



City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue · Portland, Oregon 97201 | 503-823-7300 | www.portlandoregon.gov/bds



Permit Revision Submittal Requirements and Application

A Permit Revision is required when there are proposed changes to the project after the permit has been issued. This may arise due to discrepancies between the city-approved permit drawings and actual field conditions, or the customer has changed their mind about an aspect of the project. In all cases, a revision to the existing permit must be submitted, reviewed and approved.

Applicants will provide:

☒ A copy of this application

☒ Three (3) sets of plans that clearly reflect the proposed change(s).

Drawings and calculations must be stamped and signed by the Architect and/or the Engineer of Record, if applicable.

☒ One (1) copy of the original city approved permit drawings. (NOTE: If your project has an assigned process manager please contact them regarding submittal of the revision).

☒ Two (2) sets of calculations, if applicable

☐ Inspector's correction notice, if revision is due to an inspection correction

☒ Revision fee (paid at time of submittal)

Contact Information:

Contact name David Rodeback Architect LLC

Address 1711 SE 10th Ave #201

City Portland State OR Zip Code 97214

Phone 503-502-5490 Email david@dlrarch.com

Value of proposed revision \$7,600 Issued permit # 16-266113 CO

Job site address 6040 SE Belmont St, Portland OR 97215

Description of revision Additional details added at replacement non-load bearing exterior walls at Lobby Foyer. Proposed suspending ceiling and infill wall above existing partition removed from scope.

Fees:

The Permit Revisions are subject to fees associated with plan review, processing and any increase in project value. Additional fees may apply if adding plumbing fixtures.

The Bureau of Development Services fee schedule is available under the fees tab on the BDS web site at: www.portlandoregon.gov/bds. Fees are updated annually on July 1st.

Helpful Information:

Bureau of Development Services
City of Portland, Oregon
1900 SW 4th Avenue, Portland, OR 97201
www.portlandoregon.gov/bds

Submit your plans in person to:

Development Services Center (DSC), First Floor,
For Hours Call 503-823-7310

Important Telephone Numbers:

BDS main number503-823-7300
DSC automated information line503-823-7310
Building code information503-823-1456
BDS 24 hour inspection request line503-823-7000
Residential information for
one and two family dwelling503-823-7388
General Permit Processing and
Fee Estimate info503-823-7357
City of Portland TTY503-823-6868



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STRUCTURAL DOCUMENTS

Project:

Allstructure #
16308.00

**Belmont Lobby
Supplemental Calculation
Exterior Wall design**

Portland, Oregon

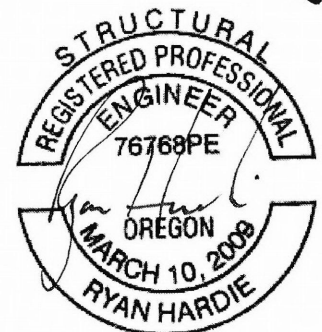
March 30, 2017

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		Sheet No.
PROJECT INFORMATION		1
CALCULATIONS		2 - 14

NOTES:

Allstructure Engineering LLC was retained in a limited capacity for this project and is responsible only for the items described in these documents.

The attached calculations are not meant to stand alone, but are meant to supplement and/or supersede calculations previously submitted by Allstructure Engineering for this project. The scope for this package is limited to the design of the new exterior/ non-load bearing wall as shown on the attached sheets.



Expires: 6/30/17

2
16-266113-REV-01-CO

PROJECT INFORMATION:

Name: Belmont Building – North Tower
Lobby Tenant Improvement

Location: 6050 SE Belmont St
Portland, Oregon

Code: 2014 Oregon Structural Specialty Code
ASCE7-10 Minimum Design Loads for Buildings and Other Structures

Scope: * The attached calculations for the lateral and gravity design of planned new ceiling and wall construction for the tenant improvement at the above referenced address. The scope of work is limited to the new ceiling in the lobby and infill wall framing above an existing partition wall. This new framing extends the non-load bearing partition from the ceiling to the underside of the floor above.

Roof Snow: n/a
Floor Live: n/a
Wind: 5 psf (ASD interior wind pressure)
Seismic: Design Category D
Sds: 0.72
Importance Factor: 1.00
Rp: 2.5
ap: 1.0

REVISED FOR EXTERIOR WALL.

WIND: 120 MPH, EXP. B

* Revised scope for these calculations
is limited to the new non-load
bearing exterior wall shown on
next sheet



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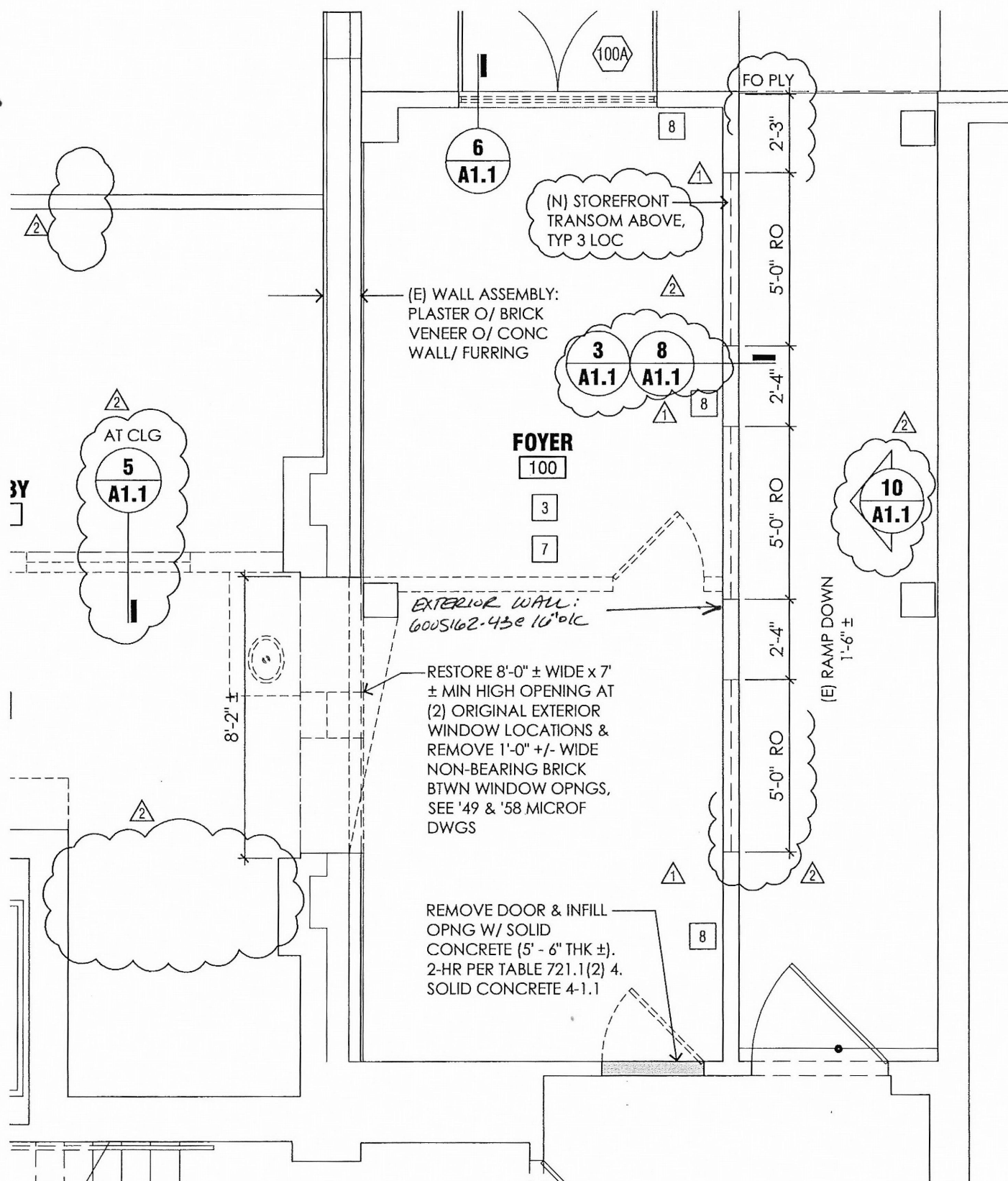
BELMONT LOBBY

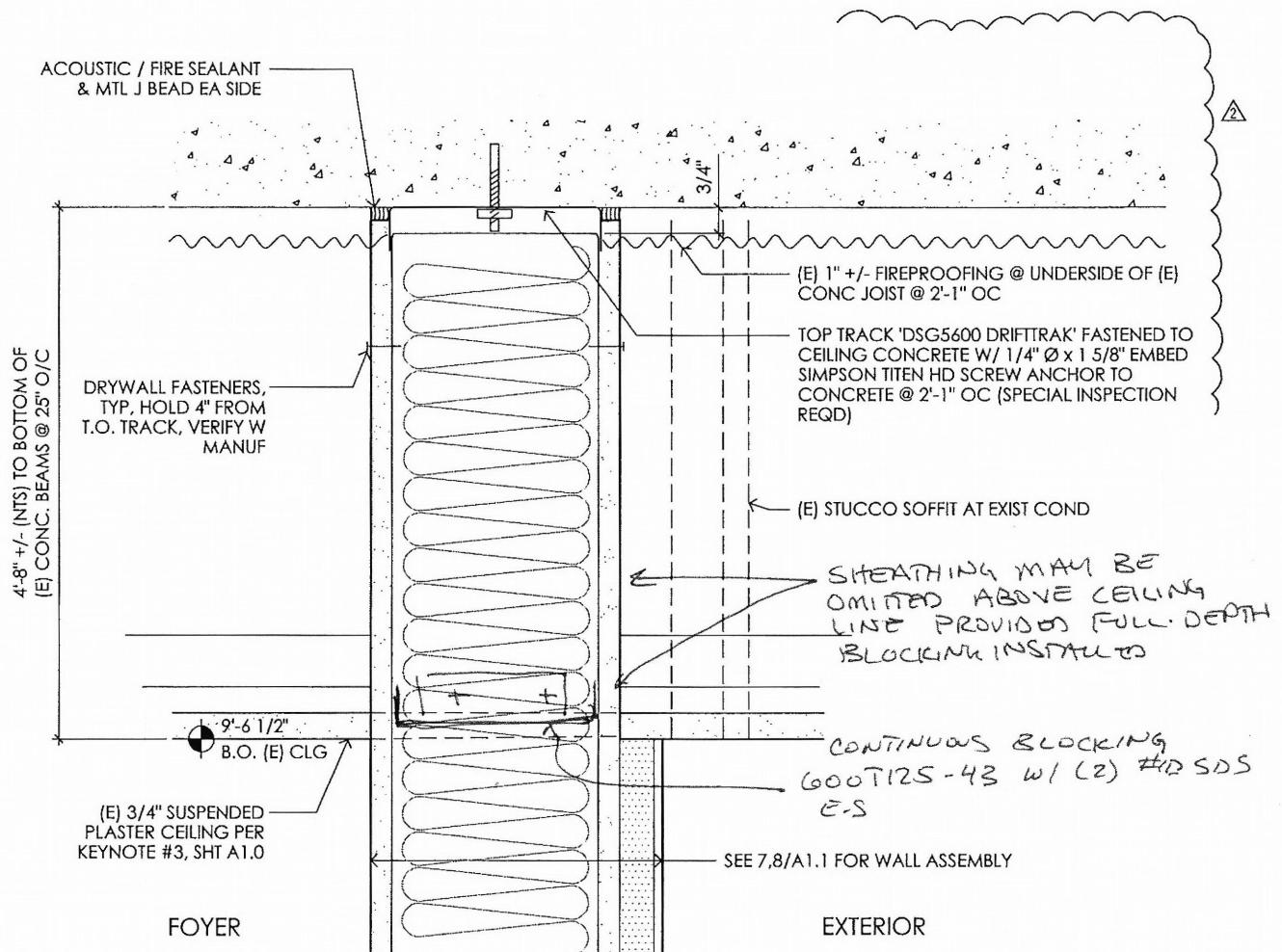
BY _____ DATE _____

CHK BY _____ DATE _____

JOB NO. **16808.00**

SHEET **1** OF _____





3
A1.1

1 HR PARTITION HEAD @ NON LOAD BEARING EXT WALL

3\" = 1'-0\"



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BELMONT LOBBY

BY _____ DATE _____

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JOB NO _____

SHEET **3** OF _____



**TABLE 4—IBC AND IRC ALLOWABLE TENSION AND SHEAR LOADS FOR TITEN HD SCREW ANCHORS
INSTALLED IN TOP OF GROUT-FILLED CMU MASONRY¹**

ANCHOR DIA. (in)	DRILL BIT DIA. (in)	MINIMUM EMBEDMENT DEPTH (in)	ANCHOR LOCATION ² (in)			IBC AND IRC ALLOWABLE LOADS ^{3,4} (lbf)		
			Minimum Edge Distance	Minimum End Distance	Minimum Spacing	Tension	Shear	
							Parallel to Edge of Masonry Wall	Perpendicular to Edge of Masonry Wall
1/2	1/2	4 1/2	1 3/4	8	8	570	585	160
5/8	5/8	4 1/2	1 3/4	10	10	570	675	160

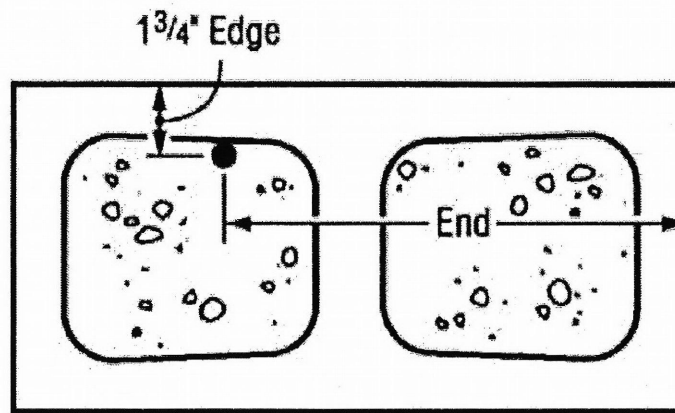
For SI: 1 inch = 25.4 mm, 1 pound = 4.45 N, 1 psi = 6.89 kPa.

¹The allowable tension and shear loads in Table 4 are applicable when anchors are installed in structures regulated by the IRC or IBC.

²Minimum edge and end distances are measured from the anchor centerline to the edge and end of the CMU masonry wall, respectively. Refer to Figure 3 Minimum spacing is measured from center-to-center of two anchors. Anchors installed in the mortared head joint are outside the scope of this report.

³The allowable loads in Table 4 are for anchors resisting dead, live, wind, and earthquake load applications. For short-term loading due to wind and earthquake forces under 2006 and 2009 codes, the allowable loads may be adjusted in accordance with Section 5.3.

⁴Allowable tension and shear loads are based on a safety factor of 5.0.



**FIGURE 3—EDGE AND END DISTANCES FOR THE TITEN HD ANCHOR
INSTALLED IN THE TOP OF CMU MANSORY WALL CONSTRUCTION**

EXTERIOR WALL

WIND LOADING

EXTERIOR WALL PROTECTED BY ADJACENT WALL

USE WIND LOAD FOR STRUCTURAL STABILITY CONNECTION

FOR 120 MPH W.P. B

(REF FIGURE 30.5-1)

ZONE 4

$$W = (1.10)(26.4 \text{ PSF}) = 29.0 \text{ PSF (ULTIMATE)}$$

$$W_{SD} = (0.6)(29.0 \text{ PSF}) = 17.4 \text{ PSF}$$

WALL STUDS @ 16" O/C

H = 15'-4"

(SEE ATTACHES)

USE 600S162-43 @ 16" O/C



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SHEET 6 OF _____

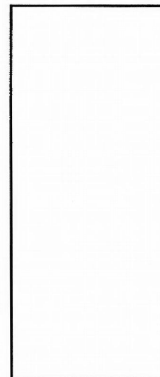
SCAFCO Steel Stud Mfg.
2007 North American Specification [AISI S100] ASD
DATE: 3/16/2017



SECTION DESIGNATION: 600S162-43 [33] Single

Section Dimensions:

Web Height = 6.000 in
Top Flange = 1.625 in
Bottom Flange = 1.625 in
Stiffening Lip = 0.500 in
Inside Corner Radius = 0.0712 in
Punchout Width = 1.500 in
Punchout Length = 4.000 in
Design Thickness = 0.0451 in



Steel Properties:

Fy = 33.000 ksi
Fu = 45.000 ksi
Fya = 36.303 ksi

ALLOWABLE WALL HEIGHTS

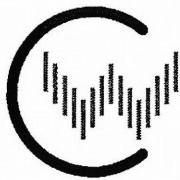
INPUT PARAMETERS ← FULLY SHEARED

Nominal Load = 18.0 psf ✓
Include Torsion? No
Load Multiplier for Strength Checks = 1.00
Deflection Limit = L/120
Wind Load Multiplier for Deflection = 1.00 ← NO WIND LOAD MULTIPLIER
Bearing Lengths for Web Crippling:
End Condition = 1.0 in
Shear and Web Crippling Capacity Based on Unpunched Webs

K-phi for Distortional Buckling = 0.00 lb*in/in
Include Torsion? No

ALLOWABLE SPANS - SIMPLE SPAN

<u>STUD SPACING</u>	<u>MECHANICAL BRACING AT:</u>		
	<u>NONE</u>	<u>MID Pt</u>	<u>THIRD Pt</u>
12.0 in	12' 3"	17' 9"	19' 10"
16.0 in	11' 4"	16' 4"	18' 0"
24.0 in	10' 3"	14' 4"	14' 4"



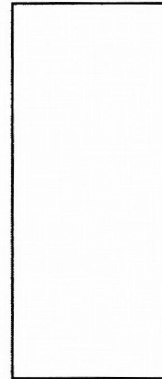
ClarkWestern Building Systems
CW Tech Support: (888) 437-3244
clarkwestern.com

2007 North American Specification ASD
DATE: 3/30/2017

SECTION DESIGNATION: 600S162-43 [33] Single

Section Dimensions:

Web Height = 6.000 in
Top Flange = 1.625 in
Bottom Flange = 1.625 in
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Punchout Width = 1.500 in
Punchout Length = 4.000 in
Design Thickness = 0.0451 in



Steel Properties:

Fy = 33.000 ksi
Fu = 45.000 ksi
Fya = 36.303 ksi

ALLOWABLE WALL HEIGHTS

INPUT PARAMETERS

Nominal Load = 18.0 psf ✓
Include Torsion? No
Load Multiplier for Strength Checks = 1.00
Deflection Limit = L/120
Wind Load Multiplier for Deflection = 0.70 ←
Bearing Lengths for Web Crippling:
End Condition = 1.0 in
Shear and Web Crippling Capacity Based on Unpunched Webs

K-phi for Distortional Buckling = 0.00 lb*in/in
Include Torsion? No

ALLOWABLE SPANS - SIMPLE SPAN

STUD SPACING	MECHANICAL BRACING AT:		
	24 in	48 in	48 in
12.0 in	22' 4"	22' 4"	22' 4"
16.0 in	19' 4"	19' 4"	19' 4"
24.0 in	14' 4"	14' 4"	14' 4"

← MECHANICALLY BRACED
@ 48" o.c.

EXTERIOR WALL

USE D565400. (DRIFT TRAK)

$$ASD R_{TOP} = 17.4 \text{ psf} \times \frac{16}{12} \times \frac{15.5}{2} = 180\# / \text{SND}$$

$$LRFD R_{TOP} = 29.0 \text{ psf} \times \frac{16}{12} \times \frac{15.5}{2} = 300\# / \text{SND}$$

FASTEN DRIFT TRAK TO CONCRETE FLOOR ABOVE
W/ 1/4" ϕ SIMPSON TITEN HD SCREW ANCH.

$$V_{ULT} = 772\# / \text{TITEN}$$

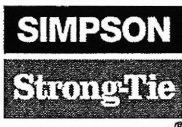
$$SPACING = \frac{772\#}{300} = 2.57 \quad - \text{USE FASTENERS @ } 24" \text{ O.C. TOP \& BOTTOM}$$



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BY _____ DATE _____
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SHEET 9 OF _____



Anchor Designer™
Software
Version 2.4.6025.291

Company:	Allstructure Engineering	Date:	3/16/2017
Engineer:	Ryan Hardie	Page:	1/4
Project:			
Address:			
Phone:			
E-mail:			

1. Project information

Customer company:
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location:
Fastening description:

2. Input Data & Anchor Parameters

General

Design method: ACI 318-11
Units: Imperial units

Anchor Information:

Anchor type: Concrete screw
Material: Carbon Steel
Diameter (inch): 0.250
Nominal Embedment depth (inch): 1.625
Effective Embedment depth, h_{ef} (inch): 1.190
Code report: ICC-ES ESR-2713
Anchor category: 1
Anchor ductility: No
 h_{min} (inch): 3.25
 C_{ac} (inch): 3.00
 C_{min} (inch): 1.50
 S_{min} (inch): 1.50

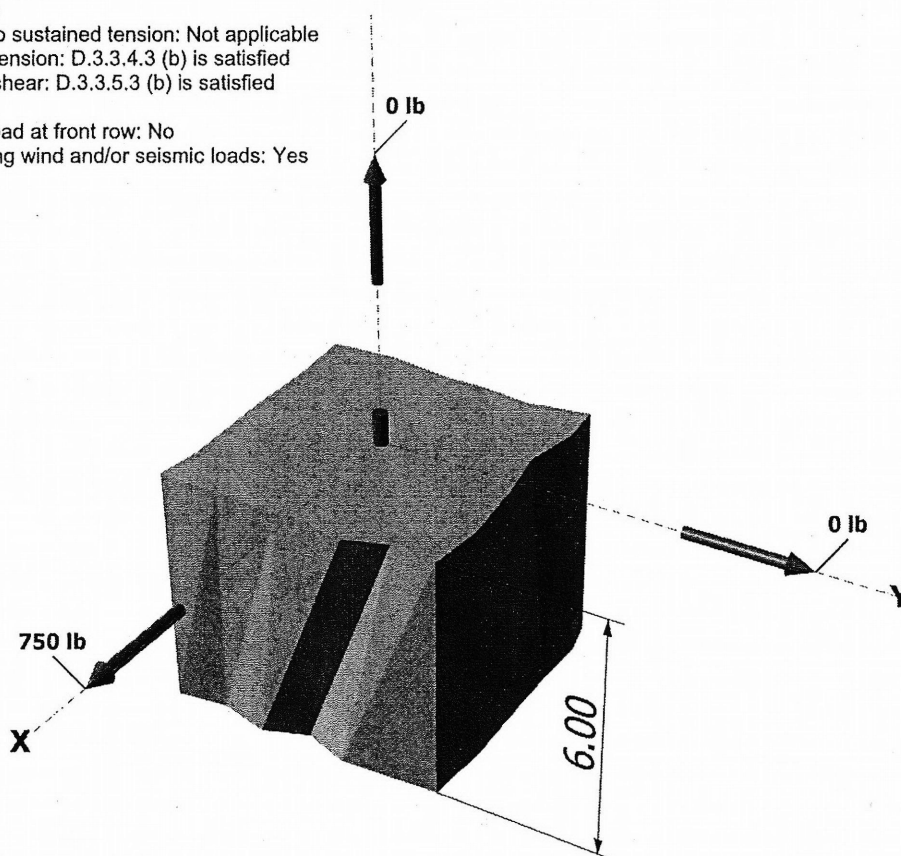
Base Material

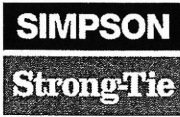
Concrete: Normal-weight
Concrete thickness, h (inch): 6.00
State: Cracked
Compressive strength, f'_c (psi): 2500
 $\Psi_{c,v}$: 1.0
Reinforcement condition: A tension, A shear
Supplemental reinforcement: Not applicable
Reinforcement provided at corners: No
Do not evaluate concrete breakout in tension: No
Do not evaluate concrete breakout in shear: No
Ignore 6do requirement: Not applicable
Build-up grout pad: No

Load and Geometry

Load factor source: ACI 318 Section 9.2
Load combination: not set
Seismic design: Yes
Anchors subjected to sustained tension: Not applicable
Ductility section for tension: D.3.3.4.3 (b) is satisfied
Ductility section for shear: D.3.3.5.3 (b) is satisfied
 Ω_0 factor: not set
Apply entire shear load at front row: No
Anchors only resisting wind and/or seismic loads: Yes

<Figure 1>

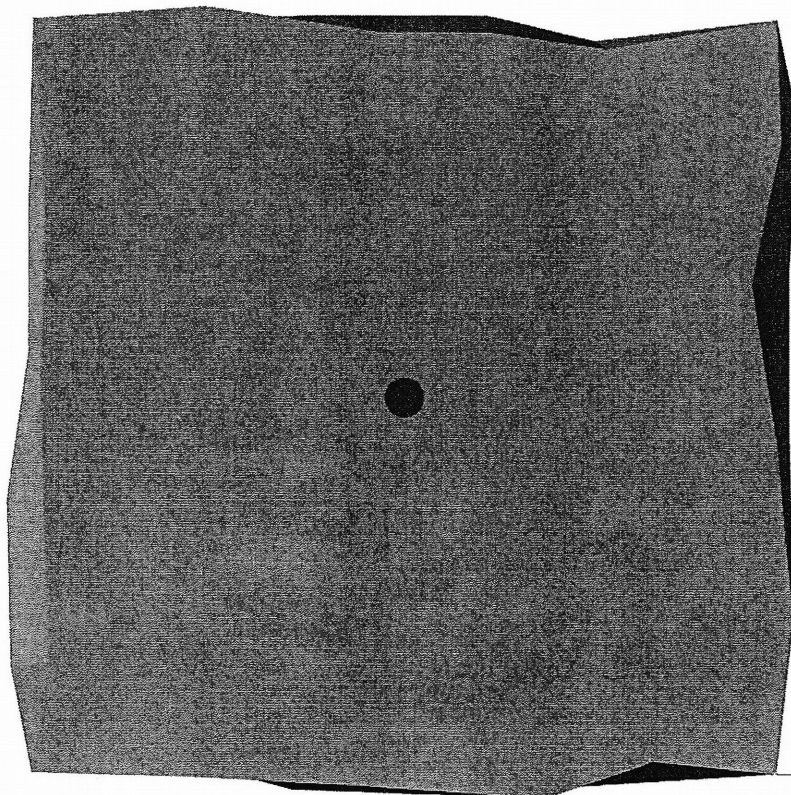




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Software
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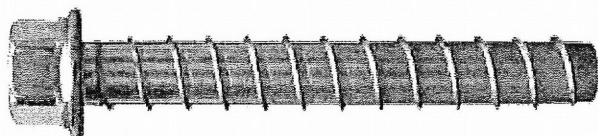
Company:	Allstructure Engineering	Date:	3/16/2017
Engineer:	Ryan Hardie	Page:	2/4
Project:			
Address:			
Phone:			
E-mail:			

<Figure 2>



Recommended Anchor

Anchor Name: Titen HD® - 1/4"Ø Titen HD, hnom:1.625" (41mm)
Code Report: ICC-ES ESR-2713





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Software
Version 2.4.6025.291

Company:	Allstructure Engineering	Date:	3/16/2017
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Project:			
Address:			
Phone:			
E-mail:			

3. Resulting Anchor Forces

Anchor	Tension load, N_{ua} (lb)	Shear load x, V_{uax} (lb)	Shear load y, V_{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2 + (V_{uay})^2}$ (lb)
1	0.0	750.0	0.0	750.0
Sum	0.0	750.0	0.0	750.0

Maximum concrete compression strain (‰): 0.00

Maximum concrete compression stress (psi): 0

Resultant tension force (lb): 0

Resultant compression force (lb): 0

Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 0.00

Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 0.00

Eccentricity of resultant shear forces in x-axis, e'_{Vx} (inch): 0.00

Eccentricity of resultant shear forces in y-axis, e'_{Vy} (inch): 0.00

8. Steel Strength of Anchor in Shear (Sec. D.6.1)

V_{sa} (lb)	ϕ_{grout}	ϕ	$\phi_{grout}\phi V_{sa}$ (lb)
1695	1.0	0.60	1017

10. Concrete Pryout Strength of Anchor in Shear (Sec. D.6.3)

$$\phi V_{cp} = \phi K_{cp} N_{cb} = \phi K_{cp} (A_{Nc} / A_{Nco}) \Psi_{ed,N} \Psi_{c,N} \Psi_{cp,N} N_b \quad (\text{Eq. D-40})$$

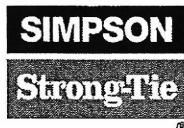
K_{cp}	A_{Nc} (in ²)	A_{Nco} (in ²)	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕV_{cp} (lb)
1.0	12.74	12.74	1.000	1.000	1.000	1103	0.70	772

11. Results

Interaction of Tensile and Shear Forces (Sec. D.7)

Shear	Factored Load, V_{ua} (lb)	Design Strength, ϕV_n (lb)	Ratio	Status
Steel	750	1017	0.74	Pass
Pryout	750	772	0.97	Pass (Governs)

1/4"Ø Titen HD, hnom:1.625" (41mm) meets the selected design criteria.



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Version 2.4.6025.291

Company:	Allstructure Engineering	Date:	3/16/2017
Engineer:	Ryan Hardie	Page:	4/4
Project:			
Address:			
Phone:			
E-mail:			

12. Warnings

- Minimum spacing and edge distance requirement of 6da per ACI 318 Sections D.8.1 and D.8.2 for torqued cast-in-place anchor is waived per designer option.
- Per designer input, ductility requirements for tension have been determined to be satisfied – designer to verify.
- Per designer input, ductility requirements for shear have been determined to be satisfied – designer to verify.
- Designer must exercise own judgement to determine if this design is suitable.
- Refer to manufacturer's product literature for hole cleaning and installation instructions.

**TABLE 1— VERTICLIP®, DRIFTCLIP® AND DRIFTTRAK® ALLOWABLE STRESS DESIGN (ASD),
LOAD RESISTANCE FACTOR DESIGN (LRFD) STRENGTH, AND DEFLECTION SERVICE LIMIT LOADS^{1,2,3,7}**

MODEL	SCREWS TO STUD (Quantity) AND SIZE ⁴	FIGURE	ASD ALLOWABLE STRENGTH ⁵ (lbs)	LRFD DESIGN STRENGTH ⁵ (lbs)	SERVICE LIMIT LOAD (lbs) ⁶
VertiClip					
SL362	(2) #12	1	790	1,700	790
SL600	(3) #12	1	1,680	2,690	3,440
SL800	(3) #12	1	1,870	2,990	4,570
SLB600	(3) #12	2	1,600	2,560	1,680
SLS600-12	(3) #12	3	2,070	3,315	3,240
SLT-9.5	(2) #12	4	510	820	1,280
SLT(L)-18	(4) #12	4	700	1,120	1,440
SLD600	(2) #8	5	405	650	1,170
DriftClip					
DSLB362/400, 600, 800	(2) #12 for DSLB362/400 (3) #12 for DSLB600, 800	6	572	916	735
DSLS600-12	(3) #12	7	1,742	2,787	2,084
DSLS600-15	(3) #12	7	1,903	3,044	2,958
DSL362/400	(2) #12	8	248	397	129
DSL600	(3) #12	8	776	1,241	418
DSL800	(3) #12	8	1,041	1,665	1,510
DSL362/400	(2) #8	11	53	85	27
DSL600	(2) #8	11	178	285	107
DSL800	(2) #8	11	183	294	325
DriftTrak					
DTSLB362/400, 600, 800	(2) #12 for DSLB362/400 (3) #12 for DSLB600, 800	9	808	1,293	1,304
DTSL	(2) #12	10	482	771	492

For SI: 1 lbf = 4.45 N.

Notes to Table 1:

¹Refer to Figures 1 through 11 for direction of load.

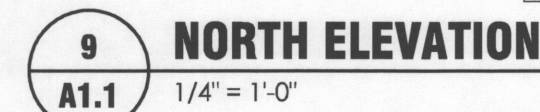
²Tabulated values are only applicable for the connection of the VertiClip®, DriftClip® and DriftTrak® connectors to the cold-formed steel stud. The connection of the VertiClip®, DriftClip® and DriftTrak® connectors to the supporting structure must have a design strength (LRFD) or allowable strength (ASD) not less than the design force for the connection to the cold-formed steel stud.

³If the steel studs connected to VertiClip®, DriftClip® and DriftTrak® connectors have lower base-metal thickness or material strength values than specified in Section 3.5.4, the ASD allowable strength or the LRFD design strength of the steel-stud/connector-screw connection may be calculated according to the AISI cold-formed steel specification referenced by the AISI S100-12 under the 2015 IBC, AISI S100-07/S-02 under the 2012 IBC or AISI S100-07 under the 2009 IBC, but not to exceed the corresponding loads listed in Table 1.

⁴Screws must comply with Section 3.5.3 of this report, and must be installed in the pre-punched holes and bushings provided in the connectors.

⁵When using the alternate basic load combinations in IBC Section 1605.3.2 that include wind or seismic loads, the tabulated ASD allowable strength for the DriftClip® and DriftTrak® connectors may not be increased by 33 $\frac{1}{3}$ percent, nor must the alternative basic load combinations be reduced by a factor of 0.75. When using the basic load combinations in accordance with IBC Section 1605.2.1, the LRFD design strength in Table 1 for the DriftClip® and DriftTrak® connectors must not be increased for wind or seismic loading.

⁶The Service Limit Load is the average test load at a $\frac{3}{16}$ -inch deflection service limit for DriftClip® (DSLS, DSL, DSLD, and DSLB) connectors and the average test load at a $\frac{1}{8}$ -inch deflection service limit for VertiClip (SL, SLB, SLD, SLS and SLT) and DriftTrak® (DTSLB and DTSL) connectors. The service limit is applicable to both ASD and LRFD.



10 EAST ELEVATION
A1.1 1/4" = 1'-0"



2 MTL STUD PARTITION @ FLOOR

