Via Email: stephanie.seguin@dgig.ca

Desjardins General Insurance Group
P.O. Box 7065,
Mississauga, ON
L5A 4K7

May 14, 2025

Our File: 31115-2123

Attention: Stéphanie Séguin

Re: **Structural Assessment of Residential Fire Damage**
Claim Number: R2878122
Date of Loss: March 26, 2025
Insured: 5897 Fernbank Inc.
Loss Location: 5897 Fernbank Road, Stittsville, ON

Dear Stéphanie,

1.0 Introduction:

At your request, Pario Engineering & Environmental Sciences LP ("Pario") attended the above-mentioned loss location on April 14, 2025, to perform an independent structural engineering assessment of the dwelling located at the above-noted loss location that was damaged by fire.

The purpose of this investigation was to provide an opinion regarding the condition of the structure following the recently reported fire event and to provide repair recommendations to reinstate the building to its pre-loss condition.

Our assessment was limited to a visual review of the fire related damage only, and did not include any removals, testing, code review, or structural analysis prior to issuing this report, except as noted below. No destructive testing or investigation of inaccessible areas was performed, and no architectural finishes were removed.

We did not complete a condition assessment of the entire building. The opinions expressed within this report are not to be considered as a commentary on the overall condition of the building, and we make no representation on the suitability of the building for this or any intended use.

A select set of photographs, taken during our site attendance, is included within this report, to illustrate and substantiate our findings. This report sets out our findings.

2.0 Background and Description:

For the purposes of this report, the front of the dwelling was considered to face south onto Fernbank Road (Photographs 01 to 04). The structure was a two-storey, residential dwelling with a one-storey addition on both the north and east elevations. The house was constructed of sawn lumber wall and floor framing, with the main floor supported on rough cut timber floor beams, with the foundation composed of stone & mortar. The structure of the home was understood to be constructed of solid stone, while the additions were clad with vertical lumber board & batten siding. The roof structures of the dwelling were constructed with sawn lumber framing (i.e., roof rafters and ceiling joists). The roof of the main dwelling was finished with asphalt shingles, with intersecting gable roof configurations. The basement of the home was unfinished.

3.0 Observations and Comments:

Based on our site review, we have the following observations and comments:

1. The foundation was constructed of stone & mortar with unknown footings. There was a central foundation in the west portion of the structure which ran east to west. This foundation was in very poor condition with missing/damaged stones. There were several areas noted with degraded lime mortar and compromised stones. The exterior of the stone & mortar foundation and exterior stone cladding appeared to have been repointed at some time; the condition of the foundation wall below grade was unknown (refer to Photographs 05 to 07).

2. The rough-cut timber main floor, floor beams on the west portion of the structure were heavily fire damaged rendering the floor assembly unsafe (refer to Photograph 05).

3. There was extensive fire/heat/smoke/soot damage noted throughout the structure (refer to Photographs 08 to 11).

4. The entire second-floor roof assembly was heavily fire damaged and was at risk of collapse (refer to Photographs 10 and 12).

5. The second-floor level exterior and interior walls were extensively fire damaged (refer to Photographs 13 and 14).

4.0 Conclusions & Recommendations:

The stone & mortar foundation displayed signs of mortar degradation and damaged areas throughout. As noted above, the exterior stone & mortar foundation and exterior stone cladding appeared to have been repointed at some time. The repointing appeared to be of a modern cement-based mortar.

Historically, traditional masonry/stone walls were constructed with the use of lime mortar, which is a porous and permeable material.

This design allowed moisture to pass through the wall via the lime mortar between the courses of stone or masonry (osmosis) and evaporate from the wall's surface. Cement mortar, conversely, is a non-permeable material which prevents this natural 'wicking' of moisture from within the stone/masonry wall.

With cement mortar in place, it would be expected that moisture would build up within the wall over a period of time. This buildup of moisture would then be expelled through the next-most relatively permeable material – the masonry. Over extended periods of time this will prematurely degrade the material composition of the masonry. Further to this, freeze/thaw cycles during the winter months will cause expansion of the moisture within masonry units and cause visible spalling.

Furthermore, with the extent of observed rough-cut floor beam, second-floor exterior & interior wall, and roof fire damage, combined with the extensive heat/smoke/soot damages, Pario recommends the complete demolition of the structure, including the foundation.

The structure is deemed to be unsafe due to the floor and roof damage and should remain unoccupied.

5.0 Closing Remarks:

We trust you will find all in order with our preliminary structural engineering evaluation and that the above will be sufficient for your purposes in advancing this claim; however, should you have any questions or concerns, please do not hesitate to contact the undersigned.

Finally, we reserve the right to review any additional documentation, evidence and/or information that becomes available and to amend any expressed opinions in this report and/or provide additional opinions, as necessary.

Yours truly,

PARIO ENGINEERING &
ENVIRONMENTAL SCIENCES LP

Jeff Brown, Dip. Arch. Tech
Senior Structural Forensic Investigator

/jb/je/ja

Encl.
Photograph Presentation

PHOTOGRAPH PRESENTATION

Photograph 01 – South (Front) Elevation – Taken by Pario on April 14, 2025.

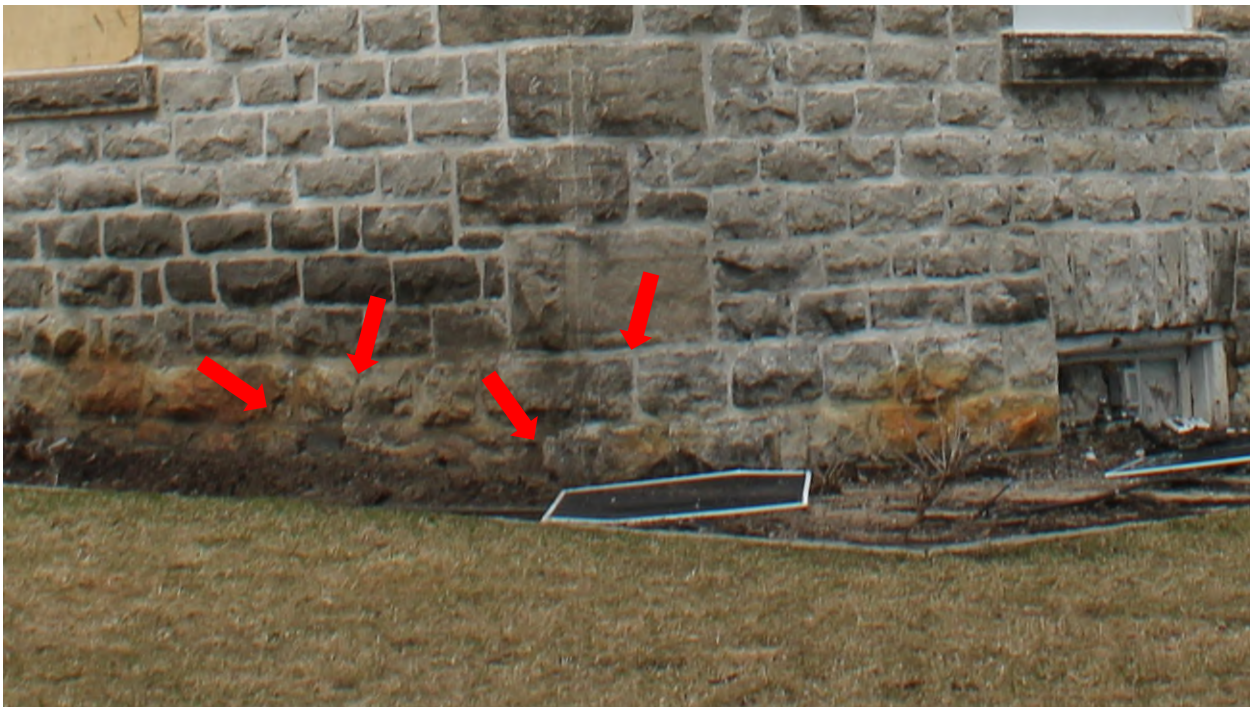
Photograph 02 – West (Side) Elevation – Taken by Pario on April 14, 2025.

Photograph 03 –North (Rear) Elevation – Taken by Pario on April 14, 2025.

Photograph 04 –East (Side) Elevation – Taken by Pario on April 14, 2025.

Photograph 05 – Main Floor West Side – Taken by Pario on April 14, 2025. – Damaged Stone & Mortar Foundation (Red Arrows) – Damaged Timber Floor Beams (Yellow Arrows).

Photograph 06 – South Foundation Wall – Taken by Pario on April 14, 2025. – Degraded Lime Mortar (Red Arrows).



Photograph 07 – Southwest Corner – Taken by Pario on April 14, 2025. – Repointed Mortar and Potential Mortar Degradation (Red Arrows).

Photograph 08 – View Looking Northwest at Fire Damages (Main Floor) – Taken by Pario on April 14, 2025.

Photograph 09 - View Looking East at Fire Damages (Main Floor) – Taken by Pario on April 14, 2025.

Photograph 10 - View Looking at Fire Damages (Second Floor) – Taken by Pario on April 14, 2025.

Photograph 11 – View Looking at Fire Damages (Second Floor) – Taken by Pario on April 14, 2025.

Photograph 12 – View Looking at Fire Damaged Roof Assembly (Second Floor) – Taken by Pario on April 14, 2025.

Photograph 13 – View Looking at Fire Damaged Wall Assemblies (Second Floor) – Taken by Pario on April 14, 2025.

Photograph 14 – View Looking at Fire Damaged Wall Assemblies (Second Floor) – Taken by Pario on April 14, 2025