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CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 02/17/16

Date: 6 January, 2016

Memo Report

From: W. Mark Cummings, P.E.

To: Mr. Bill Hopkins; Archetype Architects

Subject: **Fire Separation Evaluation for the East Wing of the Brick North Building at Thompson's Point in Portland, ME**

As requested, Fire Risk Management, Inc. (FRM) has reviewed the proposed layout for the various tenant spaces that are (to be) located within the East Wing of the Brick North Building at the Thompson's Point development in Portland, ME. It is understood that some of the tenant spaces that are depicted on the drawing provided (Drawing A1.01 – East Wing, dated 12/3/2015) may have already been constructed. Based on this drawing, the East Wing is to be subdivided into four (4) individual tenant spaces; including (from east to west), a restaurant (Assembly, A-2, occupancy[1]), a brewery (Low Hazard Industrial, F-2, occupancy), a common area that includes a museum (Assembly, A-3, occupancy), and a distillery (Moderate Hazard Industrial, F-1, occupancy) that also includes a "tasting room."

With the exception of the distillery, all other tenant spaces represent relatively low hazard occupancies; from a fire separation perspective. Although the tasting room of the distillery space would not need not have a fire-rated separation from the adjacent tenant spaces, the bulk of the distillery space must be separated from its adjacent tenants by a barrier(s) that have at least a 1-hour fire resistance rating (FRR). Since the brewery, which is classified as a low hazard industrial (F-2) occupancy, is bounded to the east and west by Assembly occupancies (A-2 to the east and A-3 to the west), there is no requirement, per the Maine Uniform Building and Energy Code (MUBEC) / International Building Code (IBC), for these occupancies to be separated from one another by any type of fire- or smoke-rated barrier(s).

It is understood that some concern exists regarding the need to separate the brewery from its adjacent tenants. However, any specific parameters for the construction of the barriers between the brewery and its adjacent tenants will likely be dictated by security and/or sound attenuation requirements. Breweries, from a fire risk perspective, likely represent a lower hazard than do the two assembly occupancies on either side of this space. Often due to the requirements for maintaining cleanliness of the equipment and brewing areas, much of the equipment and furnishings in the brewery will be constructed of non-combustible materials. Equally, the alcohol content of the beer (mash) that is produced is well below that which is considered necessary to represent any type of fire (flammability) hazard. Even at a maximum of 16% alcohol by volume, which is the metric used by the IBC to differentiate between a low and moderate hazard, a beer (or wine) is not combustible. It is generally accepted that most spirits below 40% alcohol (80 proof) do not represent a significant fire threat due to their high flash points; the temperature of the liquid that is needed to produce enough vapor to cause a flammable vapor-air mixture. The liquids involved in the brewing process will not reach an alcoholic content that presents any notable level of fire risk.

The design plan that is depicted on Drawing A1.01 for the East Wing of the Brick North Building appears to be fully code compliant. Only the barriers that separate the distillery space from its adjacent spaces/tenants need be provided with a 1-hour FRR; all others have no specific construction requirements from a fire/smoke resistance standpoint. If you have any questions regarding what has been outlined above, please don't hesitate to contact me.

W. Mark Cummings, P.E.
Principal Engineer

[1] All occupancy classifications are as defined in the International Building Code (IBC)