

January 28, 2022

B2566-LET.01R  
By E-Mail

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Attention: Mr. Troy Gaudet

**RE: Exterior Masonry Infill Wall Review**  
126 York Street  
Ottawa, Ontario

Dear Mr. Gaudet,

Further to your request, I visited the site on January 21, 2022, to visually review the condition of the masonry infill walls at the east and west facades of the building at 126 York Street in Ottawa, Ontario.

The building is a five-storey reinforced concrete structure with exterior masonry infill walls at the east west and south elevations. According to the information provided, the building was constructed more than 100 years ago. Currently, the building undergoes extensive renovations and repairs which, will include major structural and architectural upgrades.

### **Observations**

The following observations were made at the time of my site visit:

1. The east and west exterior walls of the building were constructed as reinforced concrete frames with masonry infill walls.
2. The infill walls are triple-wythe walls and, a different type of masonry units were used for the construction of each wythe. The exterior wythe consists of concrete brick masonry, the middle wythe is lightweight concrete block masonry and the interior wythe was constructed using clay brick units.
3. The exterior and interior wythes of the walls are tied to the middle concrete block masonry with header bricks.

4. Generally, the existing masonry infill walls were found to be in unsatisfactory condition, as further explained below.
5. The condition of the interior wythe was reviewed in a number of areas where original interior finishes were recently removed. At these areas, the mortar joints were found to be extensively eroded such that a complete repointing of these walls is recommended. Isolated cracked or spalled bricks were also noted. An exception to the above conditions is one wall area which appeared to be repointed sometime in the past.
6. As the middle concrete block masonry wythe is not exposed, its overall condition could not be assessed at the time of this site visit. However, ends of the concrete block units are visible along the sides of exterior windows where interior finishes were removed. At these locations, many concrete block units were cracked. In order to repair (i.e., replace) the cracked concrete block units sections of the interior (or exterior) wythe will need to be removed to provide access to the damaged concrete blocks. It appears that this work will be required at both sides of most windows.
7. The exterior brick masonry of the infill walls was found to be in unsatisfactory condition. Deterioration, spalling and staining of exterior brick is evident in many locations and, in particular, at the junction with the concrete frame beams and columns and below window sills. At some locations, the brick masonry was covered by parging which was likely used to “repair” damaged brick areas. Previous brick masonry repairs are evident below a few window sills at the top floor level. Also, some of the wall openings were sealed with brick masonry but, not well matching brick was used for this work. In addition, an extensive deterioration of brick face was noted at the grade level at the west entrance door, likely due the use of de-icing salts at the entrance area.
8. At many locations, the reinforced concrete frames of the exterior walls was found to be in unsatisfactory condition as cracked and spalled concrete was noted at the exposed exterior face of concrete beams and columns. Previous concrete beam and column repair areas are evident at a number of locations. It should be noted that repairs to the reinforced concrete beams and columns will require the removal of sections of adjacent brick walls to allow for the required concrete repairs.

## **Summary**

In summary the existing masonry infill walls are in unsatisfactory condition and will require extensive repairs or replacement to ensure a long-term structural safety of the exterior walls of the building.

According to information provided, due to the unsatisfactory condition of the infill masonry walls and the extent of required repairs, it was proposed that the infill walls be removed and replaced with existing brick tied to new steel stud backup walls.

**Mr. Troy Gaudet**, Cavnar Group Inc.  
Exterior Masonry Infill Wall Review at 126 York Street  
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However, it should be expected that many of the existing brick units cannot be salvaged for reuse, due to their condition (e.g., cracked and spalled bricks, severely stained or otherwise damaged bricks). Also, it should be expected that many bricks will likely be damaged during the removal work and when the bricks will be cleaned for reuse. As such, in our opinion, the use of existing brick for the construction of new brick veneer walls does not appear to be a practical option. In addition, it would be most likely significantly more expensive than the use of new brick units.

I trust that the above meets your current requirements but, please do not hesitate to call me if you have any further questions.

Best regards,

  
Zbig Kisilewicz, P.Eng.

