

**ATTACHMENT C**

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**LETTER FROM FIRE RISK MANAGEMENT**



## **FIRE RISK MANAGEMENT, INC**

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Date: 30 March, 2015

# **Memo Report**

**From:** W. Mark Cummings, P.E.  
**To:** Mr. Bo Kennedy, Fay, Spofford, & Thorndike  
**Subject:** **Fire & Life Safety Protection Review of the Proposed New Food Service Building - “The Point” at Thompson’s Point**

As requested, Fire Risk Management, Inc. (FRM) reviewed the information you provided with regards to the updated site plans for Thompson’s Point that include the addition of a new food service building, The Point, in the general vicinity of The Depot. The focus for this review was to evaluate the fire protection features of the general layout for the new building to ensure that all State and Municipal codes, regulations, and ordinances are adequately addressed for a building of this nature.

The primary codes and regulations used as reference for this review included;

1. The City of Portland Code of Ordinances; primarily Chapter 10, *Fire Prevention and Protection*, (Rev. 1-20-11),
2. City of Portland Technical Manual, Section 3 – Public Safety, (Rev. 6/17/11),
3. City of Portland Fire Department Rules and Regulations, and
4. National Fire Protection Association (NFPA) 1, the Fire Code® (2009 ed.).

Due to the plan to include a propane storage tank to support the cooking equipment within the new facility, NFPA 58 (*Liquefied Petroleum Gas Code, 2008 ed.*) was also used to support this review. Additionally, the requirements outlined in the *International Building Code (IBC), 2009 ed.*, and the *Life Safety Code® (NFPA 101), 2009 ed.*, were also reviewed to evaluate the code compliance of the building itself.

A primary area of interest for this review is to ensure that an adequate water supply is available to support manual firefighting operations; including the location and spacing of existing fire hydrants, along with having proper access to the building by firefighting equipment and personnel. The primary documentation reviewed to support of this evaluation was;

1. “The Point” at The Forefront at Thompson’s Point Interim Layout and Grading Plan; Dwg C-1, (draft) dated March 2015.

The primary “structure” of the food service building is to consist of two large shipping containers that have been mechanically joined, along their long sides, and modified to facilitate the installation of the food storage, cooking and preparation equipment. The overall dimensions of the (combined) primary structure will be approximately 16 ft by 40 ft (640 ft<sup>2</sup>). Given that the public will not have access to the inside of the building, as would be the case with a restaurant, this building would generally be classified by the IBC as a “Mercantile” occupancy; with all sales occurring through service/pick-up windows. Equally, NFPA 101 would classify this building as a “Class C” Mercantile occupancy.

Given that the structure is to consist of metal shipping containers, its construction classification, as defined by the IBC, would generally be that of Type IIB. Since the building will be a small, single-story structure, the codes (IBC and NFPA) would not require that this building be provided with installed fire sprinkler or detection/alarm systems. However, portable fire extinguishers will be required to be installed in accordance with NFPA 10, the *Standard for Portable Fire Extinguishers*, and depending on the type of cooking equipment used, an installed fire suppression system may be required to specifically protect this equipment as outlined in NFPA 96 – the *Standard for Ventilation Control and Fire Protection of*

*Commercial Cooking Operations.* Although it is always recommended that at least two (2) means of egress be provided from all areas of all buildings, due to the size and occupancy classification of this structure, it may be possible to provide only a single exit and still be fully code compliant.


If it is required to provide a propane storage tank to support cooking operations, the storage tank must be separated from the building itself. If a single storage tank is used; as long that the capacity of the tank does not exceed 1200 gallons (water volume), it may be located such that the minimum separation from the building is 10 ft. If the size of the tank is greater than 1200 gallons, or multiple storage tanks are used that result in a capacity of more than 500 gallons, the minimum separation distance must be at least 25 ft. If the storage capacity exceeds 2000 gallons, the minimum separation distance must be at least 50 ft. Based on the proposed layout of the facility, it is recommended that any propane storage tank(s) be located on the northwest side/corner of the building; opposite to where the public will be accessing the service/pick-up windows and within easy access for emergency responders.

As evaluated in an earlier assessment of the entire Thompson's Point site, the total fire flow demand for this site as outlined in NFPA 1 (Annex E) allows for a maximum spacing of up to 500 ft between hydrants, as measured along the fire department access road(s). As a result, a hydrant should be within no more than 250 ft of the building site, measured along the travel route for fire apparatus; either by a street or fire lane. The nearest hydrant to the location of The Point is located midway along the south side of the Brick South building. The proposed site plan for The Point includes the addition of a fire access lane that connects the access road that is adjacent to The Point to the access road that runs along the south side of the Brick South building; connecting at a point that is immediately adjacent to the existing hydrant. With the addition of this fire access lane, The Point building site will be within 250 ft of a fire hydrant; meeting the requirements of NFPA 1.

NFPA 1 requires that any portion of a building, or the exterior walls of the building, can be no more than 150 ft from an access road when the facility is not protected by an automatic sprinkler system. Based on a review of the site plan, it appears that this requirement will easily be met. In addition to this requirement, NFPA 1 also requires that at least one exterior door for the building be within 50 ft. of an access roadway. The drawings provided for this review did not provide a level of detail that included the building's exterior doorway locations; albeit based on the locations of the roadways and parking lots depicted on the Site Plan, it appears that this requirement can be easily accommodated.

Chapter 10 of the Portland City Ordinances has a requirement that, where available, the fire department vehicles should have access to at least two (2) sides of each building. Based on the site plan provided for this building, it will be possible to access this building from at least two sides. Although both NFPA 1 and the City's regulations include requirements regarding "dead-end" access roads, these requirements do not apply to this situation.

Based on the review of the site plan for The Point building at Thompson's Point, it appears that it will be possible to comply with all applicable code requirements; both for protection of the building itself and those associated with fire department access and fire water supply. Should there be any questions regarding this assessment or any of the potential fire and life safety code requirements that are likely to be imposed on this new facility, please do not hesitate to contact me.

  
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Principal Engineer