

Haut, Tony

From: Chris Townsend <chris@townsendengineering.net>
Sent: Tuesday, August 18, 2020 3:29 PM
To: Morris, Jim
Cc: Haut, Tony; Mark Roemer
Subject: [EXT] 324 Main Street Davenport

Chief Morris and Tony,

Today Cory Voelkers and myself inspected the structure located at 324 Main Street in Davenport, Iowa due to some brick falling from the exterior of the 6th floor onto the sidewalk below. Photos were taken at the time of the inspection and have been included with this email.

This evaluation is limited in scope, focusing only on observations made from visible evidence. No additional destructive or invasive testing was performed.

The six-story structure located at 324 Main Street was reportedly constructed in 1906 and is a total of 83,850 square feet. Original building design plans were obtained at the Davenport Public Library and were reviewed and photographed for a comprehensive knowledge of the construction components. Assumptions have been made that the building was actually built as shown. The plans indicate that the floor systems for all six floors are comprised of poured on-site concrete floors, approximately nine inches in overall thickness, which run primarily in a north to south direction. The concrete floors are supported by a 2-inch deep lip along the north and south exterior building walls and by intermediate steel beams with columns at the interior of the building. The north and south portions of the building, where the majority of our inspection took place, has two rows of beams which run in an east to west direction, spaced approximately 17 feet in from the north and south exterior walls. This beam spacing leaves approximately 9 feet of floor through the middle of each section of the building. A row of beams and columns also run in a north to south direction approximately 25 feet west of the east exterior walls. The exterior walls are constructed of two layers of brick and an inside layer of clay tile equaling to approximately 13 inches in overall thickness. According to the original plans, the main floor of the building has 16-foot tall ceilings, floors 2 through 5 are indicated to have 9 foot 6 inch ceilings, and the sixth floor ceiling height varies from east to west. The plan set indicates that the west side of the sixth floor has ceiling heights of approximately 11 feet, and due to the sloping roofline, the east end of the building ceiling was measured during the inspection to be approximately 15 feet tall.

During the inspection, the primary focus was directed at the exterior brick façade on the east and north sides of the 6th floor. At the time of the inspection several bricks had fallen from the east side of the northeast corner of the building onto the sidewalk. We inspected the interior of three of the units on the 6th floor. We looked at units 601 and 602 at the northeast corner of the building and unit 615 at the southeast corner of the building. We have inspected these three units in the past three years and we could not find any noticeable cracking of the drywall or other movement when comparing today's photos with the previous inspection photos. The roof of the building was also inspected. Damage to the parapet cap was found near the southwest corner and several areas of the roofing had also been damaged during last week's storm. We did not find any recent movement of the parapet on the east side of the north or south sections of the roof and we did not find any separation of the roofing from the brick façade that would indicate any recent movement.

It is my professional opinion that the structural components of the exterior walls have not moved over the last three years but the brick façade has separated in some locations causing the brick ties to come loose which allows the bricks to fall. It was my recommendation that Bi-State Masonry either remove or stabilize all of the

loose brick and limestone immediately to prevent more brick from falling to the ground. The brick and limestone around the area where the brick fell will be removed and any other areas that appear to have bowed out will be covered with plywood that is anchored to the interior clay block to hold the brick in place until the permanent repair is made.

It is my professional opinion that the damage to the building is not structural and the building is safe to occupy. After the brick façade is temporarily secured we will develop a plan to permanently repair the exterior brick to prevent further damage.

1. East side of the northeast corner. Notice fallen brick above windows.



Thank you,

Chris Townsend, P.E.

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