

These calculations must be on site and made available by the Permittee for all inspections.

PRCTI20250853

City of Puyallup
Building
REVIEWED
FOR
COMPLIANCE

BSnowden
08/22/2025
10:45:22 AM



STRUCTURAL CALCULATIONS
FOR THE

MECHANICAL UNIT Support

AT

PLANET FITNESS

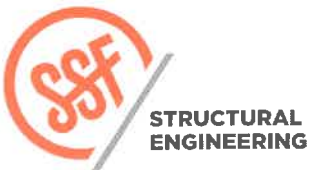
SOUTH HILL CENTER SPACE 10A
4102 S. MERIDIAN
Puyallup, WA 98373



SEATTLE 2124 Third Ave, Suite 100, Seattle, WA 98121 | O 206.443.6212
TACOMA 934 Broadway, Suite 100, Tacoma, WA 98402 | O 253.284.9470

ssfengineers.com

SWENSON SAY FAGÉT



PLANET FITNESS
PROJECT _____

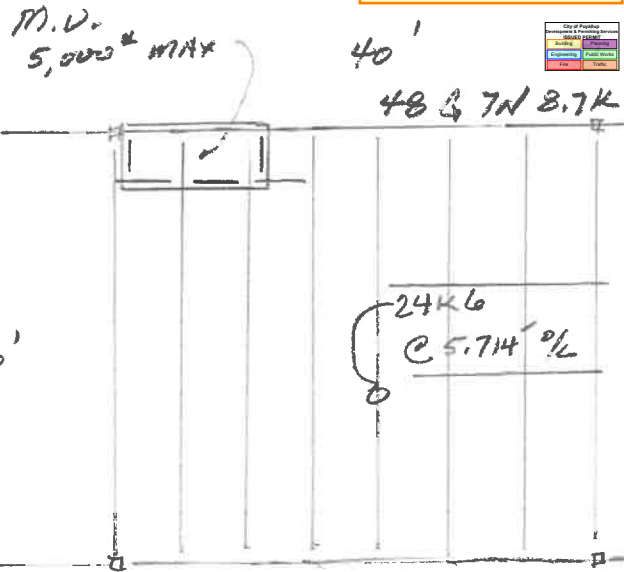
DATE _____
DESIGN Blay
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SHEET _____

MECH UNIT SUPPORT

PRCTI20250853

EXISTING ROOF FRAMING

INSUL-RIGID	2
Roofing	2.5
Metal Deck (B-36)	2
Joists @ 5.7' o/c	1.4
Sus Clq	2
	$\frac{10}{10}$
in 1/2" mech	$\frac{5}{15}$ (ALLOWANCE)



BASED ON HISTORICAL VULCRAFT
JOIST DESIGN GUIDE w/
L = 38', JOIST IS LIKELY
A 24K6 @ 5.7' o/c
W_a = 252 #/ TL
156 #/ LL

$R_{allow} = .252(19') = 4.8''$

1- SIDE OF M.U. OVER
GIRDER TRUSS

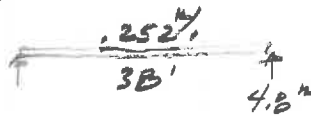
CONSIDER DOAS UNIT, W = 5000#
MAXIMUM LOAD AT SINGLE TRUSS
 $5' / 2 \times \frac{1}{3} = .8''$

G.T. ALLOWANCE FOR MECH
 $= 5(5.7' o/c)(38')(6 joist) = 6.5''$

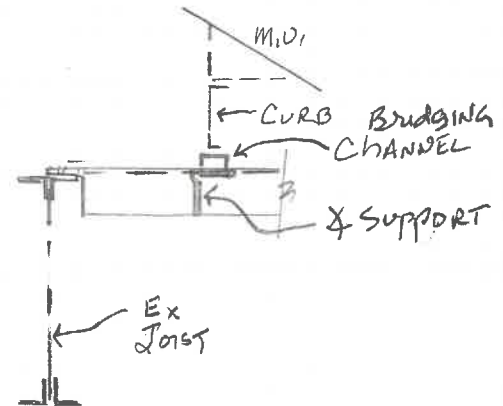
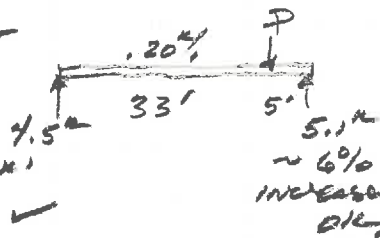
G.T. OK BY INSPECTION

Check Joist L=38'

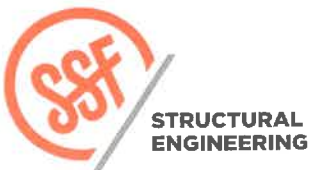
w/o Mech Unit
Capacity = .252
R = 4.8K
M = 45.5K'



With Mech Unit
W = 3500#
P = .83K
M = 43.6K' = 45.5K'
OK. ✓



Other UNITS L 1000# OK BY INSPECTION



PLANET FITNESS
PROJECT
SOUTH HILL CTR SPACE 10A
4102 S MERIDIAN
Puyallup, WA 98373

7-14-25

DATE

PROJ. #

DESIGN

SHEET

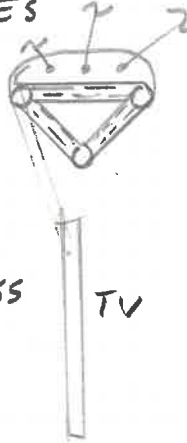
TV Truss Support

Hanging TV'S ARE SUPPORTED BY ALUMINUM TRIANGULAR TRUSSES

ALUM TRUSSES ARE 9'-10" LONG AND WEIGH 135#

WEIGHT OF TYPICAL BIG SCREW IS ~ 40#

TOT WEIGHT = 175# PER TRUSS



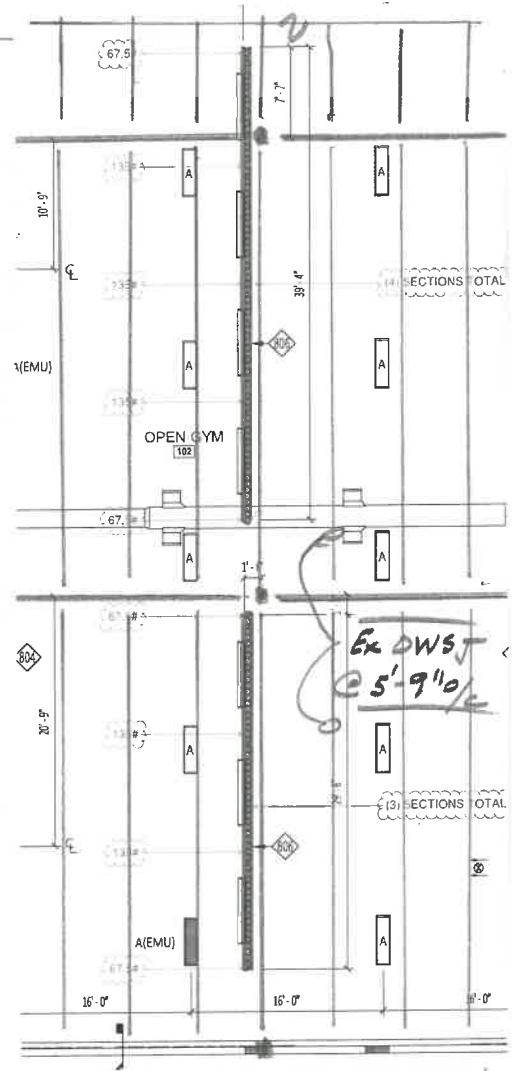
FOR THE WORST CASE OF ALUM TRUSSES SUPPORTED BY A SINGLE DWSJ, CALCULATE THE EQUIVALENT UNIT AREA LOAD

$$W_{max} = \frac{175\#}{9'-10"} \frac{1}{5'-9\frac{1}{2}"} = 3.1 \text{ psf}$$

TYPICAL MISC/MECH LOAD = 5 psf \geq 3.1

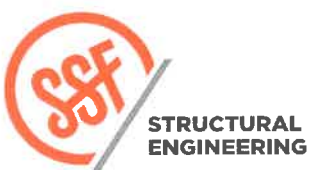
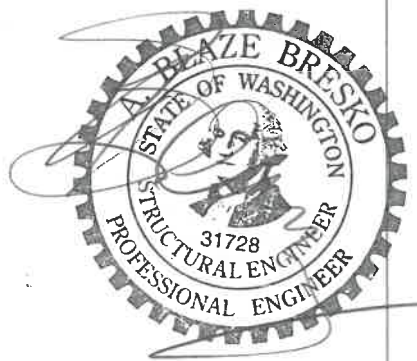
(NOTE: NO CEILING LOAD SINCE TRUSSES EXPOSED)

SPECIFY ALUM TRUSS TO BE ANCHORED TO UNIT STRUT B/W TRUSSES AT TRUSS PANEL POINTS.



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City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic



PROJECT PLANET FITNESS
50 HILL CNTR SPACE 10A
4102 S. Meridian
Puyallup, WA 98373

DATE 8-13-25
 PRO. [Signature]
 DESIGN [Signature]
 SHEET 2

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