



MTE Consultants

520 Bingham Centre Drive, Kitchener, Ontario N2B 3X9

February 20, 2020

MTE File No.: C46482-100

Laura Dewar
Senior Development Planner
City of Waterloo
100 Regina Street South
Waterloo, Ontario N2J 4A8

Dear Ms. Dewar:

**RE: 693 Beechwood Drive, Waterloo – Proposed Co-operative Homes
Response to Zoning Comments – Fire Flow Requirements**

MTE was retained by Masri O. Architects to complete a Functional Servicing and Stormwater Management Report (FS-SWM) for the proposed five storey, 32 unit residential building that will be part of Beechwood Co-operative Homes. The FS-SWM Report dated October 29, 2019 was submitted to the City of Waterloo and the Region of Waterloo for Official Plan Amendment 28 and Zoning By-law Amendment Z-19-07 (OPA/ZBA) approval. The Region and the City provided comments which have been reviewed by MTE. In response to the City and Region's comments, we respectfully offer the following response for consideration.

Region and City comments state that since Fire Underwriters Survey (FUS) requirements cannot be met, there is insufficient fire protection for the proposed building. The requirement for development to meet FUS criteria is established in the Design Guidelines and Supplemental Specifications for Municipal Services (DGSSMS). However, the proposed building is within a private site. As the title indicates, the DGSSMS applies to municipal infrastructure and not private sites. For private sites, OBC requirements apply instead of DGSSMS. Because of this, FUS criteria is not applicable to the proposed development.

With respect to fire protection for private sites, as above, OBC criteria must be achieved. Per the FS-SWM, the proposed development meets OBC fire protection requirements, thereby satisfying the applicable fire protection requirements for a private site development. The FUS calculation was included in the FS-SWM for reference only. As stated in the FS-SWM Report, while it is ideal that fire flow demands are calculated based on the FUS criteria, it is not always reasonable to expect that the existing watermain infrastructure has the operational capacity to supply water at the rates prescribed in the FUS guidelines. As a result, at no time shall the available fire flow for private sites be less than that required by the OBC.

Further, precedent on previous projects within the City of Waterloo and the Region of Waterloo has confirmed that OBC, not FUS, dictates fire protection requirements on private infill developments such as this.

While applicable fire protection requirements for the proposed building as established by OBC have been met, there are several options that can be explored further at Site Plan detailed design stage to improve fire protection on site if it becomes warranted, including:

- Upgrading the existing 150 mm diameter looped internal water service on site to a 200 mm diameter water service, complete with new connection to the existing 200 mm diameter municipal watermain on Beechwood Drive, in order to increase pressure and flows on-site. Available pressure and flow in this existing 200 mm diameter municipal watermain will be determined once weather permits fire flow testing;
- Installing a booster pump to increase pressure and flows to the proposed building;
- Installing fire walls to reduce the floor area and decrease the fire flow required; and
- Changing the construction to fire-resistive or non-combustible to decrease the fire flow required.

In summary, the submitted FS-SWM Report demonstrates that the OBC fire protection requirements applicable to this development can be met. We trust that this letter clarifies that FUS criteria does not apply to the proposed development since it is not municipal infrastructure, thereby addressing the City and Region's comments. Should additional review of fire protection be required, we respectfully request that it be deferred to Site Plan Approval. Please contact the undersigned if you have any questions.

Yours truly,

MTE CONSULTANTS INC.



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