

5.10.2023

Project Description and Research:

Re: 301 Alice Street Demolition

### MPC Staff,

The owner of the property at 301 Alice is requesting permission to the demolish the current noncontributing structure at 301 Alice to allow for the construction of a single family residence and carriage house. The existing building was built post World War II in the 1950s. This was an auxiliary building to a Cadillac dealership that existed on West Broad St. Based on the review of Sanborn Fire Insurance Maps, prior to the 1950s the site was occupied by wood framed single-family residential structures. The attached structural report illustrates the poor condition of the structure but more importantly the measures that would need to be undertaken to bring the building up to code, these measures would eradicate the few remaining existing conditions present in the structure.

The structure does not meet the Secretary of Interior's criterion designation for contributing to the "broad patterns of our history." The structure was constructed from common, mass-produced materials including concrete blocks, steel trusses, and corrugated tin. The overall design of the structure was simple, open-space rectangle intended to accommodate its function as an auxiliary garage. Furthermore, the structure does not maintain much of its original materials. The garage doors, which face Alice Street and Gaston Street, historically would have been wood carriage-style double doors but have been replaced with modern rolling service doors. To accommodate the modern doors the door frame has been modified with wood infill. Review of Sanborn Fire Insurance Maps also indicate that the windows have been altered. Only four windows are marked, located on the west façade, on the 1916 with paste-ins up to 1953 map while today both the west and east façade feature seven, metal frame windows. Evidence indicates that the original windows would have been wood framed, and that the east façade would have also had four wood framed windows. There is no evidence to determine whether the windows located on the north and south facades were original. However, as these windows are metal framed with steel headers, it is speculated that they were added when the east and west windows were altered. The Sanborn maps also state that the interior walls consisted of plaster and there is no plaster remaining within the building. Another modern alteration includes the addition of a dry wall constructed office which was added to the interior in the early 2000s.

The primary research available for this building relies on Sanborn Fire Insurance Maps. The only photo found in which the building is pictured is a photo taken of houses located on West Gaston Street with the building visible in the background. The photo was located at the Georgia Historical Society in the Van Jones Martin Photography Collection. An aerial photo from 1955 also shows the building, but due to the nature of the photograph, only its roof is visible. Further documentation was requested from the MPC on the original designation, however, the only information available was the 2010 analysis. Additionally, research discovered that another historic garage that was located at 319 Jefferson Street which was redesigned by Cletus Bergen in 1945, the notable Savannah architect, had been demolished to make

way for the Liberty Street Parking Garage.

The building was constructed in the 1950s rather than in the period of significance between the first and second world wars. The building also does not maintain its historic integrity in its materials or design. 301 Alice Street should be allowed to be demolished to allow for the redevelopment of the property into single-family residential units which will allow for the continued reestablishment of the community's historic residential landscape.

With Regards,

Kevin F. Rose



View looking north west.



South Elevation



North Elevation.



### LIMITED CONDITION ASSESSMENT REPORT FOR:

301 Alice St Savannah, GA

### PREPARED FOR:

Harley Krinsky | January 2, 2023

The following is a summary of the conditions documented during the observation of the above referenced property, performed on December 26, 2022. The conditions documented herein are the result of visual observation only; no exploratory demolition or testing was performed. This report does not express or imply any warranty of the structure but only addresses the condition of the portion which was readily accessible and observable at the time of inspection.

### 1.0 Purpose of Assessment

The property at 301 Alice St is under evaluation for a sale transaction. As the building is listed as a contributing historic structure, the structural assessment intends to provide the prospective buyer with documentation of the structural deficiencies associated with the property that would need to be addressed in a restoration.

### 2.0 Description of Structure

The building is a single-story commercial structure used as a warehouse and has a footprint of 59 feet by 110 feet. The walls of the building are of 8-inch concrete masonry units (CMU) and the roof structure is of metal trusses. It is anticipated that the foundation of the walls are shallow, isolated concrete foundations. The ground slab is a concrete slab on grade and isolated from the building walls or foundation.



Figure 1: Building Layout



### 3.0 Observations and Analysis

From visual observations, the structure was found to be in good general condition with some areas of deterioration from exposure to environmental elements. However, the structural elements of the building appear to be more utilitarian than typical commercial buildings with lower structural capacities than commercial building codes would typically allow. The following summarizes the condition of the structural elements, structural deficiencies, and weaker components that may require reinforcement during a restoration.

➢ Roof decking

The roof decking is a corrugated metal decking that is approximately ½-inch deep with a metal sheet thickness of approximately 18 gauge (0.05 inches). The decking is supported by purlins that are spaced at approximately 4 feet – 3 inches apart. Although not a conventional structural roof deck section, an analysis shows that the decking size is adequate for the span and loading.

At the overlapping areas of the roof deck panels, there is corrosion of the deck that is consistent throughout (Photo 1). It is believed that the overlapped areas are holding water between the sheets that is causing accelerated corrosion in these areas.

Also, randomly positioned throughout the roof, there are holes seen by shining light into the building throughout (Photo 2). The roof is also uninsulated; the corrugated metal decking is the only roofing element protecting the interior from environmental exposure.

At the eave overhang of the building, the existing roof deck cantilevers out from the edge approximately 1 foot (Photo 3). The analysis of the deck shows that this edge is not capable of supporting live loading along the edge.

For a restoration, it is anticipated that insulation and roofing would be required to utilize the building. It is expected that this insulation and roofing would be added above the existing corrugated decking to provide thermal and environmental protection for potential occupants. Additionally, the eave condition would be required to be reinforced to ensure that roof workers can safely stand on the roof in all areas. The added roofing thickness and required edge reinforcement would change the low-profile eave aesthetic that currently exists.





CORROSION AT DECK OVERLAP

Photo 1: Roof decking – corrosion at overlaps



Photo 2: Roof decking - Holes in decking





Photo 3: Roof decking – Cantilevered eave

➢ Roof purlins

The roof purlins are constructed with back-to-back light gauge metal channels that are 2-1/2 inches deep and a metal thickness of approximately 18 gauge (0.05 inches) (Photo 4). The purlins are spaced approximately 4 feet – 3 inches apart. An analysis shows that the existing roof purlins are not adequate to support a code-required live load of 20 pounds per square feet. In the current condition and capacity, it is recommended that roof workers be limited to a weight of 175 pounds and maintain a spacing radius on the roof of at least 5 feet.

Upon inspection of some of the roof purlins, the sections show some mild corrosion and deformations that reduce the structural integrity of the members (Photo 5).

For a restoration, the roof purlins will need to be reinforced to support a safe working load for any roof workers. The current capacity is already limited, but it is expected that a restoration would involve insulation and roofing that would add to the current load demands and further worsen the condition. It is expected that the purlin reinforcement would involve steel section reinforcements throughout the building to ensure the capacity for the code-required live load and any increase loading from additional roof materials, and to supplement for section loss or deformations.





Photo 4: Purlins – Light-gauge and shallow member



Photo 5: Purlins – Mild corrosion



### ➢ Roof trusses

The roof trusses are constructed with light-gauge metal channels and angles. They are approximately 11 feet in depth at the ridge and span 59 feet across the width of the building. The trusses are spaced regularly throughout the building at a spacing interval of 6 feet - 8 inches (Photo 6). The top and bottom chords of the trusses are constructed with four back-to-back light-gauge metal channels that are 3-1/2 inches deep and a metal thickness of approximately 18 gauge (0.05 inches). The vertical web members are two toe-to-toe channels creating a rectangular section that is 3-1/2 inches by 2 inches. The diagonal webs are typically L1x1x1/8 angles.

All connections of the truss appear to be welded (Photos 7 and 8). Welding light-gauge metal takes welding skill to prevent burn through of the metal. Some of the diagonals were found disconnected (Photo 6). Because these roof truss elements are slender and dependent on strong connections to transfer forces to function as a truss system, welding inspections of the connections would be prudent.

The L1x1x1/8 diagonal web angles are long and slender (Photo 9). When slender elements are under compression, such as with truss webs, buckling of the element could significantly reduce the capacity. Many of the diagonal webs are longer than would be recommended to prevent buckling from compression forces or even general recommendations for slenderness for use as tension members.

From the analysis of the truss, several of the longer web elements are undersized for support a code-required live load and any mild wind uplift event. The very slender L1x1x1/8 diagonal webs are under tension loads for gravity loading, for which there is more capacity than the capacity in compression. However, in any uplift event, these diagonal web angles would be in compression and would buckle. To support any reasonable wind uplift event on the roof, it would be required to reinforce the truss elements. Even for gravity loading, the current capacity is limited and should be reinforced for additional roof materials in a roof renovation.

Figure 2: Truss analysis profile





Photo 6: Roof trusses – Overall and Unconnected members



Photo 7: Roof trusses – Web and Bottom Chord Connections





Photo 8: Roof truss – Web and Top Chord Connections



Photo 9: Roof truss – Slender webs



### Gable end walls $\triangleright$

The gable end walls are framed with back-to-back light-gauge metal channels that are 3-1/2 inches deep and a metal thickness of approximately 18 gauge (0.05 inches) (Photo 10). From a structural analysis with a wall wind pressure, this light-gauge metal framing is insufficient for a smaller-scale hurricane event.

For a restoration, the gable end wall framing would need to be reinforced or braced to the trusses for additional support for the out-of-plane wall pressure.



Photo 10: Gable end walls - Unbraced

Exterior CMU walls

The perimeter walls are constructed with 8-inch concrete masonry units (CMU). There are some solid masonry columns spaced on the longer walls, but it is believed that the majority of the walls are unreinforced and hollow.

There are cracks in the exterior walls near the corners of the building. This cracks are approximately 3/16 inches to 1/4 inches throughout. The cracks generally start near opening corners and extend to the top (Photo 11).



The cause of the cracking could be settlement or thermal expansion. There are some offset lips at the cracks that could indicate some lateral movement has happened (Photo 12). The long walls are approximately 110 feet long and contain no expansion joints, which suggests that these cracks could be caused from expansion rather than settlement, however this does not rule out that settlement has occurred. At these cracks, there is a loss of connection that needs to be reconnected. As part of a restoration, some of these areas may need to be stitched with steel bars or reconstructed with fresh mortar to regain the connection.

From analysis, the 8-inch CMU walls are likely adequate without reinforcement for both gravity and shear loads. The restoration would only regain the structural integrity of the existing wall structure that has been cracked or damaged.



Photo 11: Exterior Wall – Cracking/shifting





Photo 12: Exterior Wall – Cracking/shifting

➢ Ground slab

The ground slab is an isolated slab that does not appear connected to the walls or foundation. The thickness is unknown. There is a 1/4-inch-thick crack in the slab near the north end (Photo 13). Not only is the slab cracked, but there is a vertical lip that is raised 1/4" between the two slab sections. Although this is not a structural concern, the lip could indicate some soil settlement around the building.





Photo 13: Ground Slab - Cracking

### 4.0 Conclusions and Recommendations

From visual observations of the property and structural analysis of the structure, the existing roof structure will not support a full live load or a mild hurricane event and should be reinforced in a restoration. Both the purlins and trusses will require steel sections and welding modifications to reinforce the roof structure.

Also, the gable end framing shall be reinforced with steel sections or bracing to achieve structural adequacy for a wall out-of-plane wind pressure in a small-scale hurricane event. The exterior CMU walls will also require some repair work to regain connections from cracked areas.

If you have any questions on the observations, analysis, conclusions, or recommendations, please let me know.

Regards,

Fink of

Brian K. Sapp, PE, SE Sapp Structural Engineering and Inspections 340 Eisenhower Dr., Building 300A, Savannah, GA 31406



### 5.10.2023

Re: 301 Alice New Construction Part One Project Description

MPC Staff,

The project consists of a new single-family residence and carriage house proposed at 301 Alice Street. The neighborhood is comprised of several eras of buildings creating a kaleidoscope of styles and scales which date back to the late 1800s all the way to the present day. The neighborhood has seen a wonderful resurgence in the last decade due to considerable new residential development and preservation efforts.

The project sits on a 60 x 110 foot lot, the proposed residence and carriage house are proposed to align with the neighboring structures in orientation and by echoing the zero lot line pattern predominate in the area. The residence is oriented with the front façade facing Alice Street inspired by the buildings to the west. The majority of masonry residences in the area are built on stoops roughly three to four steps above grade, the main house is proposed to be constructed in the same configuration with the carriage house proposed at grade like the surrounding historic and modern structures. The new residences height was primarily based on a survey of nearby contributing structures and contemporary buildings that have been built with the same attention to detail and scale. The heterogeneity of the neighborhood provides fewer rigid historic patterns and rhythms to draw inspiration from, unlike more traditional Wards, but the underlying scale and massing draws from historic patterns and proportions. The Alice Street façade mimics some of the central entrance structures. The Cornice line is a nod to the mix of cornices in the neighborhood but with a simplified design representative of its time. The window patterns reflect the double windows and single windows seen in the surrounding area with many facades incorporating playful mixes of double and single windows on primary and secondary facades.

The courtyard is enclosed by a masonry wall that ties the primary residence and the carriage house together and maintains visual continuity along Jefferson Street. The carriage house garage doors are oriented towards Gaston Street just like the adjacent buildings on this block and others in the neighborhood.

In conclusion, the proposed residence and carriage house design strives to respect the best proportions and patterns of the surrounding contributing buildings while also taking steps to contribute to the richness of the architecture of the area.

With Regards,

Kevin F. Rose AIA NCARB



# **ALICE STREET RESIDENCE DRAWINGS PREPARED FOR:** CLIENT

**301 ALICE STREET** SAVANNAH, GA 31401 PHONE: 706 338 9611 EMAIL: CLIENT@GMAIL.COM

# 

EET NAME	HDBR 5/	REV 1	REV 2	REV 3
/ER SHEET	0	0		
E DEMO	0			
E PLAN	0			
ST FLOOR PLAN	0			
COND FLOOR PLAN	0			
OF PLAN	0			
VATIONS	0			
VATIONS	0			
LDING SECTIONS	0			
TIONS / MODEL	0			

## **PROJECT TEAM**

<u>ARCHITECT</u>

ROSE ARCHITECTS 311 MAUPAS AVE SAVANNAH, GA 31401 **KEVIN ROSE** PHONE: 912-484-5967 EMAIL: KEVIN@ROSEARCH.CO

### GENERAL CONTRACTOR

TBD ADDRESS SAVANNAH, GA 31401 PHONE: XXX-XXX-XXXX

EMAIL: X@.COM

MECHANICAL, ELECTRICAL, PLUMBING

TBD ADDRESS SAVANNAH, GA 31401

PHONE: XXX-XXX-XXXX EMAIL: X@.COM

### SYMBOLS



Ζ S 2 Ш 2 ST U 4

C

U

**COVER SHEET** KR 5/11/23

CVR

0

# **PROJECT DESCRIPTION**

NEW RESIDENTIAL CONSTRUCTION IN THE HISTORIC DISTRICT OF SAVANNAH GEORGIA. THE BUILDING WILL SERVE AS A SINGLE FAMILY RESIDENCE WITH FOUR BEDROOMS AND 3 .5 BATHROOMS. THE SITE WILL CONSIST OF A TRADITIONAL SAVANNAH COURTYARD COMPONENT WITH A 4 CAR GARAGE AND SINGLE BEDROOM CARRIAGE HOUSE ABOVE





# EXISTING BUILDING DEMOLITION









1 EXISTING BUILDING DEMO D0.0 1" = 20'-0"



# ш RESIDENC STREET ALICE 301 Alice Street Savannah, GA 3

1401

SITE DEMO JK Author 5/11/23

D0.0





















U RESIDEN REET ST ш C **V** 301

0 7

ш

SITE PLAN KR 5/11/23 A0.0







A1.1







CONTEMPORARY PRECEDENTS WITHIN A 3 BLOCK RADIUS



U RESIDEN STREET ALICE 301 Alice Stree Savannah, GA

401

ш

ELEVATIONS JΚ Author 5/11/23

A2.0



![](_page_24_Figure_2.jpeg)

![](_page_24_Figure_3.jpeg)

5/11/23		
A	2.	1

ELEVATIONS

Author

![](_page_25_Figure_0.jpeg)

![](_page_26_Figure_0.jpeg)

![](_page_26_Figure_1.jpeg)

CONSTRUCTION

FOR

NOT

![](_page_26_Picture_5.jpeg)

![](_page_26_Picture_6.jpeg)

![](_page_26_Picture_7.jpeg)

![](_page_26_Picture_8.jpeg)

![](_page_26_Picture_9.jpeg)

![](_page_26_Picture_10.jpeg)

![](_page_26_Picture_11.jpeg)

PHYSICAL MODEL

RESIDENCE STREET ALICE Stree . GA 301 Alice Savannah

SECTIONS / MODEL JK Author

1401

5/11/23 A3.1

![](_page_27_Picture_2.jpeg)

![](_page_27_Picture_3.jpeg)

![](_page_27_Picture_4.jpeg)

© Systems East, Inc. 2023 owner/operator of Xpress-pay