



September 14, 2015

Reference: 15-05-0071

Chalmers United Church  
842989 Road 84,  
Kintore, ON N0M 2C0

**ATT: KEVIN MCMURRAY**

Dear Sir:

**RE: CONDITION ASSESSMENT**

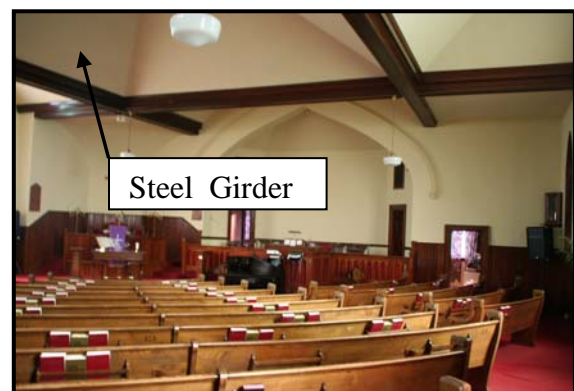
Further to our discussions with the Building Committee, we were instructed to:

1. Undertake a non-invasive review of the facility to provide comment on the condition and assess the order of magnitude of the repairs and maintenance required over the next few years.
2. Provide a list of items requiring rehabilitation and the associated costs.
3. Provide a discussion on the options for moving forward including:
  - a. Taking no action.
  - b. Undertaking a major renovation including provisions for access and build addition.
  - c. Demolish and build new

**Observations**

The corner stone indicates that the church was originally a Presbyterian Church organized in 1871 and rebuilt in 1914.

With regard to the attic space, it would appear that the side aisle additions were made since the original construction. There are riveted steel girder trusses full length of the church on both sides likely replacing the original side walls and pilasters. We noted significant sagging of the roof from the exterior. There are signs of distress at the support piers at the north end.



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It appears that all the roof shingles have recently been replaced. We noted no active leaks on review of the interior.

With regard to the exterior masonry, the exterior is comprised of red brick and has recently been partially repointed on the east wall. Areas requiring pointing include the east face of the tower parapet, the east gable and the area under the windows below as well as the west pilaster adjacent to the downspout and again, under the transept windows. The chimney, which is not being used, is in poor condition and should be removed.



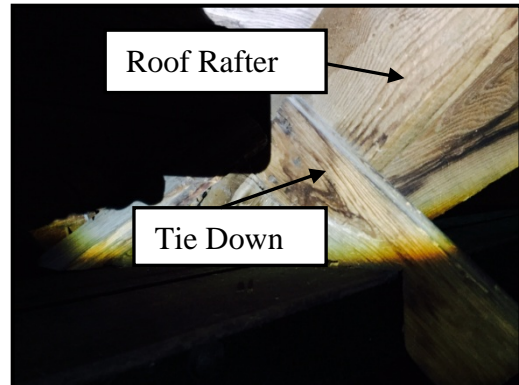
With regard to nave roof framing, there is significant curvature in the four main valley rafters as well as curvature in the top framing members for the both the top and the bottom framing members for the vaults. We also noted no insulation. There appears to have been loose insulation but the insulation has fallen down the slope to the valleys between the vaults. There is no bridging between collar ties. The plaster keys appear to be sound although it appears that drywall has been installed over the plaster surfaces. There are no mechanical connections from the rafters, valley rafters or support beams to the exterior walls or to each other.



The valley rafters frame into a single roof rafter. The roof anchorage is accomplished by wood framing "hooked" over the steel girder.



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With regard to the basement, there is a full basement through the original and the additions including a hall, kitchen, washrooms and storage. The kitchen has a commercial stove with what appears to be a commercial hood but no fire suppression. The basement floor is approximately 4 feet below grade. The parish does not report any problems with water or moisture although a dehumidifier was running during our visit. Lack of air circulation is likely a contributing factor. There are exits front and back although by way of stairs. There are doors separating the stairways at the front but these are not rated doors. Further, there painted exit signs over the doors but they are not visible from the floor area. There are no exit signs to the rear stair.



The electrical system appears to have been upgraded from the original with use of breakers and appears to be a 400 amp system, certainly, enough power to run the facilities. There is a high efficiency gas water heater in the kitchen. There are two, high-efficiency, Rudd gas-fired, forced air furnaces in the basement along the corridor to the rear exit.

In the assembly hall in the basement, there are four steel posts supporting beams for the raked floor above to the northwest corner. There are three posts along the rear beam line and only one post along the front beam line. Because the nave floor is sloped towards the northwest corner, the framing of the floor appears to be in a radial nature with the three columns on an arc in the basement and then an additional column closer to the sanctuary corner.



We see no evidence of previous heating systems or boilers. We will recommend that a designated substances report be undertaken. With regard to the worship space, the interior appears to have been renovated in recent years with the addition of drywall for the plaster surfaces. The only signs of distress noted in the wall finishes are in the vicinity of the pier support on either side of the sanctuary supporting the steel girder. The corners are separated and the plaster cracked in this area. The floor is raked from the southeast corner to the northwest corner. We noted no other signs of distress in the drywall finishes. The

stained framing beams along the bottoms of the vaults in the east-west direction are wood and appeared to be sagging. The exposed beams in the north-south direction appear to be straight and level.

Exiting from the nave can be undertaken by accessing doors adjacent to the sanctuary with access stairs down to a landing at the back door. There are doors either side of the worship space on the front south wall which access stairs down to the basement and/or the narthex and exit out the front. The railings from the nave to the narthex are nonconforming and should be extended top and bottom. There is quick release hardware on the front doors whereas the exit doors from the worship space are not latched. The stained-glass appears to be in good condition with no obvious warped or broken areas. The stained-glass windows do not have storms mounted on the exterior.

I would estimate approximately 2000 ft.<sup>2</sup> of repointing required.

We were unable to gain access at any height to examine the parapet stones. We did note stone on the front gable that appear to be rotating.



There is significant efflorescence on the west wall adjacent to one pilaster and over the chimney. The efflorescence at the chimney is due to water penetration through the soffit. Demolition of the chimney will eliminate this leakage. The pilaster is likely a function of overflow at the downspout requiring rework of the flashings around the downspout.



The shed at the rear of the building was not reviewed but it is obvious that all of the elements near grade are deteriorating.

The eaves troughs are short in length but drain a very large amount of the roof. The downspouts should be increased in size.

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The area of repointing on the east wall is not well done with mortar falling over onto the brick faces. In addition, the pilaster has only been partially done and it is obvious where the new pointing ends. The entire pilaster should have been redone given the small amount of additional work required.

The stone foundation and the mortar appear to be in fair condition except for the north pilaster on the east elevation. The added proud mortar joint over the original is becoming detached in many places. However, the mortar under shows some integrity.

One of the committee's concerns involves access. The existing building has exterior stairs and/or internal stairs even after entering at grade. There is no level that is accessible from the exterior. To provide access to the existing worship space and basement, an elevator would have to be constructed at the west end of the narthex between the tower and the transept. This addition (or interior construction) would likely include another stair to provide one entrance for all, simplify the access to both levels and provide for secure access to the basement for non worship activities.

Should the Parish elect to add an addition to the rear to improve the kitchen and hall facilities, then the elevator would require three stops if the addition was constructed at grade. However, the elevator would then be toward the rear of the facility away from the front entrance.

The committee indicates that the conditions for the septic system are unknown. Any addition would likely require review or testing of the existing tile bed and, possibly, replacement. The committee also indicates that their water well is not on their property and they have some arrangement with the neighbor to the east. Any significant addition might trigger the requirement for a new well on the owned property.

The options for the parish moving forward are predicated on the Parish surveying and forward planning to predict or work toward a Parish size and any outreach services that the Church may want to provide. This work is outside the scope of this report.

However, options include:

### **Do Nothing**

The Parish could take a wait and see attitude to evaluate the member's wishes, numbers and other factors. Presently, we see no emergency structural issues. The condition of the masonry is poor and requires attention. Failure to repair the masonry will result in ongoing deterioration and future cost to repair. Lack of access is an issue both from impending legislation and from a corporate viewpoint. Lack of access can be embarrassing to the Church for guests, deter attendance by existing Parishioners who have difficulty with stairs or feel embarrassed by slow travel on stairs and deter public use for other functions such as concerts.

The lack of insulation in the attic certainly would contribute to cold spaces and the cost of heating. As time goes by, there will be some items that will require some expense. These expenses may be small and considered acceptable against any major renovation or addition. However, at some point, the totality of the costs or a single expenditure will require pause as the sunk costs may become an issue.

### **Undertake a Major Rehabilitation, Provide Access and Construct an Addition**

This option contemplates rehabilitation of the entire existing facility including roofing, masonry, fire separations, exiting, exit signs and emergency lights, fire alarm system, kitchen, structure and roof

framing and elevator. An addition to the north would provide for an appropriate hall and kitchen facilities. The scope of the work is dependent on further comprehensive investigations including a designated substances report.

Presently, the Church seats approximately 150 in contrast to 30 to 40 attendees for Sunday services. One might ask why renovate and maintain a larger facility than is required? Maintenance is an ongoing issue; masonry and roofing require periodic work and replacement.

Barrier free access might be provided by construction of an elevator and stair on the west wall between the tower and the worship space. Given that the size of the worship space is larger than required now, this construction might be built inside the existing envelope. We would suggest that new stairs would be included to simplify the exiting and allow everyone to enter and exit through the same exit facility.

Given the significant costs, the basement hall would be still somewhat restrictive in its use. Part of the renovation would include reconstructing the washrooms for barrier free access or constructing a universal washroom which requires significant area.

The potential costs might include:

Masonry: spot pointing and repair (2000 sf)	\$80,000
Elevator and stair	\$110,000
Roof framing: reinforcing and connections	\$75,000
Life Safety: emergency lights, exit lights, fire alarm	\$60,000
Insulation: Attic	6,000
Finishes	\$25,000
Universal washroom	\$25,000
Kitchen upgrades	\$75,000
Roofing and Rain gear	\$10,000
Stained Glass Storm windows	\$25,000
Addition 1200 sf.	\$250,000
Sub Total	\$741,000
Contingency, fees and taxes	\$268,000
<b>Total</b>	<b>\$1,009,000</b>

### **Demolish and Build New**

Advantages include;

Build on one level to eliminate expensive elevator access and maintenance and provide ready access to the facility and between areas.

Build a facility only large enough to accommodate the existing parish with the associated lower costs to heat and maintain (design to allow for expansion for both the worship space and hall).

Establish fixed or known costs for the next many years.

Have a new and bright facility to attract new parishioners and users for the hall.

The potential costs might include:

Demolition:	\$70,000
Well	\$15,000
Septic System	\$12,000

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New hall and worship space, washrooms, offices (4,000 sf)	\$1,200,000
Landscaping	\$25,000
Sub Total	\$1,432,000
Contingency, fees and taxes	\$400,000
<b>Total</b>	<b>\$1,832,000</b>

Should you require further discussion in the above regard, please do not hesitate to contact our office.

Yours truly,  
**POW PETERMAN**  
Consulting Engineers



R.D. Peterman M.A Sc., P. Eng.  
RDP/rdp  
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