

# Field Review Report



Adjeleian Allen Rubeli Ltd., Consulting Engineers, 1005 - 75 Albert St., Ottawa, K1P 5E7, Tel: (613) 232-5786, Fax: (613) 230-8916

**PROJECT** 227 Mackay **PROJECT No** 5624-35

**WEATHER** Sunny, Humid 25C **TIME** 9:00am **DATE** July 17, 2018

**CLIENT** Derek Crain Architect Inc **REPORT No** AAR-01

## COMMENTS:

1. Excavation for proposed residence has started. Client advised to engage a geotechnical engineer to review conditions of existing neighbors foundation to see if underpinning/shoring is required
2. Existing 2 storey wood structure has been lifted off its foundations and moved to the rear of the excavation
3. An on site review of the condition and suitability of the existing 2 storey wood structure for new building reuse was undertaken. The following was observed:



Existing Picture 1 – Existing East Wall



Studs Picture 2 – Spacing of existing East Wall

4. The Existing Walls are Balloon Frame (Two Storey, Continuous Stud) Construction.
5. The wall studs vary are between 25"-27" on centre.
6. The bearing capacities for these walls, as constructed, do not meet current OBC requirements.
7. Some of the wall studs on the North and East walls, which were intended to be reused, may be too dry and too cracked for safe reuse.
8. Roof, Floor and Wall structures of this building are incompatible with current OBC requirements.
9. The efficiency of reuse of these elements is a question.

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Picture 3 – East Wall Stud



Picture 4 – East Wall Stud

## RECOMMENDATIONS:

1. The existing Balloon frame of the old structure must be adapted to a western frame wood structure if there is any chance of reuse.
2. The North and East wall (part) studs should be labelled and cataloged for reuse.
3. If studs are to be reused, they must be re-inspected by this firm prior to use.
4. The studs, once approved for reuse, could they could be integrated into a western style 2x6 frame system with studs at 16" c/c.

## SUMMARY:

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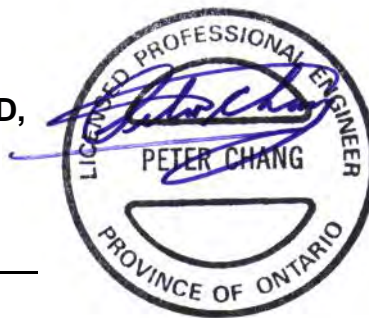
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The existing wall structure consists of 2" x 4" studs located on 25-27" o/c. They do not meet OBC requirements for support of new second floor and roof structure, the load bearing studs require a maximum spacing of 16" o/c, current structural design has 2" x 6" studs at 16" o/c. The use of the existing 2" x 4" studs would require that these studs be salvaged and reinstated at the 16" o/c requirement. The procedure to recover the studs for the north wall and 15' of the east wall (as noted in Crain Architect Inc. letter of July 28, 2017 to the Heritage Planner) would be as follows:

1. Shore/brace the noted sections of the north and east walls
2. Remove existing second floor and roof framing
3. Remove the existing cladding and 1 ¼" x 10" strapping boards
4. Cut the existing 2" x 4" studs to the required length of the proposed exterior load bearing wall

It should be noted that some of the existing 2" x 4" studs have some splitting and deterioration, as noted in pictures 3 & 4. There is some concern that in the salvaging of these existing studs, the removal of the exterior wall system and /or local nails may cause more deterioration and/or splitting. A review of salvaged 2" x 4" studs will need to be done to verify damage and effects on the structural integrity of each member before it can be used as part of the proposed framing of the exterior wall. As well, a new 2" x 6" member will be required at each salvaged stud location to maintain the required architectural envelope.

Reviewed by:  
**ADJELEIAN ALLEN RUBELI LIMITED,**



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Peter Chang, P. Eng

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