

Historic Photos - Exterior



Parsonage and church (in snow) from West Newton St (date unknown)



Northwest corner of church from Tremont St before mural painted (ca. 1988)

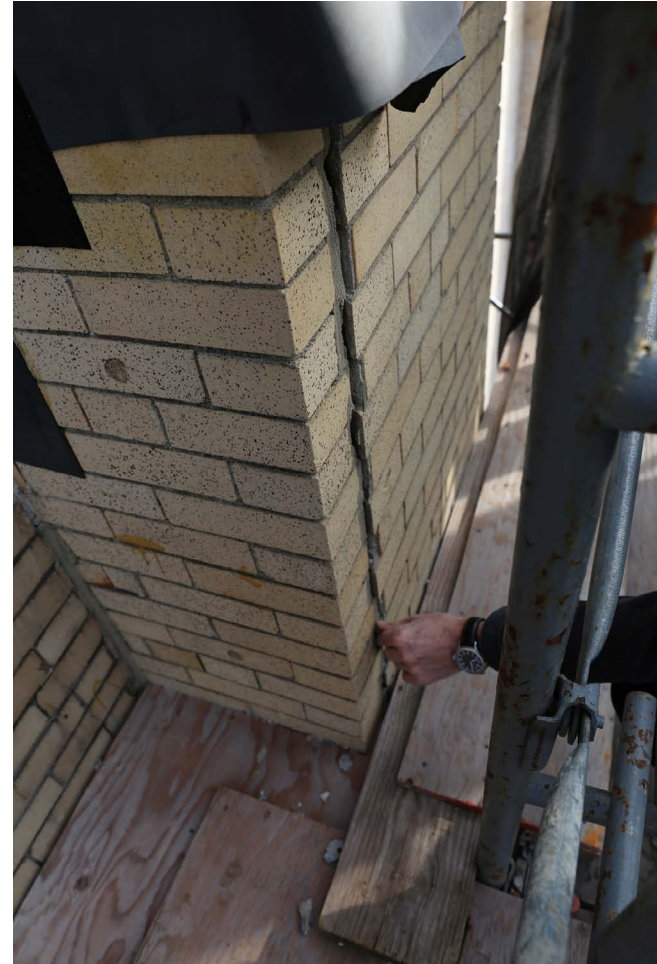


Photos of mural painted (ca. 1989)

Current Conditions - Exterior



Scaffolded tower base (Spring 2019)



Delaminating face brick (Spring 2019)



Cracks, tests and old repairs (Spring 2019)



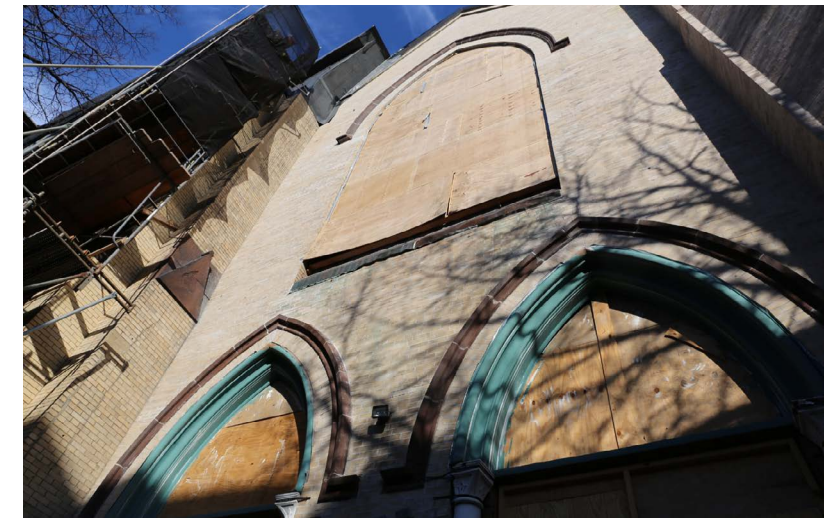
Buttress with old patches and repairs (Spring 2019)



Stone displacement in granite base (Spring 2019)



Protective scaffolding in alleyway (Spring 2019)



Boarded openings and mural (Spring 2019)

Current Conditions - Interior



Existing balcony (Spring 2019)



Stage from balcony (Spring 2019)



Probes and Shoring at roof framing (Spring 2019)



Interior tower shoring & reinforcement (Spring 2019)



Exterior wall probes and temp support (Spring 2019)



Interior finishes and millwork (Spring 2019)



Tower and roof support shoring from below (Spring 2019)

Engineer's Report

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Wednesday, September 25, 2019

Inquilinos Boricuas en Acción
405 Shawmut Ave.,
Boston, MA 02118

For the attention of Vanessa Calderon Rosado

RE: Villa Victoria Center for the Arts, 85 West Newton Street, Boston – Existing Structural Conditions

Dear Vanessa,

With reference to our letter dated April 29, 2019 and further to the recent closure of the building, following the reported Boston Fire Department inspection and the subsequent revocation of the temporary certificate of occupancy by the City's Inspectional Services Department, we are writing to you to restate the structural remediation work that will need to be undertaken if the building is to be made safe and retained for future use.

As previously advised, although there are temporary measures in place to support the tower, roof and north wall, the ongoing structural adequacy of the building and risk of falling masonry needs to be permanently addressed. Our earlier letter recommended that the demolition and repairs to the church tower should commence before the end of the summer season. As we are now approaching the fall period, we feel it is necessary to reinforce our recommendation and reconfirm the extent of the work that will be required.

As you are aware, the existing conditions and structural defects were identified by the previous Engineer of Record (Gale Associates) for the façade repair works. Gale Associates advised in a letter dated August 2nd, 2018 the extent demolition and repairs/rebuilding that would be required to reinstate the structural integrity of the church building. In summary the key points are as follows:

- Extensive masonry deficiencies (i.e. failed lime mortar, delamination of the outer blond brick wythe, loose bricks) were observed in the whole of the church tower structure requiring it to be completely demolished and rebuilt, with or without a spire.
- Water ingress to the north wall has damaged a ten foot length of wall, including a brick pilaster supporting the tower. The portion of the wall would need to be fully demolished and rebuilt from the existing foundation level.
- Related to the water damage, dry rot has compromised the end of a timber roof truss, requiring the end of the truss including the bottom chord to need repairing.

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- The rebuilding of the tower and north wall, would need to be designed to meet current code requirements.
- The new tower construction would require the existing (6.5' deep) granite foundations to be removed and new shallow or pile supported reinforced concrete foundations.

In addition to the rebuilding works outlined by Gale Associates in their letter, you should also expect that due to the height of the existing building and the lateral support currently provided by the tower structure, during the demolition, new construction and repair work, the building will require extensive temporary shoring to the existing north and west masonry walls, new foundations, existing (west) basement excavation and roof truss to maintain the structural integrity of the building. A temporary weather enclosure would also be required to protect the building until the building becomes weather tight again.

During the period since our letter was issued, a surveying regime using tilt meters, crack monitors and vibration gauges has been undertaken to monitor the movement and behavior of the tower structure. Fortunately the monitoring has not identified any untoward movement of the tower, suggesting that with the added temporary shoring the tower remains stable (albeit during the summer months), however it did record movement of the outer bond brick which confirms that the delamination of this brickwork wythe is an ongoing issue and risk to pedestrians.

Incident weather during the fall and winter season could further affect the structural integrity of the tower and blond brick façade. As such we advise that the demolition of the tower and north wall (plus the installation of the associated temporary shoring and weather protection outlined above) commences immediately so that the structural integrity of the building can be reinstated. Should these repair/reinstatement recommendations prove to be infeasible, the owner should arrange for the orderly and safe demolition of the building in a reasonable time frame for the protection of the public and of adjacent structures.

We trust the above is clear, but should you have any questions please do not hesitate to contact me.

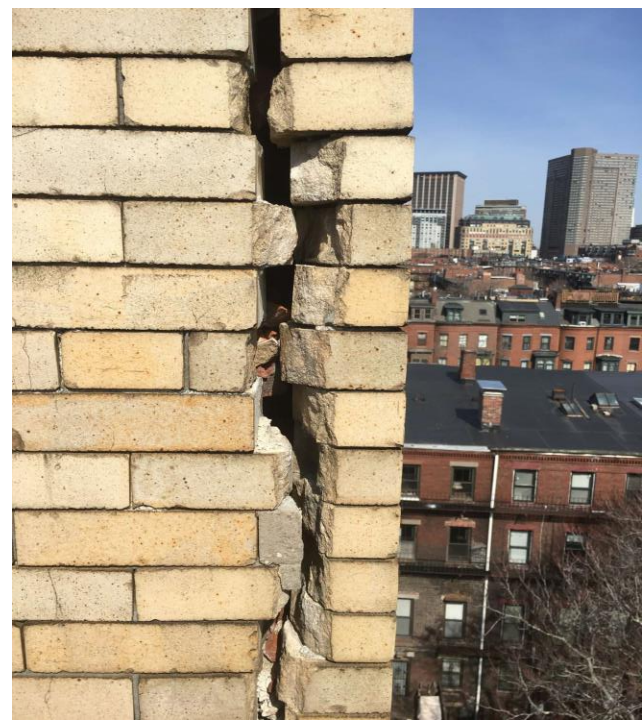
Yours sincerely
on behalf of Buro Happold Consulting Engineers P.C.

Craig Schwitter
Principal
Email: craig.schwitter@burohappold.com



cc Paul Richardson – BuroHappold Engineering





Hazardous Conditions

April 2017

- **Temporary Stabilization Plan**
 - Debris netting and structural banding
- **Life safety concerns – masonry fall hazards**
 - Overhead protection W. Newton St. sidewalk and alley
 - Temporary closure of hall, lobby, restrooms
- **Team elected to begin design of permanent repairs**





North Wall Damage Discovered

April 2018

- Scaffolding installed along north elevation
 - Discovered debris clogged primary roof drain had caused extensive damage to wall below
 - Gale initiated GPR scanning followed by additional test cuts which identified separation between the inner and outer courses
 - Mortar washout and deteriorated conditions full height of wall below clogged drain
 - Rotted timber and steel lintel with deteriorated masonry above preschool egress door to alley
 - Severely corroded steel beam supporting floor joists
 - Shoring required
 - Adjacent classroom closed





Tower Demolition

Approaches Design Elev.

May 2018

- **Poor masonry conditions still exist**
 - Demolition hammers loosen large areas of wall
 - Bricks removed easily by hand
 - Large sections of blonde brick “peeled” away with pry-bar...snapped headers
 - Severely deteriorated joint mortar
- **SGH to provide 2nd opinion on wall integrity and validate Gale’s findings:**
 - SGH agreed with Gale’s assessment that masonry deterioration too extensive to support weight of new belfry and spire





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DEMOLITION

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SAFETY.

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No accidents





Based on test cut observations and discussions with SGH, Gale recommended selective tower masonry wall demolition continue, using hand tool techniques only, in an effort to evaluate the undisturbed condition of the inner red brick wythes. We were hoping that the masonry wall would incur reduced damage, which could have been associated with bulk demolition that would have utilized impact hammers. Furthermore, Gale and SGH discussed laboratory testing as a means of acquiring empirical data related to mortar bond strength, but ultimately determined that testing results would be highly subjective based on the inherent challenges of obtaining viable test specimens and the lack of appropriate standardized testing procedures. These findings and recommendations were outlined in a letter dated May 4, 2018 (attached).

On May 8, 2018, Gale again visited the site to observe Shawmut's method of demolition using hand tool techniques and to review the underlying condition of the undisturbed inner red brick wythes. Following the removal of approximately seven feet (7') of blonde brick veneer along the north tower wall using this technique, it was revealed that more than half of the blonde brick headers were snapped or unbonded.



At many locations, inner red brick wythes could be removed by hand and were found to have little mortar bond between courses.



Ultimately, Gale's opinion was developed that the demolition method was not positively correlated to the poor bond strength discovered to exist throughout the wall. It was Gale's conclusion that the condition of the tower masonry walls, at the current level of demolition, would be incapable of supporting the weight of a new belfry and spire and recommended stabilization methods for the remaining tower structure could be extensive and, as such, possibly not cost effective.

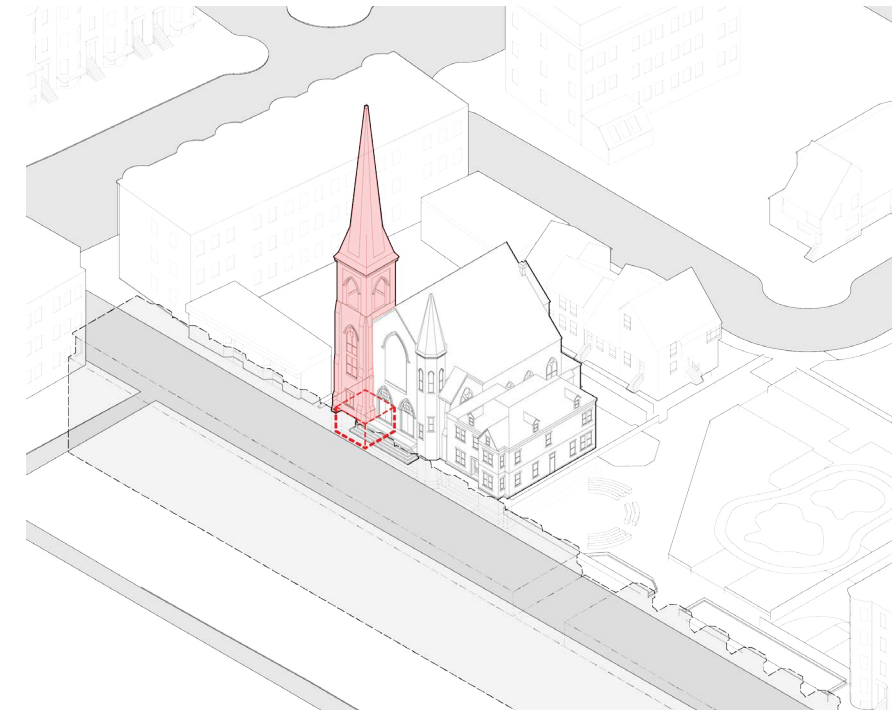
On May 9, 2018, Gale observed the truss bearing condition adjacent to the tower, at the main building roof eave, which was previously inaccessible, and discovered multiple structural deficiencies. The end of the timber roof truss appeared to be severely deteriorated, with significant section loss where the top and bottom chords meet at the truss bearing point.



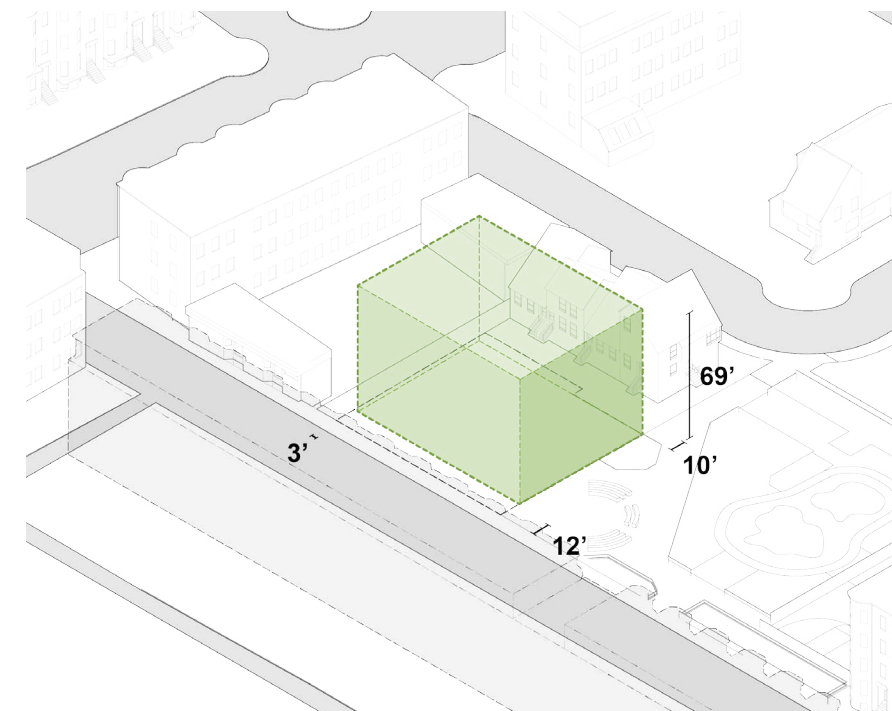
Additionally, adjacent to the truss, a portion of the structural steel lintel supporting the entire weight of the remaining east tower masonry wall was observed to be severely deteriorated. The visible portion of the flanges and web of the lintel was observed to have significant section loss, including a hole through the web at its end.

Alternates Review Matrix

	Full Renovation	Full Demo/New Construction
	Rebuild tower and complete previously approved church and parish house building envelope renovation and bathroom upgrades. Existing building systems remain.	Full demolition of existing church and parish house. New construction of purpose-built 5 story, 30,000ft ² performing arts center and preschool with income generating space for offices.
1. Intrusive investigations to determine condition of structure to be retained.	✓ All elements/walls of the Church to be retained and tied back to new tower structure. Parish House assumed to be structurally sound.	✗ No walls or structures from existing building will remain.
2. Monitoring	✓ Monitoring of existing structure required to confirm current condition and integrity (see monitoring report). During demolition and construction period to protect retained façade and address potential public safety concerns and risks to neighbouring properties.	✓ Monitoring required during demolition of church and parish house to address potential public safety concerns and risks to neighbouring properties.
3. Demolition	✓ Tower structure (with foundations) and 10ft length of north (alley) wall to be reconstructed.	✓ Full site demolition.
4. Temp. shoring of basement walls	✓ Local to demolished tower structure and at junctions with existing walls that will be retained or rebuilt. Where existing rubble retaining wall and foundation will be replaced on W Newton St elevation	✓ East (back), south (O'Day Park) and west (W Newton St) basement retaining walls will need to be temporarily shored until the new structural frame is installed.
5. Temp. shoring of façade	✓ Required to support retained façade junctions while the tower is rebuilt. Roof shoring also required while alley elevation is rebuilt.	✗ No walls or structures from existing building will remain.
6. Life Safety Upgrades	✓ Assuming no change of use from previously approved program and no substantial space alterations, project will be considered a 'repair' with no life safety upgrade requirements. Existing sprinklers and fire alarm are regularly inspected.	✗ New construction will be built to meet current life safety codes with cost to be incorporated into benchmark pricing of new construction.
7. Accessibility Upgrades	✓ Cost of renovation work and tower reconstruction significantly exceeds 30% of fair value of existing building. Req'd accessibility upgrades to church and parish house include: new elevator(s), balcony modifications, and ramp and door widening.	✗ New construction will be built to meet current accessibility requirements with cost to be incorporated into benchmark pricing of new construction.
8. Underpinning	✓ Required locally, adjacent to tower structure depending upon depth of existing wall foundations where new foundations are being installed. Deep/piled foundations would mitigate this, however some underpinning may be required close to pile caps etc. and the foundation design would need to account for differential movement between differing foundation solutions.	✗ No existing building walls remain. New construction sets basement level above adjacent retaining walls to eliminate need for underpinning of existing foundations.



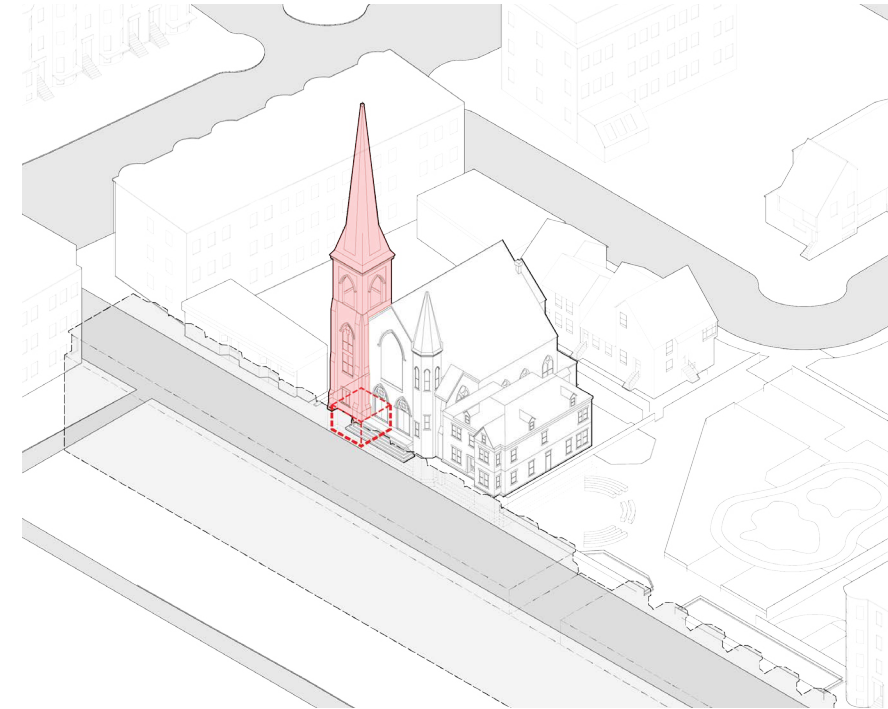
Full Renovation



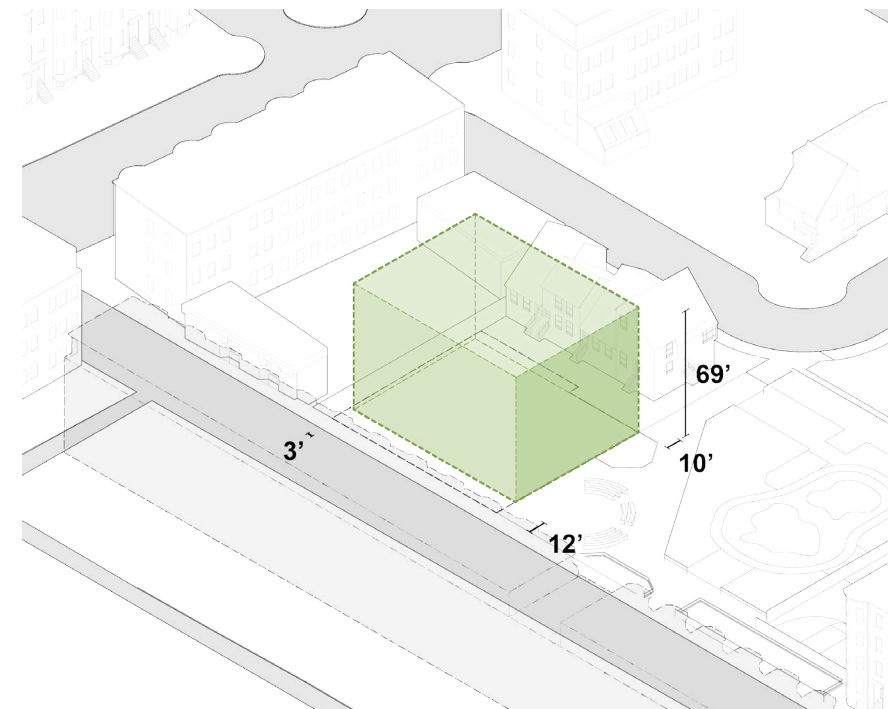
Full Demo/New Construction

Alternates Review Matrix

	Full Renovation	Full Demo/New Construction
	Rebuild tower and complete previously approved church and parish house building envelope renovation and bathroom upgrades. Existing building systems remain.	Full demolition of existing church and parish house. New construction of purpose-built 5 story, 30,000ft ² performing arts center and preschool with income generating space for offices.
9. Construction within confines of existing building structure.	✓ Construction site constrained by existing church which occupies full site. Localized reconstruction of exterior tower and alley wall and access from W Newton St. and alley simplify logistics.	✗ No existing building walls remain. Urban site and adjacency to residential buildings and active playground will continue to raise logistical issues which should be accounted for in benchmark pricing of new construction.
10. Lateral system upgrades triggered.	✓ The new tower frame needs to be designed to meet current lateral system code requirements, and support retained street and alley façade elevations.	✗ New structure replaces the church and parish house building. Cost of lateral system covered in benchmark pricing of new construction.
11. New build elements	✓ New tower structure and foundations and completion of building envelope repairs (refer to Option 2 scope outlined in Gale letters dated 8/2/18). New bathrooms in church. Existing bathrooms are half demo'd as part of discontinued building renovation work. New elevator shaft to provide access to all floors including balcony with elevator with min. clearance of 48'. Reconstructed stair within tower to provide access to balcony. Reconstruct significant sections of balcony to address structural problems and accessibility requirements. Significant repair of interior finishes to close in destructive testing sites and address water damage.	✓ New 6 story steel framed structure (approx 15-18 psf) with 6.25" concrete slab on deck floor slabs thick (3" deck/3.25" concrete with 6000ft ² footprint on site of demo'd church and parish house. New steelwork will require fire protection. New foundations required to support new steel frame. Deep or shallow foundations could be used. Grade beams required to tie pile caps and support new facade on 3 elevations. New basement retaining walls required to west (W Newton St) south (O'Day Playground), and east (residential neighbors).
12. Mechanical	All existing mechanical systems can be maintained and it is assumed that no alterations are proposed. Means of access and service space for mechanical equipment within the above ceiling space in the church sanctuary shall be altered to meet requirements of IMC 2015 par. 306.3, subject to determination of the provisions of the Massachusetts Building Code in effect at the time of the equipment installation as stated in IMC 2015 par. 102.3. New systems serving reconstructed tower or corner infill will be required.	Provide new heating, cooling, ventilation, and exhaust systems for a new building based on the proposed architectural scheme, program, functionality and energy performance goals. New system cost should be incorporated into benchmark pricing for new construction.
13. Electrical	Remove electrical systems within tower back to last active device or source panel outside of demolition area. Provide new electrical systems to serve reconstructed tower.	Removal all electrical installation. Provide new electrical systems (inc lighting, AV/IT etc) based on the proposed architectural scheme, program and functionality. Coordinate with utility provider to mark safe service entrance. New system cost should be incorporated into benchmark pricing for new construction
14. Plumbing/Fire Protection	Bring 4" main to top of accessible part of reconstructed tower and include 2-1/2" fire department valve. Relocate sprinkler, piping, and plumbing layout based on updated architectural scheme.	Provide new sprinkler and piping layout based on the proposed architectural scheme, program and functionality. New system cost should be incorporated into benchmark pricing for new construction.



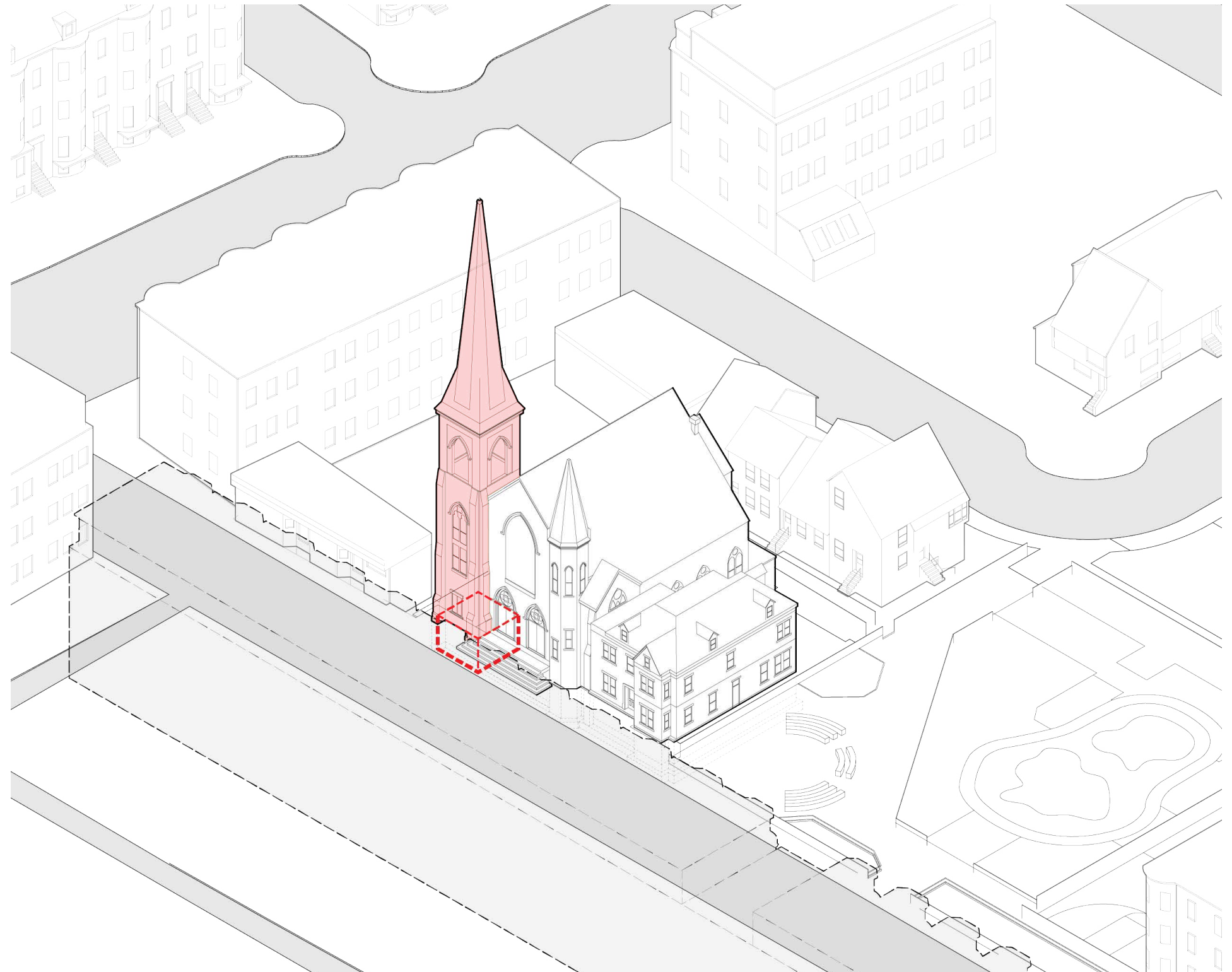
Full Renovation



Full Demo/New Construction

Full Renovation

- Tower reconstructed on new foundations
- Complete previously approved church and parish house building envelope renovation and bathroom upgrades
- New elevator and accessibility updates required

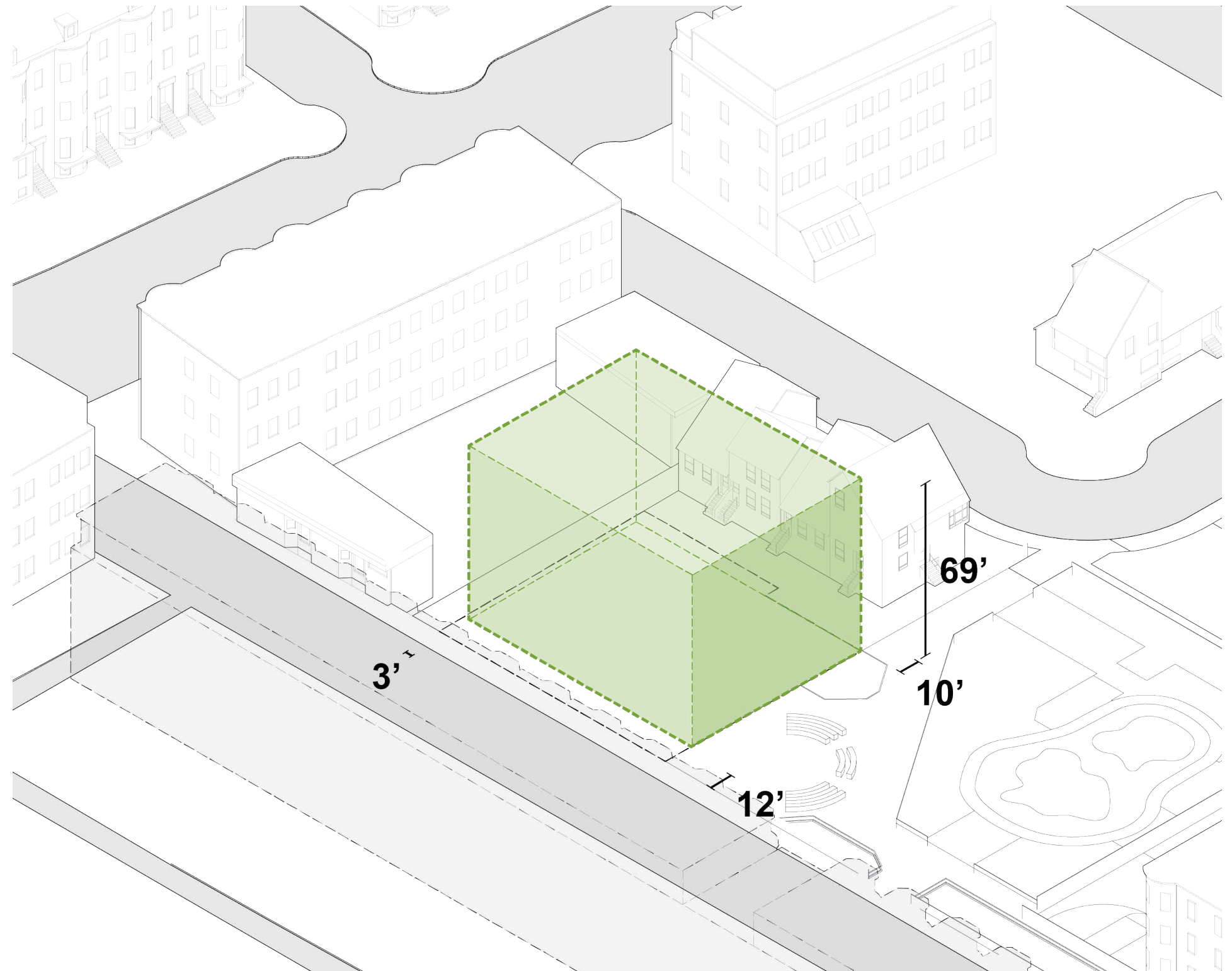


Cost

Option	Full Renovation	Full Demo/New Construction
Net square feet	20,000	30,000
Hard Cost	\$21,900,000	\$16,000,000
Cost per sf	\$1,095	\$533
Net sf of office	0	10,000
Mortgage for offices	-	\$4,500,000
Hard cost net of mortgage	\$21,900,000	\$11,500,000

Full Demo/New Construction Massing

- Tower not reconstructed
- Full demolition of church and parish house
- New construction of purpose-built 5 story, 30,000 sf performing arts center and preschool with income generating office space



**CERTIFICATE OF EXEMPTION BASED ON
HARDSHIP DOCUMENTATION**