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Submitted by:
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LaBella
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Limited Veneer Stability Assessment
138-188 Delaware Avenue, Troy, NY

JUNE 23, 2023

PROJECT NO. CZ321AW.14

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1.0 INTRODUCTION

LaBella Associates (LaBella) was engaged by Chris Nolin, Deputy Mayor of the City of Troy (Client), to prepare a limited stability assessment related to multiple buildings (subject structures) located at 138-188 Delaware Avenue in the City of Troy, Rensselaer County, New York (project site). This stability assessment was limited to suspect conditions associated with brick veneers.

This report was prepared at the request of the Client to assess the stability of the brick veneers of the subject structures with the primary goal of identifying unsafe / unstable conditions and providing recommendations to protect public safety if necessary. The assessment provides a description of the general condition of the brick veneers affixed to the subject structures including our observations, assessments and recommendations with concept level repair or replacement to address any unsafe / unstable conditions observed.

1.1 Scope

LaBella performed a limited visual assessment of the subject structures on Thursday, June 22, 2022. A photographic log of our observations is attached in Appendix A of this report. Reference Figure 1 for an aerial view of the project site including labeled buildings. We met with Deputy Mayor, Chris Nolin, and the Assistant Code Inspector, Jesse Ordansky, who provided access to the facility and answered questions / provided history to aide with the assessment.

Our observations and assessments were limited to those portions of the structural systems and components that were visible and accessible at the time of our visit. The scope of work was developed utilizing select portions of the 2020 Property Maintenance Code of New York State (PMCNYS). No destructive testing or sampling was performed, no laboratory testing was performed, and no finishes were removed unless where explicitly described in this report. Access for afforded to the exterior of the subject structure and the interior of two apartment units in building 152-154 that were not occupied at the time of the site visit.

2.0 SYSTEM DESCRIPTIONS

A general description and assessment of the project site, subject structures, reported history, and use are provided herein. A photographic record of our visual observations is provided in **Appendix A**.

2.1 Record Documents

The following documents were reviewed as part of this assessment. A review of the design is not part of this scope of work. The following documents were reviewed to aide field investigations only:

Notice of Violation, Case Number CEH20232866 Issue by the City of Troy Dated May 9, 2023

- This Notice of Violation specifically notes “exterior brick walls were bowing and cracked at several buildings on the property”.

2.2 Project Site

2.2.1 Location

The project site is located along the southwest side of Delaware Avenue in the City of Troy. For the purpose of this report, the main entry will be called the south elevation herein. The project site includes eleven residential structures, three main parking lots, and green space.

An overview photograph (aerial view) of the project site is provided in Figure 1.

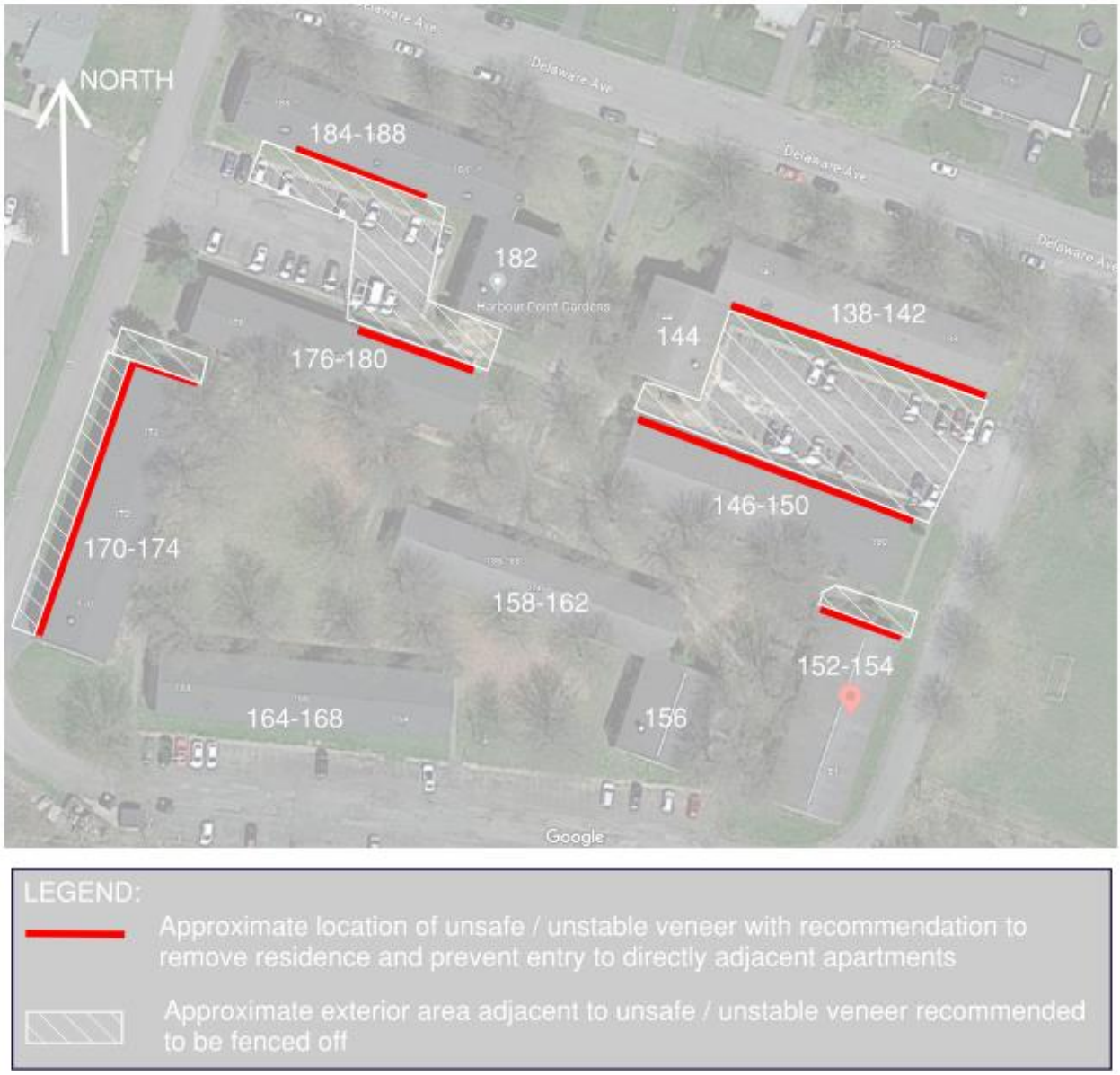


Figure 1: Aerial View of the Project Site
(Aerial Photograph taken from google.com/maps)

2.2.2 Description

The buildings within the project site generally consist of light-framed conventional wood construction with gable roofs and clay brick veneer supported on concrete foundation walls.

3.0 OBSERVATIONS AND ASSESSMENTS

3.1 Exterior Brick Veneers

Reference Appendix A Photographs 1 through 10 for views of the brick veneer conditions. Multiple veneers are bowing out creating unsafe / unstable conditions. Figure 1 identifies specific locations that are unsafe due to unstable brick veneers.

In general, global instabilities of the buildings within the project site were not apparent, but partial collapse of brick veneers is likely considering the out of plumb conditions. If the brick veneers fail, it could be catastrophic to occupants in apartment units adjacent to the collapse and bystanders along the exterior of the veneers. In general, veneers with more than 1 inch eccentricity are considered unstable and veneers with eccentricities exceeding 3 inches are at risk of imminent collapse.

Veneer eccentricities were measured at multiple locations within the project site using a self-leveling laser located at ground level to points approximately 7' to 9' above grade. The measurements taken indicated more than 3 inches out of plumb. Reference Photograph 12 for an example of measurement. Based on these measurements, the veneers are being engaged by secondary failure modes currently preventing imminent collapse.

Based on these measurements and observations of veneers within the project site, it is our opinion that the property is not in compliance with the PMCNYS including, but not limited to the following sections:

- Section 304.1.1 Exterior Structure Unsafe Conditions:
    - Exterior walls contain holes;
    - Veneers are not plumb and are not properly anchored; and
    - Joints between the building envelope and perimeter of windows are not maintained, weather resistant, or water tight.

4.0 RECOMMENDATIONS

4.1 Executive summary

In general, multiple veneers located within the project site are unstable creating unsafe conditions.

4.2 Recommendations

The intent of this section is to provide recommendations for removing unsafe conditions.

To remove unsafe conditions from occupants and bystanders we have the following recommendations to be **performed immediately**:

1. Remove occupants from apartment units in direct contact with veneers deemed unsafe / unstable identified in Figure 1.

2. Provide barriers such as construction fencing within 10 feet of unsafe / unstable veneers. These areas have been identified in Figure 1.

3. Remove unstable / unsafe veneers, and provide temporary exterior weather barrier.

Once it has been verified that unstable / unsafe veneers have been removed from the project site, occupants may return to apartment units.

To provide successful operations of the facilities and extend the useful service life of the buildings within the project site we have the following recommendations:

1. Install new weather-tight, plumb, continuous, stable wall systems.

2. Hire a qualified professional to perform a building condition assessment on the project site to identify any additional deficiencies. Remove and additional deficiencies identified.

5.0 CONCLUSION

Multiple conditions of suspect brick veneers located across the project site were observed to be unstable and creating unsafe conditions. Remediation work to remove the unsafe conditions should be performed immediately.

The recommended work should be performed by a qualified contractor and may be subject to permit from local Authorities Having Jurisdiction (AHJ). This report may be used in support of such permit.

Closing: LaBella makes no express or implied warranties concerning the building systems assessed herein. LaBella does not adopt the warranty of the manufacturer of the components of structure assessed, or the warranty of the Builder or Owner of the subject structures. An assessment of the building mechanical, electrical or plumbing systems is outside the scope of this assessment. This assessment does not constitute a code review of requirements for

any proposed use or change of occupancy. This assessment, as documented in this report, constitutes the complete and exclusive expression of the opinions of LaBella.

Thank you for the opportunity to assist you in this matter. Please feel free to call me directly at (518) 266-7386 with any questions, comments or requests for further clarification.

Respectfully submitted,

LaBella Associates

Sincerely,

Rebecca N. Sheely-King, EIT
Structural Engineer

Reviewed and approved by

Lanson A. Cosh, PE, NYSCCEO
Senior Structural Engineer

Attachments:
Appendix A: Photographic Documentation June 22, 2023

cc. Joseph M. Lanaro, PE, M. ASCE; file

Appendix A:
Photographic Documentation
June 22, 2023

Photograph (1):

View of northeast wall of building 152-154. Note the brick veneer is bowing and measured to be more than 3 inches out of plumb.

Photograph (2):

View of southwest wall of building 138-142. Note the brick veneer is bowing and measured to be more than 3 inches out of plumb.

Photograph (3):

View of northeast wall of building 146-150. Note the brick veneer is bowing and measured to be more than 3 inches out of plumb.

Photograph (4):

View of southwest wall of building 184-188. Note the brick veneer is bowing and observed to be more than 2 inches out of plumb within the yellow outlined region.

Photograph (5):

View of northeast wall of building 176-180. Note the brick veneer is bowing and observed to be more than 2 inches out of plumb within the yellow outlined region.

Photograph (6):

View of northeast wall of building 170-174. Note the brick veneer is bowing and observed to be more than 2 inches out of plumb.

Photograph (7):

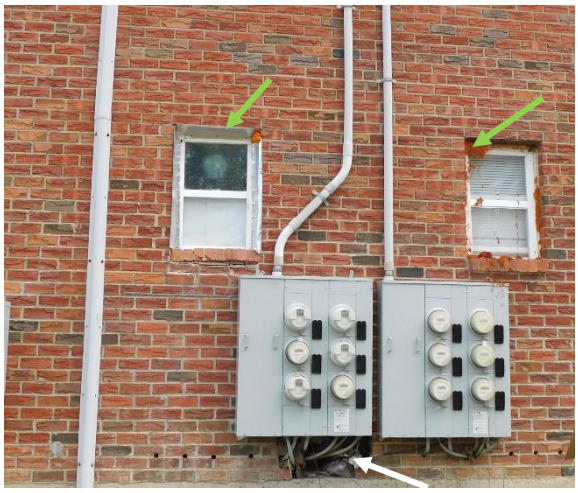
View of northwest wall of building 170-174. Note the brick veneer is bowing and observed to be more than 2 inches out of plumb.

Photograph (8):

View of second story windows along the northeast wall of building 152-154. Note the veneer has separated from the window creating an opening (white arrow) in the building envelope. Note the orange spray foam (red arrow) previously installed around the windows to infill this gap.

Photograph (9):

View of window located along southwest elevation of building 138-142. Note the window is broken (yellow arrow), there is a gap between the window and the veneer (white arrow), and the sill bricks are loose.



Photograph (10):

View of windows and electrical service connections at the southwest elevation of building 184-188. Note the orange spray foam (green arrow) and the aluminum thresholds (green arrow) installed the cover the gap between the window and the veneer. Note the opening (white arrow) in the veneer at the electrical service connection.

Photograph (11):

View of self-leveling alignment laser used to measure plumbness of veneers.

Photograph (12):

Example laser measurement diagram. Reference Photograph 11 for view of self-leveling laser.