



**First Lutheran Church**  
**Knapp-Warden Building Assessment Report**  
*Executive Summary*  
June 2015

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## **1.0 Background**

First Lutheran Church (*FLC*) has been in its current location in downtown Cedar Rapids for over 100 years. During those years, the building structure has been used by not only the local congregation but also many civic and educational organizations and groups. As with any 100-year-old structure, it is showing its age despite periodic upgrades, modifications and maintenance of the building's internal support systems. May 2014, the Church Council commissioned a 12 member Building Committee made up of a cross sectional representation of the congregation to select an Architecture and Engineering firm to assess and make recommendations in four basic areas:

- A. Identify prioritized maintenance needs of the building, with attention to the original 1911 sanctuary structure.
- B. Assess the maintenance needs of the organ and acoustics.
- C. Assess how the sanctuary and adjacent areas serve the worship and mission of the congregation.
- D. Assess how the narthex area serves the welcome and hospitality mission.
- E. Assess how the entry ways and outside appearance serve the mission of the congregation.

The building committee selected LOCUS Architecture to serve as the lead firm to work with FLC. LOCUS partnered with Knapp Warden Architecture and Engineering to provide an initial prioritized maintenance assessment of the entire structure.

A principle goal for the building project is to address areas of prioritized maintenance and as we do so to also ask the question of how the building serves the mission of the congregation.

## **2.0 Building Assessment performed by Knapp-Warden (K-W) Associates**

K-W conducted an in-depth 2 month study of the existing building systems and developed a report that identified what was in good repair and what areas need attention. As part of their work K-W along with LOCUS revised the existing architectural plans so that they more accurately reflected the current dimensions and system

elements. The official report prepared will be made available to everyone for your convenience through the FLC Website, when available. This report includes an abundance of photographs showing existing conditions. The report includes additional details of areas to address and serves as the basis to develop a prioritized maintenance plan for FLC.

On Sunday, June 14, Mike Warden and Vic Amoroso presented a summary of findings to the congregation during a forum. Below is a summary of the findings highlighted during the June 14 meeting:

- FLC is structurally very sound and for a 104-year-old building, in good shape overall.
- Our electrical capacity is ample to handle any future electrical needs. We have a 1200 amp system with approximately 25% excess capacity.
- The prioritized maintenance concerns reflect specific areas that need attention. The primary areas discussed in the presentation include the following:
  - **Roof:** (1) The north flat roof (facing the medical center) is in need of replacing. This roof houses multiple HVAC (heating, venting and air conditioning) systems. The underlying gypsum and related insulation is water saturated and provides no “R value”. The penetrations from bolting the HVAC units are a source for the water leaks in the bell choir room, adult library ceiling, nave north side small, stained glass windows and subsequent wall buckling, etc. (2) The 3-tab sanctuary roof shingles routinely blow off in a strong wind. The steep pitch of the roof is too steep for a 3-tab shingle design. A metal roof shingle may be the better solution for durability.
  - **HVAC systems:** The HVAC (Heating, Ventilating Air-conditioning) system is designed with 20 residential units. Each unit serves a specific zone of rooms to provide cooling and heating needs. These zones are manually controlled, which is not the most cost effective set-up. Most units are past their expected life. There are heating and cooling units stuck in closets. There is NO humidity control for the sanctuary which means the wide swings in humidity is damaging the organ wood pipes and the wood sound board to the piano. There is no central control panel to monitor airflow and comfort needs. Because most HVAC units are on the flat roof and a cause for leaks, K-W suggests we replace the HVAC units, remove them off the flat roof, and an updated, efficient, centrally monitored modern system. This is anticipated to save us approximately 25% each month and with rebates available today, a substantial amount is available to recoup install unit pricing.

- **Nave ceiling & lighting:** (1) the sanctuary ceiling is a suspended ceiling from the original ceiling. There is approximately 16' of space between the current ceiling and the original. That 16' of space provides space for insulation, houses a catwalk down the center and the venting system for air conditioners. The insulation has been moved around and provides inefficient coverage. The vibration of blowers and venting shakes ceiling and the mismatch of airflow and vents creates additional noise. The suspended ceiling is plaster on metal lath and absorbs sound rather than reflects. The lowered ceiling inhibits the quality of music. These issues will be addressed also in the organ and acoustics report. (2) The current fixtures are at the end of their useful life, because they use a light bulb that is no longer manufactured and the supply of existing bulbs is almost gone. New fixtures with LED could provide better light at lower cost to maintain.
  
- **Exterior Brick:** The exterior brick work is in general good repair. Tuck pointing has been done in many areas, but some work remains, especially at the old bell tower. Also cap stones need to be repaired.
  
- **Parking Lot:** The handicapped spaces in the older part of the parking lot have too much slope and are not according to code. Those areas should be redesigned to be more level.
  
- **Other Findings:** (1) Safe egress is not provided from the current balcony. The exits and lighting need to be redesigned. (2) The sanctuary carpet is old and worn, providing trip hazards. The floor under the pews is an asbestos composite tile and should be removed or covered. (3) There is termite damage to the altar floor. The termites are gone, but the damaged floor needs to be replaced. In some spots, only the carpet itself is preventing someone from falling through!