



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OPM-0086-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal Update to Pre-CBC 2013 OPA Number: _____

Manufacturer Information

Manufacturer: Cindre LLC

Manufacturer's Technical Representative: Mac A. Goelst

Mailing Address: 70 SW Century Drive, Suite 100-363, Bend, OR 97702

Telephone: 541-241-7793 Email: mgoelst@cindre.com

Product Information

Product Name: Goelst®, böksen™, käsi™ and illumi™

Product Type: Cabinets for Storage OPM-0086-13

Product Model Number: Various sizes

General Description: Wall Hung Cabinets, Floor Supported Cabinets, and Wall & Floor Supported Cabinets

Applicant Information

Applicant Company Name: Cindre LLC

Contact Person: Mac A. Goelst

Mailing Address: 70 SW Century Drive, Suite 100-363, Bend, OR 97702

Telephone: 541-241-7793 Email: mgoelst@cindre.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

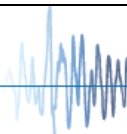
Signature of Applicant:

Date: 20 March, 2014

Title: Manager Company Name: Cindre LLC

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-700 (REV 5/30/13)



osHPD

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**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company Name: CYS Structural Engineers, Inc.

Name: Dieter T. Siebald California License Number: S4346

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

Telephone: _____ Email: _____

OSHPD Special Seismic Certification Preapproval (OSP)

- Special Seismic Certification is preapproved under OSP- (Separate application for OSP is required)
- Special Seismic Certification is no preapproved

Certification Method(s)

- Testing in accordance with: ICC-ES AC156 FM 1950-10
- Other* (Please Specify): _____

*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): _____

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: *William Staehlin* Date: 08/26/2014

Print Name: William Staehlin

Title: SSE

Condition of Approval (if applicable): _____

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

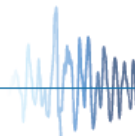
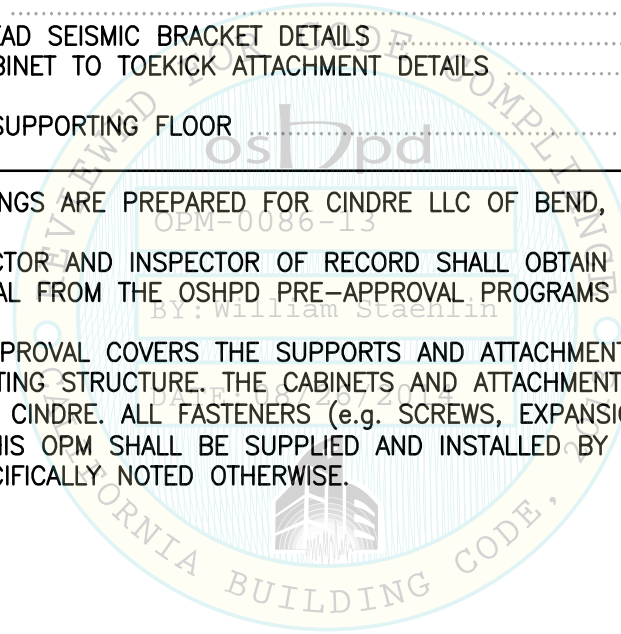


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- NOTES:**
1. THESE DRAWINGS ARE PREPARED FOR CINDRE LLC OF BEND, OREGON.
 2. THE CONTRACTOR AND INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE OSHPD PRE-APPROVAL PROGRAMS WEBSITE.
 3. THIS PRE-APPROVAL COVERS THE SUPPORTS AND ATTACHMENTS OF CABINETS TO THE SUPPORTING STRUCTURE. THE CABINETS AND ATTACHMENT HARDWARE ARE SUPPLIED BY CINDRE. ALL FASTENERS (e.g. SCREWS, EXPANSION ANCHORS, ETC) SHOWN IN THIS OPM SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR, UNLESS SPECIFICALLY NOTED OTHERWISE.



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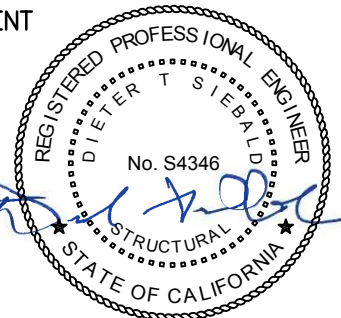
<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	TEL (916) 920-2020 www.cyseng.com	Job No: 13133 Date: 8/26/2014 Page: 1 of 11
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GENERAL NOTES:

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. 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 EQUIPMENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
 - B. THAT THE FLOOR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
 - C. THAT THE FLOOR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN IN THE TEST LOADS TABLE ON PAGE 3 IS THE REQUIRED MINIMUM SPACING OF THE GIVEN DIAMETER ANCHORS. THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS MAY VARY AND SHALL BE EVALUATED BY THE SEOR.
 - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC 2013 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 GAUGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.
3. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND-LIGHTWEIGHT CONCRETE SHALL BE CARBON STEEL HILTI KB-TZ EXPANSION ANCHORS COMPLYING WITH ICC ESR-1917 REISSUED MAY 1, 2013.
 - A. INSTALLATION: INSTALL THE EXPANSION 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 3.
 - B. TESTING:
 - JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TEST LOAD VALUES GIVEN IN THE TABLE ON PAGE 3. TEST 50% OF THE INSTALLED ANCHORS. 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. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. 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. FOR WEDGE TYPE ANCHORS, SUCH AS HILTI KB-TZ, A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE.
 - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE-HALF (1/2) TURN OF THE NUT.

OPM-0086-13



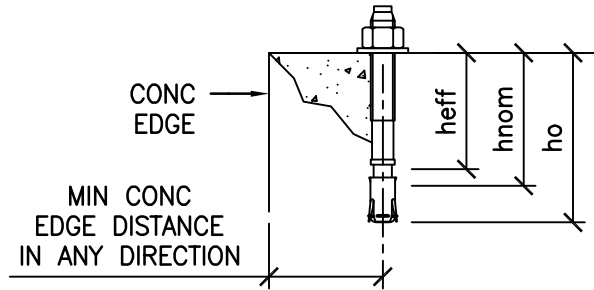
Sheet Title: GENERAL NOTES

	CYS STRUCTURAL ENGINEERS, INC.		Job No:	13133
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GENERAL NOTES CONTINUED:

3C. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BLW.



ANCHOR 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 (INCH)	TEST LOAD		CONDITION OF ANCHORAGE
							TENSION LOAD (LBS)	TORQUE (FT-LBS)	
3/8	2 5/16	2	2 5/8	4	12	4	1500	25	NWC
3/8	2 5/16	2	2 5/8	3/4	12	4	800	25	SLWC

4. FOUR (4) CASES OF ATTACHMENT ARE SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:

CASE 1: ATTACHMENT 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).

CASE 2: ATTACHMENT DTLS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG ($z/h \leq 1.0$), THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER MTL DECK OR MIN 4" NWC SLAB (EA $f'c = 3000$ PSI MIN).

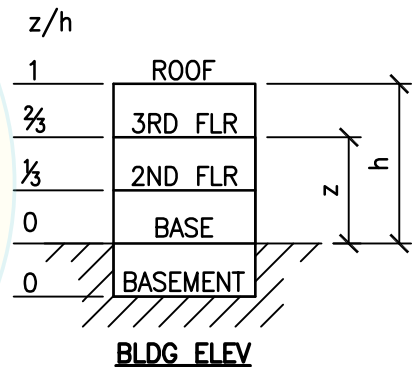
CASE 3: ATTACHMENT DTLS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG ($z/h \leq 0.9$), THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER MTL DECK OR MIN 4" NWC SLAB (EA $f'c = 3000$ PSI MIN).

FOR THIS CASE THE MAX S_{Ds} IS LIMITED TO 1.75.

CASE 4: ATTACHMENT DTLS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG ($z/h \leq 0.9$), THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER MTL DECK ($f'c = 3000$ PSI MIN).

FOR THIS CASE THE MAX S_{Ds} IS LIMITED TO 1.25.

5. THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA WHERE S_{Ds} IS LESS THAN OR EQ TO 2.50, **EXCEPT FOR CASES 3 & 4 WHERE S_{Ds} MUST BE LESS THAN OR EQ TO THE VALUE NOTED ABV.**



Sheet Title: GENERAL NOTES (CONTINUED)

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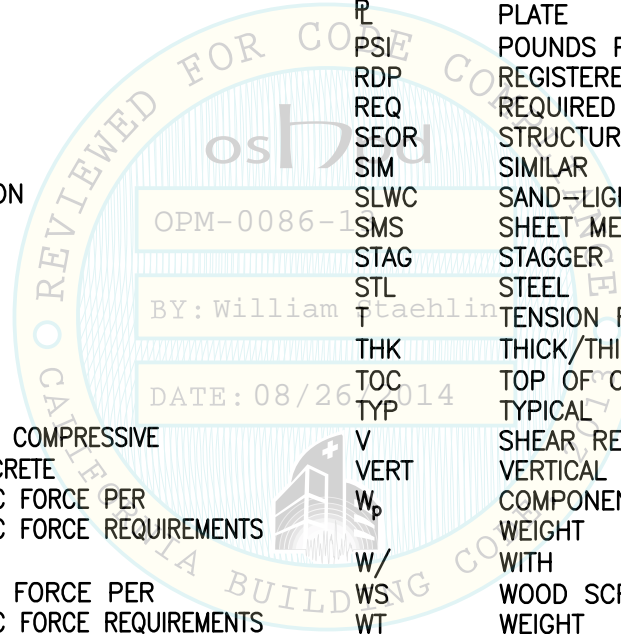
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CINDRE LLC
SEISMIC SUPPORTS AND ATTACHMENTS FOR CABINETS



ABBREVIATIONS:

@	AT	LBS	POUNDS
AB	ANCHOR BOLT	LRFD	LOAD & RESISTANCE FACTOR DESIGN
ABV	ABOVE	MAX	MAXIMUM
ALUM	ALUMINUM	MFR	MANUFACTURER
ASD	ALLOWABLE STRENGTH DESIGN	MIN	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	MTL	METAL
BLDG	BUILDING	NO. (#)	NUMBER OR POUNDS
BLKG	BLKG	NWC	NORMAL-WEIGHT CONCRETE
BLW	BELOW	OC	ON CENTER
BOTT	BOTTOM	OPG	OPENING
BRG	BEARING	OPM	OSPHD PRE-APPROVAL OF
BTW	BETWEEN		MANUFACTURER'S CERTIFICATION
CBC	CALIFORNIA BUILDING CODE	OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
CG	CENTER OF GRAVITY		
CLR	CLEAR	PCF	POUNDS PER CUBIC FOOT
CLSE	CALIFORNIA LICENSED STRUCTURAL ENGINEER	PG(S)	PAGE(S)
⌀	CENTERLINE	PL	PLATE
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CONN	CONNECTION	RDP	REGISTERED DESIGN PROFESSIONAL
DBL	DOUBLE	REQ	REQUIRED
DTL(S)	DETAIL(S)	SEOR	STRUCTURAL ENGINEER OF RECORD
DIA (ϕ)	DIAMETER	SIM	SIMILAR
(E)	EXISTING CONDITION	SLWC	SAND-LIGHTWEIGHT CONCRETE
EA	EACH	SMS	SHEET METAL SCREWS
e.g.	FOR EXAMPLE	STAG	STAGGER
ELEV	ELEVATION	STL	STEEL
EQ	EQUAL	T	TENSION REACTION
ES	EACH SIDE	THK	THICK/THICKNESS
FLG	FLANGE	TOC	TOP OF CONCRETE
FLR	FLOOR	TYP	TYPICAL
f'c	SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF CONCRETE	V	SHEAR REACTION
F _p	HORIZONTAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS	VERT	VERTICAL
FT (')	FOOT/FEET	W _p	COMPONENT OPERATING WEIGHT
F _v	VERTICAL SEISMIC FORCE PER ASCE 7-10 SEISMIC FORCE REQUIREMENTS	W/	WITH
F _y	SPECIFIED YIELD STRENGTH OF REINFORCING OR SPECIFIED MINIMUM YIELD STRESS OF STEEL/ALUMINUM	WS	WOOD SCREW
GA	GAUGE	WT	WEIGHT
GWB	GYPSON WALLBOARD		
HT	HEIGHT		
ICC	INTERNATIONAL CODE COUNCIL		
IN (")	INCHES		
KSI	KIPS PER SQUARE INCH		



Sheet Title: ABBREVIATIONS

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DESIGN CRITERIA

ATTACHMENT DESIGN IS PER 2013 CBC AT LRFD LEVEL FORCES.

CABINETS PER TABLE 13.5-1 OF ASCE 7-10 SUPPLEMENT #1

$q_p = 1.0$ $R_p = 2.5$ $I_p = 1.5$ $\Omega_o = 2.5$ (USE FOR CONC ANCHORS ONLY)

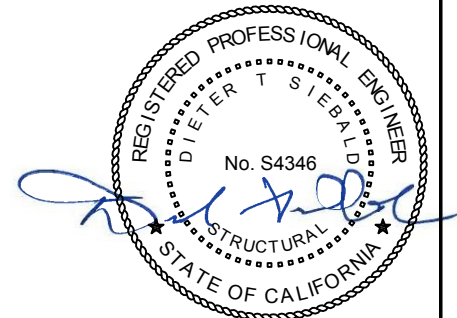
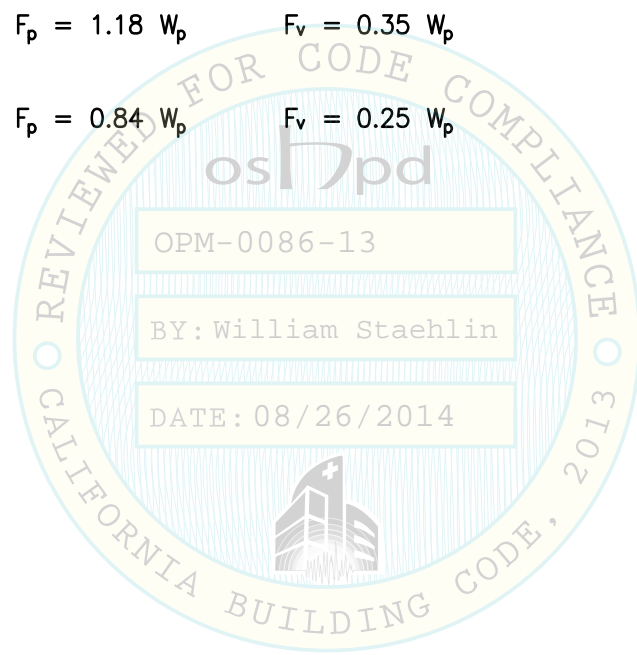
CABINET WT, $W_p = 38$ PCF

CASE 1: $z/h = 0$ (SLAB AT OR BLW BASE)
 $S_{ps} = 2.50$ $F_p = 1.13 W_p$ $F_v = 0.50 W_p$

CASE 2: $z/h \leq 1.0$ (ANY LOCATION IN THE BLDG)
 $S_{ps} = 2.50$ $F_p = 1.80 W_p$ $F_v = 0.50 W_p$

CASE 3: $z/h \leq 0.9$
 $S_{ps} = 1.75$ $F_p = 1.18 W_p$ $F_v = 0.35 W_p$

CASE 4: $z/h \leq 0.9$
 $S_{ps} = 1.25$ $F_p = 0.84 W_p$ $F_v = 0.25 W_p$



Sheet Title: DESIGN CRITERIA

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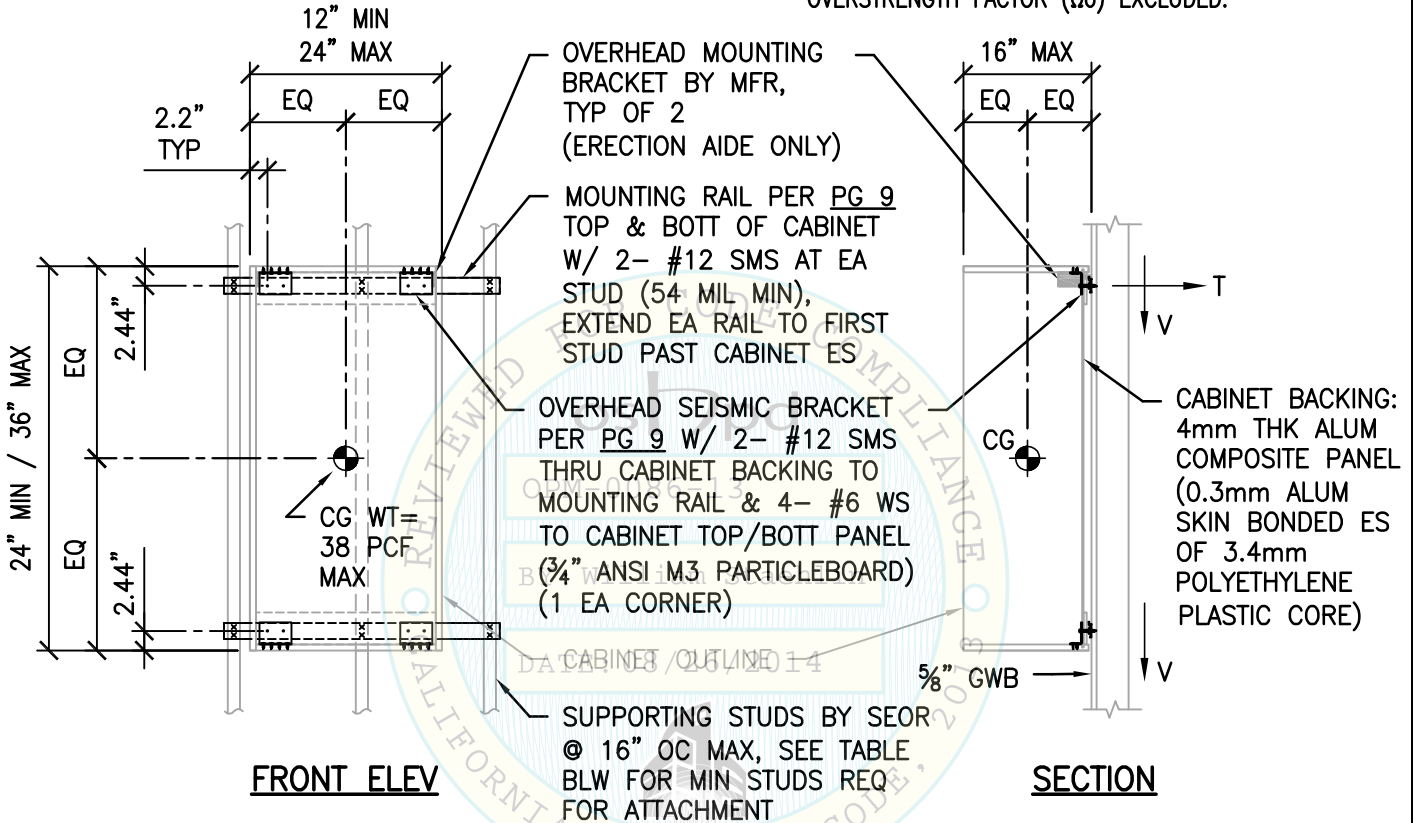
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CINDRE LLC
SEISMIC SUPPORTS AND ATTACHMENTS FOR CABINETS



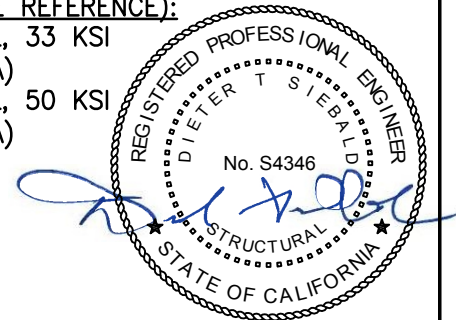
	MAX ASD FORCES PER SCREW			
	CABINET TO RAIL		RAIL TO STUD	
	T _{max}	V _{max}	T _{max}	V _{max}
CASE 2	91#	70#	91#	70#
CASE 3	67#	57#	67#	57#

OVERSTRENGTH FACTOR (ϕ_o) EXCLUDED.



MIN STUDS REQ FOR ATTACHMENT (SINGLE OR DBL) @ 16" OC MAX SPACING						
S _{ds}	CASE	MAX z/h	HUNG CABINET HT		TALL CABINET DEPTH	
			36" MAX	30" MAX	24" MAX	16" MAX
≤2.50	2	1.0	SINGLE 54 MIL	SINGLE 43 MIL	DBL 54 MIL	DBL 43 MIL
≤1.75	3	0.9	SINGLE 43 MIL	SINGLE 43 MIL	DBL 43 MIL	SINGLE 43 MIL

**THK & STRENGTH
(GAUGE REFERENCE):**
43 MIL, 33 KSI (18 GA)
54 MIL, 50 KSI (16 GA)



Sheet Title: OVERHEAD CABINET ATTACHED TO WALL



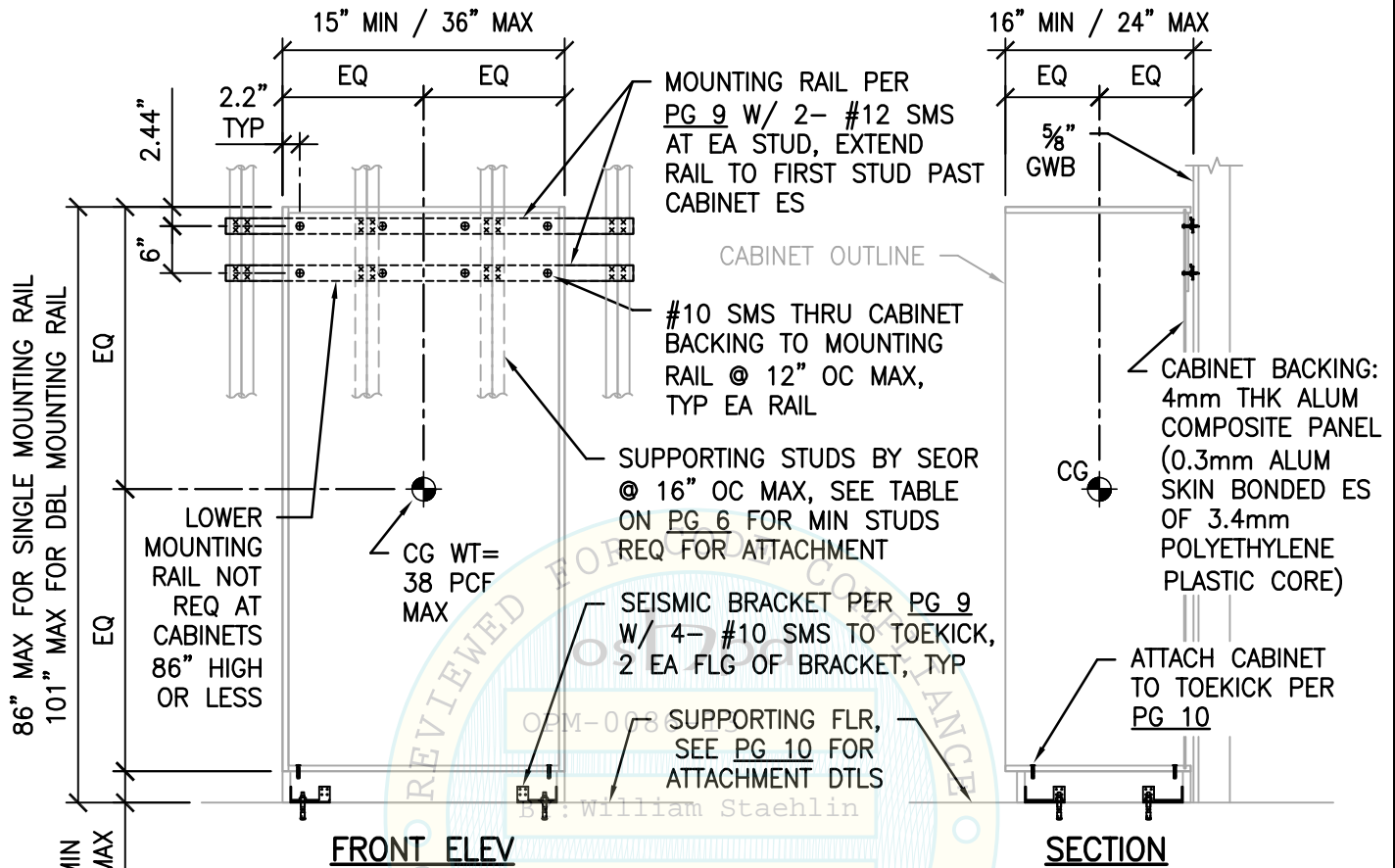
CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

TEL (916) 920-2020
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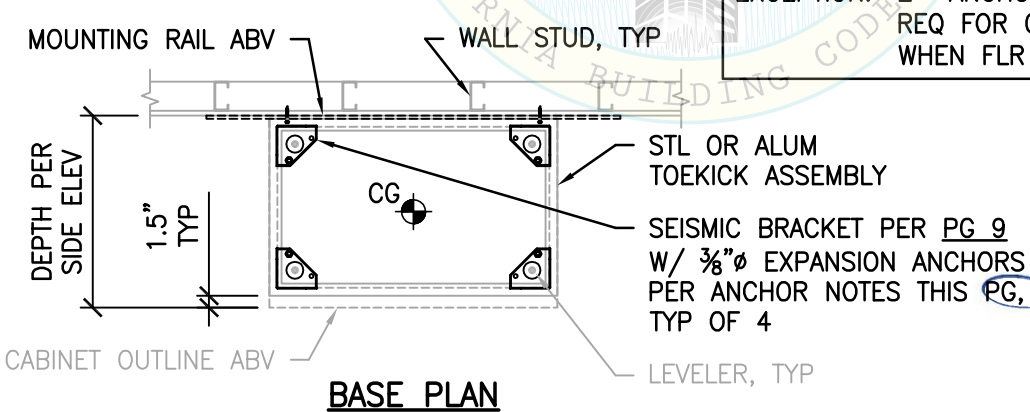
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CINDRE LLC
SEISMIC SUPPORTS AND ATTACHMENTS FOR CABINETS



ANCHOR NOTES:
 TYPICAL: 1- ANCHOR PER BRACKET, LOCATE IN HOLE CLOSEST TO TOEKICK SIDE.
 EXCEPTION: 2- ANCHORS PER BRACKET ARE REQ FOR CABINETS DEEPER THAN 16\"/>

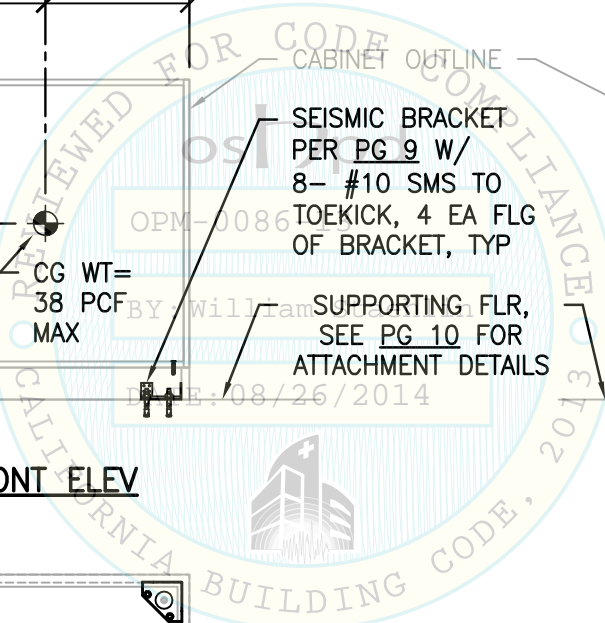
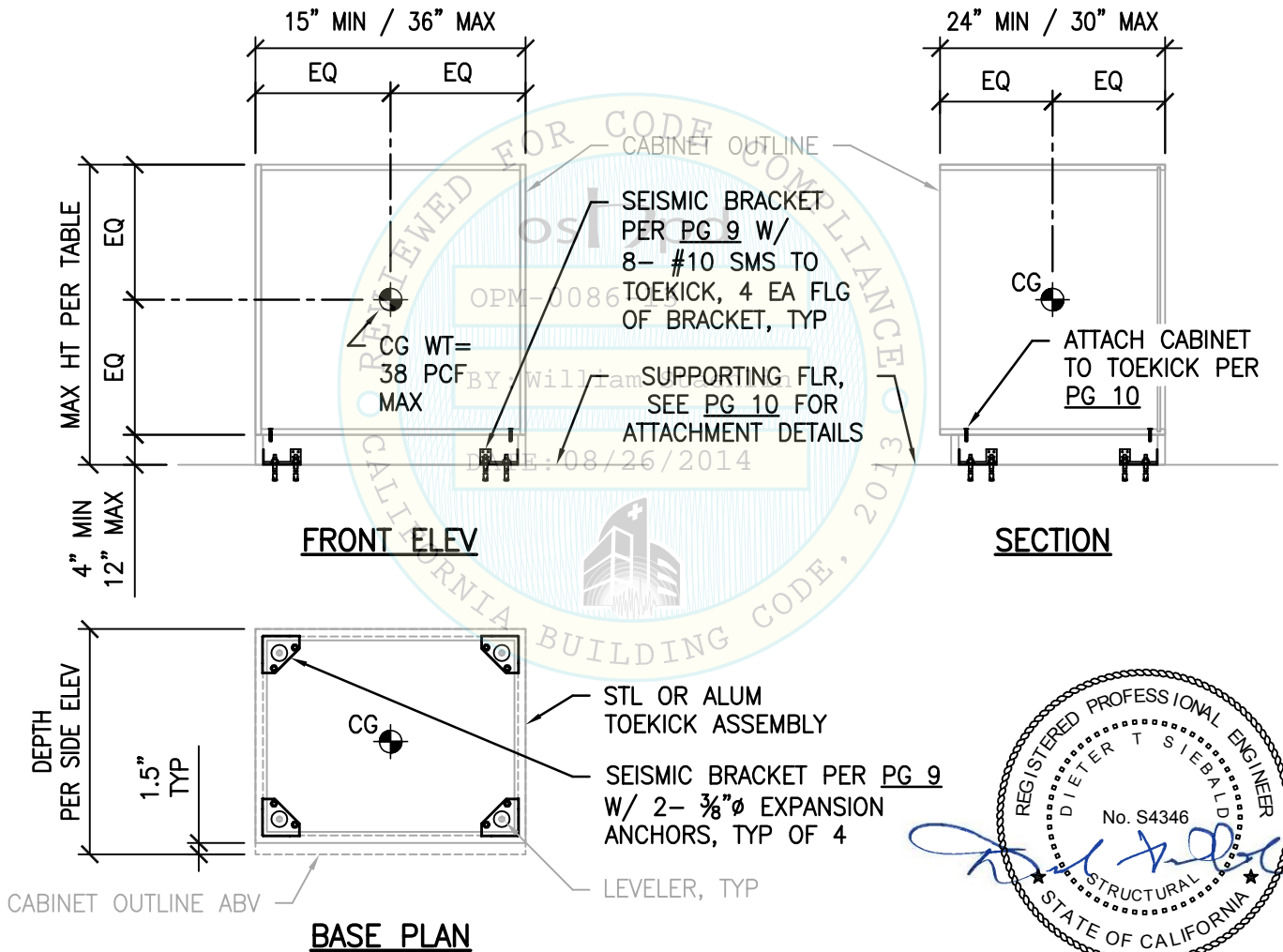


Sheet Title: TALL CABINET ATTACHED TO FLOOR AND WALL

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BASE CABINET ATTACHMENT APPLICABILITY				
S _{DS}	CASE	MAX z/h	SUPPORTING FLR	MAX BASE CABINET HT
≤2.50	1	0	NWC SLAB ON GRADE	44"
	2	1.0	NWC SLAB	36"
≤1.75	3	0.9	NWC SLAB	44"
			SLWC OVER MTL DECK	36"
≤1.25	4	0.9	SLWC OVER MTL DECK	44"

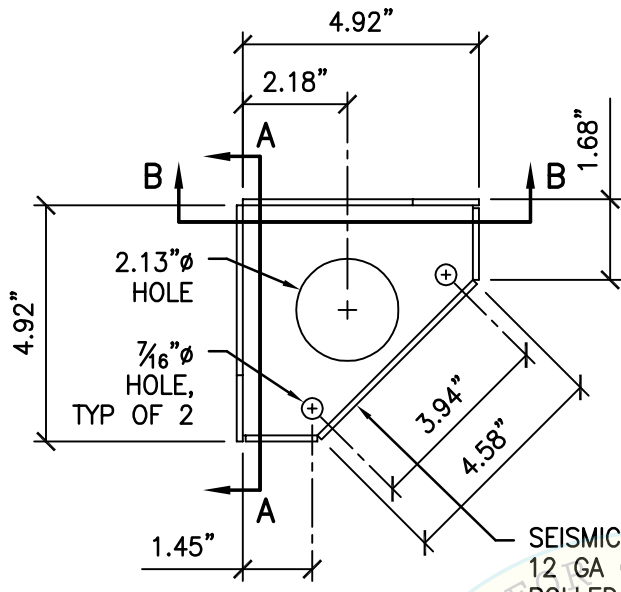


Sheet Title: BASE CABINET ATTACHED TO FLOOR ONLY

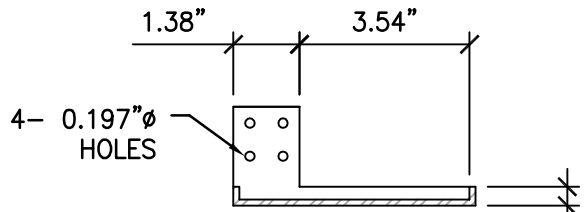
<p>CYS STRUCTURAL ENGINEERS, INC. 2495 NATOMAS PARK DRIVE, SUITE 650 SACRAMENTO, CA 95833</p>	Job No: 13133
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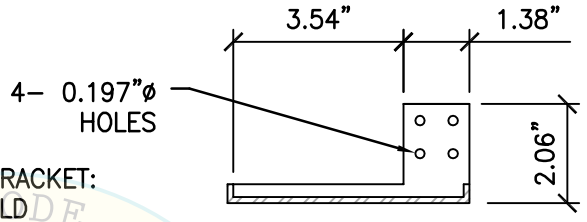
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PLAN VIEW



SECTION A-A



SECTION B-B

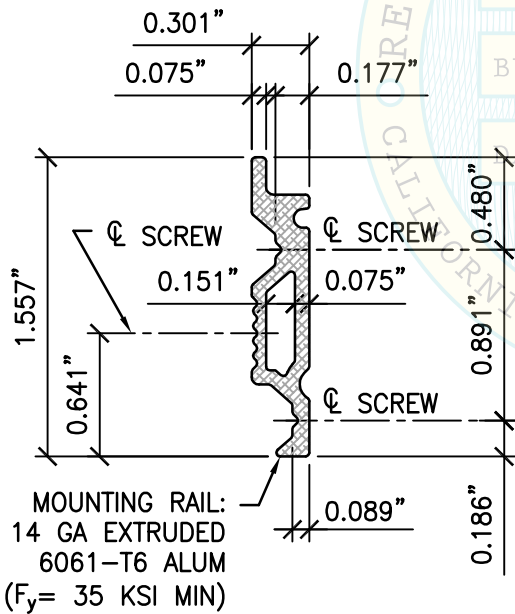
SEISMIC BRACKET:
12 GA COLD ROLLED STL
($F_y = 36$ KSI MIN)

SEISMIC BRACKET

OPM-0086-13

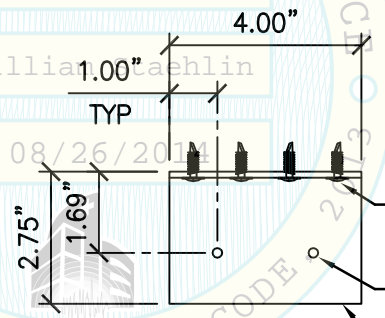
BY: William Staehlin

DATE: 08/26/2014



MOUNTING RAIL

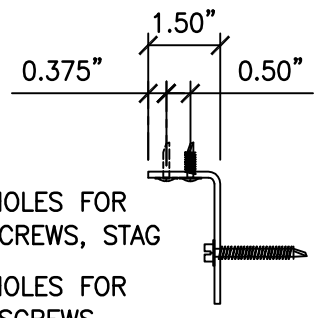
MOUNTING RAIL:
14 GA EXTRUDED
6061-T6 ALUM
($F_y = 35$ KSI MIN)



FRONT VIEW

OVERHEAD SEISMIC BRACKET:
10 GA COLD ROLLED STL
($F_y = 36$ KSI MIN)

OVERHEAD SEISMIC BRACKET



SIDE VIEW



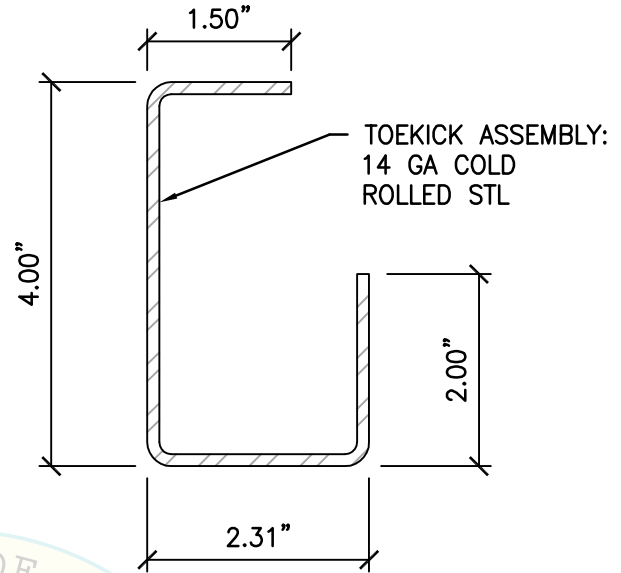
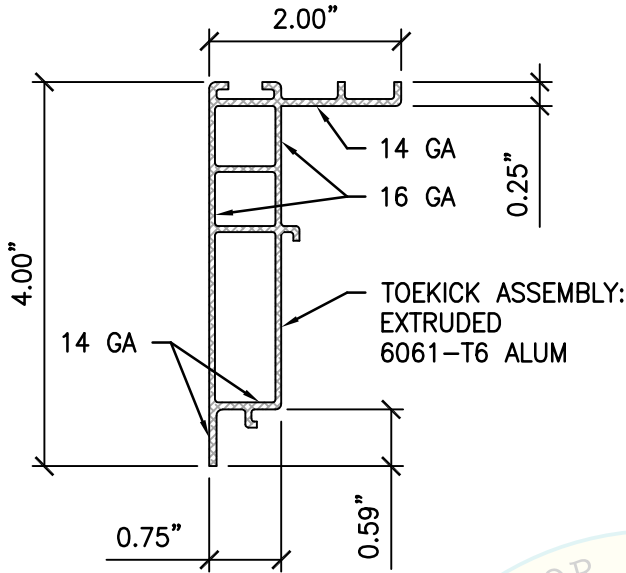
Sheet Title: SEISMIC BRACKET DETAIL
MOUNTING RAIL & OVERHEAD SEISMIC BRACKET DETAILS



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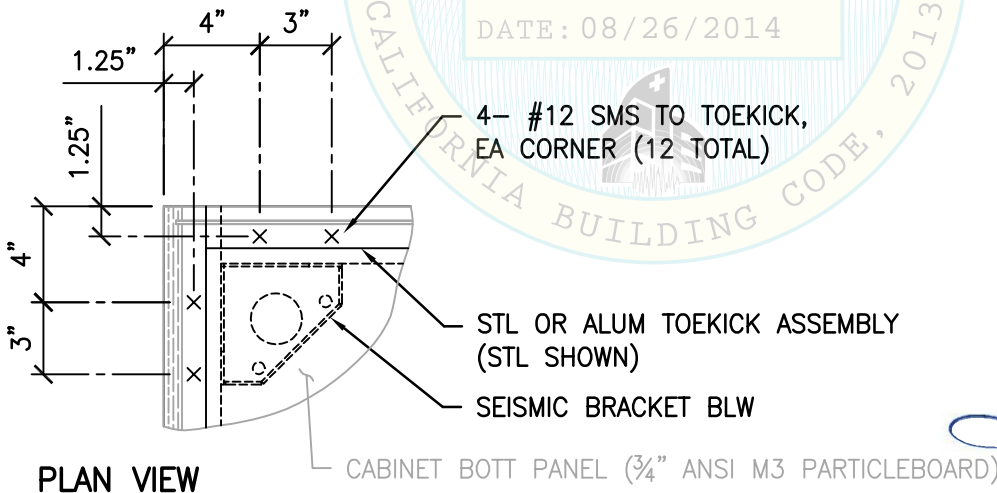
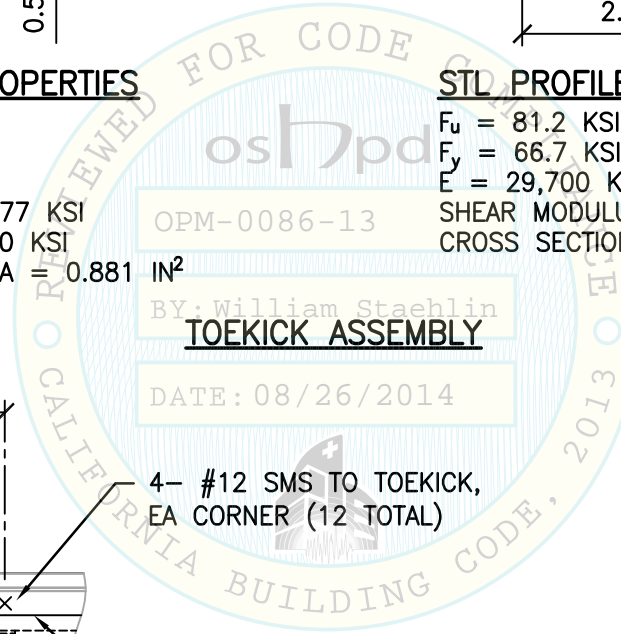


ALUM PROFILE PROPERTIES

$F_u = 45$ KSI
 $F_y = 40$ KSI
 $E = 10,000$ KSI
 SHEAR MODULUS = 3.77 KSI
 SHEAR STRENGTH = 30 KSI
 CROSS SECTIONAL AREA = 0.881 IN²

STL PROFILE PROPERTIES

$F_u = 81.2$ KSI
 $F_y = 66.7$ KSI
 $E = 29,700$ KSI
 SHEAR MODULUS = 11.6 KSI
 CROSS SECTIONAL AREA = 0.735 IN²



PLAN VIEW

CABINET TO TOEKICK ATTACHMENT



Sheet Title: TOEKICK ASSEMBLY DETAIL
& CABINET TO TOEKICK ATTACHMENT DETAIL



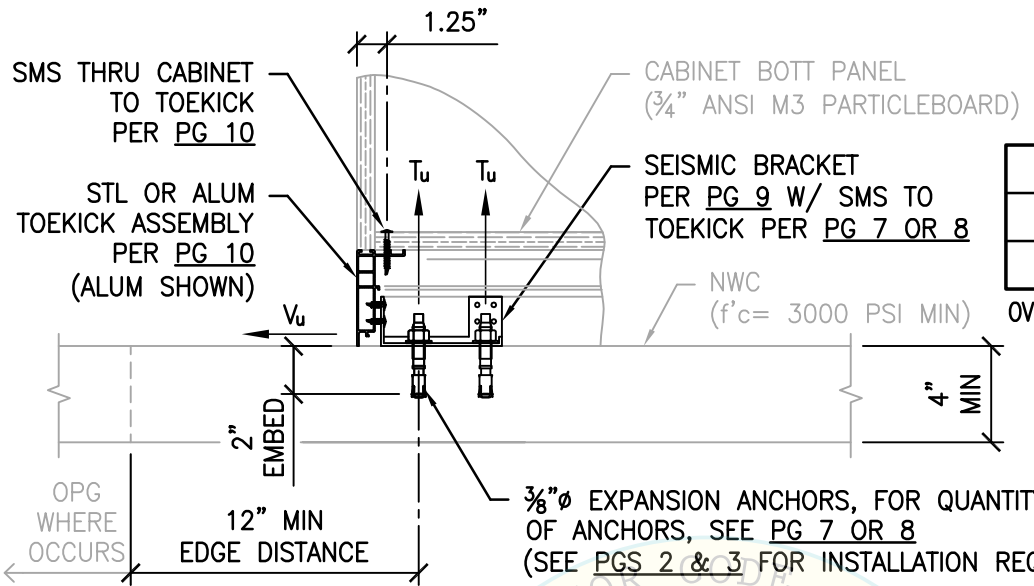
CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

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

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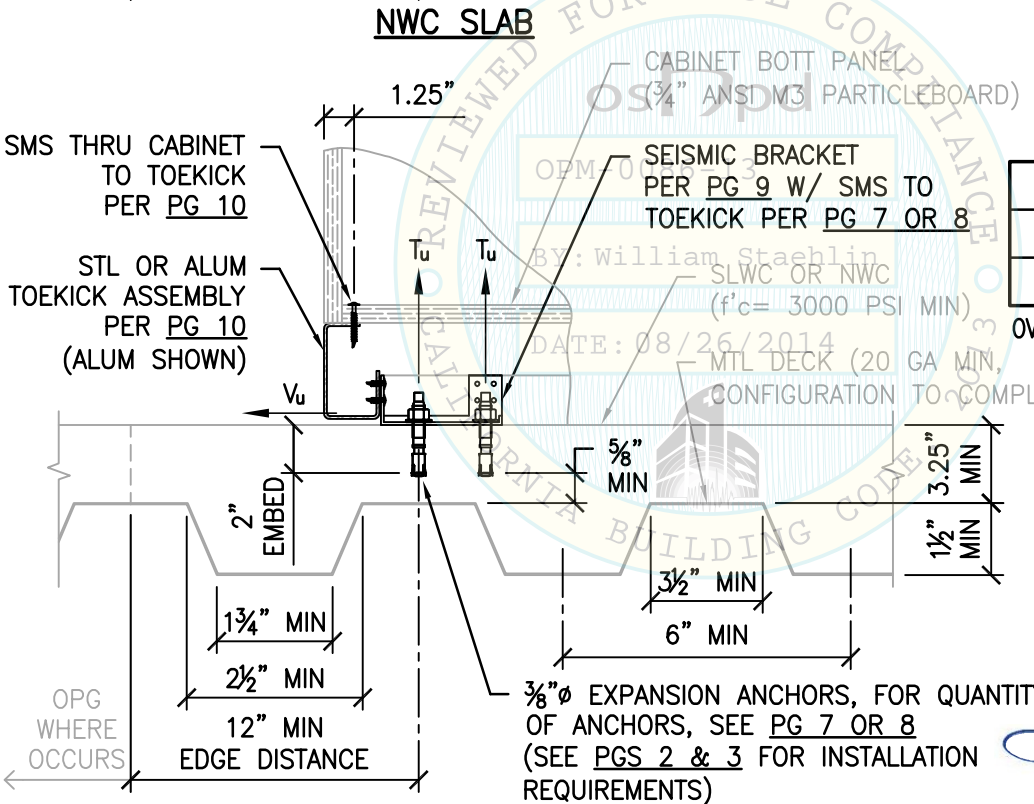
CINDRE LLC
SEISMIC SUPPORTS AND ATTACHMENTS FOR CABINETS



MAX LRFD FORCES AT EA ANCHOR IN NWC

	T _u	V _u
CASE 1	778#	456#
CASE 2	843#	591#
CASE 3	801#	477#

OVERSTRENGTH FACTOR (Ω_o) INCLUDED.



MAX LRFD FORCES AT EA ANCHOR IN SLWC

	T _u	V _u
CASE 2	0#	643#
CASE 3	528#	386#
CASE 4	546#	340#

OVERSTRENGTH FACTOR (Ω_o) INCLUDED.

MTL DECK (20 GA MIN, CONFIGURATION TO COMPLY W/ ICC ESR-1917)



Sheet Title: ATTACHMENT DETAILS TO SUPPORTING FLOOR

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

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