Planning Office *for* Urban Affairs

ARCHDIOCESE OF BOSTON

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August29, 2011

Paul Silverstone, Environmental Officer
MassHousing
One Beacon Street
Boston, MA 02108

RE: St. Joseph's Residential Development, 135 Lafayette Street, Salem, MA
MHC # 47465

Dear Mr. Silverstone:

We wish to forward three items to your attention as part of the Section 106 review of the St. Joseph's Redevelopment:

1. Planning Office for Urban Affairs Memorandum Dated August 17, 2011, " Consideration of Alternatives, St. Josephs' Redevelopment"
2. Planning Office for Urban Affairs Presentatation Dated August 17, 2011, "St. Joseph's Redevelopment: Consideration of alternatives to avoid, minimize or mitigate adverse effects on historic properties; Report to the Salem Historic Commission"
3. Structures North Consulting Engineers' Report Dated March 21, 2005, "St. Joseph's Complex"

The first two materials were presented to the Salem Historical Commission on Wednesday, August 17, 2011, a meeting at which you were in attendance. The third is a report that informed the City's 2005 St. Joseph's Parcel Re-Use Study, which was referenced at the meeting. We neglected to include this report in the Supplemental Case Report delivered to you in July.

Sincerely,

Lisa B. Alberghini
President

Enclosures

cc: Brona Simon, Massachusetts Historical Commission
Brandee Loughlin, Massachusetts Historical Commission
Dan Tobyne, DHCD
Rebecca Frawley, DHCD
Kevin Hurley, North Shore Home Consortium
Jane Guy, City of Salem

"Some men see things as they are and say, why? I dream things that never were and say, why not?" RFK

Planning Office for Urban Affairs, Inc.
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MEMORANDUM

TO: Catherine Racer, Massachusetts Department of Housing and Community Development
Paul Silverstone, Mass Housing

CC: Lynn Duncan, Director, Salem Department of Planning & Community Development
Salem Historical Commission

FROM: Lisa B. Alberghini, President

SUBJECT: Consideration of Alternatives, St. Josephs' Redevelopment

DATE: August 17, 2011

As specified in 36 CFR § 800.6 (a), the consultation process is meant to "develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties." As your office facilitates this process, the purpose of this memorandum is to outline the development and evaluation of alternatives to limit effects on historic properties undertaken by the Planning Office for Urban Affairs (POUA) over the past six years, in close consultation with the City of Salem and numerous stakeholders. The proposed development is the result of an extensive local review process and intensive design work that was completed in partnership with the City of Salem, historic preservation groups and professionals, regulatory bodies, neighbors and other stakeholders to arrive at an innovative and sensitive plan that reflects an analysis of alternatives and that we believe balances preservation with the need for sustainable and feasible development and affordable housing at this location. The conclusions of this memorandum are subject to supplementation as the consultation process continues.

City of Salem's 2005 Parcel Re-Use Study
Planning for the redevelopment of St. Joseph's was begun by the City of Salem prior to the developer's acquisition of the property, and the results of their analysis showed that it would be extremely difficult to *avoid* the removal of the former church structure in any redevelopment scenario.

The City commissioned an independent third-party review by Crosswhite Property Advisors in 2004, which was delivered in November 2005, to study development options that would be economically feasible and appropriate to the neighborhood context. Crosswhite Property Advisors held seven committee and public meetings with local stakeholders. The Parcel Re-Use Study was the result of economic and market analysis, architectural and engineering studies, historical review and meetings with stakeholders. The "major themes" that surfaced during the community input process were important to shaping POUA's approach to the site. These themes were:

- Site is an integral part of the Point Neighborhood
- Mixed-use and mixed-income development is necessary
- Development should replace meeting space lost with the church's closure
- Development should deliver community services
- Scale and massing of new construction should be consistent with the existing neighborhood
- Development should address neighborhood traffic, parking and pedestrian concerns
- Site should remain publicly accessible "part of the community"
- Site should generate tax revenue for the City of Salem

The Parcel Re-Use Study's analysis concluded that "among the physically possible and market supported uses, the only one which was also a community preference was housing, the community preference being for affordable housing" (p. 31). The Re-Use Study also notes that the former convent building, which is proposed to be taken down, is not historically significant (p. 25) and that the former church, also proposed to be eliminated, has several limitations, including:

- There this no market-supported use for this building (p.31)
- Additional floors within the building would require construction of a structure within a structure (p. 24) (Note: Additional floors would be needed for a residential use, but constructing a structure within this structure is not financially feasible)
- Deep vertical cracks exist in every vertical corner of the building, stress lines and horizontal cracks exist for long stretches of the walls, thermal cracks exist in some of the walls, the chimney is cracked and fragmented and the steel structure within the tower is rusting (p. 10, 11)
- The structure is limited as to future uses without significant modifications (p. 11)

Given the above factors, and noting an urban design and development efficiency perspective, the Parcel Re-Use Study illustrates that elimination of the church would be part of the most probable development scenario that could include approximately 167 units on the campus, or a density of 62 units per acre (p. 35). That probable development scenario illustrated by the City-sponsored independent third party review also called for the elimination of the former rectory building, the oldest structure on site, built around 1917.

In contrast to the development scenario described above, which was proposed by the City's Parcel Re-Use Study, the developer plans to preserve the two oldest structure on site (the 1917 rectory and the 1921 school) and limit density to 76 units, approximately 30 units per acre, with 51 units proposed at this time.

Preserving Church for Assembly or Arts Space

Upon acquiring the property in 2005, POUA closely studied the re-use of the church as assembly or arts space, as an alternative to taking down the former church. POUA solicited interest in re-using the church through the broker who sold us the property, and over several months, and no interested party was identified. In the first year that the developer owned the building, at the request of Historic Salem, Inc. (HSI), POUA contacted five entities identified by HSI as potential users of the church structure: Boon Gallery, the City of Salem's Department of Business and Economic Development, the Hamilton Hall, Hawthorne Hotel, and the Waterfront Hotel. Only two responded after repeated attempts to contact them, and only one of those parties (Boon Gallery) asked to tour the building. The other party indicated that it had no ability to retrofit or use the building. After analyzing the building, Boon Gallery concluded it could not

utilize the church. One potential user for the church contacted the developer in 2009, but after they were asked to produce plans for reuse and to illustrate their financing capability, this user did not return our phone calls. Finally, after six years of meeting with abutters, neighbors and city officials, there remain no viable re-use options for the former church structure.

Preserving Church with Retrofit for Housing

During early design development conversations, POUA was asked to explore the alternative of converting the church structure to housing, to keep the building and the campus intact. After careful study with The Architectural Team (TAT), POUA identified four reasons why it would be infeasible to convert the church to housing: (1) unworkable floor plans, (2) difficult retrofit requirements, (3) excessive cost and (4) destroying the interior and exterior integrity of the building. Based on TAT's study, the resultant units in a converted church would be long and narrow with a "box car" quality, and would likely violate code requirements given the size of the windows and the lack of daylight penetration. The retrofit requirements included the removal and replacement of the existing foundation, construction of a new internal structural system to accommodate new floors, reinforcement of the existing ceiling system to accommodate a new mechanical system, replacement of the existing floor which was designed only to support assembly, replacement of the existing decaying structural system, addition of punched windows, bringing the building up to current seismic code and the potential for hidden conditions. The cost of the aforementioned retrofits, in addition to the construction of the residential units, would put the cost of rehabilitation far above the market-supported sales or rent prices. The developer's design team and Tremont Preservation Services both determined that the windows required to be added to the building's exterior to comply with code requirements would corrupt the exterior and appearance and essence of the church building:

> *In order to retrofit the church for housing, the required addition of windows will dramatically impact the exterior and interior of the church in such a way that its integrity would be impaired. …It is not clear that once these changes were made [new window openings, new structure inside the existing building] that the church would retain enough of its integrity to be eligible of listing on the National Register of Historic Places (Tremont Preservation Services, Letter to Developer, August 3, 2006).*

Tremont Preservation Services also acknowledged that "a church can be one of the most difficult structures to adapt to a new use due to the nature of its original function and design." POUA has redeveloped only two former church structures in its 42-year history. In one case, the former church was demolished and another, the former church was retrofitted as housing. In the case of the former St. Jean Batiste parish in Lynn, MA, where the church was demolished because of its structural condition, POUA accomplished a widely recognized neighborhood revitalization project with the creation of 14 homes for first-time buyers, 24 new apartments and a new community center, on a 1.5 acre site where a former church, rectory, school building and gymnasium had stood. The only time that POUA has ever retrofitted a church was in the instance of the former St. Aidan church in Brookline. This was possible *only* because the wood-frame building was structurally sound, and the structure was similar to a large Tudor house, with dormers and interior spaces that were far more easily adaptable. Even with these conditions, the high cost of construction could only be supported in a very high-end real estate market like Brookline (where the median single family house price is more than $1 million), and was planned during the very strong real estate market in 2005-2006. None of the three conditions that were present in the retro-fit of the St. Aidan church – adaptable structure, high-end location and strong real estate market – are present in the case of the former St. Joseph's church structure.

Preserving the Convent
Though the 1962 convent building is the most recently constructed and the building found by the Parcel Re-use Study to be in the best condition, like the church, it is difficult to adapt. Its walls are load-bearing and could only efficiently be retrofitted as SRO housing, something that is incompatible with the needs of the neighborhood. The removal of this building will allow for safe site access off of Harbor Street and additional parking and landscaping. Additional, as it is under 50 years old, the Parcel Re-Use Study noted that the convent building is ineligible for listing on the National Register.

Evaluation of Alternatives to *Avoid* Adverse Effects
Given the foregoing study of alternatives, understanding the City Study's recommendations, trying to secure a viable arts or community buyer or tenant for the church, and analyzing the costs and design implications of retrofitting the structure for housing, the developer has found that while it is regrettable, it is impossible to *avoid* taking down the church and convent in the redevelopment of the former parish property.

Design Development with the Community to *Minimize* and *Mitigate* Adverse Effects
Soon after it acquired the site in June 2005, POUA began to meet with the Point Neighborhood Association, the South Salem Neighborhood Association and the Lafayette Place Neighborhood Association and other interested stakeholders to learn about the area and gather recommendations for the site. Using the Parcel Re-Use Study as a guide, POUA approached the redevelopment of the former parish property as a neighborhood revitalization initiative, and was sensitive to the need for historic preservation where possible, including the potential re-use of the former church and convent buildings. Over the course of the first thirteen months that the developer owned the site, approximately 120 neighborhood residents, city officials, representatives of various local organizations and representatives of social service organizations participated in a wide ranging discussion of the needs and opportunities for neighborhood revitalization, housing development and historic preservation at the site. The developer was able to define a plan which responds to the needs of existing families, and offers stability through investment and economic development. Many Salem entities and institutions were involved in the community process including:

- Mayor of the City of Salem
- City of Salem Department of Planning & Community Development
- Local City Councilors
- Point Neighborhood residents (represented in part by the Point Neighborhood Association)
- South Salem Neighborhood Association
- Lafayette Place Neighborhood Association
- Salem Harbor Community Development Corporation
- Historic Salem Inc.
- The Salem Enterprise Center at Salem State College
- HAWC (Helping Abused Women with Children)
- Salem Boys and Girls Club

The developer held more than fifteen meetings over the course of a year and a half with these parties during a thoughtful and inclusive planning process that included discussions about historic preservation.

The most prominent suggestions to come from this process were for affordable housing and community space, including apartments and space for the elderly, as well as small retail and possible day care center locations. In 2006, in advance of a Planning Board hearing, 138 individuals from the neighborhood signed a petition in support of the developer's plans. The developer has continued to meet regularly with the Point Neighborhood Association over the last five years, with its most recent meeting in September 2010, in which neighbors strongly supported the long-stalled development moving forward, especially for more quality, affordable housing and for convenient retail opportunities, despite the need to demolish the former convent and church.

In addition to the public meetings held by Crosswhite Property Advisors to gather public comment on the St. Joseph's Redevelopment, public comment was received at no fewer than 11 hearings related to six zoning and planning board approvals that were sought for the project before the Salem City Council, the Salem Planning Board, the Salem Zoning Board of Appeals and the Salem Historical Commission.

Urban and Architectural Design Features to *Minimize* and *Mitigate* Adverse Effects
The St. Joseph's redevelopment plan meets the urban design requirements that respect the history of the site, suggested by the St. Joseph's Parcel Re-Use Study and Tremont Preservation Services, to "establish a street wall along Lafayette Street, reflect the existing scale of the site…and provide community services, which are an integral part of the social connection between this site and the surrounding Point neighborhood."

The site's development plan has been largely the same since it was first unveiled to the community in February 2006: the preservation of the school and rectory, the removal of the convent and church and the construction of a new building along Lafayette. The new building has gone through four design modifications (two design schemes at 6 stories and two design schemes at 4 stories) to incorporate the feedback of the neighbors, Historic Salem, the Planning Board of the City of Salem and the members of the Salem Design Review Board. As evidence of the level of local scrutiny that this design has received, the developer's plans have also been unanimously approved four times by the City of Salem's governing bodies: (Zoning Board of Appeals in August 2006 for height variances, and in March 2007 for a Comprehensive Permit; and the Planning Board for Planned Unit Development in September 2006 and September 2010.)

It is clear from neighborhood discussions that quality, affordable housing is essential to neighborhood stability. However, the range of development concepts considered to accomplish the objective reflected the diversity of interest in early design discussions. The Architectural Team prepared several separate development concepts that reflected a range of densities. The Parcel Re-Use Study estimated that the site could support densities at the site up to 167 units. The developer's first plan presented to the public moderated between these options. In February 2006, the developer unveiled a six-story building that included between 75 and 97 units of affordable and market-rate rental and homebuyer condominiums. The architect and developer believed that the large scale of the church and school buildings that occupied the site in the past would allow the site to support a larger scale building. The 2006 design for the new 6-story building had a more modern look that the developer then modified with a mansard roof and additional bays to give the building a more historic look in 2007. A third design lowered the height and reduced the density of the building with the mansard roof and articulated bays as a four-story building.

With significant input from members of the City's Design Review Board, the final September 2010 design replaced the mansard roof with a strong 4th story cornice line, set back the southern half of the Lafayette Street façade to break up the building and added bays along the south Dow Street façade to mimic the more residential buildings in the blocks to the south. The proposed building is in keeping with the recommendation of Historic Salem for a four-story building on the site. Its western elevation fronts on Lafayette Park and Lafayette Street/MA 114, a high-traffic corridor that is a gateway to Downtown Salem. As suggested by members of the Design Review Board, the new building is of brick construction, matching the materials of the existing rectory and school and a majority of the building stock throughout the neighborhood. It also restores the street wall along Lafayette which was lost when the school building formerly located at the corner of Lafayette and Dow was demolished in 1982. Eliminating the asphalt parking lot frontage along such a prominent entrance corridor to the City is an improvement to the neighborhood as well.

A consistent component of the new building's design was mixed-use commercial space on the first floor of the new building, to enliven the streetscape and create more business traffic on Lafayette Street south of Downtown Salem. The first floor was originally designed to include an 18,000 square foot Community Life Center serving Salem's Senior Citizens and the Point community. This proposal was strongly supported by the neighborhood, but ultimately the City Council favored an alternative location for the Senior Center. Subsequent first-floor schemes have included a varying level of commercial space, from 4,400 square feet distributed across 2-3 smaller storefronts facing Lafayette Street (the current plan) to 15,000 square feet with a drive-through to be leased to a national chain. The developer has always reserved space on the first floor for at least 750 square feet of community meeting space. The façade, window treatment and signage standards for tenants in these spaces would be strictly governed by the City's Entrance Corridor Overlay District and other design guidelines.

Additionally, the current plan will *minimize* adverse effects by preserving the two oldest buildings on the site and will memorialize the presence of the former church and parish property with interpretive plaque(s) and other efforts. The developer's contribution to the renovations of Lafayette Park is another key mitigating measure offered by the developer as part of the St. Joseph's redevelopment. The War Memorial in Lafayette Park across the street was donated by parishioners of St. Joseph's and is another permanent reminder in the neighborhood of the parish's legacy. Finally, absent the current proposed plan, *it is likely that the site would see total demolition if developed by a private, for-profit developer***.**

The St. Joseph's campus has a history of constant building, moving, razing and rebuilding of structures in order to respond to the changing needs of the parish and the community. The site has had at least two prior churches, two prior schools and one prior convent that were demolished. We believe the current proposed plan is a continuation of that constant, dynamic change, that it honors the legacy of the parish and that it responds to contemporary needs. In addition to the design benefits that it affords the Lafayette Street corridor, the Point neighborhood and the City of Salem, there are numerous community and economic benefits associated with the project as well that *mitigate* adverse effects of the plan:

- Providing up to 76 new units of quality housing (51 proposed in the new building, 25 in existing buildings), the majority of which will be affordable workforce units, with access to an extensive public transportation network;
- Creating over 100 construction jobs, and permanent jobs associated with operating and managing the residential and neighborhood retail uses planned for the site;

- Creating new economic activity and retail traffic, and reinvigorating the streetscape at this critical gateway to both the Point Neighborhood and the Downtown Salem Business District;
- Leveraging a $1 million in state grant funding for much-needed traffic improvements along the Lafayette Street corridor;
- Removing blight associated with a large vacant block that is vulnerable to vandalism and criminal activity since it was vacated nearly seven years ago; and
- Reversing the trend of disinvestment in the Point Neighborhood.

In closing, POUA would like to underscore the amount of time dedicated to the local process and the amount of professional study that has gone into the current redevelopment plan for the St. Joseph's property and the number of alternatives and modifications suggested, proposed, considered, investigated, partially/fully developed or incorporated into the St. Joseph's Redevelopment plan in conjunction with local advisory bodies to address avoiding, minimizing or mitigating adverse effect – from the provision of affordable housing, to construction of possible Community Life Center at the site, to thoughtful landscaping, streetscape design, building height and scale, building design, building materials and the leveraging of area park and streetscape improvements.

It is our belief that the final development, which preserves the two oldest structures on the site, will be one that is viable, provides much needed workforce housing and investment in the Point Neighborhood, respects the history of the site and honors the legacy of St. Joseph's Parish. With the help and participation of dozens of Salem residents, it is a development that everyone across the City of Salem can be proud of for years to come.

St. Joseph's Redevelopment

Consideration of alternatives to avoid, minimize or mitigate adverse effects on historic properties

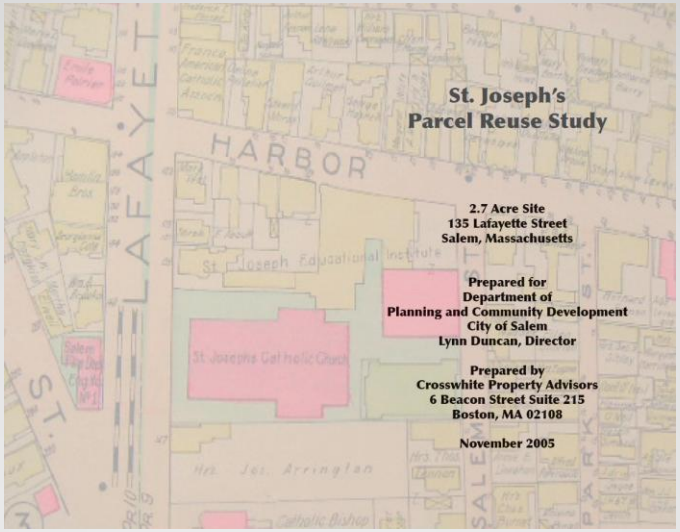
Report to the Salem Historical Commission
August 17, 2011

Alternatives to Avoid, Minimize and Mitigate

1. City's 2005 Parcel Re-Use Study
2. Outreach for Church Re-use
3. 2006 Study of conversion of church building for housing
4. Design development in partnership with City 2005 - 2011

1. St. Joseph's Parcel Re-Use Study

- Independent, City-commissioned Study
- Included economic and market analysis, architectural and engineering inspection and analysis, historical review and meetings with stakeholders



St. Joseph's Parcel Re-Use Study Conclusions

- Former convent building is not historically significant (p. 25)
- No market-supported use for the former church(p.31)
  - Additional floors within the building would require construction of a structure within a structure (p. 24)
  - Deep vertical cracks exist in every vertical corner of the building, stress lines and horizontal cracks exist for long stretches of the walls, thermal cracks exist in some of the walls, the chimney is cracked and fragmented and the steel structure within the tower is rusting (p. 10, 11)
  - The church structure is limited as to future uses without significant modifications (p. 11)
- "Among the physically possible and market supported uses, the ***only one*** which was also a community preference was ***housing***, *the community preference being for affordable housing.*" (p. 31)
- Recommended continuous street wall and retail along Lafayette, which would require demolition of the former church
- Most feasible redevelopment scenario has greater density than current proposal

St. Joseph's Parcel Re-Use Study Conclusions

Use Analysis

Zones & Buildings	Physically Possible	Community Preference	Market Supported
Empty Lot Lafayette St.	New Construction	Affordable Home Ownership	**Housing**
Church	Church Assembly space	Arts Performance Space	None
Rectory	Housing Office Medical office	Meeting space Health Center	**Housing** Office
Convent	Dormitory Other SRO Housing	Meeting space Other SRO Housing	**SRO Housing**
School	Housing Office School	School Youth services	School **Housing**
Empty Lot Salem St.	New Construction	Parking	**Housing** Parking

St. Joseph's Parcel Re-Use Study: Conclusions

	City's 2005 Study	Current Plan
Number of units	167 units	76 units
Floor Area Ratio	2.30	0.67
Density	62 units/acre	28 units/acre

2. Outreach for Church Reuse

- All groups identified by Historic Salem, Inc. for possible reuse of the former church were contacted by POUA. None could identify a viable plan to re-use the structure.
  - Boon Gallery
  - City of Salem
  - Hamilton Hall
  - Hawthorne Hotel
  - Waterfront Hotel
- Real estate broker sought potential buyers of the church to re-use the structure. There were no interested buyers.

3. Developer's 2006 Study of Conversion of Church to Housing

- Tremont Preservation Services, 2006: Addition of new windows needed for housing would "impair the integrity of the church" inside and outside
- Cost-prohibitive structural work, and the construction of a second "structure" within former church
- Architect determines that floor plan of residential units would be inferior, deep "box car" apartments, lacking in windows
- Revisions needed to exterior façade would dramatically alter the character of the building.

Alternatives to *Avoid* Adverse Effects, Not Feasible

- Through these three investigations (City's 2005 Parcel Re-Use Study, Outreach for Church Re-use and Developer's Study for Conversion to Housing), and through outreach to community and public bodies, POUA has concluded that there are no feasible alternatives to avoid the removal of the church and convent.

- Therefore, POUA has worked diligently with stakeholders to identify a plan that will ***minimize*** and ***mitigate*** adverse effects

4. Public Participation in Design Development: Timeline

August 2004

St. Joseph's Parish closes.

December 2004-June 2005

Crosswhite Property Advisors, an independent third-party commissioned by the City of Salem to Study St. Joseph's reuse options, holds seven committee and public meetings with stakeholders.

June 2005

POUA acquires the former St. Joseph's property, begins discussions with the community and starts to undertake analysis of redevelopment options.

June 2005 – January 2006

POUA holds 3 meetings with the Point Neighborhood Association, 1 meeting with the South Salem Neighborhood Association, 1 meeting with the Lafayette Place Neighborhood Association and 2 meetings with Historic Salem, Inc. to solicit input for the property redevelopment plan.

July 2005 – June 2006

POUA worked with four entities proposed by HSI to market the church for re-use as a cultural or arts facility: two were not interested, one indicated some interest but never followed through, one looked at the church building, performed some calculations and determined it could not be re-used.

November 2005

Crosswhite Property Advisors completes "St. Joseph Parcel Reuse Study" for the City of Salem, indicating that the most economically feasible/likely plan is to demolish the church and rectory and develop 167 units.

Public Participation in Design Development: Timeline Cont'd.

February 2006

POUA unveils plan build a new 6-story mixed income rental and condominium building with Community Life Center on the first floor, at the location of the former church structure, which would be removed.

March – May 2006

POUA works with architects, engineers, City and community representatives on development plan over several meetings.

June 2006

City and POUA host meetings unveiling plans to take down the former church and build a new structure with housing and a Community Life Center.

July 2006

City-hosted neighborhood meeting to review plan to take down the former church, build a new 6-story mixed income rental and condominium building with Community Life Center on the first floor.

July – August, 2006

Applications to the Zoning Board of Appeals and the Planning Board for variances and Site Plan Approval, Environmental Impact Statements and Design Narrative prepared for Planning Board and City Departments. Meetings were held with the Board of Health, City Engineer, and the Fire Department to prepare for public hearings.

Public Participation in Design Development: Timeline Cont'd.

August 2006

POUA applies to the City of Salem to waive Demolition Delay ordinance for the St. Joseph's Convent and Church and makes presentation to the Salem Historical Commission.

August 3, 2006

At a City Planning Board Meeting, the Board makes the following design suggestions to POUA, which POUA then incorporates into September 14 Design:

- Articulate the Façade – *POUA recesses the center of the front facade*
- Create a Front Entrance - *Recesses center and adds significant Lafayette Street entrance.*
- More Contextual –*POUA adds mansard roof and dormers to mirror nearby buildings and the design of the former school that was demolished in 1981.*
- More Residential, Less Downtown – *POUA eliminates faceted corner and 2-story glazed entry*
- Develop Massing Plans – *POUA presents massing studies that show proposed development in keeping with massing of existing and earlier demolished buildings on the site.*

August 24, 2006

ZBA votes 5-0 to grant variances for height and number of stories to construct a six-story building and 97 units of housing across the site

September 14, 2006

Planning Board votes 9-0 to grant a Special PUD Permit for six story building and 97 units of housing

September 22, 2006

Abutters appeal Zoning and Planning Board approvals. Cases filed in Superior Court.

Public Participation in Design Development: Timeline Cont'd.

January 24, 2007

Comprehensive Permit Application submitted to the City of Salem ZBA for six story building and 97 units of housing.

March 8, 2007

ZBA votes 6-0 to grant a Comprehensive Permit for six story building and 97 units of housing.

June 2008

Salem City Council votes 6-0 to amend the City of Salem Zoning Ordinance and associated Zoning Map by extending the adjacent B-5 Central Development District to include the St. Joseph's Church parcel located at 129-151 Lafayette Street.

August – September 2008

As a result of POUA's proposed redevelopment plan for St. Joseph's site, the City of Salem becomes eligible to apply for a $1 million Public Works Economic Development Grant to undertake 2 signalization improvements on Lafayette Street, add new streetscape and make improvements to Lafayette Park. This is a major mitigating measure and a highly valued improvement made available to the City only because of the proposed redevelopment.

October 2008 – June 2010

St. Joseph's project on hold while litigation challenging the B-5 zoning change is in court. Defendants City of Salem and the development entity Salem Lafayette Development LLC win Motion for Summary Judgment and Appeal. Plaintiff's Application for Further Appellate Review was ultimately denied by the Supreme Judicial Court.

Public Participation in Design Development: Timeline Cont'd.

December 2009

POUA submitted Project Notification Form for Section 106 Process to MHC, triggered by its application to the U.S. Department of Housing and Urban Development for Section 202 capital funding for senior apartments in the former school building.

January 6, 2010

POUA meets with Salem Historical Commission to review Project Notification Form.

January 16, 2010

POUA meets with Point Neighborhood Association for project updates.

July 26, 2010

POUA meets with Point Neighborhood Association for updates on appeal resolution, planning board applications, development schedule.

July 30 – September 16, 2010

POUA submits applications to Planning Board for hearing. Salem Planning Board votes unanimously on September 16, 2010 to approve the Plan "Mixed Use with Neighborhood Commercial."

December 27, 2010 – March 17, 2011

Massachusetts Department of Housing & Community Development (DHCD)awards funding subsidies to the four-story building as the first phase of St. Joseph's Development.

August 2, 2011

MassHousing and DHCD Undertake Public Comment Process for Section 106 Review

Public Participation in Design Development, 2005 – 2011 Outcomes

- Preservation of oldest structures, Rectory and School, are of paramount importance; and always part of plan
- POUA followed recommendations of City's Parcel Re-Use Study for urban design, housing and first-floor retail and services
- Plans for new building continue street wall along Lafayette Street and reflect the existing scale of the site

Public Participation in Design Development, 2005 – 2011 Outcomes

- Design crafted with input from community groups and through more than two dozen community meetings and public hearings
- Made substantial design changes at the request of the Planning Board, members of the Design Review Board and others
- Reduced height and changed design and materials of new building several times.
- Reduced new building from six stories to four stories, from 75 to 51 units

The Architectural Team

Context for New Construction

The Architectural Team

2006 Concept: 6 stories, 75+ units

The Architectural Team

2006 Concept 2: Revised Architectural Detail

The Architectural Team

2007 Concept: 4 stories, 45 units

The Architectural Team

2011 Concept: 4 stories, 51 units, clean design, eliminates plan for drive-through and large retail

Design Benefits of Plan that *Minimize* and *Mitigate* Adverse Effects

- Historic post-fire Rectory (1917) and School (1920) buildings will remain.
- Revitalizes important gateway parcel
- Eliminates asphalt parking lot in entrance corridor
- New masonry building that keeps street wall and adds new retail
- New landscaping, including re-use of church's granite steps at back courtyard

Economic and Community Benefits of Plan that *Minimize* and *Mitigate* Adverse Effects

- $20 million investment in the City and Point Neighborhood
- Revitalizes neighborhood and catalyzes additional improvements
- 51 new units of affordable housing
- 4400 square feet of neighborhood retail
- 100 construction jobs + 5 permanent jobs
- $1 million state grant for Lafayette Street traffic and streetscape improvements
- Eliminates vacant and obsolete buildings, improving neighborhood safety for businesses and residents
- Reestablishes community meeting space that had been provided in the former church

The Architectural Team

Additional Notes on Church Retrofit

- St. Aidan, Brookline; first church adapted as housing by POUA. Feasible only because it was a Tudor-style structure that was more easily adaptable, was located in a very competitive market (median condo price $1m), and was initiated at height of market in 2005-2006
- St. Jean Batiste, Lynn; demolished church for apartments, widely recognized as successful infill development

STRUCTURES NORTH
CONSULTING ENGINEERS, INC.

March 21, 2005

Crosswhite Property Advisors
6 Beacon Street
Suite 215
Boston, MA 02108
Fax: 617.742.6162

Attention: John Bowman

Reference: Saint Joseph's Church Complex
129-131 and 135 Lafayette Street, 18 and 20 Harbor Street, Salem, MA

Dear John:

On December 1, 2004, we visited the four-building St. Joseph's Church Complex in Salem to perform an interior visual inspection of the buildings' structures. We followed up with visits on December 8 and 9 to inspect the exterior of the buildings. The following is a summary of our findings and recommendations.

For the purposes of this report, Lafayette Street is assumed to run north to south, and the front of the church facing Lafayette Street shall be considered as "West".

135 Lafayette Street (St. Joseph's Church)

General Description-

135 Lafayette Street is the original Saint Josephs Church, designed in 1948 and constructed in 1949-50 in the International Style with a glazed white brick exterior and very little exterior adornment. The structure is cruciform in plan and was constructed atop the remaining stone foundations of the second church on the site, which burned in the great Salem fire in 1914. There is a full basement level and a grand, high-bay main floor level (former sanctuary) with a balcony over the entry hall (former narthex) at the west end. A five-tiered tower sit upon the roof, centered about the transept crossing.

The brick exterior is header-bonded to a multi-wythe, back-up wall system of load-bearing concrete brick and red common brick. This typically lands on the earlier foundations, except where plan changes were made from the original church and it lands newer foundations, presumed to be of board-formed cast-in-place concrete.

The roofs are constructed of a 2" concrete slab on mesh-reinforced Kraft paper draped between bar-joists on steel beams that span between exterior walls. The

tower consists of a louvered and sheet metal-clad, wood-sheathed steel frame supported on transfer beams in the roof structure.

The main floor is constructed of a reinforced concrete rib-slab on concrete encased steel beams and steel columns. The basement floor is a concrete slab-on-grade.

According to the original drawings and to local "knowledge", the present structure may include parts of the original church that were repaired or altered for interim use between the 1914 fire and the 1949-50 re-construction. These elements include steel beams of the first floor that were apparently sistered and lowered and then encased to provide beam-support for the first floor rib-slab, the original foundations (presumed to be stone but referred in the original drawings as concrete), and portions of the original red brick masonry walls which must have been covered with the present white glazed brick.

We have a full set of the original drawings for this structure.

Noted Conditions and Recommendations

Exterior and Tower-

The following conditions were noted on the exterior of the structure and in the tower:

- While it is unclear according to the 1948 drawings what the "common brick" back-up is composed of (we have seen original red brick back-up near the foundation level and what appears to be newer concrete brick back-up above), it is more than apparent that the face-brick (white glazed) has not demonstrated compatibility with either back-up material. At virtually every vertical corner of the building, a long, deep vertical crack has occurred approximately 4" from the corner on both faces. The crack illustrates the incompatibility of the "growth" rates between the two types of clay or clay and concrete over time. Lighter color clays tend to "grow" more than darker color clays, and clays grow differently from concrete products that tend to shrink and then go through seasonal moisture growth and contraction cycles. Following initial construction in the 50s, the white face brick veneer probably would have begun expanding, while the backup would have expanded at a different rate. Because the vertical corners of the building are free to move, the growth typically took the path of least resistance toward the corners. The ties between the backup and the face brick most likely resisted the additional expansion of the white face brick. The last 4" of the corner, however, is unrestrained. The cracks, then, occurred between the white brick that was restrained by the backup and the edges, which were free to move.

  Prior to repairing the corners of the face brick, an investigation and analysis will have to be performed to demonstrate that the ties between the backup brick and the face brick have indeed resisted the higher growth rate of the face brick without any damage to their structural integrity. This can be done by performing an aerial lift inspection and making investigatory holes in the face brick to view the condition behind.

If it is determined upon inspection that the backup and ties are currently sound; only the corners of the face brick will need to be stripped and rebuilt. In order to prevent a similar occurrence, brick may either be purchased and left out in the weather to season for a year (most growth occurs within 12 months of exposure to weather), or allowance for expansion will need to designed into the system (which could make the corners unsightly and prone to leakage).

- The brick over the windows is supported by embedded steel lintels, of which the bottom flanges can be seen from the exterior. Stress lines can be seen in the form of horizontal cracks and movement in and near the joint in which the lintel sits, often for long stretches of wall such as the north and south elevations, which have repetitive closely spaced windows that share the same top elevation. The cause of the cracking and movement is most likely the corrosion of the steel lintels and subsequent rust jacking.

  To halt further damage to the building facade, veneer brick should be stripped off of the existing lintels, which should then be removed and replaced with new, corrosion-resistant galvanized steel. If it is evident that the corrosion is only occurring on the outside face of a given steel lintel, it may be possible to remove the rust and corrosion-protect the steel from the outside, however, this is generally not as long-lived a solution as replacement. Cracks caused by rust jacking should be pinned, knitted back together or repointed as necessary, depending upon the situation.

- In addition to the effects of moisture growth and rust-jacking, temperature variations cause the structure to expand and contract on a seasonal, sometimes even daily basis. The materials used in the 1950's, being as brittle as they are, are not accommodating to thermal movements and crack as a result. This is the case at the north and south facing walls to the east of the transept. These relatively short walls are rigidly attached via the roof structure to the longer walls on the west side of the transept. When thermal expansion and contraction occurs in the roof structure, it creates a "tug of war" between the two respective sections of walls and the longer ones win, causing diagonal shear cracks to occur in the shorter ones.

  Thermal effects of this nature are unavoidable in this type and scale of construction and can best be accommodated by the introduction of sawcut control joints in the brickwork that will allow the stresses caused by these movements to be relieved.

- The chimney near the northeast corner of the building is in a cracked and somewhat fragmented condition. *While it remains serviceable at present, it will eventually need to be reconstructed.*

- The steel structure within the tower is rusting *and needs to be cleaned and painted if the tower is to be retained.*

Interior -

The following conditions were noted within the interior of the structure:

- Water is entering the structure through the exterior envelope at several scattered locations, as is evident in staining on the interior surfaces of walls. *The sources of water leakage should be identified and eliminated.*

Other than for the water leakage, interior conditions look good.

Structural Considerations for Re-use

Having been purpose-built as a church 135 Lafayette Street is limited in its overall configuration as to future uses without significant modifications. Per code, the renovated structure would have been constructed to support 60 pounds per square foot (psf), for a fixed-seating assembly area.

A representative member check of the original structural drawings found that the rib-slab system as designed would have had live load capacity of approximately 70 psf and the steel beams, if not considered to act compositely, would have a capacity of 80 psf, both of which are less than the 100 psf that the code would require for a flexible plan, non-fixed seating assembly area or gymnasium.

Although by today's theories, the rib slab (by load factor design) and beams (assuming composite action) could have live load capacities of more than 100 psf, suggesting that a flexible plan assembly area or gymnasium might be permitted, one should be cautioned that this calculation does not account for limitations in the old footings that were re-used, member connections, or the fact that only a few of the many members present were actually checked. Also, the column size that was specified has a live load capacity of 70 psf, meaning that the columns would need to be reinforced were the live loads to be increased above this level.

The roof structure was clearly constructed as a roof, and a vertical addition over the top of the church would require the roof to be replaced or over-framed.

It is not clear what additional capacity the existing, re-used original foundations have as they are not described on the reconstruction drawings (that show the present church). Therefore, it cannot be assumed that the existing foundations can take additional load. Also, the damaged condition of the brick walls that bear on them and the fact that they are a mix of earlier and later construction could be problematic.

Given the tall interior space that this structure contains, the logical place for any additions would be to the interior. Because of the above limitations and concerns, however, such an addition may need to rest on its own columns and foundations that bear through the existing first floor slab system.

If additional floor area or mass is added beyond 10% of the present, the existing structure would also need to be analyzed for seismic loading as it would not longer be "grandfathered". Un-reinforced masonry wall construction is hard to make

compliant with seismic loading requirements (has the lowest "R-factor") and would likely need to be supplemented with additional masonry walls on the interior or by the filling of several window or door openings. Given the independent vertical support requirements of an interior addition, it might be feasible to laterally brace such an addition independently from the surrounding construction, essentially making "a structure within a structure".

129-131 Lafayette Street (Saint Joseph's Rectory)

General Description-

129-131 Lafayette Street is a colonial revival-style, three-story former rectory with a full basement and a flat roof, constructed ca. 1917. There are porches at front and rear elevations, multiple stair vestibules and bay windows.

The roof and floors are constructed of board-sheathed dimensional lumber joists that are believed to run in the north-south direction, between the exterior masonry walls and interior wood-stud bearing walls. These are supported on timber beams and metal columns at basement level.

The exterior elevations consist of a complex, "butter-jointed" bonded brick veneer, presumably over a brick back-up with concealed headers (diagonally cocked bricks that are let into angled recesses in the back of the veneer). Window and door openings have cast stone lintels and sills, there is a cast stone band crossing the front elevation, a cast stone dentil and modillioned cornice with string course below, and brick quoining at the corners. There is also a patterned condition between the lower cast stone band and the foundation which steps in and out every 2 courses to create a banding effect with a 1½" reveal.

Noted Conditions and Recommendations

Exterior-

The following items were noted on the exterior of the structure:

- The exterior brick seems well fired and the mortar appropriate for the brick. That being the case, we have still noted significant damage (most likely due to the use of concealed headers) which is described below.

- In areas where the exterior wall is a story or less such as at the porches and vestibules, the low brick banding has experienced significant movement in the form of bowing horizontally and / or vertically along the wall. The banding effect is physically created by two individual bands of projecting bricks (each two courses) sandwiched between, above and below 2 courses of flush brick (10 courses total); the entire arrangement is bordered by a cast stone belt above and the concrete foundation below. The construction of the projecting "band"

consists of 2 courses of bricks arranged in a row of stretchers sitting approximately 1½" proud (outward) of the main brick wall. Illustrated by the movement that has occurred, it appears unlikely that the projecting brick bands are tied into the back-up and it is probable that there is a cavity between them. Due to the lack of ties, stability of the projecting brick bands must be maintained by gravity alone. In locations where the wall above is relatively low such as porches and vestibules, it appears that the counterweight of the veneer above is not great enough to maintain the force-balance which has in turn caused a destabilization and movement in the lower wall allowing a redistribution of support for its load.

This condition specifically occurs on all three sides of the west facing (front) porch and entry steps. The piers at the bottom of the steps show significant movement as well as cracks in the lower concrete foundation wall. The south-east porch (south wall), south facing porched entrance canopy housing stairs up to the first floor, and the north facing porch have also all incurred movements due to the instability of the brick banding.

The resultant bowing of the lower bricks caused by the redistribution of support is in and of itself a potentially unstable arrangement that will increase in magnitude as mortar joints naturally weather and erode losing their tensile strength. We recommend that the outer wythe (10 courses) of the single story segments of wall between the belt course and the foundation be sequentially disassembled and rebuilt using galvanized or stainless steel brick anchors to stabilize the projecting bands.

- The brick over the windows is supported by embedded steel lintels, of which the bottom flanges can be seen from the exterior. Most of the steel lintels are currently deflected (sagging in the middle), and stress lines can be seen in the form of horizontal cracks in the joint that the lintel sits in, or step cracks originating at the top corner of the window and projecting diagonally upward. The cause of the sagging of the lintels and adjacent cracking is directly attributable to corrosion of the steel lintel and subsequent rust jacking.

  To halt further damage to the facade of the building, veneer brick should be stripped off at the lintels and the lintels should be removed and replaced with new galvanized steel. If it is evident that the corrosion is only occurring on the outside face of the steel lintel, it may be possible to remove the rust and corrosion protect the steel from the outside. Cracks caused by rust jacking should be individually assessed, and pinned, knitted back together or repointed as necessary.

- Many of the mortar joints between the upper string course and the cornice, as well as at other scattered locations on the building have eroded *and need to be repointed.*

- One of the cast stone units in the north façade's string course has spalled and is about to fall to the single-story roof below, possibly damaging it or rebounding onto the sidewalk. *The spalled piece of stone should be removed and stored.*

- There are several cracks and spalls in the cast-in-place concrete steps *that should be repaired using standard concrete restoration methods such as adhesive-injecting cracks, exposing and corrosion-treating embedded steel (if any) and applying formed or trowel-grade restoration mortar to spalls.*

Interior -

The following items were noted within the (occupied) floors of the structure:

- The ceilings in several of the interior spaces of the first, second and third floors have diagonal cracks, particularly near the southeast and northeast corners of the building. These are most likely to be from normal deflection and seasonal moisture changes in the wood construction in contrast with the unchanging masonry at the exterior. Damage is most severe at the roof scuttle stair at the east end of the third floor, where the plaster is water-stained. This corresponds to and area of the exterior where the mortar joints are eroded. *Cracks should be patched and then watched to see if they reoccur. The exterior masonry should be checked and repointed if needed to eliminate water entry points.*

- There is fairly extensive water damage to the finishes at the third floor, within the west half of the north wall. This corresponds to eroded mortar joints and some diagonal cracks in the exterior masonry, and some rust staining on the cornice. *The masonry should be repointed and the crack repaired. The roof edge flashing should be checked for leaks.*

- The exterior foundation brickwork of the north wall is efflorescing in the basement, suggesting infiltration of water. The mortar and the brick units themselves still look sound. *Restoration of the exterior masonry as noted should help alleviate this problem.*

Structural Considerations for Re-use

Having been purpose-built as a rectory, 129-131 Lafayette Street would have been constructed for a relatively light (40 psf) floor load and would lend itself easily to a residential use (with the same 40 psf live loading) but not necessarily anything heavier without additional investigation to justify heavier loads.

The room and basement column layout would suggest that there are interior bearing walls running down each side of the central corridor. This means that any future use that does not retain at least these two walls will require the supplemental re-support of the floor or roof structures, most likely involving the insertion of beams and columns in place of the walls.

One or more additional floors on top of the structure would most likely require the removal or building-over of the existing roof structure, which is pitched to drain (toward the interior) and has most likely been constructed only to support snow loads, which are lighter than design floor loads. In the case of the lower roof, a build-

over would push the floor level above that of the present third floor, making access to the new space more difficult. In this case, replacement would probably be required.

Whether or not the perimeter foundations could support one or more additional levels would need to be determined by structural analysis. By the nature of their construction, the interior bearing lines probably would not have much additional support capacity and would most likely need to be reinforced.

If additional floor area or mass is added beyond 10% of the present, the existing structure would also need to be analyzed for seismic loading. Unreinforced masonry wall construction is hard to make compliant with seismic loading requirements (has the lowest "R-factor") and would likely need to be supplemented with additional masonry walls on the interior or by the filling of several window or door openings.

18 Harbor Street (St. Joseph's Convent)

General Description-

Harbor Street is a two-story-plus-basement, brick-clad residential structure of a modern style that typical of the 1960's. Roofs are constructed of precast concrete plank on steel bar joists, and the first and second floors are concrete slabs on metal deck supported by bar joists. The bar joist framing is supported by the exterior walls at the perimeter and by steel beams and columns at the interior. The exterior walls are concrete unit masonry with header-bonded brick veneer supported on cast-in-place concrete foundations. The basement floor is a concrete slab on grade.

We have a full set of the original drawings for this structure.

Noted Conditions and Recommendations

Exterior-

The following items were noted on the exterior of the structure:

- Typically the masonry appears tightly bonded and sound. The mortar seems to have a lot of life left in it and no re-pointing is necessary for the foreseeable future.

- The brick over the windows is supported by embedded steel lintels, the bottom flanges of which can be seen from the exterior. The masonry on either side of the window is revealing early signs of lintel corrosion and rust jacking illustrated by short lengths of mortar being pushed out of the joint common to that containing the flange of the lintel. *More costly future repairs can be prevented by addressing this corrosion now before rust jacking causes more significant damage. Repair would include dismantling veneer brick to access lintels, removing the rust and corrosion protecting the steel from the outside. Local repointing at damaged joints is also required when as part of the lintel repair.*

- There is a large garage door opening on the west facing façade of the building, the masonry over which is supported by a steel W-flange beam with a full-wall thickness steel plate welded to the bottom flange (visible from the opening). The top surface of the plate is rusting and jacking itself downward away from the beam. *The repair would include: shoring of the garage door opening, removal of the bottom plate and subsequent repair and corrosion-protection of the beam flange and replacement of the bottom plate using galvanized steel.*

Interior -

We noted no structural defects in the interior of the former convent.

Structural Considerations for Re-use

Having been purpose-built as a convent, 18 Harbor Street would normally have been constructed for a relatively light (40 psf) floor load. Looking at the original structural drawings for the building, the framing plans indicate design loads of 100 psf and 150 psf for the residential and public areas, respectively. A cursory check of the specified members, however, found that these are total dead plus live loads and that the actual design loads are on the order to 40-50 psf and 100 psf, respectively, in keeping with applicable code requirements.

This being the case, a closer analysis should determine whether and where the 50 psf threshold can be reached (to allow for office or educational occupancy), or whether the floor loads are simply limited to a residential, 40 psf use. Preliminary calculations suggest that the floors will be good for 50 psf, although this must be more thoroughly verified. In no case should be loads posted on the structural drawings be considered allowable live loads.

The interior masonry walls are all load bearing. This means that any future use that does not retain at them will require the addition of beams and columns to support the widened spans. Removal of walls may also have seismic ramifications, see below.

The high roof appears to have been designed for just the dead load plus snow load (noted as 60 psf total capacity on the structural drawings). Subsequently, the addition of one or more additional floors above this level would require removal or building-over of the existing roof structure.

The present low roof, which appears to have been utilized as a porch, was framed like the first floor (with the same noted capacities), meaning that it could theoretically be turned into a floor without requiring reinforcement. However, the as-built condition should be checked against the as-designed condition, however.

Whether or not the perimeter foundations could support one or more additional levels above the present high roof level would need to be determined by structural analysis. Because of the consistency of the specified construction, it appears likely the walls and foundations that support the low roof portion of the structure could support one additional floor (bringing the roof to all the same level) however, again this must be verified.

If additional floor area or mass is added beyond 10% of the present, the existing structure would also need to be analyzed for seismic loading as it would not longer be "grandfathered". Unreinforced masonry wall construction is hard to make compliant with seismic loading requirements (has the lowest "R-factor"), however, the large number of masonry walls increase the chances that the existing structure will comply. The removal of masonry walls from the interior, even if the structure is not expanded, would require a seismic analysis to be done and the structure to be maintained at a level of either its original lateral strength or that is compliant with the code for new construction.

20 Harbor Street (St. Joseph's School)

General Description-

20 Harbor Street is a colonial revival-style, two-story school with a full basement and a flat roof, constructed in 1921.

The roof and floor construction is believed to be board-sheathed dimensional lumber joists supported by the perimeter walls and interior, wood and masonry bearing walls, and by steel beams over the large open-plan area at the second floor.

The exterior elevations consist of "butter-jointed" bonded brick veneer, presumably over a brick back-up with concealed headers. Window and door openings are headed with cast stone or brick soldier coursing supported on steel angle lintels. Windowsills, belt courses, cornices and other adornments are all of cast stone. There are raised pediments along each of the long sides (east and west facing) of the building and one at front entrance on Harbor Street, where the cast stone front entrance is ornamented with Doric capitals.

Noted Conditions and Recommendations

Exterior-

The following items were noted on the exterior of the structure:

- Like the rectory, the exterior brick seems well fired and the mortar appropriate for the brick.

- All five of the pediments appear to be in need of repointing, at a minimum. The south pediment on the west-facing wall is showing signs of local shifting in the masonry, and the north pediment on the east-facing wall has seen some step-cracking. Also, the north corner of the east facing wall appears to have eroded mortar joints between the top of the wall and the "cornice" / top cast stone belt course. *All of the pediments should be more closely inspected via aerial lift to determine the extent of rebuilding and re-pointing, and to pinpoint any causes of local movement and cracking such as embedded corroding metal. Repairs should be designed following the inspecting and then completed.*

- On the east and west-facing long walls, between the 1st and 2nd floors, a small patch has been consistently made along the length to infill a likely previous cast stone ornament. The brick patch has not been knit into the adjacent masonry and the patches appear unsightly. *Although not structural, consideration should be given to re-patching the masonry and knitting it into the adjacent for aesthetic reasons.*

- Damage has occurred in a few locations in the cast stone belt course between the basement and 1st floors on the west facing elevation. Specifically, the cast stone has cracked along the central segment of the wall toward the south and at the very south end of the wall. The cast stone has also spalled on the south segment. *Commonly this type of damage occurs due to embedded metal pipe in the cast stone that corrodes and causes rust jacking. The presence of embedded steel pipe should be verified, and removed if present. The belt course should be patched with similar material.*

- The cast stone modillion comprising part of the ornamental assembly over the 1st floor windows on the south projecting bay of the west facing elevation have been damaged and suffered loss. *The modillion should be cleanly cut, removed and replaced in like kind.*

- The brick over the windows is supported by embedded steel lintels, of which the bottom flanges can be seen from the exterior. Lintels on the north segment of the east facing walls appear to be deflected (sagging in the middle), and some minor movements are visible adjacent to the windows. The cause of the sagging of the lintels and adjacent movement is directly attributable to corrosion of the steel lintel and subsequent rust jacking. *The extent of damage should be determined, and the affected lintels subsequently replaced or corrosion protected depending on their condition.*

- The "cornice" or belt course below the roof has cracked at the north projecting bay on the east facing wall. *The cast stone unit should pinned following corrosion protection of any exposed steel reinforcement.*

- There are multiple miscellaneous (but not extensive) cracks along the façade. Most notably, the south facing back wall has vertical cracks above the window and at the east corner. There are also cracks scattered on the north, west and east facades. *Cracks should be further evaluated, sources of rust jacking neutralized, and cracks should be pinned or knitted back together and repointed.*

Interior -

The following items were noted within the occupied floors of the structure:

- There is a cracked concrete step tread at the bottom of the east stair's basement run *that must be repaired.*

- There is a localized depression in the east wall-to-ceiling intersection, directly in line with a perpendicular ceiling soffit over the second floor assembly hall. This may be related to crushing or movement that is occurring at the bearing end of whatever beam or girder may be within the ceiling soffit *and should be investigated.*

Structural Considerations for Re-use

Having been purpose-built as a school, 20 Harbor Street would have been constructed for a live load of 50 psf in the classrooms and 75 psf in the corridors. This compares favorably with residential at 40 psf, office at 50 psf and, of course, continued use as a school, although the current code now requires 80 psf for corridors rather than the previous 75 psf (not a significant difference).

The room layout would suggest that there are interior bearing walls running down each side of the central corridor at the basement and first floor. This means that any future use that does not retain at least these two walls will require the supplemental re-support of the floor or roof structures, most likely involving the insertion of beams and columns in place of the walls.

One or more additional floors on top of the structure would most likely require the removal or building-over of the existing roof structure, which is pitched to drain (toward the interior) and has most likely been constructed only to support snow loads, which are lighter than design floor loads. Reinforcement of the long clear roof span over the second floor assembly hall would most likely be extensive and the many windows in the exterior make it doubtful that the exterior walls would support much, if any, additional load.

Assuming the added floor area or mass would be beyond 10% of the present, the existing structure would need to be analyzed for seismic loading. The unreinforced masonry walls with the many window openings would almost certainly not qualify seismically for present or even increased seismic loads and would either require significant reinforcement or supplementation in the interior, which in this case, might be most efficiently accomplished with an entirely new lateral load resisting system (with a higher "R-factor").

Also, whether the building is added to or not, re-use as an educational facility would require seismic upgrade in addition to reinforcement of the floor construction.

We trust that the above information will help in establishing the structural maintenance and improvement needs of these existing structures. Please contact us if you have any questions or comments.

Respectfully yours,

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Elizabeth Nathan, PE

STRUCTURES NORTH CONSULTING ENGINEERS, INC.