

BUFFALO URBAN RENEWAL AGENCY CITY OF BUFFALO

667 WASHINGTON STREET BUILDING CONDITION ASSESSMENT REPORT

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Subject Building: 667 Washington Street

Building Site: 667 Washington Street
Buffalo, New York 14203



667 WASHINGTON STREET BUILDING CONDITION ASSESSMENT REPORT

SCOPE

This document summarizes the findings and recommendations related to the existing conditions at the building located at 667 Washington Street in Buffalo New York. This effort was initiated by the City of Buffalo's Urban Renewal Agency in order to provide recommendations to the existing structure with the intent of giving cost effective options.

The methodologies utilized in this report consisted of field investigations, and the review of the available record documents provided by the Buffalo Urban Renewal Agency. The professional opinions expressed in this report are based upon the information available at the time of issuance.

EXECUTIVE SUMMARY

Originally, a condition study was requested by the City of Buffalo's Department of Public Works that would potentially result in construction documents to rehabilitate the 667 Washington building into a tenant ready build-out. A tenant ready build-out encompasses all the structural, MEP (as required), and the weatherproofing envelope of the building. Since this study was completed in October 2019, we are not aware of any repairs/rehabilitation made to the building, besides additional temporary shoring we visually saw during a recent site visit. We were contacted by the Buffalo Urban Renewal Agency to update the condition study and provide (3) alternates with estimated costs: A tenant ready build-out, roof/envelope repair with shoring to maintain the building temporarily, and complete demolition of building.

The condition of existing building's structural roof and floor systems have completely deteriorated since the last condition assessment study by DiDonato Associates dated October 2019. In order to update the existing building to a tenant ready build-out we recommend replacing the roof systems and the floor systems completely. The parapet walls at the roof levels need to be repointed and flashed accordingly and the existing chimneys discarded. Localized exterior and interior masonry repointing is expected at the existing foundation walls and the southern alley near grade. All existing stairs need to be removed and re-framed adequately. The existing interior steel beams and columns can be left in place but need to be cleaned, primed and painted. Asbestos abatement and mold remediation should be conducted throughout building. A new firewall needs to be installed to separate 667 Washington Street from 667 Main Street, the adjacent property. All of the electric service equipment is severely rusted and must be replace along with exit lighting and fire alarm systems. Existing building drainage systems should be properly connected and restored to the existing drain sewer system.

The estimated probable cost of repairs to update this building to a tenant ready build-out is 2.25 million. The estimated cost to maintain the building temporarily with a new roof and shoring is 1.02 million. The estimated cost to demolish the building and infill the basement to grade is 741 thousand.



TABLE OF CONTENTS

1.0 - LIMITATIONS..... 3

2.0 - ABBREVIATIONS / NOMENCLATURE..... 3

3.0 - SITE VISITS..... 4

4.0 - BACKGROUND INFORMATION..... 4

5.0 - OBSERVATIONS..... 5-7

6.0 – STRUCTURAL ANALYSIS 7

7.0 - CONCLUSIONS..... 7-9

APPENDIX – ENGINEER’S ESTIMATE FOR PROBABLE COST OF REPAIRS

1.0 LIMITATIONS

- 1.1 This report’s information is based on field inspections (non-destructive), and available record construction documents (drawings and reports). All existing drawings are assumed to represent as-built conditions unless specifically stated otherwise.
- 1.2 Areas hidden from view or that are inaccessible without destructive testing or safety concerns were not evaluated or were extrapolated based on the visible conditions. This includes and is not limited to the existing building’s foundation system.
- 1.3 Any analysis of existing lumber members assumed structural properties of DF-L #1, without material testing identifying the exact properties of the existing members this is typically a conservative assumption for a structure of this age.
- 1.4 The member sizes determined for analysis are based on available field measurements.
- 1.5 This report summarizes typical findings. It does not contain all data or images collected.

2.0 ABBREVIATIONS / NOMENCLATURE

- 2.1 MEP = Mechanical – Electrical - Plumbing
- 2.2 SF = Square Feet
- 2.3 OC = On Center
- 2.4 PSF = Pounds per Square Foot
- 2.5 CMU = Concrete Masonry Units
- 2.6 F = Fahrenheit
- 2.7 COB = City of Buffalo
- 2.8 Member = Structural Beam, Column, or Component



3.0 SITE VISITS

3.1 Site visits made relating to the field inspection are tabulated below:

Visit	Date	Weather	Attendees
1	06/30/2023	81F Partly Cloudy	Vince Makowski and Daniel Schneider, DiDonato Associates

4.0 BACKGROUND INFORMATION

- 4.1 667 Washington Street was constructed presumably in the early 1900s based on architectural elements and the typical building materials of that time. The 19,000 SF three-story building can be broken into two sections based on the number of floor levels. The front of the building is three-stories with a below grade basement and the rear is one story with a below grade basement. The rear of the building is connected to an existing property (667 Main Street) but a demising wall separates the two properties. The structure is composed of brick-masonry bearing walls and an interior steel framed beam and column system. The roof and floor systems are wooden joists typically spaced at 16-inch OC +/- with tongue and groove decking. Stone foundation walls support the brick-masonry walls and it is assumed the interior columns rest on isolated footings below the basement floor slab. The main lateral resisting system are unreinforced masonry bearing walls and wood diaphragms, not specifically detailed for seismic resistance.
- 4.2 A previous condition assessment was performed by Nussbaumer & Clarke dated March 2016. As a result of this assessment, structural shoring was installed throughout the building to support the deteriorated floor and roof systems. Stairs were installed from the one-story portion of the building to the three-story section to gain access to the upper floors without ladders. It was also noted in the 2016 report that the roof membrane was patched as part of this assessment but has since failed.
- 4.3 A previous condition assessment was performed by DiDonato Associates dated October 2019. The condition assessment laid out the current deficiencies and provided an estimate for a tenant ready build-out.



5.0 OBSERVATIONS

5.1 On June 30th, 2023, Vince Makowski and Daniel Schneider of DiDonato Associates visited the site to review the existing conditions. The following conditions were observed:

- a. Significant deterioration (weathering and rot) of flooring/decking is widespread at upper (three-story section) and lower (one-story section) roofs and each floor. This deterioration is due to the constant water infiltration from the roof system and failing drainage system.
- b. Roof Joists (three-story section/upper and one-story section/lower): Approximately 90% of the upper roof joists and the entire lower roof joists are affected by deterioration or water damage due to water infiltration/leaks. Various levels of vegetation growing on roof structure. Previous retrofit repairs with engineered lumber have also experienced water damage and their structural integrity could be compromised. All joists are framed North to South directly pocketed into the masonry walls and into joist hangers at the interior structural steel supports. All joists require replacement.
- c. 3rd and 2nd Floor Joists (three-story section): Approximately 90% of the floor joist are affected by deterioration or water damage due to water infiltration/leaks. There have been localized complete framing failures, one of which has created a large hole at the center of each floor system. Existing holes, retrofits and infills appear not to be properly framed. All joists are framed North to South directly pocketed into the masonry walls and into joist hangers at the interior structural steel. All joists require replacement.
- d. 1st Floor Joists: Approximately 90% of the three-story section and the entire one-story section of the first floor joists are affected by deterioration or water damage due to water infiltration/leaks. All of the ends of the joists are pocketed into the foundation walls and may have significant deterioration as a result of the constant moisture they exhibit. There are full blooms of biologic growth located within the basement and signs of distressed/failing floor joists and framing throughout. All joists are framed North to South directly pocketed into the foundation walls and into joist hangers at the interior structural steel supports. All joists require replacement.
- e. All the steel beams appear to be consistently the same, with a depth of 12-inches and a flange width of 5 ¼ -inches. For larger loadings the original designer doubled the steel beams instead of using a larger beam size. The columns range from approximately 5 ¾-inch (roof level) to 7 ½-inch (1st floor) diameter post that are spliced together at each floor level. The steel framing system is from East to West and is located at the middle interior of the



building. The majority of existing steel beams and columns appear to be in fair condition besides some surface corrosion. No significant section loss was measured at the beams and columns except at one location at the three-story section of the building. The existing beams running North to South under the existing store front have excessive corrosion and section loss and needs to be replaced completely or retrofitted with a different framing system.

- f. The existing masonry-brick walls externally and internally are in fair to good condition with only some spot cracking and eroded mortar joints. The most deteriorated location of exterior brick is located at the southern alley near grade; however, this masonry is still in fair condition. The existing chimneys are in poor condition and should be removed and their roof openings patched/filled. The parapet of the lower roof is not exposed, but the exposed parts of the upper roof parapet is in poor condition and needs to be re-pointed. It is expected that the lower roof's parapet will need the same treatment.
- g. The existing stone foundation walls appear to be in good condition and no signs of bowing or distress. Some mortar joints show signs of deterioration between stone courses, but this only appears in localized locations. The slab on grade at the basement level appears intact in some locations, but may not be present everywhere. There is a considerable amount of debris/dirt on the basement floor to question where it begins and ends, but since there does not appear any movement in foundation walls, it is not a structural concern for its ability to pin the foundation walls base.
- h. Existing structural shoring is located throughout the entire building to support the deteriorated floor and roof systems at all levels. It appears more shoring was added to the front section of the building (towards Washington St) to help stabilize the floor systems.
- i. Drains and pipes are not properly connected to the storm water systems and are leaking or plainly spilling into the building.
- j. All the electrical service equipment is still severely corroded.
- k. The existing demising wall that separates the adjacent property (667 Main Street) at the West end of the building is only a partition wall. It was not constructed as a firewall.
- l. At some point a CMU wall was constructed under the existing storefront along Washington Street. This wall does not appear to be part of the original construction, but is in good condition acting as the front of the building's East foundation wall.



m. Newer structural steel was observed at the one-story portion of the building at roof level. This steel is in good condition and was installed to support mechanical units on the existing building's roof. The mechanical units service the adjacent property on Main Street.

6.0 STRUCTURAL ANALYSIS

- 6.1 The existing roof and floor joists were not analyzed in this study since the damage is so extensive that it would not be feasible to reuse any portion of the roof or floor systems. A full demolition and reinstallation is required of the joist floor system.
- 6.2 The existing interior steel framing system was analyzed at each level for the anticipated use corresponding with each level's expected loading requirements. The analysis also took into account any section loss found and used that as the base member for a conservative analysis. The results are discussed in the conclusion section of this report.
- 6.3 The main lateral load resisting system was not analyzed since there are no plans to modify the existing system. The current system has not displayed any signs of distress and is still performing adequately. If any change is made to this system an analysis may be required.

7.0 CONCLUSIONS

- 7.1 Due to the widespread damage of the joist floor and roof systems, we recommend that a full demolition and reinstallation of these systems to be undergone for a tenant ready build-out or roof tear off. Any system to remain should be adequately shored to prevent collapse.
- 7.2 All the steel is adequate to handle the expected use loadings except at storefront. The steel located under the existing storefront needs to be replaced due to the excessive section loss. Alternatively, the existing CMU wall below can be built up to the storefront to support it instead of re-installing a new steel beam. All the existing steel beams and columns need to be cleaned, primed and painted. Any existing steel joist hanger should be cleaned and painted as well, or replaced completely based on its existing condition. If a completely new floor system is installed none of the existing joist hangers should be re-used. The existing interior foundations that the columns bear on could not be verified of their size and capacity due to lack of visibility and



- record documents, but are assumed adequate based on lack of evidence of excessive settlement.
- 7.3 The heavily eroded mortar joints in the southern alley near grade should be removed back to sound mortar and new mortar replaced (repointed). Any miscellaneous cracked brick should be replaced. The existing stone foundation walls should also have localized repointing done to extend its life and maintain its structural capacity.
- 7.4 An asbestos abatement and mold assessment needs to be performed prior to any demolition. Replacing the floors and roof may reduce the need for a portion of the mold remediation required.
- 7.5 All of the electric service equipment is severely rusted and must be replaced along with exit lighting and fire alarm systems. Existing building drainage systems should be properly connected and restored to the existing drain sewer system. The existing mechanical units that service the existing property next door, may need to be temporarily removed and reinstalled or they will need to be temporarily shored during the reconstruction of the roof.
- 7.6 A new firewall needs to be constructed in lieu of the existing demising wall separating the properties. This would involve building an entirely new partition wall with correctly rated fireproofed material. Additional code analysis needs to take place to determine if the wall needs to be extended above the existing lower roof to prevent fire jumping and protect each property.
- 7.7 The existing steel that was more recently installed to support the mechanical units located on the lower existing roof may be left in place and incorporated into the new roof. It also could be removed and salvaged for a reduction in cost for the repairs.
- 7.8 The existing structural shoring already in place has the added benefit of reducing construction cost during repairs. The contractor can use the existing shoring for construction of the new floor and roof systems. It is one less expense in labor and installing their own scaffolding.
- 7.9 The estimated probable cost of repairs to update this building to a tenant ready build-out is 2.25 million. All the items listed prior should be undergone if this option is chosen.
- 7.10 The estimated probable cost to maintain the building temporarily with a new roof and shoring is 1.02 million. This option requires a full roof tear-off, including the roof joists. The rest of the building's floor joist needs to be temporarily shored with posts and/or beam systems. This solution, if done properly, will halt the water infiltration and the rate of building deterioration. This is considered only a temporary solution.



7.11 The estimated cost to demolish the building and infill the basement to grade is 741 thousand.

END OF REPORT

Please note that this report is based on site observations and the information provided by the Buffalo Urban Renewal Agency in the form of drawings and reports. Any recommendation or opinion made by DiDonato Associates, may be revised based on additional information provided that reasons otherwise.

If you have any questions regarding this report or need additional information, please do not hesitate to call.

Very truly yours,

DiDonato Associates, Engineering & Architecture, P.C.

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Vice President | Principal