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STRUCTURAL REPORT

<i>Client:</i>	McCormick Park Developments	<i>Date:</i>	Oct.23/2018
<i>Area:</i>	Existing House	<i>Revision:</i>	

Field review ☐

Site memo ☐

In accordance with client's request STAR ENGINEERING AND CONSTRUCTION LTD. conducted a site visit at the above project location on October 19th/2018. Visual observations were made on the exposed areas of structure only.

The existing structure was reviewed with respect to the following items:

- Overall condition of building after fire damage.

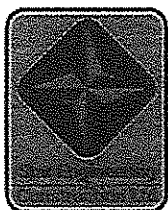
Our site observations are as follows:

- The existing building is a three-storey detached home with a stone foundation. The front (South) and side (East & West) elevations are clad with brick and horizontal siding is installed at the rear (North) elevation;
- The basement and the third floor were not accessible during the site visit;
- The client indicated that the house has not been occupied for over 2 years and in that time the building has been unheated;
- Much of the interior finishes have been removed at the first and second floors which allowed for inspection of the structural framing. The demolished materials have been piled on the floor and are adding significant dead loads to the structure in some areas (see Fig.1);
- Almost all of the windows have been broken and the client indicated that vandalism of the house has been an issue since it's been unoccupied;
- The fire appears to have started at the back of the building as this area has suffered the most damage (see Figs. 2 & 3);
- All elements at the first and second floor have experienced damage due to fire and smoke. A small area of the finished ceiling at the third level was visible and did not show signs of smoke damage;



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- As mentioned above the structure in the basement was not accessible but no serious deflections or depressions were observed when walking on the main floor level;
- The floor joists supporting the second floor were in good condition near the front of the house, though they were damaged by smoke. Near the back of the house the joists were found with damages and cross section reduced due to fire;
- The studs, in partition and bearing walls, also signs of damage by fire;
- The wall framing at the rear elevation was badly charred and was in critical condition at the previous location of the rear door which is near the West elevation (see Fig.4). The wall has lost at least 80% of its load bearing capacity from the West elevation to the chimney as a result of the fire;
- The majority of the joists supporting the third floor (or roof) were not exposed. Those that were visible, near the back of the house, were also found damaged by smoke and/or fire;
- The staircase from 1st to 2nd floor did not show any signs of damage.
- The stone foundation wall was exposed from the outside. A large vertical crack was visible through the stone on the North-East corner of the building (see Fig.5). Minor cracking in the parging between stones visible on all other areas of the foundation wall;
- The rear elevation was found to be bowing outwards;
- Since the basement has been unheated the depth of the frost line is penetrating below the level of the existing stone foundation walls and is creating further damages to the structure.

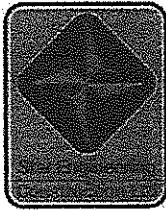
Based on information gathered on site and provided by the client our comments are as follows:

- It is in our opinion that the existing 3-storey detached residential structure is not safe to occupy;
- The frost penetration below the stone foundation walls has already affected the structure and is likely to further compromise the foundation should it be left in its current state;
- In addition to the conditions found on site the partial collapse of a building of similar size and age at 1119 Wellington St. W located less than 200m away earlier this summer should be noted;
- Therefore, we would recommend that the structure be demolished prior to further deterioration and/or failure.



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Figure 1 - Demolition materials piled near rear elevation at 2nd floor.

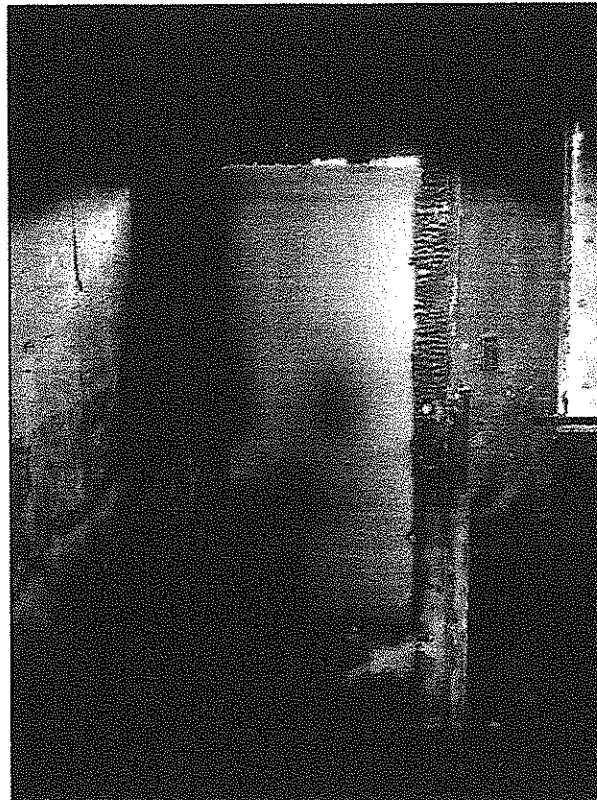
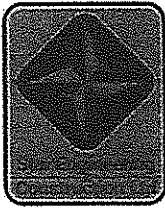


Figure 2 - Charred door at rear elevation.



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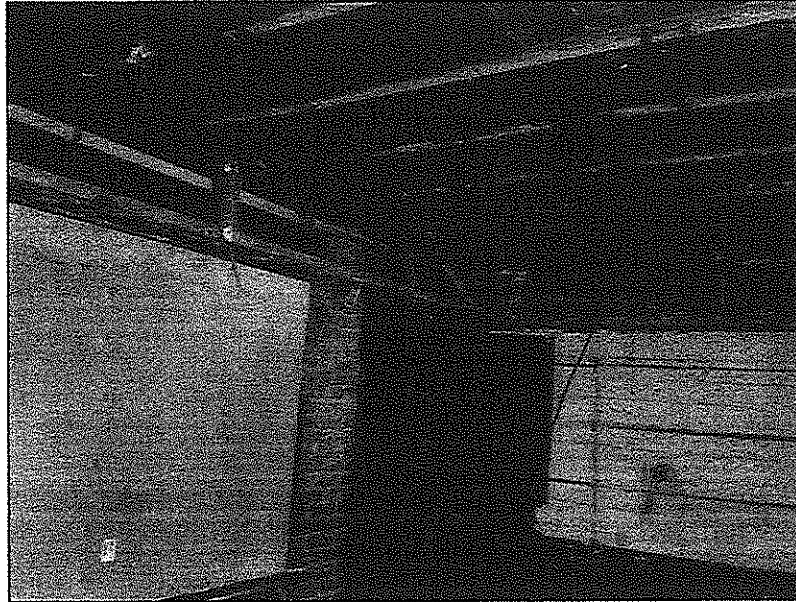


Figure 3 - View of burnt framing at rear elevation and damaged joists inside.

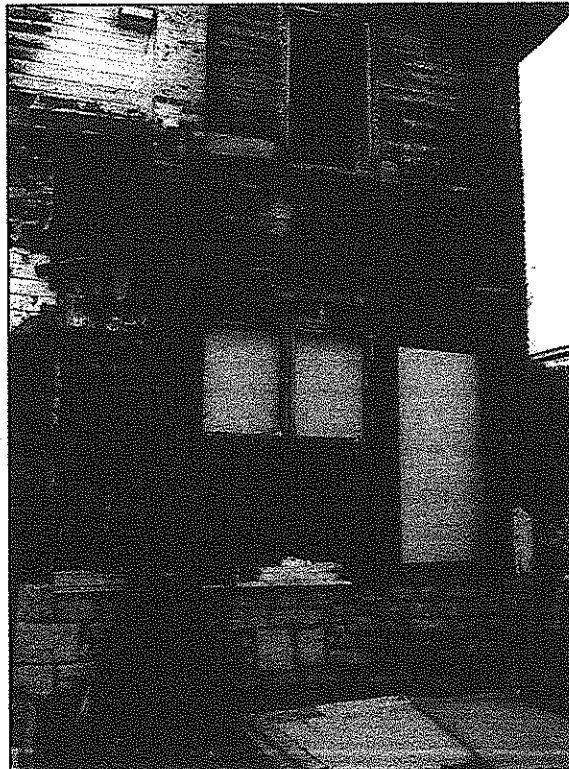
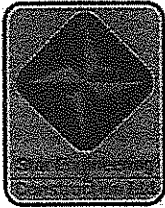


Figure 4 - View of damaged rear elevation.



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Figure 5 - Cracked stone foundation wall at rear elevation.

Should you have any questions or require further information, please do not hesitate to contact the undersigned.

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