



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY
APPLICATION #: OPM-0368-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

Manufacturer Information

Manufacturer: R82 US Inc.
Manufacturer's Technical Representative: Derek Fletcher
Mailing Address: 12801 E Independence Blvd., Matthews, NC. 28106
Telephone: On File Email: On File

Product Information

Product Name: Molift Rail System and Lift
Product Type: Other Mechanical and Electrical Components
Product Model Number: N/A
General Description: Patient Lift System

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, 2016.

Signature of Applicant: [Signature] Date: 7/15/16
Title: Principal Engineer Company Name: EASE Co.

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





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

Registered Design Professional Preparing Engineering Recommendations

Company Name: EASE Co.

Name: Jonathan Roberson, S.E. California License Number: S4197

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

Telephone: 909-606-7622 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 1950-16
- Other* (Please Specify): _____

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

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

List of Attachments Supporting the Manufacturer's Certification

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

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

Signature: *William Staehlin* Date: 10-12-2017

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"





**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-0368-13

THIS PREAPPROVAL CONFORMS TO THE 2016 CALIFORNIA BUILDING CODE

MANUFACTURER: **R82, INC.**
EQUIPMENT NAME: **MoLift AIR TRAVERSE RAIL SYSTEM**

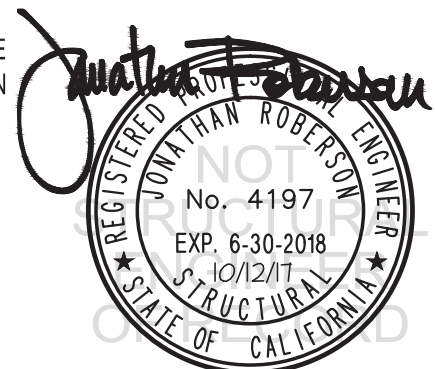
Sheet: 1 of 12
Date: 10/12/17

GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2016 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2016 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 2016 CALIFORNIA BUILDING CODE WHERE S_{ds} IS NOT GREATER THAN 2.20.
4. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3,
WHERE $S_{ds} \leq 2.20$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 4.5$, $z/h \leq 1$. SEE FOLLOWING SHEETS FOR Ω_0 .
5. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. WALL DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION. (i.e. $z/h \leq 1$)

8. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING

- A. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.
- B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2016 CBC AND WITH THE DETAILS, MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
- C. VERIFY THAT PROJECT SPECIFIC VALUES OF S_{ds} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
- D. VERIFY THAT THE CONCRETE WALL TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR AND THIS OPM.
- E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY CONCRETE WALL EDGES OR OPENINGS (SEE TYPICAL DETAIL ON SHEET 2).
- F. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE UNIT ATTACHMENTS AND CHECK FOR INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR $6h_{ef}$ FROM THIS UNIT'S ANCHORS.
- G. DESIGN BACKING BARS, STUDS, ETC. WHICH THE UNITS ARE ATTACHED TO AS NOTED ON THE DRAWINGS.
- H. VERIFY WOOD OR METAL STUDS MEET THE REQUIREMENTS OF THIS OPM.



R82, INC.

DES. **J. ROBERSON**

SHEET

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MoLift AIR TRAVERSE RAIL SYSTEM

JOB NO. **11-1611**

DATE **10/12/17**

OF **12** SHEETS

9. EXPANSION ANCHORS:

A. ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT.

Anchor Diameter	Concrete Type	Min. f'c (psi)	Anchor Type	ICC Report No.	Min. Embed.	Min. Spacing	Min. Edge Dist.	Min. Conc. Thickness	Torque Test	Direct Tension
1/4"	Normal Weight	3000	Hilti Kwik HUS	ESR-3027	1.86"	6"	12"	6"	N/A	1440 LB

B. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE WALL EDGES, 12" AWAY MINIMUM (i.e. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

C. TESTING OF CONCRETE SCREW ANCHORS PER 2016 CBC, 1910A.5: TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD

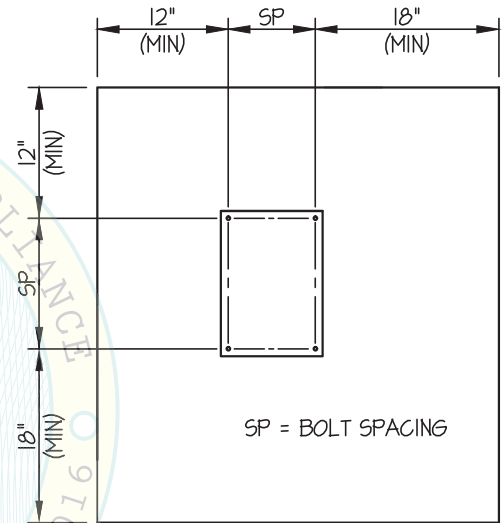
(i) AFTER AT LEAST 24 HOURS HAVE ELAPSED SINCE INSTALLATION, DIRECT PULL TENSION TEST AT LEAST 50% OF THE ANCHORS.

(ii) ACCEPTANCE CRITERIA:

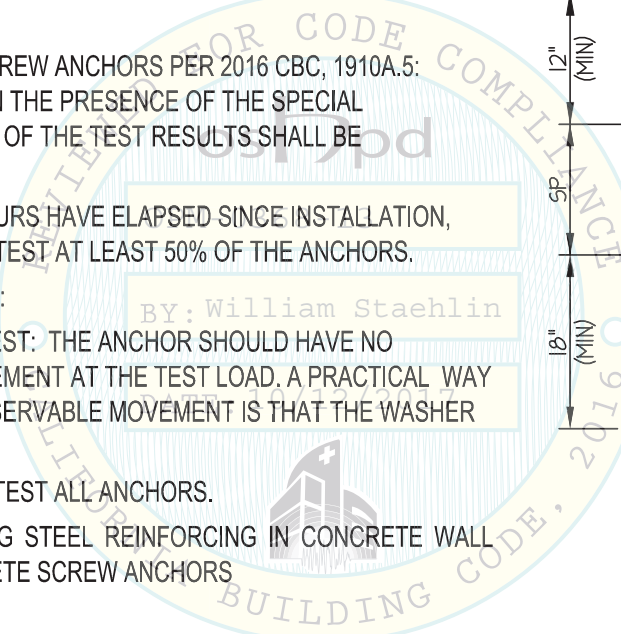
- DIRECT TENSION TEST: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER BECOMES LOOSE.

(iii) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.

D. AVOID DAMAGING EXISTING STEEL REINFORCING IN CONCRETE WALL WHEN INSTALLING CONCRETE SCREW ANCHORS



TYPICAL CONCRETE EDGE DETAIL



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SHEET

3

JOB NO. **11-1611**

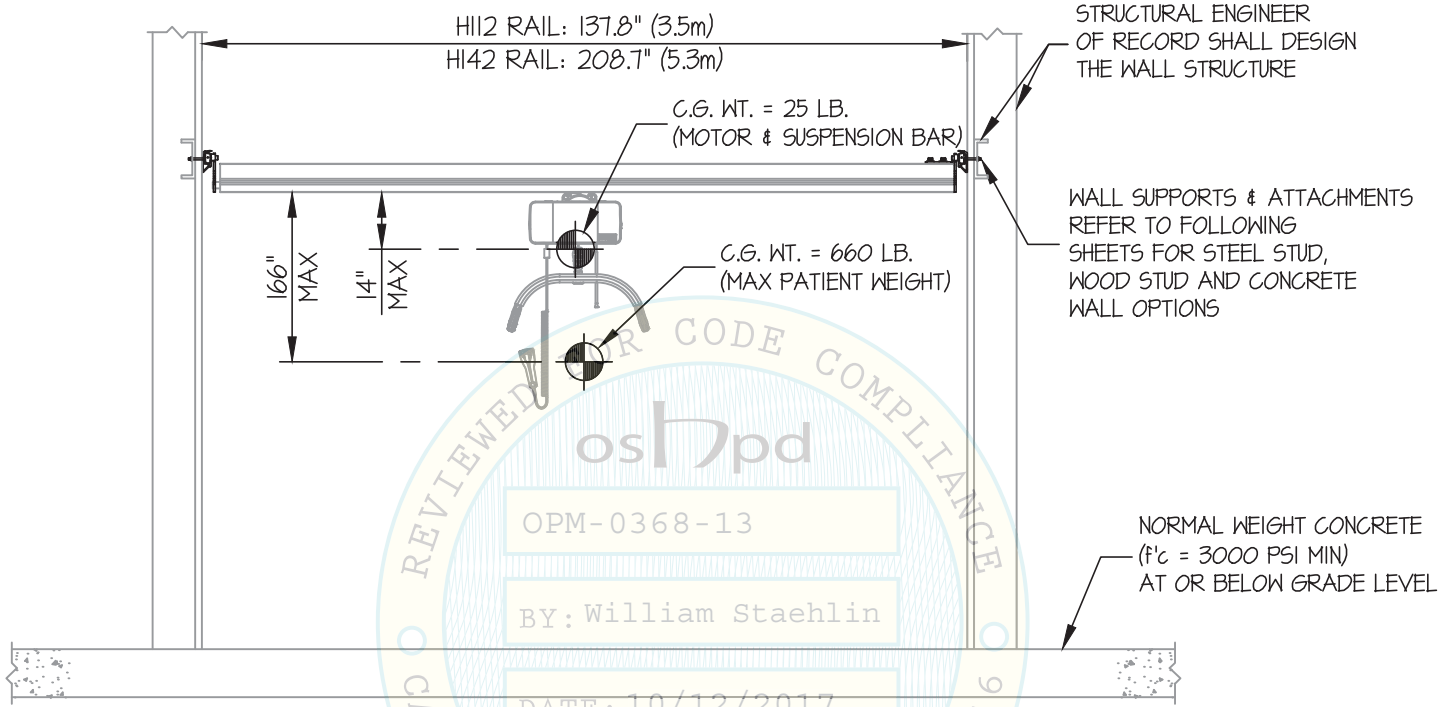
MoLift AIR TRAVERSE RAIL SYSTEM

DATE **10/12/17**

OF **12** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



FRONT ELEVATION
 (STEEL STUD WALL OPTION SHOWN)

NOTES:

1. **FORCES ARE DETERMINED PER 2016 CALIFORNIA BUILDING CODE AND ASCE 7-10**
 STRENGTH DESIGN IS USED. ($S_{ds} = 2.20$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 4.5$, $\Omega_0 = 2.0$, $z/h \leq 1$)

HORIZONTAL FORCE (E_h) = $2.20 W_p$

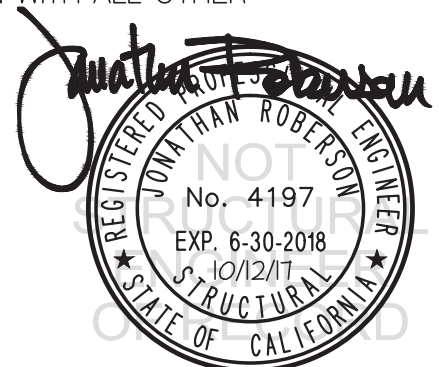
HORIZONTAL FORCE (E_{mh}) = $4.40 W_p$ (FOR CONCRETE ANCHORAGE)

VERTICAL FORCE (E_v) = $0.44 W_p$

2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

3. 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.

4. SEE GENERAL NOTES: SHEETS 1 AND 2.



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SHEET

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MoLift AIR TRAVERSE RAIL SYSTEM

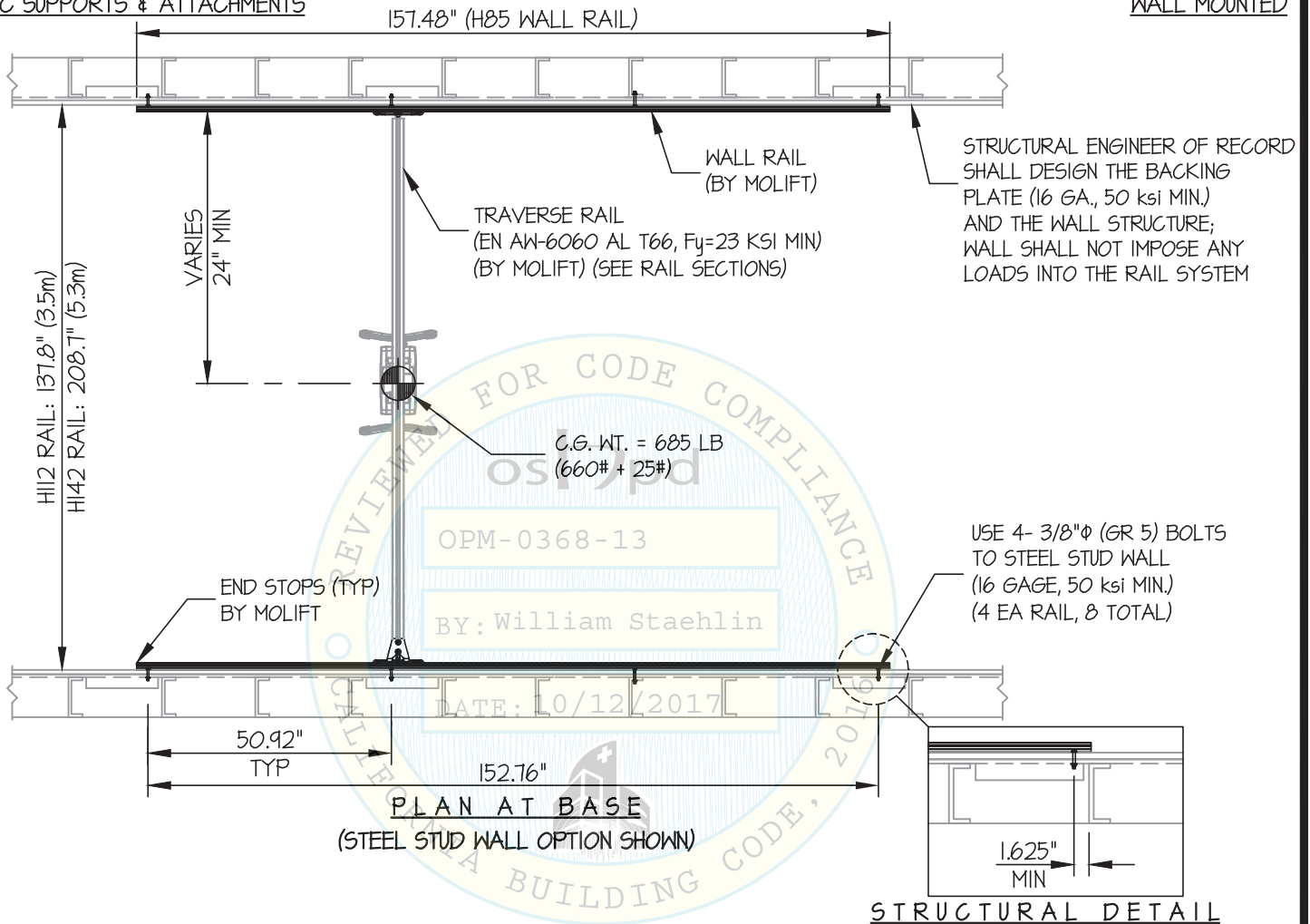
JOB NO. **11-1611**

DATE **10/12/17**

OF **12** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



Jonathan Roberson

REGISTERED PROFESSIONAL ENGINEER
JONATHAN ROBERSON
No. 4197
EXP. 6-30-2018
10/12/17
STRUCTURAL
STATE OF CALIFORNIA

R82, INC.

DES. J. ROBERSON

SHEET

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JOB NO. 11-1611

DATE 10/12/17

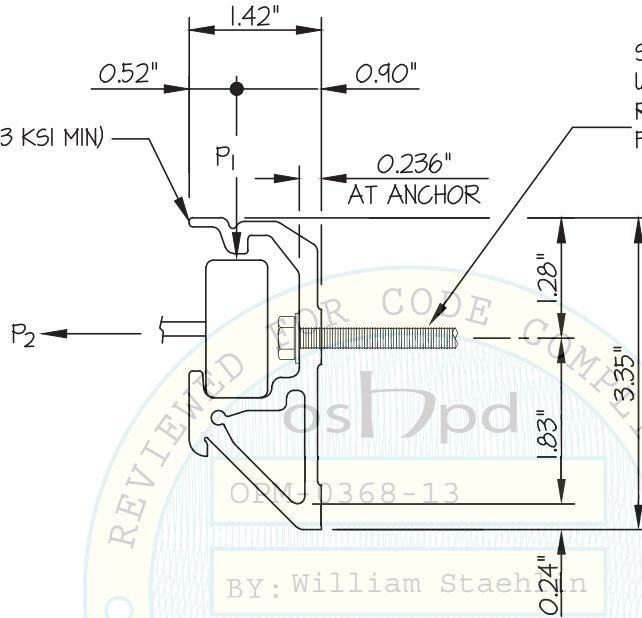
OF 12 SHEETS

MoLift AIR TRAVERSE RAIL SYSTEM

SEISMIC SUPPORTS & ATTACHMENTS

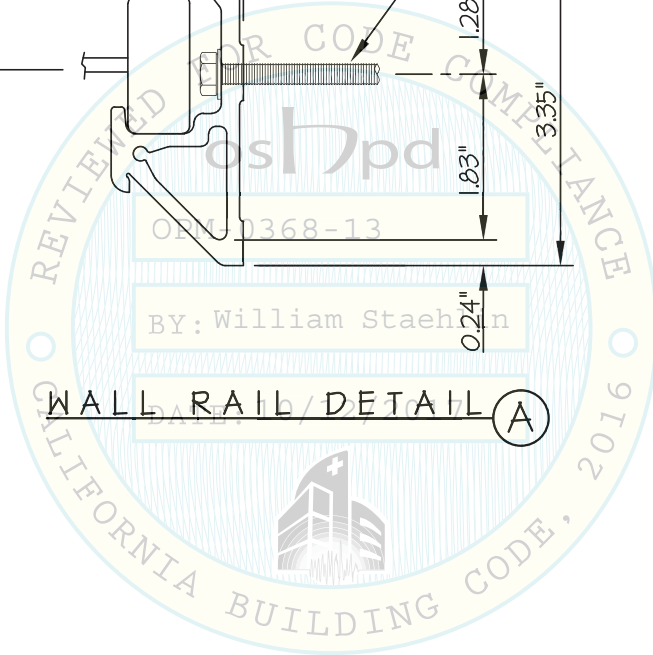
WALL MOUNTED

WALL RAIL
(EN AW-6060 AL T66, $F_y=23$ KSI MIN)
(BY MOLIFT)



STEEL STUD WALL ANCHOR
USE (1)- 3/8" ϕ (GR 5) BOLTS
REFER TO PLAN AT BASE (PREVIOUS SHEET)
FOR CENTER TO CENTER SPACING OF ANCHORS

WALL RAIL DETAIL (A)



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JOB NO. **11-1611**

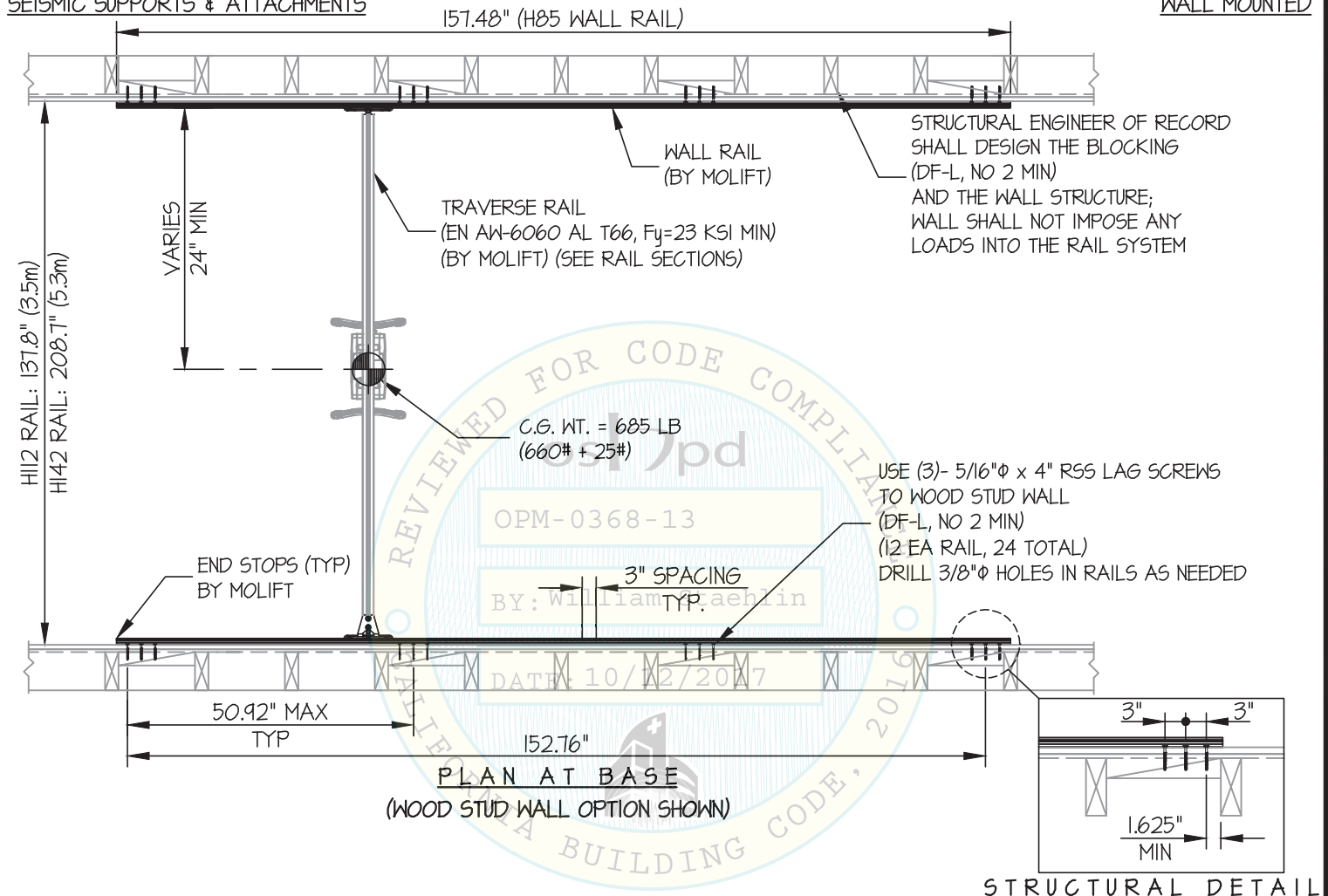
DATE **10/12/17**

OF **12** SHEETS

MoLift AIR TRAVERSE RAIL SYSTEM

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



Jonathan Roberson

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10/12/17
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R82, INC.

DES. J. ROBERSON

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JOB NO. 11-1611

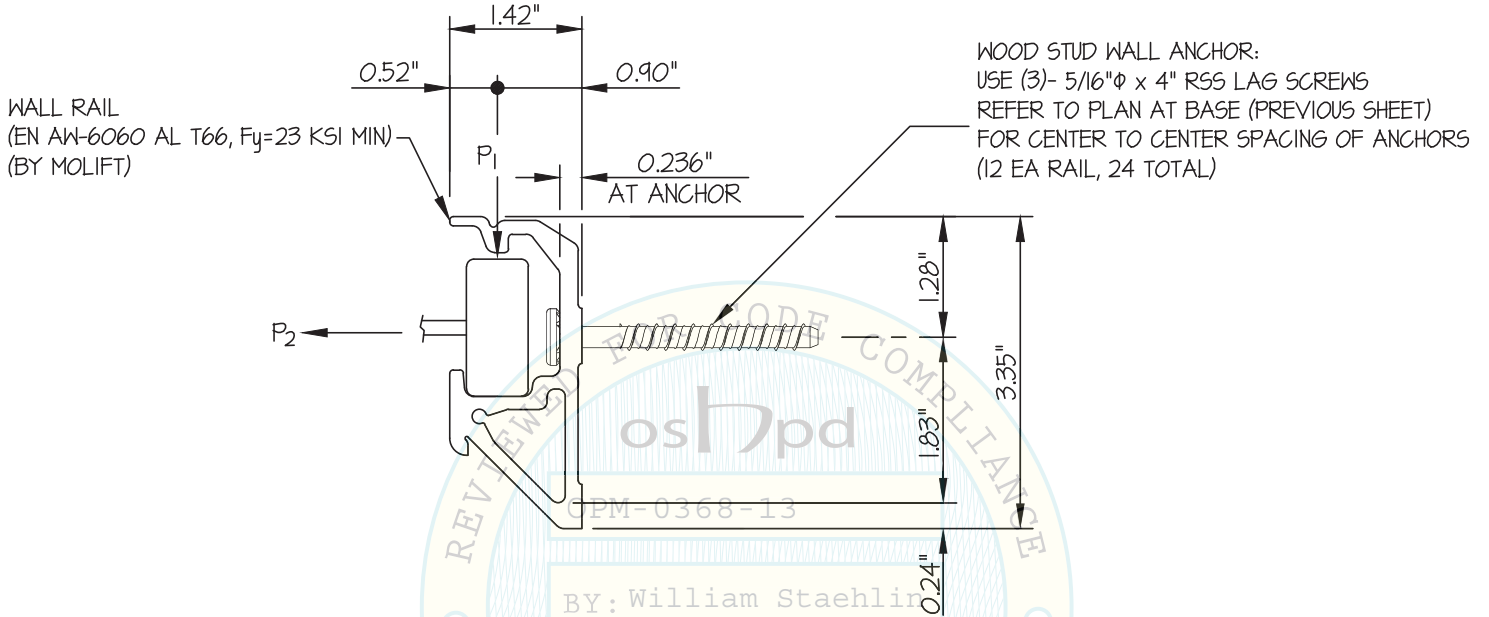
DATE 10/12/17

OF 12 SHEETS

MoLift AIR TRAVERSE RAIL SYSTEM

SEISMIC SUPPORTS & ATTACHMENTS

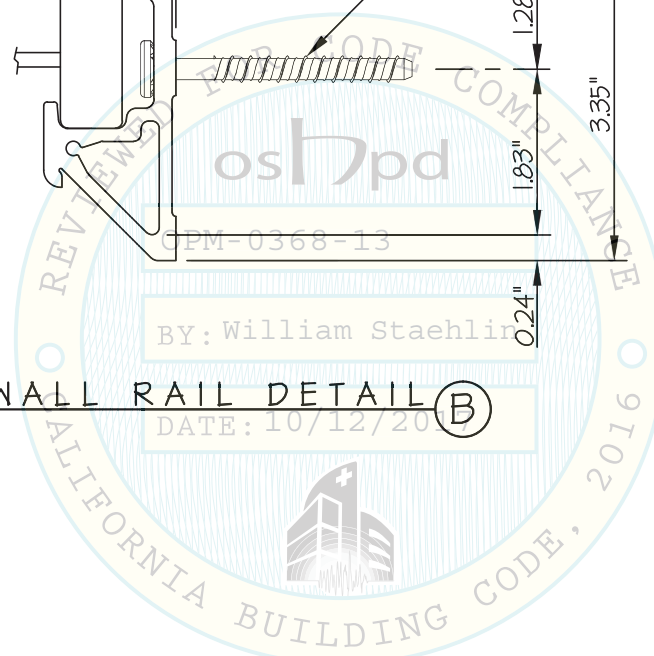
WALL MOUNTED



WALL RAIL DETAIL (B)

BY: William Staehlin

DATE: 10/12/2017



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JOB NO. **11-1611**

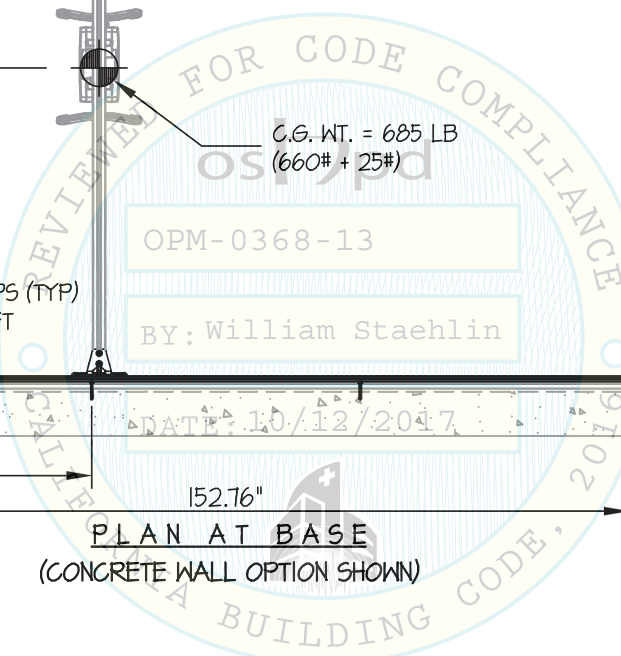
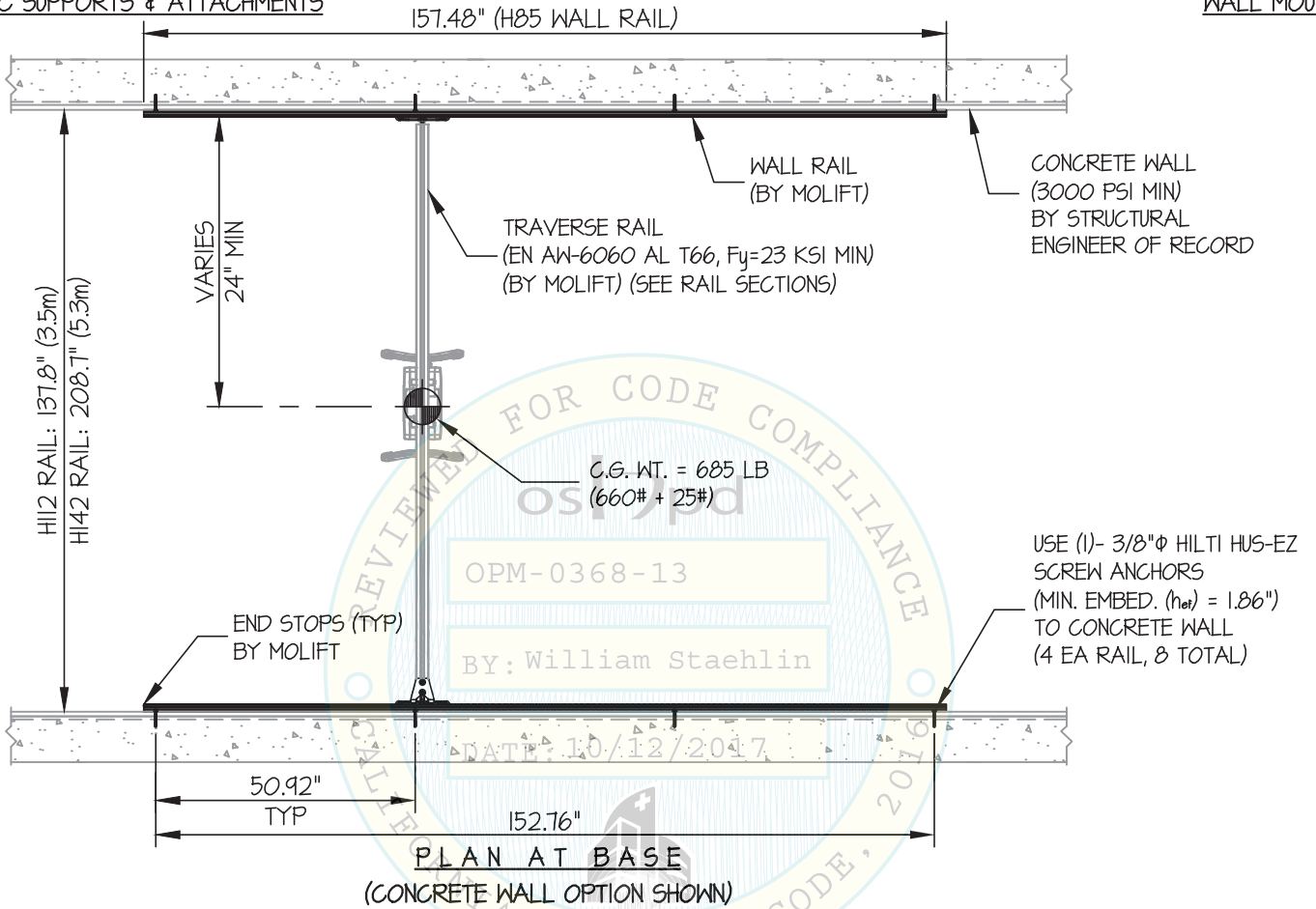
MoLift AIR TRAVERSE RAIL SYSTEM

DATE **10/12/17**

OF **12** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



Jonathan Roberson

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SHEET

9

JOB NO. **11-1611**

MoLift AIR TRAVERSE RAIL SYSTEM

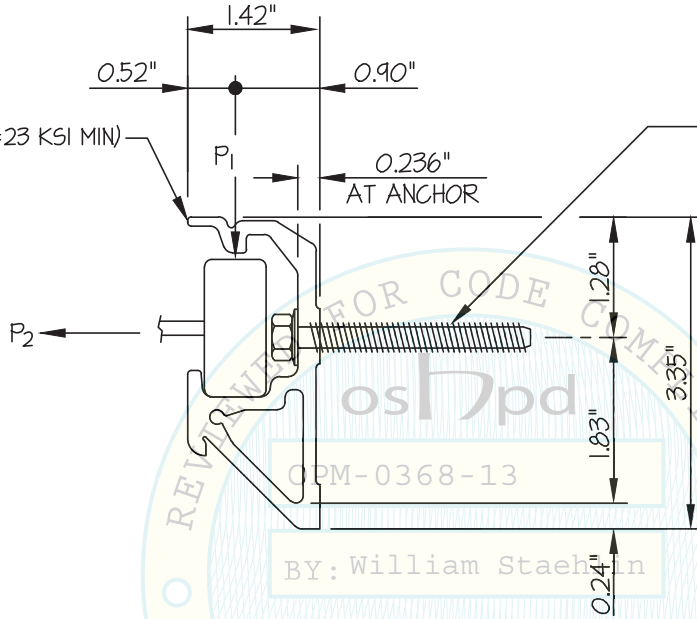
DATE **10/12/17**

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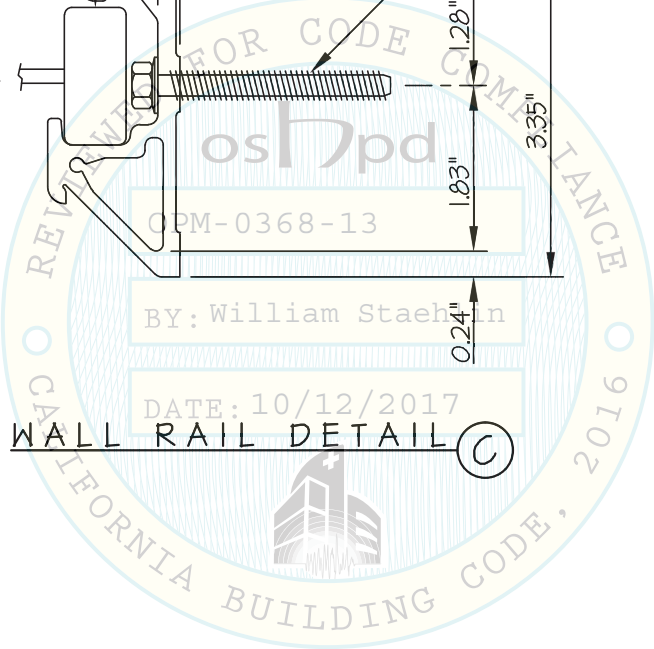
SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED

WALL RAIL
(EN AW-6060 AL T66, Fy=23 KSI MIN)
(BY MOLIFT)



CONCRETE WALL ANCHOR:
USE (1)- 3/8"Φ HILTI HUS-EZ
SCREW ANCHORS (MIN. EMBED. (h_{ef}) = 1.86")
REFER TO PLAN AT BASE (PREVIOUS SHEET)
FOR CENTER TO CENTER SPACING OF ANCHORS
(4 EA RAIL, 8 TOTAL)



BY: William Staehlin
DATE: 10/12/2017
WALL RAIL DETAIL ©

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10/12/17
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SHEET

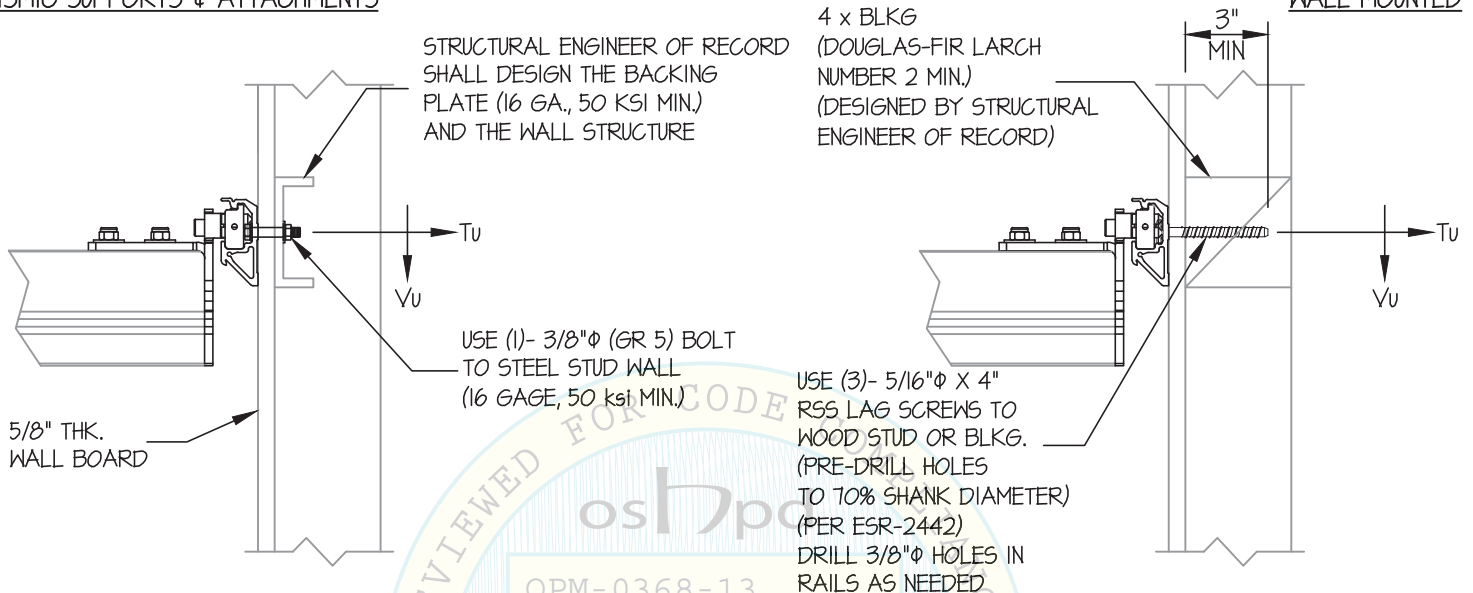
10

OF **12** SHEETS

MoLift AIR TRAVERSE RAIL SYSTEM

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



$T_u = 464$ LB/BOLT (MAX)
 $V_u = 947$ LB/BOLT (MAX)
 (VALUES DO NOT INCLUDE Ω)

$T_u = 155$ LB/SCREW (MAX)
 $V_u = 316$ LB/SCREW (MAX)
 (VALUES DO NOT INCLUDE Ω)

OPM-0368-13

NOTE: FOR SECTIONS ① & ②
 MIN EDGE DISTANCE = 1.25"
 MIN END DISTANCE = 1.625" min

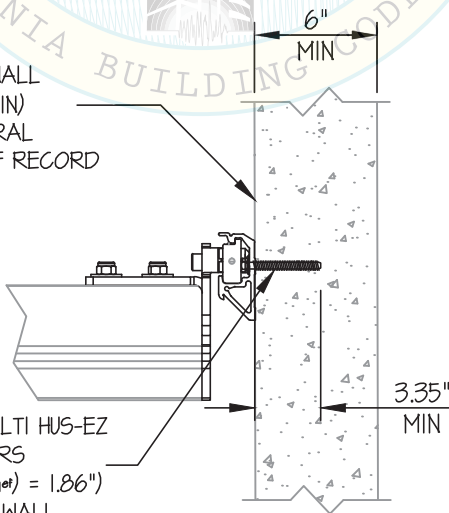
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STEEL STUD WALL SECTION ①

WOOD STUD WALL SECTION ②

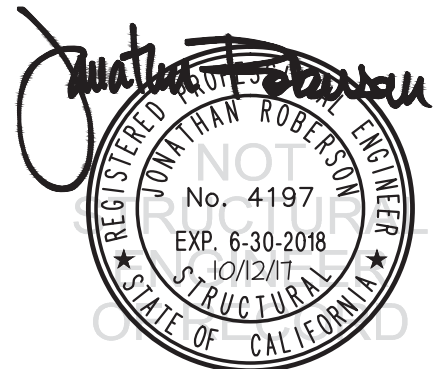
CONCRETE WALL (3000 PSI MIN) BY STRUCTURAL ENGINEER OF RECORD

USE (1)- 3/8" HILTI HV5-EZ SCREW ANCHORS (MIN. EMBED. (h_{ef}) = 1.86") TO CONCRETE WALL



$T_u = 464$ LB/SCREW (MAX)
 $V_u = 955$ LB/SCREW (MAX)
 (VALUES INCLUDE Ω)

CONCRETE WALL SECTION ③



R82, INC.

DES. **J. ROBERSON**

SHEET

11

MoLift AIR TRAVERSE RAIL SYSTEM

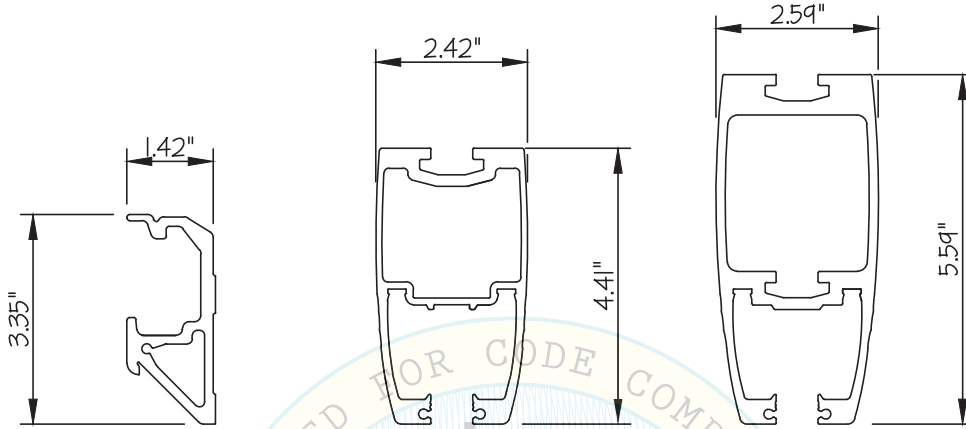
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OF **12** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



WALL
(H85WP)

H112
(OC/P)

H142
(OC/P)

RAIL	WEIGHT (lb/ft)	A (in ²)	Sx TOP (in ²)	Sx BOT (in ²)	Ix (in ⁴)
H112	28	236	272	231	174
H142	45	377	399	1512	312
WALL	17	141	0.758	0.894	0.285

NOTE: ALL TRAVERSE & WALL RAILS
MATERIAL IS:
EN-AW 6060 AL T66
Fy = 23 KSI MIN

RAIL SECTIONS



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12

MoLift AIR TRAVERSE RAIL SYSTEM

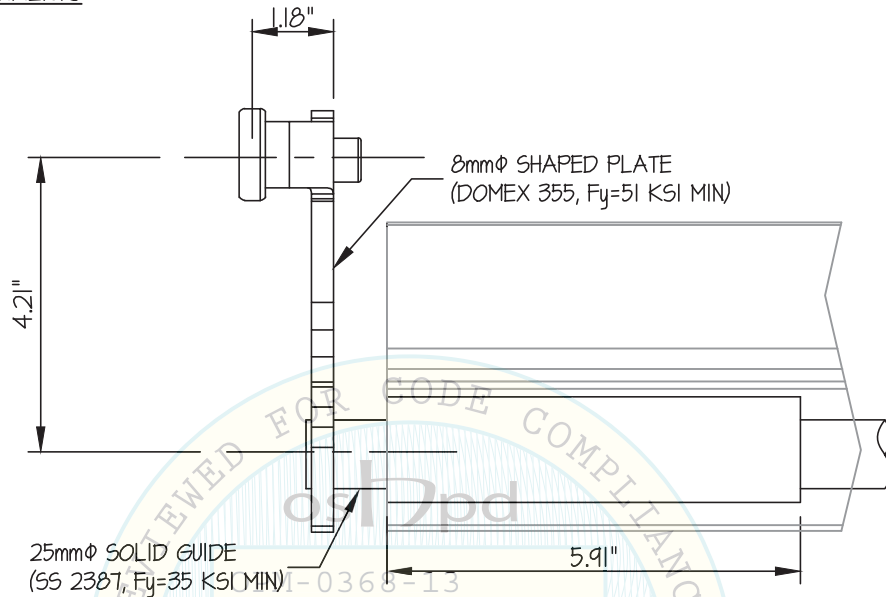
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WALL MOUNTED

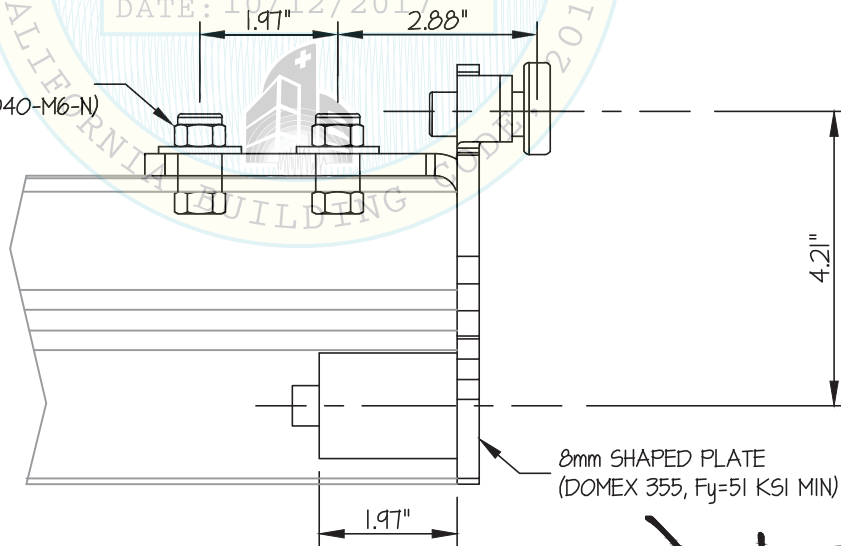


LEFT SIDE

BY: William Staehlin

DATE: 10/12/2017

(2)- M6 SET SCREWS
W/ NUT (DIN EN ISO 1040-M6-N)



8mm SHAPED PLATE
(DOMEX 355, Fy=51 KSI MIN)

NOTE: ALL PARTS AND
ASSEMBLY BY MOLIFT

RIGHT SIDE

TROLLEY SYSTEM

