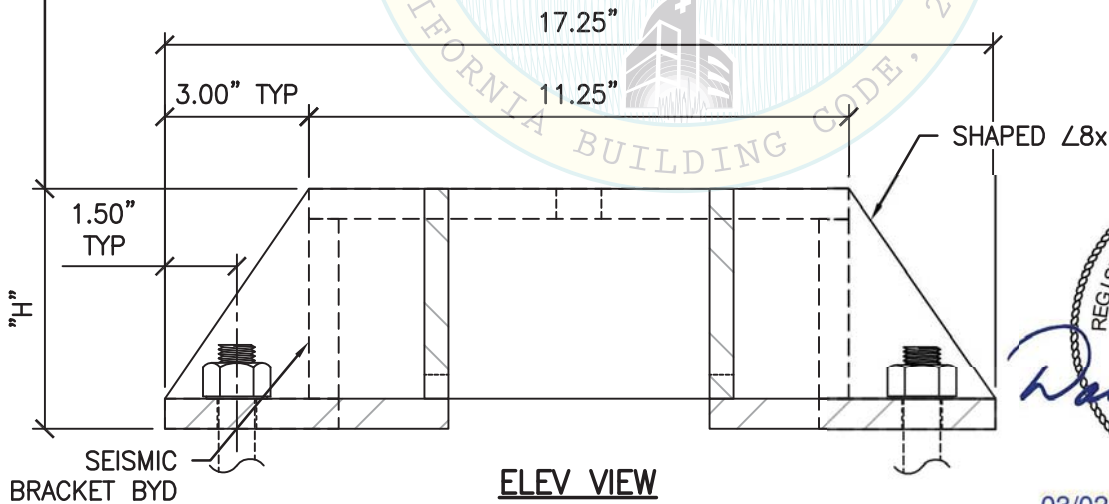
NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 116 & 117.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 111.
3. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

- BRACKET A:** "H" = 4.625" FOR 4.625" ≤ CLR ≤ 6.00"
BRACKET B: "H" = 5.875" FOR 5.875" ≤ CLR ≤ 7.25"



FOR ABBOTT USE:
 MAX TRACK HT
 PER BRACKET
 A = 891mm
 B = 920mm



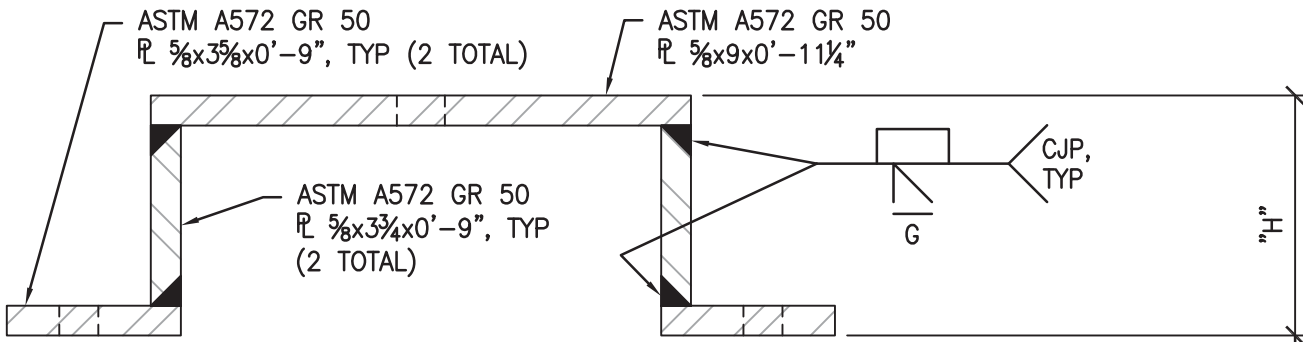
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 20: INPECO TUBE STORAGE MODULE (9,000 TUBE CAPACITY)
 SHAPED ANGLE DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 114 of 148
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:28am Login:cmachom Dimscale:1 LScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

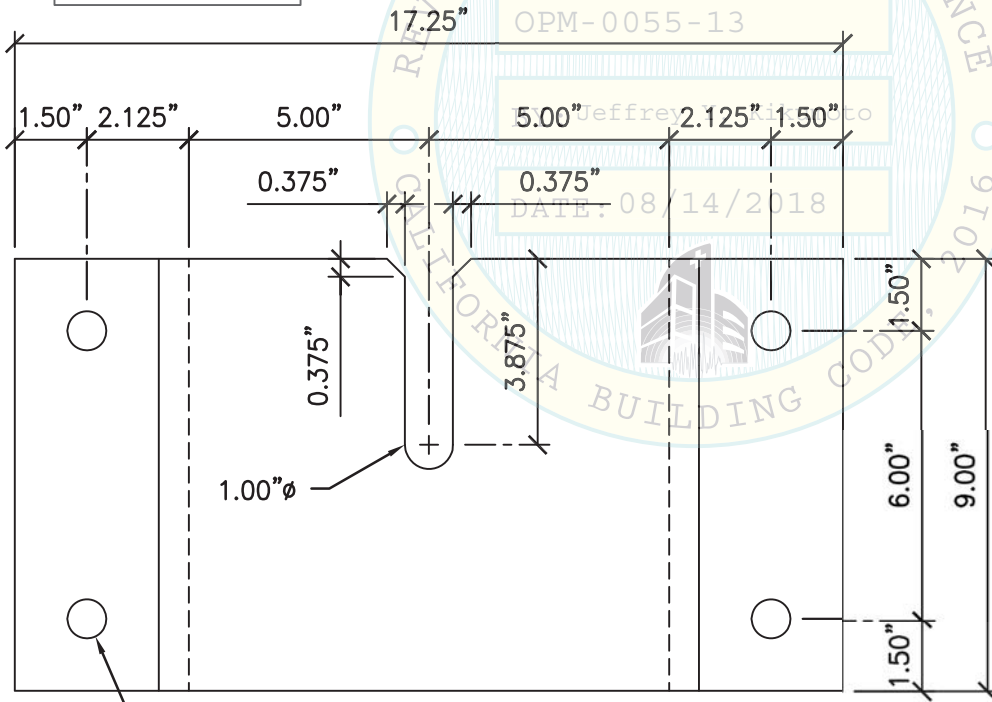


ELEV

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

FOR ABBOTT USE:
MAX TRACK HT
PER BRACKET
A = 891mm
B = 920mm

BRACKET A: "H" = 4.625" FOR 4.625" ≤ CLR ≤ 6.00"
BRACKET B: "H" = 5.875" FOR 5.875" ≤ CLR ≤ 7.25"



0.8125"Ø HOLE FOR AB,
TYP (4 TOTAL)

PLAN

- NOTES:**
- FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 116 & 117.
 - BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 111.
 - SEE PG 7 FOR WELDING NOTES.
 - GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 20: INPECO TUBE STORAGE MODULE (9,000 TUBE CAPACITY)
SEISMIC BRACKET DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 115 of 148
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:28am Login:cmachom Dimscale:1 LScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	1549#	545#

OVERSTRENGTH FACTOR (Ω_o)
MUST BE APPLIED TO V_u
FOR ANCHORAGE TO CONC.

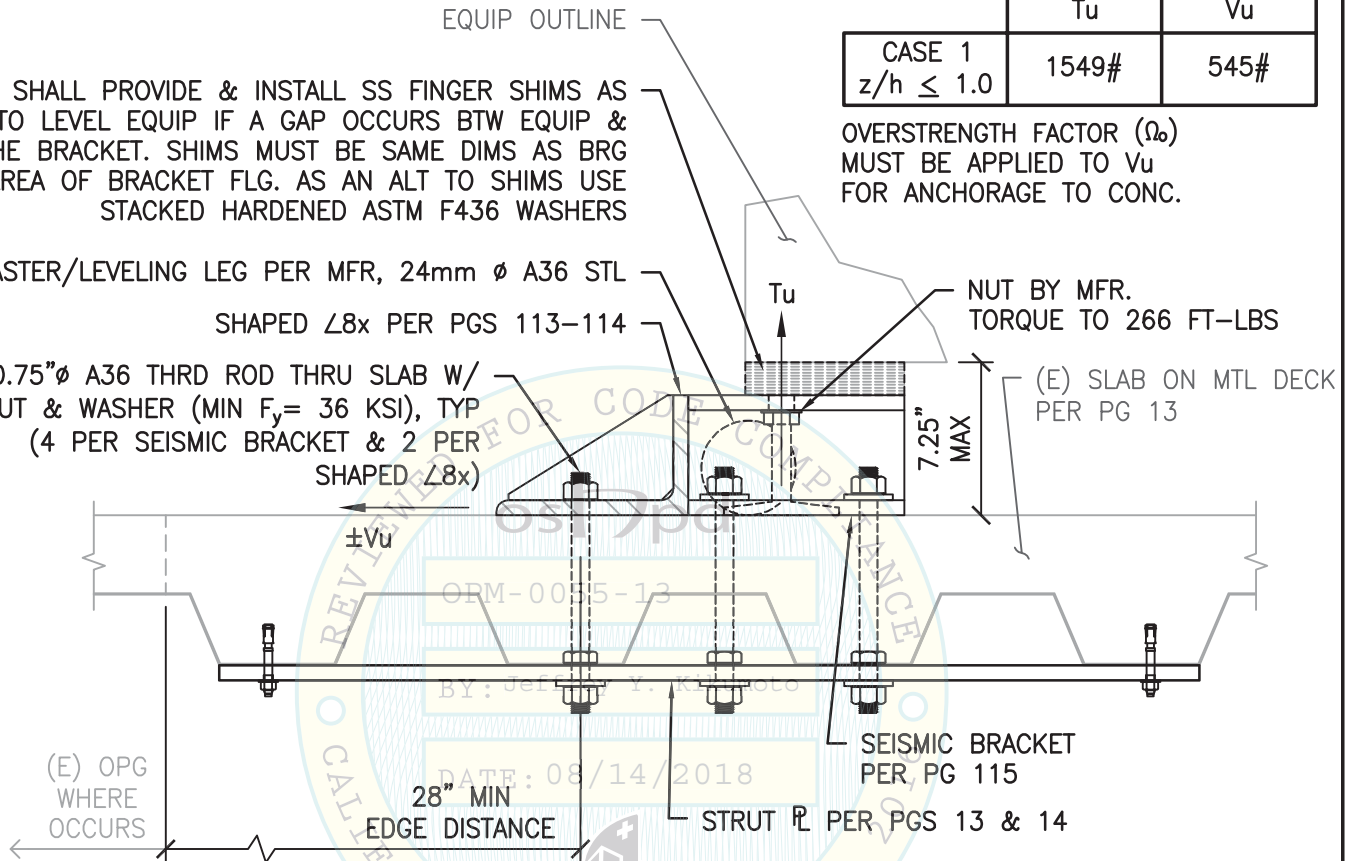
GC SHALL PROVIDE & INSTALL SS FINGER SHIMS AS
REQ TO LEVEL EQUIP IF A GAP OCCURS BTW EQUIP &
THE BRACKET. SHIMS MUST BE SAME DIMS AS BRG
AREA OF BRACKET FLG. AS AN ALT TO SHIMS USE
STACKED HARDENED ASTM F436 WASHERS

CASTER/LEVELING LEG PER MFR, 24mm ϕ A36 STL
SHAPED $\angle 8x$ PER PGS 113-114

0.75" ϕ A36 THRD ROD THRU SLAB W/
NUT & WASHER (MIN $F_y = 36$ KSI), TYP
(4 PER SEISMIC BRACKET & 2 PER
SHAPED $\angle 8x$)

NUT BY MFR.
TORQUE TO 266 FT-LBS

(E) SLAB ON MTL DECK
PER PG 13



(E) OPG
WHERE
OCCURS

28" MIN
EDGE DISTANCE

STRUT ϕ PER PGS 13 & 14

SEISMIC BRACKET
PER PG 115

NOTE:

1. GUIDEWAY ϕ 'S NOT SHOWN FOR CLARITY.

CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 20: INPECO TUBE STORAGE MODULE (9,000 TUBE CAPACITY)
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

Tu Vu

CASE 2
z/h = 0

2182#

1052#

INCLUDES OVERSTRENGTH FACTOR (Ω_0)

SETTING PUCK ADHERED TO
FLR FOR FINAL POSITIONING OF TUBE STORAGE

GC SHALL PROVIDE & INSTALL SS FINGER SHIMS
AS REQ TO LEVEL EQUIP IF A GAP OCCURS BTW
EQUIP & THE BRACKET. SHIMS MUST BE SAME
DIMS AS BRG AREA BRACKET FLG. AS AN ALT TO
SHIMS USE STACKED HARDENED ASTM F436
WASHERS

SEISMIC BRACKET
PER PG 115

NUT BY MFR.
TORQUE TO
266 FT-LBS

EQUIP
OUTLINE

0.125" GAP BTW AXLE
& INSIDE OF SEISMIC
BRACKET, TYP

7.25" MAX

(E) 4" MIN SOG
($f'_c = 3000$ PSI)

Tu

$\pm Vu$

Tu

$\pm Vu$

CASTER/LEVELING
LEG PER MFR,
24mm ϕ A36 STL

GUIDEWAY R
PER PG 111

EMBED
(hef)

6" MIN

BY: Jeffrey Y. Kikumoto

DATE: 08/14/2018

USE 2- 0.75" ϕ HILTI KB-TZ 304 SS W/ 3.75"
EMBEDMENT AT EA LEG OF EA SEISMIC BRACKET &
2- 0.75" ϕ HILTI HAS-R (ASTM F593 CW1 316 SS)
AT EA SHAPED KEEPER $\angle 8x$ ($\angle 8x$ NOT SHOWN).
DO NOT LOCATE ANCHORS WITHIN 11.25" OF ADJ
ANCHOR, UNO.

CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 20: INPECO TUBE STORAGE MODULE (9,000 TUBE CAPACITY)
SUPPORTS & ATTACHMENTS DETAIL



CYS STRUCTURAL ENGINEERS, INC.

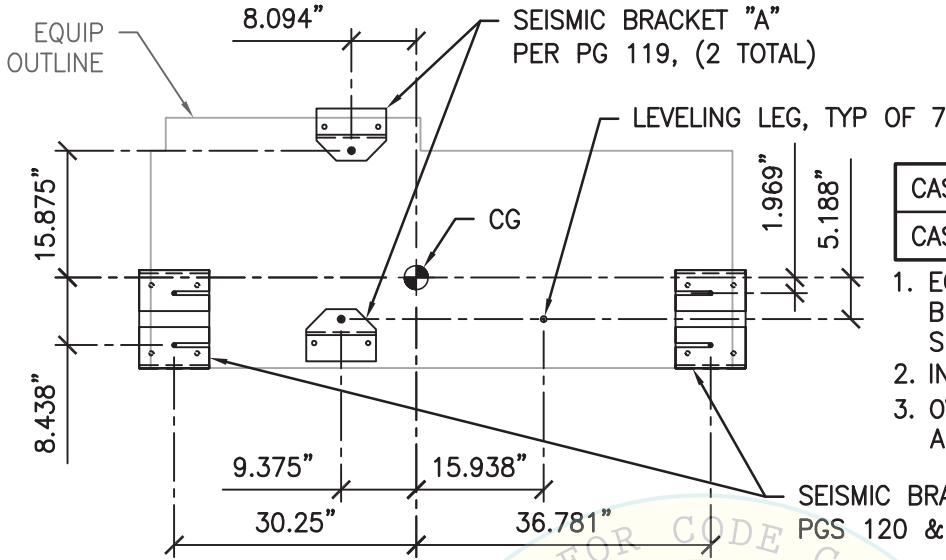
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

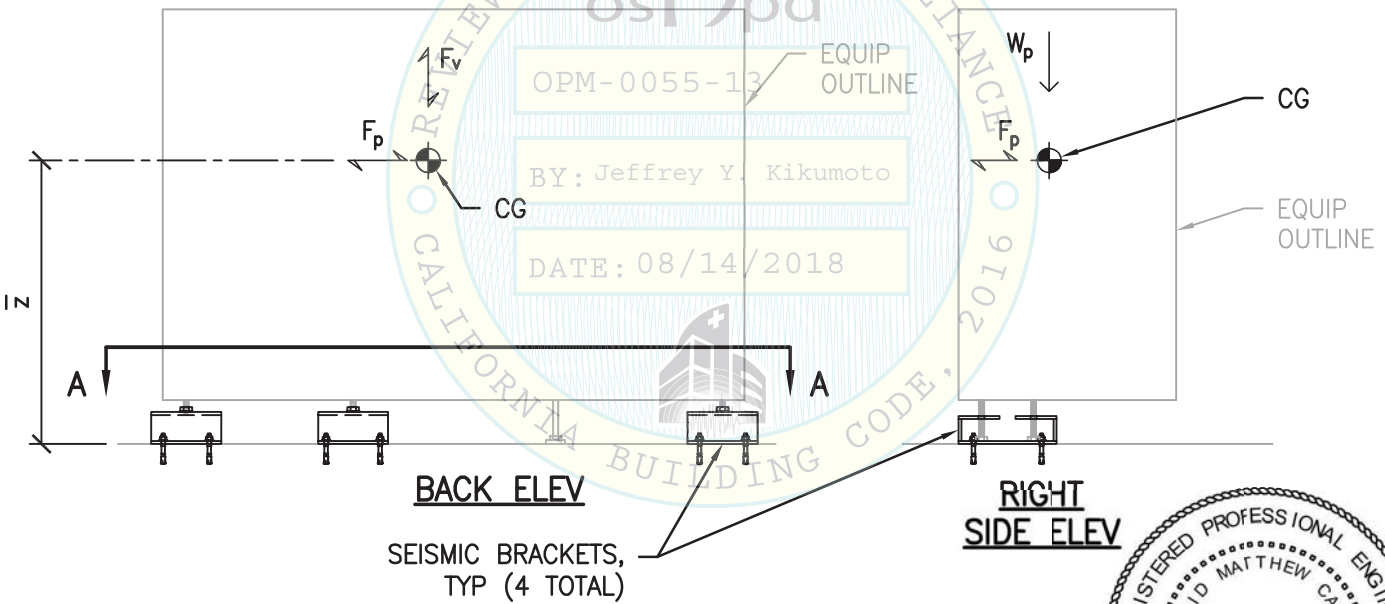


MAX ANCHOR FORCES AT LRFD AT LEVELING LEG¹

	Tu, max	Cu, max	Vu, max
CASE 1 ³	3299#	3973#	879#
CASE 2 ²	1253#	1831#	330#

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
3. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.

BASE PLAN A-A



BACK ELEV

RIGHT SIDE ELEV

SEISMIC BRACKETS,
TYP (4 TOTAL)

NOTE:
FOR COMPONENT DIMS NOT NOTED, SEE SCHED ON PAGE 11.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 21: TUBE STORAGE INPUT/OUTPUT MODULE
PLAN & ELEVATIONS



CYS STRUCTURAL ENGINEERS, INC.

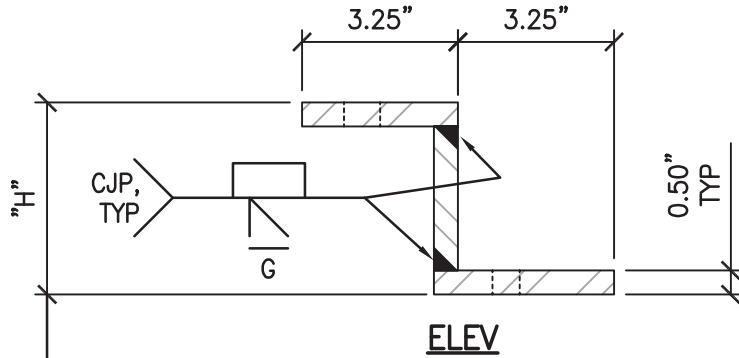
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
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L:\Jobs\13\13027 Abbott OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:28am Login:cmachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

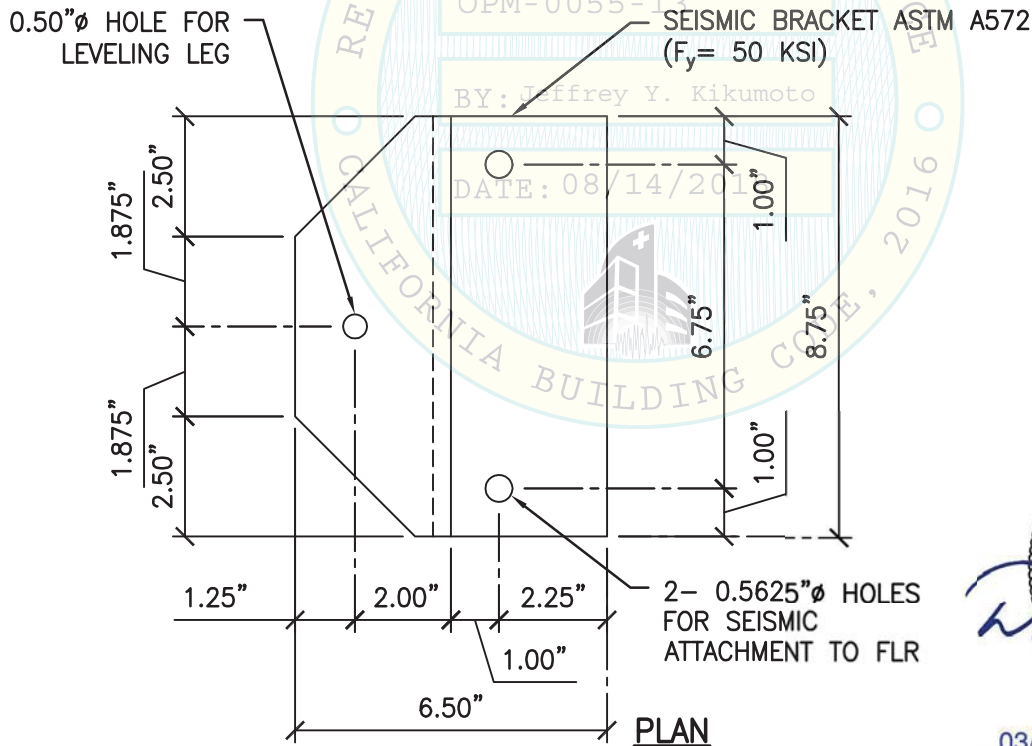


NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 122 THROUGH 124.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 118.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.

"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

<u>BRACKET A:</u>	"H" = 2.375" FOR 2.375" ≤ CLR ≤ 3.125"
<u>BRACKET B:</u>	"H" = 2.875" FOR 2.875" ≤ CLR ≤ 3.625"
<u>BRACKET C:</u>	"H" = 3.50" FOR 3.50" ≤ CLR ≤ 4.25"
<u>BRACKET D:</u>	"H" = 4.125" FOR 4.125" ≤ CLR ≤ 4.875"



FOR ABBOTT USE:	
MAX TRACK HT PER BRACKET	
A	= 879mm
B	= 891mm
C	= 907mm
D	= 920mm



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 21: TUBE STORAGE INPUT/OUTPUT MODULE
SEISMIC BRACKET "A" DETAIL

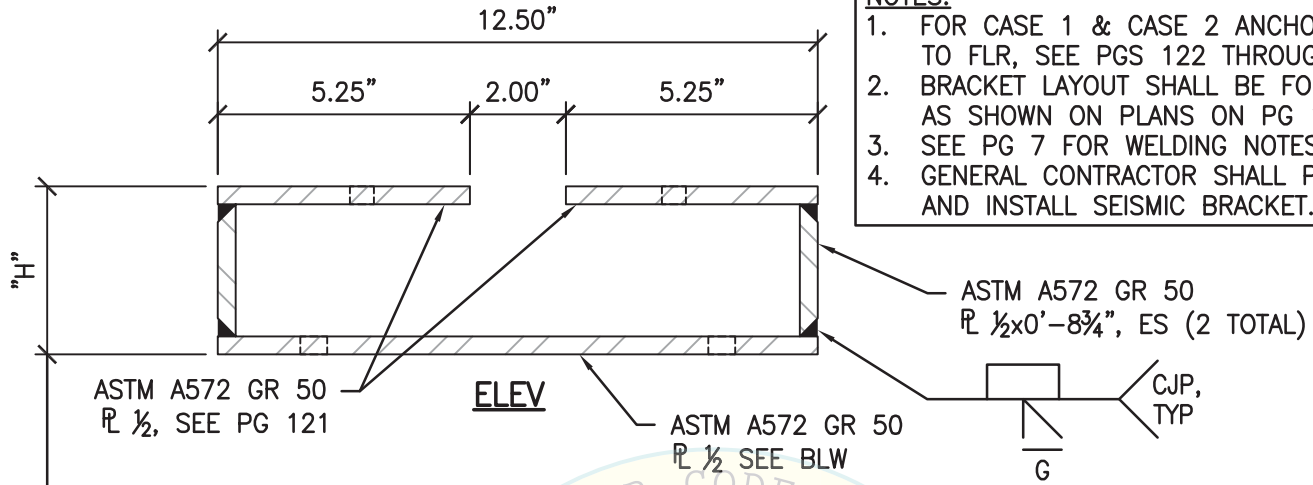
<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 119 of 148

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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

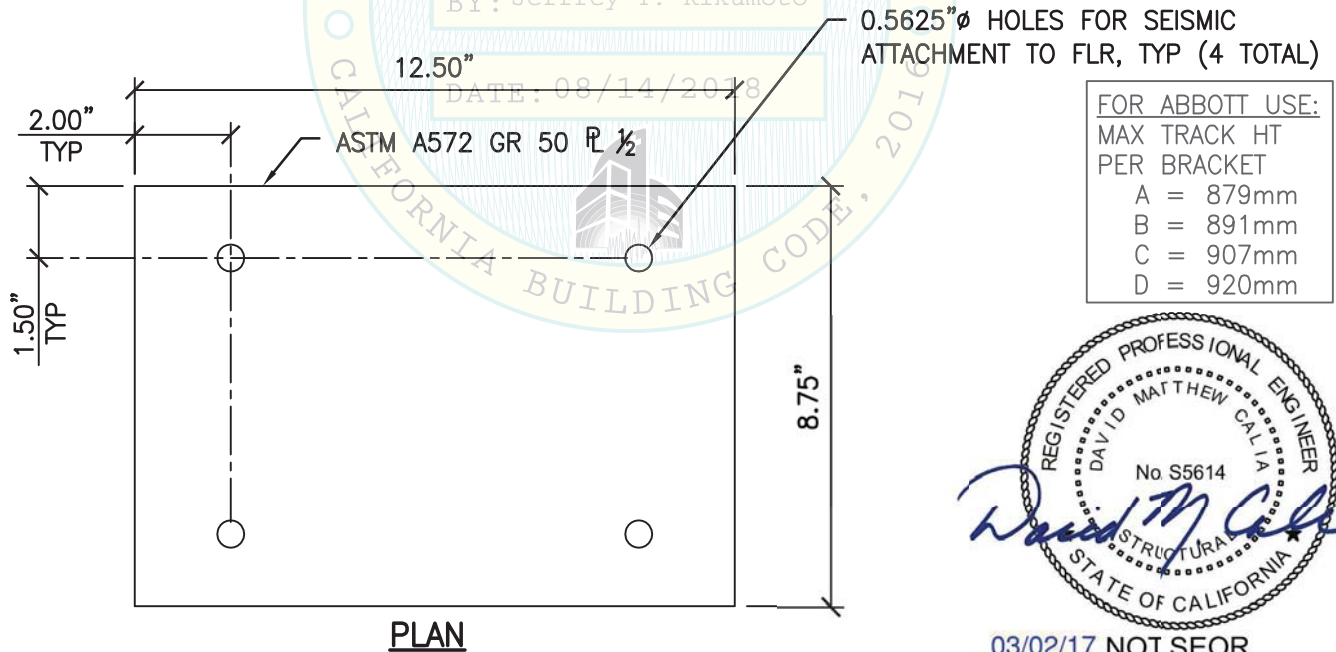
NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 122 THROUGH 124.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 118.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



"H" VARIES TO ACCOMMODATE VERTICAL ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

- BRACKET A:** "H" = 2.375" FOR $2.375" \leq CLR \leq 3.125"$
BRACKET B: "H" = 2.875" FOR $2.875" \leq CLR \leq 3.625"$
BRACKET C: "H" = 3.50" FOR $3.50" \leq CLR \leq 4.25"$
BRACKET D: "H" = 4.125" FOR $4.125" \leq CLR \leq 4.875"$



FOR ABBOTT USE:	
MAX TRACK HT	PER BRACKET
A = 879mm	
B = 891mm	
C = 907mm	
D = 920mm	



03/02/17 NOT SEOR

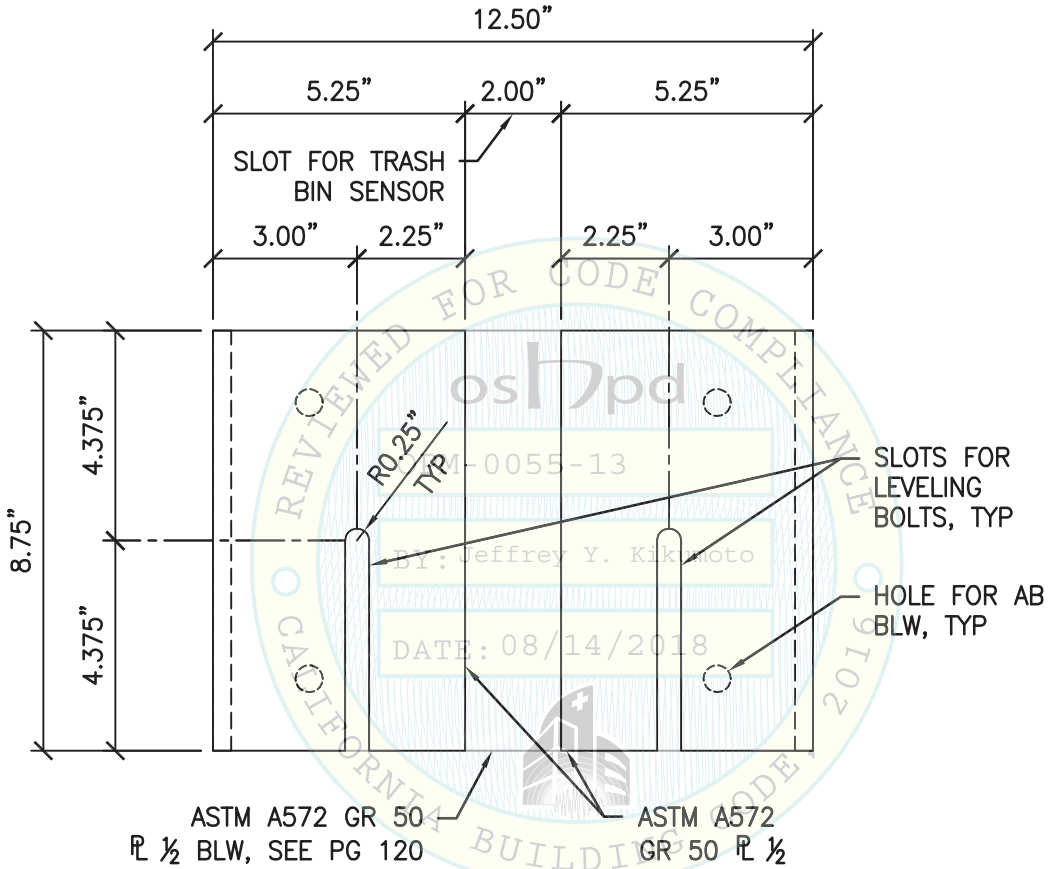
SHEET TITLE: COMPONENT 21: TUBE STORAGE INPUT/OUTPUT MODULE
SEISMIC BRACKET "B" DETAIL

<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 122 THROUGH 124.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 118.



TOP



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 21: TUBE STORAGE INPUT/OUTPUT MODULE
SEISMIC BRACKET "B" DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 121 of 148
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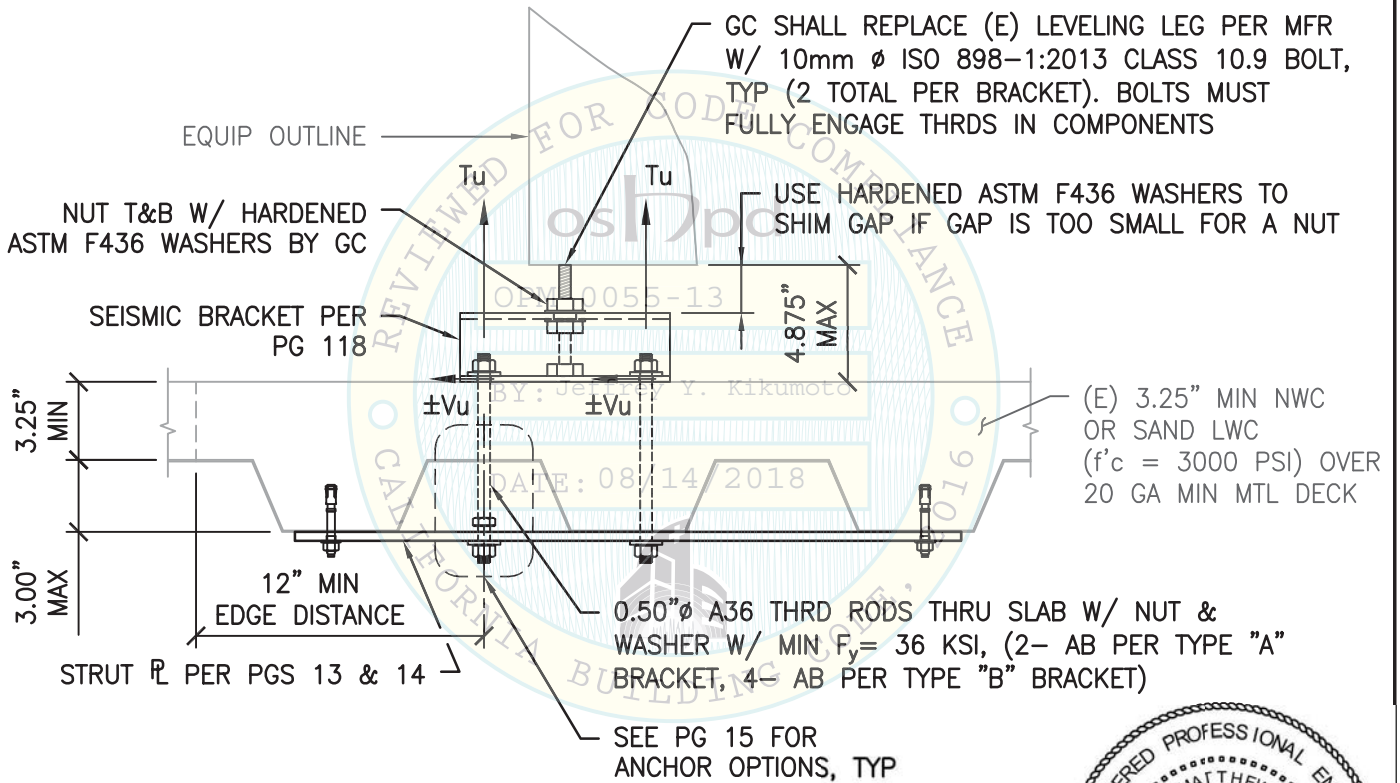
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTE:
DBL NUTS AT STRUT ARE ONLY PERMITTED TO OCCUR AT ANCHOR RODS PASSING THRU HIGH FLUTES.

MAX ANCHOR FORCES
AT LRFD AT EA AB

CASE 1 $z/h \leq 1.0$	BRACKET "A"	Tu	Vu
		BRACKET "B"	6506#
		1442#	206#

OVERSTRENGTH FACTOR (Ω_b) MUST BE APPLIED TO V_u FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 21: TUBE STORAGE INPUT/OUTPUT MODULE
SUPPORTS & ATTACHMENTS DETAIL

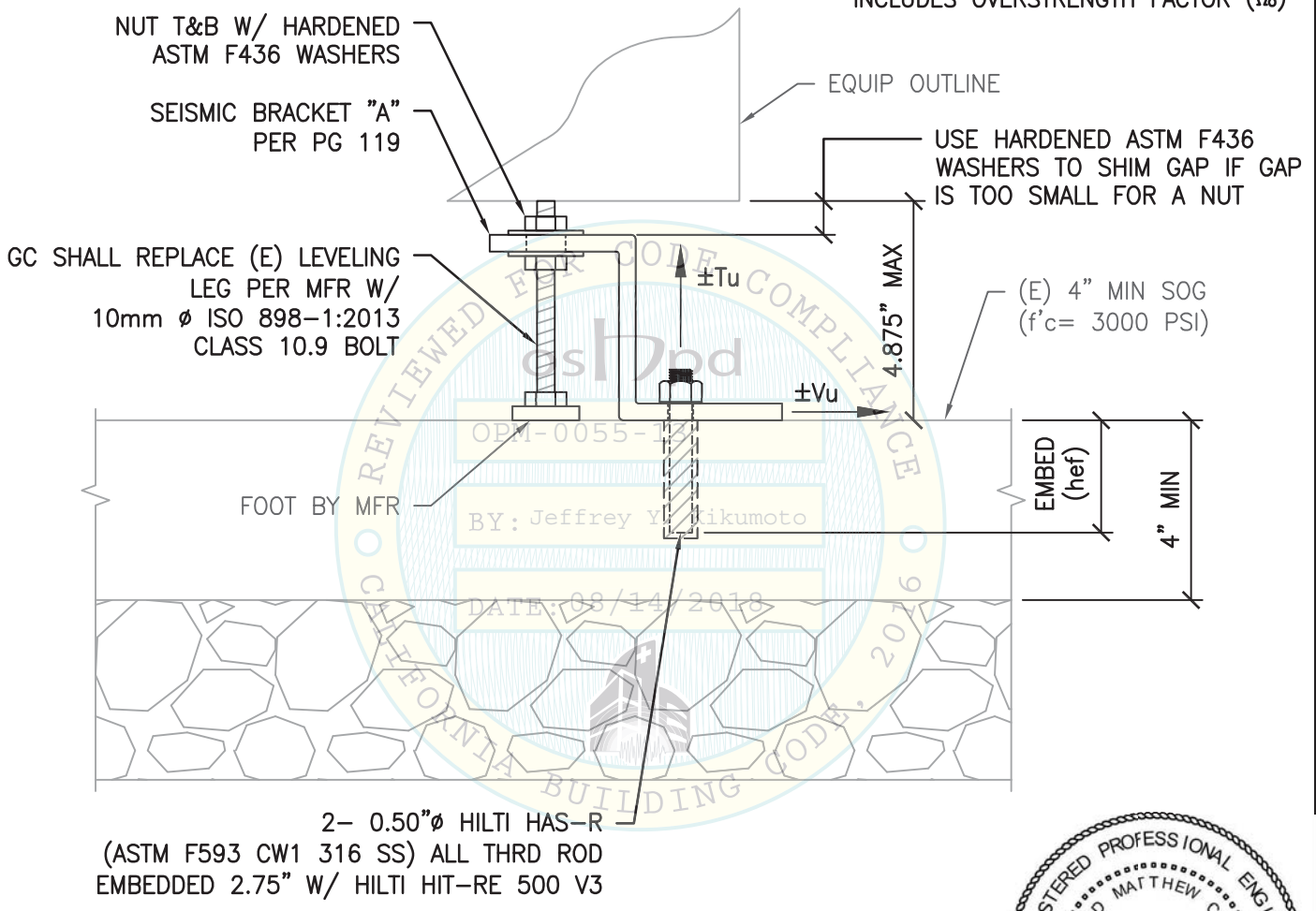
 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 122 of 148
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES AT LRFD AT EA AB		
	Tu	Vu
CASE 2 z/h = 0	1084#	78#

INCLUDES OVERSTRENGTH FACTOR (Ω_0)



CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 21: TUBE STORAGE INPUT/OUTPUT MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 123 of 148
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom DimScale:1 LITScale:4

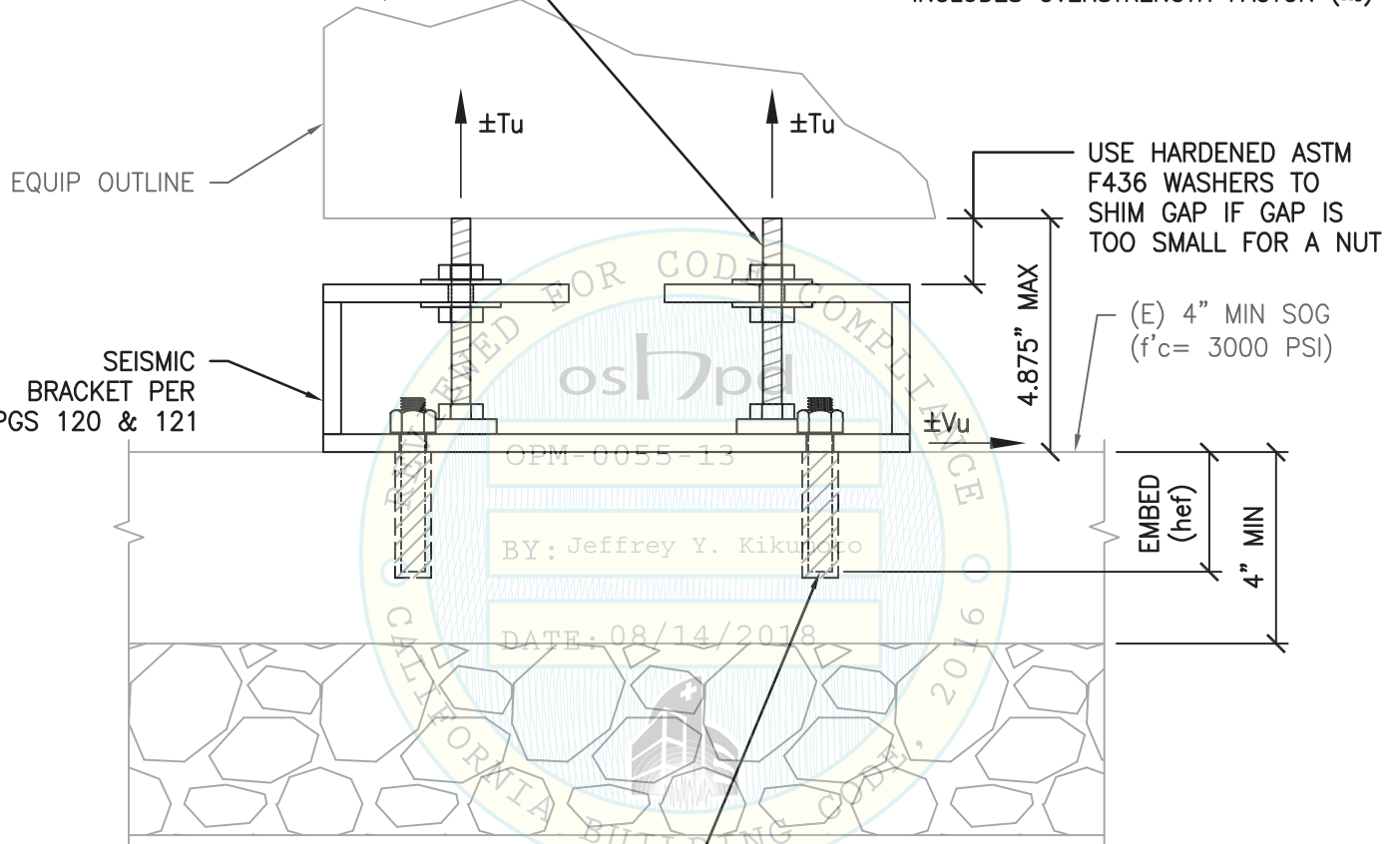
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	520#	77#

INCLUDES OVERSTRENGTH FACTOR (Ω_0)

REPLACE (E) LEVELING LEG PER
MFR W/ 10mm ϕ ISO 898-1:2013
CLASS 10.9 BOLT, TYP



4- 0.50" ϕ HILTI HAS-R (ASTM F593
CW1 316 SS) ALL THRD ROD
EMBEDDED 2.75" W/ HILTI HIT-RE
500 V3 (8 TOTAL AT "B" BRACKETS)

CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

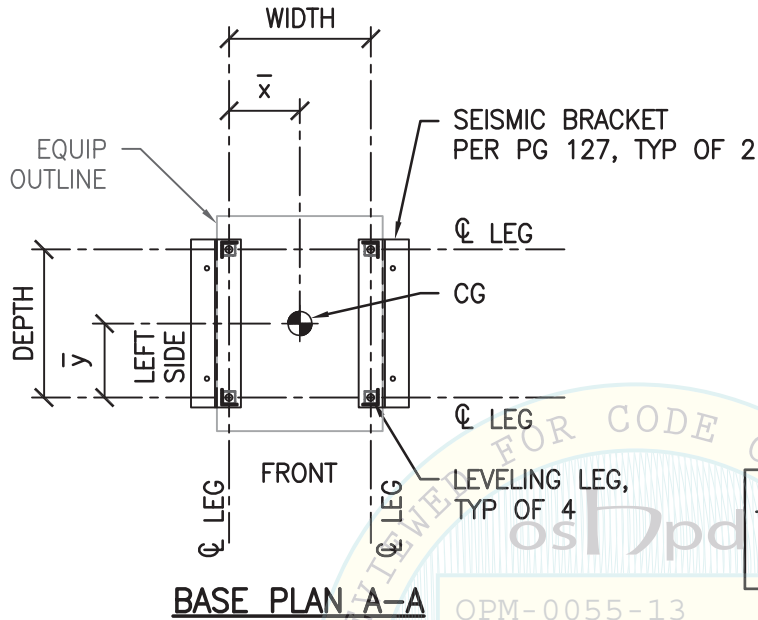
SHEET TITLE: COMPONENT 21: TUBE STORAGE INPUT/OUTPUT MODULE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 124 of 148
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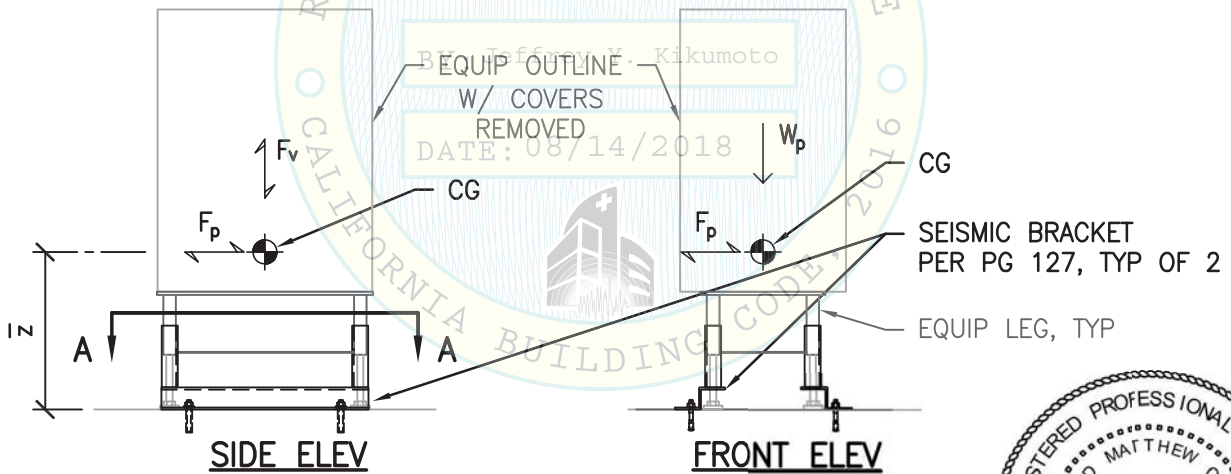
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES AT LRFD AT LEVELING LEG ¹			
	Tu, max	Cu, max	Vu, max
CASE 1 ³	1042#	1273#	343#
CASE 2 ²	567#	798#	193#



1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES OVERSTRENGTH FACTOR (Ω_o).
3. OVERSTRENGTH FACTOR (Ω_o) MUST BE APPLIED FOR ANCHORAGE TO CONC.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 22: HETTICH CENTRIFUGE
BASE PLAN & ELEVATIONS

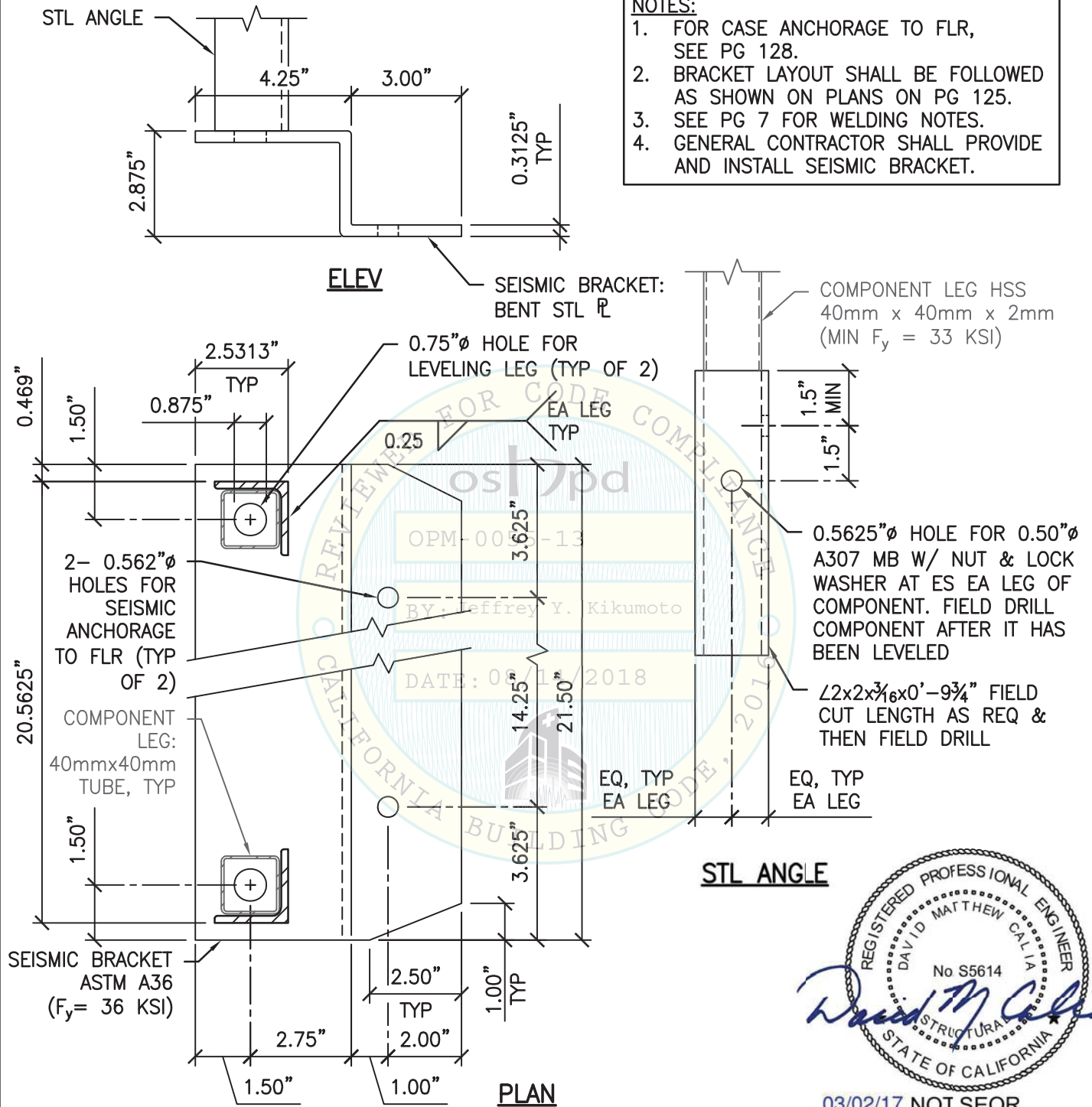
<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 125 of 148

L:\Jobs\13\13027 Abbott OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:camachom DimScale:1 LScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTES:

1. FOR CASE ANCHORAGE TO FLR, SEE PG 128.
2. BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 125.
3. SEE PG 7 FOR WELDING NOTES.
4. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL SEISMIC BRACKET.



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 22: HETTICH CENTRIFUGE
BRACKET DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 126 of 148
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L:\Jobs\13\13027 Abbott OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom DimScale:1 L1Scale:4

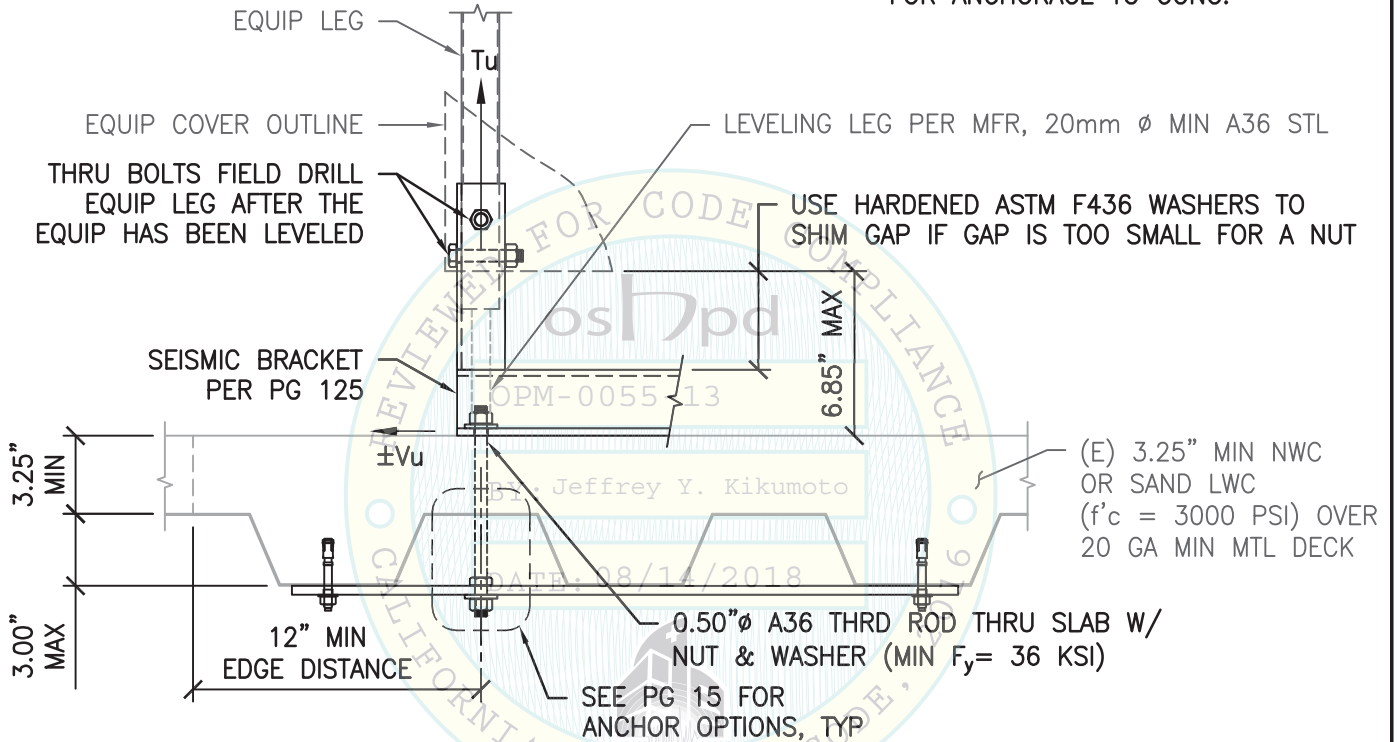
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

NOTE:
DBL NUTS AT STRUT ARE ONLY PERMITTED TO OCCUR AT ANCHOR RODS PASSING THRU HIGH FLUTES.

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	4467#	394#

OVERSTRENGTH FACTOR (Ω_o)
MUST BE APPLIED TO V_u
FOR ANCHORAGE TO CONC.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 22: HETTICH CENTRIFUGE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 127 of 148
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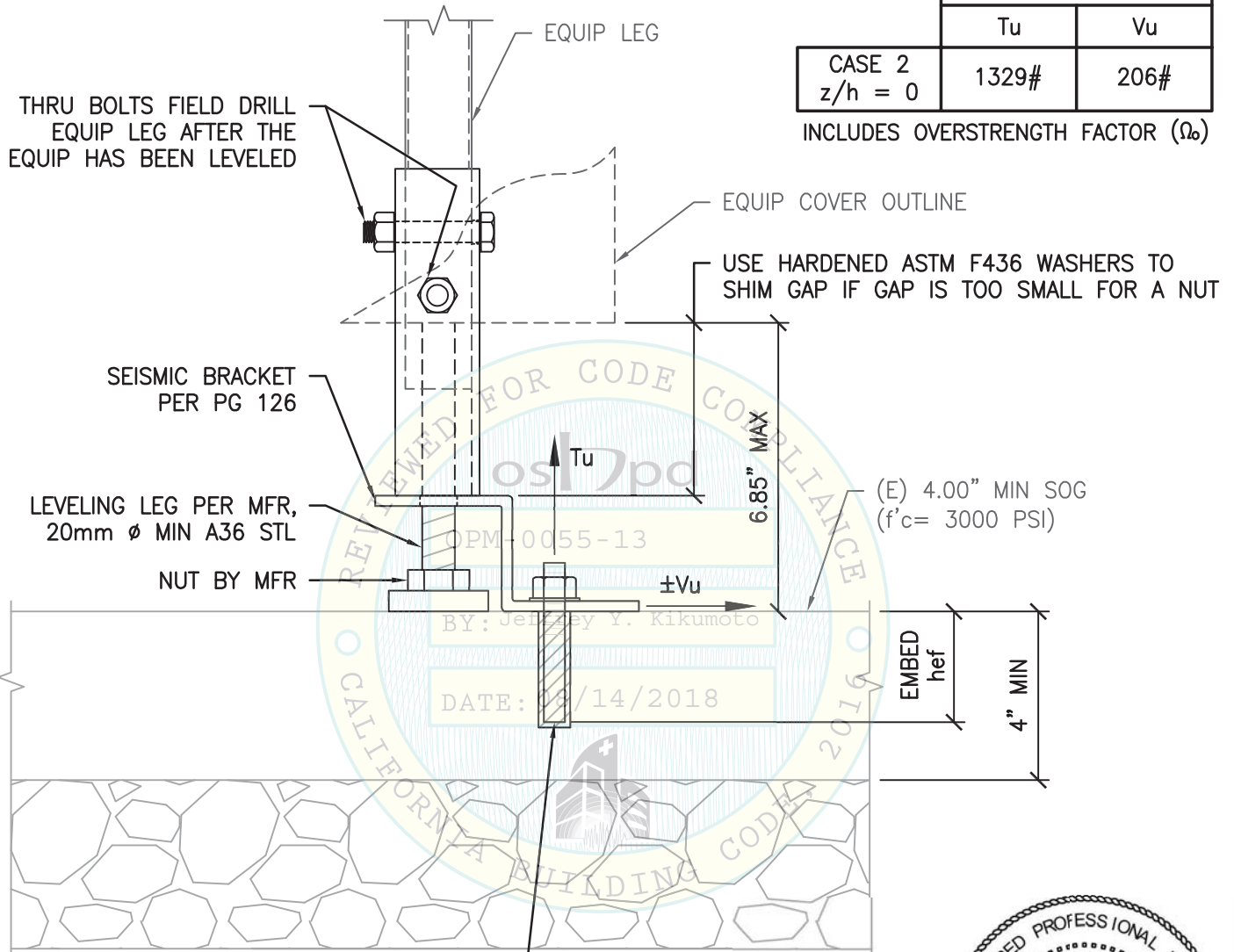
L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	1329#	206#

INCLUDES OVERSTRENGTH FACTOR (Ω_0)



2- 0.50"Ø HILTI HAS-R (ASTM F593 CW1 316 SS) ALL THRD ROD EMBEDDED 2.75" AT EA BRACKET W / EMBEDMENT AS SHOWN (4 TOTAL)

CASE 2 - SLAB ON GRADE
(SLAB AT OR BELOW GRADE)



03/02/17 NOT SEOR

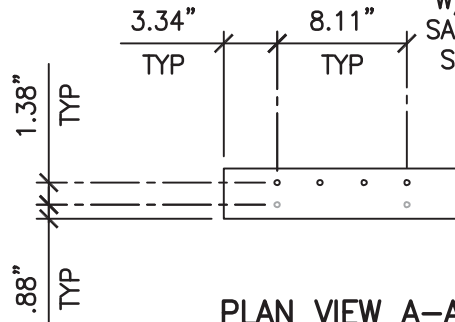
SHEET TITLE: COMPONENT 22: HETTICH CENTRIFUGE
SUPPORTS & ATTACHMENTS DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 128 of 148
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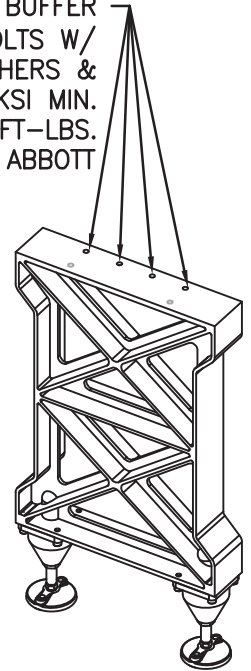
L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom DimScale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

SUPPORT CONN TO WIDE-BELT BUFFER
W/ 2- M8 UNI 5931-8.8 BOLTS W/
SAE THROUGH-HARDENED WASHERS &
SQ SPRING NUTS. Fu= 116 KSI MIN.
INSTALL TORQUE 8 FT-LBS.
ATTACHMENT BY ABBOTT



PLAN VIEW A-A



ISOMETRIC VIEW

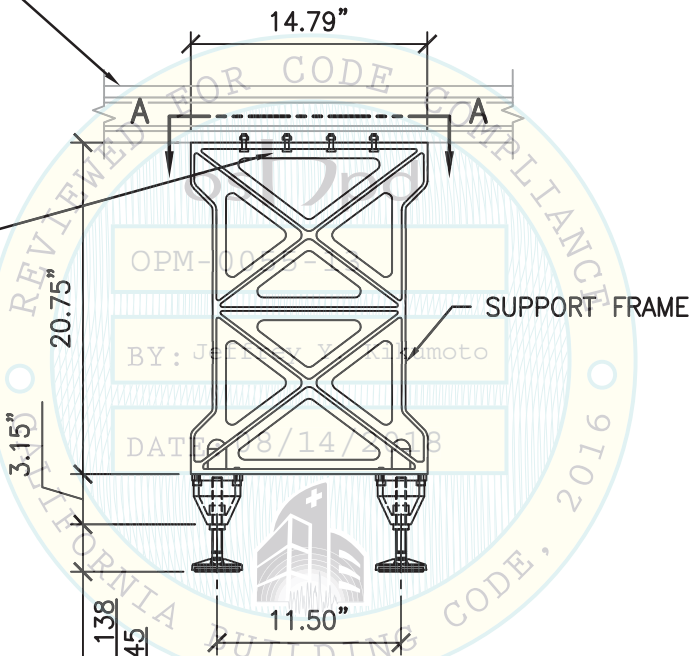
ALUM FRMG CROSS
SECTION PER PG 130

3.15"

ATTACHMENT
BOLTS PER
PG 132

16mmØ
LEVELING LEG
80mmØ
LEVELING FOOT

SIDE VIEW



ELEV VIEW

VARIES

SEE PGS 137 & 138
& PGS 144-145

NOTE:

COMPONENT SUB-ASSEMBLY CONNS SHALL BE PERFORMED
BY ABBOTT, NOT THE GENERAL CONTRACTOR.



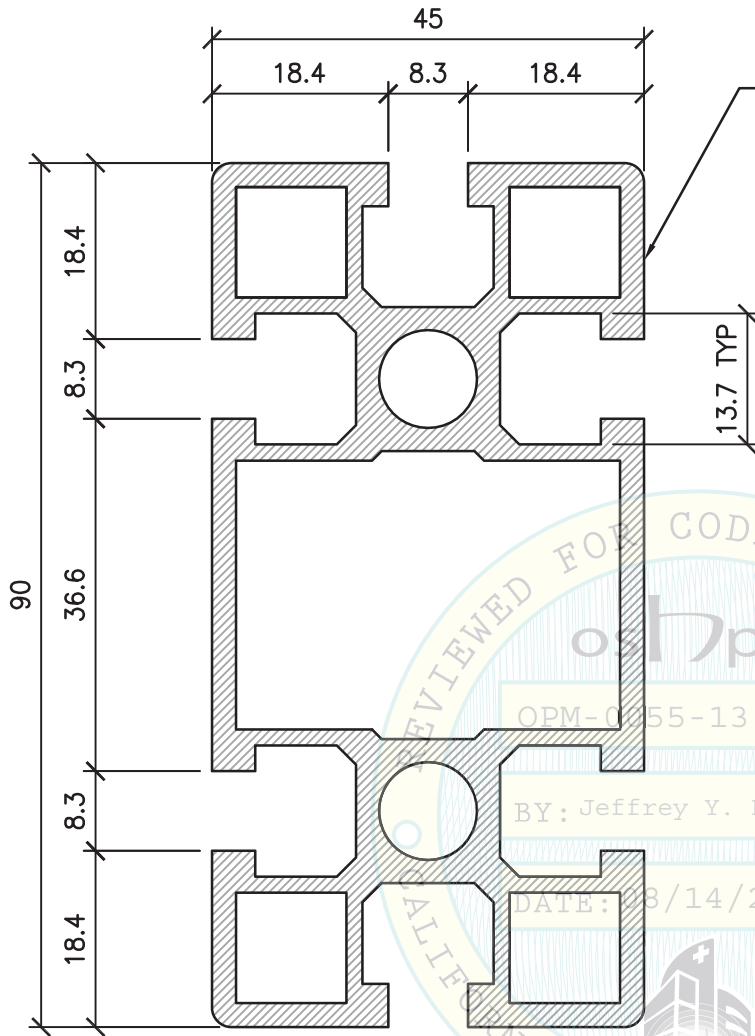
03/02/17 NOT SEOR

SHEET TITLE: COMPONENTS 23 & 24:
TYPICAL WIDE-BELT BUFFER SUPPORT FRAME

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date: 2-2-2017
	SACRAMENTO, CA 95833		Page: 129 of 148
TEL (916) 920-2020		www.cyseng.com	

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:camachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



EXTRUDED ALUM FRAME CROSS SECTION.
ATTACHMENTS TO FRMG USING M8 UNI 5931-8.8
BOLTS W/ SAE THROUGH-HARDENED WASHERS &
SQ SPRING NUTS, TYP.
Fu= 116 KSI MIN. INSTALL TORQUE 8 FT-LBS.
ATTACHMENT BY ABBOTT

45x90mm SECTION PROPERTIES:

- $I_x = 90.00 \text{ cm}^4$
- $I_y = 23.00 \text{ cm}^4$
- $S_x = 21.96 \text{ cm}^3$
- $S_y = 11.22 \text{ cm}^3$
- $A = 1112 \text{ mm}^2$
- $W = 3.00 \text{ kg/m}$

45x90mm SECTION

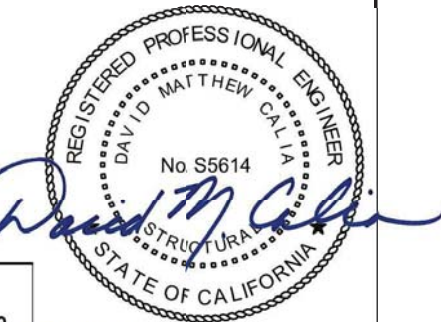
ALUMINUM MATERIAL PROPERTIES:

ALUM ALLOY EN AW-6060 (AlMgSi)
6060-T5

$F_y = 120 \text{ MPa}$

$F_u = 160 \text{ MPa}$

NOTE:
ALL DIMS SHOWN ARE IN mm.



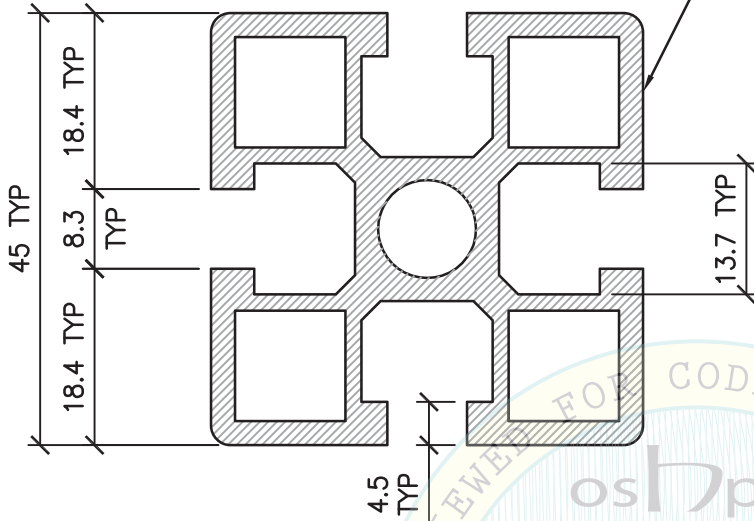
03/02/17 NOT SEOR

SHEET TITLE: COMPONENTS 23 & 24:
TYPICAL ALUMINUM FRAMING CROSS SECTION

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 130 of 148
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L:\Jobs\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom Dimscale:1 LScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



EXTRUDED ALUM FRAME CROSS SECTION.
ATTACHMENTS TO FRMG USING M8 UNI 5931-8.8
BOLTS W/ SAE THROUGH-HARDENED WASHERS &
SQ SPRING NUTS, TYP.
Fu= 116 KSI MIN. INSTALL TOPRQUE 8 FT-LBS.
ATTACHMENT BY ABBOTT

45x45mm SECTION PROPERTIES:

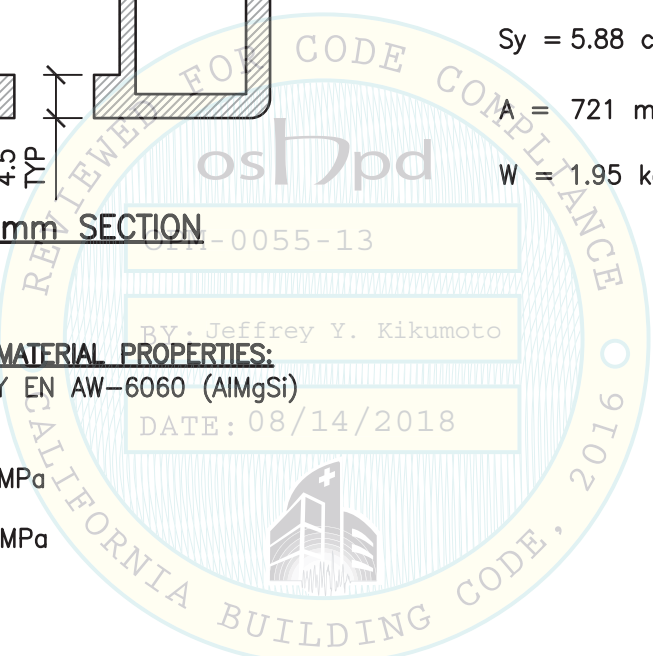
- $I_x = 13.25 \text{ cm}^4$
- $I_y = 13.25 \text{ cm}^4$
- $S_x = 5.88 \text{ cm}^3$
- $S_y = 5.88 \text{ cm}^3$
- $A = 721 \text{ mm}^2$
- $W = 1.95 \text{ kg/m}$

45x45mm SECTION

ALUMINUM MATERIAL PROPERTIES:

ALUM ALLOY EN AW-6060 (AlMgSi)
6060-T5

- $F_y = 120 \text{ MPa}$
- $F_u = 160 \text{ MPa}$



NOTE:
ALL DIMS SHOWN ARE IN mm.

03/02/17 NOT SEOR

SHEET TITLE: COMPONENTS 23 & 24:
TYPICAL ALUMINUM FRAMING CROSS SECTION

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 2-2-2017
		Page: 131 of 148

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:ccmachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

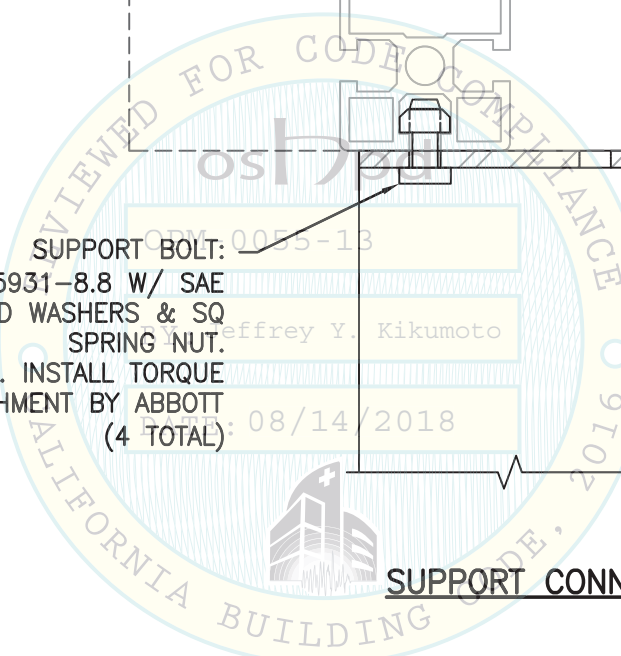
INTERNAL ALUM EXTRUSION
45x90mm SHOWN
(45x45mm NOT SHOWN)

WIDE-BELT BUFFER

SUPPORT BOLT:
M8 UNI 5931-8.8 W/ SAE
THROUGH-HARDENED WASHERS & SQ
SPRING NUT.
Fu= 116 KSI MIN. INSTALL TORQUE
8 FT-LBS. ATTACHMENT BY ABBOTT
(4 TOTAL)

SUPPORT FRAME
PER PG 129

SUPPORT CONN



03/02/17 NOT SEOR

SHEET TITLE: COMPONENTS 23 & 24:
TYPICAL SUPPORT ATTACHMENT

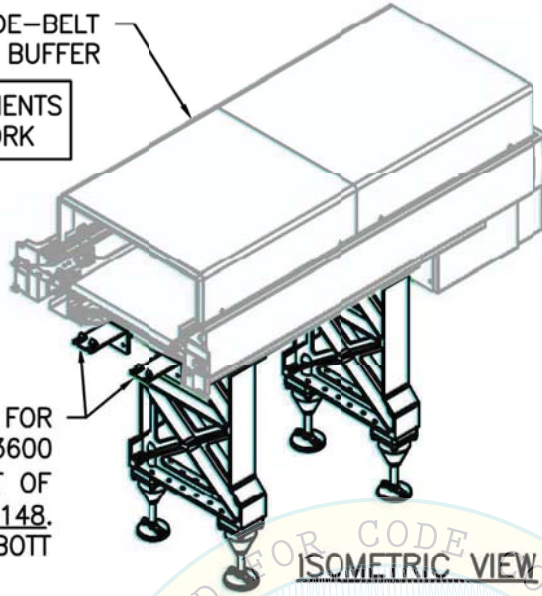
	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date: 2-2-2017
	SACRAMENTO, CA 95833		Page: 132 of 148
	TEL (916) 920-2020	www.cyseng.com	

L:\Jobs\13\13027 Abbott OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:camachom Dimscale:1 L1Scale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

LIGHT-TONED COMPONENTS
NOT IN SCOPE OF WORK

WIDE-BELT
BUFFER



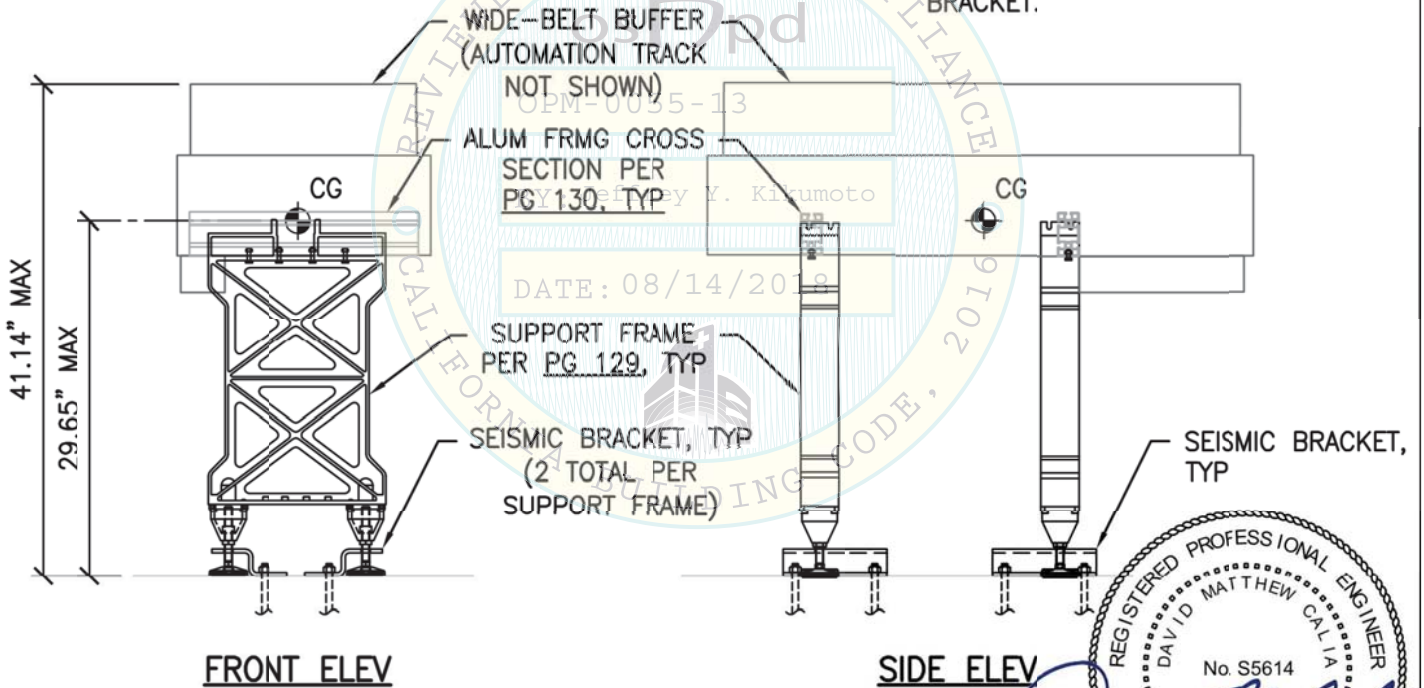
MAX ANCHOR FORCES AT
LRFD AT LEVELING LEG¹

	T _{max}	C _{max}	V _{max}
CASE 1	1165#	1315#	485# ²
CASE 2	643# ²	793# ²	182# ²

SUPPORT BRACKETS FOR
CONN TO ABBOTT α3600
TRACK SYSTEM (PART OF
LFRS). SEE PGS 146 TO 148.
ATTACHMENT BY ABBOTT

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES MATERIAL OVERSTRENGTH FACTOR (ϕ_b) IN ACCORDANCE W/ ACI 318-11 SECTION D.3.3.4.3(d) FOR TENSION OR SECTION D.3.3.5.3(c) FOR SHEAR.
3. SEE PGS 135 TO 138 FOR THE FABRICATION & INSTALLATION REQUIREMENTS OF THE SEISMIC BRACKET.

ISOMETRIC VIEW



FRONT ELEV

SIDE ELEV



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 23: WIDE-BELT BUFFER (240 SAMPLE CAPACITY)
ELEVATIONS



CYS STRUCTURAL ENGINEERS, INC.

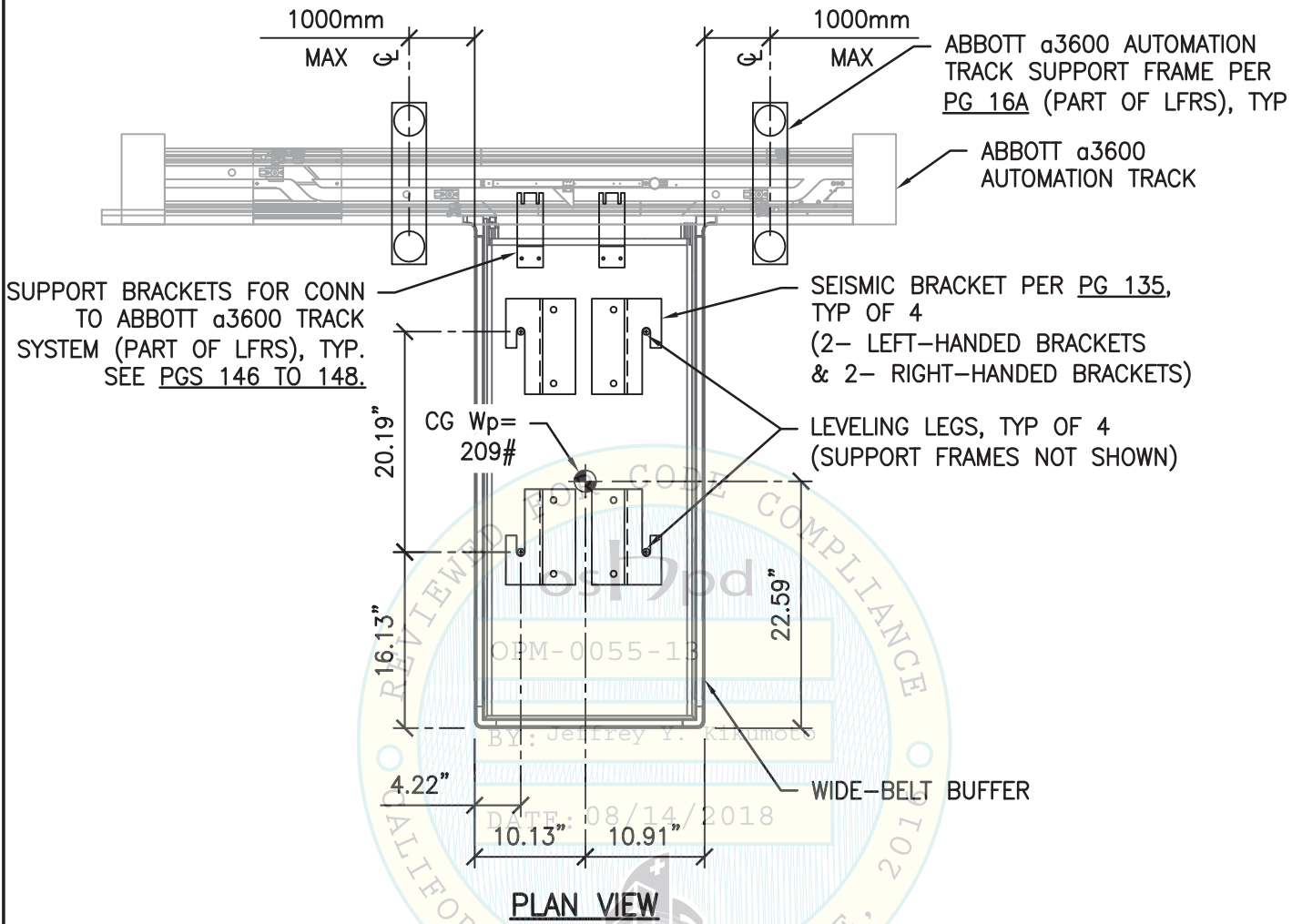
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No: 13027
Date: 2-2-2017
Page: 133 of 148

L:\Jobs\13027 Abbott α3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cornachom Dimscale:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



03/02/17 NOT SEOR



SHEET TITLE: COMPONENT 23: WIDE-BELT BUFFER (240 SAMPLE CAPACITY)
BASE PLAN VIEW

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date: 2-2-2017
	SACRAMENTO, CA 95833		Page: 134 of 148
	TEL (916) 920-2020	www.cyseng.com	

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:camachom Dimscale:1 LScale:4

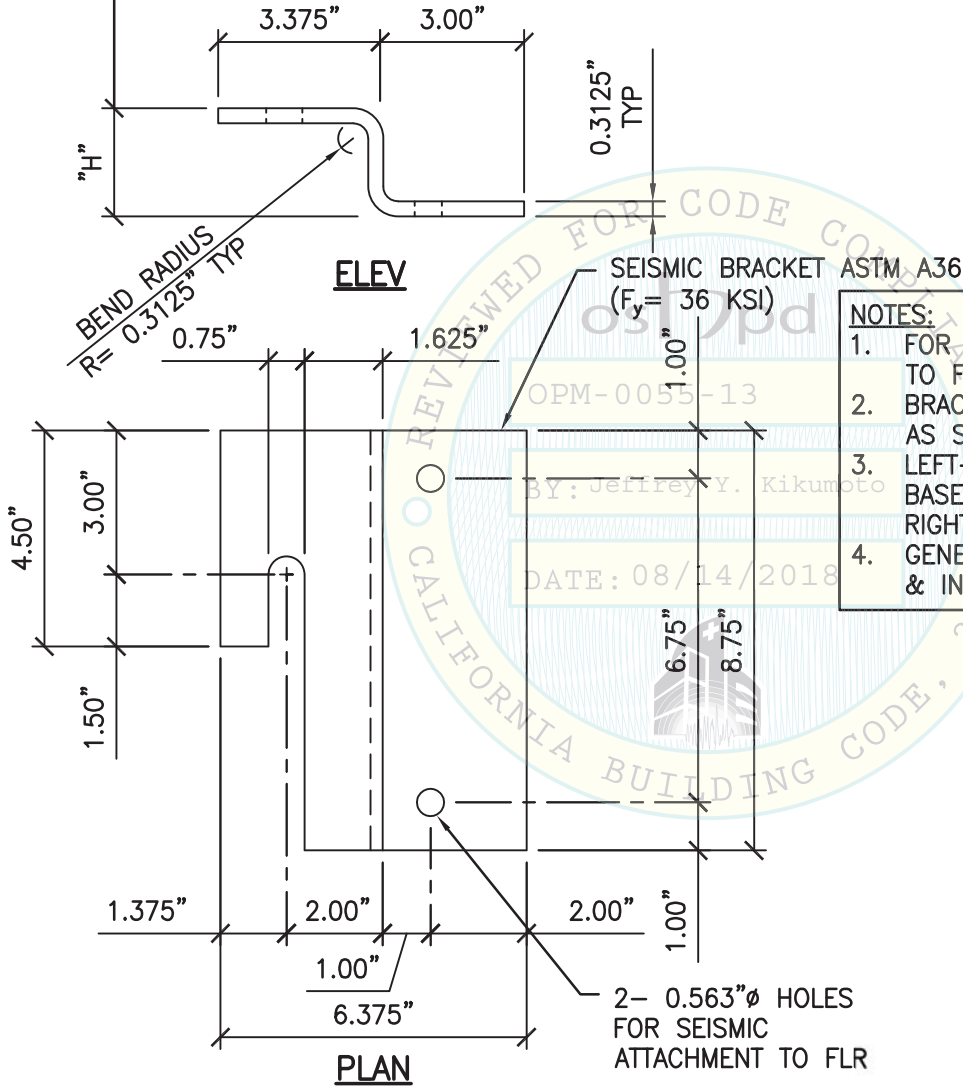
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

"H" VARIES TO ACCOMMODATE VERT ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 0.75" FOR $0.75" \leq \text{CLR} \leq 2.25"$

BRACKET B: "H" = 1.875" FOR $1.875" \leq \text{CLR} \leq 3.375"$

BRACKET C: "H" = 3.00" FOR $3.00" \leq \text{CLR} \leq 3.75"$
(MAX HEIGHT OF CLR CORRESPONDING TO MAX ABBOTT TRACK HEIGHT)



- NOTES:**
- FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 137 & 138.
 - BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 134.
 - LEFT-HAND BRACKET SHOWN. SEE BASE PLAN A-A ON PG 134 FOR RIGHT-HAND BRACKET CONFIGURATION.
 - GENERAL CONTRACTOR SHALL PROVIDE & INSTALL SEISMIC BRACKET.

FOR ABBOTT USE:
MAX TRACK HT PER BRACKET

A	= 840mm
B	= 885mm
C	= 910mm



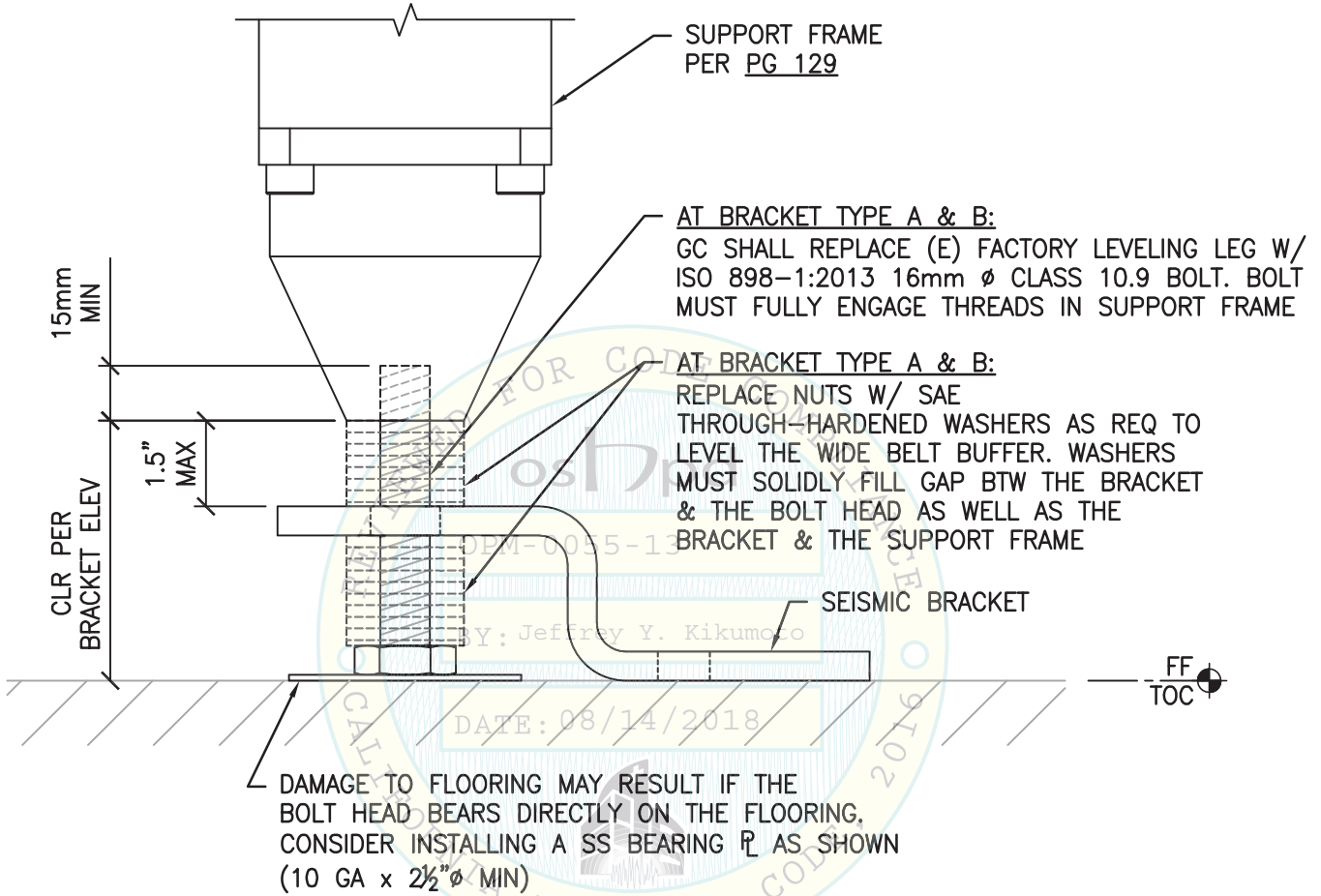
03/13/17 NOT SEOR

SHEET TITLE: COMPONENT 23: WIDE-BELT BUFFER (240 SAMPLE CAPACITY)
SEISMIC BRACKET DETAIL

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 3/13/2017
			Page: 135 of 148

L:\Jobs\13\13027 Abbott OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar13,2017-10:50am Login:ccmachom Dimscale:1 LScale:6

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 23: WIDE-BELT BUFFER (240 SAMPLE CAPACITY)
SEISMIC BRACKET DETAIL

	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027
			Date: 2-2-2017
			Page: 136 of 148

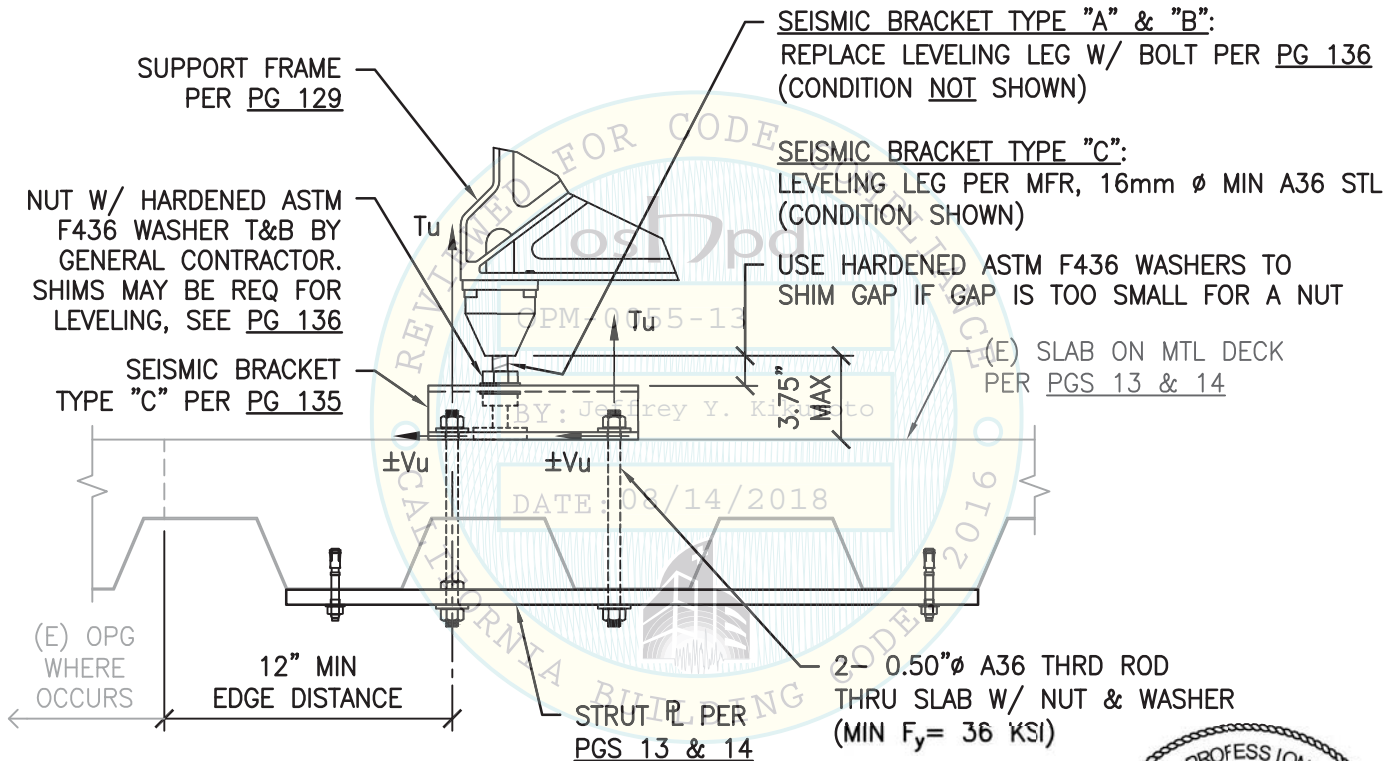
L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom Dimstyle:1 LTScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	1684#	386# ¹

1. INCLUDES MATERIAL OVERSTRENGTH FACTOR (Ω_o) IN ACCORDANCE W/ ACI 318-11 SECTION D.3.3.4.3(d) FOR TENSION OR SECTION D.3.3.5.3(c) FOR SHEAR.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 23: WIDE-BELT BUFFER (240 SAMPLE CAPACITY)
SUPPORT & ATTACHMENT DETAIL - CASE 1

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 137 of 148
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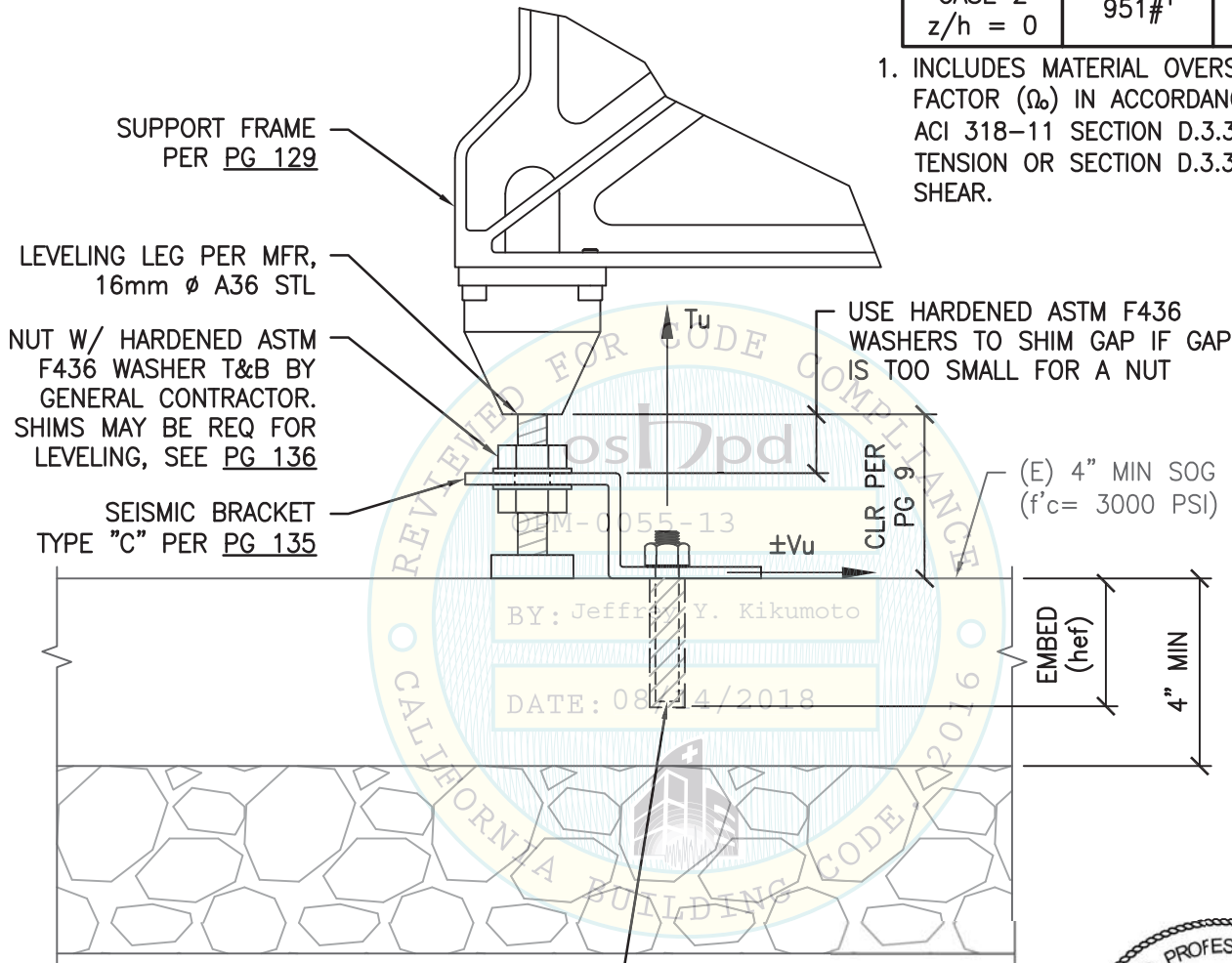
L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom Dimscale:1 LScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	951# ¹	124# ¹

1. INCLUDES MATERIAL OVERSTRENGTH FACTOR (ϕ) IN ACCORDANCE W/ ACI 318-11 SECTION D.3.3.4.3(d) FOR TENSION OR SECTION D.3.3.5.3(c) FOR SHEAR.



2- 0.50"ø HILTI HAS-R
(ASTM F593 CW1 316 SS) ALL THRD ROD
EMBEDDED 2.75" W/ HILTI HIT-RE 500 V3

CASE 2 - SOG
(SLAB AT OR BLW GRADE)



03/13/17 NOT SEOR

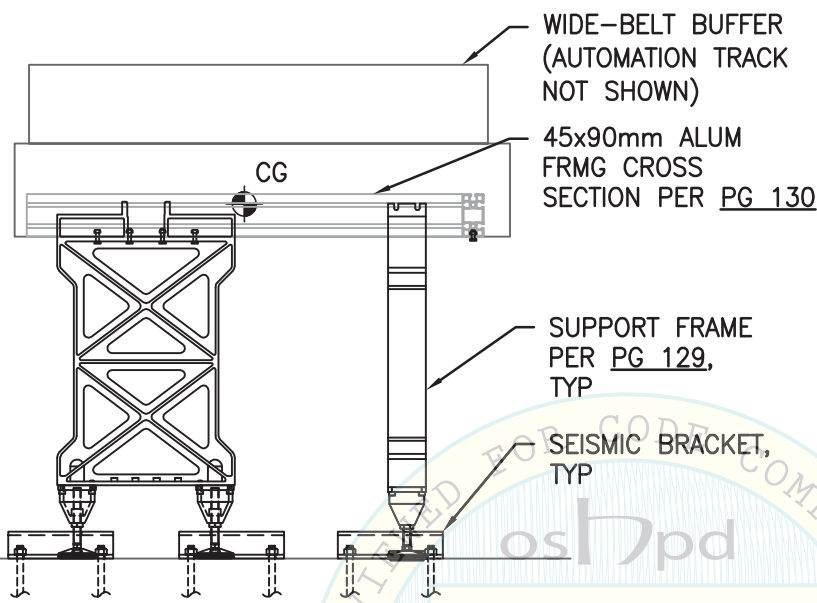
SHEET TITLE: COMPONENT 23: WIDE-BELT BUFFER (240 SAMPLE CAPACITY)
SUPPORT & ATTACHMENT DETAIL - CASE 2

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
		Date: 3/13/2017
		Page: 138 of 148

L:\Jobs\13\13027 Abbott OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar13,2017-10:51 am Login:ccmachom DimScale:1 L1Scale:6

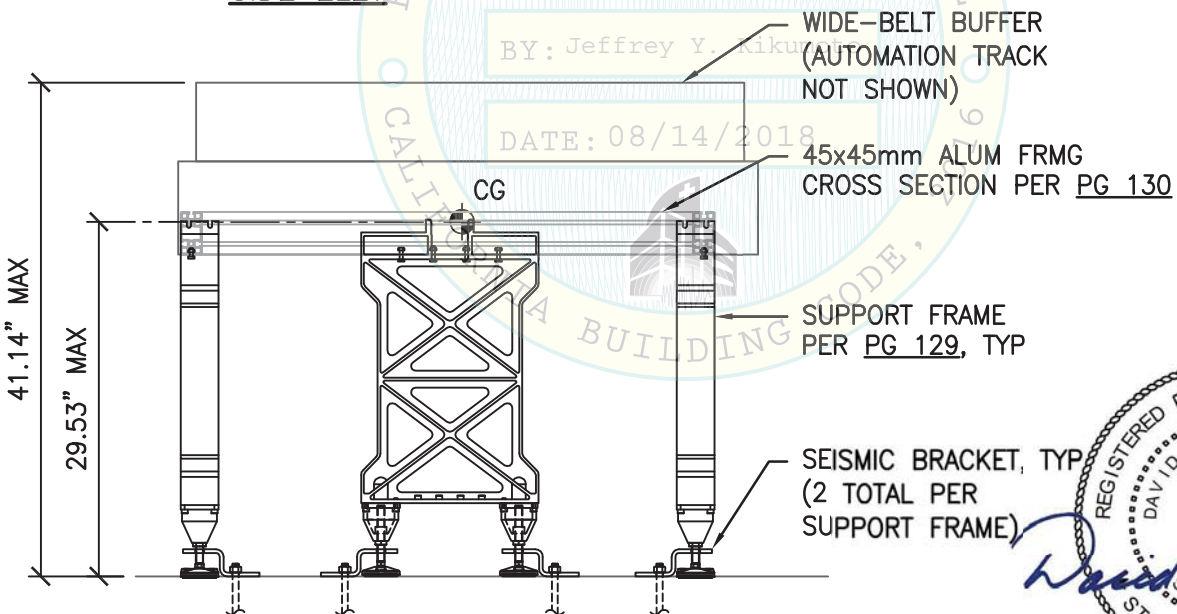
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES AT LRFD AT LEVELING LEG ¹			
	T _{max}	C _{max}	V _{max}
CASE 1	590#	766#	827# ²
CASE 2	494# ²	318# ²	464# ²



SIDE ELEV

1. ECCENTRICITY & PRYING ACTION MUST BE CONSIDERED BASED ON THE SEISMIC BRACKET CONFIGURATION.
2. INCLUDES MATERIAL OVERSTRENGTH FACTOR (Ω_b) IN ACCORDANCE W/ ACI 318-11 SECTION D.3.3.4.3(d) FOR TENSION OR SECTION D.3.3.5.3(c) FOR SHEAR.
3. SEE PGS 142 TO 145 FOR THE FABRICATION & INSTALLATION REQUIREMENTS OF THE SEISMIC BRACKET.



FRONT ELEV



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 24: WIDE-BELT BUFFER (600 SAMPLE CAPACITY)
ELEVATIONS

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 139 of 148
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L:\Jobs\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom DimScale:1 L1Scale:4

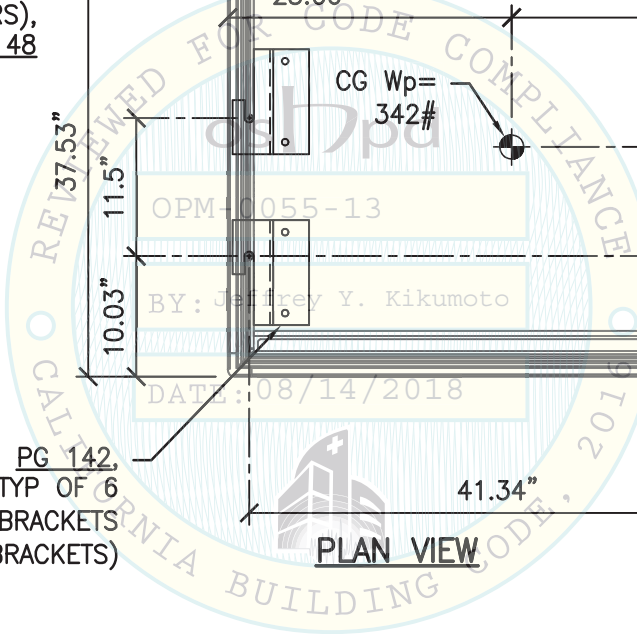
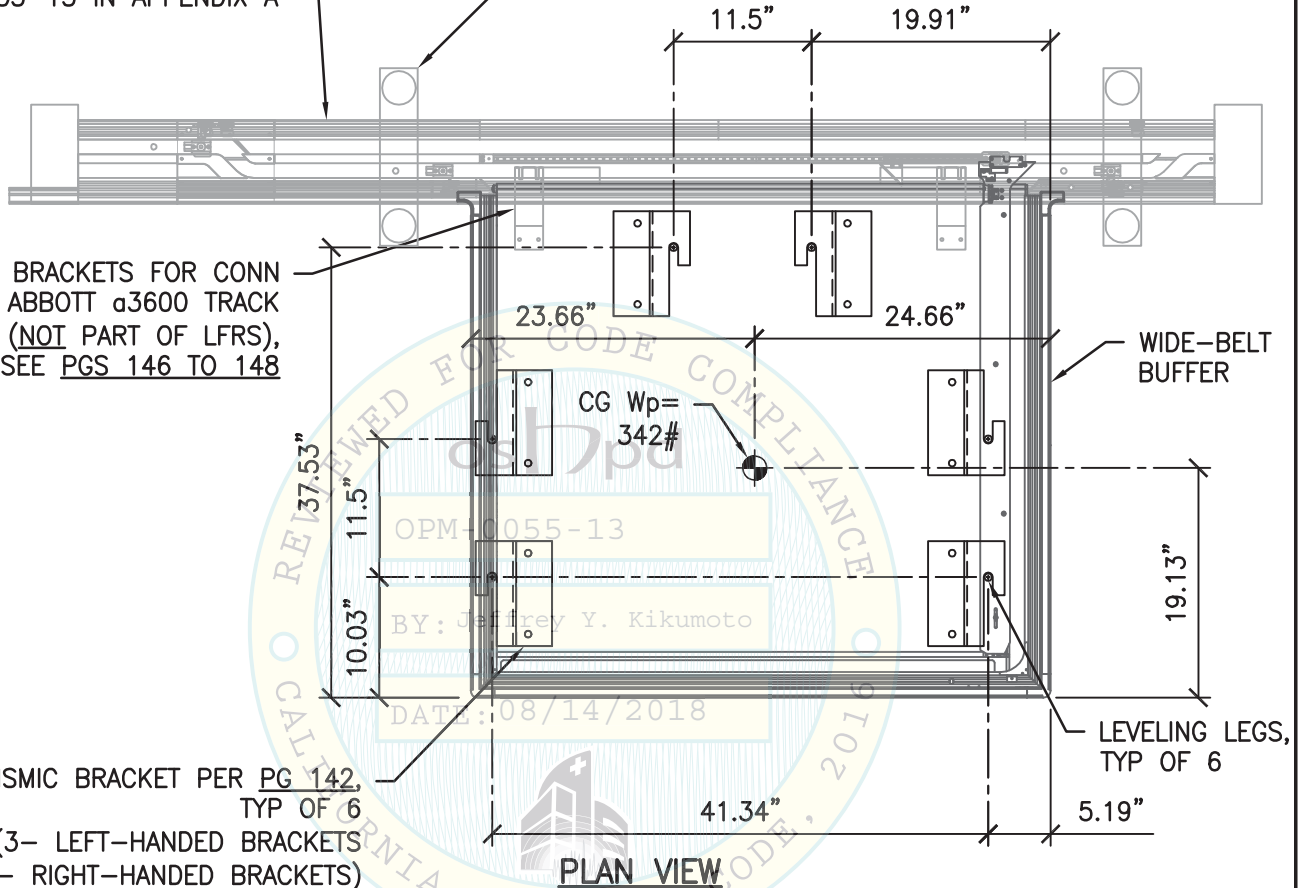
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

ABBOTT a3600 AUTOMATION TRACK. NOT IN CONTRACT. REFER TO OSHPD OPM-0055-13 IN APPENDIX A

ABBOTT a3600 AUTOMATION TRACK SUPPORT FRAME PER PG 16A (NOT PART OF LFRS), TYP.

SUPPORT BRACKETS FOR CONN TO ABBOTT a3600 TRACK SYSTEM (NOT PART OF LFRS), TYP. SEE PGS 146 TO 148

SEISMIC BRACKET PER PG 142, TYP OF 6
(3- LEFT-HANDED BRACKETS & 3- RIGHT-HANDED BRACKETS)



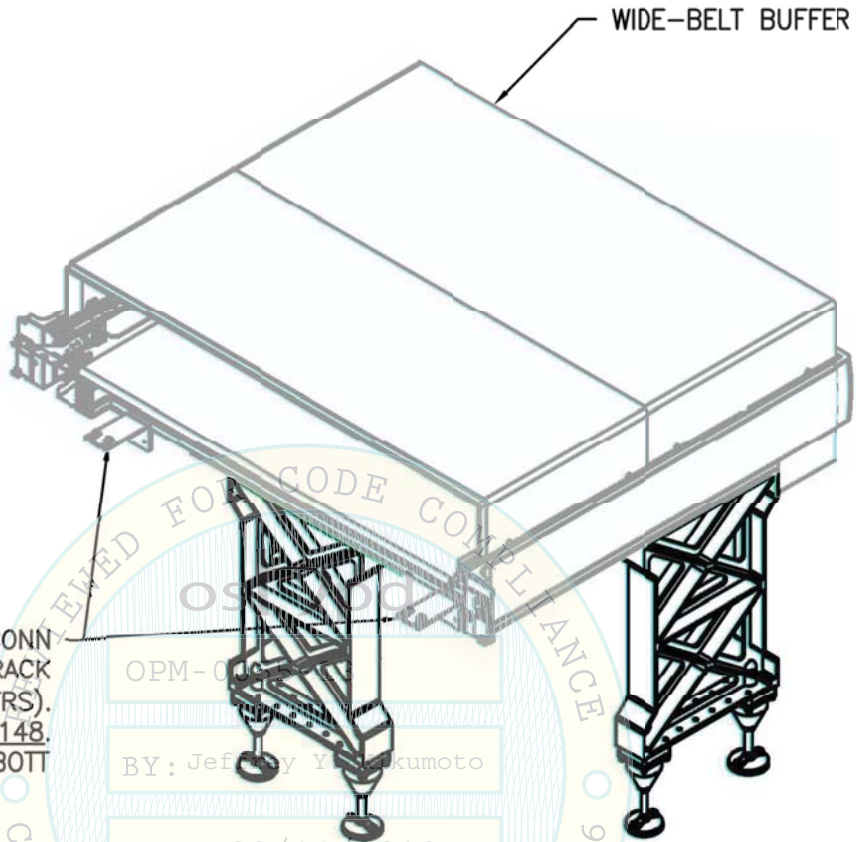
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 24: WIDE-BELT BUFFER (600 SAMPLE CAPACITY)
BASE PLAN VIEW

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
	2495 NATOMAS PARK DRIVE, SUITE 650		Date: 2-2-2017
	SACRAMENTO, CA 95833		Page: 140 of 148
	TEL (916) 920-2020	www.cyseng.com	

L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\S1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:camachom Dimscale:1 LScale:4

ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



SUPPORT BRACKETS FOR CONN
TO ABBOTT a3600 TRACK
SYSTEM (NOT PART OF LFRS).
SEE PGS 146 TO 148.
ATTACHMENT BY ABBOTT

OPM-0055-13
BY: Jeffrey Y. Kikumoto
DATE: 08/14/2018

ISOMETRIC VIEW

LIGHT-TONED COMPONENTS
NOT IN SCOPE OF WORK



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 24: WIDE-BELT BUFFER (600 SAMPLE CAPACITY)
ISOMETRIC VIEW



CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

Job No:	13027
Date:	2-2-2017
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L:\Jobs\13\13027 Abbott a3600 OPM\ACAD\STRU_2017 OPM-0055-13 Renewal\1_s1_76-148 plot set.dwg Time:Mar02,2017-10:29am Login:cmachom Dimscale:1 LTScale:4

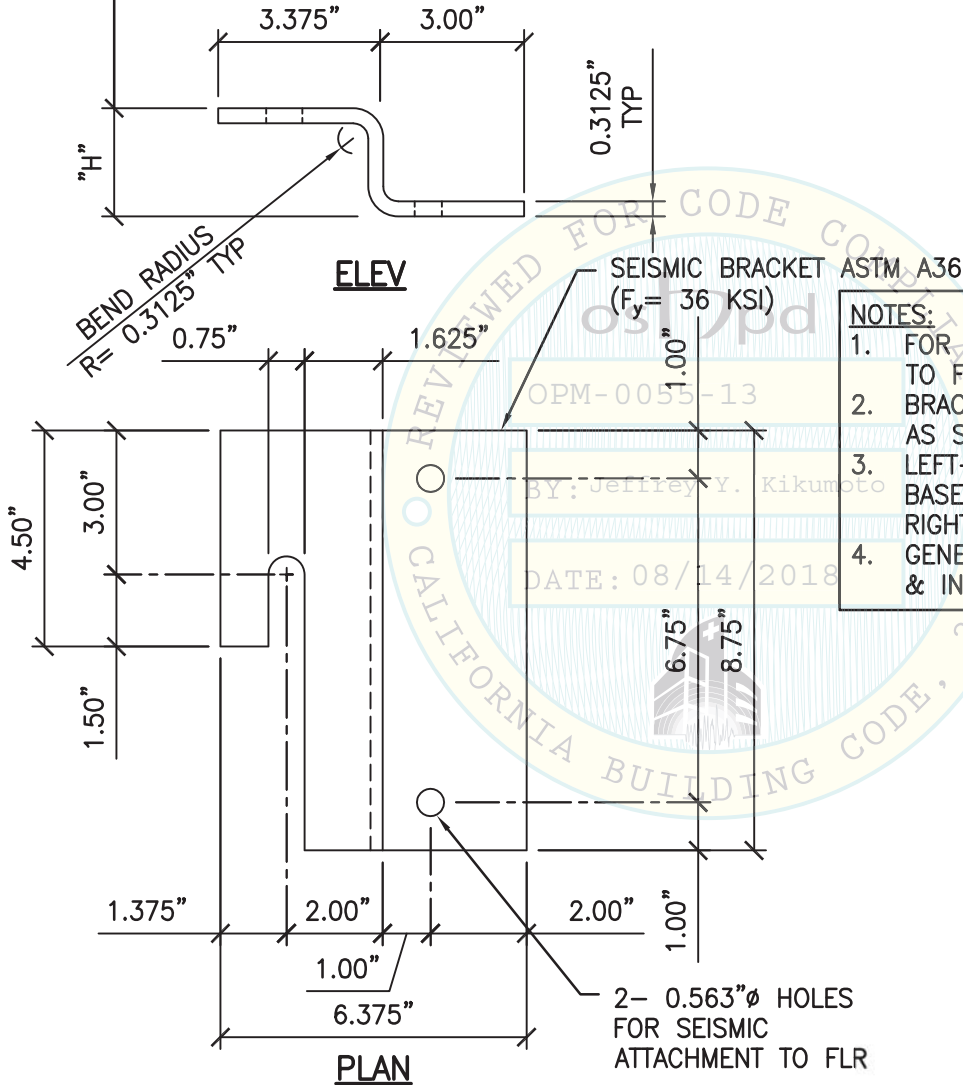
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

"H" VARIES TO ACCOMMODATE VERT ADJUSTMENT OF THE COMPONENT FOR LEVELING PURPOSES AS MEASURED FROM THE FLR TO THE BOTT OF THE COMPONENT PER THE CASE 1 & CASE 2 FLR TO COMPONENT CLEARANCES AS FOLLOWS:

BRACKET A: "H" = 0.75" FOR 0.75" ≤ CLR ≤ 2.25"

BRACKET B: "H" = 1.875" FOR 1.875" ≤ CLR ≤ 3.375"

BRACKET C: "H" = 3.00" FOR 3.00" ≤ CLR ≤ 3.75"
(MAX HEIGHT OF CLR CORRESPONDING TO MAX ABBOTT TRACK HEIGHT)



- NOTES:**
- FOR CASE 1 & CASE 2 ANCHORAGE TO FLR, SEE PGS 144 & 145.
 - BRACKET LAYOUT SHALL BE FOLLOWED AS SHOWN ON PLANS ON PG 140.
 - LEFT-HAND BRACKET SHOWN. SEE BASE PLAN A-A ON PG 140 FOR RIGHT-HAND BRACKET CONFIGURATION.
 - GENERAL CONTRACTOR SHALL PROVIDE & INSTALL SEISMIC BRACKET.

FOR ABBOTT USE:
MAX TRACK HT PER BRACKET
A = 840mm
B = 885mm
C = 910mm



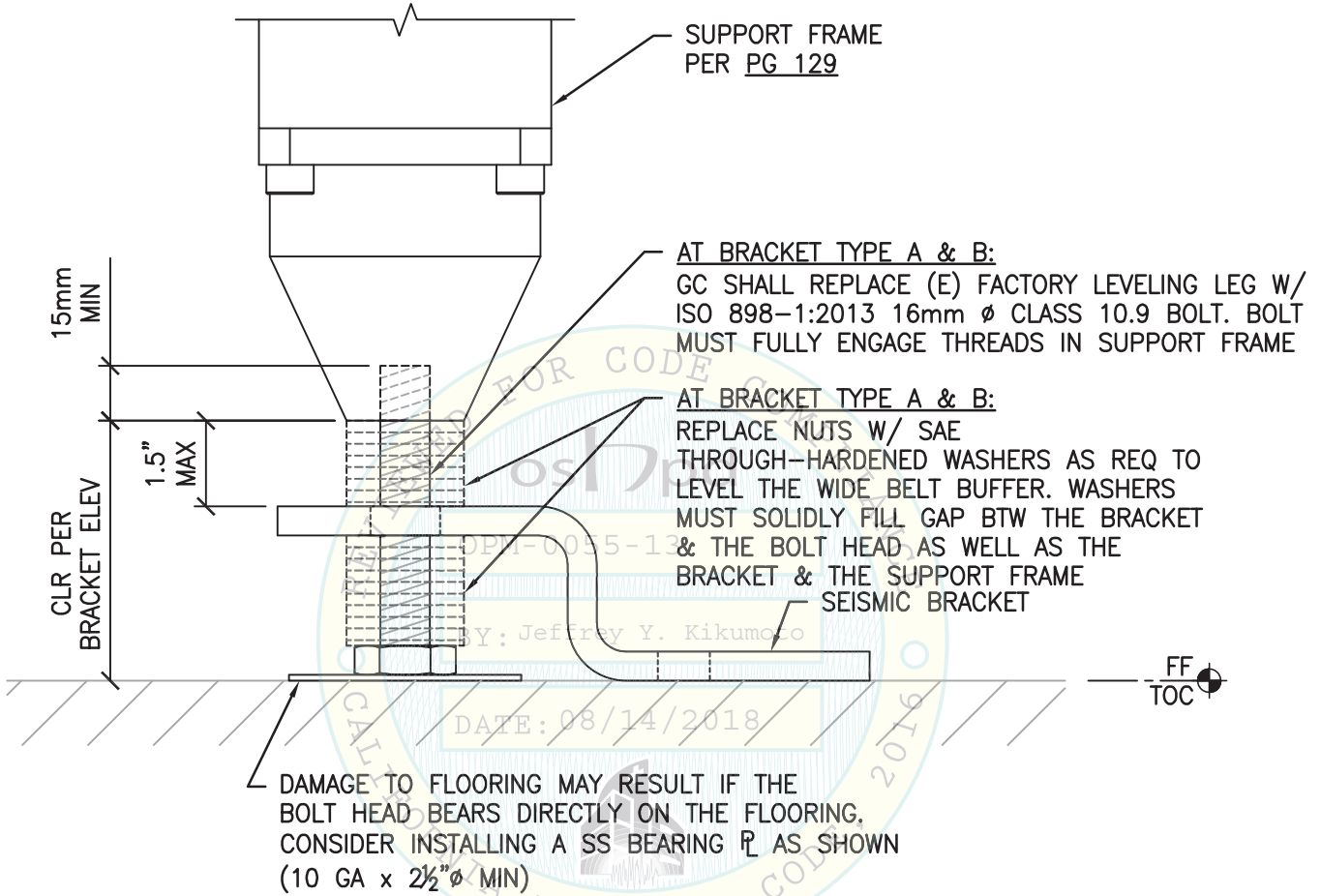
03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 24: WIDE-BELT BUFFER (600 SAMPLE CAPACITY)
SEISMIC BRACKET DETAIL

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 142 of 148
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 24: WIDE-BELT BUFFER (600 SAMPLE CAPACITY)
SEISMIC BRACKET DETAIL

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
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	TEL (916) 920-2020	www.cyseng.com	

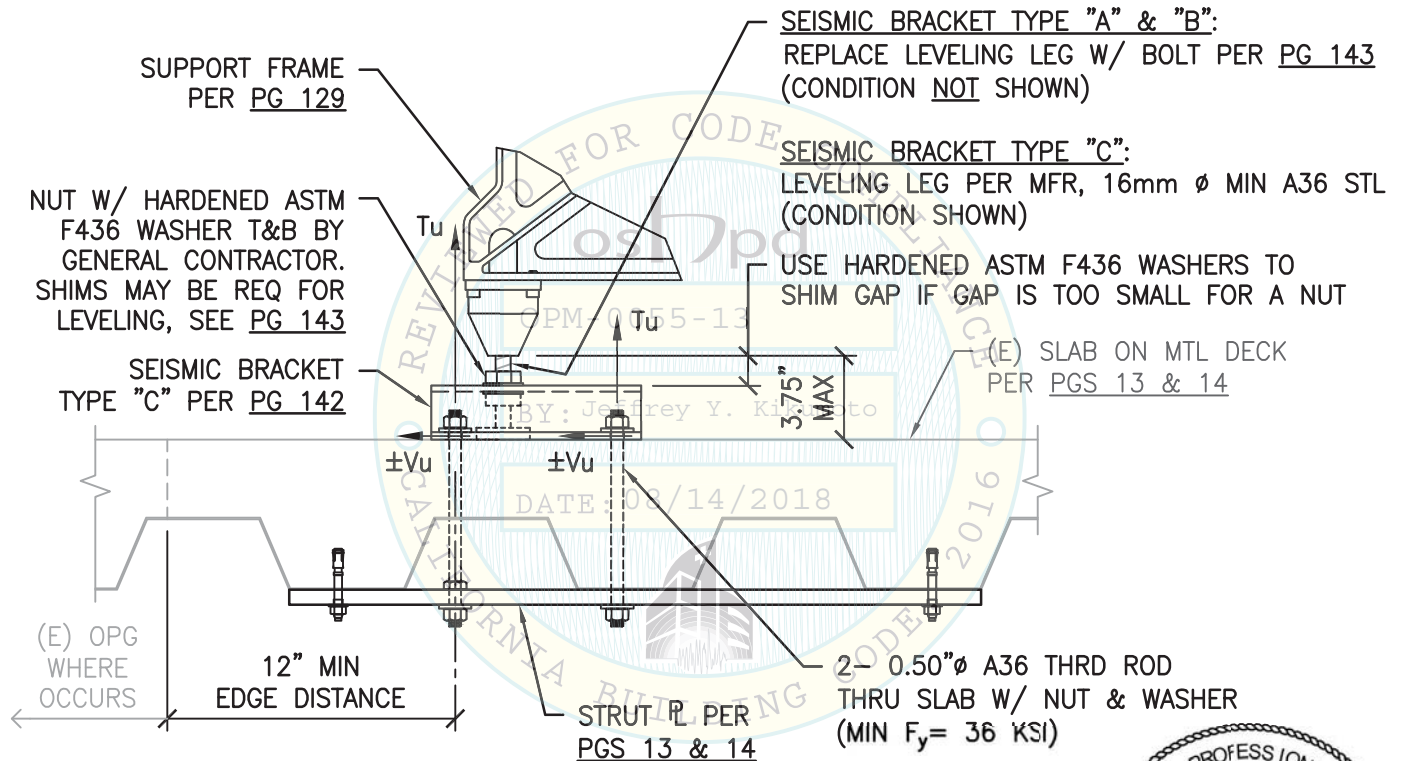
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 1 $z/h \leq 1.0$	1202#	690# ¹

1. INCLUDES MATERIAL OVERSTRENGTH FACTOR (Ω_o) IN ACCORDANCE W/ ACI 318-11 SECTION D.3.3.4.3(d) FOR TENSION OR SECTION D.3.3.5.3(c) FOR SHEAR.



CASE 1 - SUSPENDED FLR W/ THRU BOLTS



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 24: WIDE-BELT BUFFER (600 SAMPLE CAPACITY)
SUPPORT & ATTACHMENT DETAIL - CASE 1

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
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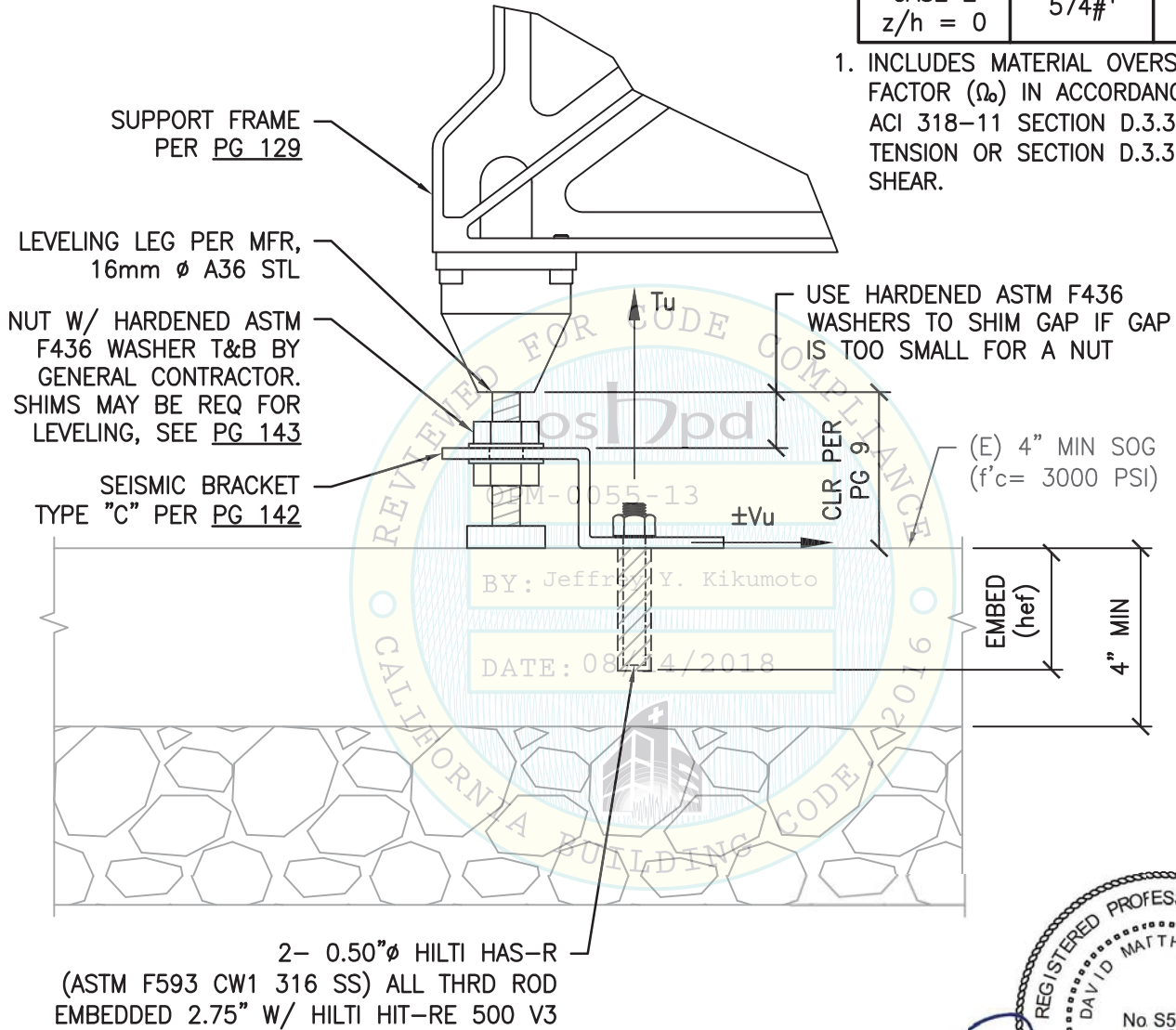
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

MAX ANCHOR FORCES
AT LRFD AT EA AB

	Tu	Vu
CASE 2 z/h = 0	574# ¹	213# ¹

1. INCLUDES MATERIAL OVERSTRENGTH FACTOR (Ω_o) IN ACCORDANCE W/ ACI 318-11 SECTION D.3.3.4.3(d) FOR TENSION OR SECTION D.3.3.5.3(c) FOR SHEAR.



CASE 2 - SOG
(SLAB AT OR BLW GRADE)



03/02/17 NOT SEOR

SHEET TITLE: COMPONENT 24: WIDE-BELT BUFFER (600 SAMPLE CAPACITY)
SUPPORT & ATTACHMENT DETAIL - CASE 2

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	<p>TEL (916) 920-2020 www.cyseng.com</p>	Job No: 13027
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS

← ABBOTT WIDE BELT BUFFER (BUFFER NOT SHOWN) | ABBOTT a3600 AUTOMATION TRACK →

INTERFACE CONN

a3600 AUTOMATION TRACK
TOP RAIL ALUM EXTRUSION

WIDE BELT BUFFER INTERNAL
ALUM EXTRUSION SEE PG 131.
45x45mm SECTION SHOWN

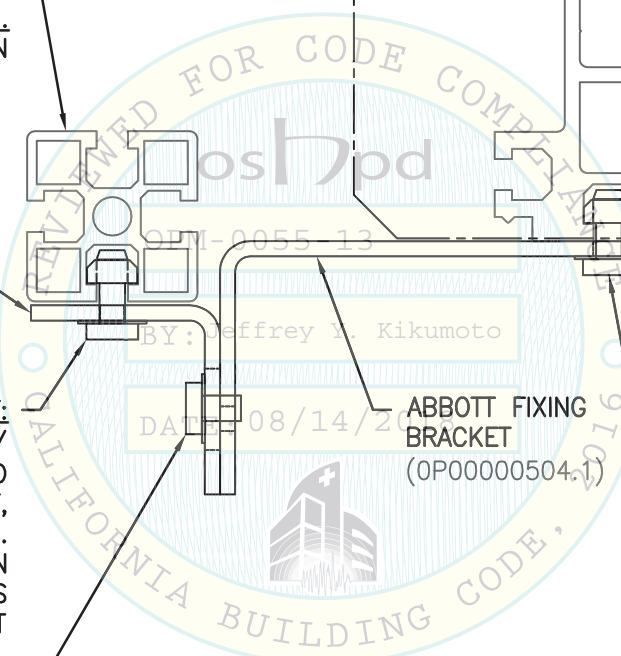
ABBOTT FIXING
BRACKET
(0P00000505.1)

SUPPORT BOLT:
2- M6x16 UNI 5931-8.8 W/
SAE THROUGH-HARDENED
WASHER & SQ SPRING NUT,
TYP.
Fu= 116 KSI MIN
INSTALL TORQUE 6.7 FT-LBS
ATTACHMENT BY ABBOTT

SUPPORT BOLT:
2- M6x16 UNI 5931-8.8 W/
SAE THROUGH-HARDENED
WASHER.
Fu= 116 KSI MIN
INSTALL TORQUE 6.7 FT-LBS
ATTACHMENT BY ABBOTT

ABBOTT FIXING
BRACKET
(0P00000504.1)

SUPPORT BOLT:
2- M6x16 UNI 5931-8.8 W/
SAE THROUGH-HARDENED
WASHER & SQ SPRING NUT.
Fu= 116 KSI MIN.
INSTALL TORQUE 6.7 FT-LBS.
ATTACHMENT BY ABBOTT



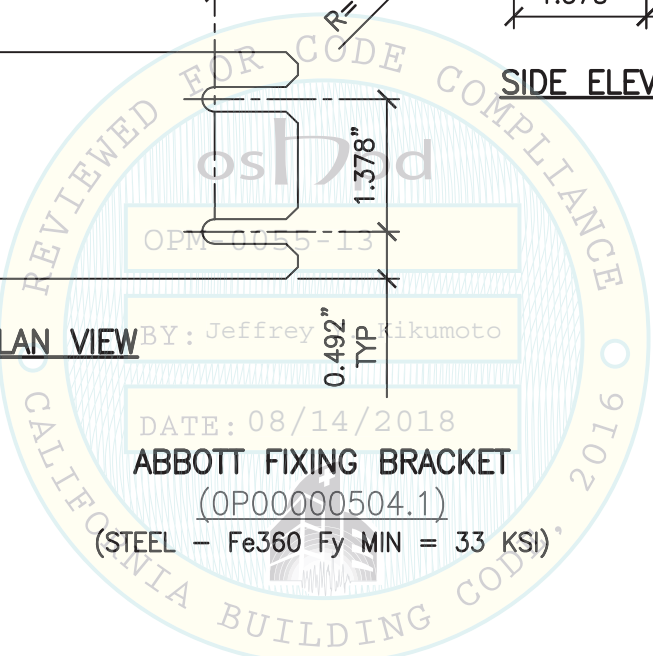
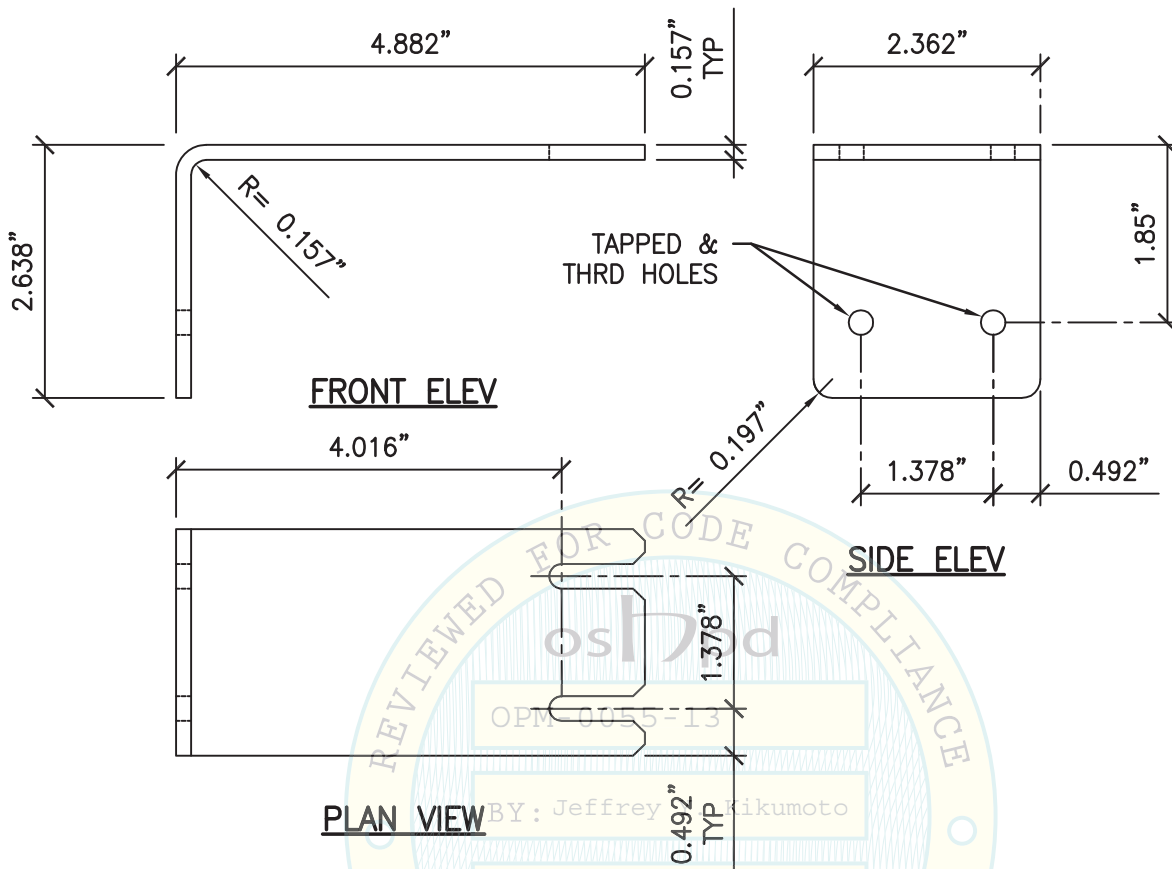
03/02/17 NOT SEOR

SHEET TITLE: COMPONENTS 23 & 24:
WIDE-BELT BUFFER TO a3600 AUTOMATION TRACK ATTACHMENT

	CYS STRUCTURAL ENGINEERS, INC.		Job No: 13027
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ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



DATE: 08/14/2018
ABBOTT FIXING BRACKET
 (OP00000504.1)
 (STEEL - Fe360 Fy MIN = 33 KSI)



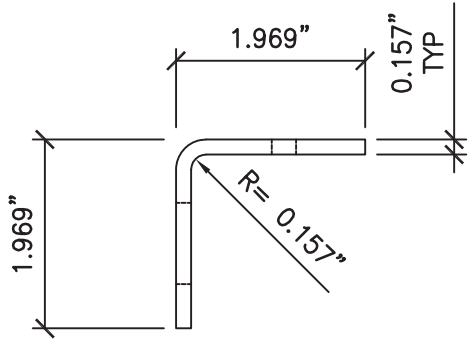
03/02/17 NOT SEOR

SHEET TITLE: COMPONENTS 23 & 24:
 WIDE-BELT BUFFER TO a3600 AUTOMATION TRACK ATTACHMENT

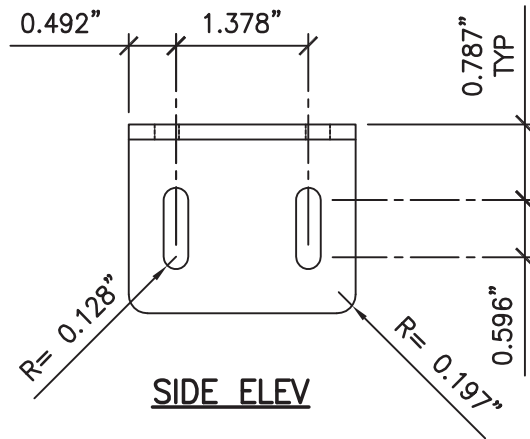
	CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 147 of 148
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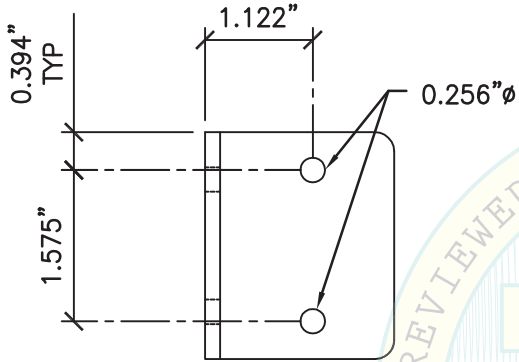
ABBOTT LABORATORIES
EQUIPMENT SUPPORTS & ATTACHMENTS



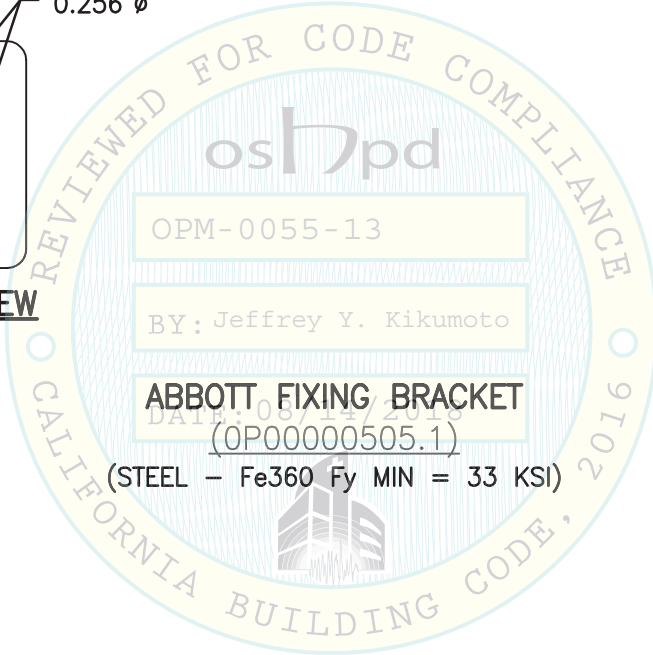
FRONT ELEV



SIDE ELEV



PLAN VIEW



03/02/17 NOT SEOR

SHEET TITLE: COMPONENTS 23 & 24:
WIDE-BELT BUFFER TO a3600 AUTOMATION TRACK ATTACHMENT

 <p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13027 Date: 2-2-2017 Page: 148 of 148
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