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**Date:** October 28, 2019 at 10:45:29 AM PDT  
**To:** Ian Hill <[ianh@critchleyhill.ca](mailto:ianh@critchleyhill.ca)>  
**Subject:** St. Andrew's Church Tower - Prelim

Hi Ian,

Further to our cursory site visit on October 18, 2019, we provide the following initial recommendations:

1. Option 1 – reduce tower height to below belfry window openings: This option addresses the majority of brick deterioration. Minor localized face brick replacement and repointing would still be required at the remaining lower levels. New support framing for the spire would be required if it is to be reinstated at this lower level. At this point, this certainly appears to be the most cost-effective option. Reinforcement of the remaining floor level framing would be required where deteriorated.
2. Option 2 – restore existing tower: The extent of brick removal and replacement cannot be determined unless additional investigation is performed to verify the extent of deterioration, as-built construction and how the c.1963 face brick is tied back to the original brick. Although, the hope of this option is that the majority of brick can be salvaged by a cost-effective targeted repair and replacement program, there is also the risk that the investigation deem that reducing the tower height (option 1) or complete brick removal and replacement is required (essentially a complete rebuild of the upper levels). Reinforcement of the floor level framing would be required where deteriorated. New support framing for the spire would be required.
3. Option 3 – reinforce existing tower: Provide a structural steel frame and steel stud infill backup structure within the tower to support the existing tower walls. This option would likely include new concrete piers at basement level. Reinforcement of the floor level framing would be required where deteriorated. New support framing for the spire would be required. Likely the most costly option.

The feasibility of the options presented are dependent of the level of investigation (and associated cost) the client is willing to invest at this preliminary stage. If there is no appetite for a comprehensive investigation stage and there has not been significant opposition to reducing the tower height than proceeding with option 1 may be justified.

Kind regards,

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