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

OFFICE USE ONLY

APPLICATION #: OPM-0537-19

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Sysmex America, Inc

Manufacturer's Technical Representative: Nozomi Honda

Mailing Address: 577 Aptakisic Road, Lincolnshire, IL 60669

Telephone: (224) 543-9617 Email: HondaN@sysmex.com

Product Information

Product Name: UN Series System

Product Type: Automated Urinalysis System

Product Model Number: Components: UC-3500, UF-5000, UD-10, ST-10, ST-11, ST-12; Supports: WG-13, WG-44, WG-45

General Description: Fully Automated Urine Analyzers

Applicant Information

Applicant Company Name: Sysmex America, Inc

Contact Person: Nozomi Honda

Mailing Address: 577 Aptakisic Road, Lincolnshire, IL 60669

Telephone: (224) 543-9617 Email: HondaN@sysmex.com

Title:

Registered Design Professonal Preparing Engineering Recommendations

Company Name: CYS STRUCTURAL ENGINEERS, INC.

Name: Dieter Siebald California License Number: S4346

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

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

OSHPD Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP OSP Number:

Certification Method

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

☐ Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) 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 2019 may be used when approved by OSHPD prior to testing.

☒ Analysis

☐ Experience Data

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

OSHPD Approval

Date: 01/07/2021

Name: Haeseong Lim Title: Senior Structural Engineer

Condition of Approval (if applicable):

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OPM-0537

NOTES:

1. THESE DRAWINGS ARE PREPARED FOR SYSMEX AMERICA, INC., LINCOLNSHIRE, ILLINOIS.

2. THE CONTRACTOR & INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT (OSHPD) PRE-APPROVAL PROGRAMS WEBSITE.

3. THIS PRE-APPROVAL COVERS THE SUPPORTS & ATTACHMENTS OF THE EQUIPMENT TO THE SUPPORTING STRUCTURE. THE EQUIPMENT, SUPPORT & ATTACHMENT HARDWARE ARE SUPPLIED BY THE MANUFACTURER. THE EXPANSION ANCHORS, THRU-BOLTS & STRUT PLATES SHOWN IN THIS OPM SHALL BE SUPPLIED & INSTALLED BY THE CONTRACTOR.

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

SHEET TITLE: TABLE OF CONTENTS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	18053
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GENERAL NOTES:

1. THIS OSHPD PRE–APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMAND (DESIGN FORCES) FOR USE W/ THIS OPM SHALL BE BASED ON THE CBC 2019.
2. IT IS THE RESPONSIBILITY OF THE SEOR FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES & WT SPECIFIED FOR EA EQUIP IN ADDITION TO ALL OTHER LOADS. PROVIDE & DESIGN SUPPLEMENTARY MEMBERS AS REQ.
   - B. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPGS.
   - C. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPCG SHOWN IN THE EXPANSION ANCHOR TABLE ON PG 3 IS THE REQ MIN SPCG OF THE GIVEN DIA ANCHORS. THE REQ SPCG FROM ANCHORS OF OTHER DIAMETERS & EMBEDMENTS MAY VARY & SHALL BE EVALUATED BY THE SEOR.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE CBC 2019 & W/ THE DETAILS SHOWN IN THIS PRE–APPROVAL.
   - E. THAT THE ACTUAL EQUIP'S WT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, & THE MATERIAL & GAGE OF THE EQUIP WHERE ATTACHMENTS ARE MADE, AGREE W/ THE INFO SHOWN ON THE PRE–APPROVAL DOCUMENTS.
   - F. THAT THE CONC SLAB TO WHICH THE EQUIP IS ANCHORED SHALL MEET THE REQUIREMENTS OF THE APPLICABLE ICC REPORT & THIS OPM.
3. EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE CARBON STEEL HILTI KB–TZ EXPANSION ANCHORS AS NOTED COMPLYING W/ ESR–1917 REISSUED JANUARY 2020.
   - A. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE W/ THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR & THE PARAMETERS GIVEN IN THE EXPANSION ANCHOR TABLE ON PG 3.
   - B. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOBSITE TESTING IN ACCORDANCE W/ THE EXPANSION ANCHOR TABLE PROVIDED IN THIS DOCUMENT. TORQUE TEST 50% OF THE INSTALLED ANCHORS. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE SPECIAL INSPECTOR & REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIP INSTALLATION, HOWEVER NUT SHALL BE RETORQUED TO INSTALLATION TORQUE AFTER EQUIPMENT INSTALL. ALSO REFER TO 2019 CBC 1910A.5 "TESTS FOR POST–INSTALLED ANCHORS IN CONCRETE". REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD.
   - C. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
     - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS:
       WEDGE TYPE: ONE–HALF (½) TURN OF THE NUT.
   - D. AVOID DAMAGING (E) STL REINF IN CONC SLAB WHEN INSTALLING CONC EXPANSION ANCHORS.
   - E. PROVIDE FOR FULL THRD ENGAGEMENT OF NUT & WASHER.
4. BOLTS THRU CONC ON MTL DECK:
   - A. BOLTS SHALL BE TORQUED BY ¾ TURN OF THE NUT AFTER SNUG TIGHT CONDITION IS ACHIEVED, UNO. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQ TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
   - B. THRU–BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16").
   - C. THRU–BOLTS IN CONC SHALL RECEIVE SPECIAL INSPECTION & TESTING IN ACCORDANCE W/ REQUIREMENTS FOR POST–INSTALLED ANCHORS. THRU–BOLTS W/ STL TO STL CONN IN TENSION DO NOT REQUIRE TESTING.

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

SHEET TITLE: GENERAL NOTES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

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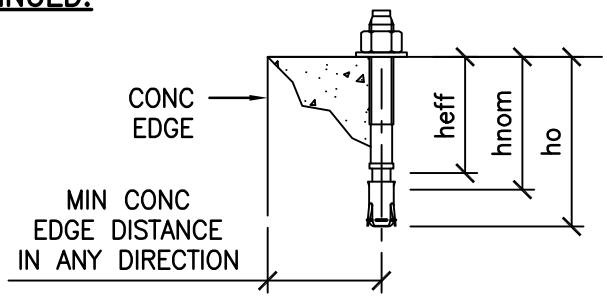
GENERAL NOTES CONTINUED:



EXPANSION ANCHOR TABLE

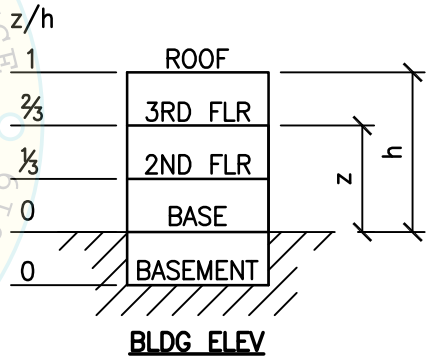
CONDITION OF ANCHORAGE	ANCHOR DIA & TYPE (INCH)	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONC THK (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN ANCHOR SPCG (INCH)	TEST TORQUE (FT–LBS)
CASE 1 STRUT P/S	3/8 KB–TZ	1 13/16	1 1/2	2	3 1/4	6	SEE PG 28	25
CASE 2, 3	1/2 KB–TZ	2 3/8	2	2 5/8	3 1/4, 4	8	3	40

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

CASE 1: ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3 1/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STEEL THRD ROD THRU CONC FILL & MTL DECK.

CASE 2: ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3 1/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STEEL & INTO CONC FILL.

CASE 3: ATTACHMENT DETAILS LOCATED AT OR BLW THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 4" NWC SLAB (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STEEL.



BLDG ELEV

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

SHEET TITLE: GENERAL NOTES (CONTINUED)

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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ABBREVIATIONS:

@	AT
AB	ANCHOR BOLT
ABV	ABOVE
ADJ	ADJACENT
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
BLDG	BUILDING
BLW	BELOW
BOTT	BOTTOM
BYD	BEYOND
CBC	CALIFORNIA BUILDING CODE
CG	CENTER OF GRAVITY
℄	CENTERLINE
CONC	CONCRETE
CONN	CONNECTION
COORD	COORDINATE
DBL	DOUBLE
DTL(S)	DETAIL(S)
DIA (ø)	DIAMETER
(E)	EXISTING CONDITION
EA	EACH
EE	EACH END
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE
FLR	FLOOR
FT (')	FOOT/FEET
Fy	SPECIFIED YIELD STRENGTH OF REINFORCING, PS OF STEEL, KSI
GA	GAUGE
HSS	HOLLOW STRUCTURAL SECTION
ICC	INTERNATIONAL CODE COUNCIL
IN (")	INCH
INFO	INFORMATION
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
LRFD	LOAD & RESISTANCE FACTOR DESIGN
MAX	MAXIMUM
MIN	MINIMUM
mm	MILLIMETER
MOD	MODULE
MTL	METAL
NO. (#)	NUMBER OR POUNDS
NWC	NORMAL WEIGHT CONCRETE
OP	OPERATING
OPG	OPENING
OPM	OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION
OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
PERP	PERPENDICULAR
PG	PAGE
PL	PLATE
PSI	POUNDS PER SQUARE INCH
REQ	REQUIRED
SEOR	STRUCTURAL ENGINEER OF RECORD
SIM	SIMILAR
SLWC	SAND-LIGHTWEIGHT CONCRETE
SPCG	SPACING
SS	STAINLESS STEEL
STL	STEEL
THK	THICK/THICKNESS
Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE AT LRFD
THRD	THREAD OR THREADED
T&B	TOP & BOTTOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE AT LRFD
W/	WITH
Wp	COMPONENT OPERATING WEIGHT
WT	WEIGHT

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

SHEET TITLE: ABBREVIATIONS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
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DESIGN CRITERIA:

1. SUPPORT & ATTACHMENT DESIGN IS PER 2019 CBC AT LRFD LEVEL FORCES.

   OTHER MECHANICAL OR ELECTRICAL COMPONENTS PER TABLE 13.6-1 OF ASCE 7-16 INCL SUPPLEMENT #1 & ERRATA:

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

   W_p AS NOTED ON DRAWINGS

   UPPER FLRS ABV THE BASE OF BLDG
   CASE 1: $S_{DS} \leq 1.40$ $F_p = 1.12\ W_p$ $z/h \leq 0.50$
   CASE 2: $S_{DS} < 0.80$ $F_p = 0.80\ W_p$ $z/h \leq 0.75$

   FLRS AT OR BLW THE BASE OF BLDG
   CASE 3: $S_{DS} \leq 2.50$ $F_p = 1.13\ W_p$ $z/h = 0$

   LOAD COMBINATIONS
   $(0.9 - 0.2\ S_{DS})\ D - \Omega_0\ F_p$ (FOR MAX TENSION)
   $(1.2 + 0.2\ S_{DS})\ D + \Omega_0\ F_p$ (FOR MAX COMPRESSION)

2. THIS PRE-APPROVAL MAY BE USED ONLY AT GEOGRAPHICAL LOCATIONS IN THE STATE OF CALIFORNIA WHERE S_{DS} & z/h IS LESS THAN OR EQ TO THE VALUES NOTED ABV. SEOR SHALL VERIFY THAT OTHER COMBINATIONS OF S_{DS} & z/h MUST RESULT IN AN Fp VALUE THAT IS EQ TO OR LESS THAN Fp FORCE FOR CASE UNDER CONSIDERATION.

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

SHEET TITLE: DESIGN CRITERIA

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
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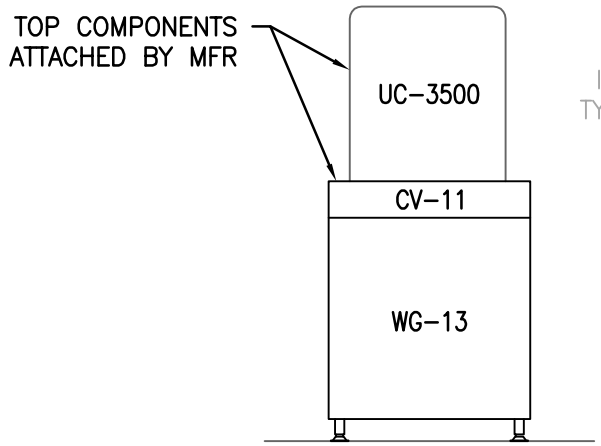
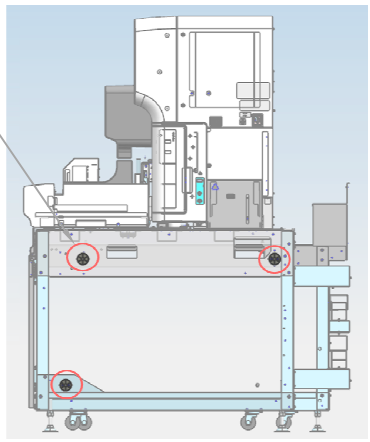


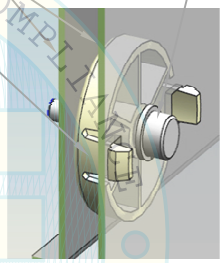
SEE MODULE INTERCONNECTION DTL, TYP OF 3 PER MODULE



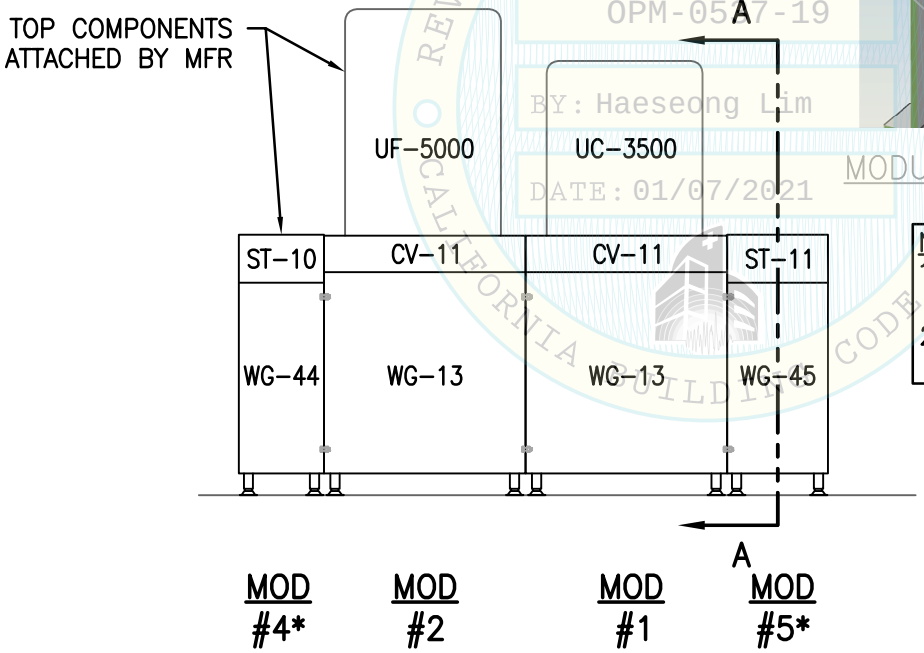
MODULE INTERCONNECTION POINTS
SECTION A-A

MOD #1

CONFIGURATION #1 – ELEV



MODULE INTERCONNECTION DETAIL



MOD #4* **MOD #2** **MOD #1** **MOD #5***

CONFIGURATION #5 – ELEV

NOTES:
1. SEE PG 8 FOR TABLE LISTING CONFIGURATIONS.
2. MODULES W/ AN "*" INDICATES THAT THESE ARE OPTIONAL.

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

SHEET TITLE: CONFIGURATION EXAMPLES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

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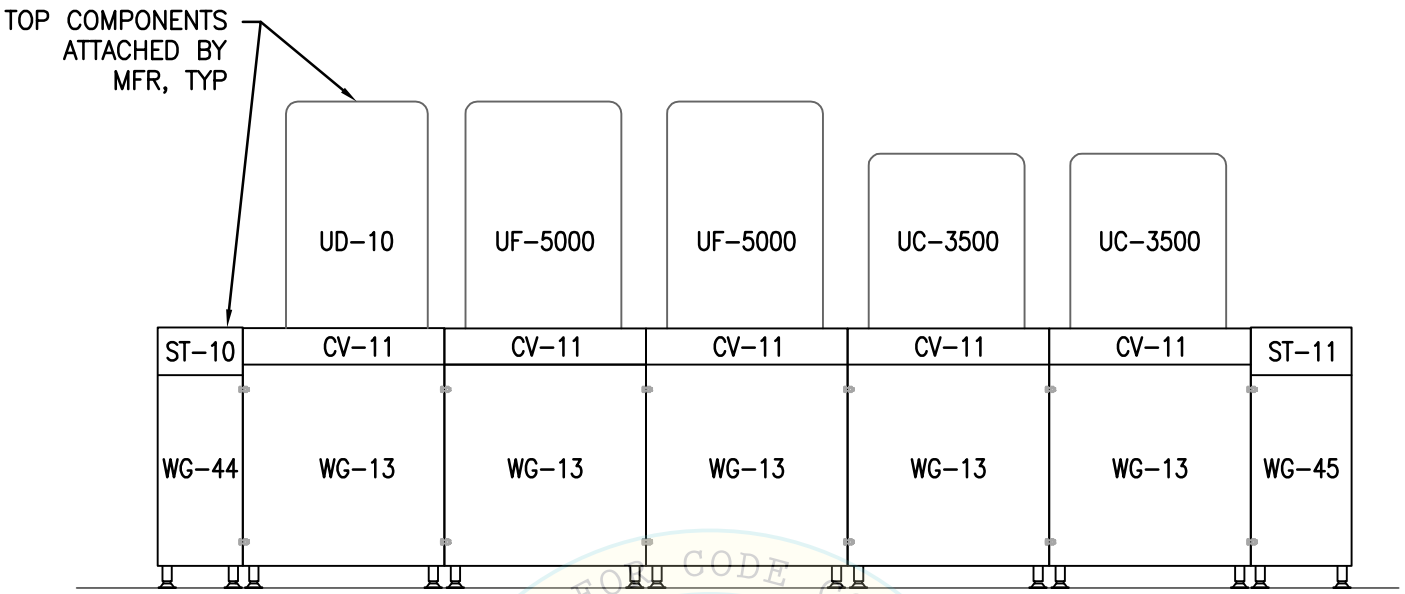

MOD #4*	MOD #3	MOD #2	MOD #2	MOD #1	MOD #1	MOD #5*

CONFIGURATION #9 – ELEV

NOTES:
1. SEE PG 8 FOR TABLE LISTING CONFIGURATIONS.
2. MODULES W/ AN "*" INDICATES THAT THESE ARE OPTIONAL.
3. FOR MODULE INTERCONNECTIONS, SEE PG 6.

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

SHEET TITLE: CONFIGURATION EXAMPLES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

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CONFIGURATION MATRIX

CONFIGURATION 1	MODULE #	1						
	COMPONENT(S)	UC-3500						
		CV-11						
	WAGON	WG-13						
CONFIGURATION 2	MODULE #	2						
	COMPONENT(S)	UF-5000						
		CV-11						
	WAGON	WG-13						
CONFIGURATION 3	MODULE #	3						
	COMPONENT(S)	UD-10						
		CV-11						
	WAGON	WG-13						
CONFIGURATION 4	MODULE #	2	1					
	COMPONENT(S)	UF-5000	UC-3500					
		CV-11	CV-11					
	WAGON	WG-13	WG-13					
CONFIGURATION 5	MODULE #	4*	2	1	5*			
	COMPONENT(S)	ST-10	UF-5000	UC-3500	ST-11			
			CV-11	CV-11				
	WAGON	WG-44	WG-13	WG-13	WG-45			
CONFIGURATION 6	MODULE #	2	1	6*				
	COMPONENT(S)	UF-5000	UC-3500	ST-12				
		CV-11	CV-11					
	WAGON	WG-13	WG-13	WG-45				
CONFIGURATION 7	MODULE #	4*	3	2	1	5*		
	COMPONENT(S)	ST-10	UD-10	UF-5000	UC-3500	ST-11		
			CV-11	CV-11	CV-11			
	WAGON	WG-44	WG-13	WG-13	WG-13	WG-45		
CONFIGURATION 8	MODULE #	3	2	1	6*			
	COMPONENT(S)	UD-10	UF-5000	UC-3500	ST-12			
		CV-11	CV-11	CV-11				
	WAGON	WG-13	WG-13	WG-13	WG-45			
CONFIGURATION 9	MODULE #	4*	3	2	2	1	1	5*
	COMPONENT(S)	ST-10	UD-10	UF-5000	UF-5000	UC-3500	UC-3500	ST-11
			CV-11	CV-11	CV-11	CV-11	CV-11	
	WAGON	WG-44	WG-13	WG-13	WG-13	WG-13	WG-13	WG-45
CONFIGURATION 10	MODULE #	3	2	2	1	1	6*	
	COMPONENT(S)	UD-10	UF-5000	UF-5000	UC-3500	UC-3500	ST-12	
		CV-11	CV-11	CV-11	CV-11	CV-11		
	WAGON	WG-13	WG-13	WG-13	WG-13	WG-13	WG-45	
CONFIGURATION 11	MODULE #	3	2					
	COMPONENT(S)	UD-10	UF-5000					
		CV-11	CV-11					
	WAGON	WG-13	WG-13					
CONFIGURATION 12	MODULE #	4*	3	2	5*			
	COMPONENT(S)	ST-10	UD-10	UF-5000	ST-11			
			CV-11	CV-11				
	WAGON	WG-44	WG-13	WG-13	WG-45			
CONFIGURATION 13	MODULE #	3	2	6*				
	COMPONENT(S)	UD-10	UF-5000	ST-12				
		CV-11	CV-11					
	WAGON	WG-13	WG-13	WG-45				

NOTES:

1. MODULES W/ AN "*" INDICATES THAT THESE ARE OPTIONAL IN THE CONFIGURATION,

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

SHEET TITLE: CONFIGURATION TABLE

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	18053
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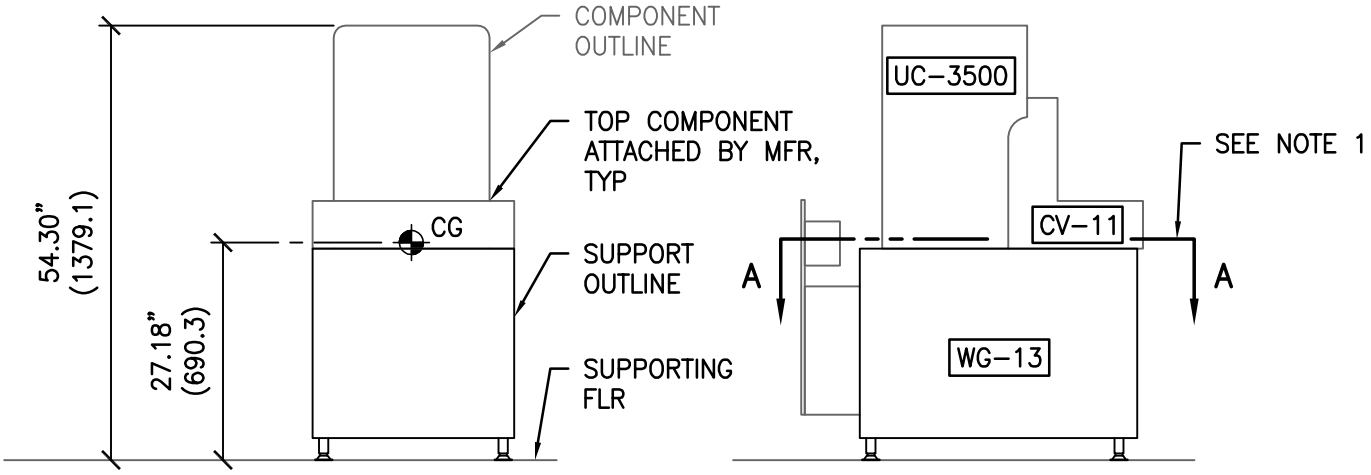
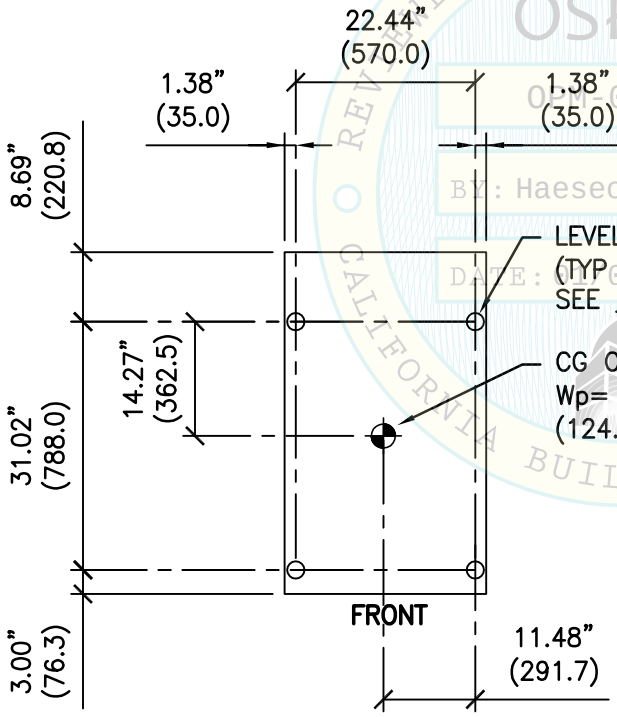


FRONT ELEV

LEFT SIDE ELEV



PLAN AT BASE

NOTES:
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 15.
2. DIMS IN PARENTHESES ARE mm & kg, TYP THIS OPM.
3. CASTERS ARE NOT SHOWN IN THIS OPM FOR CLARITY, TYP

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

SHEET TITLE: MODULE #1
PLAN VIEW & ELEVATION

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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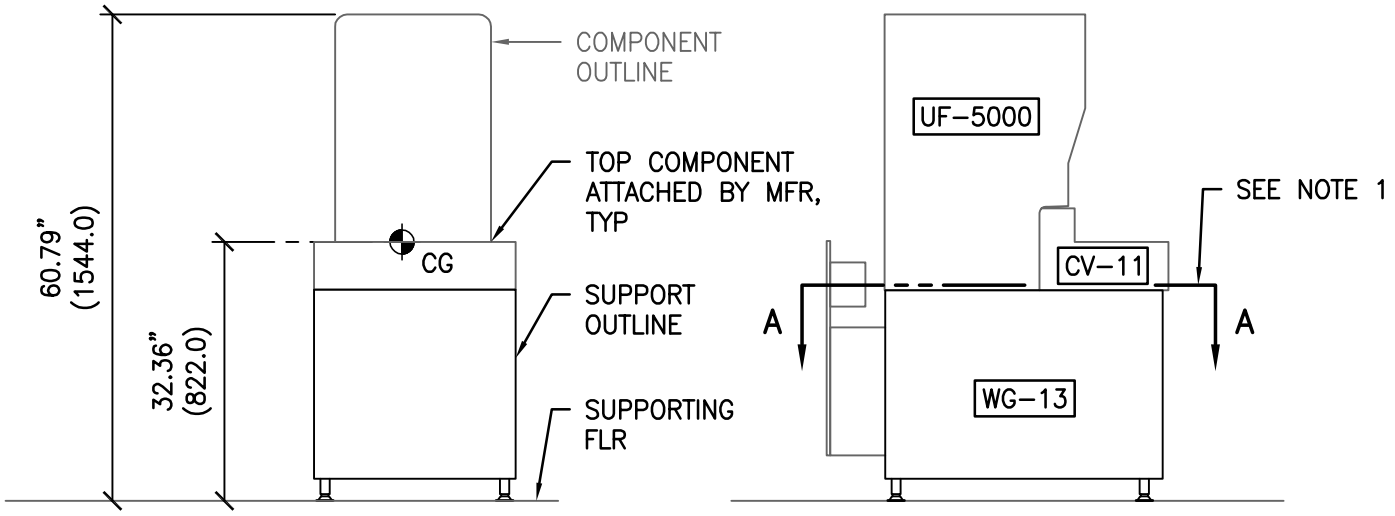
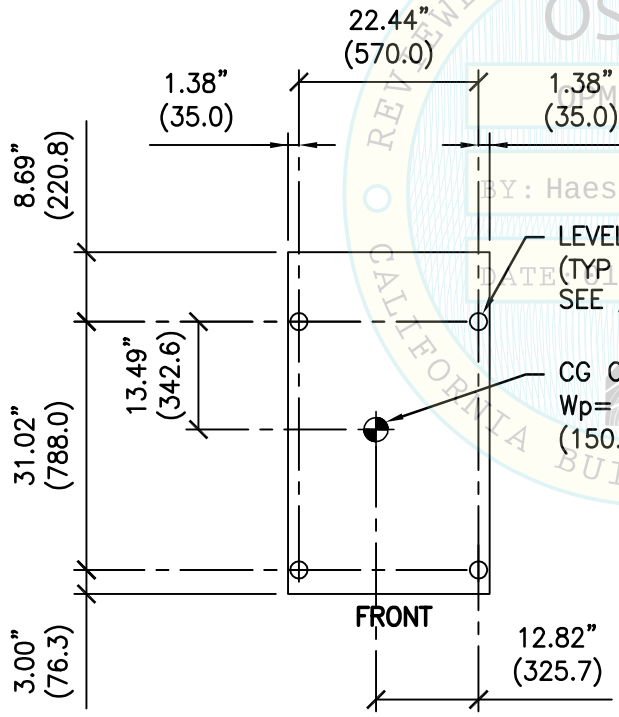


FRONT ELEV

LEFT SIDE ELEV



PLAN AT BASE

NOTES:
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 16.
2. SEE PG 9 FOR TYPICAL NOTES.

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

SHEET TITLE: MODULE #2
PLAN VIEW & ELEVATION

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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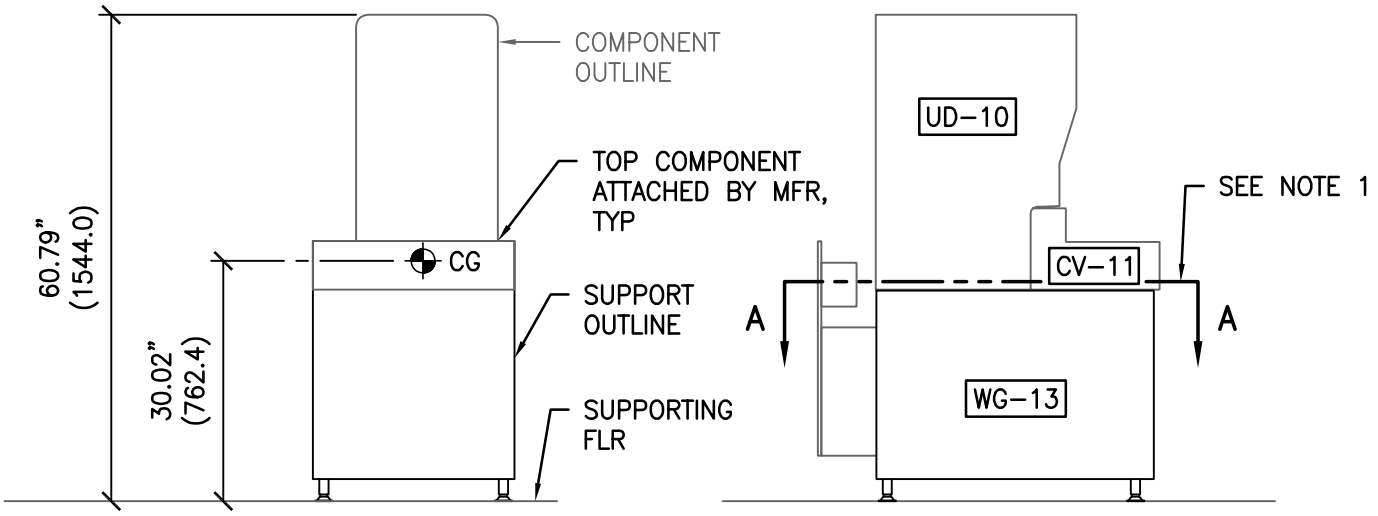
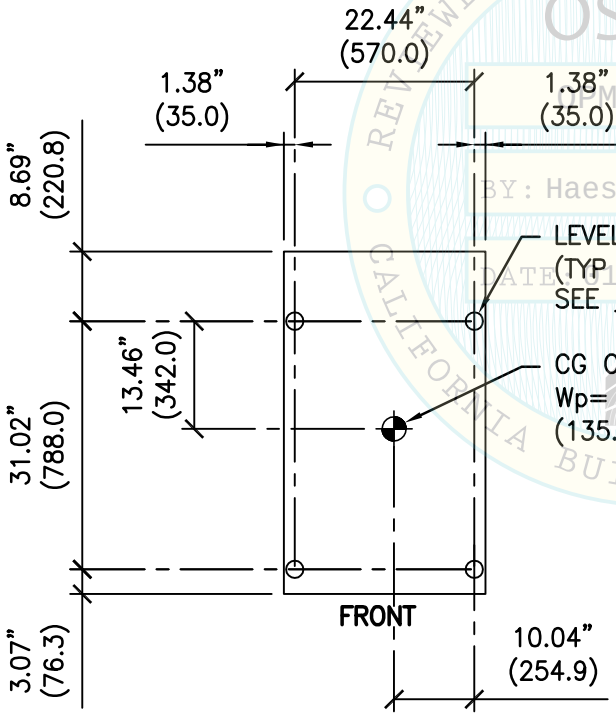
UN SERIES SYSTEM



FRONT ELEV

LEFT SIDE ELEV



PLAN AT BASE

NOTES:
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 17.
2. SEE PG 9 FOR TYPICAL NOTES.

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

SHEET TITLE: MODULE #3
PLAN VIEW & ELEVATION

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	18053
Date:	01-06-2021
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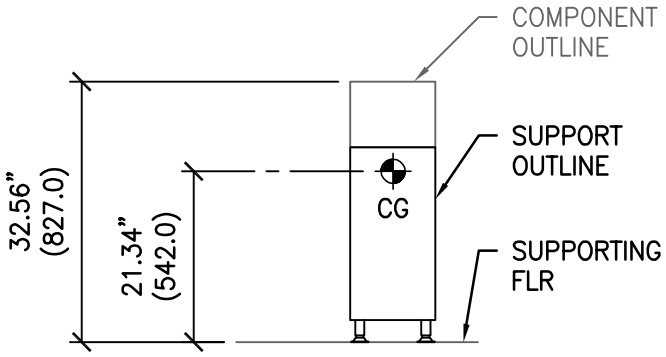
UN SERIES SYSTEM



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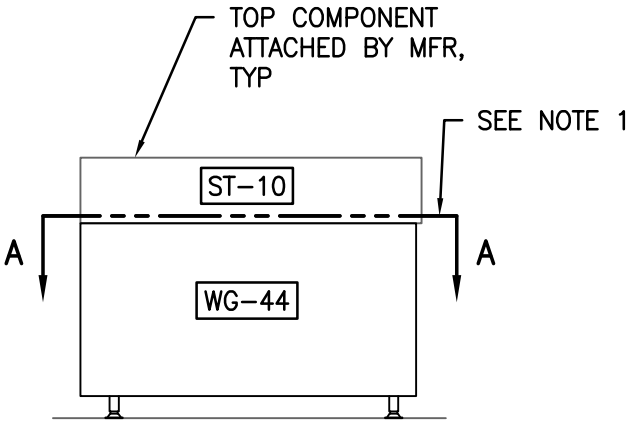

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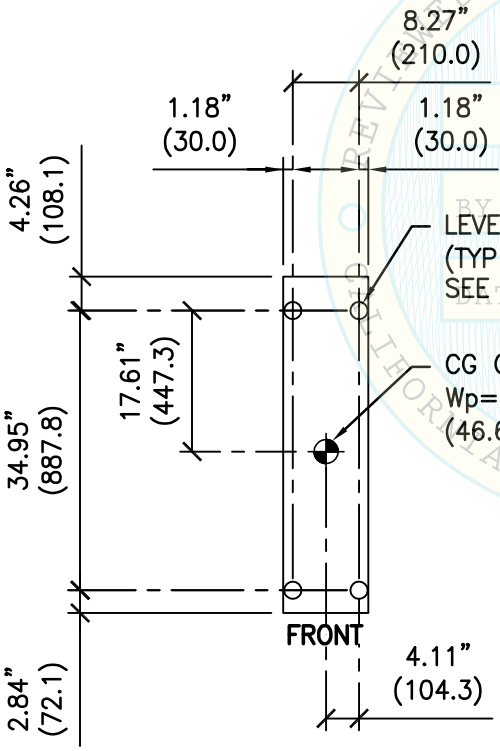

PLAN AT BASE

NOTES:
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 18.
2. SEE PG 9 FOR TYPICAL NOTES.

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

SHEET TITLE: MODULE #4
PLAN VIEW & ELEVATION

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
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TEL (916) 920-2020
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Job No:	18053
Date:	01-06-2021
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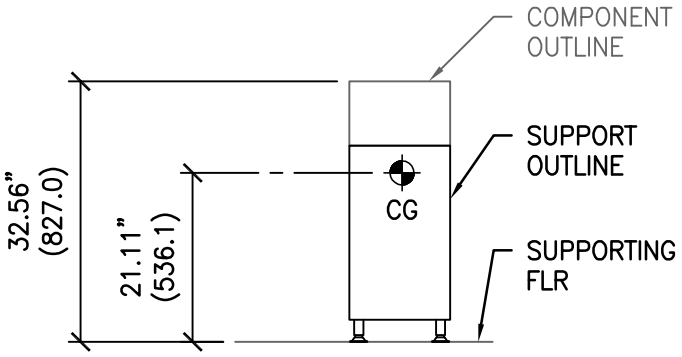
UN SERIES SYSTEM



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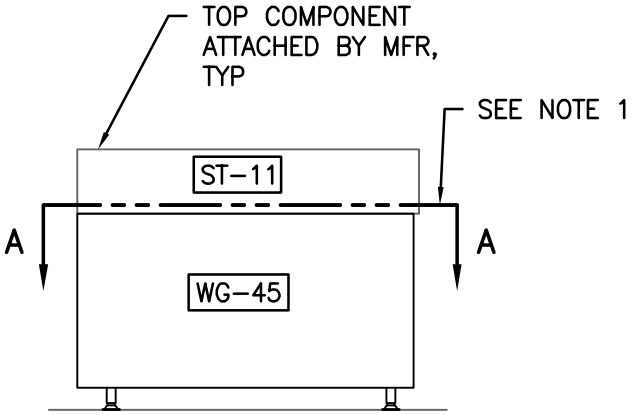

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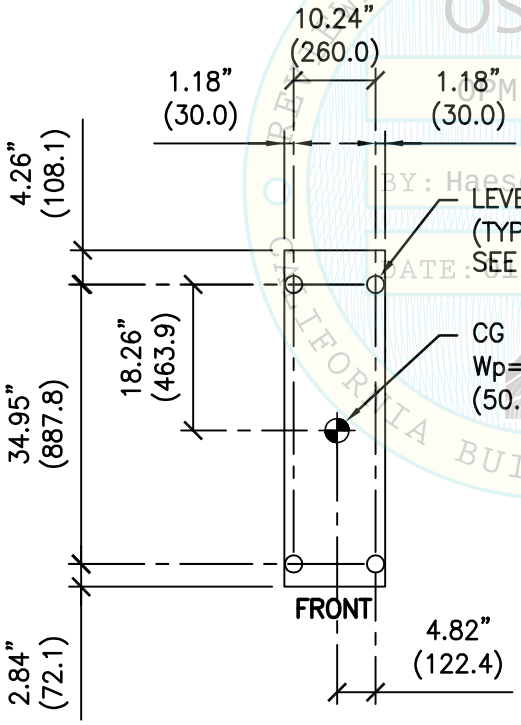

PLAN AT BASE

NOTES:
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 19.
2. SEE PG 9 FOR TYPICAL NOTES.

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

SHEET TITLE: MODULE #5
PLAN VIEW & ELEVATION

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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Job No:	18053
Date:	01-06-2021
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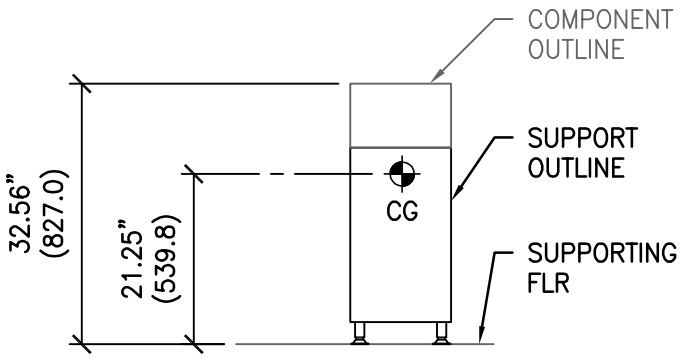
UN SERIES SYSTEM



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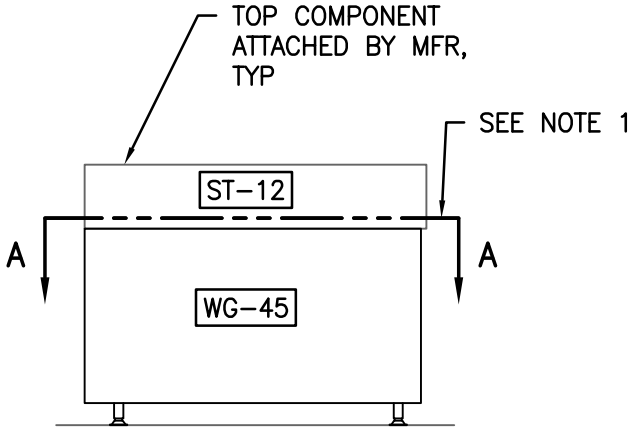

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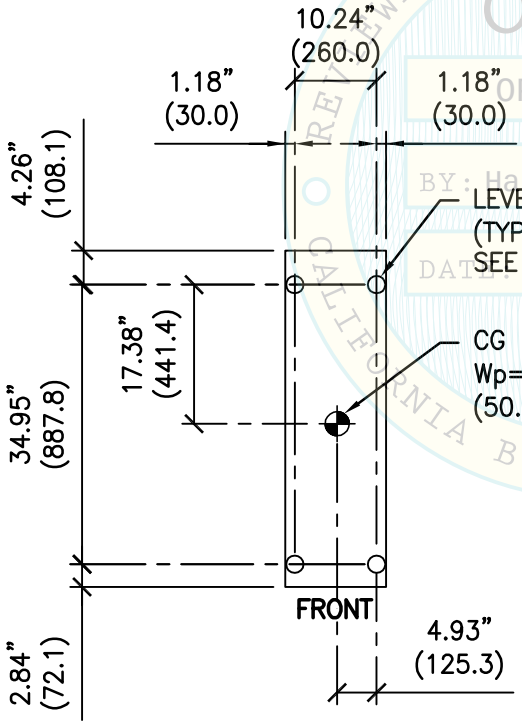

PLAN AT BASE

NOTES:
1. FOR COMPONENT CONNECTIONS TO SUPPORT, SEE PG 19.
2. SEE PG 9 FOR TYPICAL NOTES.

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

SHEET TITLE: MODULE #6
PLAN VIEW & ELEVATION

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
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TEL (916) 920-2020
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Job No:	18053
Date:	01-06-2021
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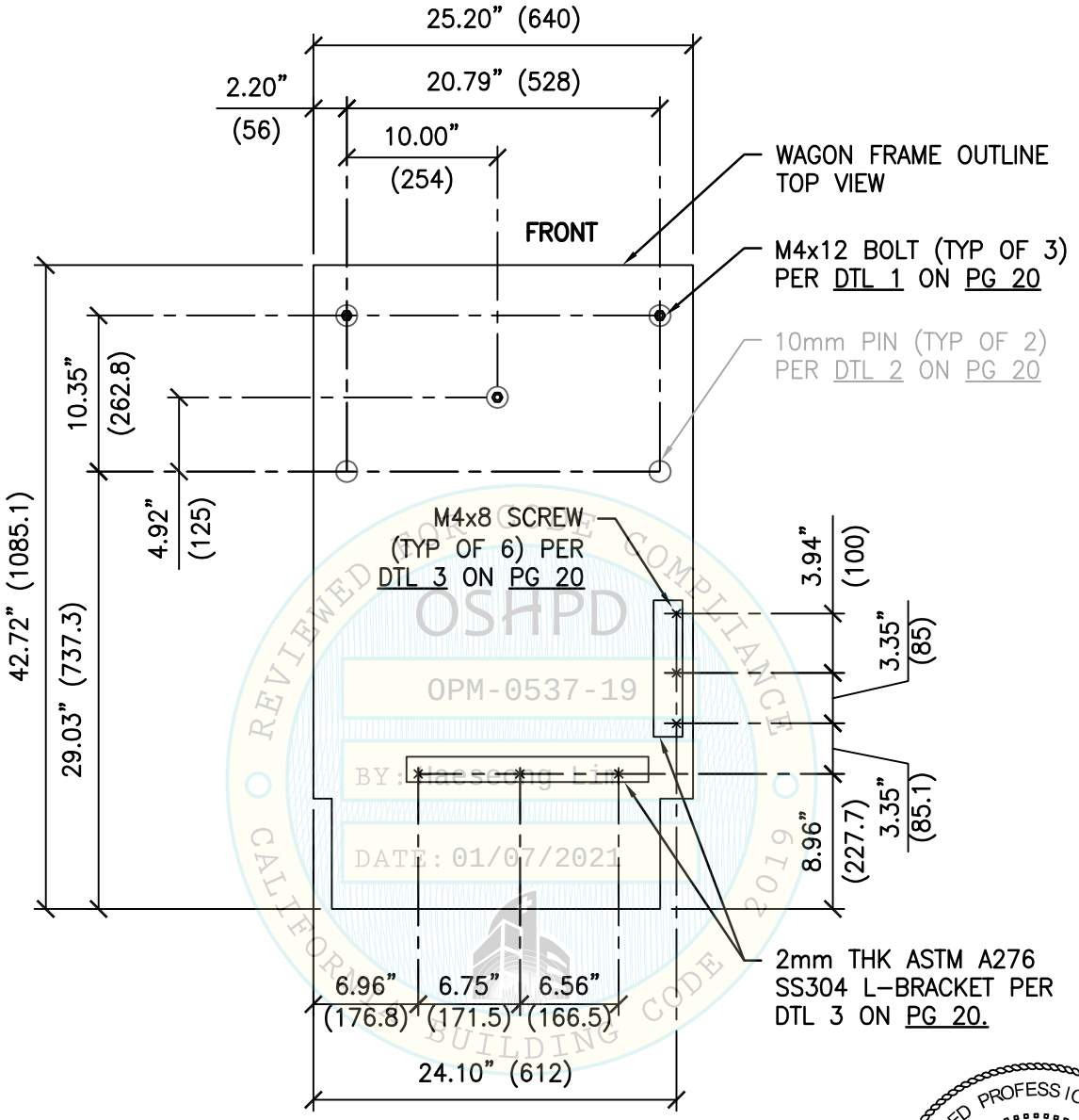
UN SERIES SYSTEM



MODULE #1 PLAN VIEW A-A

UC-3500, CV-11, WG-13

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

SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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Job No:	18053
Date:	01-06-2021
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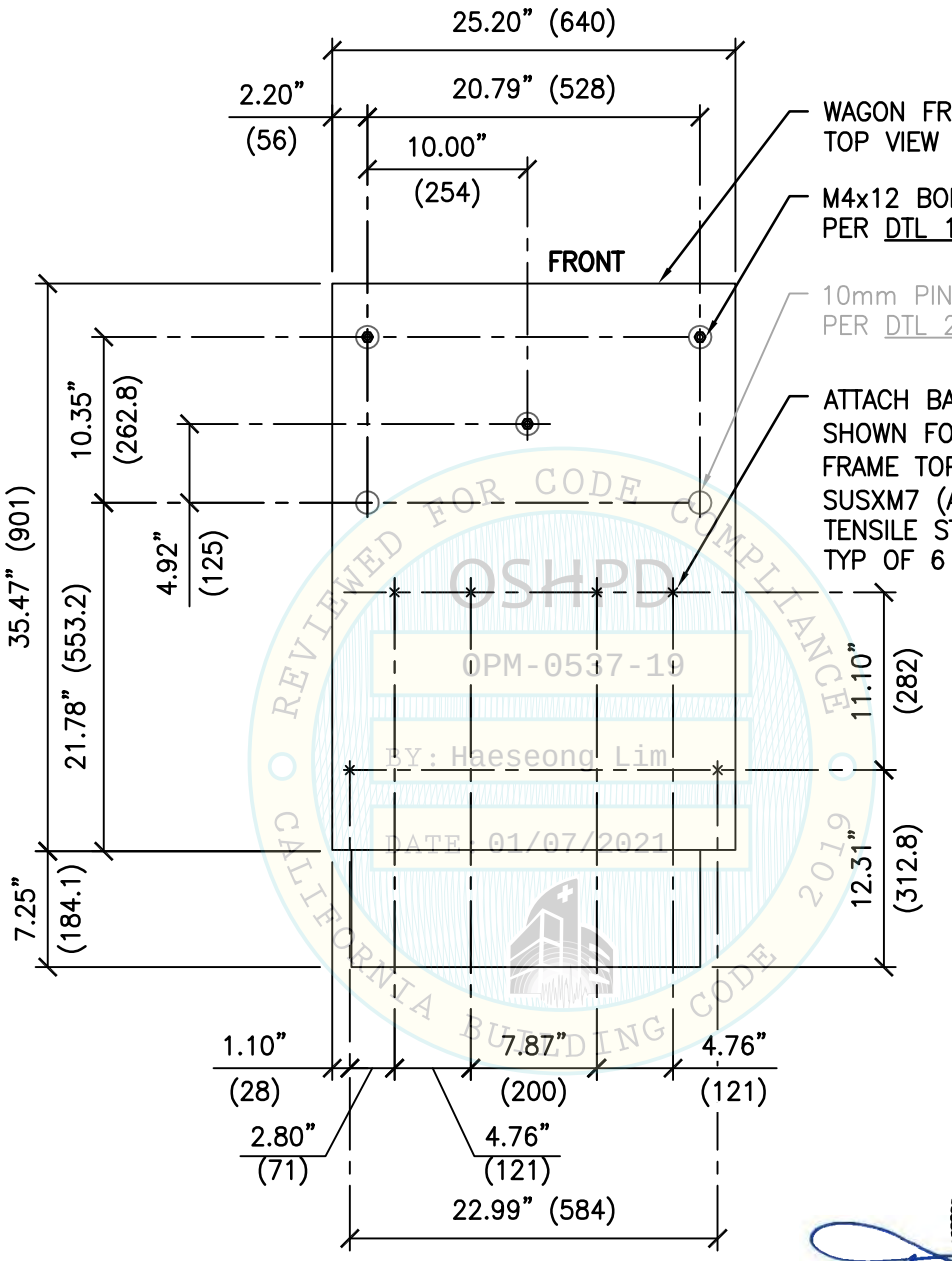
UN SERIES SYSTEM



MODULE #2 PLAN VIEW A-A

UF-5000, CV-11, WG-13

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

SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT

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Job No:	18053
Date:	01-06-2021
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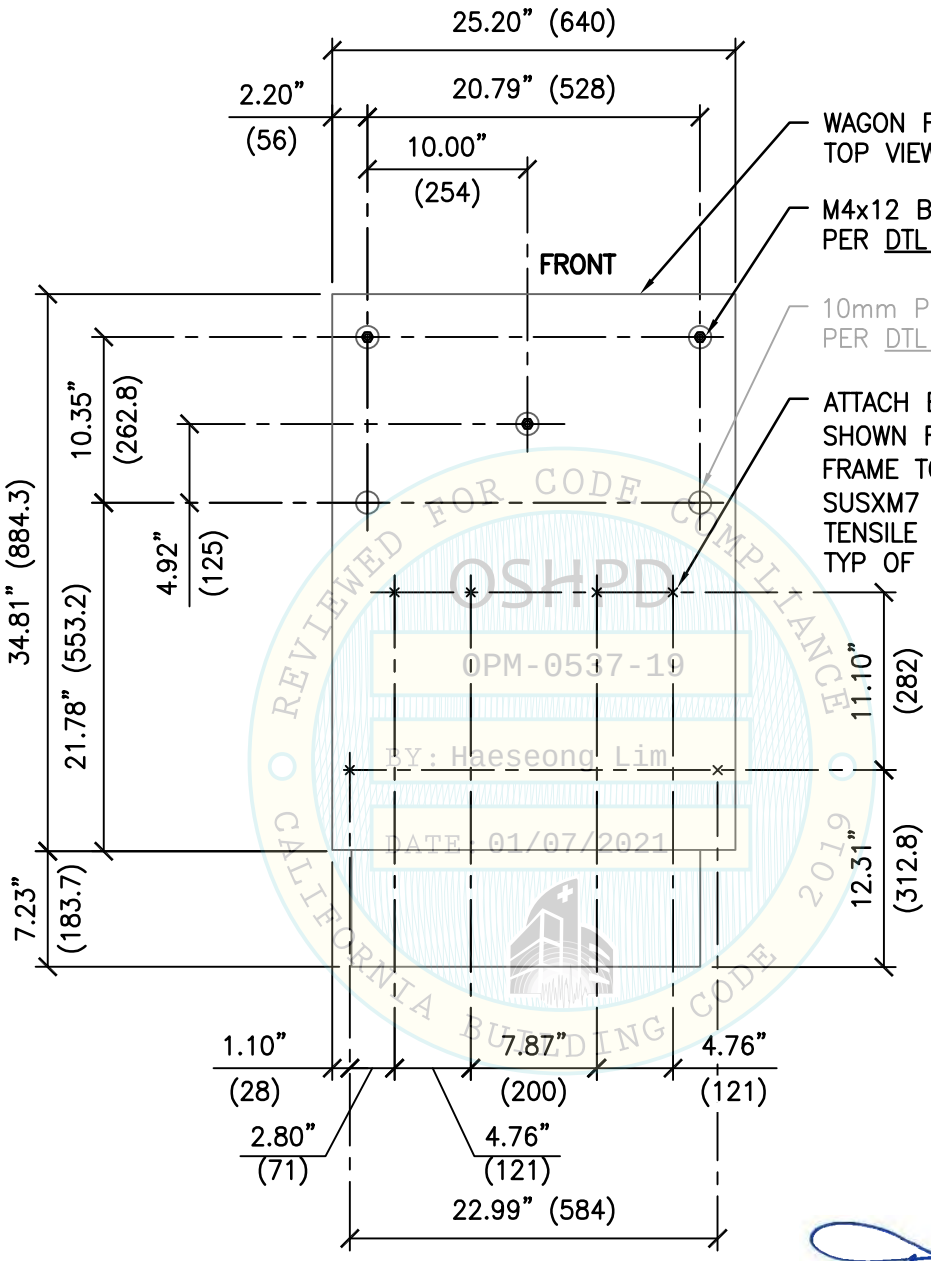
UN SERIES SYSTEM



MODULE #3 PLAN VIEW A-A

UD-10, CV-11, WG-13

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

SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	18053
Date:	01-06-2021
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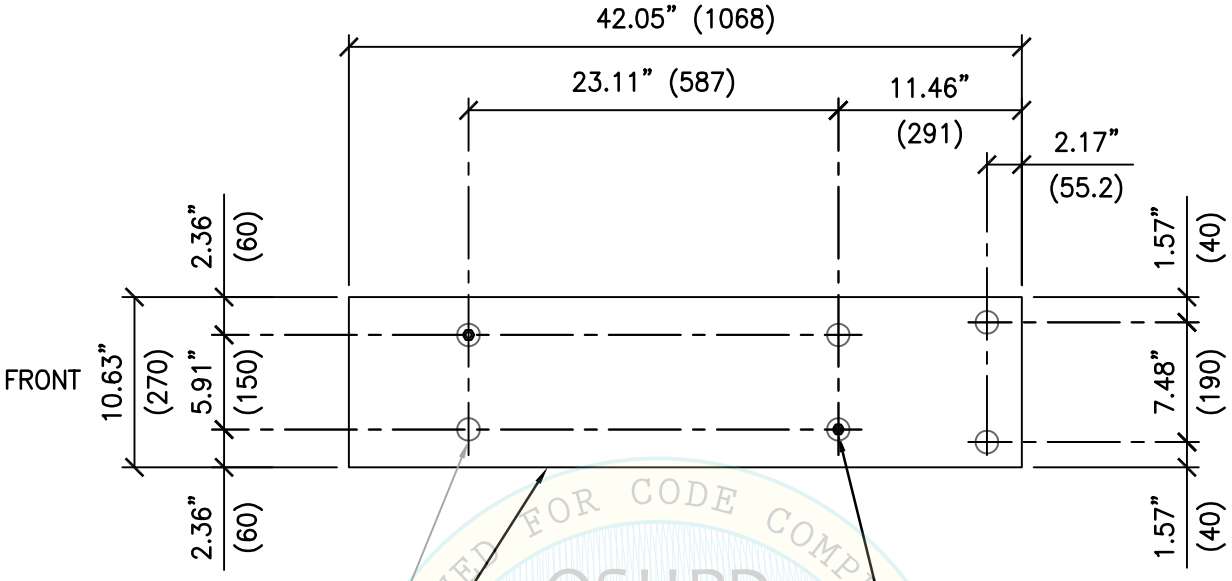
UN SERIES SYSTEM



MODULE #4 PLAN VIEW A–A

ST–10, WG–44

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

SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT

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2495 NATOMAS PARK DRIVE, SUITE 650
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TEL (916) 920-2020
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Job No:	18053
Date:	01-06-2021
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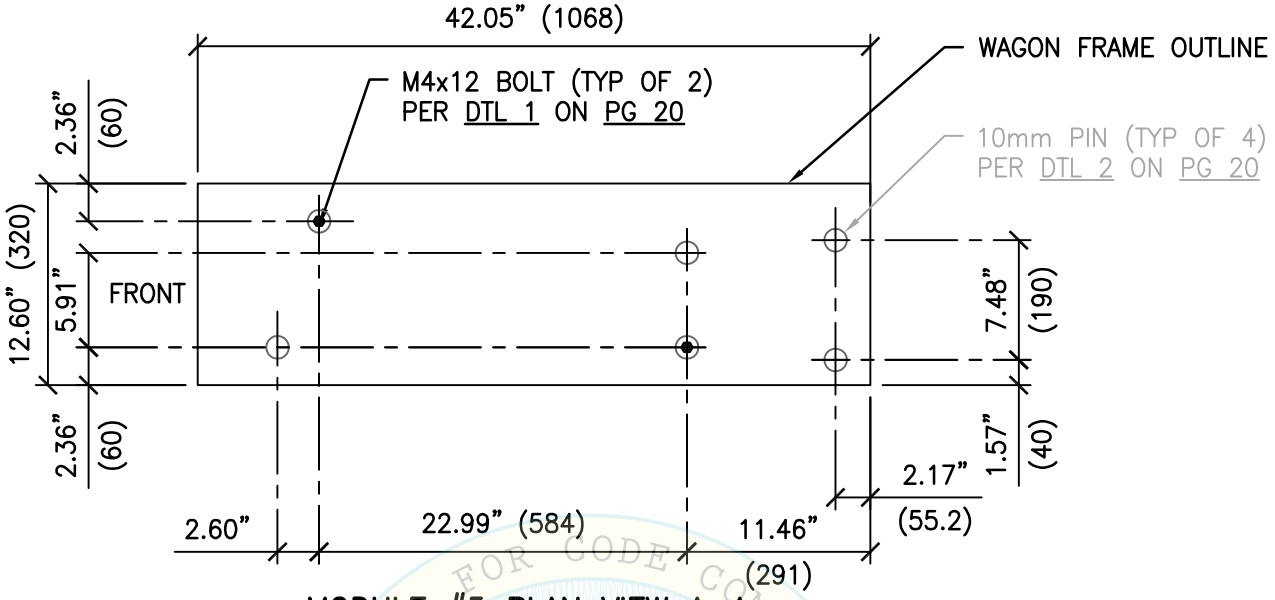
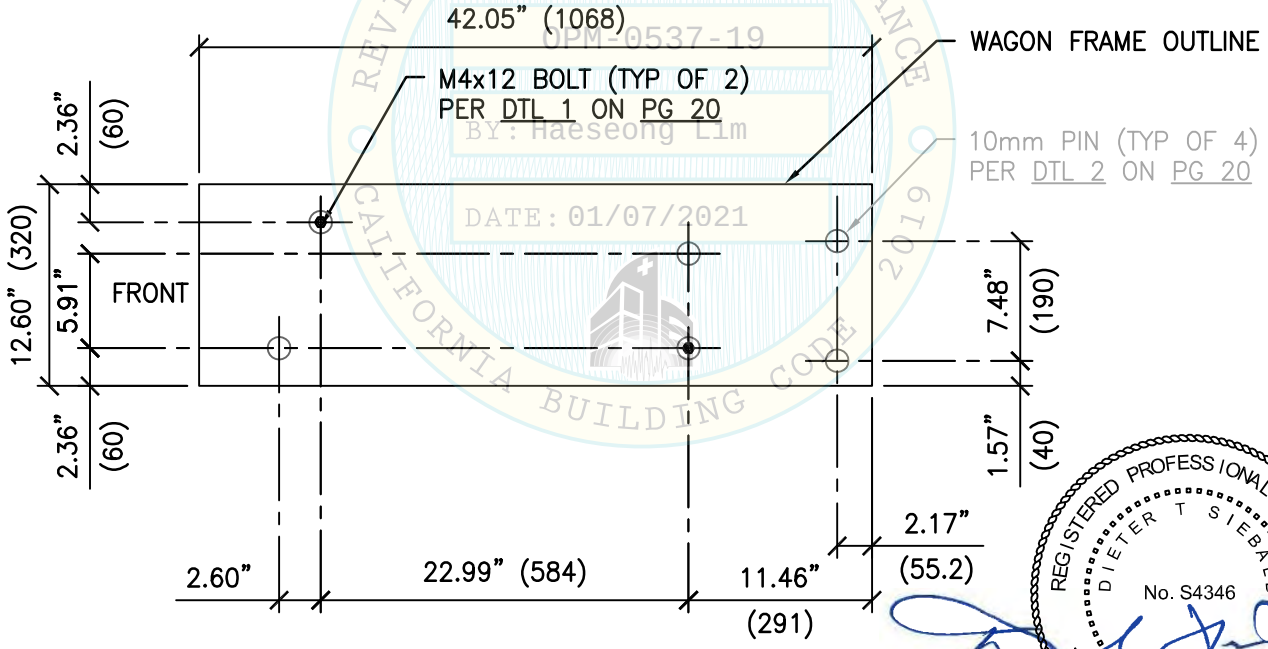
UN SERIES SYSTEM



MODULE #5 PLAN VIEW A–A
ST–11, WG–45



MODULE #6 PLAN VIEW A–A
ST–12, WG–45

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

SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORT

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Job No:	18053
Date:	01-06-2021
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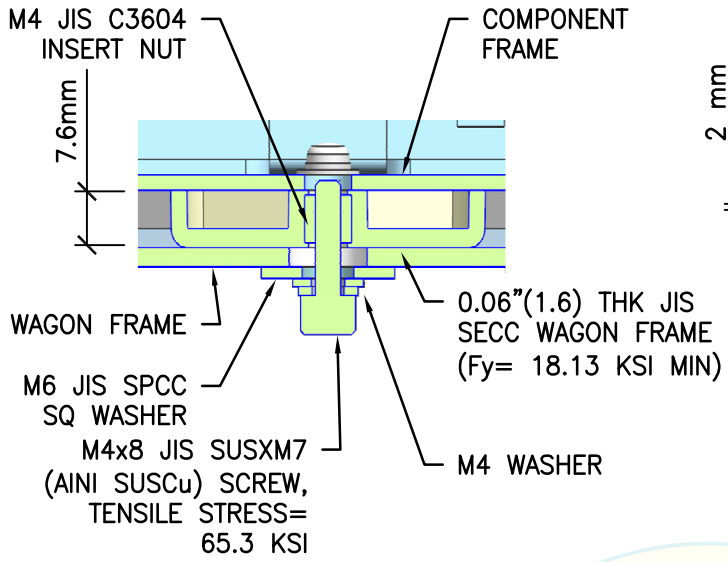
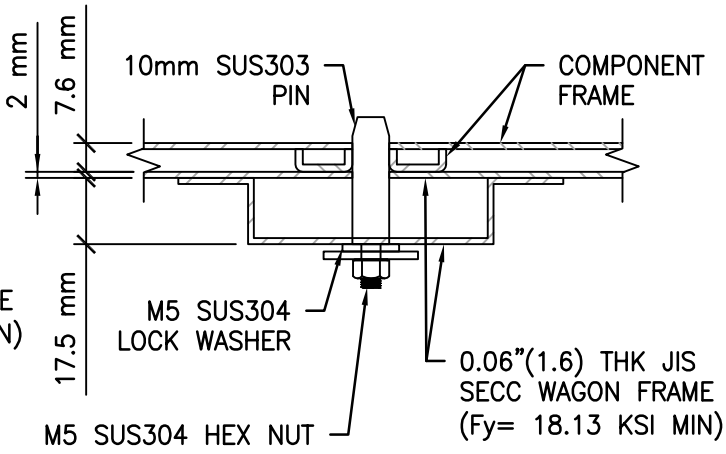
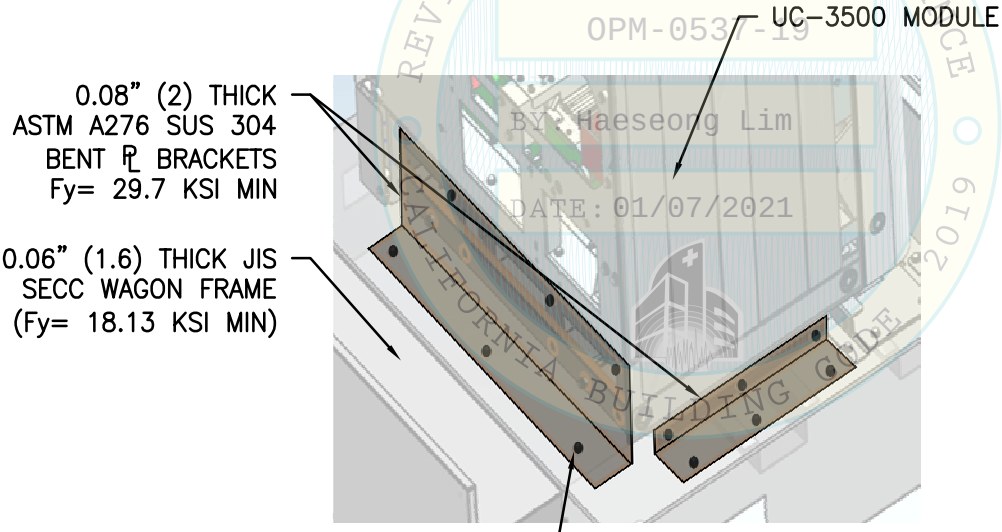
UN SERIES SYSTEM



DETAIL 1
COMPONENT CONN
TO FRAME



DETAIL 2
COMPONENT ALIGNMENT
PIN TO FRAME



DETAIL 3
COMPONENT SCREW
CONN TO FRAME

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

SHEET TITLE: COMPONENT CONNECTIONS TO SUPPORTS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
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Date:	01-06-2021
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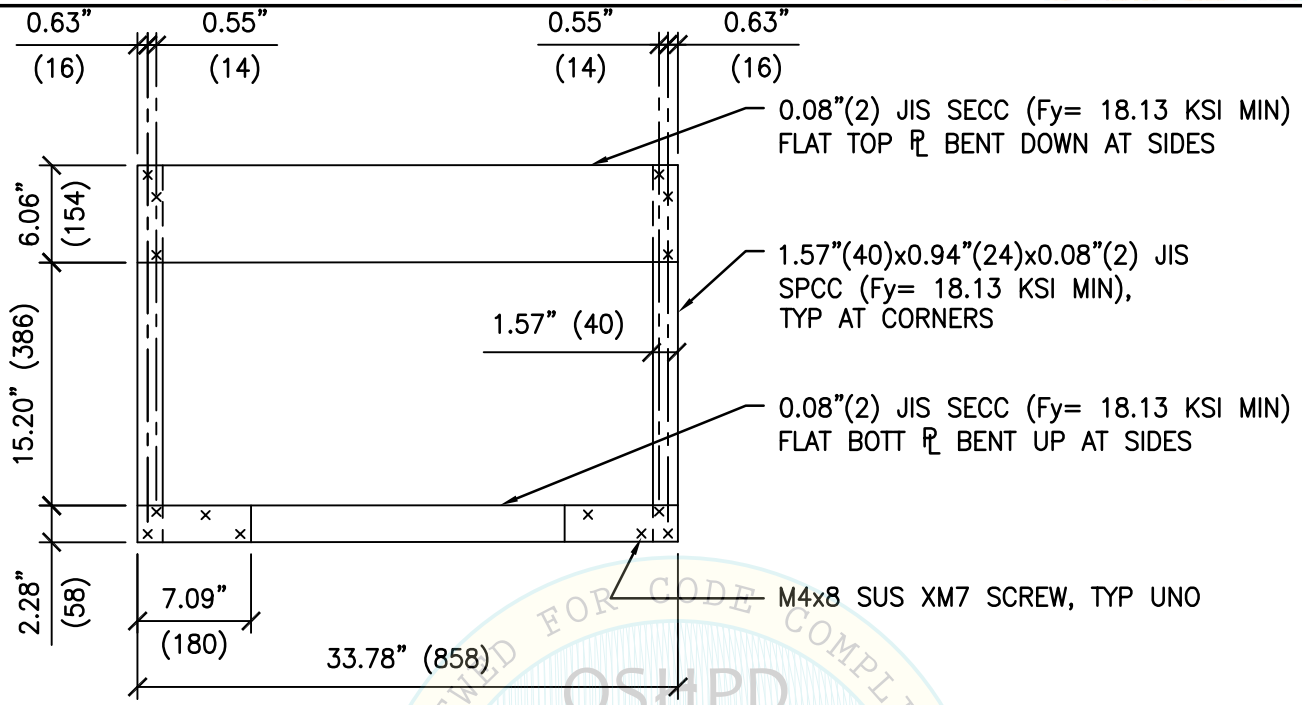
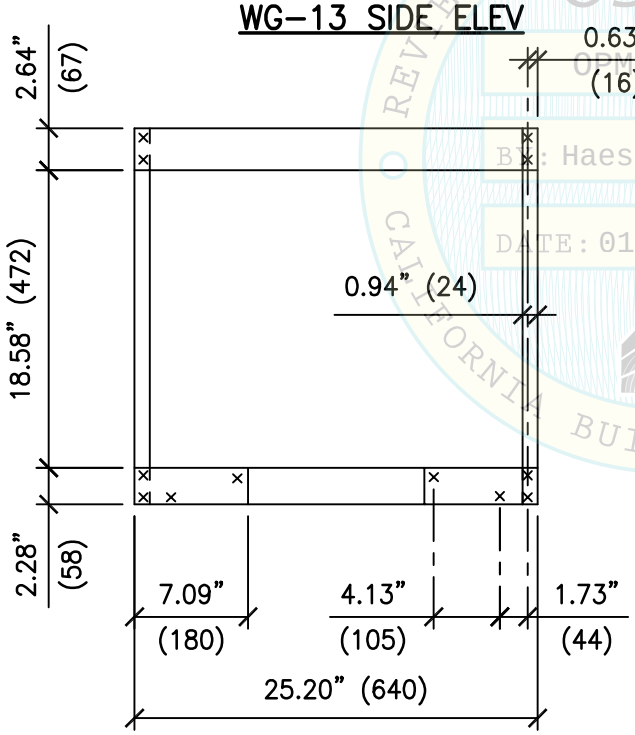
UN SERIES SYSTEM

sysmex | Lighting the way with diagnostics



WG-13 SIDE ELEV



WG-13 BACK/FRONT ELEV

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

SHEET TITLE: WAGON FRAME

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
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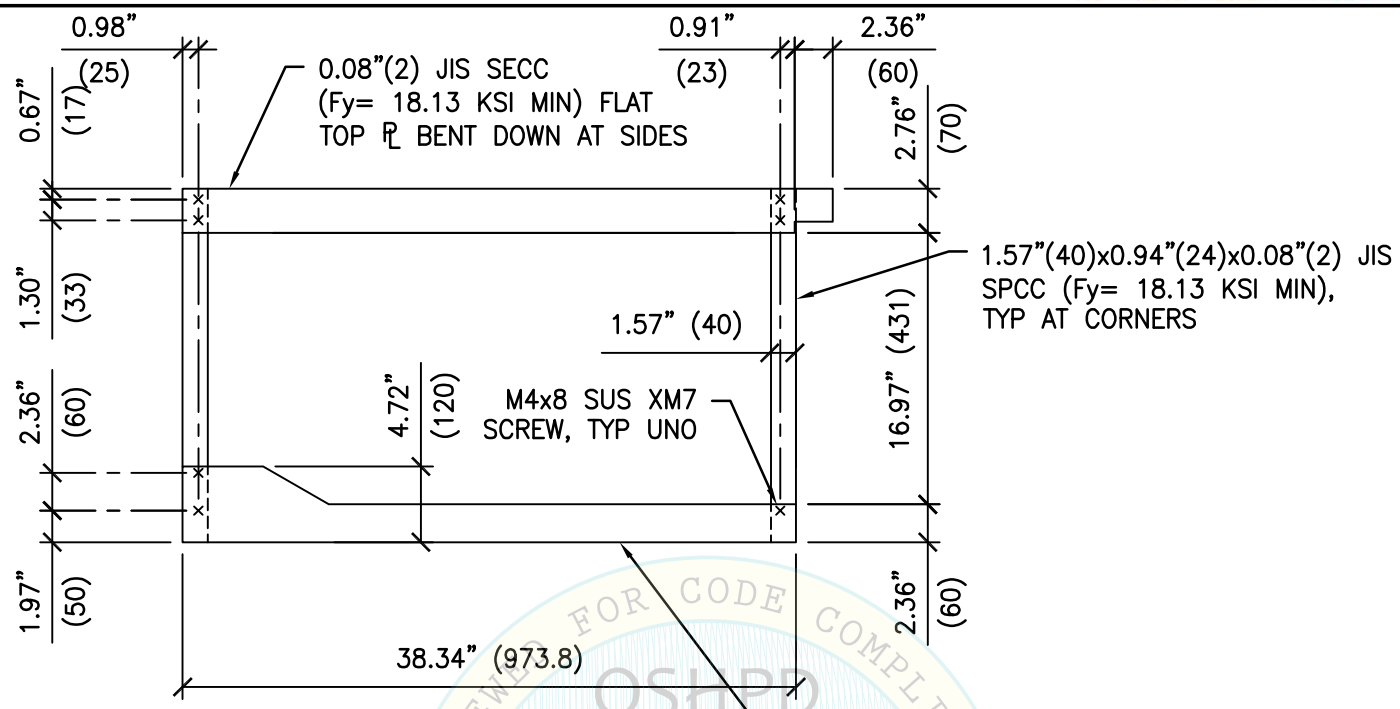
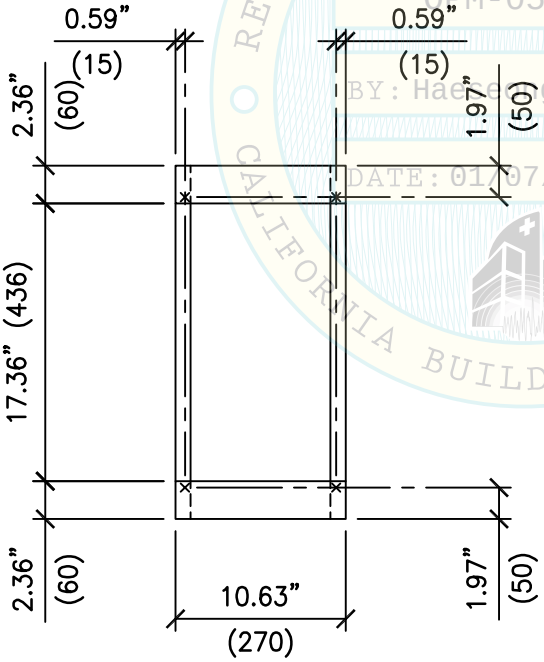
UN SERIES SYSTEM

sysmex | Lighting the way with diagnostics



WG-44 SIDE ELEV



WG-44 BACK/FRONT ELEV

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

SHEET TITLE: WAGON FRAME

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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Job No:	18053
Date:	01-06-2021
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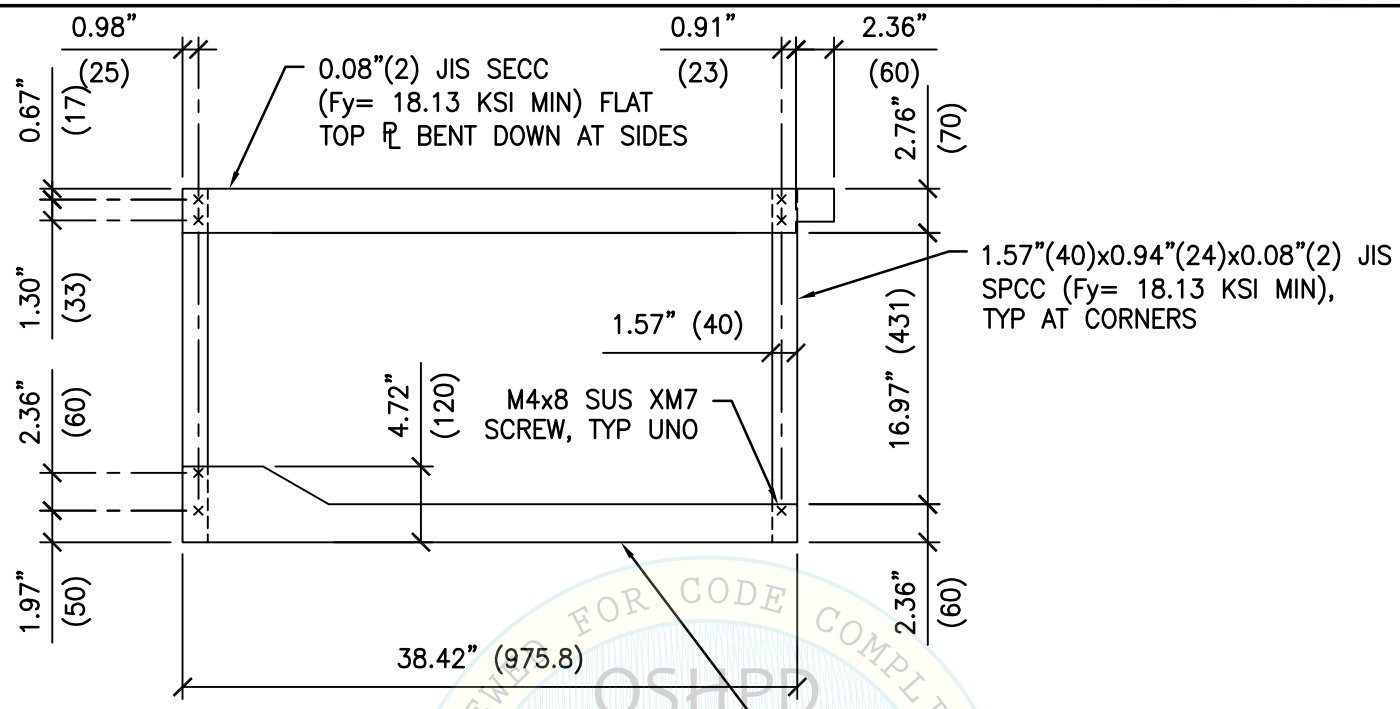
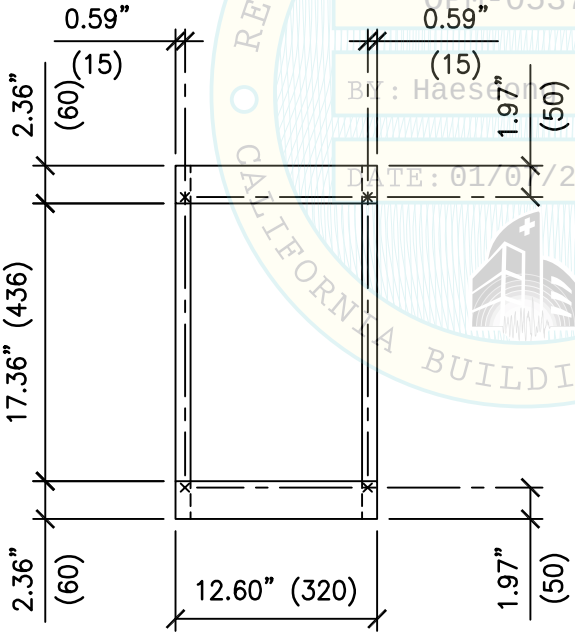
UN SERIES SYSTEM



WG-45 SIDE ELEV



WG-45 BACK/FRONT ELEV

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

SHEET TITLE: WAGON FRAME

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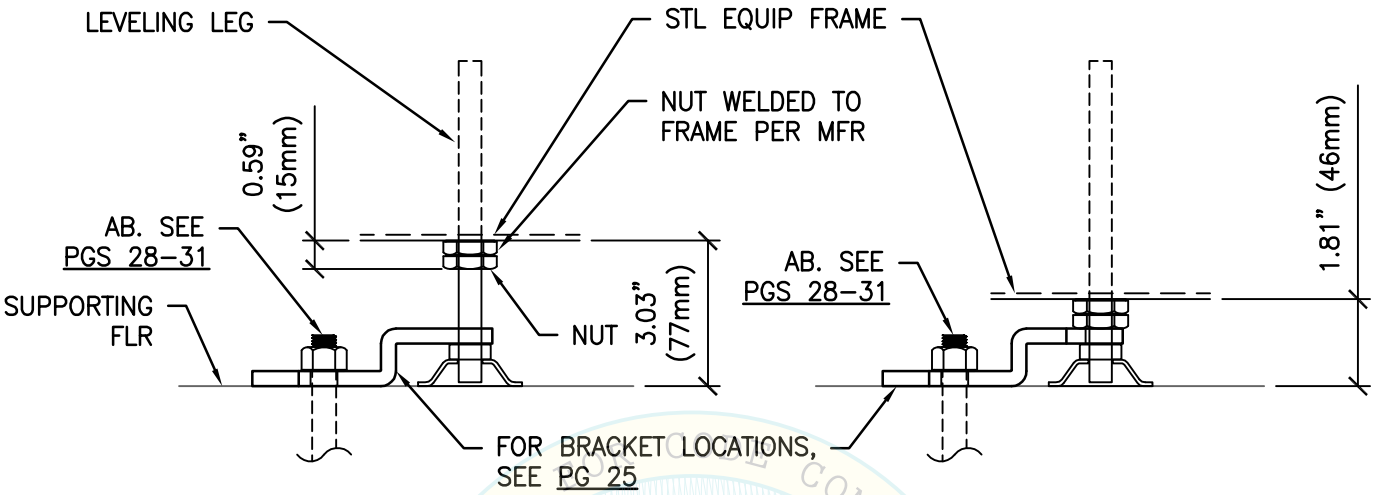
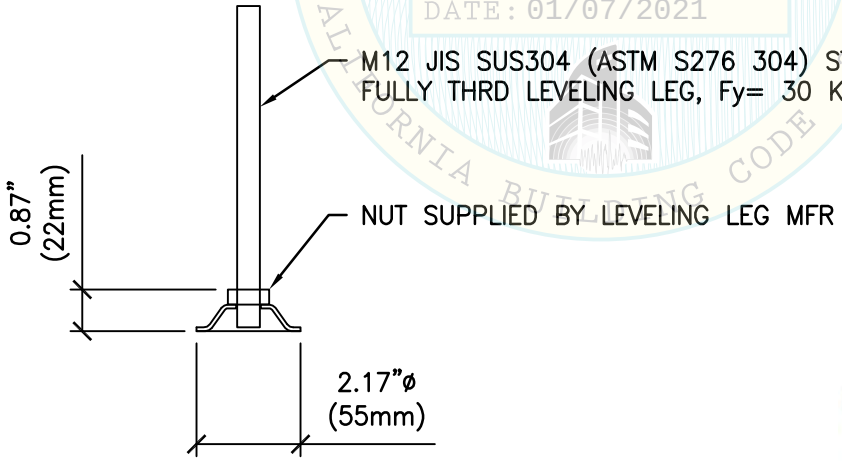
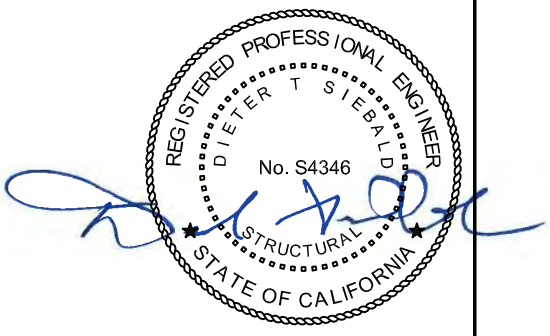
UN SERIES SYSTEM



ELEV VIEW
MAX CONDITION

ELEV VIEW
MIN CONDITION





SHEET TITLE: LEVELING LEG DETAILS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
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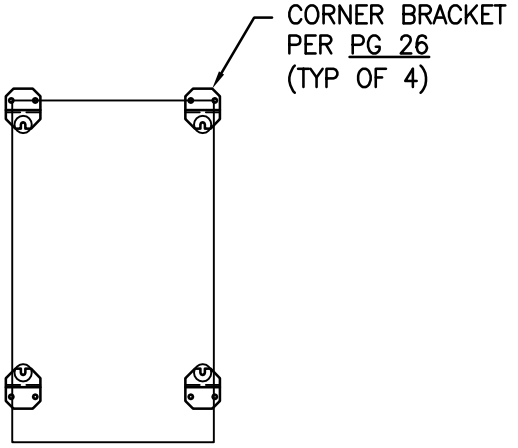
UN SERIES SYSTEM



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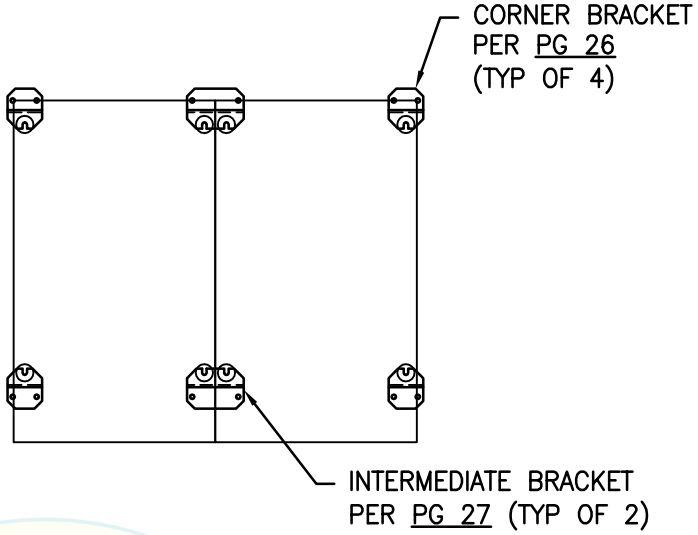
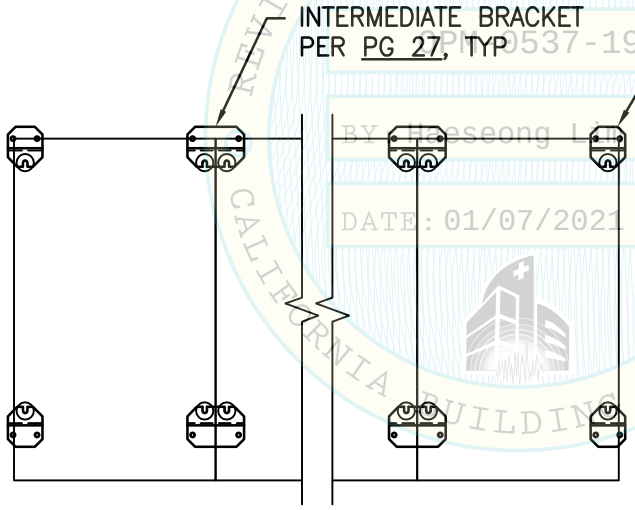


2 MODULE CONFIGURATION



3 OR MORE MODULE CONFIGURATION

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

SHEET TITLE: BRACKET LOCATIONS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
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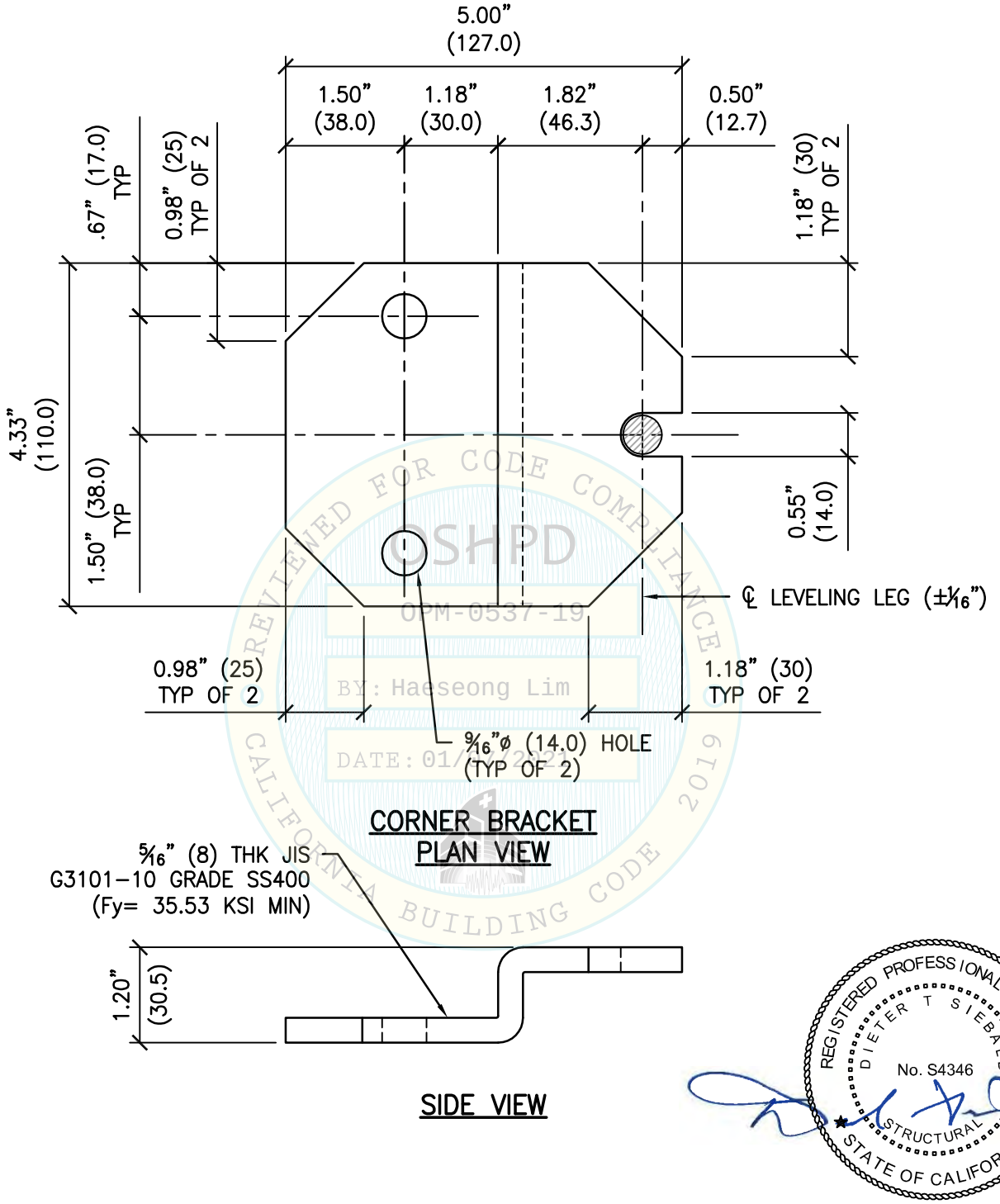
UN SERIES SYSTEM



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

SHEET TITLE: BRACKET DETAILS

CYS STRUCTURAL ENGINEERS, INC.
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Job No:	18053
Date:	01-06-2021
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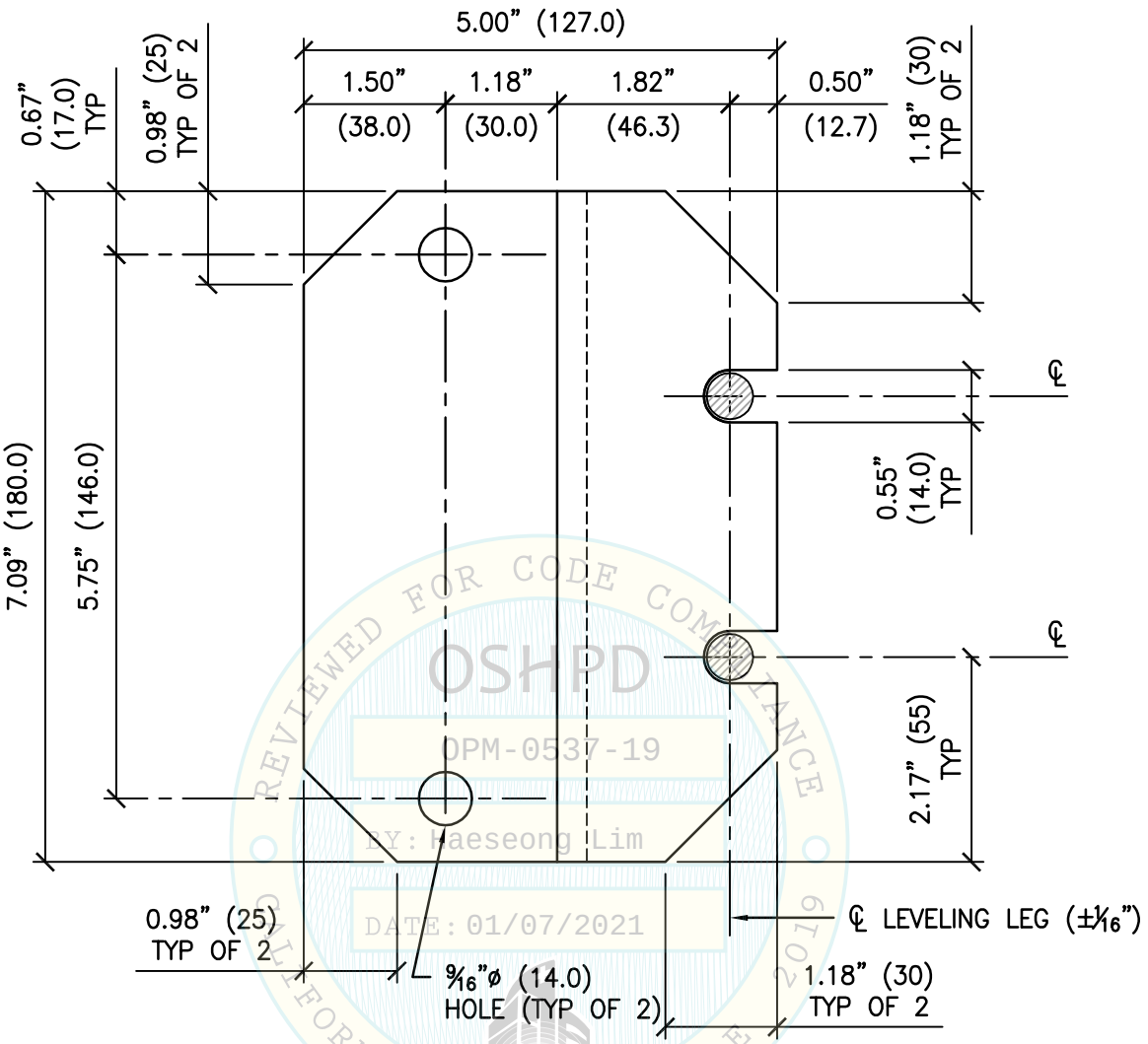
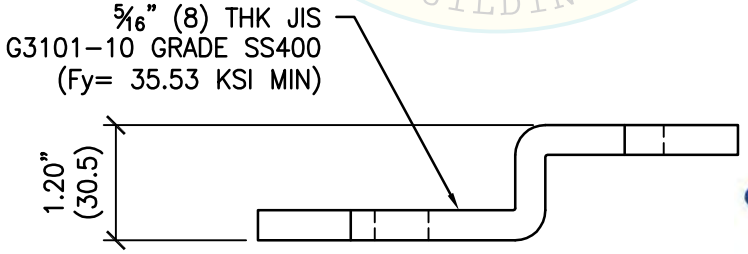
UN SERIES SYSTEM

sysmex | Lighting the way with diagnostics



INTERMEDIATE BRACKET
PLAN VIEW



SIDE VIEW

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

SHEET TITLE: BRACKET DETAILS

CYS STRUCTURAL ENGINEERS, INC.
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TEL (916) 920-2020
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Job No:	18053
Date:	01-06-2021
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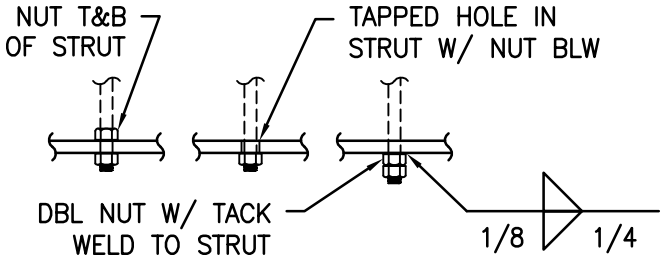
UN SERIES SYSTEM

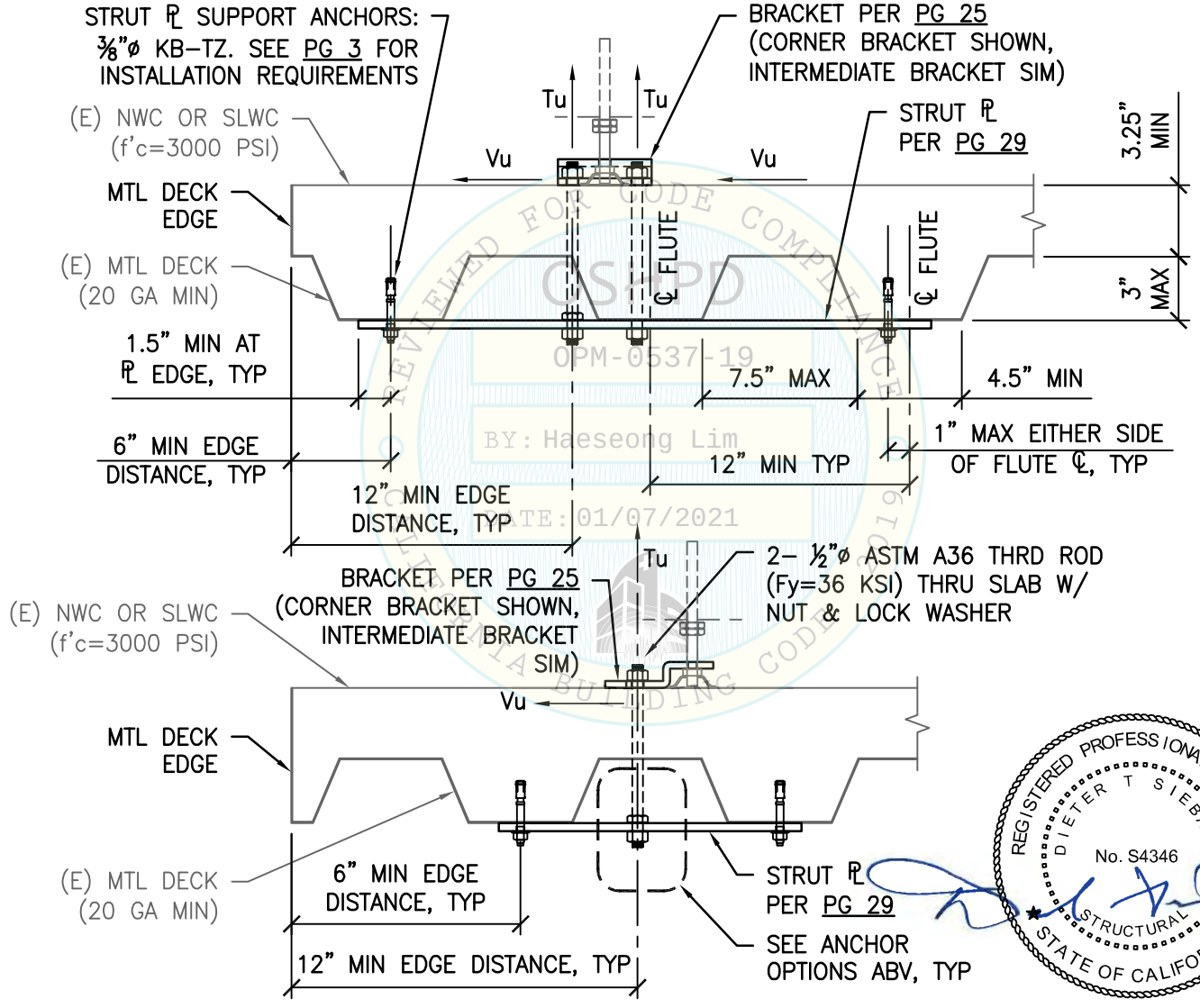
sysmex | Lighting the way with diagnostics



ANCHOR OPTIONS

	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 1 z/h≤0.75	704#	227#

(Ω_o= 1.5) OVERSTRENGTH FACTOR IS APPLIED TO SHEAR FORCE ONLY



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

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

CYS STRUCTURAL ENGINEERS, INC.
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TEL (916) 920-2020
www.cyseng.com

Job No:	18053
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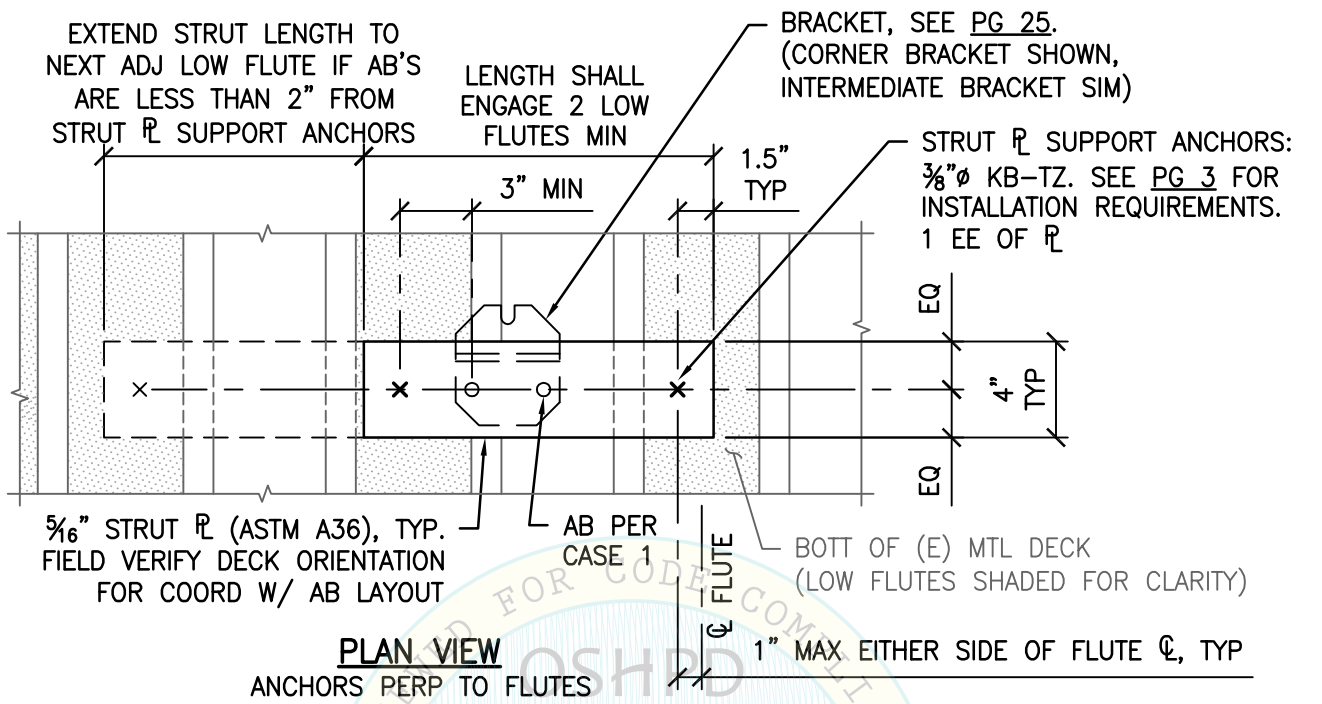
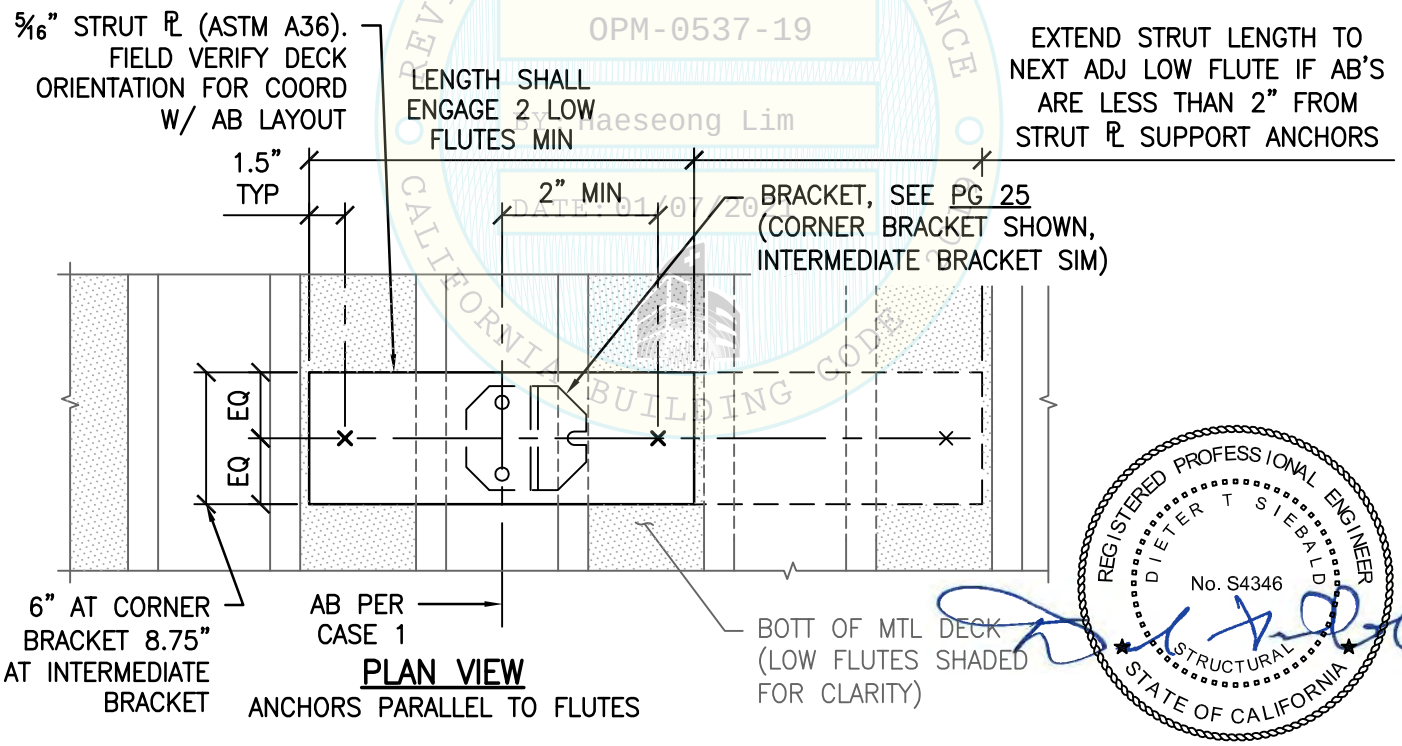
UN SERIES SYSTEM



PLAN VIEW
ANCHORS PERP TO FLUTES



PLAN VIEW
ANCHORS PARALLEL TO FLUTES

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

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

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	18053
Date:	01-06-2021
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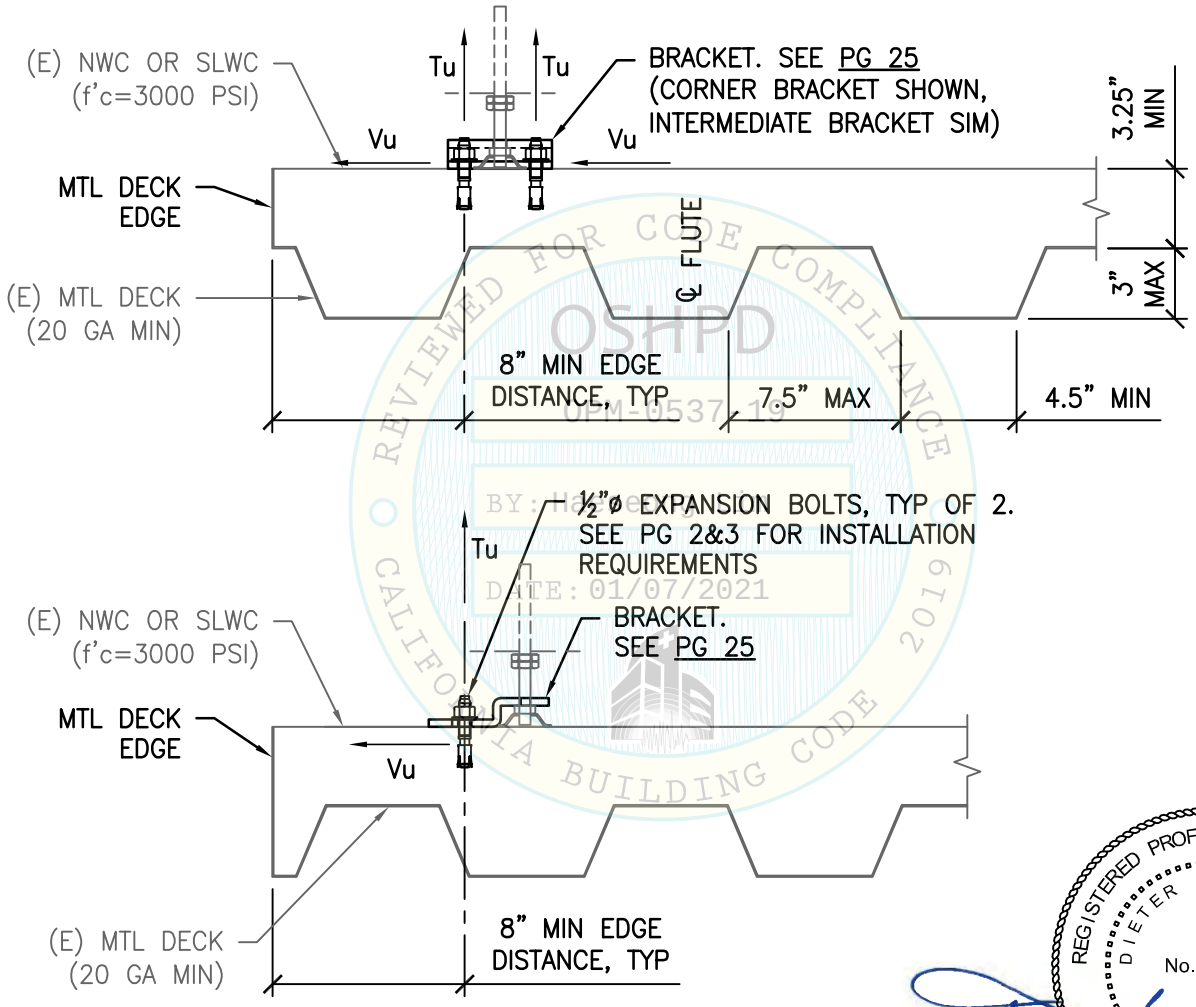
UN SERIES SYSTEM

	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 2 z/h≤0.75	688#	162#

INCLUDES OVERSTRENGTH FACTOR (Ω_0=1.5)



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

SHEET TITLE: ATTACHMENT DETAILS INTO CONCRETE FILL OVER METAL DECK (CASE 2)

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
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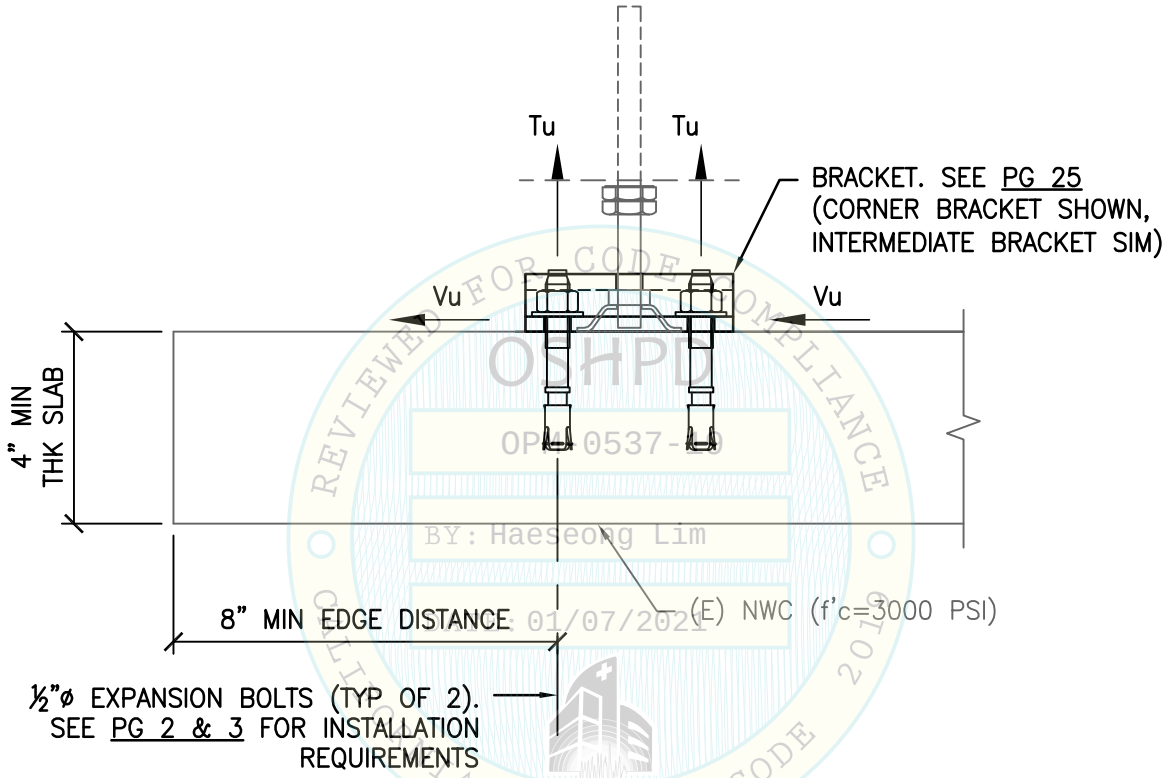
UN SERIES SYSTEM

sysmex | Lighting the way with diagnostics

	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	Vu
CASE 3 z/h≤0	1173#	228#

INCLUDES OVERSTRENGTH FACTOR (Ω_0=1.5)



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

SHEET TITLE: ATTACHMENT DETAILS TO
4" CONCRETE SLAB ON GRADE (CASE 3)

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
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