

**APPLICATION FOR CERTIFICATE OF APPROPRIATENESS (COA)**

Building address 314 Broadhead Ave, Bethlehem PA. 18015  
 Owner of building Mish, Eugene B + Michael A. JTA Phone [REDACTED]  
 Owner's email & mailing address [REDACTED] 310 Broadhead Ave  
 Applicant Same Phone: Same  
 Applicant's email & mailing address Same  
Street and Number    City    State    Zip Code

**APPLICANT MUST ATTEND MEETING FOR CASE TO BE HEARD.**  
**USE THE CHECKLIST ON THE BACK OF THIS APPLICATION TO ENSURE YOUR SUBMISSION IS COMPLETE.**

**Historic & Architectural Review Board** – Application form, photographs, and drawings (if necessary) must be submitted by **12:00 Noon** on the last Wednesday of the month in order to be placed on the agenda for the next meeting.

**South Bethlehem & Mount Airy Historic Conservation Commission** - Application form, photographs, and drawings (if necessary) must be submitted by **12:00 noon** on the second Monday of the month in order to be placed on the agenda for the next meeting.

**1. PHOTOGRAPHS** - Photographs of your building and neighboring buildings **must accompany** your application.

**2. TYPE OF WORK PROPOSED** – Check all that apply. Please bring any samples or manufactures specifications for products you will use in this project.

<input type="checkbox"/> Trim and decorative woodwork	<input type="checkbox"/> Skylights
<input type="checkbox"/> Siding and Masonry	<input type="checkbox"/> Metal work
<input type="checkbox"/> Roofing, gutter and downspout	<input type="checkbox"/> Light fixtures
<input type="checkbox"/> Windows, doors, and associated hardware	<input type="checkbox"/> Signs
<input type="checkbox"/> Storm windows and storm doors	<input type="checkbox"/> Demolition
<input type="checkbox"/> Shutters and associated hardware	<input checked="" type="checkbox"/> Other <u>Rebuild facade only</u>
<input type="checkbox"/> Paint (Submit color chips - H&B)	

**3. DRAWINGS OF PROPOSED WORK** – Required drawings **must accompany** your application. Please submit **ONE ORIGINAL AND TEN (10) COPIES OF DRAWINGS, PHOTOGRAPHS, APPLICATION FORM, AND ANY SPECIFICATIONS**

Alteration, renovation, restoration (1/4" or 1/8"=1'0" scale drawings required IF walls or openings altered)  
 New addition (1/4" or 1/8"=1'0" scale drawings: elevations, floor plans, site plan)  
 New building or structure (1/4" or 1/8"=1'0" scale drawings: elevations, floor plans, site plan)  
 Demolition, removal of building features or building (1/4" or 1/8"=1'0" scale drawings: elevation of remaining site and site plan)  
 A scale drawing, with an elevation view, is required for all sign submittals

**4. DESCRIBE PROJECT** – Describe any work checked in #2 and #3 above. Attach additional sheets as needed.

Repair facade as per results of engineer's recommendations.

**5. APPLICANT'S SIGNATURE** Eugene B. Mish DATE: 8-13-18

# BASE ENGINEERING INC.

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August 3, 2018

City of Bethlehem  
Building Department.  
10 East Church St  
Bethlehem, PA 18018

ATTN: Philip Roeder  
Commercial Building Inspector

RE: 314-316 Brodhead Ave.  
Bethlehem PA  
Structural Assessment – Base Project No.: 2018-140

Mr. Roder:

Pursuant to your request, Base Engineering, Inc. (*Base*) has completed our investigation regarding the structural condition of the existing multi-story commercial building located at 314 Brodhead Ave., in Bethlehem PA. The purpose of this investigation was to address concerns raised by the City of Bethlehem regarding the condition of the existing brick walls (exterior walls) of the building. These concerns stem from an isolated failure of a portion of the exterior brick face on the east side (main entrance) of the building. It is our understanding that the building has been abandoned for several years.

This investigation was limited to observations of those elements readily visible at the time of a recent site survey of the property. Physical testing of building materials, destructive or non-destructive and review of the original construction documents were outside the scope of this work, and were not performed.

## INVESTIGATION

The building in question is a three-story, plus basement, historic commercial structure located in the downtown area of Bethlehem, PA (Photo 1). The three-story building consists of wood framed roof rafters/trusses and floor joists, supported by exterior multi-wythe brick bearing walls. Base performed a site visit to the property on August 1, 2018 to observe the condition of the building. Present at that time were Barry A Cohen, PE (*Base*), Philip Roeder, Commercial Building Inspector for the City of Bethlehem (City) and Gene Mish (Building Owner). The observations made were limited to visual assessments of the structural elements of the building only.

Framing members for the roof and floor appear to run in the north-south direction, suggesting that the front wall of the building is a non-load bearing wall. Based upon conversations with the

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City of Bethlehem (the City) and the building Owner, it is our understanding that the building has been empty for several years. In addition, it is *Base's* understanding that a portion of the exterior brick failed and collapsed to the sidewalk below (Photo 2).

The wall appears to consist of multi-wythe brick, with the exterior grade brick the components which failed. Based upon the limited observations made in the area of the failure, there appears to be minimal connection of the various wythes of brick (Photo 3), either with header brick (brick installed at a 45° Angle, or metal brick ties. If ties existed, they have more than likely deteriorated at this time and are ineffective.

Several large cracks were visible along this wall (Photos 4 to 6), which is an indication that further deterioration of the wall is not only possible, but probable.

Observations were also made on the interior of the building, on all three floors. (Photos 7 thru 12) The general condition of the floor and walls was good, with what appears to be minimal loss of structural integrity, other than what one should expect from a building of this age, and lack of maintenance. The roof structure exhibited severe signs of distress due to exposure. Water damage was extensive throughout the building.

## **CONCLUSIONS**

Based upon the investigation noted above, it is our professional opinion that while the building has sustained damage and exhibits signs of distress due to water infiltration, exposure and lack of maintenance, it is still overall structurally sound and able to support the required gravity and lateral loads, provided that repairs are performed to the damaged elements.

The main structural concern with the building, which precipitated this investigation, was the integrity of the exterior brick. The east wall of the building shows severe signs of distress in areas other than the collapsed area, and it is reasonable to assume that the deterioration is not limited to the areas of current failure. The lack of ties for the entire brick wall is likely typical for the entire east façade. Therefore it should be assumed that without remedial procedures, additional portions of the wall will collapse. In our professional opinion, it is not a question of if a collapse will occur, but when it will occur.

## **RECOMMENDATIONS**

While it is our professional opinion that the overall building is currently stable, there is enough significant damage to the exterior walls to suggest that this condition presents a serious safety concern to the building, adjacent building and pedestrians on the street. We therefore recommend the following procedures be undertaken immediately:

The entire building façade should undergo a full, in-depth study to determine the condition of the entire façade – The observations made during this investigation were limited to those elements and components that were readily visible from the street. Utilizing a lift to perform a full survey of the wall will most likely reveal further deterioration and areas of distress. Once this survey is complete, a remediation/repair plan can be developed to repair the damaged wall. In general, this remediation can occur in one of three general methods:

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- Removal and reattachment of all loose brick, and re-pointing of existing loose and missing mortar. To prevent further deterioration, helical anchors should be utilized to tie the exterior grade brick on the outer wythe to the interior brick. This should occur over the entire face of the building. Additional distress may be found to the interior wythes of brick during this procedure, which will need to be addressed.
- Total removal and replacement of the exterior brick, including new, code-approved masonry anchors. Additional distress may be found to the interior wythes of brick during this procedure, which will need to be addressed.
- Removal of the entire wall (all wythes) and replacement with a new stud wall and a brick veneer. If this method is chosen, then the full survey of the façade is not necessary.

As this building is located in the Historic District of Bethlehem, any repairs must be approved by that entity.

All work should be performed by qualified contractors with experience with this type of work and repair. Additionally, all work should be overseen by a Professional Engineer licensed in the State of Pennsylvania.

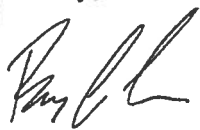
Once these repairs are completed, it is Base's professional opinion that the structure should be capable of supporting the assumed loads. Please note that the scope of work outline above does not address the issue of water infiltration and mold at the property. Additional work will be required to ensure that the building is weather-tight and remediated. The extent of this work cannot be determined without a full survey of the roof and the building envelope.

Prior to this work, we strongly recommend that the sidewalk be cordoned off to prevent passers-by from injury.

The opinions and conclusions noted above are based upon the limited visual observations made during the June 15, 2016 site visit. These observations were limited to those areas and elements that were readily visible at the time. Additional testing, both destructive and non-destructive, was outside the Scope of this work, and thus not performed. *Base* should be notified immediately of any information found which is contrary to the assumptions and observations noted.

If you have any questions, or wish to discuss this matter further, please do not hesitate to call.

Sincerely,



Barry A Cohen, PE  
Senior Structural Engineer

Attachments: Photographs 1 –12



PHOTO 1

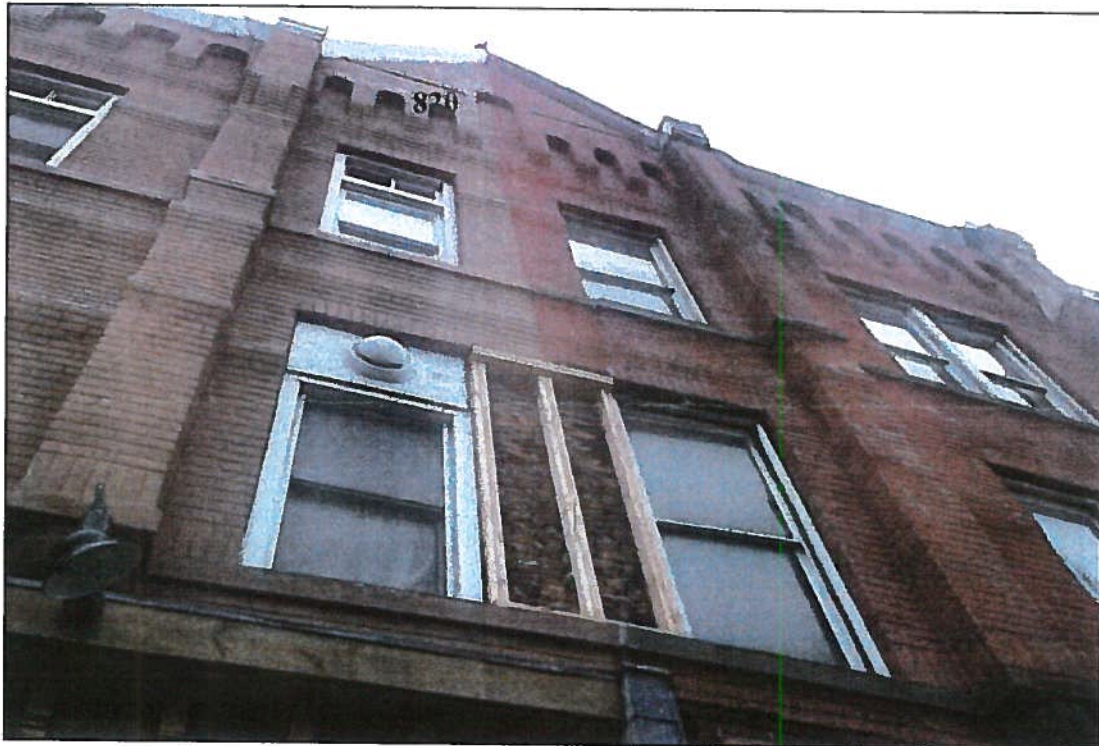
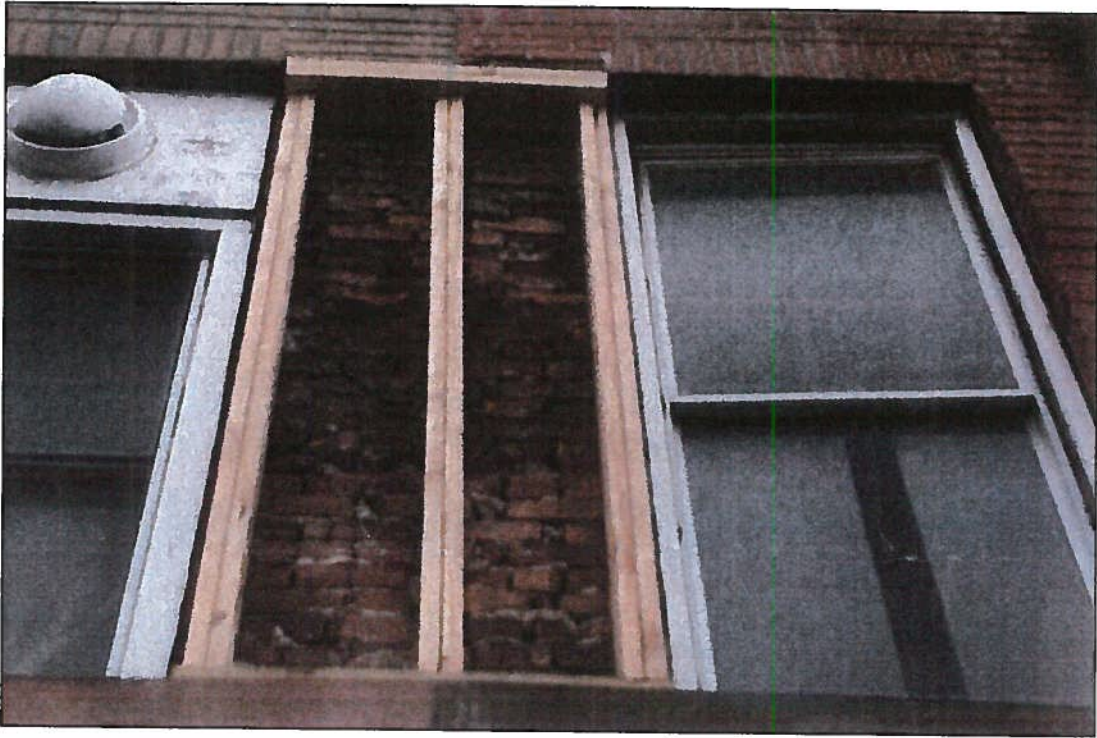


PHOTO 2

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**PHOTO 3**



**PHOTO 4**

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PHOTO 5



PHOTO 6

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**PHOTO 7**



**PHOTO 8**

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PHOTO 9



PHOTO 10

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PHOTO 11

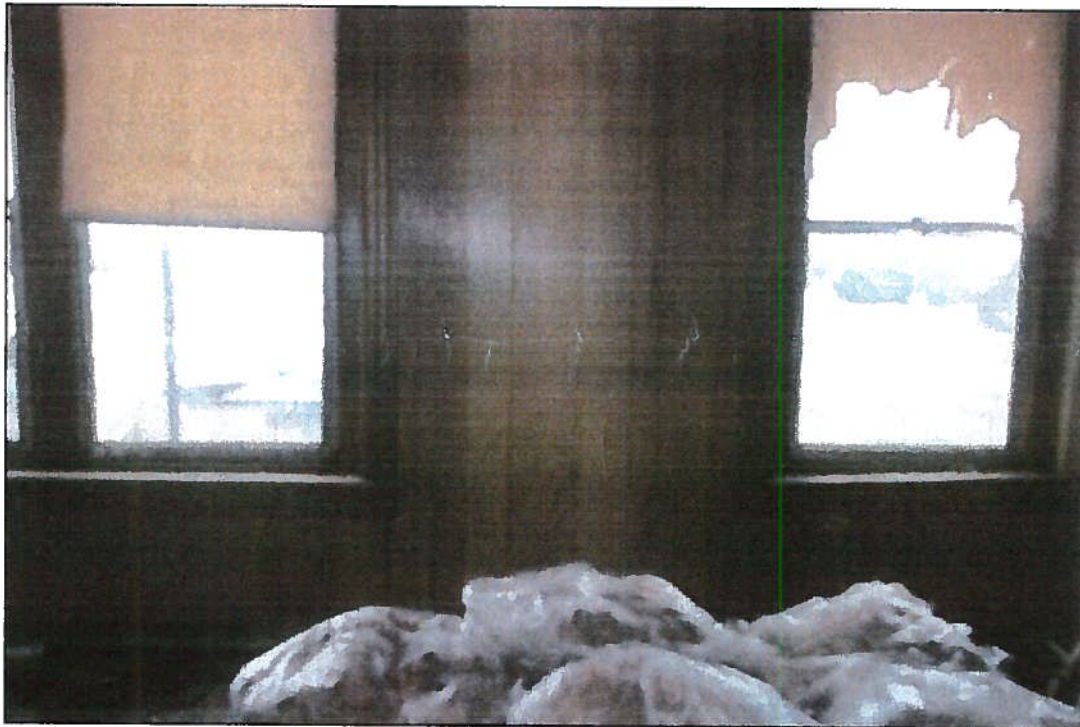


PHOTO 12

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