

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

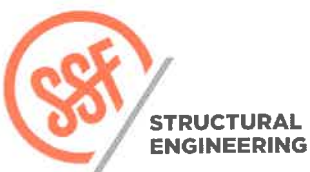


SEATTLE 2124 Third Ave, Suite 100, Seattle, WA 98121
TACOMA 934 Broadway, Suite 100, Tacoma, WA 98402

SEATTLE
TACOMA

ssfengineers.com

SWENSON SAY FAGET



PLANET FITNESS
PROJECT

DATE

PROJ.

DESIGN

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
	<u>10</u>
in 1/2" / mech	5 (ALLOWANCE)
	<u>15</u>

38'

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.V. OVER
GIRDER TRUSS

CONSIDER DOAS UNIT, W = 5000#

MAXIMUM LOAD AT SINGLE TRUSS

$$5' / 2 / 3 = .8''$$

G.T. ALLOWANCE FOR MECH

$$= 5(5.7' o/c)(38')(6 joist) = 6.5''$$

G.T. OK BY INSPECTION

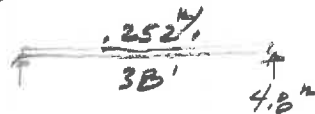
CHECK JOIST L = 38'

w/o MECH UNIT

W_a CAPACITY = .252

R = 4.8K

M = 45.5K'



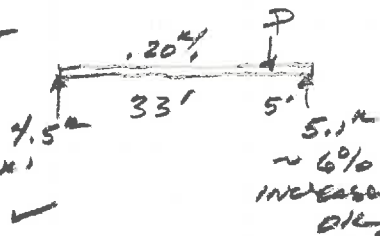
WITH MECH UNIT

W = 3500#

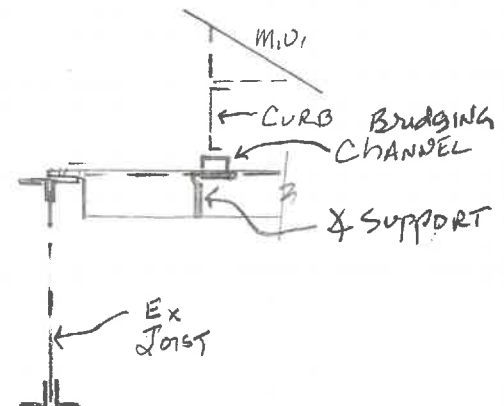
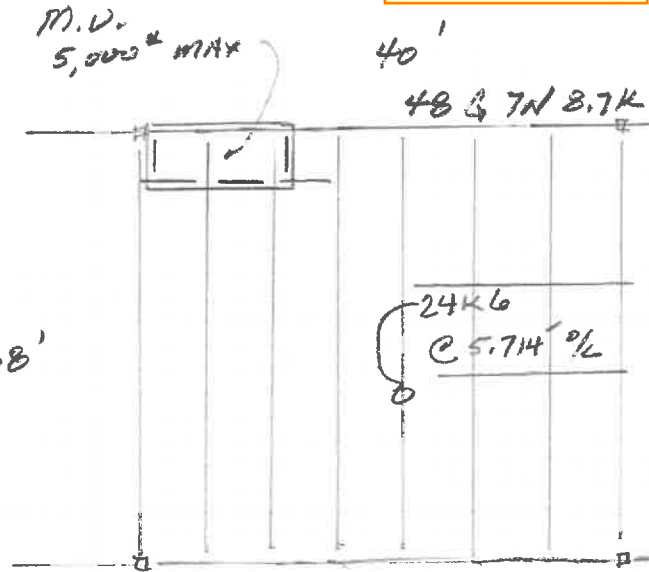
P = .83K

M = 43.6K' = 45.5K'

OK. ✓



OTHER UNITS L 1000# OK BY INSPECTION



STRUCTURAL
ENGINEERING

PLANET FITNESS

PROJECT

SOUTH HILL CNTR SPACE 10A

4102 S MERIDIAN

POYALLU, WA 98373

7-14-25

DATE

PROJ. #

DESIGN

SHEET

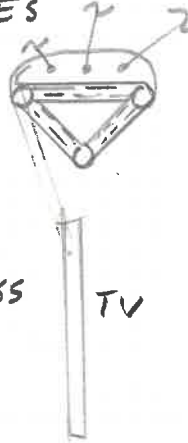
TV Truss Support

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



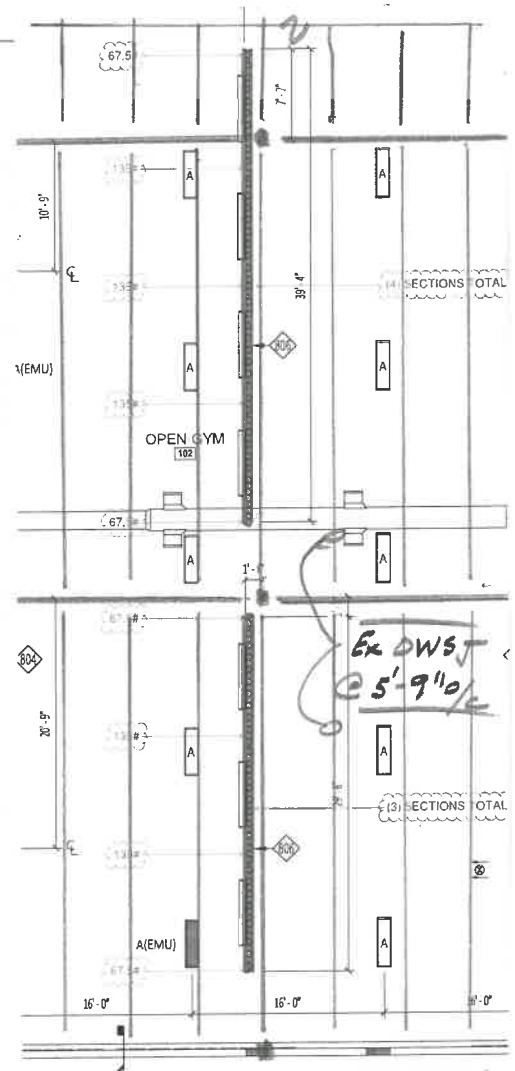
FOR THE WORST CASE OF ALUM TRUSSES SUPPORTED BY A SINGLE DWSJ, CALCULATE THE EQUIVALENT UNIT AREA LOAD

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

TYPICAL MISC/MECH LOAD = 5 psf ≥ 3.1

(NOTE: NO CEILING LOAD SINCE TRUSSES EXPOSED)

SPECIFY ALUM TRUSS TO BE ANCHORED TO UNIT STRUT B/T TRUSSES AT TRUSS JAW POINTS.



PRCTI20250853



STRUCTURAL
ENGINEERING

PROJECT
PLANET FITNESS
50 HILL CNTR SPALD IDA
4102 S. Meridian
Puyallup, WA 98373

DATE
8-13-25
PROJ.
DESIGN
SHEET 2