

February 12, 2021

Lancaster County Land Bank Authority
28 Penn Square
Suite 200
Lancaster, PA 17603
Attn: Michaela Allwine

Re: Phase 1 Report - Structural Observations
336 Main Street
Denver, PA
Project #201186

Dear Michaela:

Per your request, Providence Engineering Corporation (Providence) has performed a structural review of visually accessible portions of the property at the address noted above. The purpose of our review was to identify areas of structural concern. Our scope included the visually accessible portions of the roof and attic framing, floor framing, interior and exterior walls including basement walls. We performed our on-site review on Friday January 29, 2021.

For the purposes of this report, the front of the building faced Main Street. References to the left, right and rear within this report were from the viewer's perspective standing on the sidewalk along Main Street looking at the front elevation.

Existing Conditions

The existing property was a wood-framed, partial three-story structure over a partial basement with a small attic space. The front of the building consisted of a full three-stories. The center of the building had a small second floor addition supported by roof framing below. The rear of the building was single-story and was slab-on-ground.

Excluding the basement, the property was approximately 5,250 square feet. The building was reported to have been constructed in, or around, 1900. The building was mixed-use with the ground floor housing an active restaurant. Floors two and three were vacant with a planned purpose of residential apartment use. It is our understanding floors two and three previously were used as a boarding house.

Observations

The following is a summary of our observations of structural damage, deterioration or other concerns. Observations are broken down by floor. Photos have been provided, as needed, for clarification, see attached Reference Photos.

Exterior:

Exterior walls for the building consisted of the front, left-side and rear walls. The right-side wall was a shared wall between this property and the adjoined property. Wall construction consisted of a combination of brick, concrete masonry units (CMU) and siding. It was unclear if there was brick or CMU behind the siding.

E1. Brick exterior walls were in need of cleaning and re-pointing in places.

Basement:

The structure, as observed from the basement, consisted of wood joists and beams supported by both wood and steel columns. Foundation walls were a combination of stone and brick. Typical wood joists spanned side to side of the building.

- B1: Stone foundation walls needed cleaning and repointing in places.
- B2: Stairs into the basement had water stains on the stringers indicating water damage. Stringers did not sit on a footing at the base.
- B3: At the base of the stairs into the basement there was an opening in the foundation wall into a small space beneath the adjacent alley. The structural support of the alley asphalt was unclear as access into the hole was not possible. However, what was visible appeared to be very corroded steel. See Photo 1.
- B4: All steel columns were observed to be installed upside down with varying degrees of corrosion. None appeared to be on footings.
- B5: Wood columns were observed to be rotted at the bases. None appeared to be on footings. One column had blocking at the top that was not fastened to the column or beam to prevent movement.
- B6: One of the wood beams was observed to be comprised of many different size and length wood pieces. Pieces were not spliced together with fasteners or located over support points as required to properly transfer loads. See Photo 2.
- B7: Wood slats on-top of the joists were observed to have water stains in some locations.
- B8: The front left corner first floor framing was observed to have water stains. Support of the framing at the basement wall was unclear as a stained and warped piece of plywood covered the corner. See Photo 3.
- B9: Infill framing from what appeared to be a previous stairway did not extend to the support beam.
- B10: Preliminary calculations on the first-floor wood joists indicate they are not sufficient for Code-required loads.
- B11: The rear portion of the building was reported to be constructed over slab-on-ground.

First Floor:

The first floor is currently occupied by an operational restaurant, as such the structure was not readily available. At the rear of the building, we were able to remove a few ceiling tiles to observe the roof framing above. Roof framing in this area was observed to be 2x8 joists spanning front to back supported by steel beams.

- 1.1: Preliminary calculations on the 2x8 rafters indicate they are not sufficient for Code-required loads.

Second Floor:

To minimize disruption to the restaurant below, areas of floor were cut open on the second floor to expose the second-floor framing members. At the small second-floor addition in the center of the building, floor framing was observed to be 2.5"x6" wood joists running side to side. Due to the limited extent of demolition, it was unclear where support points were for the joists, it is presumed they extended beyond the addition to support the roof for the restaurant below. Roof framing for this addition was observed to be wood rafters without a ridge beam or connected to the ceiling joists.

Second-floor framing for the front portion of the building was observed to be 2.5"x6" wood joists running side to side. Similarly, due to the limited demolition it was unclear where support points were for the joists; however, based on the floor plan below it is presumed they were supported at the center wall on the first-floor.

- 2.1: Roofing materials on the rear portion of the building appeared to be in need of replacement.
- 2.2: Roof rafters did not have a ridge beam. Preliminary calculations indicate they are not sufficient for Code-required loads.
- 2.3: Preliminary calculations on the second-floor joists indicate they are not sufficient for Code-required loads.
- 2.4: Based on the presumed support locations for the second-floor framing, it appeared the second-floor wood joists were supporting the third-floor framing.
- 2.5: The existing bathroom on the second-floor had water stains indicating water damage with visible deflection of the floor framing.

Third Floor:

Attic and roof rafter framing for the front of the building was observed from the third-floor. Framing ran front to back. Roof framing consisted of what appeared to be 3"x4" rafters with no ridge beam or connection to the attic joists. Attic joists appeared to be 2.5"x6" joists to match the floor framing sizes.

- 3.1: Preliminary calculations on the attic joists, based on them being 2.5"x6", indicate they are not sufficient for Code-required loading.
- 3.2: Stairs into the attic were unstable for use. Rafters were observed from the third-floor as possible by the stair opening and areas with finishes removed.
- 3.3: Roof rafters did not have a ridge beam. Preliminary calculations indicate they are not sufficient for Code-required loads.
- 3.4: Two rafters were observed to not be continuous to the exterior wall. See Photo 4.
- 3.5: Water stains, indicating water damage, were observed on the attic joists, roof rafters and roof sheathing.

Conclusions and Recommendations

It is our understanding the plan for the building is to maintain the first-floor restaurant and convert the second and third floors into apartments. The current access to the second floor as well as general room layouts on the second and third floors are not conducive to apartments. There is a lot of architectural work required to accommodate the proposed use.

Structurally, based on our observations noted above, there is extensive work required to bring the structure up to Code and ensure a structurally sound building. The most critical items include, but are not limited to:

- 1. Replacing damaged members at all levels.
- 2. Reinforcing the first-floor framing. This would include all joists and installing correctly sized and supported beams on new columns and footings.
- 3. Determining a repair to the alley area described in item B3.
- 4. Create a structurally sound load path from roof framing down to the foundation.
- 5. Reinforce second floor and attic joists.
- 6. Reinforce roof rafters, including installing ridge beams at the second and third floors.
- 7. Reinforce roof rafters at the single-story portion at the rear of the building. Supporting steel beams were unable to be measured, it is possible these beams may need to be reinforced as well.
- 8. Replace roofs to ensure a watertight roof membrane to avoid future damage.
- 9. Replace water damaged sheathing at all levels.

A proper entrance to the apartments would need to be constructed. Additionally, it is anticipated the room layouts would change significantly to accommodate apartments. This will require additional reinforcing and re-framing to support the structure and ensure a proper load path down to the foundations.

After speaking with Steve Kaufhold while on-site, and knowing the level of architectural work required, we recommend looking into gutting the interior of the structure and starting with all new structural members. The level of repairs and reinforcements that will be required to bring the structure up to Code is extensive. Based on site observations and preliminary calculations there are few members that will not require reinforcement or replacement.

We recommend bringing in an architect to start developing as-built plans and schematic designs for the renovation. Providence could work with the architect to help develop a schematic design that would accommodate the desired use of the space while allowing for proper structural framing and supports.

This report contains the professional opinion of the Engineer based on conditions that were observed at the time of our site visit. Nothing in this report shall be interpreted as any kind of guarantee or warranty regarding the building/structure, but only addresses the condition of the areas that were readily accessible and that were observed at the time of our visit. While this visit was performed with care by experienced persons, Providence makes no warranty that all defects or existing conditions were discovered.

We appreciate the opportunity to be of service to you. If you need any further information or have any questions please feel free to contact us.

Sincerely,



Michelle Benoit, PE
Project Manager