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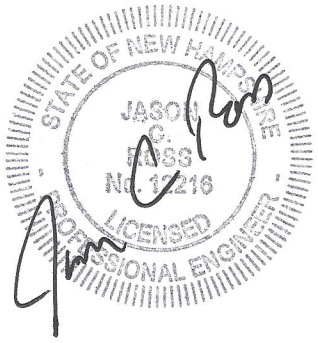
STRUCTURAL ASSESSMENT REPORT

PRINCESS THEATER
25 GREEN SQUARE
BERLIN, NEW HAMPSHIRE

Prepared for:
City of Berlin

August 12, 2019



Prepared by:
HEB Engineers, Inc.

Project #96058A

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August 12, 2019

James Wheeler, City Manager
City of Berlin
168 Main Street
Berlin, NH 03570

Re: Princess Theater, 25 Green Square, Berlin, NH
Structural Assessment Report
HEB Project #96058A

Dear James,

This Structural Assessment Letter Report has been prepared to address structural concerns regarding the existing Princess Theater building located at 25 Green Square in Berlin, New Hampshire. On July 16, 2019, I met with Berlin's Health Officer & Welfare Administrator, Angela Martin-Giroux, on-site to observe the condition of the existing building framing. Presented in this Letter Report are my field observations and recommendations. This work was performed in accordance with our Contract Amendment #1 dated June 14, 2019.

Background:

The Princess Theater building is a brick and wood-framed structure that is approximately 53 feet wide by 85 feet deep with a flat roof. The building has a sloped, wood-framed floor at street level with a stage on the eastern end and a mezzanine level on the western end. The building was constructed in 1914 and was previously used as a movie theater until December of 2013 when it was damaged in a fire. The fire was mostly limited to the front portion of the roof structure, along Main Street. Some limited repairs to the fire-damaged structure were made in 2015, but the repairs were never completed.

The building is now owned by the City of Berlin. Sometime during the winter of 2019, part of the roof collapsed into the footprint of the structure. The City observed that some of the bricks along the top of the front wall of the building were leaning toward the street, so the sidewalk in front of the building was closed to pedestrians.

Field Observations:

During my site visit, I observed that the brickwork on the sides and back of the building appears to be in fair to good condition (see Photo 1). A portion of the original brick parapet along the front of the building was damaged by the fire and removed by the previous owner. I confirmed that the bricks above the windows in the southwest corner of the building are leaning toward the sidewalk and are in danger of falling (see Photo 2). The remaining bricks in the front of the building appear to be stable. There is a large sign fastened to the bricks on the front of the building (see Photo 3). The connections of this sign to the bricks could not be observed.

We entered the building through the door at the lower level in the back of the structure. Since there has been a large hole in the roof since winter, water has entered the structure, resulting in several large puddles in the basement. Water was actively dripping through the floor from above, and a significant amount of fungus was growing on the wooden floor framing (see Photo 4). The sloped floor is framed with a series of wooden beams and joists supported by steel columns. One section of the wooden floor framing, near the middle of the northern wall, had partially collapsed (see Photo 5). The wood-framed stairs in the front of the building, from the lower level to the main floor, appeared to still be in good condition.

From the main floor level, I observed that the suspended ceiling and approximately 20% of the wood-framed roof structure on the northern half of the building had collapsed onto the floor below (see Photo 6). The areas adjacent to the collapsed roof appear to still be in danger of collapsing (see Photo 7). The portion of the roof along Main Street, that was repaired by the previous owner, is still in place and appears to be stable (see Photo 8).

The wooden floor-beam along the inside of the mezzanine floor is leaning and is in danger of collapse. A temporary brace has been installed to help support the framing in this area, but it does not appear to be sufficient (see Photo 9).

Conclusions & Recommendations:

The original roof structure was severely damaged by the fire in 2013. Repairs to the roof structure were started but never completed. During the winter of 2019, a portion of the damaged roof structure collapsed onto the floor below, taking the suspended ceiling framing with it and damaging the mezzanine framing. The impact of the roof collapse caused a portion of the main level floor framing to partially collapse as well. Fungus has started to grow on the wood framing in the cool wet basement area.

Based on my limited observations, I believe that all of the remaining roof and floor framing is in poor condition. If the building were to be restored, we would recommend completely removing the interior framing and reconstructing, using the exterior brick walls and foundation. With the extent of the damage and the amount of work required to bring the structure up to current building code requirements, it would likely cost more to repair the structure than it would cost to construct a new building with the same dimensions.

The loose bricks, above the windows and along the front of the building, are in danger of falling onto the sidewalk and I recommend that they should be removed as soon as possible. The connection between the sign and the existing building is questionable and I recommend that the sign should be taken down. Based on the extent of the repairs required to make the building useable and/or safe to occupy, consideration should be given to demolishing the remaining structure.

Disclaimer:

The opinions and recommendations contained in this report are based on "walk-through" field investigations performed as part of this work. No calculations were performed to determine if certain structural members are in compliance with adopted building codes and no physical testing was performed. This report does not address any other part of the structure other than those mentioned, nor does it provide any warranty, either expressed or implied.

Please do not hesitate to contact us if you have any questions or need any additional information.

Sincerely,
HEB Engineers, Inc.

Jason C. Ross, PE
Senior Structural Engineer

Enclosure: Appendix A – Photo Pages

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APPENDIX A

Photo Pages

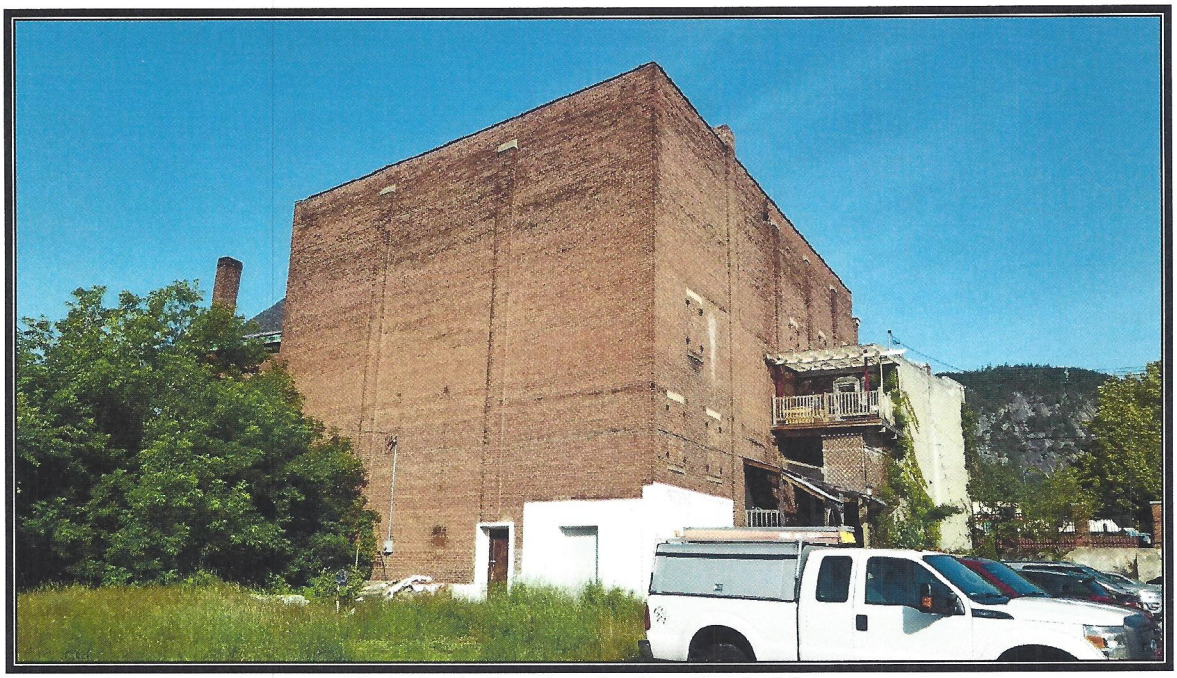

Photo 1: Back and north side of the building.

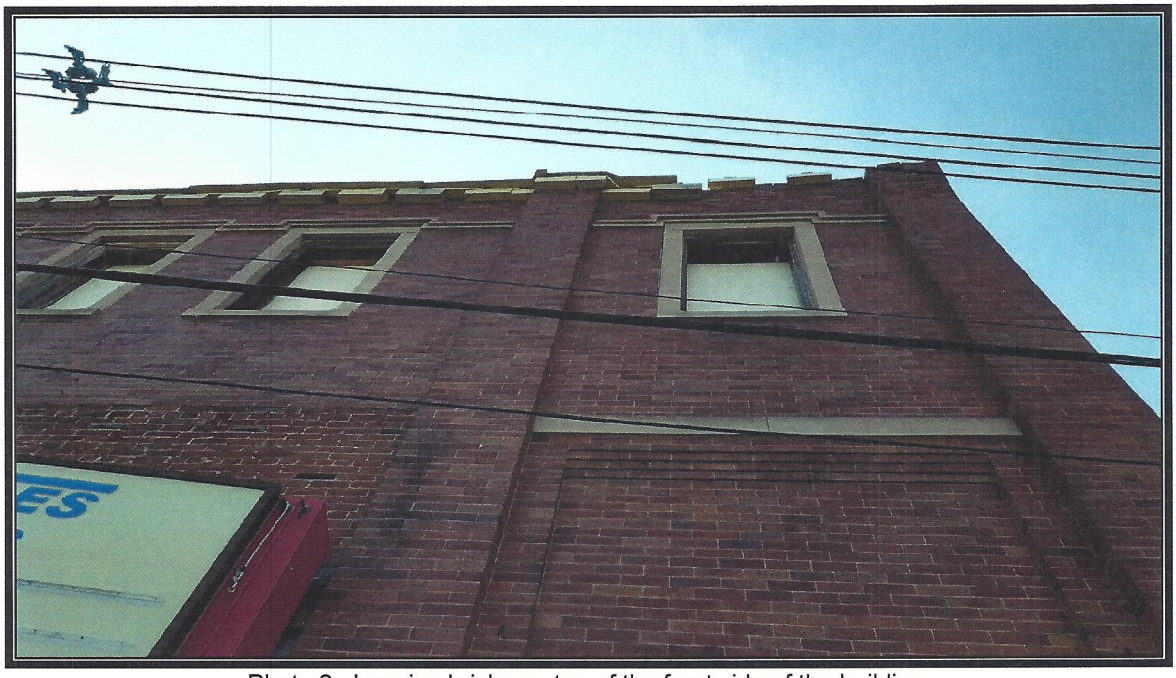

Photo 2: Leaning bricks on top of the front side of the building.

Photo 3: Signs attached to the front of the building.

Photo 4: Mold and fungus growing on floor framing.

Photo 5: Partially collapsed floor framing.

Photo 6: Ceiling and roof framing on the floor.

Photo 7: Section of roof framing in danger of collapse.

Photo 8: Area of roof framing repaired by previous owners.

Photo 9: Leaning beam supporting mezzanine framing.