christian c. fynboe pe
CONSULTING ENGINEER
12181 C Street S. • TACOMA, WA 98444 • (253) 537-8128 • FAX 531-1285

PROJECT: CASCADE CHRISTIAN OFFICE			SHEET NO.
BY: CF	DATE: 3/23/22	JOB NO. 22044	1/6

City of Puyallup
Building
ACCEPTED
JMontgomery
05/11/2022
8:19:32 AM

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

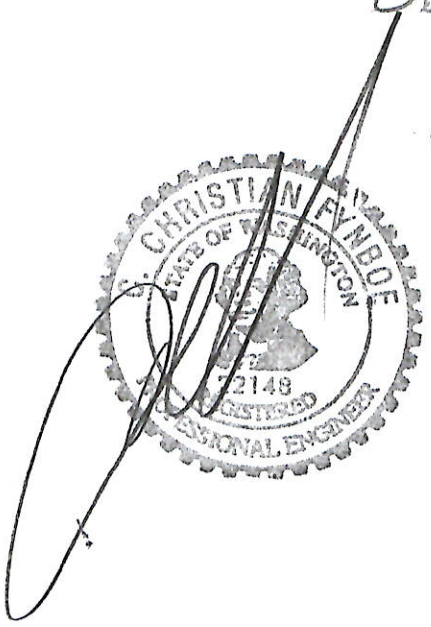
THE APPROVED CONSTRUCTION PLANS, DOCUMENTS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

FULL SIZED LEDGIBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITEE ON SITE FOR INSPECTION

STRUCTURAL CALCULATIONS FOR THE CASCADE CHRISTIAN OFFICE ADDITION (815 – 2ND ST SE)

– JEFF BROWN ARCHITECTURE

DESIGN PARAMETERS: 2018 IBC
SEE NOTES ON "S1.1"



Hazards by Location

City of Puyallup
Development & Permitting Services
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Search Information

Address: Puyallup, WA, USA

Coordinates: 47.1853785, -122.2928974

Elevation: 41 ft

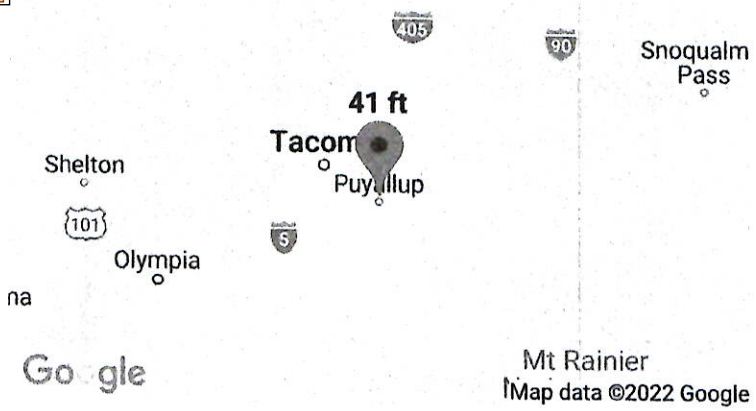
Timestamp: 2022-03-23T15:23:05.377Z

Hazard Type: Seismic

Reference Document: ASCE7-16

Risk Category: II

Site Class: D-default



Basic Parameters

Name	Value	Description
S_S	1.27	MCE_R ground motion (period=0.2s)
S_1	0.437	MCE_R ground motion (period=1.0s)
S_{MS}	1.524	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	1.016	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

$V = 1.02/6.5 W = 1.16W$

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1.2	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.914	Coefficient of risk (0.2s)
CR_1	0.898	Coefficient of risk (1.0s)
PGA	0.5	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.6	Site modified peak ground acceleration

T_L	6	Long-period transition period (s)
SsRT	1.27	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.389	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.437	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.487	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

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* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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Hazards by Location

A22044

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Search Information

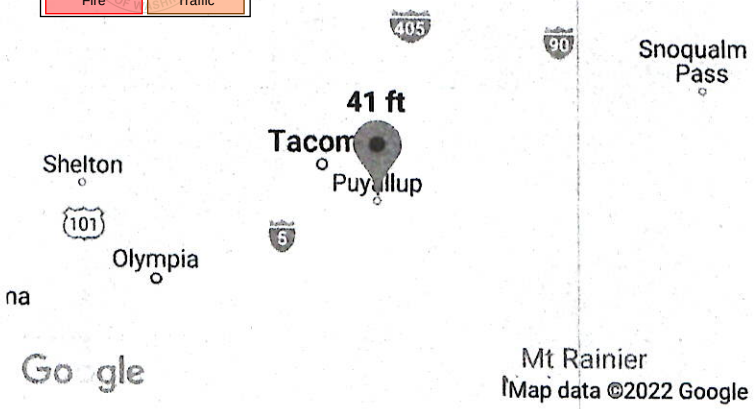
Address: Puyallup, WA, USA

Coordinates: 47.1853785, -122.2928974

Elevation: 41 ft

Timestamp: 2022-03-23T15:22:48.181Z

Hazard Type: Wind



ASCE 7-16		ASCE 7-10		ASCE 7-05	
MRI 10-Year	67 mph	MRI 10-Year	72 mph	ASCE 7-05 Wind Speed	85 mph
MRI 25-Year	73 mph	MRI 25-Year	79 mph		
MRI 50-Year	78 mph	MRI 50-Year	85 mph		
MRI 100-Year	82 mph	MRI 100-Year	91 mph		
Risk Category I	92 mph	Risk Category I	100 mph		
Risk Category II	97 mph	Risk Category II	110 mph		
Risk Category III	104 mph	Risk Category III-IV	115 mph		
Risk Category IV	108 mph				

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Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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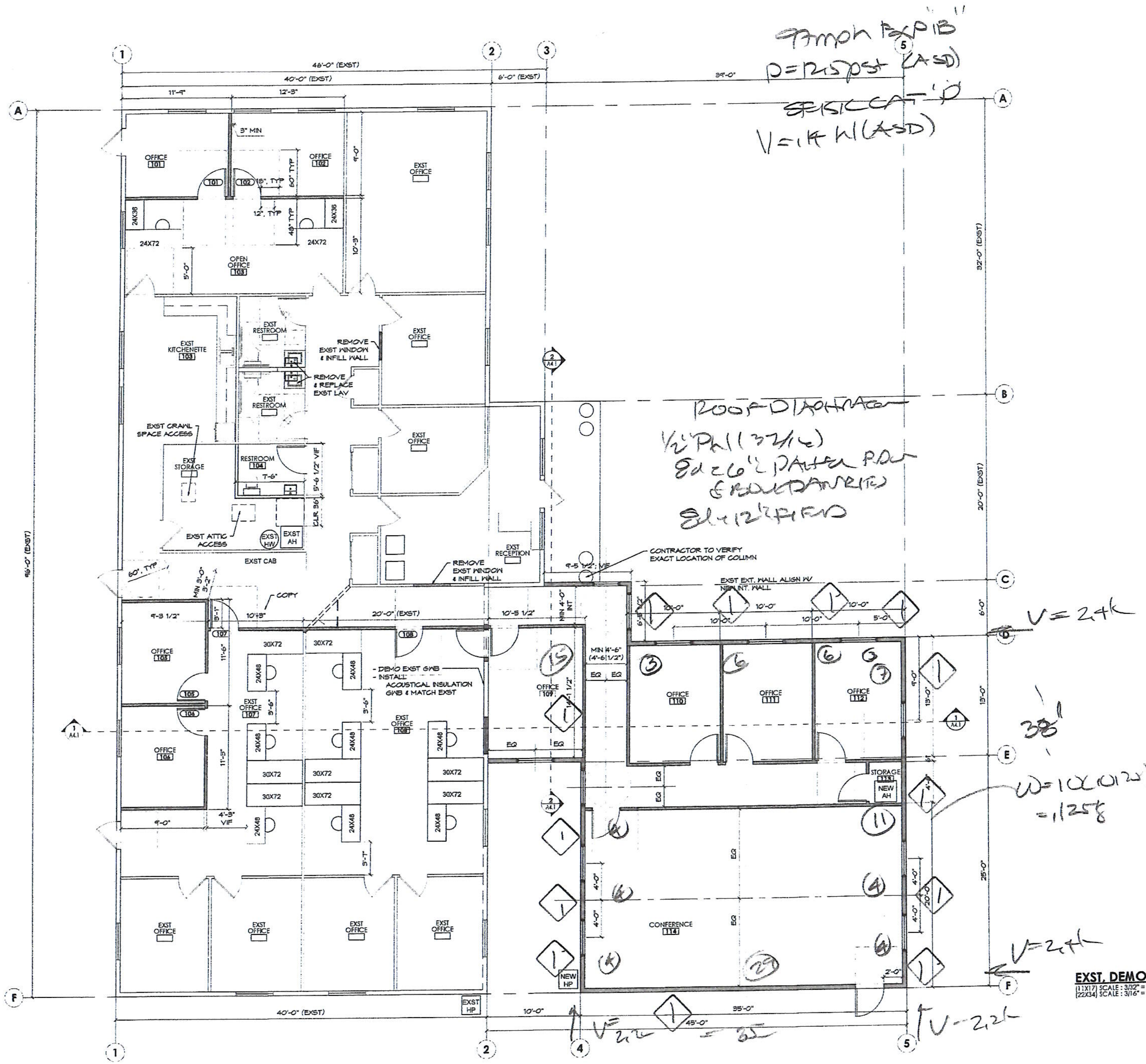

EXST, DEMO, AND NEW FLOOR PLAN

(11X17) SCALE : 3/32" = 1'-0"
(22X34) SCALE : 3/16" = 1'-0"

City of Puyallup
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Fire	Traffic

JEFF BROWN ARCHITECTURE

JEFF BROWN ARCHITECTURE
1218 1/2 C STREET SOUTH
TACOMA, WA 98444

PROJECT LEAD
JEFFREY E. BROWN
253.606.8324
jeff@jeffbrownarchitecture.com

3774 REGISTERED ARCHITECT JEFFREY E. BROWN STATE OF WASHINGTON

PROJECT NAME/ADDRESS

CASCADE CHRISTIAN SCHOOLS
DISTRICT OFFICE TI & ADDITION
815 21ST STREET SE
PUYALLUP, WA 98372

PROJECT NUMBER
22003

DRAWING TYPE
PERMIT DOCUMENTS

DATE	ISSUE	NO.
03.16.22		

SHEET TITLE
EXST, DEMO, NEW FLOOR PLAN

SHEET #
A2.1

christian fundoe pc
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PROJECT:			SHEET NO.
BY:	DATE:	JOB NO. 22044	6/48

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Mark (shear capacity)	Wall Type (3)	Panel Edge Nailing (1), (2)	Intermediate Nailing (2)	Bottom Plate Anchor Bolting or Nailing (5)
1 (200 lb/ft.)	½" CDX Plywood or OSB, one side	8d @ 6" o.c.	8d @ 12" o.c.	½" A.B. @ 4'-0" o.c. or 16d @ 7½" o.c.
2 (350 lb/ft.)	½" CDX Plywood or OSB, one side	8d @ 4" o.c.	8d @ 12" o.c.	5/8" A.B. @ 3'-4" o.c. or 16d @ 4" o.c.
3 (700 lb/ft.)	½" CDX Plywood or OSB, both sides	8d @ 4" o.c. (4)	8d @ 12" o.c.	3/4" A.B. @ 2'-0" o.c. or 16d @ 2" o.c.
11 (200 lb/ft.)	½" GWB, both sides	5d cooler nails @ 7" o.c.	5d cooler nails @ 7" o.c.	½" A.B. @ 4'-0" o.c. or 16d @ 8" o.c.

Notes:
1. Block all panel edges.
2. Common or box nails.
3. 2x studs shall be H.F. #2 or better, kiln-dried.
4. Use 3x studs and plates @ panel edges, wall type 3 only.
5. Anchor bolts shall have minimum 3" by 3" by ¼" thick plate washers.

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PROJECT:			SHEET NO.
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SHEAR WALL (HEM FIR VALUES)

(1) 15/32" STRUCT I 8d @ 6" o/c 280(.82) = 230 lb/ft
1/2" ϕ AB @ 4'0" o/c 600(1.6/4) = 240 lb/ft
16d @ 7 1/2" o/c 91(1.6) 12/7.5 = 233 lb/ft

200 lb/ft

(2) 15/32 STRUCT I 8d @ 4" o/c 430(.82) = 353 lb/ft
5/8" ϕ AB @ 3'4" 860(1.6)/3.33 = 413 lb/ft
16d @ 4" o/c 91(1.6) 12/4 = 437 lb/ft

350 lb/ft

(3) 15/32 STRUCT I 8d @ 4" o/c 353(2) = 706 lb/ft
3/4" ϕ AB @ 2'0" o/c 1180(1.6)/2 = 944 lb/ft
16d @ 2" o/c 91(1.6) 12/2 = 873 lb/ft

700 lb/ft

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ROOF FRAMING

l = 8' HOR

W = .045(19.5) = .88 k/ft

M = .88 (8.)²/8 12 = 84.4 k"

S REQD = 84.4/1.965(1.15) = 76.0 in³

4x12 DF#2

FLOOR FRAMING

l = 5'

W = (.05 + .01 + .02)10 = 0.8 k/ft

M = 0.8 (5)²/8 12 = 30 k"

S REQD = 30/1.05 = 28.6 in³

4x10 DF#2