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BCBC 2018 REVIEW

2024-02-02-ARCHITECTURAL

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This report summarizes a cursory review of the BC building code for the proposed project at 1152 Hwy 21N, Creston BC. Comments and instructions noted are for the purposes of inclusions or revisions.

APPLICABLE BUILDING CODE

THIS PROJECT MUST MEET THE CRITERIA OF THE CURRENT EDITION OF THE BC BUILDING CODE 2018

BUILDING HEIGHT AND AREA

As defined in Div A Section 1.4 Terms and Abbreviations

Building Height	11.772 m
Building Area	1332.87 m <sup>2</sup>

BUILDING CLASSIFICATION

GROUP 'A-2' ASSEMBLY

THE BUILDING IS CLASSIFIED UNDER THE FOLLOWING ARTICLES OF BC BUILDING CODE 2018

REFERENCE ITEM	CODE REQUIREMENTS	MIN. REQ'T	PROVIDED
3.2.2.25	GROUP A-2, UP TO 2 STOREYS IT IS NOT MORE THAN 2 STOREYS IN BUILDING HEIGHT IT HAS A BUILDING AREA NOT MORE THAN 1600 m <sup>2</sup> IF FACING 1 STREET PERMITTED TO BE OF COMBUSTIBLE OR NONCOMBUSIBLE CONSTRUCTION FLOOR ASSEMBLIES SHALL BE FIRE SEPARATIONS WITH A FRR OF NOT LESS THAN 45 HOUR MEZZANINES SHALL HAVE A FIRE RESISTANCE RATING OF NOT LESS THAN 45 MINS ROOF ASSEMBLIES, IF COMBUSTIBLE CONSTRUCTION SHALL HAVE A FRR OF NOT LESS THAN 45 MINS LOADBEARING ELEMENTS SHALL HAVE A FIRE RESISTANCE RATING NOT LESS THAN 45 MINS	<2 STOREY <1600 m <sup>2</sup> 45 min FRR 45 min FRR 45 min FRR 45 min FRR	1 STOREY 1332.87 m <sup>2</sup>

AREA OF UNPROTECTED OPENING

3.2.3.2	UNPROTECTED OPENING TO BE SET BY THE LIMITS SET BY TABLE 3.2.3.1.B	LIMITING DIST.	ACTUAL DIST.
	NORTH - 10:1 (126m <sup>2</sup> ) - 9% OPENING (100% ALLOWED)	36.308	72.616
	WEST - 13:1 (175m <sup>2</sup> ) - 6% OPENING (100% ALLOWED)	25.753	51.506
	SOUTH - 10:1 (126m <sup>2</sup> ) - 15% OPENING (100% ALLOWED)	12.938	25.876
	EAST 13:1 (175m <sup>2</sup> ) - 10% OPENING (100% ALLOWED)	91.7795	183.559

CONSTRUCTION OF EXPOSING BUILDING FACE

3.2.3.7	NORTH WALL	COMBUSTIBLE
	SOUTH WALL	COMBUSTIBLE
	EAST WALL	COMBUSTIBLE
	WEST WALL	COMBUSTIBLE

PROTECTION OF STRUCTURAL MEMBERS

3.2.3.9.	STRUCTURAL MEMBERS OF HEAVY TIMBER CONSTRUCTION, INCLUDING BEAMS, COLUMNS AND ARCHES, THAT ARE PLACED WHOLLY OR PARTLY OUTSIDE THE EXTERIOR FACE OF A BUILDING AND ARE 3m OR MORE FROM THE PROPERTY LINE OR THE CENTRE LINE OF A PUBLIC THOROUGHFARE NEED NOT BE COVERED WITH NONCOMBUSTIBLE CLADDING.
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HEAVY TIMBER CONSTRUCTION

3.1.4.7.	WOOD ELEMENTS IN HEAVY TIMBER CONSTRUCTION SHALL BE ARRANGED IN HEAVY SOLID MASSES AND WITH ESSENTIALLY SMOOTH FLAT SURFACES TO AVOID THIN SECTIONS AND SHARP PROJECTIONS.		
	ROOFS ONLY	COLUMNS	140X191
		BEAMS	89X140

OCCUPANT LOADS AND EXIT CAPACITIES

3.1.17.1	OCCUPANT LOAD IS BASED ON REQUIREMENTS ACCORDING TO 3.1.17.1
3.1.17.1(4)	IF A ROOM OR GROUP OF ROOMS IS INTENDED FOR DIFFERENT OCCUPANCIES GREATER NUMBER PREVAILS

FIRST FLOOR:			
AREA m <sup>2</sup>	ROOM SPACE	m <sup>2</sup> /PERSON	OCC. LOAD
	SANCTUARY SEATING		236
	OVERFLOW SEATING		157
23.93	STAGE	0.75	32
36.92	CLASSROOMS	1.85	20

10.93	FATHERS ROOM	1.85	6
19.63	MOTHERS ROOM	1.85	11
399.13	FELLOWSHIP HALL	1.2	333
86.1	KITCHEN	9.3	10
43.96	SEWING ROOM	9.3	5
12.68	OFFICE	9.3	2
27.66	MECHANICAL/JANITOR	46	1
6.51	BOOKROOM	1.85	4
	TOTAL		817
TYPICAL USE LOAD:	SANCTUARY, STAGE, CLASSROOMS OVERFLOW, MOTHERS/FATHERS ROOMS		462

### 3.4 EGRESS AND EXITS

3.4.2.1.(1)	EVERY FLOOR AREA INTENDED FOR OCCUPANCY SHALL BE SERVED BY AT LEAST 2 EXITS	2 EXITS	MET
3.4.2.3	DISTANCE BETWEEN EXITS - HALF DIAGONAL DISTANCE		MET
3.4.3.2.(8)	MINIMUM EXIT WIDTH OF STAIRS MINIMUM EXIT WIDTH OF CORRIDOR & PASSAGEWAYS	900 mm 1100 mm	N/A MET
3.4.3.4	EXIT HEADROOM EXIT CLEARANCE TO DOORWAY	2100 mm 2030 mm	MET MET
3.4.2.5 (1) (C))	TRAVEL DISTANCE TO AT LEAST ONE EXIT DOES NOT EXCEED 30m	30m MAX	MET
EXIT WIDTH			
3.4.3.2	EXIT WIDTH OF DOORWAYS, CORRIDORS, AND PASSAGEWAYS PER PERSON	6.1 mm	4984 mm MET
3.4.3.2 (1)(b)	EXIT WIDTH OF STAIRS PER PERSON	8 mm	N/A

### FIRE SEPARATION & CLOSURES

FIRE SEPARATION ASSEMBLIES ARE BASED UPON THE UNDERWRITER'S LABORATORIES OF CANADA LIST OF EQUIPMENT AND MATERIALS, VOLUME 111, FIRE RESISTANCE RATINGS (ULC), UNLESS OTHERWISE NOTED. ALL FIRE RESISTANT RATINGS STATED HEREIN ARE MINIMUM REQUIREMENTS, AND MAY BE CONSTRUCTED WITH GREATER FIRE-RESISTANCE THAN REQUIRED.

FIRE SEPARATIONS SHALL BE CONSTRUCTED AS A CONTINUOUS ELEMENT AND HAVE A FIRE RESISTANCE RATING AS SPECIFIED. THE CONSTRUCTION OF THE FIRE SEPARATIONS SHALL CONFORM TO BC 3.1.8 AND BC 3.1.9. ALL PENETRATIONS IN FIRE SEPARATIONS MUST BE TIGHTLY FITTED AND SEALED BY AN APPROVED FIRE STOP SYSTEM.

3.3.1.4	PUBLIC CORRIDORS SHALL BE CONSTRUCTED WITH A FRR OF NOT LESS THAN 45 min	45 hr FRR	
3.3.1.5(1)	TWO EGRESS DOORWAYS ARE REQUIRED FOR EACH ROOM WITH OL MORE THAN 60 DOORWAYS TO BE AT A DISTANCE FROM ONE ANOTHER OF ONE THIRD THE DIAGONAL DIMENSION OF AREA SERVED TRAVEL DISTANCE TO NOT EXCEED 30M WITHIN AREA TO EGRESS		MET MET MET
3.3.1.7	2 ZONES FIRE SEPARATION FOR FLOOR AREAS WITH ACCESSIBLE PATH OF TRAVEL	1 hr FRR	
3.3.1.11	DOORS SHALL SWING ON A VERTICAL AXIS IN THE DIRECTION OF TRAVEL TO EXIT		
3.4.4.1 (1)	EXITS SHALL BE CONSTRUCTED WITH A FIRE SEPARATION WITH A FRR NOT LESS THAN 45 MIN	45 min FRR	
3.3.4.3.(2)	STORAGE ROOMS SHALL BE SEPARATED FROM THE REMAINDER OF THE BUILDING WITH A FIRE RESISTANT RATING OF NOT LESS THAN 1 HOUR	1 hr FRR	
3.3.2.5	AISES MIN 1100mm , 750mm IF SERVING LESS THAN 60 SEATS, 900mm IF SERVING ONLY ONE SIDE		MET
3.3.2.5.(3)	INCREASE AISLE WIDTH 25mm FOR EVERY METRE FROM CROSS AISLE, FOYER OR EXIT		MET
3.3.2.5.(4)	AISES SHALL TERMINATE IN CROSS AISLE, FOYER, OR EXIT WITH A WIDTH NOT LESS THAN THE WIDTH OF THE WIDEST AISLE PLUS 50% OF TOTAL OF AISES REMAINING THAT IT SERVES		MET
3.3.2.8	FIXED BENCH SEATING WITHOUT ARMS SHALL ASSUME 450MM PER PERSON MIN 760mm O/C FOR ROWS IF BACKS ARE PROVIDED, 550mm IF NOT CLEAR SPACE OF 300mm BETWEEN BACK OF SEAT AND FRONT OF SEAT BEHIND	760mm 300mm	MET MET MET
3.6.2.1 (1) 3.6.2.6.(1)	FIRE SEPARATION FOR MECHANICAL ROOM DOORS IN A SERVICE ROOM CONTAINING BOILER SHALL SWING OUT EXCEPT FOR DOORS OPENING IN CORRIDOR	1 hr FRR	
3.6.2.1.(6)	FIRE SEPARATION FOR ELECTRICAL ROOM	1 hr FRR	
3.6.2.1.(8)	WHERE A SERVICE ROOM CONTAINS LIMITED QUANTITY OF SERVICE EQUIPMENT, AND THE SERVICE EQUIPMENT NEITHER CONSTITUTES A FIRE HAZARD NOR IS ESSENTIAL TO THE OPERATION OF FIRE SAFETY SYSTEMS IN THE BUILDING, THE REQUIREMENTS FOR A FIRE SEPARATION SHALL NOT APPLY.		
TABLE 3.1.8.4	FIRE PROTECTION RATING OF CLOSURES SHALL BE:		
	FRR OF FIRE SEPARATION	MIN. FPR OF CLOSURE	
	45 min		45 min
	1 hr		45 min
3.1.8.12.(1) (a) 3.1.8.7	BETWEEN PUBLIC CORRIDOR & SUITE FIRE DAMPERS IN DUCTS BETWEEN FIRE SEPARATION REQUIRED	20 min	

3.1.8.8. (1)	FIRE DAMPERS NOT NEEDED IN NONCOMBUSTIBLE CONSTRUCTION IF DUCT HAS A MELTING POINT OF	760 deg C		
FIRE BLOCKS IN CONCEALED SPACES				
3.1.11.5.	HORIZONTAL CONCEALED SPACES WITHIN A FLOOR ASSEMBLY OR ROOF ASSEMBLY OF COMBUSTIBLE CONSTRUCTION, IN WHICH SPRINKLERS ARE NOT INSTALLED, SHALL BE SEPARATED BY CONSTRUCTION CONFORMING TO ARTICLE 3.1.11.7. B) NOT MORE THAN 300m2 IN AREA WITH NO DIMENSION MORE THAN 20m IF THE EXPOSED CONSTRUCTION MATERIALS WITHIN THE SPACE HAVE A FLAME-SPREAD RATING MORE THAN 25			
FLAME SPREAD RATING				
3.1.13.2.	EXCEPT AS OTHERWISE REQUIRED OR PERMITTED BY THIS SUBSECTION, THE FLAME-SPREAD RATING OF INTERIOR WALL AND CEILING FINISHES, INCLUDING GLAZING AND SKYLIGHTS, SHALL BE NOT MORE THAN 150 AND SHALL CONFORM TO TABLE 3.1.13.2.	150		
3.2.5 PROVISIONS FOR FIRE FIGHTING				
3.2.2.10.	EVERY BUILDING SHALL FACE A STREET FOR ACCESS ROUTES. MUST CONFORM TO REQUIREMENTS OF 3.2.5.4 AND 3.2.5.5 FOR ACCESS ROUTES			
3.2.4.1.	A FIRE ALARM SYSTEM SHALL BE INSTALLED IN A BUILDING THAT IS NOT SPRINKLERED AND HAS A TOTAL OCCUPANT LOAD MORE THAN 300			
3.2.5.4 (1)	BUILDINGS MORE THAN 3 STOREYS OR MORE THAN 600m2 SHALL BE PROVIDED WITH ACCESS ROUTES FOR FIRE DEPARTMENT VEHICLES			
3.2.5.5.(1)	PRINCIPAL ENTRANCE AND EVERY ACCESS OPENING ARE LOCATED BETWEEN 3-15m FROM CLOSEST PORTION OF ACCESS ROUTE FOR FIRE DEPARTMENT USE	3-15m		
3.2.5.6.(1) (a)	CLEAR WIDTH OF ACCESS ROUTE FOR FIRE DEPARTMENT	6m MIN.		
3.2.5.6.(1) (b)	CENTRE LINE RADIUS	12m MIN.		
3.2.5.6.(1) (c)	OVERHEAD CLEARANCE	5m MIN.		
3.2.5.6.(1) (d)	CHANGE OF GRADIENT 1 IN 12.5 MAX AT MIN. DISTANCE OF 15m			
3.2.5.6.(1) (e)	SUPPORT EXPECTED LOADS IMPOSED BY FIREFIGHTING EQUIPMENT AND BE SURFACED WITH CONCRETE, ASPHALT OR OTHER MATERIAL DESIGNED TO PERMIT ACCESSIBILITY UNDER ALL CLIMATIC CONDITIONS			
3.2.5.6.(1) (f)	TURNAROUND FACILITIES FOR ANY DEAD-END PORTION OF ACCESS ROUTE	90m MIN.		
3.2.5.6.(1) (g)	ACCESS ROUTE TO BE CONNECTED TO A PUBLIC THOROUGHFARE			
3.2.5.7 WATER SUPPLY				
3.2.5.7.(1)	PROVIDE ADEQUATE WATER SUPPLY FOR FIREFIGHTING (SEE A-3.2.5.7.(1))			
3.2.7.4.(b)iii	MINIMUM EMERGENCY POWER SUPPLY	1hr		
3.7.2.2 WATER CLOSETS				
3.7.2.2(8)	THE NUMBER OF WATER CLOSETS REQUIRED FOR PLACES OF WORSHIP AND UNDERTAKING PREMISES SHALL BE AT LEAST ONE FOR EACH 150 PERSONS OF EACH SEX	MALE FEMALE UNIVERSAL	4 4 4	5 6 4
3.7.2.3(1)	AT LEAST ONE LAVATORY SHALL BE PROVIDED IN EACH ROOM CONTAINING ONE OR 2 WATER CLOSETS OR URINALS, AND AT LEAST ONE ADDITIONAL LAVATORY SHALL BE PROVIDED FOR EACH ADDITIONAL 2 WATER CLOSETS OR URINALS	MENS FEMALE MOTHERS RM UNIVERSAL	3 3 1 1	4 4 1 1
3.8.2.3 DESIGNATED WHEELCHAIR SPACES				
	ASSEMBLY OCCUPANCY - NUMBER OF SPACES DESIGNATED FOR WHEELCHAIR USE	7		
3.2.7 LIGHTING & EMERGENCY POWER SYSTEMS				
3.2.7.1(1)	PROVIDE EMERGENCY LIGHTING NOT LESS THAN 10 lx AT FLOOR OR TREAD LEVEL IN EXITS, PRINCIPAL ROUTES PROVIDEING ACCESS TO EXIT IN OPEN FLOOR AREAS AND IN SERVICE ROOMS, PUBLIC CORRIDORS, FOOD PREPARATION AREAS IN COMMERCIAL KITCHENS, PUBLIC WASHROOMS, CATWALK			
3.2.7.4 (1)iii	PROVIDE EMERGENCY POWER SUPPLY FROM BATTERIES OR GENERATORS	30min		
3.2.7.8	EMERGENCY POWER FOR FIRE ALARM SYSTEM			
3.2.7.8.(1)	EMERGENCY POWER SUPPLY FOR FIRE ALARM & VOICE COMMUNICATION SYSTEM			
3.2.7.8.(2)	EMERGENCY POWER SUPPLY FROM GENERATOR, BATTERY OR COMBINATION			

ISSUED BY THE CONSULTANT:

Ryan Donkersgoed

Name

Signature

Date

02-Feb-24