CLARKSTON HISTORIC DISTRICT

CITY OF THE VILLAGE OF CLARKSTON

Historic District Commission

Certificate of Appropriateness

Plans for: 5 S. Main St.
Applicant/Building Representative: Jim Sherman
Timothy Mack, General Mack Contractor, LLC

The Clarkston Historic District Commission grants a Certificate of Appropriateness October 20, 2015, for the following proposal based on recommendations by Rochelle C. Jaffe Consulting, P.C. (RCIC), in its entirety, with a detailed list provided by Mr. Mack, that includes the following:

To be completed yet in 2015

1. Removal of loose bricks and debris in front of the building.
2. On the north wall, removal of loose stucco and bricks.
3. On the west wall, removal of loose stucco and bricks, then securing the area with netting as needed to prevent further deterioration and falling debris, and repair and reattachment of the gutter or replacing it with a properly attached industrial-size gutter.
4. On the south wall, removal of loose bricks and installation of security netting as needed.
5. Hiring a roofing contractor to make repairs as needed to the roof's flat area to prevent water leakage, to address and repair parapet top with a waterproof covering and to address the west end of the roof to improve water runoff into the gutter (to prevent water from getting behind the brick).
6. Rebuilding chimney with reclaimed brick and S-type mortar with a cement cap.
7. Submitting mortar samples to a lab to determine the correct mortar to use for repair work. (Already underway.)
8. Submitting brick samples to lab to determine the right brick to choose for replacement.

To be completed in 2016

1. Collect data from the lab reports to determine and find appropriate mortar and brick suppliers for use in the repair of the building. Have approved products delivered to site ASAP, weather permitting, and in a timely manner for installation.
2. Removal of all security netting.
3. Installation of appropriate bricks and mortar, based on lab results.
4. Apply stucco as needed and cover with an approved product, based on lab results and expert opinion.

This project adequately meets the Secretary of the Interior's Standards for Rehabilitation, particularly number five, "Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved"; number six, which states in part that "Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials"; and number nine, which states that "New

additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired."

It is understood an HDC review is integrally based on the lack of precedence as each reviewed structure is unique in age, condition, relevance in defining characteristics, and other considerations, and therefore the setting of precedent is impossible. Also, a CoA is **not** synonymous with a building permit, so applicants should maintain contact with the city building department, and possibly other city agencies, to confirm compliance of other ordinances and city laws.

The members of the Commission wish you well with your project. Please contact us if you make any additions or changes to your plans.

Cara Catallo
Clarkston Historic District Commission

10-20-15

Village of Clarkston

5 Main Street Repairs

Permit to

For the year 2015

1. Remove loose bricks in front of building
2. Remove loose stucco and bricks on north wall
3. Remove loose stucco and bricks on west wall, secure wall as needed with netting, fix loose gutter to building
4. Remove loose bricks on south wall and install security netting as needed
5. Roof repair as needed to flat area to prevent water leaking (presently there is no signs of leakage inside the building, address parapet top with a water proof covering and address west end to have water runoff into gutter (prevent water from getting behind brick)
6. Chimney to be rebuilt using reclaimed brick and 'S' type mortar with cement cap (it's a stand-alone item.
7. Send mortar samples to lab to determine the correct mortar to use (Samples have been sent and lab cost paid by Jim Sherman)
8. Send brick samples to lab to determine the right brick to chose for replacement

For Year 2016

1. Collect the data from the lab reports and find appropriate mortar and bricks suppliers for use in the repair of the building. Have approved products delivered to site, ASAP weather permitting and in a timely manner to install
2. Remove all security netting
3. Install bricks and mortar ASAP
4. Apply stucco as needed and cover with an approved product

General Mack Contractor LLC

Timothy Mack

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via email: tcmack12345@gmail.com

October 12, 2015
RCJC Project 15017

DRAFT

RE: Observation and Recommendation Report
Clarkston News, Clarkston, Michigan

Dear Mr. Mack:

As authorized by you, Rochelle C. Jaffe Consulting, P.C. (RCJC) performed a site visit on October 9, 2015 to review the exterior walls of the historic Clarkston News Building in Clarkston, Michigan. The visual review was performed in your presence. We were accompanied by others, including but not limited to: Brent Strong, building inspector, Cara Catallo, Clarkston Historic Building Commission, and a representative of the owner. This letter summarizes the observations made and provides general conceptual recommendations for proceeding with repairs.

BACKGROUND

The Clarkston News Building is a historic structure that was built in 1877/1878. The exterior masonry walls are covered with stucco on the north and west elevations, painted on the east (front) elevation, and exposed above the roof of the adjacent building on the south elevation. Floor and roof framing are wood joists, spanning north-south. There is a parking lot north of the building and an alley west of the building.

Services by RCJC were requested because distress is evident on the stucco-clad elevations and masonry on the south face is deteriorated. The Clarkston Historic Building Commission has requested a plan of action for proceeding with repairs and you have asked RCJC to provide repair recommendations.

OBSERVATIONS AND DISCUSSION

Portions of the stucco on the north and west facades exhibit spalling that exposes the underlying clay brick masonry. The exposed masonry also exhibits spalling. The spalling does not appear to be due to vehicular impact, because the damage is located higher than car bumpers. Instead, the spalling is attributed to water intrusion into the wall. The water intrusion is causing freeze-thaw damage to the clay brick masonry, which is causing the stucco spalling. The freeze-thaw damage may have been exacerbated by the color coating on the stucco, if that coating is not highly vapor-permeable. At this time, the damage is not severe enough to cause concern for structural stability of the masonry bearing and non-bearing walls, but is of concern because the spalled stucco presents potential fall hazards.

The east (front) elevation has two colors of coating on the brick masonry, with a third color on the wood components. The coating exhibits shrinkage cracking and delamination at the wood components. Small portions of the coated brick masonry exhibit freeze-thaw failures, where the failure occurred within the brick body rather than between the coating and brick. It appears that the coating is not highly vapor permeable, and is causing the freeze-thaw damage. A few of these relatively small pieces pose potential fall hazards.

Only the upper portion of the west elevation is exposed above the lower adjacent roof. Spalled brick faces were observed, as well as previously performed repairs that consisted of infilling spalled brick units with mortar. The mortar appears to be contemporary, rather than compatible with the existing mortar. The uppermost few courses of brick masonry may have been rebuilt previously.

Because the walls exhibited distresses that were indicative of water intrusion, the roof of the building was then visually reviewed. Aggregate-faced sheets of roofing membrane had been installed somewhat recently; the roofing was reportedly performed about three years ago. A number of deficiencies in the roofing installation were observed, including:

- flashing laps were not adhered;
- flashing laps were of inadequate length, exposing the non-aggregated faced portion of the sheets;
- roof penetrations were not properly flashed and/or counterflashed;
- the gutter on the west elevation was not tied into the roofing and was not adequately anchored to the wall;
- original clay tile copings were reinstalled on the north wall, despite damage to many of the units, and the joints between units were not properly sealed;
- a sheet metal coping was not installed on the south wall after removing the deteriorated pre-existing sheet metal coping; roofing membrane was extended over the top of the wall but does not completely cover the top of the wall.

All of the observed roofing deficiencies contribute to water penetration into the exterior walls.

RECOMMENDATIONS

Repair recommendations provided herein are divided into those that should be performed as soon as is reasonable (before winter), those that should be performed next spring, and those that should be budgeted for work in future years.

Recommendations for Repairs to be Performed in 2015

The most urgent repairs are those required to mitigate potential fall hazards and to protect the walls from further damage. Materials testing is also an early priority.

To mitigate potential fall hazards, remove the small pieces of spalled clay masonry from the east elevation and provide protection at the north and west elevations. In order to allow continued use of the parking lot and alley, the protection should consist of an appropriate material that is adequately anchored to the walls and covers the spalled areas of stucco sufficiently to retain pieces that might otherwise fall.

To protect the walls from further damage, the roof membrane deficiencies should be corrected. Employing a properly trained roofing contractor is recommended. On the north wall, the clay tile copings may be replaced by similar clay tile copings, with sealant and backer rod installed in the coping joints, or the clay tile copings may be replaced by a sheet metal coping. On the south wall, a sheet metal coping should be installed. On the west wall, the existing gutter and single downspout should be evaluated for conformance to building code requirements for size. If deemed appropriate, the gutter should be properly anchored to the building and tied into the roofing membrane. If undersized, a new, properly sized, gutter and downspout should be properly installed. Roofing work is not as weather-sensitive as masonry work and is, therefore, recommended to be performed in 2015.

Masonry materials used to construct a building of this vintage are similar to modern materials, but have different physical properties. When repairing vintage masonry construction, the repair materials must be physically compatible with the historic materials or else accelerated deterioration of the historic materials will result. Generally, the historic materials are softer, weaker, and more vapor permeable. We recommend that the existing clay brick, which is a common brick often called salmon brick, be tested to determine its compressive strength in accordance with ASTM C67, Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile. . The proposed replacement brick units should also be tested to ensure that they have similar compressive strength. Five brick units, or half-brick units, of each type are required for this testing. The existing historic mortar should be evaluated in conformance with ASTM C1324, Standard Test Method for Examination and Analysis of Hardened Masonry Mortar, to identify constituent materials and their proportions. The repair mortar should be formulated to be physically compatible with the historic mortar. It is our understanding that an exact match of the aggregate used in the mortar is not required; only compatibility of the physical properties is required. RCJC obtained a mortar sample while on site, and is working with Edison Coatings, Inc. to perform the necessary mortar testing and formulation.

Recommendations for Repairs to be Performed in 2016

Once weather improves sufficiently to permit masonry work, the temporary barriers over the spalled stucco should be removed, followed by removal of the spalled and loose stucco on the north and west elevations. The underlying brick masonry should be repaired by replacing severely damaged units and repointing severely deteriorated mortar joints so as to provide a sound substrate for the new stucco cladding. Compatible materials, identified by testing during 2015, should be utilized. Stucco should then be applied in accordance with ASTM C926, Standard Specification for Application of Portland Cement-Based Plaster. If a color coat is required over the new stucco to match the existing stucco, a coating product that is highly vapor permeable should be selected.

The exposed portion of the west masonry wall should be repaired by replacing damaged units and repointing mortar joints, using compatible materials. Previous repairs that used modern masonry mortar should be removed and reworked with materials that are compatible with the historic materials. Note that the criteria for unit replacement is more stringent for this wall because the masonry will be exposed to weather, whereas the north and west walls are coated with stucco.

The chimney that is located on the north wall should be rebuilt, utilizing the same clay liner and new face brick. Type S modern mortar, conforming to ASTM C270 Standard Specification for Mortar for Unit Masonry, should be used with the new face brick, which should conform to ASTM C216, Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale), Grade SW, except that the cold water absorption should not exceed 5% if the saturation coefficient exceeds 0.78. A new precast concrete cap should be used to protect the top of the chimney.

Recommendations for Repairs to be Performed in the Future

The 2016 repairs at the north and west walls will be limited to areas in which the stucco exhibit spalling. It is likely that a broader area of stucco is delaminated and will require repair in the future. In the next two to three years, the entire stucco surfaces should be sounded to detect delaminations. Money should then be budgeted to repair these broader areas in subsequent years.

The color coating that is on the east wall is failing on the wood components and is causing freeze-thaw damage to the masonry components. The coating is suspected to have low vapor permeability. If the name of the product that was applied is known, this property can be identified. When it is time to recoat the east wall, the existing coating should be removed if it has low vapor permeability, using a method that does not damage the underlying masonry. A new color coating that has high vapor permeability should be selected.

CLOSURE

The recommendations provided in this report are based on the visual observations made during the site visit. Invasive openings were not made to permit observation of hidden conditions and no materials

testing has yet been performed. The scope of this report is limited to those portions of the building described herein.

The recommendations provided in this report are general and conceptual in nature, and do not constitute repair specifications. Such documents can be provided if you so desire.

Sincerely,

Rochelle C. Jaffe Consulting, P.C.

Rochelle C. Jaffe, Ar., S.E. (IL), CCS, SMI, FTMS, NCARB