ATTACHMENT B

SIGN - Permit Application

SUBJECT PROPERTY INFORMATION		
Property Address	703 Wilcox Street Suite J	
Property Lot and Block Legal Description, if available	LOTS 11-12 BLK 11 WILCOX ADDITION 0.320 AM/L RLTD 0475673	
Business or Property Name (e.g. Uptown Lofts)	Fulcrum Academy	
Property Zone District B in Downtown Overlay	☐ Residential _____ ■ Business/Commercial Commercial ☐ Planned Development _____ ■ Overlay District Downtown	
Property Owner Base of The Rock LLC	Name: John Shepherd	Phone: 623-693-6761
	Street: 1864 Woodmoor Dr STE 205	City: Monument, CO
	Email: johnshepherd@tglinvestments.com	Zip: 80132
APPLICANT INFORMATION (IF NOT PROPERTY OWNER)		
Title or Interest in property and building, check one	☐ *Lessee* ☐ *Agent* ☐ *Contractor*	
Applicant YESCO LLC	Name: Chuck Boncordo	Phone: 303-246-4300
	Street: 11220 E 53rd Ave #300	City: Denver
	Email: cboncordo@yesco.com	Zip: 80239
Sign Contractor YESCO LLC	Name: Chuck Boncordo	Phone:
	Street: 11220 E 53rd Ave #300	City: Denver
	Email: cboncordo@yesco.com	Zip: 80239
Electrical Contractor Genesis One Three Electric	Name: Dustin	Phone: 303-88306562
	Street: 7344 S Alton Way Suite B	City: Centennial
	Email: Dustin@genesiselectricaldenver.com	Zip: 80112
PROPOSED SIGN(S)		
Description of Work	Installone roof mounted sign per YESCO Design ART40344R2	
Type of Sign(s) Roof	■ Permanent Sign ☐ Temporary Construction Sign	
Sign Text	FULCRUM ACADEMY with Logo	
If Temporary Sign, dates of display	From ____/____/____ To ____/____/____	
Estimated Installation Date	9 / 25 / 2021	
Type of Sign(s) Roof	☐ Wall* ☐ Window ☐ Ground (Free-standing/ Monument)* ☐ Marquee/Arcade* ☐ Projecting* ☐ Canopy/Awning* ☐ Construction Sign ■ Mural/Roof Sign* Design Review Board Approval# TBD ☐ Other _____ Sign Height: 14.5' Feet * Building Plan Review May be Required	

Development Services – Zoning Division
100 N. Wilcox Street, Castle Rock, CO 80104 (720) 733-3511
www.crgov.com – E-Mail: Zoning@crgov.com

SIGN - Permit Application (Continued)

Face	☒ Single Face ☐ Double Face	**Illumination** Internal	☒ Yes (Building Review Required) ☐ No
Awnings backlit? No	☐ Yes (Building Review Required) ☐ No	**If yes for Illumination, is the light source concealed?**	☒ Yes ☐ No

VALUATION

Estimated Value (to the nearest dollar): $ $ 8,974.00 .00

ATTACHMENTS

Required to submit all of the following (see submittal checklist for more detail):

- ☒ Site Plan
- ☒ Sign Depiction or Photo Simulation
- ☒ Building Elevations showing signage - existing and proposed
- ☒ Structural Drawings/Calculations
- ☒ Connection and structural details
- ☐ Electrical Plans (If Illuminated)
- ☐ Encroachment Permit (If Required)

Electrical run & final connection is by others: Genesis One Three Electric

SITE INFORMATION	Number	Area in Square Feet	Type
Signs Removed	1	Unknown	Roof
Existing Signs to Remain	0		
Proposed Sign(s)	1	55.94	Roof
TOTAL APPROVED			n/a
TOTAL Permitted/Allowed	1	58.5	n/a
Balance	0	2.56	n/a

SIGNATURE REQUIRED

I hereby certify that, to the best of my knowledge and belief, all information supplied in this application is true and accurate.

Applicant Signature Charles Boncordo

Full Name (Print) Chuck Boncordo Date 08/04/2021

Property Owner Signature _____

Full Name (Print) See attached email dated 7/12/2021 Date _____

FEES: $50.00 Each Sign plus building permit fees based on valuation

SIGN - Permit Application (Continued)

Sign Permit Checklist:

☒ **Application for Sign Permit**

☒ **Site Plan**

Provide a dimensioned site plan depicting the location of all structures, existing signs and proposed sign(s) on the subject property.
The proposed sign shall include dimensions from zone lot lines, height dimensions, etc. The Site Plan boundary shall include any streets, alleys, and property lines.

☒ **Sign Depiction or Photo Simulation**

Provide a dimensioned drawing of the sign(s), including copy and any other details

☒ **Building Elevation showing signage**

Provide an elevation of the sign as it will appear on building facade, including any existing, to remain signs

☐ **Staff may need to request additional information depending on the project**

☒ **Property owner signature on application, affidavit or approval on sign plans**

☐ **Encroachment Permit**

A right-of-way encroachment permit application shall accompany the sign permit application if the sign extends across a public right-of-way or public easement (such as in the case of a projecting sign or freestanding sign). The applicant shall provide evidence of adequate liability insurance as required by the Town of Castle Rock.

For Signs requiring Building Permit, a licensed contractor shall submit:

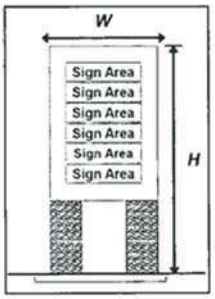
☒ **Structural Drawings/ Structural Calculations**

Plans indicating the scope and structural detail of the work to be done, including details of all connections, guy lines, supports, footings and materials to be used.

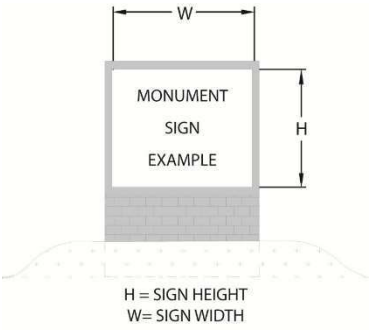
☐ **Electrical Plans** YESCO LLC is not responsible for electrical on this project

☐ **Any additional drawings provided by manufacturer**

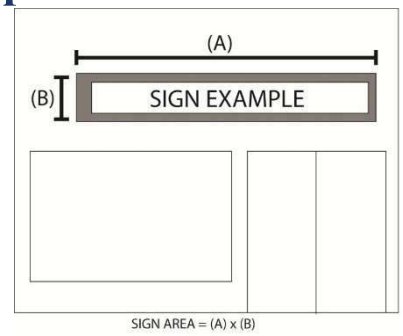
SIGN - Permit Application (Continued)



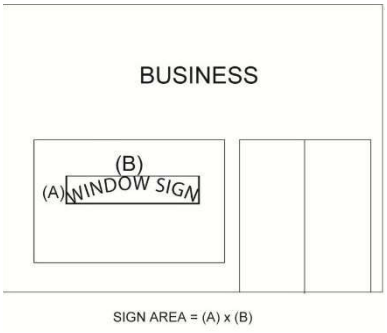
JOINT IDENTIFICATION SIGN



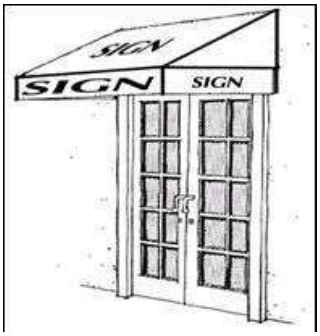
MONUMENT SIGN



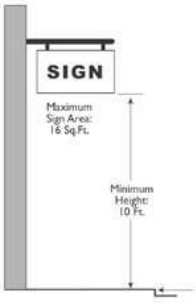
WALL SIGN



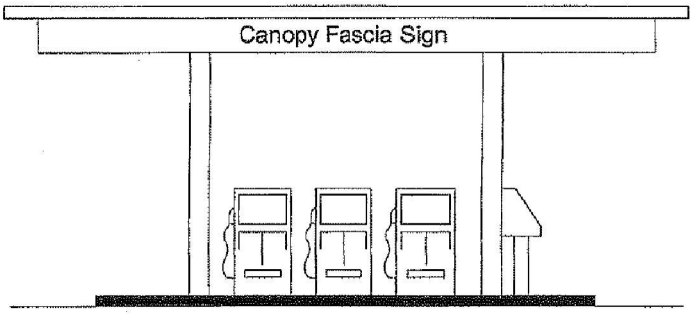
WINDOW SIGN



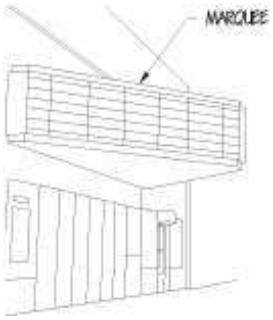
AWNING SIGN



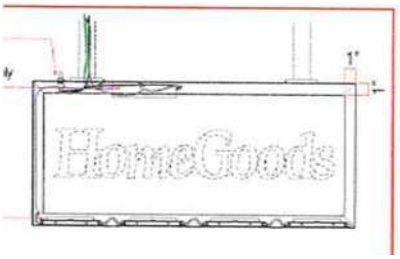
PROJECTING SIGN



CANOPY SIGN



MARQUEE SIGN



BLADE SIGN

Development Services – Zoning Division
100 N. Wilcox Street, Castle Rock, CO 80104 (720) 733-3511
www.crgov.com – E-Mail: Zoning@crgov.com

YESCO

Sheldon Marshall <smarshall@yesco.com>

RE: Fulcrum Academy sign

johnshepherd tglinvestments.com <johnshepherd@tglinvestments.com> Mon, Jul 12, 2021 at 6:48 PM
To: Evan Barrett <evan@fulcrumjiujitsuacademy.com>, "smarshall@yesco.com" <smarshall@yesco.com>
Cc: "dustin@genesiselectricaldenver.com" <dustin@genesiselectricaldenver.com>

As the Managing Agent for Base or the Rock LLC (owning entity of 703 Wilcox), I approve of installation of the proposed sign as it is described in the attached pdf for Fulcrum Jiu Jitsu Academy.

John Shepherd

TGL Investments LLC

Managing Agent for Base of the Rock LLC (also an owning member of Base of the Rock LLC)

1864 Woodmoor Dr, Ste 205

Monument CO 80132

Ph 623-693-6761

johnshepherd@tglinvestments.com

Owner LL Approval

Units leased: A, B, J, K & L

703 Wilcox St

John Shepherd

TGL INVESTMENTS

From: Evan Barrett <evan@fulcrumjiujitsuacademy.com>
Sent: Monday, July 12, 2021 6:10 PM
To: johnshepherd tglinvestments.com <johnshepherd@tglinvestments.com>
Subject: Fwd: Fulcrum Academy sign

Hey John, can you send him an email saying that you approve this design?

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

Structural Engineering Calculations for:

Fulcrum Jiu Jitsu Academy, OPY-40344

703 Wilcox St
Castle Rock, CO

Raceway Letters on Brackets

Index

Prepared by: Dave Knight
Reviewed by: Ben Jones

7/30/2021

COLORADO LICENSED
DAVID J. KNIGHT
49515
7/30/2021
PROFESSIONAL ENGINEER

Digitally signed by Dave Knight
Date: 2021.07.30 15:56:23 -06'00'

YESCO

BASIS FOR DESIGN

Project: Fulcrum Jiu Jitsu Academy, OPY-40344

Descript: *Raceway Letters on Brackets*

BUILDING CODE:

2018 EDITION OF THE INTERNATIONAL BUILDING CODE

APPROXIMATE SITE ELEVATION:

GROUND ELEVATION = **6179 FT**

LIVE / SNOW LOADS: NA

GRAVITY / DEAD LOADS:

RACEWAY LETTERS 5 PSF

LATERAL LOAD PARAMETERS:

RISK CATEGORY = II

WIND:

BASIC WIND SPEED, V = **107 MPH, 3-SECOND GUST**

WIND EXPOSURE = **C**

SEISMIC: < WIND, WIND GOVERNS

STEEL:

PLATES AND SHAPES: *ASTM* A36, Fy = 36 ksi

WELDING: LOW HYDROGEN, E70 SERIES RODS

BOLTS: *ASTM F3125, GRADE A325*

FABRICATION AND ERECTION TO COMPLY WITH LATEST *AISC SPECIFICATIONS.*

ASCE 7-16, Wind Pressure
Chapter 29: Wind Loads on Building Appurtenances
and Other Structures: MWFRS (Directional Procedure)

Section 29.5 Parapets:
Refer to Section 27.3.5 for buildings of all heights using the directional Procedure. Note, parapets are actually referenced in Section 27.3.4. Typo assumed.

Section 27.3.4 Parapets:
$p_p = q_p (GC_{pn})$ (Eq. 27.3-3)
$q_p = 0.00256\ k_h\ k_{zt}\ k_d\ k_e\ V^2$ (Eq 26.10-1)
- ●● α = 7.0 (Exp. B) = 9.5 (Exp. C); (Table 26.11-1)
- ●● z_g = 1200 (Exp. B) = 900 (Exp. C); Table 26.11-1)
- ●● K_h & $K_z = 2.01(15 / z_g)^{(2/\alpha)}$, (Table 26.10-1, z < 15ft)
- ●● K_h & $K_z = 2.01(z / z_g)^{(2/\alpha)}$ (Table 26.10-1, 15ft ≤ z ≤ z_g)
- ●● (Note: z = 14.67 ft, Exp. C)
- K_h = 0.85 (h ≈ 14.67 ft)
- ●● K_z = 0.85 (z ≈ 14.67 ft)
- K_{zt} = 1.00 (26.8.2)
- K_d =0.85 (Table 26.6-1)
- $K_e = e^{(-0.0000362 * z_g)}$
- ●● Ground Elev, Zg = 6179 ft
- K_e = 0.80 (Table 26.6-1)
- V = 107 mph

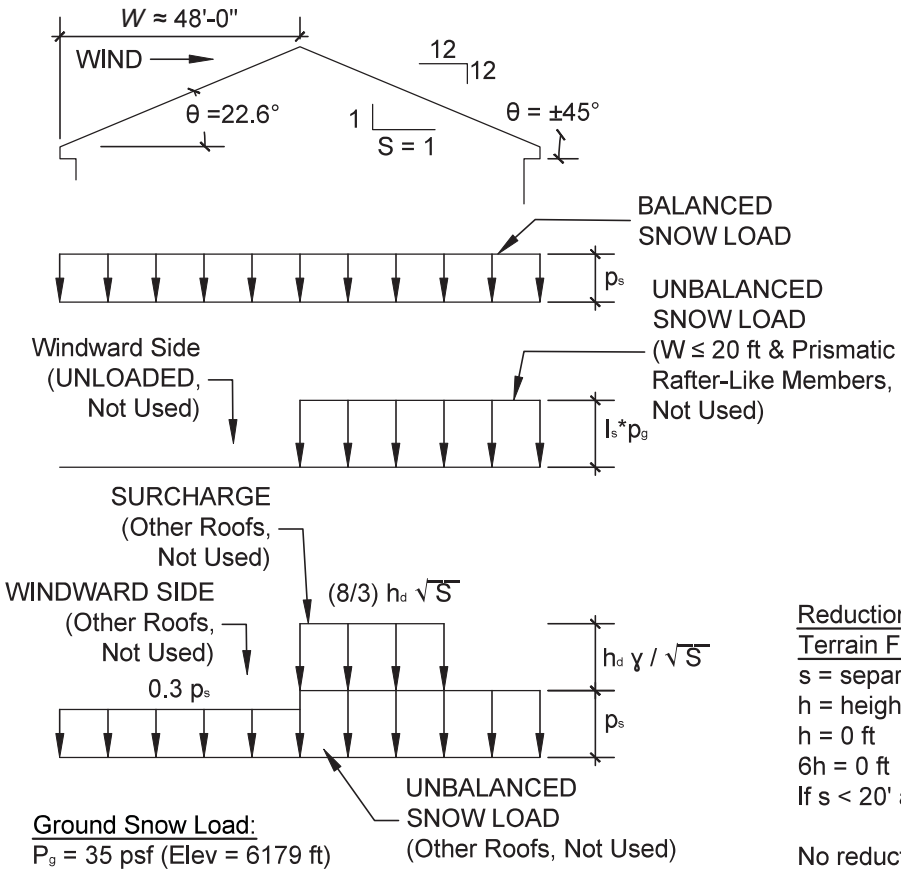
q_p = =16.94 psf (> 16 psf) O.K.

$GC_{pn\ (windward\ Parapet,\ positive)}$ = 1.5 (27.3.4)
$GC_{pn\ (leeward\ Parpaet,\ negative)}$ = -1.0 (27.3.4)

$p_{p\ (Windward\ Parapet\ positive)}$ = (16.94 psf)(1.5) = +25.41 psf
$p_{p\ (Leeward\ Parapet\ negative)}$ = (16.94 psf)(-1.0) = -16.94 psf

BALANCED AND UNBALANCED SNOW LOAD ON GABLE AND HIP ROOFS

ASCE 7-16, Figure 7.6-2



Ground Snow Load:
P_g = 35 psf (Elev = 6179 ft)

Flat Roof Snow Load:
$P_f = 0.7\ C_e\ C_t\ I_s\ P_g$ (Eq. 7.3-1)
C_e = 0.9 (Table 7.3-1, Exp C, Full Exposure)
C_t = 1.0 (Table 7.3-2, All others)
I = 1.0 (Table 1.5-2, Cat. II)
P_g = 35 psf
P_f = 22.05 psf
Per City Code, use 35 psf

Min. Snow Load for Low Slope Roofs (< 15°) (7.3.4):
Roof Slope = 45° > 15° (Not Applicable)
Where $P_g \le 20$ psf,
$P_m = I_s\ P_g$ = N.A.
Where $P_g > 20$ psf,
$P_m = 20\ I_s$ = N.A.

Use P_f = 35 psf

Sloped Roof Snow Load:
$P_s = C_s\ P_f$ (Eq. 7.4-1)
C_s = 0.4 (Fig 7.4-1, with C_t = 1.0 & 45° slope)
P_s = 14 psf
Per City Code, Use 35 psf

Reduction for Adjacent Structures and Terrain Features Within 20 ft (7.7.2):
s = separation distance (ft) = (>20 ft)
h = height difference between upper & lower roof
h = 0 ft
6h = 0 ft
If s < 20' and s < 6h, See Section 7.7.2

No reduction in this case.

Balanced Snow Load (Fig 7.6-2):
$p_{balanced} = p_s$ = 35 psf

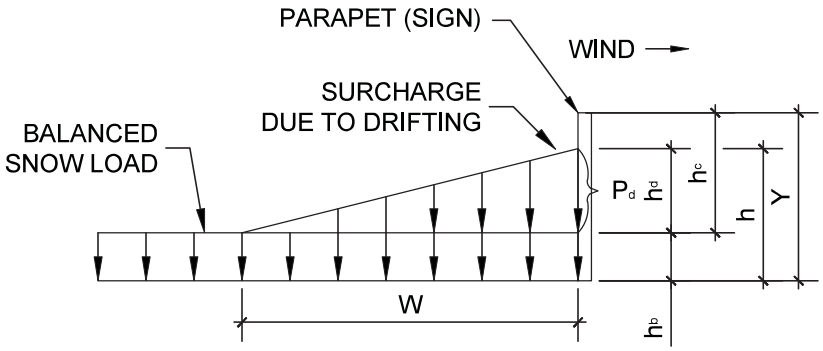
Unbalanced Load (Section 7.6.1):
For Hip and Gable roofs with a slope exceeding 7 on 12 or less than ½ on12, unbalanced snow loads are not required:
Actual Slope = 12 on 12, unbalanced Not Required.

For *W* ≤ 20 ft, with Simply supported prismatic members spanning from ridge to eave, shall be designed to resist an unbalanced snow load on the leeward side (windward side is unloaded):
$p_{unbalanced} = I_s * p_g$
p_g = 35 psf
I_s = 1.0 (Table 1.5-2, Cat. II)
$p_{unbalanced}$ = (1.0)(40 psf) = 35 psf Not Required.

For all other roofs, the unbalanced load shall consist of 0.3P_s on the windward side, P_s on the leeward side plus a rectangular surcharge with magnitude $h_d \gamma / \sqrt{S}$ with magnitude (8/3) $h_d \sqrt{S}$ Not Required.

SNOW DRIFT ON ROOF PROJECTIONS
(RE: SNOW DRIFT ON LOWER ROOFS)

ASCE 7-16, Figure 7.7-2



Snow Drift on Parapet (Sign) Section 7.8 (Refer to Section 7.7.1):
Given:
Y ≈ 3.65 ft (Height that Sign extends above eave)
P_g = 35 psf
γ = 0.13 P_g +14 (but not more than 30 pcf) (Eq. 7.7-1) = 18.55 pcf
h_b (height of balanced snow load)= P_s / γ = 35 psf / 18.55 pcf = 1.89 ft
h_c = Max From T.O. Balanced Snow Load
1) closest point on adjacent upper roof
2) T.O. parapet
3) T.O. roof projection
h_c (per #2 above) = Y - hb = 1.76 ft
Check if: h_c / h_b < 0.2 : 1.76 / 1.89 = 0.93 > 0.2, therefore drifting considered

Length of roof upwind of the wall (sign), ℓ_u = 5.33 ft < 20 ft
therefore use ℓ_u = 20 ft
h_d = [0.43((ℓ_u)^1/3)((P_g +10)^1/4) - 1.5] * sqrt (l_s) (Fig 7.6-1)
h_d = 1.52 ft
But not greater than: sqrt (l_s P_g ℓ_u / 4 γ), Where ℓ_u equals actual ℓ_u not the minimum fetch distance of 20 ft
h_d = 1.58 ft
Use 0.75$h_{d\,(min.)}$ = 0.75 * 1.52 ft = 1.14 ft
Height of Snow, h = (h_b + h_d) = 1.89 + 1.14 = 3.03 ft ≈ 36 in

Lateral Load on Parapet (Sign):
(per "Snow Loads, Guide to the Snow Load Provisions of ASCE 7-05" by Michael O'Rourke)

K_a = [1- sinθ] / [1+ sinθ]

Where θ = angle of repose (internal angle of friction)
Typical values for fresh fallen snow, θ = 50° to 60°
Typical values for wind blown snow, θ = 6° to 26°
Use θ = 15°

K_a = [1- sin 15°] / [1+ sin 15°] = 0.59

Lateral Pressure, P_ℓ = K_a γ_{mid} h_b
Where Mid Height of Snow, h / 2 = 18 in
K_a = 0.59
h = 3.03 ft
γ_{mid} = 17.5 pcf (Figure VII-5)
P_ℓ = 31 psf

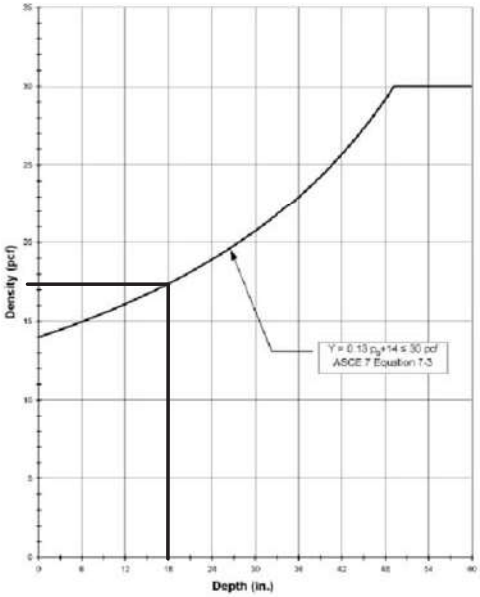
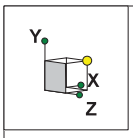
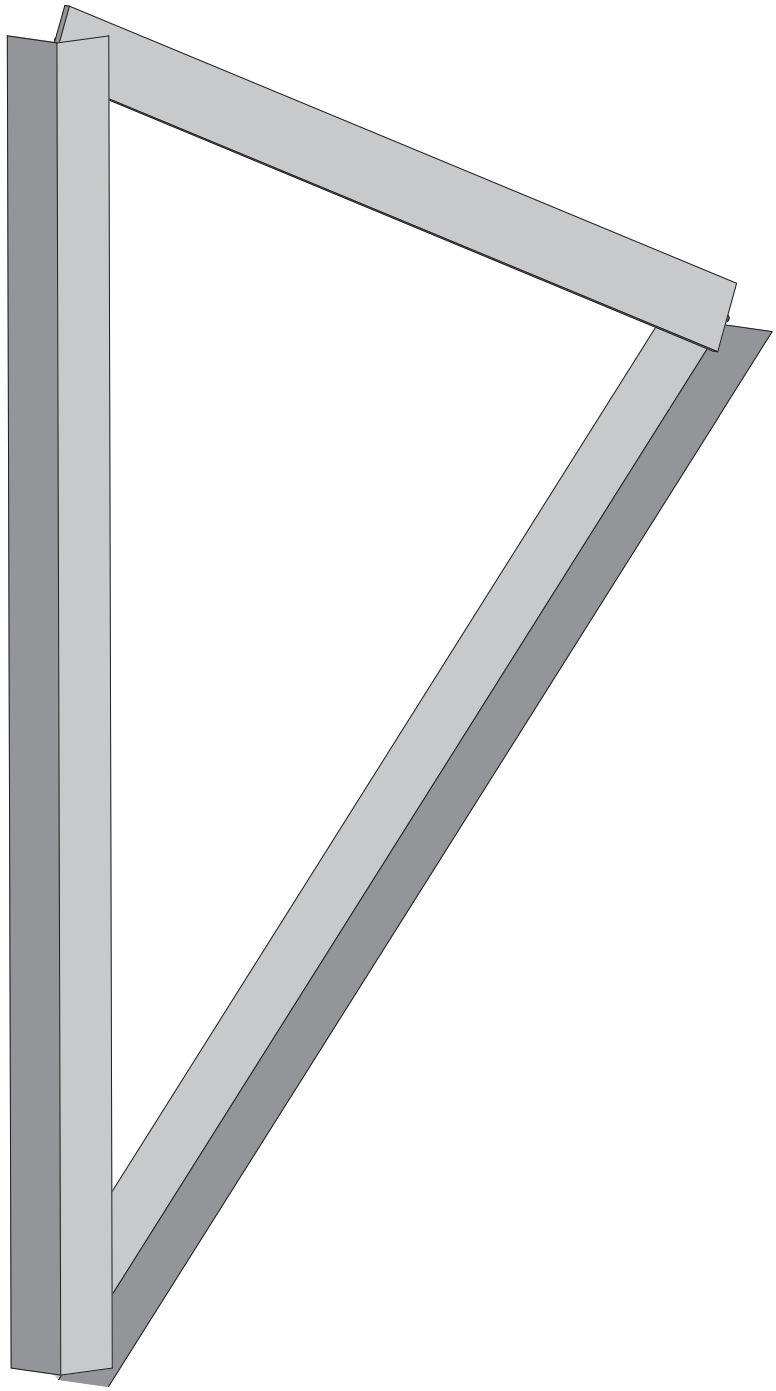
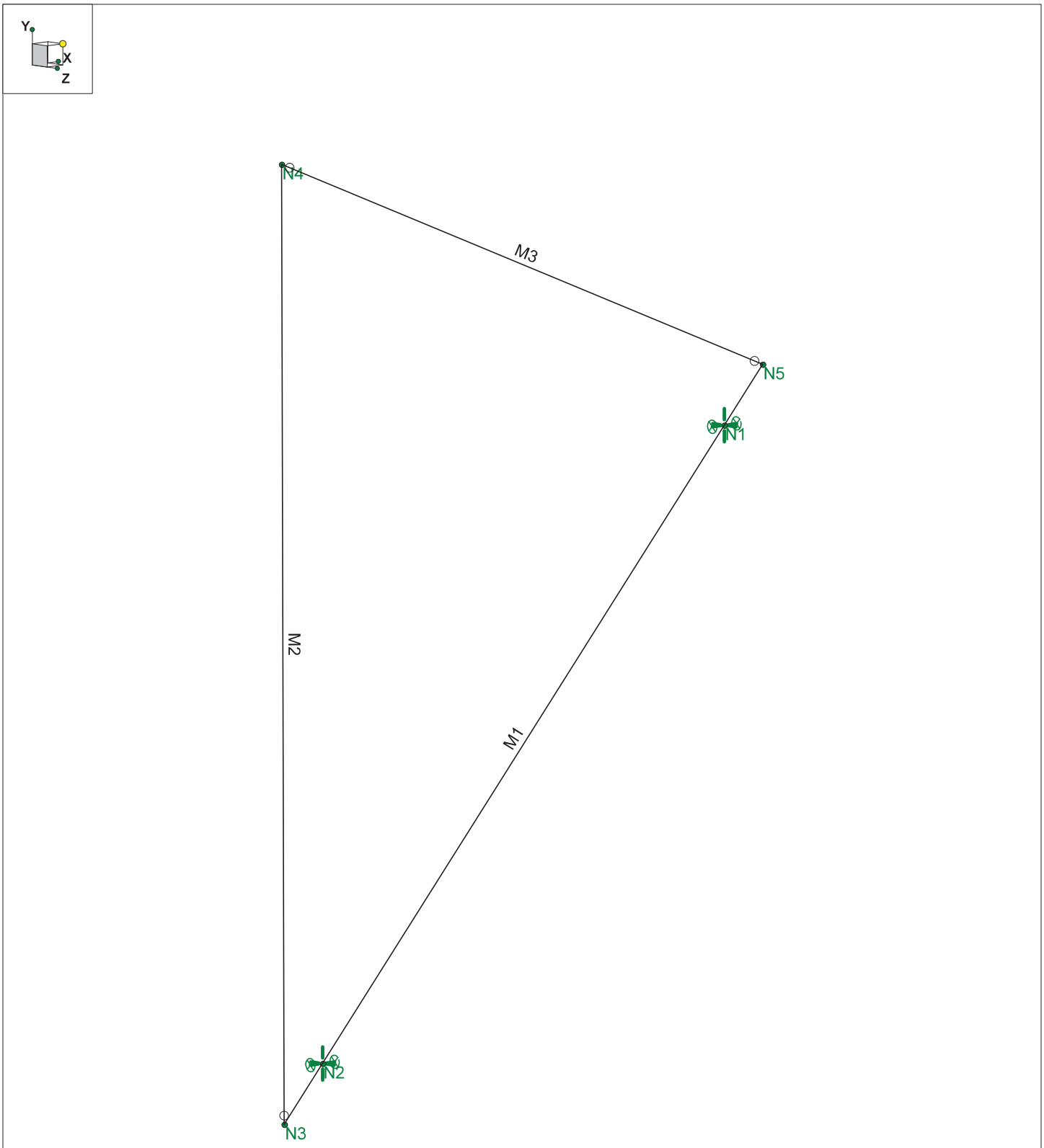


Figure VII-5 Snowpack density versus snowpack depth as per ASCE 7-05 as per Equation 7-3.

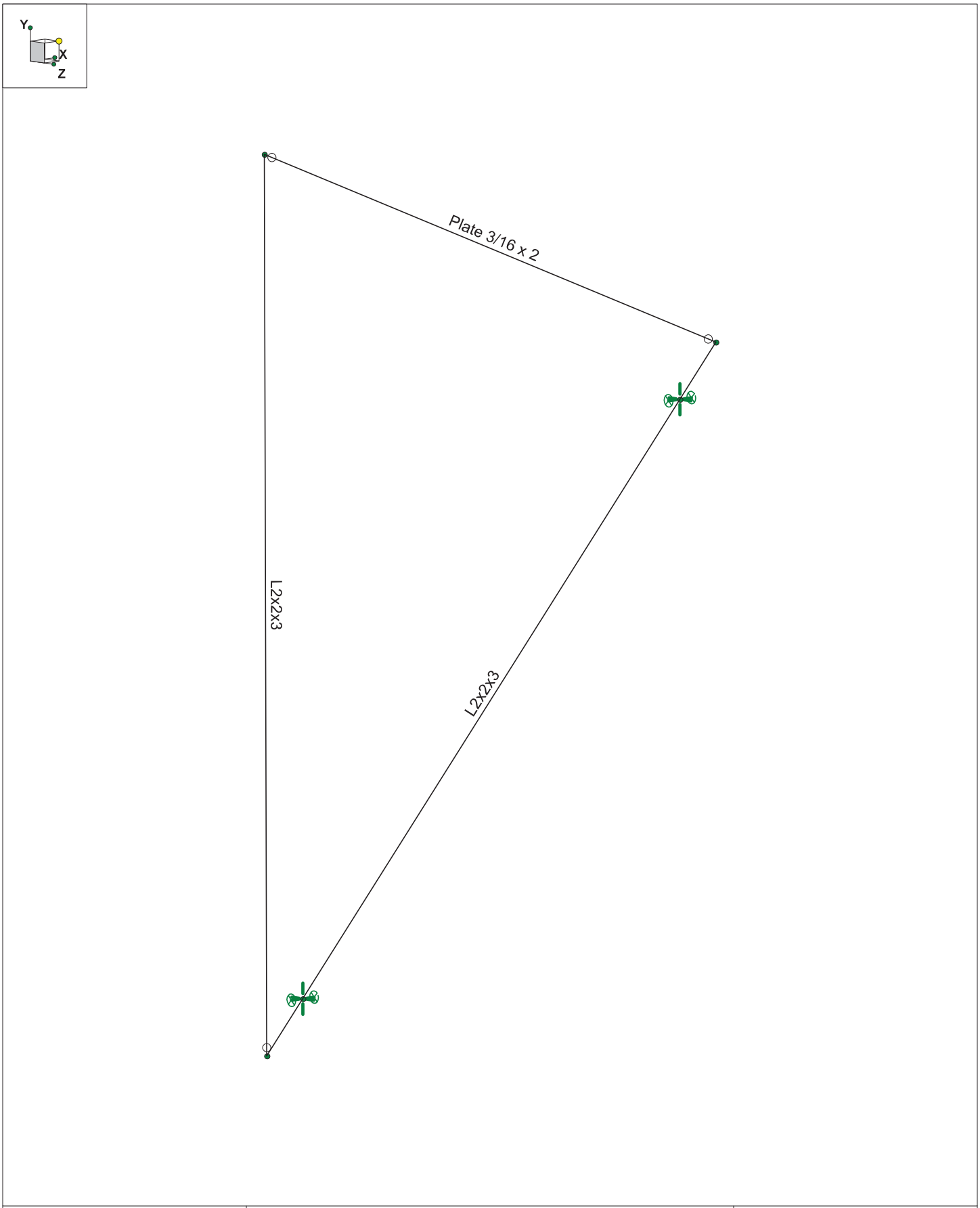




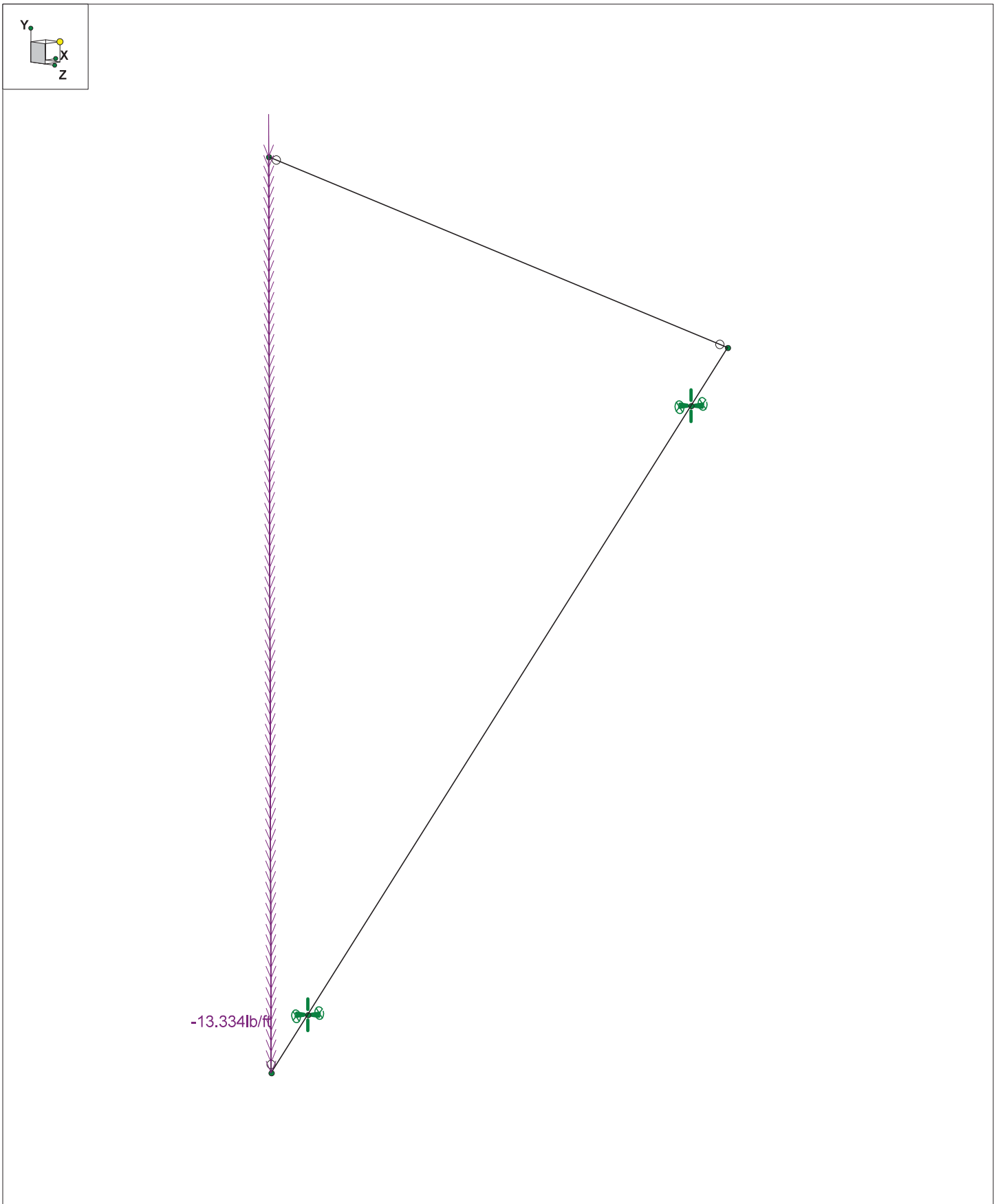
YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 2:55 PM
OPY-40344	Model	Fulcrum Jiu Jitsu Academy, Castle...



YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 3:02 PM
OPY-40344	Boundary Nodes, Members and Nodes	Fulcrum Jiu Jitsu Academy, Castle...

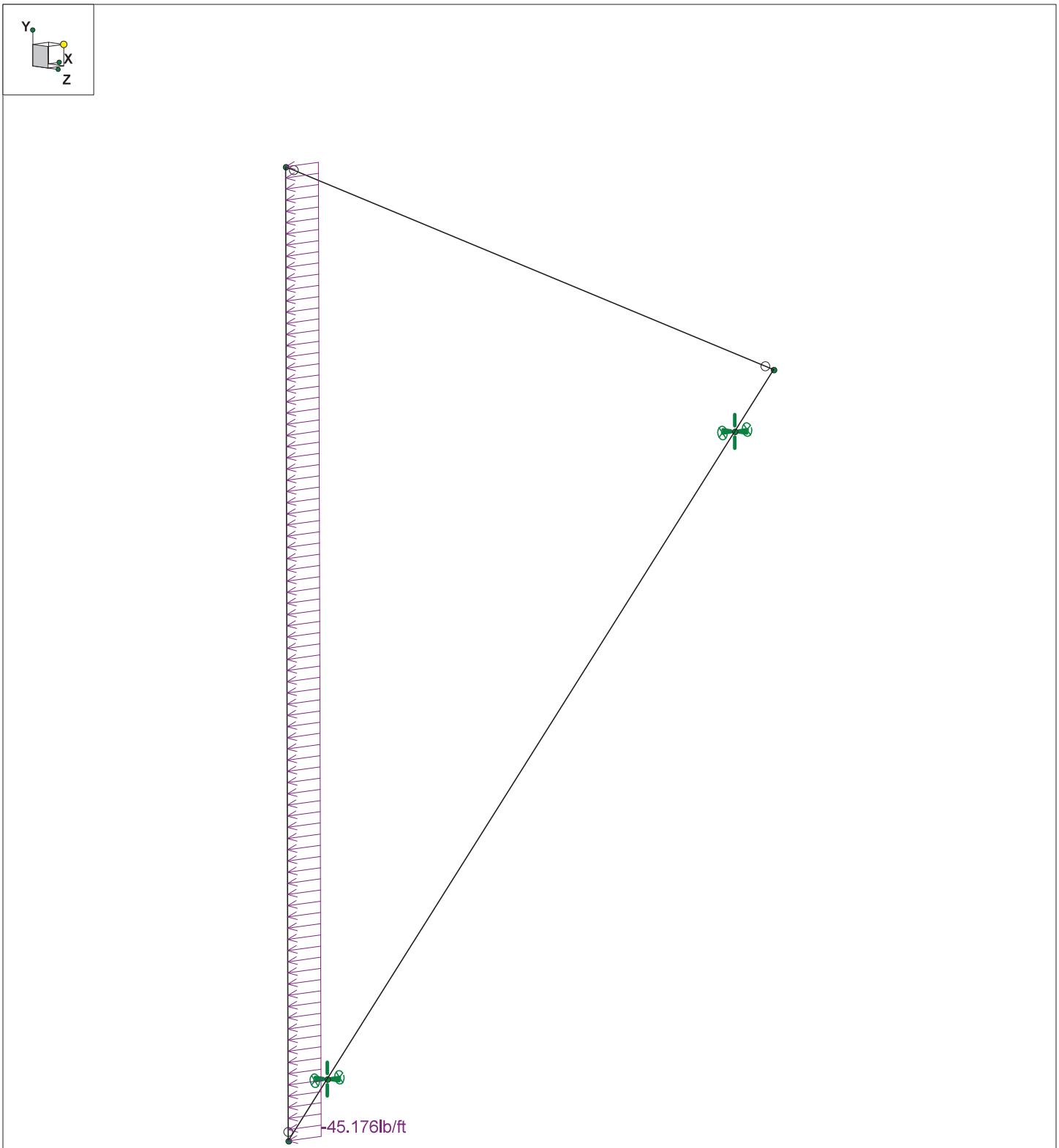


YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 3:03 PM
OPY-40344	Member Shapes	Fulcrum Jiu Jitsu Academy, Castle...



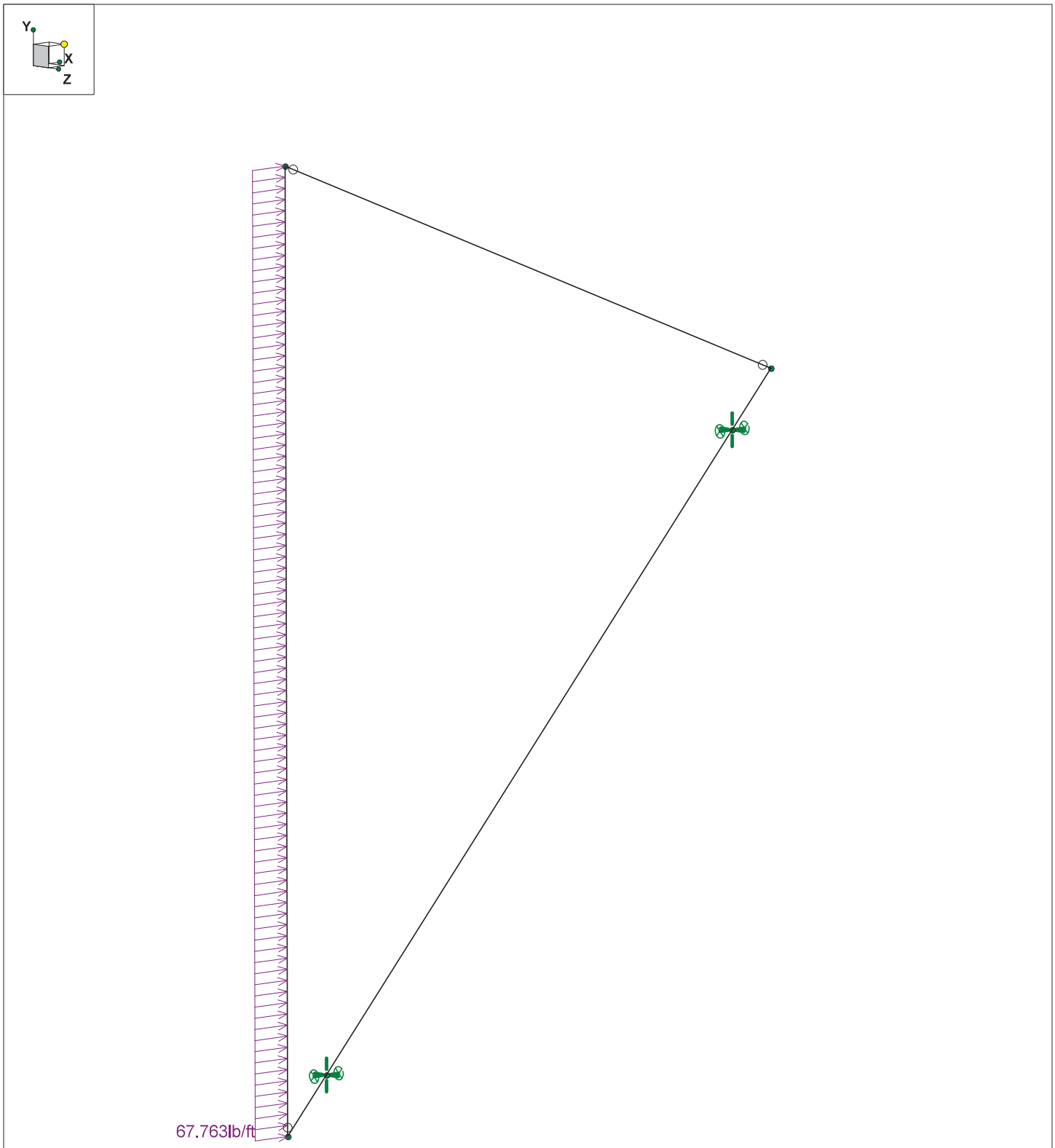
Loads: LC 1, DL

YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 3:04 PM
OPY-40344	Dead Load (32" Trib. Width)	Fulcrum Jiu Jitsu Academy, Castle...



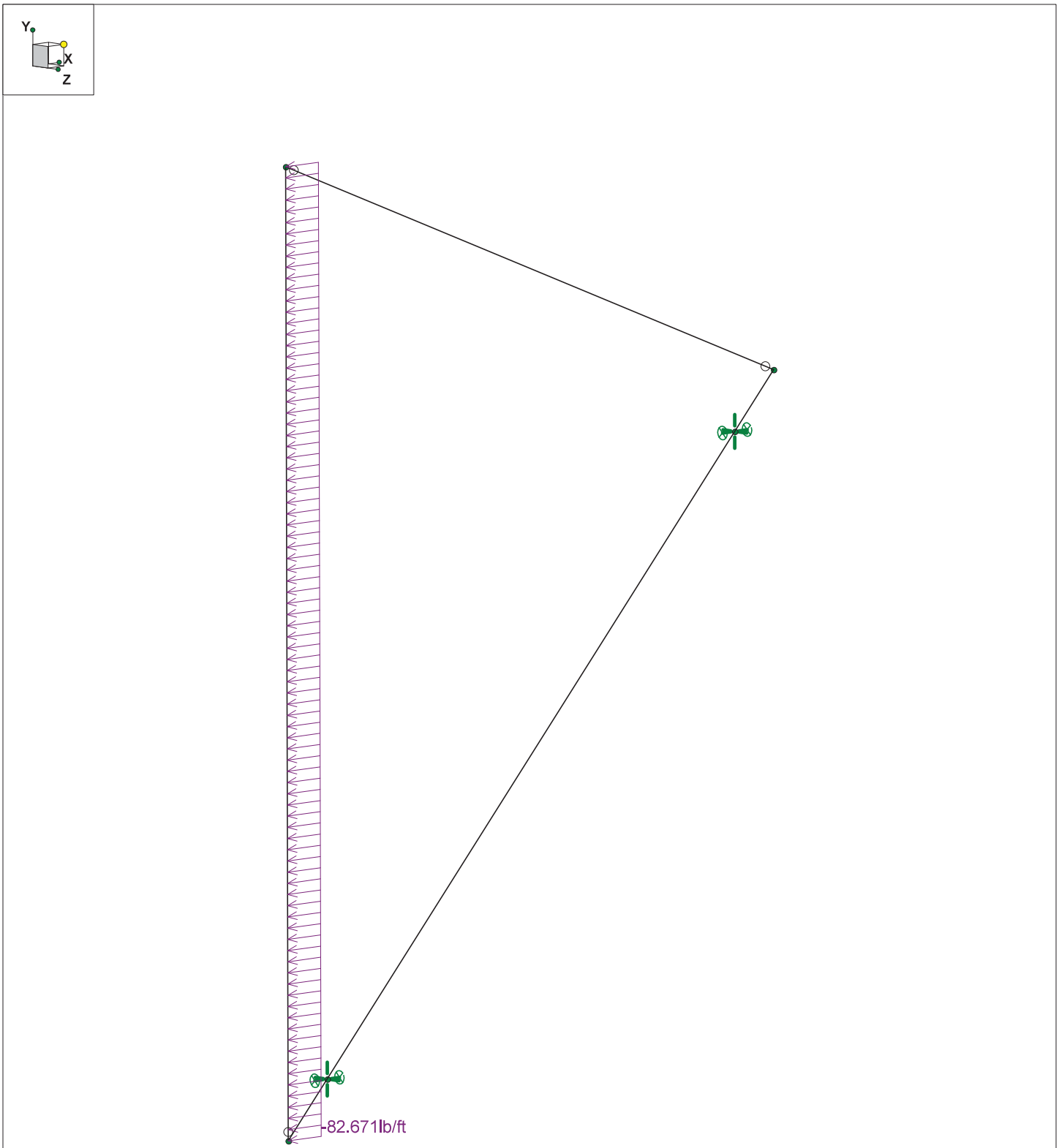
Loads: BLC 2, WL(LW)

YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 3:05 PM
OPY-40344	Leeward Wind Load (32" Trib. Width)	Fulcrum Jiu Jitsu Academy, Castle...



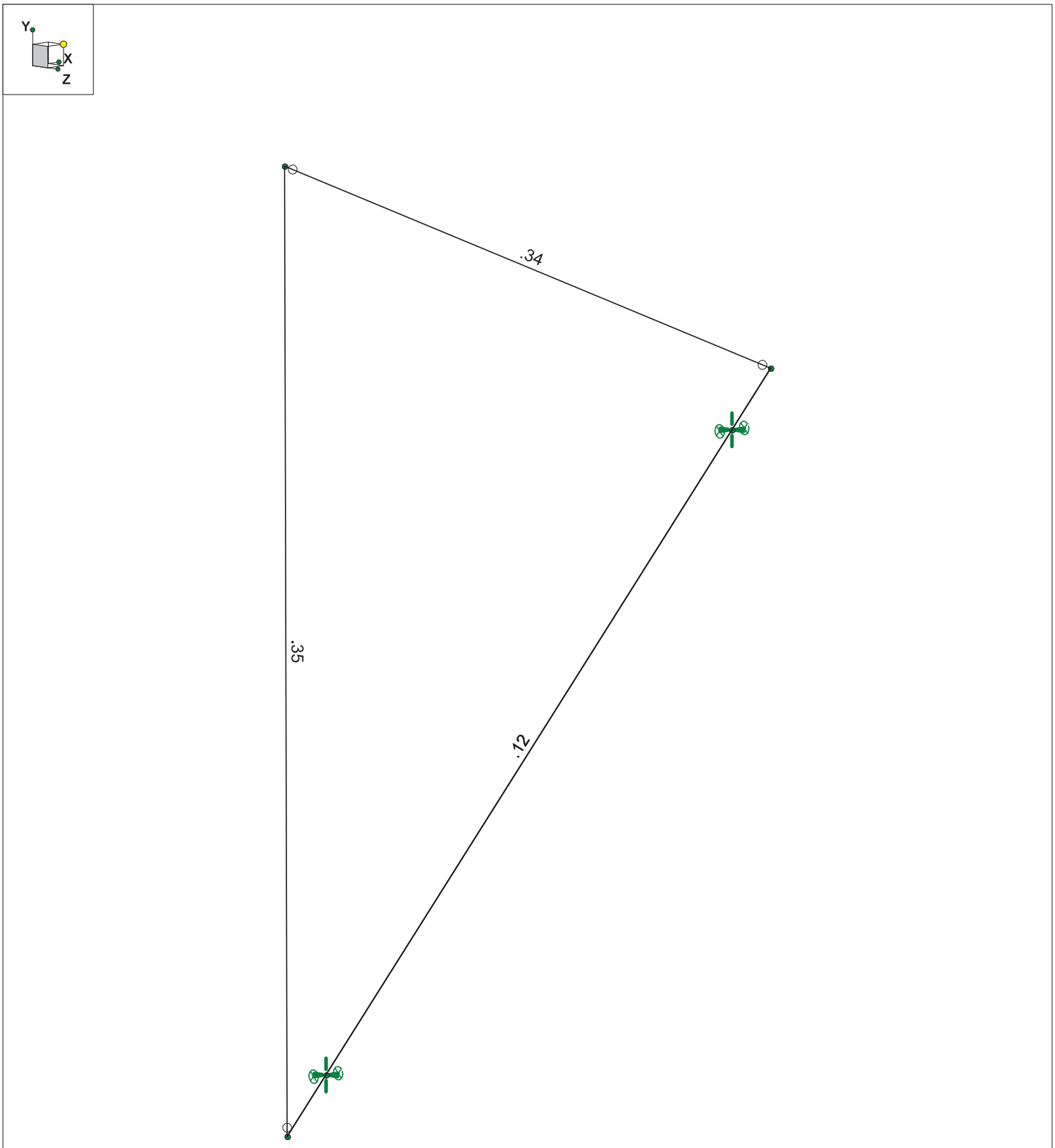
Loads: BLC 3, WL(WW)

YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 3:05 PM
OPY-40344	Windward Wind Load (32" Trib. Width)	Fulcrum Jiu Jitsu Academy, Castle...



Loads: BLC 4, SL

YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 3:06 PM
OPY-40344	Lateral Snow Load (32" Trib. Width)	Fulcrum Jiu Jitsu Academy, Castle...



Member Code Checks Displayed (Enveloped)
Envelope Only Solution
Reaction and Moment Units are lb and k-ft (Enveloped)

YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 3:07 PM
OPY-40344	Unity Bending Check (All Members are > 0.5)	Fulcrum Jiu Jitsu Academy, Castle...

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[lb/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	490	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	490	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	490	50	1.1	65	1.1
4	A572 Gr.65	29000	11154	.3	.65	490	65	1.1	80	1.1
5	A500 Gr.B R...	29000	11154	.3	.65	527	42	1.4	58	1.3
6	A500 Gr. C R...	29000	11154	.3	.65	527	46	1.4	62	1.3
7	A500 Gr.B R...	29000	11154	.3	.65	527	46	1.4	58	1.3
8	A500 Gr. C R...	29000	11154	.3	.65	572	50	1.4	62	1.3
9	A53 Gr.B	29000	11154	.3	.65	490	35	1.6	60	1.2
10	A1085	29000	11154	.3	.65	490	50	1.4	65	1.3
11	A513	29000	11154	.3	.65	490	32	1.5	45	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Bracket	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
2	Tie	Plate 3/16 x 2	Beam	BAR	A36 Gr.36	Typical	.375	.001	.125	.004

Basic Load Cases

	BLC Description	Category	X Gra...	Y Gra...	Z Gra...	Joint	Point	Distrib..	Area(Memb...	Surface(Plate/Wall)
1	DL	DL		-1				1		
2	WL(LW)	WL						1		
3	WL(WW)	WL						1		
4	SL	SL						1		

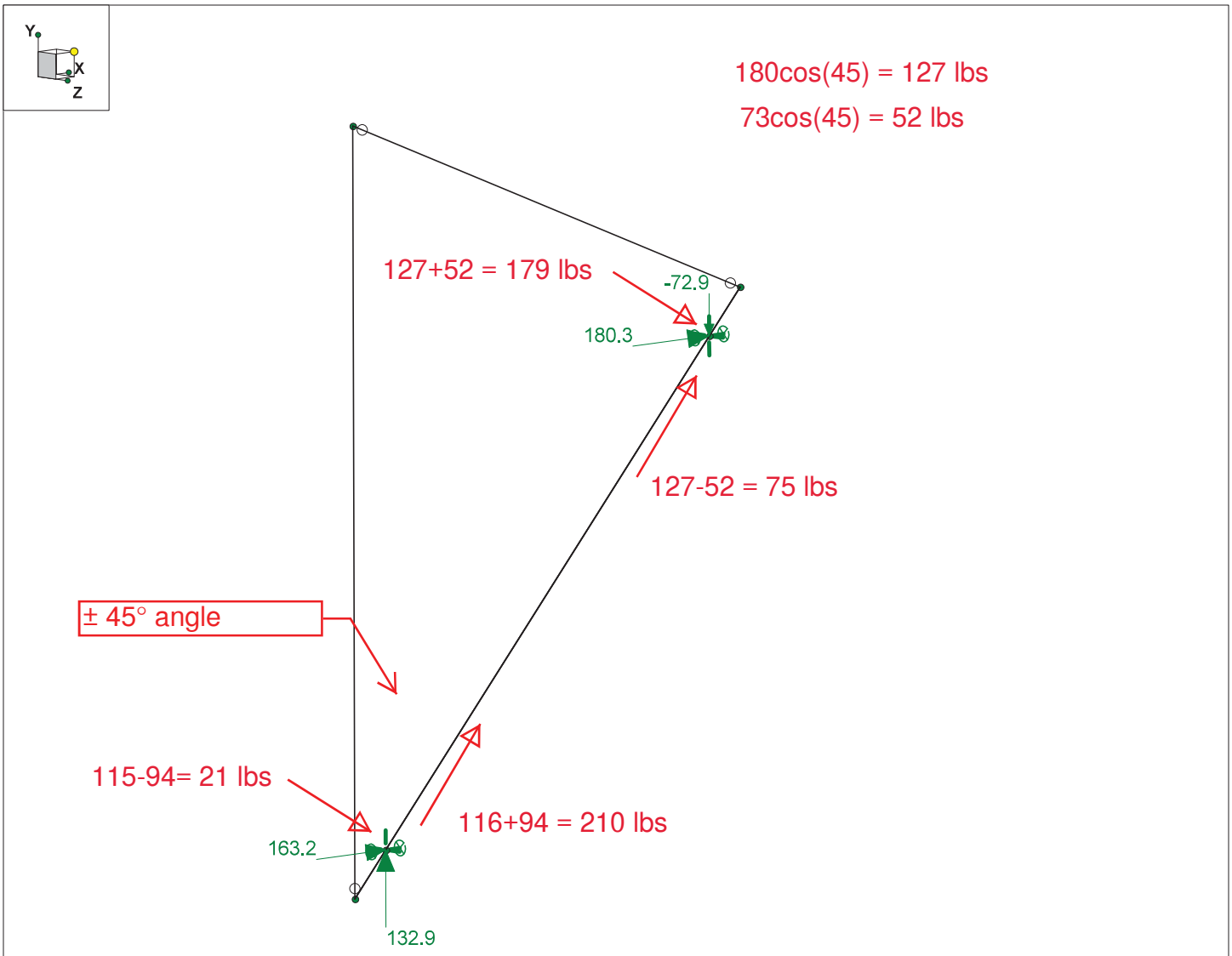
Load Combinations

	Description	Solve	PDel...	SR...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	DL	Yes	Y		1	1																
2	DL+0.6WL(LW)+SL	Yes	Y		1	1	2	.6			4	1										
3	DL+0.6WL(WW)	Yes	Y		1	1			3	.6												

Joint Reactions (By Combination)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	2	N2	163.239	132.904	-1.621	NC	0	0
2	2	N1	180.284	-72.867	1.621	NC	0	0
3	2	Totals:	343.523	60.037	0			
4	2	COG (in):	X: -2649.548	Y: 3926.703	Z: 0			

Worst Case Load Combination (#2)



163 cos(45) = 115 lbs

133 cos(45) = 94 lbs

Try S-5! Standing Seam Clips (Assuming S-5-E Mini Clamps, Bridger Steel 16" x 1.5" Snap Seam Metal Panels and F.S. = 3):

Allowable Shear Parallel to Seam = 494 lbs
494 lbs > 210 lbs O.K.

Allowable Normal Force (Uplift) = 422 lbs
422 lbs > 179 lbs

Use S-5! Clips, Notify E.O.R. if Standing Seam panels differ.

Results for LC 2, DL+0.6WL(LW)+SL
Reaction and Moment Units are lb and k-ft

YESCO, LLC		
Dave Knight	Fulcrum Academy	July 30, 2021 at 3:10 PM
OPY-40344	Reactions	Fulcrum Jiu Jitsu Academy, Castle...

S-5!®

The Right Way!™

The right way™ to attach almost anything to metal roofs!

Installation Instructions

S-5!® Warning! Please use these products responsibly! Visit our website or contact your S-5! distributor for available load test results. The user and/or installer of these parts is responsible for all necessary engineering and design to ensure the S-5! clamps have been properly spaced and configured. **Notice to S-5! users:** Due to the many variables involved with specific panel products, climates, snow melt phenomena, and job particulars, the manufacturer cannot and does not express any opinions as to the suitability of any S-5! assembly for any specific application and assumes no liability with respect thereto. S-5! products are tested for ultimate holding strength on various profile types and materials. Visit **www.S-5.com** for more details. This document is an installation guide only and the photographs and drawings herein are for the purpose of illustrating installation, tools and techniques, not system designs. Information contained within is intended to apply to the document as a whole.

The S-5-U, S-5-S, S-5-E, S-5-B, and S-5-V clamps are made for standing seam profiles. For horizontal seam applications, the setscrew(s) must be accessible from the top for tightening. S-5-U clamps have two bolt holes to accommodate either vertical or horizontal seam applications; visit www.S-5.com for more details.

Tools Needed

- Screw Gun*
- T30 Torx Bit Tip (provided)
- Dial-Calibrated Torque Wrench
  (For accurate tension values, do NOT use a clicking torque wrench; inquire with S-5! for proper tool sourcing)

To Install the S-5-U, S-5-S, S-5-E, S-5-B, and S-5-V

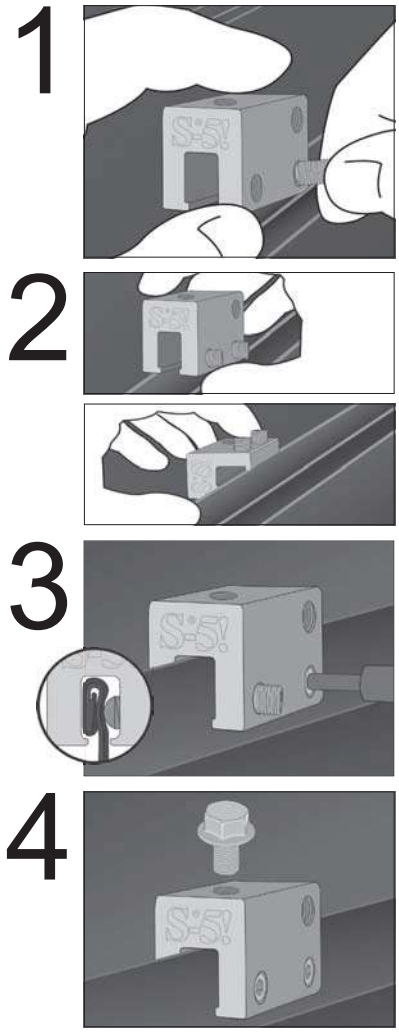
1. Partially thread the setscrews into the clamp by hand. (The S-5-U has four setscrew locations to make the clamp more versatile; however, only two setscrews are used per clamp. Both setscrews should always be loaded into the same side of the clamp.)
2. Determine how to position the clamp. When attaching to machine-folded seams (regardless of panel profile and geometry), S-5! clamps are designed to engage the seam as shown in Illustration A; with setscrew opposite seam fold. On many snap-together type seams, the setscrews are on the open (or overlap) side of the seam. On some seams, this aspect of clamp orientation is not critical.
3. Tighten the setscrews using a screw gun* and the included screw gun bit tip. Setscrews should be tensioned and re-tensioned as the seam material compresses, i.e. tighten the first setscrew, then the second; then repeat until each setscrew achieves the recommended torque. The setscrews will dimple the seam material but will not penetrate it. When relying on published load values, setscrew tension should be verified periodically using a calibrated torque wrench as indicated below to ensure the tool is consistently achieving the proper torque range. **Note:** See "Step 3 Note" at bottom of document on fitting S-5-U and S-5-V on certain vertical double-folds.

*** For time-saving tool recommendations, call S-5!**

Specified Torque	Inch Pounds	Foot Pounds	Nm
22ga steel	160–180	13–15	18–20
All other metals and thinner gauges of steel	130–150	11–12.5	15–17

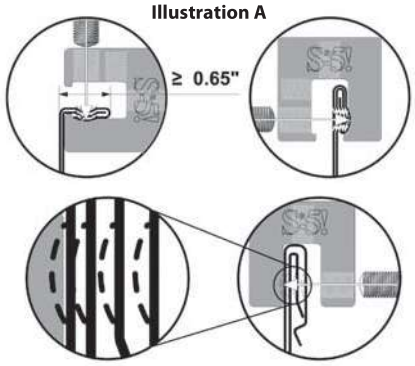
Once installed correctly, these clamps require no maintenance or re-inspection for the life of the roof.

4. For critical attachment applications utilizing an M8-1.25 X 16 mm Hex Flange Bolt, tighten the included M8 bolt to 160 inch pounds (13 foot pounds).



Above illustrations show S-5-U clamp on a vertical seam. Step 2 shows both vertical and horizontal applications.

Illustration A



(Top) S-5-U clamp on both vertical and horizontal seams. (Bottom) S-5-S on a snap together seam with blow up illustrating deformation of seam as setscrew is tightened

For horizontal seams equal to or greater than .65" use the S-5-U in its horizontal orientation.

For horizontal seams equal to or less than .50" use the S-5-S mounted vertically.

These instructions are for use by those experienced in the trade. Always follow appropriate safety precautions and use appropriate tools.

888-825-3432 | www.S-5.com S-5-U, S-5-S, S-5-E, S-5-B, S-5-V, & Mini Install

To Install the S-5-U Mini, S-5-S Mini, S-5-E Mini, S-5-B Mini, and S-5-V Mini

1. Partially thread the setscrew into the clamp by hand.

2. Determine how to position the clamp. When attaching to machine-folded seams (regardless of panel profile and geometry), S-5!® clamps are designed to engage the seam as shown in Illustration A on the front page; with setscrew opposite seam fold. On many snap-together type seams, the setscrew is on the open (or overlap) side of the seam. On some seams, this aspect of clamp orientation is not critical.

3. Tighten the setscrew using a screw gun* and the included screw gun bit tip. The setscrew will dimple the seam material but will not penetrate it. When relying on published load values, setscrew tension should be verified periodically using a calibrated torque wrench as indicated below to ensure the tool is consistently achieving the proper torque range. **Note:** See "Step 3 Note" at bottom of document on fitting S-5-U Mini and S-5-V Mini on certain vertical double-folds.

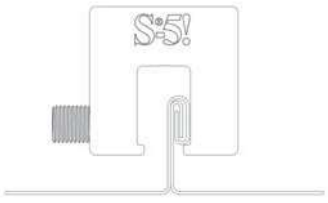
   ***For time-saving tool recommendations, call S-5!**

Specified Torque	Inch Pounds	Foot Pounds	Nm
22ga steel	160–180	13–15	18–20
All other metals and thinner gauges of steel	130–150	11–12.5	15–17

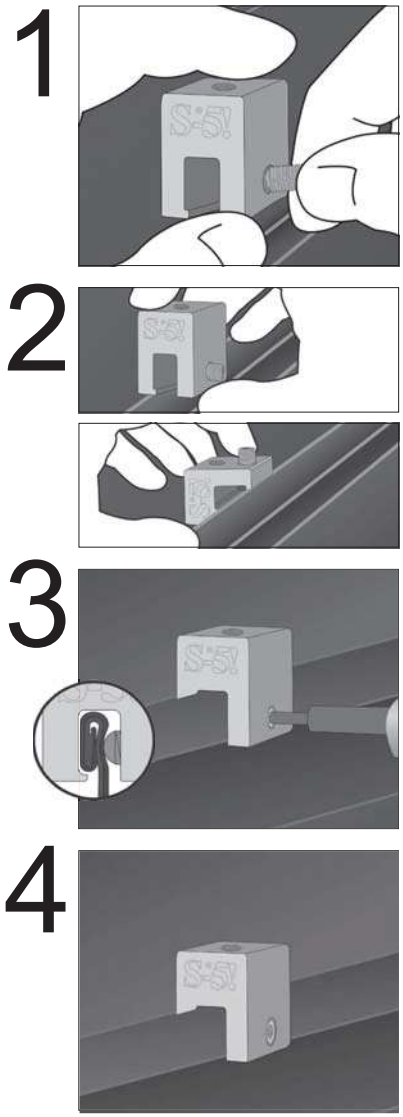
   Once installed correctly, these clamps require no maintenance or re-inspection for the life of the roof.

4. For critical attachment applications utilizing an M8-1.25 X 16 mm Hex Flange Bolt (sold separately), tighten the bolt to 160 inch pounds (13 foot pounds).

Step 3 Note: When installing S-5-U, S-5-V, S-5-U Mini, or S-5-V Mini on a vertical double fold, you may need to lift clamp in a manner that allows the lip of the clamp to engage the bottom of the seam and the setscrew(s) to fully engage the fold while tightening the setscrew(s). See clamp lip engagement in figure below. This will assist in making the clamp sit more vertically on the seam.



NOTE: Any S-5! warranty and/or calculation may be void if hardware is used that was not furnished by S-5! directly or through one of their licensed distributors



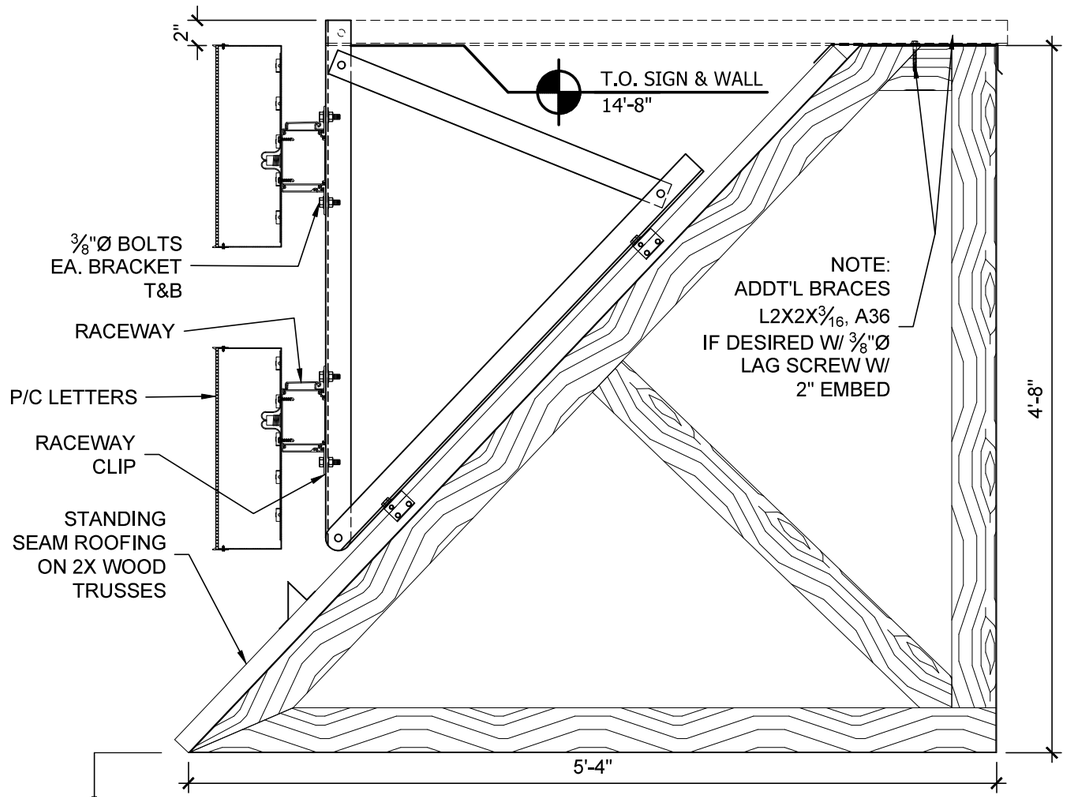
Above illustrations show S-5-E Mini clamp on a vertical seam. Step 2 shows S-5-E Mini on vertical applications and S-5-U Mini on horizontal applications.

S-5!® Warning! Please use this product responsibly!

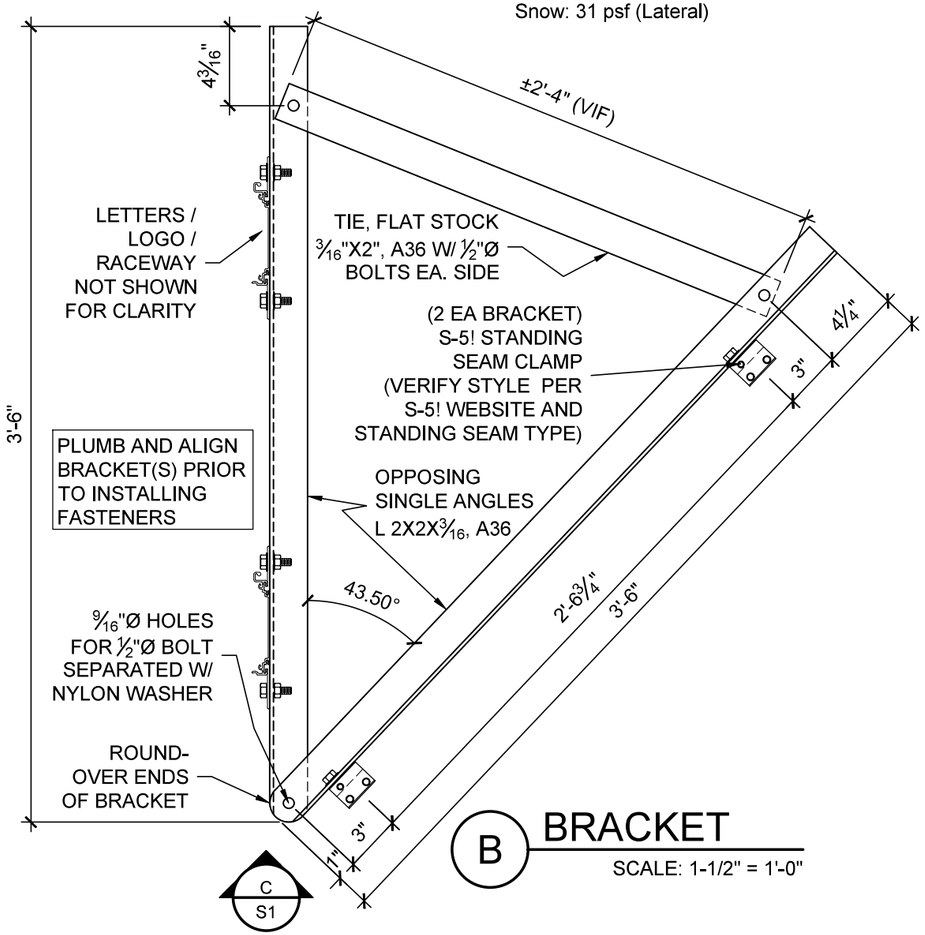
Products are protected by multiple U.S. and foreign patents. Visit the website at www.S-5.com for complete information on patents and trademarks. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material compresses, i.e. tighten the first setscrew, then the second; then repeat until each setscrew achieves the recommended torque. Clamp setscrew tension should be verified using a calibrated torque wrench between 160 and 180 inch pounds when used on 22ga steel, and between 130 and 150 inch pounds for all other metals and thinner gauges of steel. Consult the S-5! website at www.S-5.com for published data regarding holding strength.

USEBVI-V1.2-0420

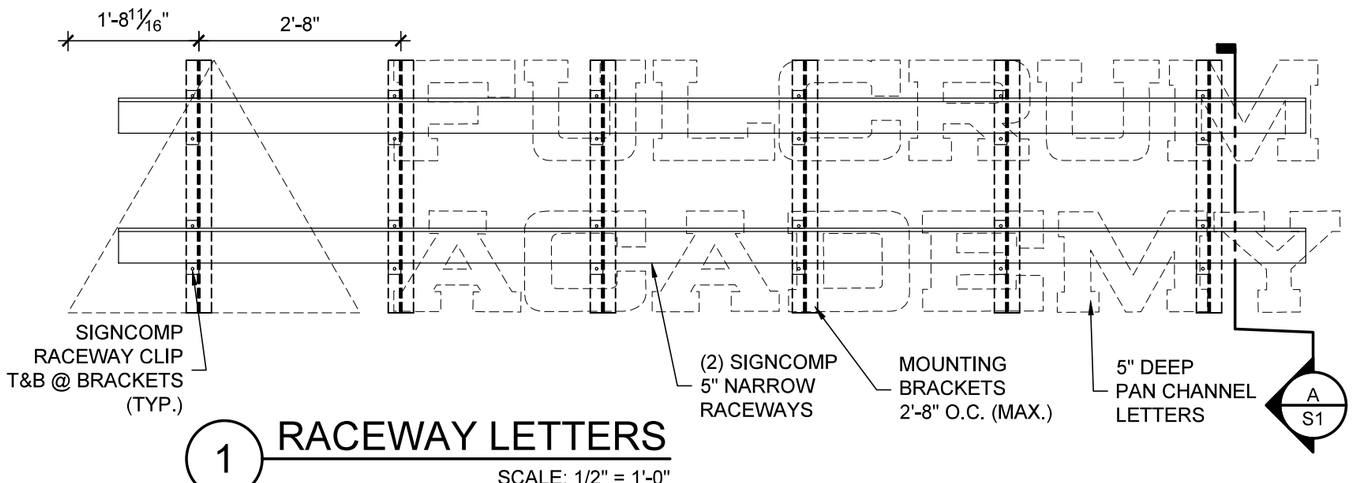
DESIGN CRITERIA:
Building Code: 2018 IBC
Dead Load: Raceway Letters ≈ 5 psf
Wind: V= 107 mph, (Cat II) Exposure C, open terrain
Snow: 31 psf (Lateral)



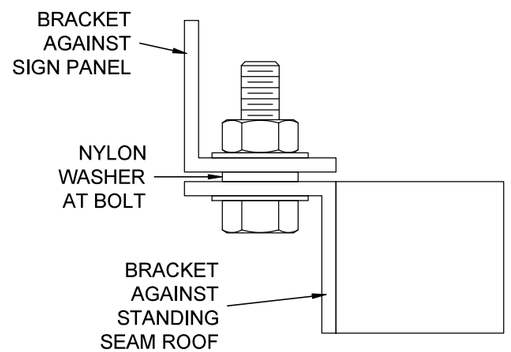
A SECTION
SCALE: 1" = 1'-0"



B BRACKET
SCALE: 1-1/2" = 1'-0"



1 RACEWAY LETTERS
SCALE: 1/2" = 1'-0"



C BRACKET END VIEW
SCALE: 6" = 1'-0"

YESCO

ENGINEERING

www.yesco.com

Revisions

No.	Date
Orig.	7/30/2021
1	
2	
3	
4	
5	

COLORADO LICENSED
DAVID J. KNIGHT
49515
7/30/2021
PROFESSIONAL ENGINEER

Digitally signed by Dave Knight
Date: 2021.07.30 15:55:50 -06'00'

Drawn by..... DAVE KNIGHT
Checked by..... BEN JONES

FULCRUM JIU JITSU ACADEMY
703 WILCOX ST
CASTLE ROCK, CO

Account Exec..... SHELDON MARSHALL
Designer..... KEVIN LANGFORD

Date: 7/30/2021

Project No.

OPY-40344

S1

AERIAL PHOTO

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Colorado Springs, CO 80919
719-385-0104

www.yesco.com

CLIENT: Fulcrum Jiu Jitsu Academy

ADDRESS: 703 Wilcox St Ste J

CITY / STATE / ZIP: Castle Rock CO 80104

ACCOUNT EXECUTIVE: SHELDON MARSHALL

DESIGNER: KEVIN LANGFORD

ORIGINAL DATE: 06.01.2021

CUSTOMER APPROVAL

Client Signature / Date

Landlord Signature / Date

ELECTRICAL NOTE

NOTE: UNLESS OTHERWISE NOTED, ELECTRICAL RUNS OR FINAL ELECTRICAL CONNECTION CHARGES ARE NOT INCLUDED. ILLUMINATED DISPLAYS WILL BE WIRED FOR **120 VOLT** POWER UNLESS OTHERWISE INDICATED.

IF VOLTAGE IS NOT 120 PLEASE INDICATE YOUR VOLTAGE HERE

VOLTS - - - AMPS - - -

UL NOTE

YESCO IS A UL LISTED SIGN MANUFACTURER

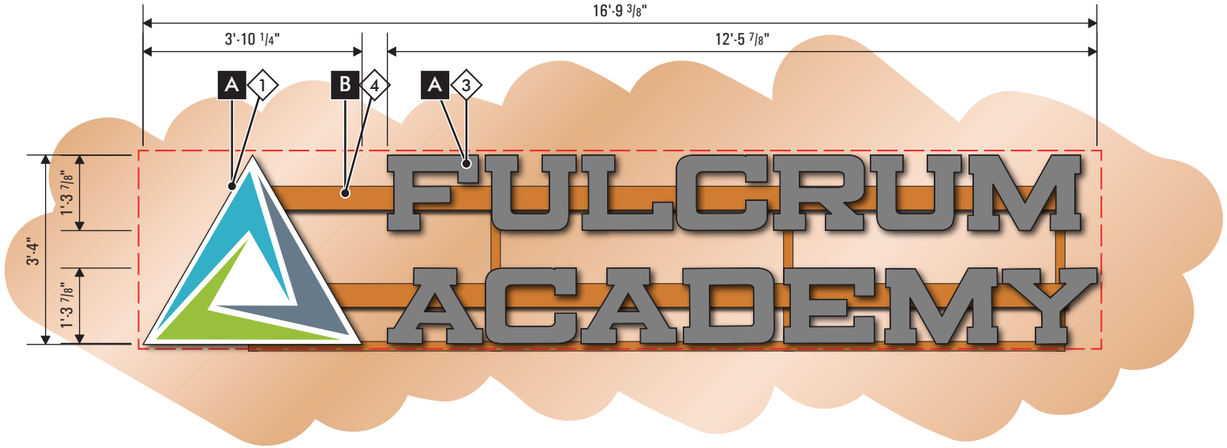
THIS SIGN IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRICAL CODE AND / OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN.

REVISION NOTES

	DATE	REVISION	DESIGNER
1	6.7.21	NO CHANGE	KEVIN
2	6.16.21	NO CHANGE	KEVIN

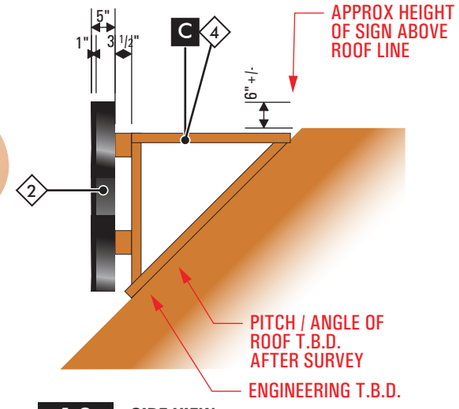
DESIGN NUMBER: ART40344R2

PAGE 1 OF 2



1 ILLUMINATED PAN CHANNEL LETTERS & LOGO ON RACEWAYS — SCALE: 3/8" = 1'-0"

PAGE 2 — QUANTITY: 1 MANUFACTURE & INSTALL



1.2 SIDE VIEW

SCOPE OF WORK:

MANUFACTURE & INSTALL (1) INTERNALLY ILLUMINATED PAN CHANNEL LETTERS & LOGO ON RACEWAYS MOUNTED TO ANGLE IRON STRUCTURE.
ENGINEERING T.B.D. SURVEY REQUIRED.

PERMITTING	SIGN AREA: 55.137ft²
FINAL ELECTRICAL CONNECTION BY:	NOT INCLUDED

FABRICATION SPECIFICATIONS

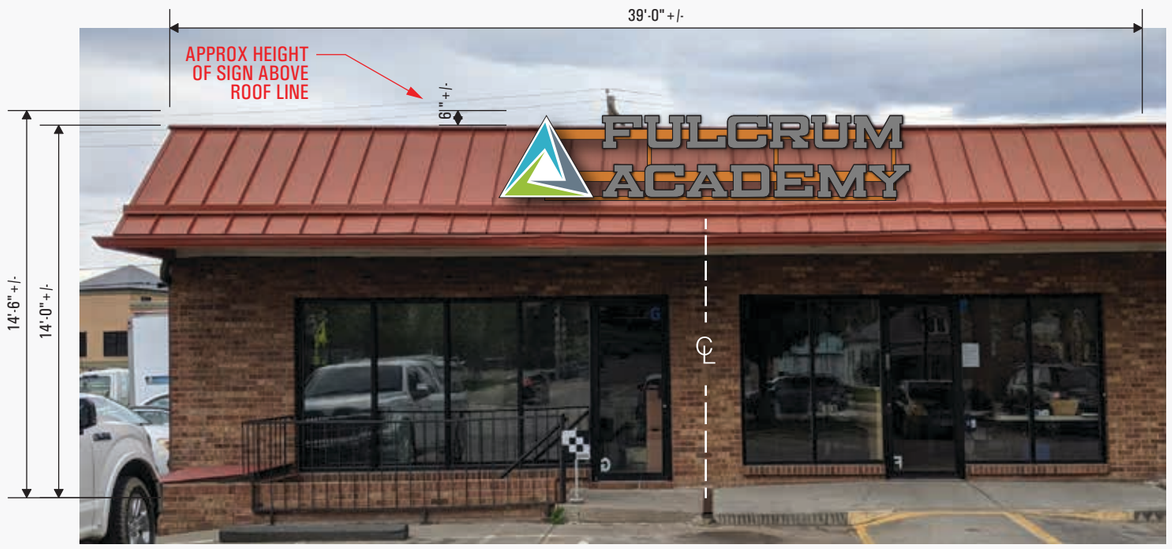
A	PAN CHANNEL	LIGHT TYPE	LED
		LIGHT COLOR	WHITE LED
	FACE	MATERIAL	ACRYLIC
		COLOR	WHITE #7328
	VINYL	LAYER	1st SURFACE
		COLOR	3M #
	RETAINER	TYPE	TRIM CAP
		SIZE	1"
		COLOR/PAINT	TRIMCAP BLACK
	RETURN	DEPTH	5"
		PAINT	PRE-PAINTED BLACK
B	RACEWAY	SIZE	3 1/2"x5"
		PAINT	SEE COLOR KEY
		FINISH	SATIN
		ATTACHMENT	LARGE MOUNTING CLIP
C	STRUCTURE	MATERIAL	STEEL
		TYPE	ANGLE
		SIZE	2"x2" ENGINEERING TO DETERMINE
		PAINT	SEE COLOR KEY
		FINISH	SATIN

COLOR KEY

1	VINYL	DIGITAL PRINT
2	PAINT	SHERWIN WILLIAMS SATIN BLACK
3	VINYL	3M 3635-222 BLACK PERF
4	PAINT	SHERWIN WILLIAMS MATCH PMS7571

NOTE: UNLESS OTHERWISE NOTED, THE COLORS DEPICTED ON THIS RENDERING MAY NOT MATCH ACTUAL COLORS ON FINISHED DISPLAY. PLEASE REFER TO COLOR-CALLOUTS AND THEIR APPROPRIATE VENDOR SPECIFIED SAMPLES FOR APPROVED COLOR SPECIFICATIONS

ART SUPERIMPOSED ON PHOTO - SHOWN AT APPROXIMATE RELATIVE SCALE



EXISTING

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ORIGINAL DATE: 06.01.2021

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Client Signature / Date

Landlord Signature / Date

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REVISION NOTES

DATE	REVISION	DESIGNER
6.7.21	REVISE FACE	KEVIN
6.16.21	SCOPE TO PCL'S	KEVIN

DESIGN NUMBER: ART40344R2

PAGE 2 OF 2