STRUCTURAL INSPECTION

for
Hidden Cove Development
Mr. Peter Stolatis

36 N. Water Street
Ossining, NY 10562

June 2, 2015

This office performed an inspection of the above referenced premises on May 28, 2015. The purpose of the inspection was to determine the structural integrity of the existing Pill Factory building and the possibilities of repairing/reinforcing those damaged areas of the structure.

OVERVIEW

This office entered the structure on the ground floor at the northwest corner of the building adjacent to the west stairwell. The ground and 2nd floor of the west and southwest portion of the building was inaccessible due to prior demolition however the 3rd floor above the demolition was accessible. This office was able to inspect the remainder of the building including the original Mill Building and subsequent East Wing over the brook. Access to the upper floors was by way of the stairwell in the East Wing.

EVALUATION

The structure of the East Wing consists of brick masonry interior and exterior bearing walls throughout with wood/steel flitch beam framing above the 1st and 2nd floors. The roof above the 3rd floor is framed with steel trusses and has an open floor plan. All the glass in the windows has been broken allowing water and animals to enter the building.

The exterior brick masonry walls on the lower floor are (5) five wythes wide and window and door openings on the interior are framed with brick arches supporting the structure above. The lower portion of the brick walls have evidence of water damage most likely from flood waters and age and the upper portions have visible cracks at support locations over arches and at bearing locations below the flitch beams. *(see image #1)* There are penetrations in the brick wall, some as large as 10 inches square that are compromising the brick structure and allowing water and animals to enter.

The brick masonry walls on the upper floors are in better condition most likely due to a lesser load bearing and no flooding effect however some cracks are still evident at the bottom corners of windows and at joist bearing locations.

The flitch beams are intact and very rust is evident on the edges of the steel plates however due to damaged brick bearing walls below them, some of the beams have twisted and dropped in areas creating an uneven floor surface above.

The flooring on the 2nd and 3rd floors has become extremely soft and unstable due to water damage and each floor is entirely covered with water, feathers and animal feces most likely from geese or other birds who have found refuge through the broken windows. Areas of the floor are open to the floors below and the stairwell is not entirely stable.

Image #1

The inspectors entered the Mill Building through a pass through that connects the two structures. The flooring and walls in the pass through are in extremely poor condition. The flooring is dangerously soft and unstable and the brick masonry walls have shifted and cracked below the window openings. The exterior of the pass through is visible from the windows in the Mill Building and the inspection revealed that the bricks were extremely eroded and a good portion of the brick joints had no mortar in them at all. *(see image #2)*

Image #2

The Mill Building is constructed similarly however the floors are framed with wood joists, not flitch beams, and the structure is much older than the East Wing. The brick masonry walls have been exposed to the same flood waters as the East Wing and damage is evident throughout the structure. Much of the mortar between the bricks on the lower 2 feet of the building has been washed away and severe cracking is visible at bearing walls and window/door openings. *(see images # 3 & 4)*

Image #3

Image #4

Interior brick arches over door openings show stress cracks and the exterior bricks on the upper walls are eroded and compromised similar to image #2 of the pass through. Some of the masonry beam pockets that bear the wood joists are damaged and have caused uneven floor conditions above.

There are multiple locations where holes in the roof and exterior structure have allowed rain water to infiltrate the structure and caused severe water damage to the wood joists and subfloor. In particular is the interior corner of the Mill Building adjacent to the previous "Muslin Room" as shown on the site plan.

Image #5

There is a pool of water on the lower level in this area, the joists in the first floor ceiling have organic matter growing on them and they are black due to water damage. The bearing ends of the joists are soft and the tops of these joists have rotted away. The 2nd floor ceiling framing in the same area is similarly damaged. *(see image # 5)*

The roof above the Mill Building is a wood frame mansard bearing on a masonry knee wall that extends approximately 36" above the 3rd floor. The wood framed roof and sheathing is damaged in many locations which is allowing the water to infiltrate and damage the floors below. The roof structure itself is rotted and some support beams have fallen into the space. The tops of joists framing the 3rd floor are rotted and multiple holes penetrate the floor deck to the space below.

CONCLUSION

The proximity of this building to the Hudson River and its floor elevation relative to the surrounding flood plain does not allow for a simple solution to the repair/renovation of its structure. Since its original construction, the flood plain has risen approximately 4 feet which places half of the ground floor level under water in the event of a major storm. From information obtained by the owner, the hurricane storm event in 2012 brought a water surge through the building to a level approximately 5 feet above the ground floor slab.

The wood framing elements in the building including the joists, sheathing and subfloors are damaged or affected by mold and other organic elements to a point of non-repair. All wood framing elements would have to be removed and replaced if the building were to remain.

However, the issue of the masonry bearing elements is what prohibits this building from repair. In areas where the masonry walls are 3, 4 or 5 wythes wide it has to be assumed that the flood waters have infiltrated into the pockets between these wythes and caused heaving cracks and deterioration to the interior mortar joints compromising the structural integrity of the lower walls and their ability to support a load.

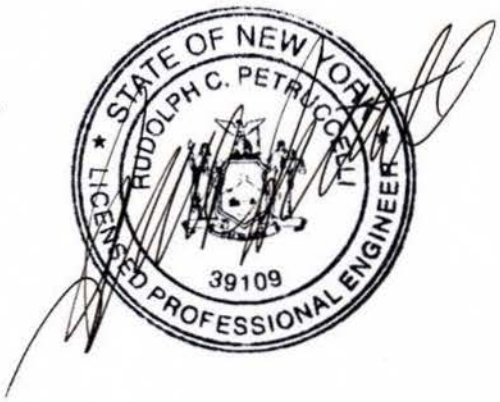
A masonry building such as this is not the proper structure to be erected in such a volatile flood area and any attempt to raise the structure in its current condition would prove futile. The building is too large to be raised at the same time and incremental raising of the structure would cause more damage to the already compromised walls. Filling in the bottom level of the of the building to achieve a higher elevation above the flood plain would still leave the brick support elements buried under water which they are not intended for. Brick and mortar will not sustain under water and will ultimately fail.

If the building were to be demolished and rebuilt, responsible engineering practices would prohibit the construction of this building at the current level in the floodplain. Any resulting structure would have to be erected above the new floodplain level and with proper foundation techniques accepted for these conditions. In addition, this office does not believe a new building erected at the current level could possibly meet the requirements to obtain proper flood insurance adequate to cover the premises.

This office has reviewed the previous Structural Assessment report prepared by De Nardis Engineering, LLC dated September 10, 2012. It was not referenced in this inspection report since this office concurs with much of the evaluation. The only difference is this office does not believe repair is a viable option, no matter what the cost.

It is the professional opinion of this office based on a thorough inspection and careful consideration that the building cannot be repaired and for safety purposes should be demolished as quickly as possible.

Sincerely,
PETRUCCELLI ENGINEERING



Rudolph C. Petruccelli, P.E., F.NSPE
Principal