

1.0 EXECUTIVE SUMMARY

This Report was commissioned by Parks Canada in October 2012, as an addition to the Contract for Masonry Upgrade Services (45319799) awarded to Taylor Hazell Architects Limited, September 10, 2012.

Following preliminary site visits by the Consultants, the production of a Preliminary Report dated September 20, 2012 (Appendix 1) and discussion with the Client, Taylor Hazell Architects was instructed to:

- further investigate the deterioration of the building structure and envelope to determine the root causes, and potential remedies for a broad spectrum of deterioration; and,
- provide a project budget at a Class D level for complete stabilization of the building structure and envelope.

An investigation in September 2012 resulted in the discovery of significant deterioration of the third floor exterior walls that had not be previously imagined or documented by the Client.

The extent and nature of deterioration appeared to represent a condition where the health and safety of the public and building occupants was at risk. Measures were taken to limit use of the grounds, and recommendations made to limit use of the surroundings by vehicles in October 2012.

At that point in time, the consultants submitted the opinion that,

- emergency work was required;
- without immediate stabilization/repair, the building may partially collapse;

Without an overall and comprehensive construction conservation program integrating repair of all components together, the building would become increasingly unstable, with an increasing potential for partial collapse.

In response, Parks Canada initiated a program for emergency stabilization in Room 303 (November 2012), as well as a program of additional investigations of the wall assemblies at select locations on the 2nd and 3rd floors (January and February 2013).

The selective investigation undertaken in October 2012, followed by the February 2013 investigations, revealed a significant variation in structural wall stability and construction technique from location to location and from floor to floor. Upon final analysis, it was determined by the team that the stabilization work that was most urgent to pursue related to the temporary reinforcement of the cornice block at the top of the wall of the north and south elevations, with some truss reinforcement at bearing points in 1 location, and with isolated wall stabilization in 2 rooms.

As requested by Parks Canada, the consultants have prepared contract documents for this temporary stabilization along with selected masonry repairs on the south and west elevations of the building. The proposed stabilization and restoration project has been recommended in the context of indications that a comprehensive conservation and stabilization of the building envelope and structure will occur shortly after the year 2014. The temporary stabilization work is currently being tendered, and construction will commence in the summer of 2013, with completion by early December 2013.

It is important to note at this time, that although some of the wall assemblies reviewed at the interior of the 3rd floor did not require emergency stabilization, considerably variation was observed in condition,

including some areas that were not opened up that appear quite vulnerable. Further comprehensive assessment, design and analysis by engineers and architects is required at the earliest opportunity.

It is also important to note that the consultants' recommendations for conservation 'options' within the Report are constrained by the limited investigation and calculations that have taken place to date. There are many aspects of heritage impact to be assessed, and work methodology to be investigated during future detail design and contract document stages. Evaluation of all of these, and any subsequent restoration strategies, should still be evaluated in an integrated, holistic manner as further information arises.

This Report,

- identifies areas of the building that might be at risk;
- describes the interrelationship between deterioration of roof, timber and masonry structure;
- describes deterioration of building envelope and substructure; and,
- plots a course for long-term overall building stabilization with order of magnitude costs for construction implementation in 2015.

In summary, the Consulting Team is of the opinion that,

- the perimeter sandstone foundation walls are in fair to poor condition;
- interior foundation (basement) walls are in fair to very poor condition;
- the condition of exterior building walls, especially at the third floor to attic level, adjacent to the porticos, and at the cornice, are in dangerously deteriorated and unstable condition;
- parts of ends of timber floor support structure are in fair to very poor condition;
- the overall condition of the roof structure has been compromised by deterioration of truss and joist ends and bearing points;
- the condition of roofing, gutter, downspouts and flashing is in fair to very poor condition; and,
- Water that continues to infiltrate within the external walls, from above through the core, from the exterior through open joints and cracks, from below grade, from grade, in liquid and frozen state continues to decrease the overall stability of the building.

This Report identifies a variety of conditions relating to the sub structure, super structure and enclosure and provides a range of options for the integrated repair of those elements. Based on a likely scenario of repair, a Class D Cost Estimate has been provided to indicate an order of magnitude of cost for the conservation of the building elements specifically noted.

As instructed by the client, the Report does not discuss the comprehensive renovation or upgrade of the building and site from a program, building code or modernization standpoint. As discussed, there are a suite of upgrades that would be possible to accomplish at the same time as such an extensive project that would benefit the site and building.