



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0110-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: Oberon, Inc.

Manufacturer's Technical Representative: Rick Conklin

Mailing Address: 1315 S. Allen Street, State College, PA. 16801

Telephone: (814) 867-2312

Email: rlc@oberonwireless.com

Product Information

Product Name: Wireless Router Enclosures

Product Type: Computer

Product Model Number: 104x Series, 105x Series, 106x Series, 107x Series and 305x Series

General Description: Wall & Ceiling Mounted Interior Wireless Router Enclosures

Applicant Information

Applicant Company Name: EASE Co.

Contact Person: Jonathan Roberson, S.E.

Mailing Address: 5877 Pine Ave. Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622

Email: J.Roberson@EASECo.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: 12/23/15

Title: Principle Engineer

Company Name: EASE Co.

"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 1/24/13)

osHPD

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

Registered Design Professional Preparing Engineering Recommendations

Company

Name: EASE Co.

Name: Jonathan Roberson, S.E.

California License Number: S4197

Mailing Address: 5877 Pine Ave. Suite 210, Chino Hills, CA. 91709

Telephone: 909-606-7667

Email: J.Roberson@EASECo.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): _____

*Use of test 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: 01/25/2016

Print Name: William Staehlin

Title: SSE

Condition of Approval (if applicable): _____

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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-700 (REV 1/24/13)

oshpd

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**EQUIPMENT ANCHORAGE
& SEISMIC ENGINEERING**

5877 Pine Ave, Ste. 210
Chino Hills, CA. 91709
Phn: (909) 606-7622

Office of Statewide Health Planning and Development
PREAPPROVAL OF MANUFACTURER'S CERTIFICATION
OPM-0110-13

THIS PREAPPROVAL CONFORMS TO THE 2013 CALIFORNIA BUILDING CODE

MANUFACTURER: **OBERON, INC**
EQUIPMENT NAME: **WIRELESS ENCLOSURES**

Sheet: 1 of 10
Date: 1/21/16

GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2013 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2013 CBC
2. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER LISTED ABOVE FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.
3. THIS PREAPPROVAL CONFORMS TO THE 2013 CALIFORNIA BUILDING CODE.
4. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE $S_{ds} = 2.5$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$.
AT CONCRETE SLAB & CONCRETE SLAB ON METAL DECK, $\Omega_e = 2.5$.
5. THE DETAILS IN THIS PREAPPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE S_{ds} IS NOT GREATER THAN 2.5.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. SHEET METAL SCREWS SHALL BE TEKS SCREWS BY ITW BUILDDEX (ICC ESR-1976).
8. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
9. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING
 - A. PROVIDE SUPPORTING STRUCTURE REQUIRED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
 - B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2013 CBC AND WITH THE DETAILS SHOWN IN THIS PREAPPROVAL. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
 - C. VERIFY THAT THE COMBINATION OF S_{ds} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT ARE NOT GREATER THAN THE VALUES ON THE DETAILS.
 - D. DESIGN BACKING BARS, STUDS, ETC. WHICH THE UNITS ARE ATTACHED TO AS NOTED ON THE DRAWINGS.



OBERON, INC

WIRELESS ENCLOSURES

DES. **J. ROBERSON**

JOB NO. **11-1409**

DATE **1/21/16**

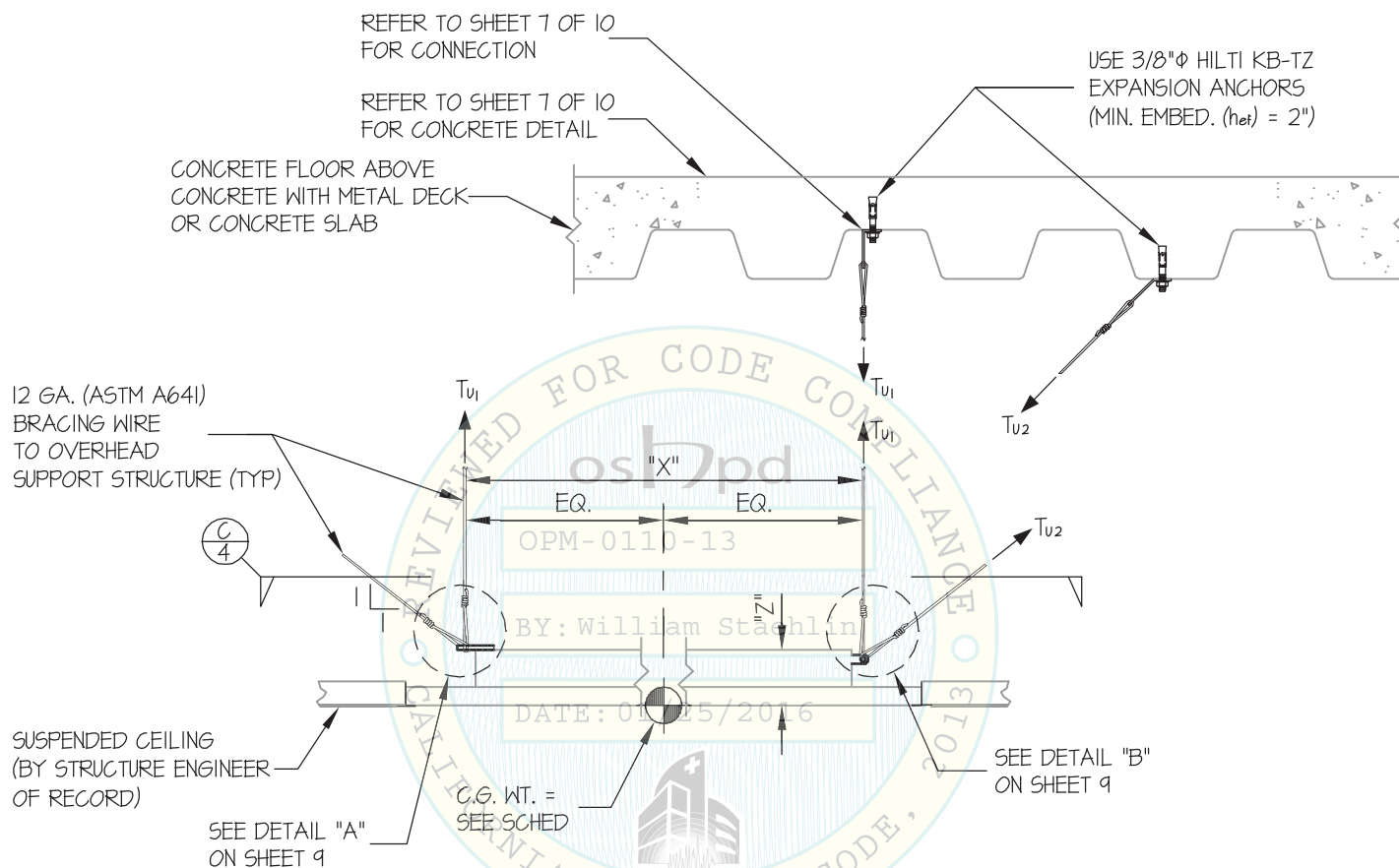
SHEET

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OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

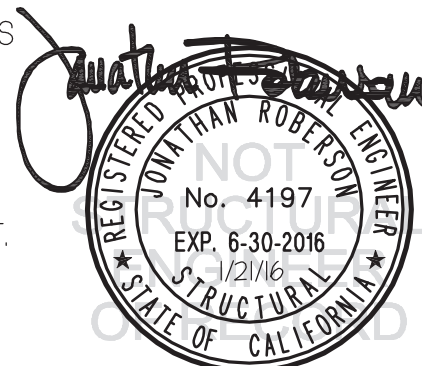
CEILING MOUNTED



SECTION AT SUSPENDED CEILING

NOTES:

- FORCES ARE DETERMINED PER 2013 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED. ($S_{DS} = 2.5$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $\Omega_o = 2.5$, $z/h \leq 1$)
 HORIZONTAL FORCE (E_h) = $4.50 W_p$
 HORIZONTAL FORCE (E_{mh}) = $11.25 W_p$ (FOR CONCRETE ANCHORAGE)
 VERTICAL FORCE (E_v) = $0.50 W_p$
- CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
- SEE GENERAL NOTES: SHEETS 1



OBERON, INC

DES. J. ROBERSON

SHEET

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JOB NO. 11-1409

WIRELESS ENCLOSURES

DATE 1/21/16

OF 10 SHEETS

SUMMARY TABLE

| SERIES | WEIGHT (lb.) | "X" (in.) | "Y" (in.) | "Z" (in.) | Eh (LB.) | Ev (LB.) | Tu1 (VERTICAL) | Tu2 (BRACING) | SUPPORT TYPE |
|-------------|--------------|-----------|-----------|-----------|----------|----------|----------------|---------------|-------------------|
| 1060-00 | 10.5 | 9.66 | 15.90 | 1.60 | 47 | 5 | 4 | 33 | SUSPENDED |
| 1060-T | 10.5 | 9.66 | 15.90 | 1.60 | 47 | 5 | 4 | 33 | SUSPENDED |
| 1064-00 | 11.0 | 11.66 | 15.92 | 1.68 | 50 | 6 | 5 | 35 | SUSPENDED |
| 1064-T | 11.0 | 11.66 | 15.92 | 1.68 | 50 | 6 | 5 | 35 | SUSPENDED |
| 1066-00 | 11.0 | 11.66 | 15.92 | 2.12 | 50 | 6 | 5 | 35 | SUSPENDED |
| 1068-00 | 11.0 | 9.5 | 17.15 | 1.86 | 50 | 6 | 5 | 35 | SUSPENDED |
| 1052-XX | 16.5 | 13.25 | 12.75 | 4.56 | 74 | 8 | 7 | 52 | SUSPENDED |
| 1053-00 | 17.5 | 13.63 | 13.13 | 5.06 | 79 | 9 | 7 | 56 | SUSPENDED |
| 1055-AN | 16.0 | 13.25 | 12.75 | 4.56 | 72 | 8 | 7 | 51 | SUSPENDED |
| 1057-00 | 19.5 | 19.15 | 18.65 | 2.75 | 88 | 10 | 8 | 62 | SUSPENDED |
| 1058-03 | 20.5 | 14.75 | 14.25 | 3.88 | 93 | 11 | 9 | 67 | SUSPENDED |
| 1059-00 | 20.0 | 19.15 | 18.65 | 2.75 | 90 | 10 | 9 | 64 | SUSPENDED |
| 1070-00 | 10.0 | 21.50 | 21.00 | 3.25 | 45 | 5 | 4 | 32 | SUSPENDED |
| 1072-00 | 13.0 | 23.40 | 22.90 | 4.50 | 59 | 7 | 6 | 41 | SUSPENDED |
| 1074-XX | 15.5 | 23.54 | 23.04 | 6.25 | 70 | 8 | 7 | 49 | SUSPENDED |
| 1075-XX | 9.0 | 17.75 | 12.75 | 3.07 | 41 | 5 | 4 | 29 | SUSPENDED |
| 1077-XX | 12.0 | 13.25 | 12.75 | 3.10 | 54 | 6 | 5 | 38 | SUSPENDED |
| 3050-00 | 15.0 | 14.12 | 13.62 | 2.36 | 68 | 8 | 6 | 48 | SUSPENDED |
| 1051-XX | 15.0 | 13.25 | 12.75 | 4.56 | 68 | 8 | 6 | 48 | SUSPENDED |
| 3057-00 | 13.5 | 14.12 | 13.62 | 2.36 | 61 | 7 | 6 | 43 | SUSPENDED |
| 1044-XX | 10.0 | 11.50 | 11.0 | 3.05 | 45 | 5 | 4 | 32 | SUSPENDED |
| 1046-XX | 13.0 | 13.19 | 13.41 | 3.05 | 59 | 7 | 6 | 41 | SUSPENDED |
| 1047-XX | 16.0 | 19.12 | 19.34 | 3.05 | 72 | 8 | 7 | 51 | SUSPENDED |
| 3057-SMTBOX | 7.0 | 13.00 | 16.00 | 2.50 | 32 | 4 | 12 | 8 | WALL (SURF MT) |
| 3057-SMTBOX | 7.0 | 13.00 | 16.00 | 2.50 | 32 | 4 | 12 | 8 | CEILING (SURF MT) |
| 1051-XX | 15.0 | 16.00 | 16.00 | 4.56 | 68 | 8 | 18 | 17 | RECESS MOUNT CLG |
| 3057-00 | 13.5 | 16.00 | 16.00 | 2.36 | 61 | 7 | 13 | 16 | RECESS MOUNT CLG |

NOTES: 1. CG LOCATION IS CONSERVATIVELY USED AT DISTANCE "Z"

2. Eh DOES NOT INCLUDE Ω_o FACTOR

OBERON, INC

WIRELESS ENCLOSURES

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JOB NO. **11-1409**

DATE **1/21/16**

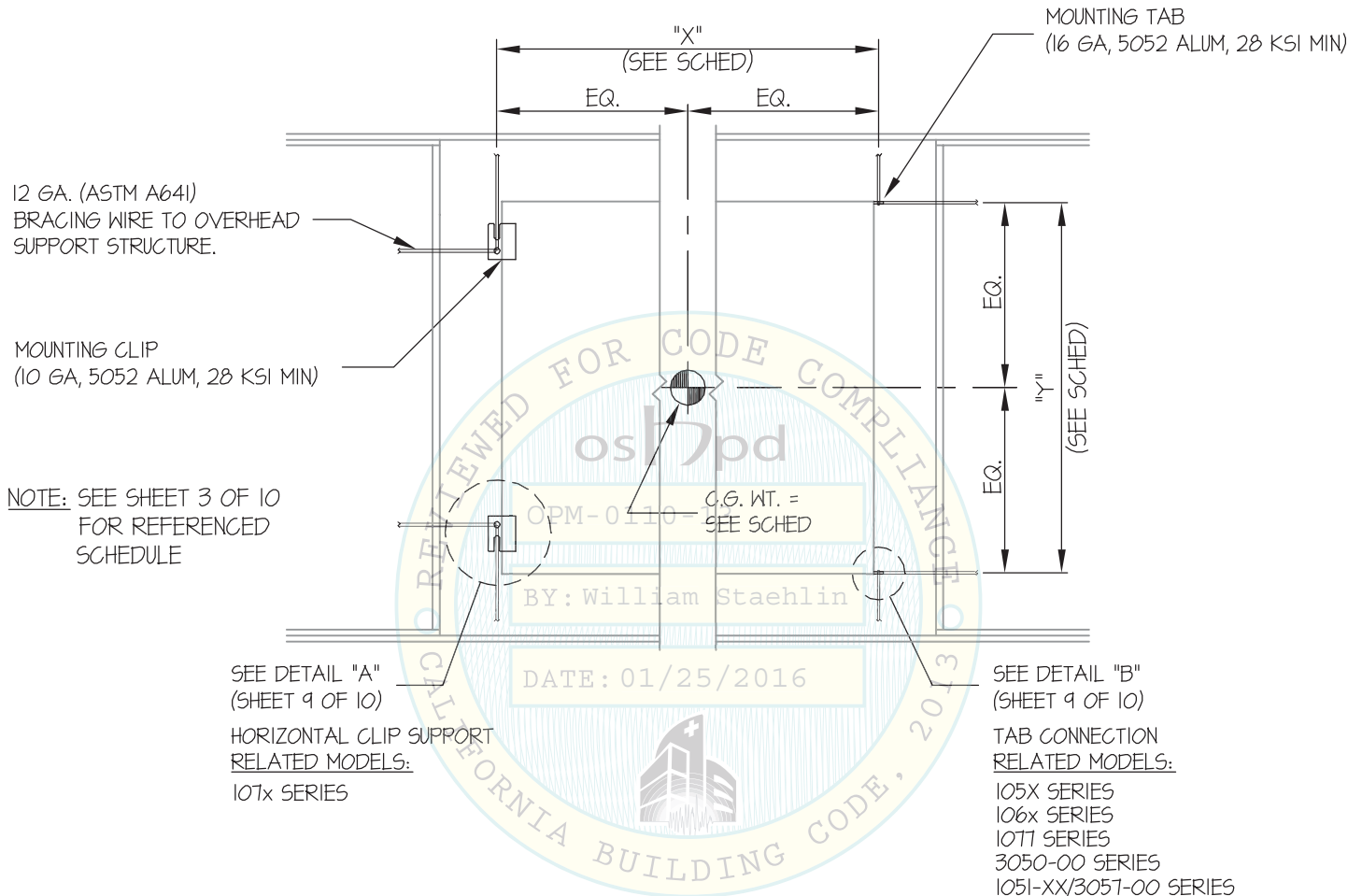
SHEET

4

OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



C
4 **PLAN AT SUSPENDED ENCLOSURE**



OBERON, INC

WIRELESS ENCLOSURES

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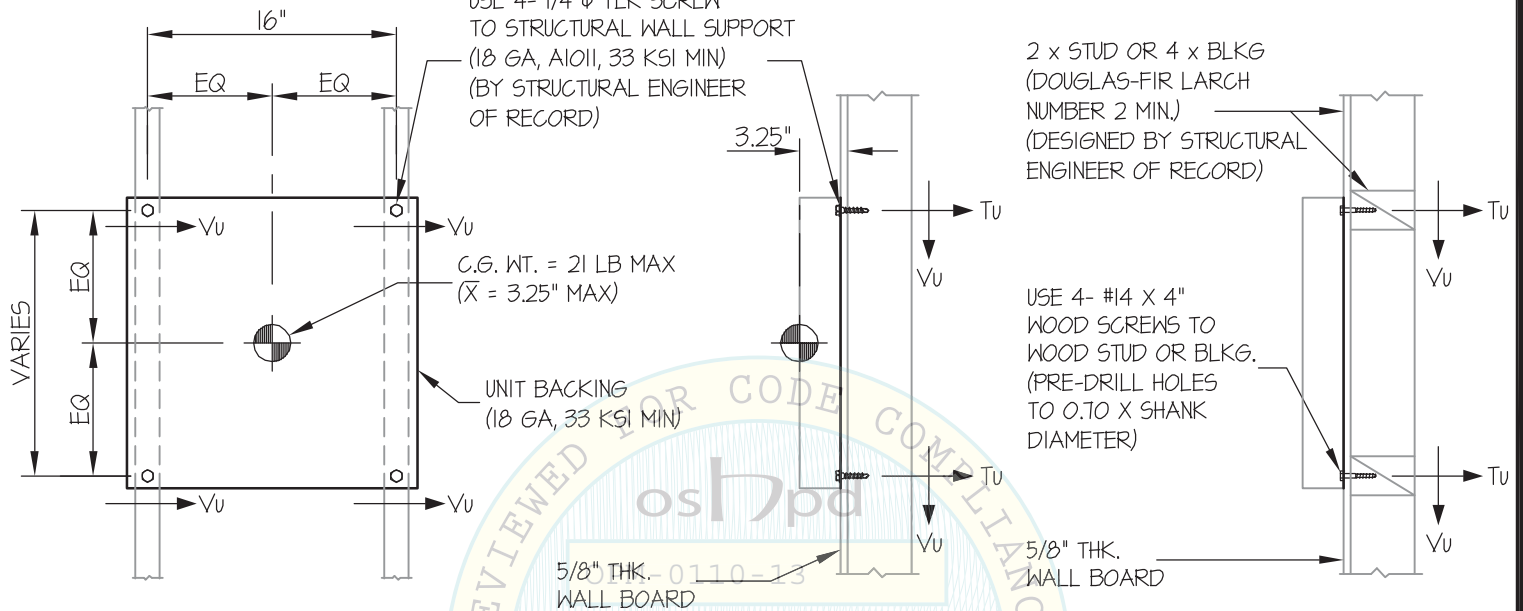
SHEET

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OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



NOTE:

PROVIDE WALL BACKING (18 GA, 33 KSI MIN) WHEN ATTACHMENTS DO NOT LINE UP WITH WALL STUDS (TYP) (BY STRUCTURAL ENGINEER OF RECORD)

T_u = 12 LB/BOLT (MAX)

V_u = 8 LB/BOLT (MAX)

FRONT ELEVATION

(SURFACE WALL MOUNT)

3051-SMTBOX w/ 3051-O

STEEL STUD WALL SECTION

WOOD STUD WALL SECTION



OBERON, INC

WIRELESS ENCLOSURES

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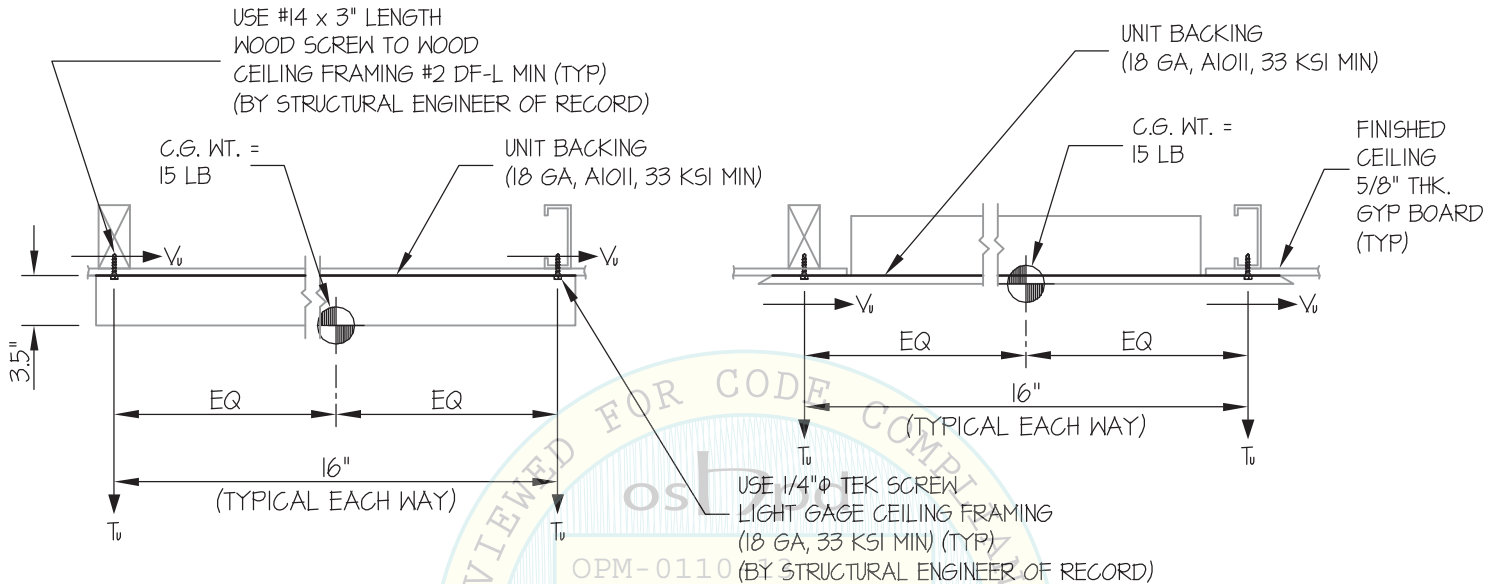
SHEET

6

OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CEILING MOUNTED



CEILING SECTION

(SURFACE MOUNT)

3051-SMTBOX w/ 3051-0

CEILING SECTION

(RECESS MOUNT)

1051-XX & 3051-00

OPM-0110

BY: William Staehlin

DATE: 01/25/2016

$T_u = 18$ LB/BOLT (MAX)

$V_u = 17$ LB/BOLT (MAX)



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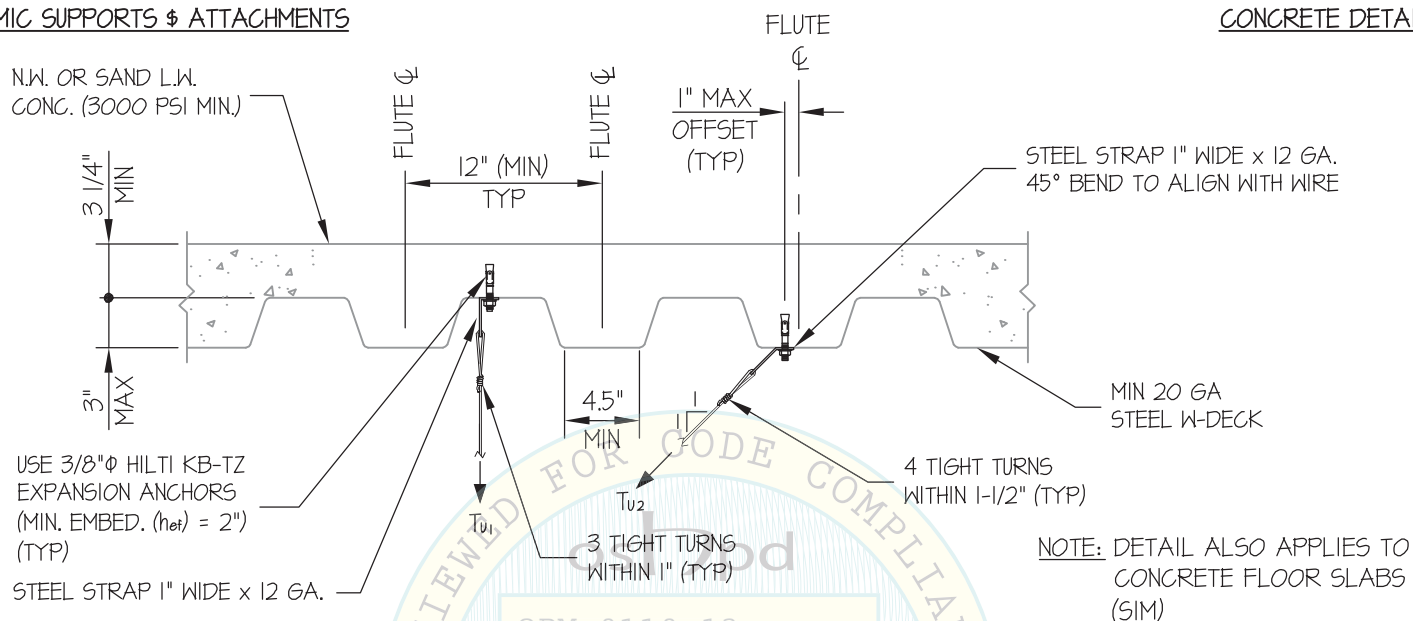
SHEET

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OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE DETAIL



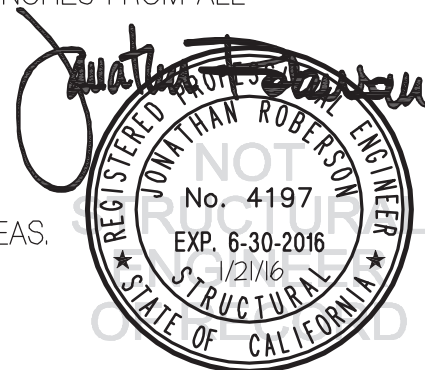
SUPPORT AND BRACING DETAIL AT FLOOR ABOVE

NOTES:

- "HANGER WIRE" SHALL CONFORM WITH GALVANIZED SOFT ANNEALED MILD STEEL WIRE AS DEFINED IN ASTM A641 (CLASS 1 COATING) WITH 70 KSI MINIMUM TENSILE STRENGTH.
- 4 TWISTS OF WIRE WITHIN 15" DEVELOPS THE ALLOWABLE LOAD FOR THE WIRE.

ATTACHMENT OF HANGER AND BRACING WIRES:

- FASTEN #12 HANGER WIRES WITH NOT LESS THAN THREE (3) TIGHT TURN 1 INCH. HANGER WIRE LOOPS SHALL BE TIGHTLY WRAPPED AND SHARPLY BENT TO PREVENT ANY VERTICAL MOVEMENT OR ROTATION OF THE MEMBER WITHIN THE LOOPS.
- FASTEN #12 BRACING WIRES WITH FOUR (4) TIGHT TURNS. MAKE ALL TIGHT TURNS WITHIN A DISTANCE OF 1 1/2 INCHES.
- HANGER OR BRACING WIRE ANCHORED TO THE STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHOR ALIGNS AS CLOSELY AS POSSIBLE WITH THE DIRECTION OF THE WIRE.
- SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST SIX (6) INCHES FROM ALL UN-BRACED DUCTS, PIPES, CONDUIT, ETC.
- HANGER WIRES SHALL NOT BE ATTACHED TO OR BEND AROUND INTERFERING MATERIAL OR EQUIPMENT. PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCTIONS TO TYPICAL HANGER SPACING. PROVIDE ADDITIONAL HANGERS, STRUTS OR BRACES AS REQUIRED AT ALL CEILING BREAKS, SOFFITS OR DISCONTINUOUS AREAS.



OBERON, INC

WIRELESS ENCLOSURES

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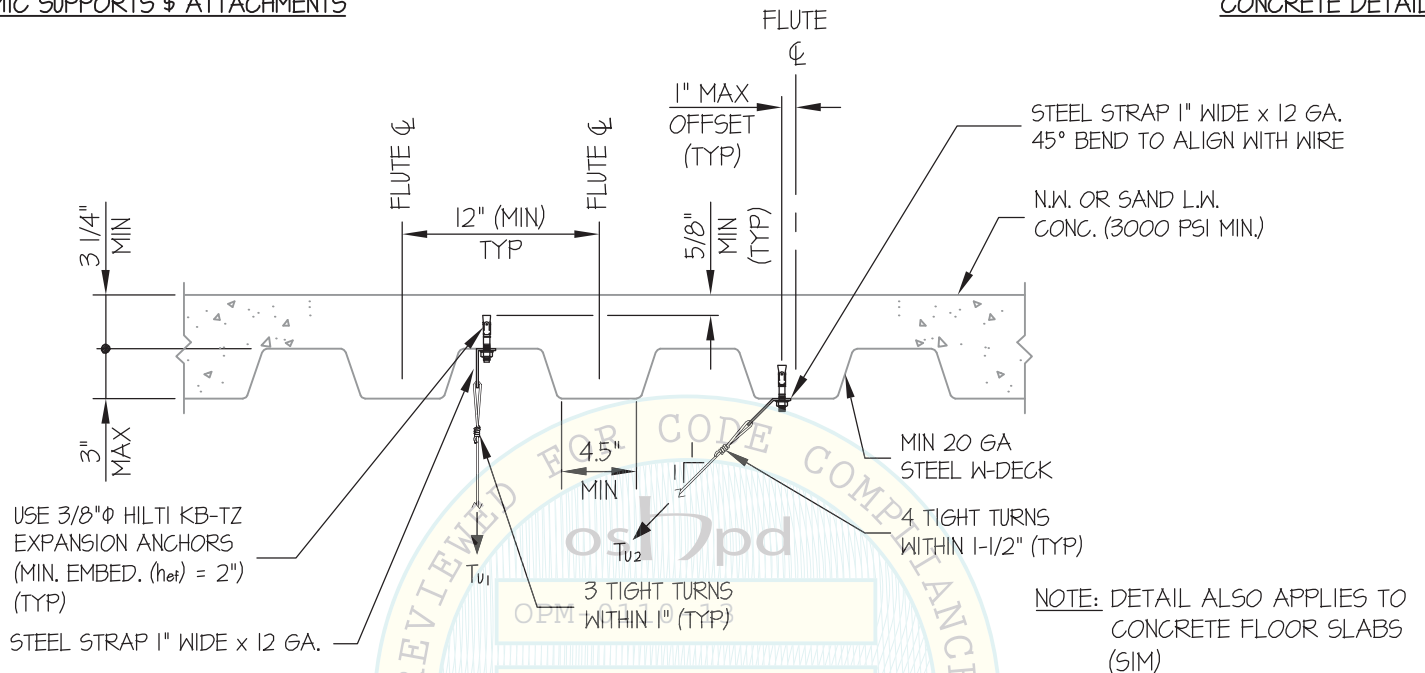
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OF **10** SHEETS

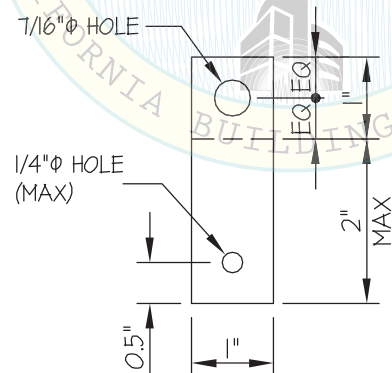
SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE DETAIL

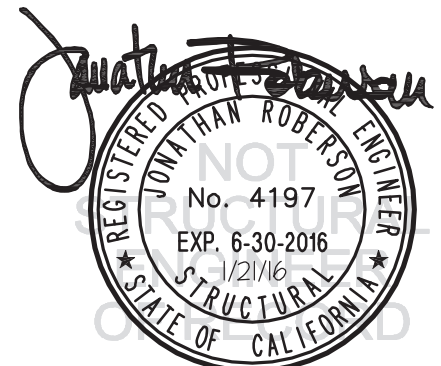


SUPPORT AND BRACING DETAIL AT FLOOR ABOVE

DATE: 01/25/2016



12 GA (A1008) STEEL STRAP



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WIRELESS ENCLOSURES

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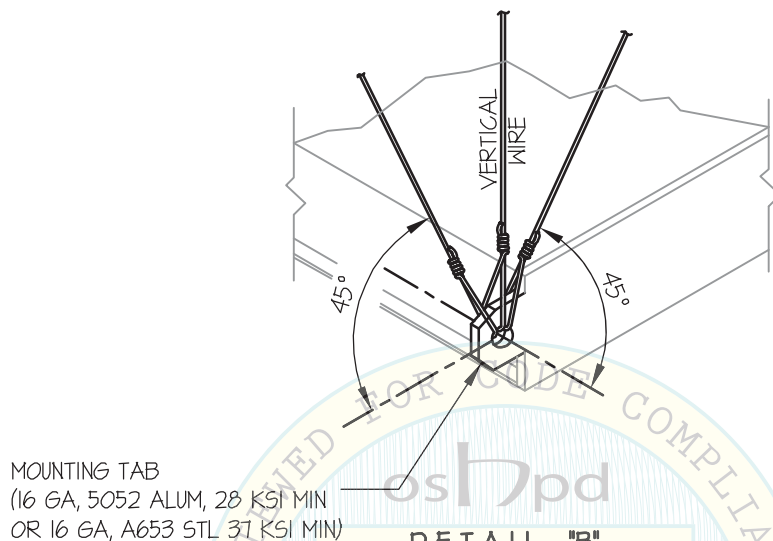
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OF **10** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

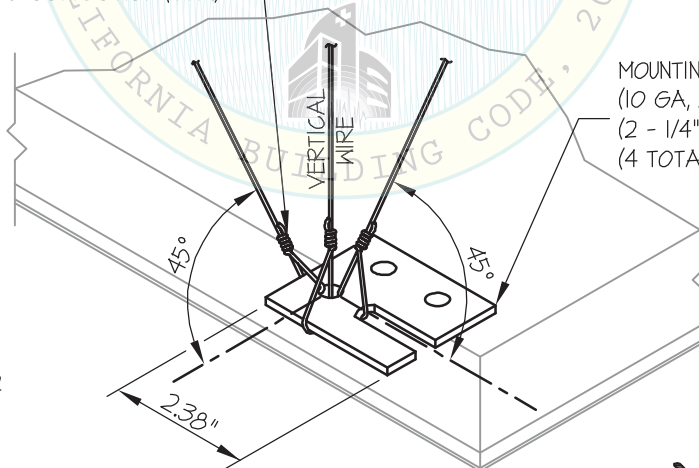
EQUIPMENT DETAIL



DETAIL "B"
(TAB CONNECTION)

BY: William Staehlin

NOTE: PROVIDE 4 TIGHT TURNS
IN 1.5" AT WIRE CONNECTION (TYP.)



DETAIL "A"
(HORIZONTAL CLIP SUPPORT)

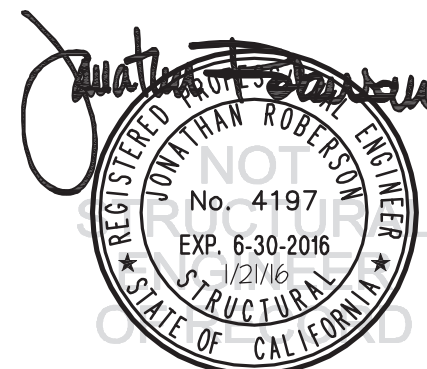
RELATED MODELS
107x SERIES

ALUMINUM TAB:

106x SERIES
1071 SERIES
1051 SERIES
3057 SERIES

STEEL TAB:

105X SERIES
3050-00 SERIES



OF 10 SHEETS