



January 22, 2021

Mr. Tim Flintoff
Principal
4545 Architecture and Design, PLLC.
4545 Commonwealth St., Detroit, MI 48208

RE: 3700 Trumbull Powerhouse: Structural Condition Evaluation of East Elevation and
Masonry Wing Walls

Project No. 21-1004
The Towns at Scripps Park

Dear Mr. Flintoff,

In accordance with your request, we have completed our evaluation process of the above captioned project on January 22, 2021.

An evaluation of the east elevation masonry wall and the masonry wing walls was performed on 01/19/2021. The walls were evaluated for deterioration, and compliance with the minimum loading criteria identified in ASCE 7-10 as referenced by the 2015 Michigan Building Code.

East Elevation Masonry Wall:

The east elevation masonry wall is shown in Photograph 1. The wall is constructed of brick masonry units set in hydraulic sand-lime mortar. Both the masonry units and the mortar joints are in an advanced state of deterioration. A significant number of masonry units have begun to spall and the mortar joints have softened such that a masonry rubble pile has formed at the base of the wall. Further, the wall has been exposed to a fire at the second level, and numerous unabated freeze thaw cycles as a result of water penetrating the damaged building envelope. Aside from those sources of deterioration, calcification and efflorescence was observed covering more than 50% of the surface area of the east elevation, indicating that the masonry material itself has reached its serviceable life and will no longer meet the durability requirements specified in ACI 318.

East Masonry Wing Walls:

The east masonry wing walls are shown in Photograph 2 and Photograph 3. The walls are constructed of brick masonry units set in hydraulic sand-lime mortar and are approximately 11ft tall by 12in thick. The masonry units and mortar joints are experiencing similar spall, softening, calcification, and efflorescence as the east elevation masonry wall identified in Photograph 1. The level of deterioration is not as advanced as the east elevation masonry wall, however, it has progressed to the point where the masonry materials will no longer meet the durability requirements specified in ACI 318.

Further, the change in use of the building from a powerhouse to a community clubhouse changes the risk category of the building according to Section 1604.5 of the Michigan Building Code. This change in risk category mandates that the building and its structural



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elements be evaluated for the current code required minimum design loads associated with the risk category related to the new use. The resulting wind speed of 115mph applied to the approximately 11ft tall freestanding masonry wall structure results in the existing east masonry wing walls to be overstressed and in an otherwise unsafe condition structurally.

Accordingly, it is our recommendation that the east elevation masonry wall be removed and replaced, and the east masonry wing walls be demolished.

If you have any questions regarding the contents of this report, please do not hesitate to contact our office.

Sincerely,

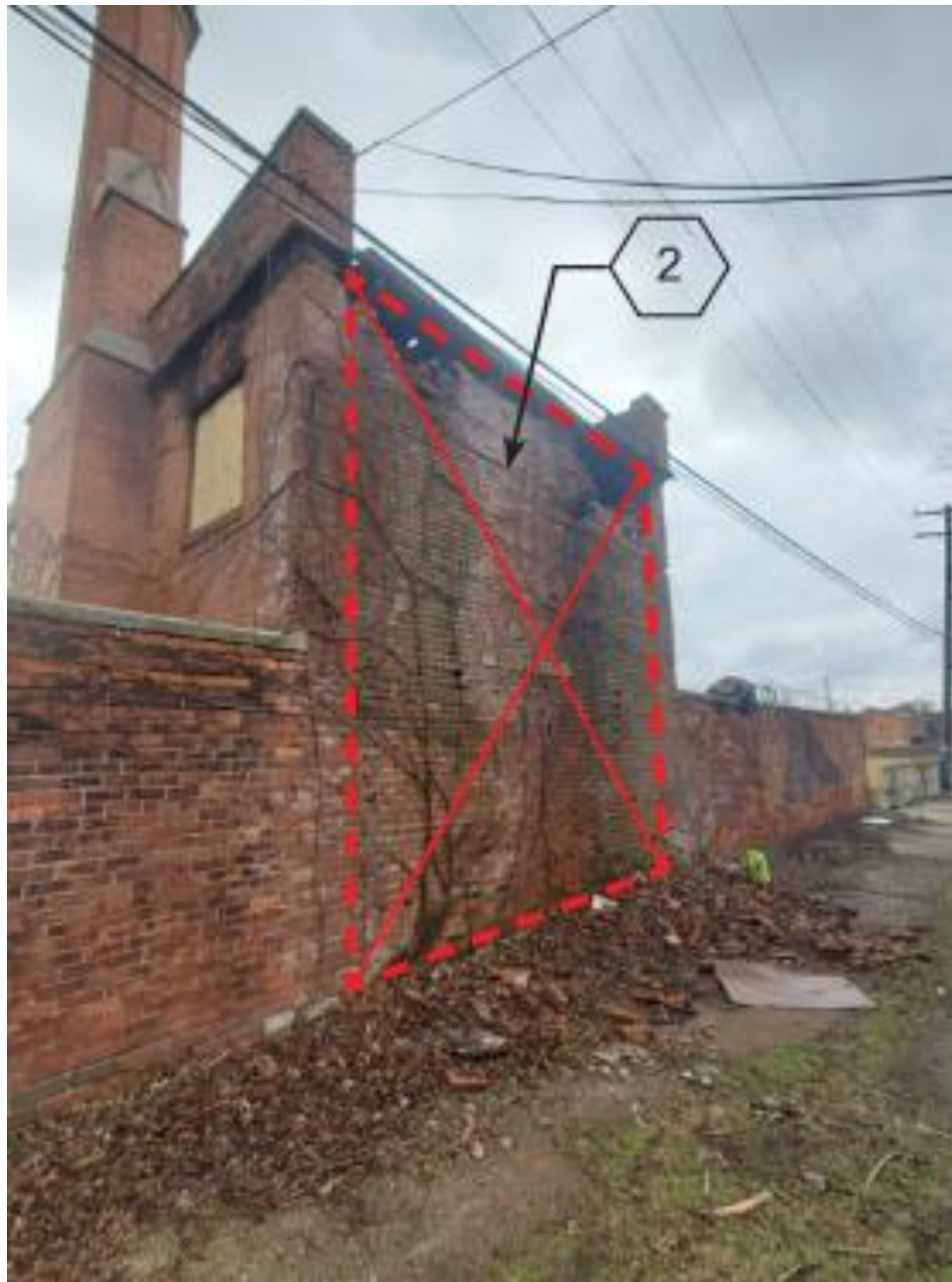
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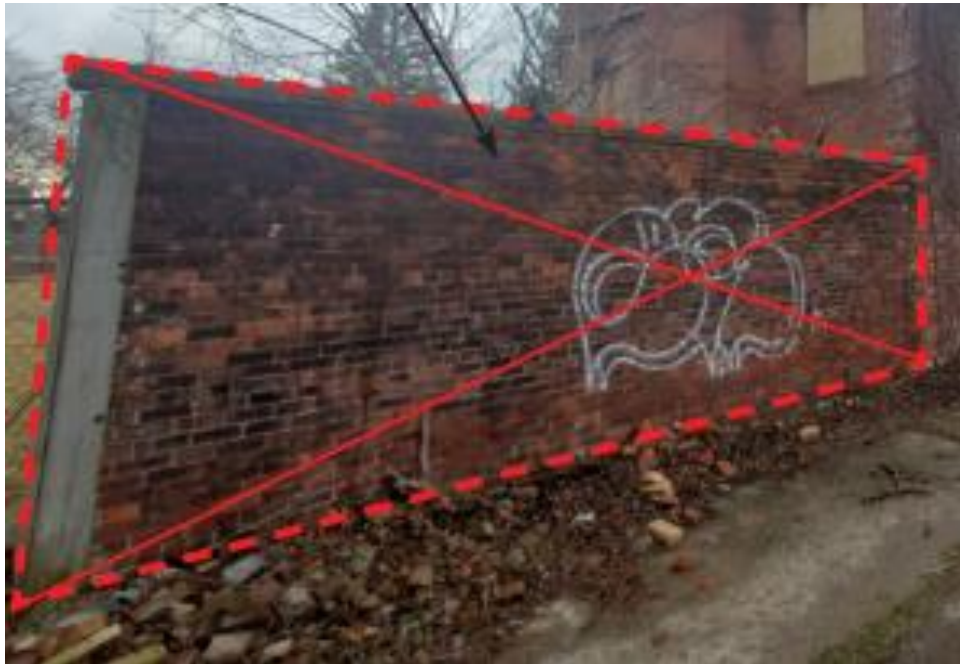


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Photograph 1: East Elevation Masonry Wall



Photograph 2: East Masonry Wing Wall – South



Photograph 3: East Masonry Wing Wall - North