



## Advisory

July 11, 2019

### Subject:

Application of Alberta Building and Fire Codes to a Micro-brewery

### Background:

#### Determining Application of Brewery to Codes

The Alberta Building Code (ABC) and the Alberta Fire Code (AFC) do not refer specifically to prescriptive requirements for Breweries regardless of the size of the occupancy, size of the equipment or amount of production. A micro-brewery would not be considered a High Hazard Industrial Occupancy (F1) as defined in the codes but could be considered a medium (F2) or low hazard (F3) industrial occupancy. It is generally best to consider the building an F2 occupancy as that gives the most flexibility in consideration of future occupancies or expansion. For the purposes of this Advisory the building will be considered an F2 occupancy. Where there is a desire to include other complimentary uses within the micro-brewery it may be necessary to consider the occupancy F3. That option is discussed in the section below on separation of the microbrewery from other occupancies. If the building is to be classified as an F3 occupancy, further discussions should take place with an SCO.

The definitions from both the ABC and AFC are:

*High-hazard industrial occupancy* (Group F, Division 1) means an *industrial occupancy* containing sufficient quantities of highly *combustible* and flammable or explosive materials which, because of their inherent characteristics, constitute a special fire hazard.

*Medium-hazard industrial occupancy* (Group F, Division 2) means an *industrial occupancy* in which the *combustible* content is more than 50 kg/m<sup>2</sup> or 1 200 MJ/m<sup>2</sup> of *floor area* and not classified as a *high-hazard industrial occupancy*.

*Low-hazard industrial occupancy* (Group F, Division 3) means an *industrial occupancy* in which the *combustible* content is not more than 50 kg/m<sup>2</sup> or 1 200 MJ/m<sup>2</sup> of *floor area*.

#### Building Code Requirements

The Building Code defines a set of requirements for construction of buildings for the purpose of providing an acceptable level of personal safety and well-being for people who would be using the building. When an existing building is to be renovated and/or changes occupancy classifications for the micro-brewery, it is examined under the Building Code as if it were a new building.

There are specific prescriptive requirements in the ABC for the construction of F2 occupancies to be considered. These requirements are to deal with the issues of:

- egress,
- fire separations between occupancies,
- fire alarm systems,
- sprinklering,
- spatial separation to property lines and/or adjacent buildings,
- type of construction (combustible or non-combustible),
- hose stations

**This Advisory Bulletin is issued by The City of Calgary, Calgary Building Services. Advisory Bulletins have no legal status and cannot be used as an official interpretation of the various bylaws, codes and regulations currently in effect. The City of Calgary accepts no responsibility to persons relying solely on this information.**



- door hardware and direction of swing
- maximum building area and,
- other building component requirements.

The building may need to be sprinklered and be constructed of noncombustible construction if it is a large floor area or a number of storeys in building height. Smaller buildings are able to be of combustible or non-combustible construction. These general requirements are addressed in Subsection 3.2.2. of the ABC.

#### Separation of the Microbrewery from Other Occupancies

Further ABC and AFC definitions that become applicable for separation of occupancies:

*Major occupancy* means the principal *occupancy* for which a *building* or part thereof is used or intended to be used, and shall be deemed to include the subsidiary *occupancies* that are an integral part of the principal *occupancy*.

*Assembly occupancy* means the *occupancy* or the use of a *building*, or part thereof, by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes, or for the consumption of food or drink.

An occupancy satisfying the definition of "subsidiary" as used in the definition of major occupancy need not be fire separated from the major occupancy. However, life safety requirements of Section 3.3., "Safety Within Floor Areas", still apply to the subsidiary occupancies regardless of the major occupancy of the building which contains them.

The City of Calgary has issued Regulations Bulletin RB14-001 that deals with restaurants in department stores, which are considered Mercantile Group E occupancies under the Building Code. The logic and conditions from that Regulations Bulletin can be considered applicable here due to the comparable risk between the mercantile/assembly occupancies and the micro-brewery/assembly occupancy. The classification as a subsidiary occupancy should be made only when it satisfies all the following rules of mutual and exclusive interdependence with the major occupancy, including the following:

- (a) the subsidiary occupancy serves only that major occupancy and no other, and it would cease to exist in the absence of the major occupancy,
- (b) the major occupancy would cease to function effectively if the subsidiary occupancy is deleted or even physically removed to another location,
- (c) the major and subsidiary occupancies are under the control of the same management
- (d) there is free accessibility at all times between the subsidiary occupancy and its major occupancy.

There are three scenarios that are considered below when determining the fire safety requirements regarding the separation of the microbrewery from adjacent occupancies in a multitenant building and separating a microbrewery from occupancies associated with its operation:

#### Scenario #1

Where a micro-brewery contains a tasting area or restaurant, those areas are considered an Assembly occupancy (A2). Where that A2 is <10% of the building area the, tasting area is considered as a subsidiary occupancy and a fire separation is not required between the brewery and the tasting area. Alberta Gaming Liquor & Cannabis (AGLC) regulations should be consulted for any other barrier required between the brewery and the tasting area but the barrier may not interfere with emergency egress requirements. Fire separations to adjacent tenants are considered using an F2 or F3 classification for the microbrewery.

#### Scenario #2

**This Advisory Bulletin is issued by The City of Calgary, Calgary Building Services. Advisory Bulletins have no legal status and cannot be used as an official interpretation of the various bylaws, codes and regulations currently in effect. The City of Calgary accepts no responsibility to persons relying solely on this information.**



Where a micro-brewery contains an A2 that is >10% of the building area these areas are considered major occupancies under the ABC. If in an existing building, the building classification will have to consider this A2 occupancy and the classification of the base building may therefore change. Depending upon the building configuration, such as the occupancy of the other bays in a multi-bay building, the building may need to be classified according to the most restrictive major occupancy. This may affect existing tenants so consultation with an SCO is recommended.

Using the background from RB14-001 no fire separation is required between the assembly occupancy that is >10% of the entire building area and the micro-brewery if the following conditions exist:

- the occupant load of the assembly occupancy does not exceed 100
- the assembly occupancy does not occupy more than 20% of the microbrewery floor area of the storey it is located on
- the level of illumination is not less than that of the adjoining micro-brewery
- there is complete visual access between the assembly occupancy and the micro-brewery. Having complete visual access and no physical barrier is considered less hazardous than creating visual isolation with a physical barrier that does not provide adequate fire separation
- required access to exit for the A2 may not be through the brewing area (F2)

The fire separation between adjacent tenants is to comply with Articles 3.1.3.1. and 3.3.1.1. of the ABC. For the purposes of the determining the required fire resistance rating of the fire separation between the microbrewery that includes an assembly occupancy, the occupancy is considered an assembly occupancy.

### Scenario #3

When the A2 occupancy is larger than in scenario #1 and #2 then it is no longer considered subsidiary and is now considered a major occupancy. In accordance with the ABC, major occupancies must be separated from each other by an appropriately rated fire separation and the fire safety within floor area requirements of Subsection 3.3. apply to each occupancy accordingly. However, if the microbrewery/restaurant is located in a standalone building and function as subsidiary to each other as described above, a separation between the two occupancies is not required. For purposes of fire safety requirements of the ABC each occupancy is treated as if they were separated.

### Scenario #4

Where a restaurant contains a microbrewery, the microbrewery is considered an F2 or F3 occupancy. Where that F2 or F3 is <10% of the building area the, F2 or F3 is considered as a subsidiary occupancy and a fire separation is not required between the brewery and the tasting area. Alberta Gaming Liquor & Cannabis (AGLC) regulations should be consulted for any other barrier required between the brewery and the tasting area but the barrier may not interfere with emergency egress requirements. Fire separations to adjacent tenants are considered using an A2 classification for the microbrewery.

### Fire Code Requirements

The Fire Code defines a set of operational and maintenance requirements for a building in order to minimize the chance of a fire starting and in addition to ensure that the occupants of a building follow a defined plan for evacuation in the event that a fire occurs. The building permit process includes an invitation to a fire Safety Codes Officer (SCO) to review the operational requirements to prevent future complications when the owner begins brewing.

### Prescriptive Solution or Alternative Solution

**This Advisory Bulletin is issued by The City of Calgary, Calgary Building Services. Advisory Bulletins have no legal status and cannot be used as an official interpretation of the various bylaws, codes and regulations currently in effect. The City of Calgary accepts no responsibility to persons relying solely on this information.**



As there are currently no industry standards of practice that would apply to fire safety of this type of occupancy, compliance with the ABC and AFC are critical. Micro-brewery equipment descriptions and processes are important to help SCOs to understand the risk presented in the occupancy. Information submitted should include:

- the size of the container(s), annual production;
- % alcohol
- on-site and off-site storage capacity;
- location of the storage in the building;
- method of storage;
- amount of milling to be done and precautions for generation of milling dust
- protection of adjacent occupancies or tasting room occupants;
- ventilation;
- water supply for firefighting and;
- any other production details that would show an SCO how any hazard will be mitigated.

Both the ABC and AFC permit the application of alternative solutions to specific requirements to demonstrate that the proposed alternative measures meet the objectives of the code for each specific prescriptive code article for which the alternative solution is sought. In an existing building code compliance may be difficult to accomplish so additional fire protection measures in other features of the building may be considered under an alternative solution. The additional measures may include enhanced fire detection, sprinklers or egress.

### Advisory:

Prior to submitting a building permit application for a Micro-brewery, the applicant is recommended to consult with a professional architect and engineer to ensure that the requirements of both the ABC and AFC can be met and that the design, whether for a new or renovated building, will be done in a way to convey that assurance to the SCO reviewing the building permit application. A meeting with the Authority Having Jurisdiction (City of Calgary) is also strongly recommended prior to leasing or designing a space intended for use as a micro-brewery.

If the design does not comply with the prescriptive requirements of the code as interpreted above, an alternative solution, will be required. The alternative solution will need to be prepared by a professional Architect or Engineer. Whether the design is complying with the prescriptive solutions of the ABC and AFC or an alternative solution, the building permit submission must address the issues identified above and comply with the submission requirements provided in the ABC for the occupancy types provided above including the following information:

- A professional must seal and sign the drawing submission and any accompanying report
- A code analysis (as described in Division C, Subsection 2.2 Administration and Article 2.3.1.1.) that shows the applicable ABC requirements for the building and how those requirements will be complied with
- The location and fire resistance rating and construction of any adjacent fire separations and/or firewalls
- Details of the equipment including type of equipment; capacities; flammable and combustible content and; fire protection equipment and plans
- Details of storage including location, type of storage (i.e. type of container) and volume
- The site plan will need to show the other occupancies that are in the building if it is a multi-tenant building



If distilled beverage alcohol (as defined in the ABC and AFC) is created on site using distilling equipment the whole of the occupancy may need to comply with the requirements of the ABC and AFC for distilleries which may require the occupancy and building classification to be High Hazard Industrial Occupancy (F1).

This Advisory was approved at the July 10, 2019 meeting of the Codes and Standards Technical Interpretation Committee

Chief Building Official  
Calgary Building Services  
Planning & Development