

Site Review Report

Site Review-01

Client: Carvest Properties Limited	Project ID: CEC-19-0776
Project Address: 3303 Westdel Bourne, London, Ontario	Number of Pages: Nine (9)
Reviewed By: Darryl Twynstra, P. Eng.	Date Issued: 2019/05/07
Regarding: Structural Site Assessment – Existing Barn (Bank Barn) and Ramp/Storage Room Structure	

Date of Site Review: 2019/05/07

Weather Conditions: Mild and Raining (7°C)

Reason for Site Review: As requested by the client, Carvest Properties Limited, Centric Engineering Corporation conducted a site review of the existing barn (main Bank Style Barn) and ramp/storage room structure in order to comment on the structural soundness of the existing structures for future use.

Note: For the purposes of this report, our site review was limited to a visual inspection only.

Observations and Comments:

Existing Ramp Structure

1. During our review it was noted that the existing approach ramp (constructed of soil which is retained by loose laid field stone) is not structurally sound/stable. A considerable amount of soil embedded between the existing field stone had washed away at the location of the ramp buttress wall, see Figure 1.0.
2. It was noted in several locations, that the existing suspended concrete ramp structure, above the passageway and the storage room, has delaminated/deteriorated to a point in which vegetation is able to grow within the structure, see Figures 2.0 and 3.0.
3. Also noted during our site review, was the significant deterioration of the suspended concrete slab overall. The concrete within the slab is severely pitted/spalled/delaminated, see Figure 4.0. The existing embedded reinforcing elements within the concrete slab (structural steel) exhibit signs of severe corrosion as well, see Figure 5.0.

Existing Barn (Bank Barn) Structure

1. During our review it was noted that the existing barn timber structural components are in relatively moderate condition, see Figure 6.0. Some structural members have been compromised due to on site alternations made over time and lack of maintenance, such as the perimeter sill-plate, see Figure 7.0.
2. Localized damage pitting/deterioration and undermining of the existing foundation wall, was also noted on site, see Figure 8.0. Some localized cracking within the existing foundation wall was also noted, see Figure 9.0.

Recommendations:

Existing Ramp Structure

1. Based on our review of the existing ramp structure and cold storage area below the existing ramp structure, we have determined the existing ramp structure to be structurally unsound for use. The degree of deterioration and absence of overall maintenance over its lifespan have rendered it, in our opinion, unusable and unrepairable. As such, access/use of this area of the existing structure should be restricted until such time that it can be safely removed.

Existing Barn (Bank Barn) Structure

1. Based on our review of the existing barn (Bank Barn) structure, it appears to be in moderate condition. If it is proposed that the existing structure will remain, a full structural analysis of the existing building should be conducted to ensure it can support the required loading parameters. If the intended use of the structure (i.e. a change of use) is proposed, a significant degree of structural remediation would be necessary to ensure the existing building structure can withstand current building code parameters. It is to be noted that structural analysis of the existing structure would more than likely determine that the existing structure is not capable of supporting the required loading parameters.

Attachments/ Pictures:

Refer to Appendix A

End of Site Review Report

Centric Engineering Corporation



Darryl Twynstra, P.Eng.
President



Appendix A – Site Photographs



Figure 1.0 – Photo of Existing Approach Ramp to Barn (Bank Barn)



Figure 2.0 – Photo of Existing Ramp Structure with Severe Delamination



Figure 3.0 - Photo of Existing Ramp Structure with Severe Delamination/Spalling



Figure 4.0 - Photo of Existing Ramp Structure with Severe Pitting/Spalling/Delamination



Figure 5.0 - Photo of Existing Ramp Structure with Severe Delamination/Corrosion



Figure 6.0 - Photo of Existing Barn (Bank Barn) Interior Post and Beam Structure



Figure 7.0 - Photo of Damaged Perimeter Sill-plate



Figure 8.0 - Photo of Pitting/Deterioration and Undermining of Existing Foundation Wall



Figure 9.0 - Photo of Cracked Existing Foundation Wall