***RUSS REEVES, CEng., P.E.**
**CIVIL-STRUCTURAL ENGINEERS**
P.O. Box 1433
Troy, New York 12181-1433
Tel: 518-273-0774
e-mail; rreeves2@nycap.rr.com

June 7th , 2021

Valerie Scott
vscott@albanyny.gov
Deputy Director
Division of Buildings and Regulatory Compliance
200 Henry Johnson Blvd., Suite # 1
Albany, New York 12210

**Re: Structural Condition Assessment 507 First Street, Albany, New York**

Dear Valerie:

On June 2ed , 2021 at approximately 1:30 pm Engineering Technician Barbara Tozzi and I arrived at 507 First Street where we met Senior Building Inspector Dan Sherman, Neighborhood Stabilization Coordinator Sam Wells, Contractor Germaine White and Director Rick laJoy to evaluate the overall condition of the interior and exterior portions of the building.


**Photograph 1**

Photograph 1 shows the front Southerly elevation view of the structure situated at 507 First Street. The purpose of this engineering report is to discuss alternative measures for possible stabilization of the building and to determine actual material and labor costs that would be required for the structural stabilization and remediation measures for the renovation of the building.

The structure has been abandoned and has been exposed to the elements for a number of years.

The evaluation of this building was initiated by a series of ongoing complaints to the Mayor's Office and to the Department of Code Enforcement, which were began in 2019 by the adjoining neighbor to the East, Mr. Shaun Ford who is situated at 505 First Street (Mr. Ford's home is also depicted in photograph 1).

The existing structure which appears to have been constructed in the 1920's, consists of a perimeter concrete foundation wall with a mortar parging. The concrete is in varying states of deterioration specifically along the Westerly foundation wall. The concrete consists of native soils (silty clays with some round stone) that was excavated for the basement area and combined with Portland cement to form concrete. Because of the presence of silty clays and rounded stone in the mix, this represents a low grade form of concrete which at this this point has reached its life expectancy. Photograph 2 shows the substandard silty-clay Portland cement mixture.

**Photograph 2**

Photograph 7 shows a typical view of the Westerly foundation wall as seen in the basement area. It shall be noted that the Easterly, Southerly and Northerly foundation walls while consists of substandard concrete, are intact and can be restrained to resist horizontal earth pressures and rendered functional with the use of reinforced concrete block pilasters and footing configurations in conjunction with micro-lam beam sections used to support floor joists. This is more specifically shown in the enclosed engineering worksheets.

The following represents a list of tasks and associated cost estimates required for the stabilization and proper renovation of the building:

1). Remove and dispose of all debris within the basement, first and second floor levels: $6,000.

2). Remove and dispose of all water damaged sheet rock and insulation on each floor level: $6,000.

3). Remove and dispose of all floor coverings, rugging and water damaged hard wood flooring on the first and second floors: $6,000.

4). Remove and replace the two existing double hung windows and damaged and failing wall framing along the Westerly wall in the dining room area, restore the exterior siding and interior insulation and sheetrock as needed: $5,400.

5). Replace all damaged flooring with vinyl planking having a cork backing at the first and second floor levels: $8,000.

6). Replace damaged and wet insulation in the second floor ceiling area with 12" of fiberglass bat insulation and 5/8" Type X fire rated sheetrock, and 6" of fiberglass bat insulation in the damaged wall sections along with 5/8" Type X fire rated sheetrock: $8,000.

7). Replace damaged sheetrock areas and wet insulation in the first floor ceiling and wall areas on the first floor level along with the installation of 5/8" Type X fire rated sheetrock: $6,000.

8). Paint and tape first and second floor levels: $6,000.

9). Replace the front stairs and the stairs accessing the basement along with the corresponding hand rails: $3,000.

**Photograph 3**

**Photograph 4**

Photographs 3 shows a typical view of the first floor area. Photograph 4 shows typically the extent of water damaged insulation and sheetrock on walls on the first and second floor levels to be replaced.

10). Replace all corroded and outdated electrical wiring, outlets, switches, electrical fixtures and junction boxes in the basement, first and second floor levels. Provide GFCI outlets around all sink areas and a new 30 amp 240 volt outlet for the dryer and the electric range: $6,400.

11). Replace the main electrical service and breaker panel with a grounded 200 amp service with main breaker switch disconnect: $2,500.

12). Replace all deteriorated, outdated and corroded plumbing with PEX water piping (hot and cold) supply lines, sanitary waste lines, sinks, toilets and tubs. Provide 4" diameter Schedule 40 PVC vent stacks through the roof: $10,000.

13). Provide two 70 CFM vent fans (one per bathroom) with vent piping to the outside: $1,000.

14). Remove and replace deteriorated (two bathrooms) bathroom cabinets, shelving, flooring, toilet roll holder and bathroom doors: $6,000.

15). Replace roofing for the main portion of the house (18' x 28') and rear addition (14' x 14') with 60 mil EPDM rubber roofing by GAF, with associated flashing, ½" substrate and 23/32 Advantech roof decking: $14,000.

16). Provide gutters and downspouts for the main portion of the home and rear addition with downspouts directed away from the foundation. Provide 18 gauge gutter sections and 3" x 4" square downspouts: $3,400.

17). Provide five 16" x 16" x 5' high reinforced concrete pilasters along the Easterly side of the foundation wall as seen in the basement area. Bear each pilaster on a 24" x 32" x 12" thick reinforced concrete footing (five each) along the Easterly foundation wall. Provide two pilasters along the Southerly and two pilasters along the Northerly interior foundation walls (nine pilasters and footings total): $22,500.

18). Install four 3" diameter, 11 gauge adjustable steel Tel-O-Post jacks with 18" x 18" x 10" thick reinforced concrete footings to support the main bearing beam. A ½" thick x 6" wide x 8" long A-36 steel cap plate and a ½" thick x 8" wide x 10"

long steel base plate shall be used at each column location. Base plates shall be anchored to the footing using four 3/8" diameter Simpson Helical Titan HD concrete anchors: $6,000.

19). Provide 8" thick reinforced CMU block 64" in height (8 courses) and a 24" wide x 1' thick reinforced concrete strip footing along the Westerly foundation wall so as to restrain the entire 26' interior length of the foundation wall: $4,200.

20). Provide two 1 ¾" x 7 ½" bolted micro-lam beams supported by the pilasters along the Easterly side of the foundation wall to support the first level floor joists as seen in the basement area. Provide 2" x 8" pressure treated bearing plates on top of each pilaster to support the micro-lams and shim as needed to support each floor joist on the East side: $2,000.

21). Provide LED construction lighting in two bays (Easterly and Westerly bays) in the basement area along with two GFCI outlets along the Southerly and Northerly sides of the basement area and install a 1/3 horse power Utilitech sump pump with liquid level sensor to remove water from the basement as needed: $800.

22). Install four new basement windows with screens for venting (31.75" x 17.75"): $1,200.

23). Provide two 1 ¾" x 7.5" bolted micro-lams for center support at the rear addition first level floor framing with a 6" x 6" pressure treated wood column post at mid- span supported by a 16" x 16" x 10" plain concrete footing: $2,000.

24). Provide mitigation measures including tapered insulation and reconfiguring the roof slope and roof drainage away from 505-First Street to avoid causing continuing damage to this adjacent structure: $8,000.

**Total cost for this structural stabilization and remediation measures: $144,400.**

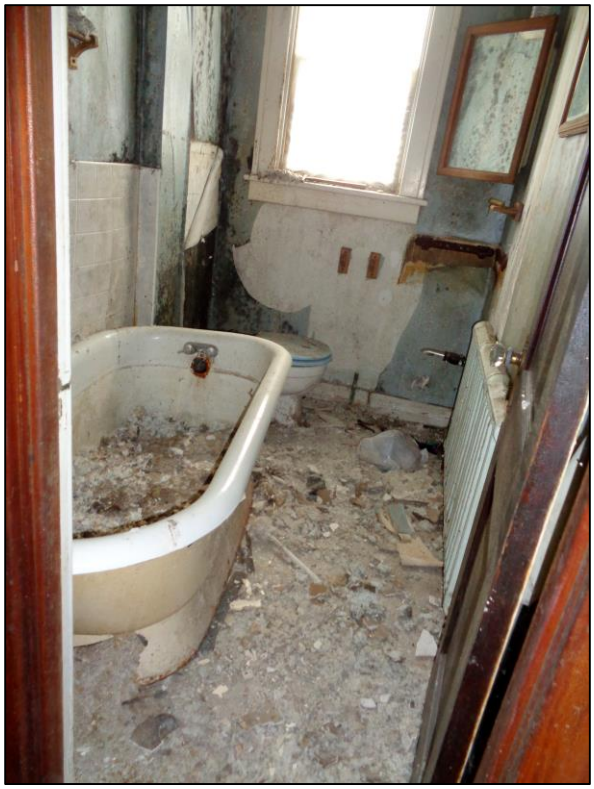
Please note that all concrete used for this application shall be 4,000 psi concrete having a maximum slump of 3" with 5-7% air entrainment.

Of specific concern and what prompted this evaluation is the extensive water damage being caused to Mr. Ford's building and property by this adjoining structure. Because of the extensive damage being caused to Mr. Ford's property,

507 First Street has been selected as a priority for demolition by the Pro-active Demolition Program for the City of Albany.

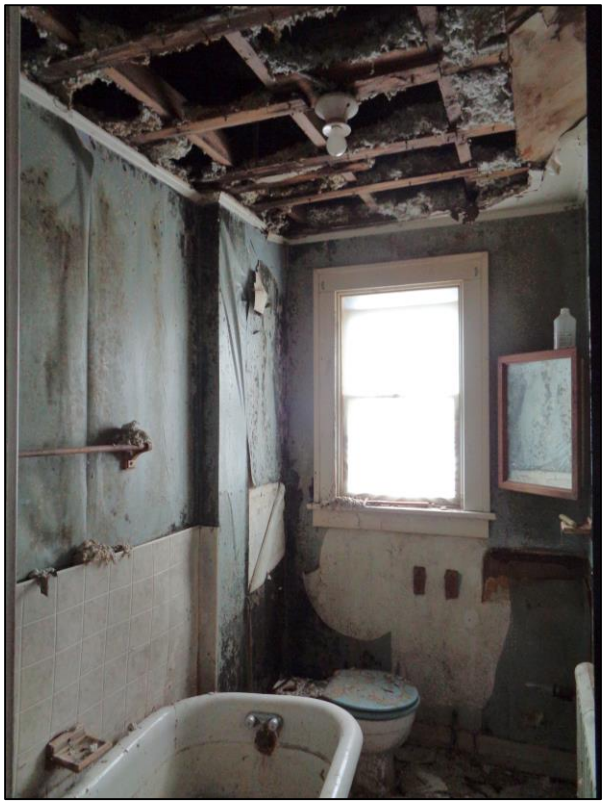
While the building situated at 507 First Street is not in a condition of imminent collapse, it is however causing present and active water damage into the adjacent occupied home situated at 505 First Street. Based on our site evaluation, we are recommending that either 507 First Street be removed as soon as practicable in order to avoid further on going damage to the adjoining structure or these mitigation measures be implemented and the structure stabilized and remediated as depicted above.

The following is a photographic log showing portions of the interior of 507 First Street:



**Photograph 5**

Photographs 4, 5 and 6 show the typical condition of the second floor basement area.



**Photograph 6**

**Photograph 7**

**Photograph 8 (Lower rear roof section).**

If you have any questions please do not hesitate to call.

Very truly yours,

R. Russell Reeves, CEng., P.E.
*Charter Member Structural Engineering Institute &*
*The American Society of Civil Engineers (40 years)*

cc: Barb Tozzi, Engineering Technician
btozzi3@gmail.com
Reeves Engineering

Rick LaJoy, Director
rlajoy@albanyny.gov
Division of Buildings and Regulatory Compliance

Dan Sherman, Senior Building Inspector
dsherman@albanyny.gov
Division of Buildings and Regulatory Compliance

Sam Wells
swells@albanyny.gov
Division of Buildings and Regulatory Compliance