

Ucluelet Community Centre, Ucluelet, BC
Outline Building Code Analysis
BCBC 2012

Project: Proposed two storeys community centre building with gymnasium, lounge area, cafeteria and office/administration area.

1.4.1.2 Building Area 14,820 sq ft

1.4.1.2 Building Height 2 storeys

3.1.2.1 Major Occupancy A2-Assembly & D-Office

3.1.3.1 Multiple Occupancy Requirements
A2 to D = 1 hour f.r.r – not required – subsidiary

3.1.17 Occupant Load

Main floor (gross floor area 14,820 sq ft):

Reception	95 sq ft/100.1 =	1 person
Multi-purpose room	738 sq ft/10.23=	72 persons
Offices	814 sq ft/100.1=	8 persons
Lounge	224 sq ft/10.23=	22 persons
Storage rooms	828 sq ft/495.16 =	2 person
Coffee/server	88 sq ft/10.23=	1 person
Gymnasium	6,818 sq ft/10.23=	667 persons
Kitchen	586 sq.ft./100.1 =	6 person
Total occupant load (main floor)		779 persons

Administrative entrance, lounge, hall and washrooms are transitory occupancies

Second floor (gross floor area 4,100 sq ft):

Mezzanine/view platform	660 sq ft/10.23 =	65 persons
Offices/administration	1,625 sq ft/100.1=	17 persons
Total occupant load (2nd floor)		82 persons

3.1.17.1(2) Actual Occupant Load (with permanent sign posted in a conspicuous location)
Total occupant load 300 persons

3.2.2 Building Size and Construction Relative to Occupancy

3.2.2.26 Group A, Division 2, up to 2 Storeys, Increased Area, Sprinklered

3.2.2.26(1)(a) Sprinklered through-out

3.2.2.26(1)(b) Not more than 2 storeys

3.2.2.26(1)(c)(ii) Not more than 25,833 sqft in building area

3.2.2.26(2) Combustible or non-combustible

3.2.2.26(2)(a) Floor assemblies fire resistance rating not less than 45 min

3.2.2.24(2)(c) Loadbearing walls, columns and arches: fire resistance rating not less than 45 min

3.2.3

Table 3.2.3.1.D

Spatial Separation and Exposure Protection

Face area	l.d.	up to permitted	construction req'd
North 3,328 sq ft	>29'-7"(pl)	100%	0 min. f.r.r
West 2,711 sq ft	52'-6"(pl)	100%	0 min. f.r.r
South 3,314 sq ft	124'-3"(street)	100%	0 min. f.r.r.
East 3,359 sq ft	25'-5"(street)	100%	0 min. f.r.r.

3.2.4

Fire Alarm and Detection Systems

3.2.4.1(1)

A fire alarm system is required as the building is sprinklered.

3.2.4.5(1)

The fire alarm is to be installed to CAN/ULC-S524 "Installation of Fire Alarm Systems".

3.2.4.5(2)

The fire alarm is to be verified to CAN/ULC-S537 "Verification of Fire Alarm Systems".

3.2.4.8(4)

The fire alarm system is to be designed to notify the fire department to CAN/ULC-S561 "Installation and Services for Fire Signal Receiving Centres and Systems".

3.2.4.9(1)

A fire alarm annunciator is to be installed near the principal entrance.

3.2.4.12(1)(e)

Smoke detectors are required in each exit stair shaft.

3.2.4.17(1)(a)+(b)

Manual (pull) stations are required at the principal entrance and at every exit.

3.2.5

Provisions for Firefighting

3.2.5.4(1)(a)

An access route for fire department vehicles is provided to the principal entrance

3.2.5.5(1)

The access route is to be between 9.84' and 49.2' of the principal entrance

3.2.5.5(2)(a)

Building provided with fire department connection, a fire department pumper vehicle can be located adjacent to the hydrants (refer to article 3.2.5.15(2)).

3.2.5.8

A standpipe system is not required for the building

3.2.5.15(2)

The fire department connection for an automatic sprinkler system shall be located so that the distance from the fire department connection to a hydrant is not more than 147.6 m and is unobstructed.

3.2.5.16(1)

Portable fire extinguishers to be provided and installed in accordance with British Columbia Fire Code

3.2.7

Lighting and Emergency Power Systems

3.2.7.1(1)

The exits and corridors providing access to exit to have a minimum illumination of 50 Lx at the floor

3.2.7.3(1)

Emergency lighting to be provided in exits, routes providing access to exits, corridors, lounge, gymnasium, mezzanine/viewing platform, meeting room and gym to minimum 10 Lx at floor level provided for a minimum of 30 minutes

3.2.8

Openings through Floor Assemblies

(draft stops req'd by NFPA 13) –deleted with alternate solution. Provide additional smoke detectors at edge of floor opening in lieu of draft stops.

3.2.8.2(6)

The interconnected floor space need not conform to 3.2.8.3 to 3.2.8.9 provided:

3.2.8.2(6)(a)

The interconnected floor space is located in the first and second storeys.

3.2.8.2(6)(b)

The building is sprinklered throughout.

3.2.8.2(6)(c)

The space contains a Group A2 & D occupancy.

3.2.8.2(6)(d)

The building area to be less than half the area permitted by 3.2.2.26.

- 3.3 Safety Within Floor Areas
- 3.3.1.1 The first and second storeys are considered as one suite.
- 3.3.1.5(1) Minimum 2 egress doorway required for lounge, gymnasium and mezzanine/view platform
- 3.3.1.5(1)(b) A single egress doorway is permitted from other rooms as the occupant load of each room is less than 60,
- 3.3.1.5(1)(d)(i & ii) The travel distance to the egress doorway is less than 82.0' and the rooms are less than 2152 sq ft in area each
- 3.3.1.11(2) The egress doorways from all rooms except lounge, gymnasium and mezzanine/viewing platform do not have to swing in the direction of travel to an exit as the occupant load of each room is less than 60 persons
- 3.3.1.13(10)(b)(i) Doors providing access swinging in to have a clear and level area 5'-0" long with a minimum of 2'-0" clear space on the latch side of the door.
- 3.3.1.13(10)(b)(ii) Doors providing access swinging out to have a clear and level area 4'-0" long with a minimum of 1'-0" clear space on the latch side of the door.
- 3.3.1.17(2) The width of corridors and doorways far exceeds the minimum widths required for capacity of access to exits in all area (6.1mm/persons)
- 3.3.1.21(3) The janitor room is to be separated from the rest of the floor area by a fire separation with 0 hour fire resistance rating required.

- 3.4 Exits
- 3.4.2.1(1) At least 2 exits are provided from building
- 3.4.2.5(1)(c) The travel distance from any point in the proposed addition to at least one exit is < 147.6' (45 m)
- 3.4.3.2(1) The main floor occupant load is 779 persons (x 6.1mm) requiring 15.6' of doorway and corridor width
The second floor occupant load is 82 persons (x 6.1mm) requiring 1.64' of doorway and corridor width and (x 8mm) 2.15' of exit stair width
- 3.4.5.1(1)(b) Exits signs are required at all exit doors and in the egress corridors
- 3.4.5.1(2)(b) Every exit sign shall consist of a green pictogram and white or lightly tinted graphical symbol meeting the colour specifications referred to in ISO 3864-1, "Graphical symbols – Safety colours and safety sign – Part 1: Design principles for safety signs in workplaces and public areas,"
- 3.4.5.1(2)(c) Every exit sign to conform to the dimensions indicated in ISO 7010, "Graphical symbols – Safety colours and safety signs – Safety signs in workplaces and public areas,"
- 3.4.6.16(2)(a)(b) All exit doors from lounge, gymnasium, mezzanine/view platform, entry doors and exit doors leading from exit stair shaft and corridor doors to have door "panic" release hardware

- 3.5 Vertical Transportation.
- 3.5.3.1(1) The elevator hoistway is to be separated from the rest of the building by a 45 minute fire separation.

- 3.6.2 Service Rooms
- 3.6.2.1(2) Service rooms with fuel-fired appliances that serves only 1 suite not required to be separated from the rest of the building
- 3.6.2.1(8) Service rooms contains service equipment, and the service equipment constitutes a

fire hazard or is essential to the operation of fire safety systems (i.e. sprinkler system) in the building is required to be separated from the rest of the building by 1 hour fire separation

3.7

Health Requirements

3.7.2.2(6)

Based on an occupant load of 300 persons, the school requires 3 male water closets and 5 female water closets. Provided are 4 male water closets, 4 female water closets, 1 universal toilet and 2 universal accessible toilets

3.8

Building Requirements for Persons With Disabilities

3.8.2.1(1)

Main floor and second floor shall be accessible

3.8.2.3(1)(a)

Access is provided from the street to the main entrance.

3.8.2.3(1)(b)

Accessible parking is provided in the parking

3.8.2.3(2)(a)

2 universal toilets room provided.

3.8.2.3(2)(b)

With the building occupant load exceeding 150, all other public washrooms are also required to be accessible.

3.8.3.5(4)(c)

A power operated door is required at front entry and lounge doors in both directions.

3.8.3.18

Public counters to have an accessible counter section