Building Stabilization Plan Review

St. Paul's School
Garden City, NY

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Preface

This Building Stabilization Plan Review and Estimate Verification (hereafter termed “peer review”) were conducted by Lawless & Mangione, Architects and Engineers, LLP during the months of November and December 2010. The peer review has been prepared in accordance with the limited terms of the accepted proposal submitted to the Committee to Save St. Paul’s (hereafter referred to as “the Committee”) in response to a Request for Proposal (RFP) dated October 19, 2010.

Acknowledgements

Mr. Bill Sullivan of the Sullivan Builders Group provided requested background documents (reports, analyses, and drawings) related to this peer review.

Mr. Brian Ridgway, Village Clerk for Incorporated Village of Garden City, provided access to the subject property as well as a tour of the interior spaces of St. Paul’s School.

Mr. Peter Negri, of the Committee to Save St. Paul’s for insight and background information into the history of the subject structure(s).

National Parks Service (U.S. Department of the Interior) for Preservation Briefs, Technical Reports, and Standards for the Treatment of Historic Properties.

Note

This report is intended for the specific use of the Committee to Save St. Paul’s. This report is the product of a limited visual condition assessment and subsequent analysis of the proposed scope of work. This report is not intended for use as repair documentation or as construction documents.

Abstract

In 1991, St. Paul’s school closed and remained vacant for two (2) years until the Incorporated Village of Garden City (hereafter referred to as “the Village”) acquired via resolution, the approximately 48 acre site and its structures in 1993 for Village purposes. Since this acquisition, the property and some of the structures have been used by the Village for a variety purposes; field and indoor recreation, special events, and other community uses. In 2004, the Village adopted an additional resolution designating the entire campus (grounds and structures) as dedicated parkland.

Since the acquisition, the Village has investigated a number of adaptive re-use programs for the Main Building with the objective of preserving its historic and cultural fabric. To date, the Village reports that its efforts have been unsuccessful. Currently, the proposed action by the Village is the demolition of the Main Building and Ellis Hall at the St. Paul's campus to provide approximately seven (7) additional acres of open space which would be appropriately graded and landscaped by the Village.

The Committee to Save St. Paul's is opposed to this action, and in conjunction with the Sullivan Builder's Group has developed a plan for public use. The plan essentially calls for the preservation of the building envelope, provision of fire suppression and detection system throughout the structure, rehabilitation of selected areas on the first floor and the second floor Chapel (including isolation of these areas from the remaining area not being rehabilitated).

As requested by the Committee via the aforementioned RFP, Lawless and Mangione, Architects and Engineers has been tasked with this peer review to:

- Assess the public space adaptive reuse program planned for the first floor along with the Chapel restoration for scope and program.

- Assess the building integrity program planned for the building envelope for appropriateness and scope. It is understood that this program is to be the initial phase of a greater restoration program. The intent of the program, which appears to involve both preservation and "mothballing", is to abate the current water intrusion through the building envelope elements and assemblies for the specified period of time contained in the SBG narrative.

- Analyze and verify the unit costs and quantities contained in the repair estimate prepared by Sullivan Builders Group.

Keywords

Composite Repair – Application of mortar (sometimes tinted) to patch the surface of deteriorated stone or portion of a stone.

Dutchman (repair) – Squaring or otherwise shaping of an area to receive a stone plug (the dutchman) or a section of the same or similar stock. The “plug” is then set with thermo-setting resin.

Efflorescence - A white crystalline or powdery deposit on the surface of material caused by water seeping through the object. The water dissolves salts inside the object while moving through it, and then evaporates leaving the salt on the surface.

Mansard Roof – A roof with two slopes, the lower almost vertical to allow extra roof space for the attic rooms, while the upper is typically not visible from grade.

Mothballing – The temporary closing up of a building to protect it from weather and vandalism. Typically used when funds are not available to put a deteriorating structure into a useable condition.

Preservation – is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.

Rehabilitation – is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey it’s historical, cultural, or architectural values.

Restoration – is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

Spalling – Chipping, fragmentation, or flaking of a piece of stone, masonry or ore.

State and National Registers of Historic Places - the official lists of buildings, structures, districts, objects, and sites significant in the history, architecture, archeology, engineering, and culture of New York and the nation. The same

eligibility criteria are used for both the State and National Registers. The National Historic Preservation Act of 1966 and the New York State Historic Preservation Act of 1980 established the National and State Registers programs.

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1. Introduction

In November of 2010, Lawless & Mangione, LLP (LM) received an executed Proposal for Professional Services from the Committee to Save St. Paul's to provide a peer review of the St. Paul's Narrative and Budget as prepared by Sullivan Builders Group. In brief, LM has been tasked to review the proposed plan for scope, feasibility and appropriateness of repair actions.

2. Background

Mrs. Cornelia Stewart, widow of Alexander T. Stewart, the founder of the Village of Garden City, entrusted the St. Paul's site to the Cathedral of the Incarnation in 1881 for use as an educational facility. Since it's (the main building) completion in 1887, the structure operated as a school for the following one hundred (100) years. During this time, specifically in 1978, the Main Building was listed on the National Register of Historic Places.

In 1991, St. Paul's school closed and remained vacant for two (2) years until the Village acquired via resolution the site and its structures. Then in 2004, via the adoption of an additional resolution, the entire campus was dedicated as parkland. It is the understanding of this office, that because of this designation, the property and its contents cannot be converted to any other non-park use without approval by the State of New York.

It is important to note that St. Paul's is listed on the New York State and National Registers of Historic Places (NR Ref No. 91NR00239). The results of being listed on the registers are:

- Registered properties and properties determined eligible for the Registers receive a measure of protection from the effects of federal and/or state agency sponsored, licensed or assisted projects through a notice, review, and consultation process.

- Owners of depreciable, certified historic properties may take a 20 percent federal income tax credit for the costs of substantial rehabilitation as provided for under the Tax Reform Act of 1986.

- Municipal and not-for-profit owners of listed historic properties may apply for matching state historic preservation grants.

The Village has explored a number of adaptive re-use programs for the Main Building with the objective of preserving the structure; the Village reports that all efforts have been unsuccessful. Therefore, the proposed action by the Village is the demolition of the Main Building and Ellis Hall at the St. Paul's campus to provide approximately seven (7) additional acres of open space for the Village and its residents.

The proposed action by the Village is opposed by the Committee; in response, the Committee has developed a plan for public use for a portion of the main building (included in the plan is the preservation of the building envelope and its appurtenances).

3. Methods of Examination

3.1. General

The findings in this report are primarily based on visual inspection, examination of record documents, review of destructive probes performed during a prior investigation (by others), and research by the architectural and engineering staff at LM.

3.2. Areas Inspected

The interior of the main building was examined on November 19, 2010 during a walk through with the Village's Clerk, Mr. Brian Ridgway and Bill Sullivan of the Sullivan Builders Group. All floors of the main building were traversed as well as selected rooms where probes had been performed (by others). Additionally at this time, flat roof areas on the main building via existing exit stairs.

The exterior of the main building was examined via binocular and spotting scopes on November 30, 2010 and again on December 2-3, 2010. Also at this time, exterior stairs were trekked to permit close-up visual examination of the masonry and stone. In the absence of existing construction drawings, specifically elevations, this office documented any façade deficiencies on photographs taken prior. Quantities of work items were then determined utilizing known building plan dimensions, building height, and dimension of façade elements.

3.3. Evaluation Criteria

3.3.1. Basis of Assessment:

3.3.1.1. New York State Building Code
3.3.1.2. Secretary of the Interiors Standards for Treatment of Historic Places
3.3.1.3. Preservation Briefs published by the Technical Preservation Services of the National Park Service
3.3.1.4. RSMeans Building Construction Cost Data

3.3.2. Limitations

It should be noted that this report is limited to readily observable conditions as related to the due diligence required to perform the peer review. Hidden potential problems that may exist and would not be apparent without a more extensive investigation, including selective demolition, etc. are not included.

The information contained in this report shall not be interpreted as implying that the Engineer has given an opinion as to the suitability, adequacy, or compliance with building codes of the original design of the building or of any subsequent repairs performed prior to this peer review.

4. Proposed Building Stabilization Plan by Sullivan Builders Group

4.1. Summary:

The stated intent of the stabilization of the building envelope is to: curtail the yearly expenditures with respect to interior heating, cooling and power costs, establish a fire safety program (including the installation of a fire suppression system and alarm system) to comply with current code requirements, and to develop a selected areas on the first floor community/public use (including measures to isolate this area from the remaining undeveloped areas within the main building).

Review of the proposed action plan as narrated by Sullivan Builders Group (hereafter referred to as SBG) seems to be a combination of treatments available for a Historic Building. The approach(s) may be described as follows:

Item	Proposed Treatment Approach
Building Envelope (Roof, Walls, Windows)	Preservation

Undeveloped Interior Spaces (1st – 4th floors) Developed Interior (1st floor) Chapel (2nd floor)	Preservation/Mothballing Rehabilitation

4.2. Building Envelope:

In brief, the planned "stabilization" plan calls for replacement of all roof systems, repair of the existing windows, replacement of windows where necessary, repointing of mortar joints, and repair of the exterior masonry and stone.

4.3. Interior Spaces

The proposed plan calls for installation of: a fire suppression, alarm, and security system to be installed throughout the main building for compliance with NYS code requirements; a secondary means of egress for the second floor chapel; and fire separations to be provided to isolate the areas to be rehabilitated from the remaining structure.

For the rehabilitation of the interior, little information is provided as to any new finishes, and appears to call for the renewing of the exiting finishes to the extent possible. Provisions for ADA access to the first and second floors has been considered; as well as the required MEP work required for rehabilitating the limited areas on the first and second floors. The remaining interior areas are slated for "mothballing".

5. Findings of Lawless & Mangione, Architects and Engineers, LLP

5.1. General

The four story (4) structure with basement rises vertically approximately sixty-four (64) feet with the top of the tallest mansard terminating around eighty (80) feet above grade. Constructed circa 1887, the main building occupies a footprint area of approximately twenty-six thousand eight hundred (26,800) square feet with a total building area of one hundred twenty thousand eight hundred (120,800) square feet.

The main building appears to be construction type 3A, in which the exterior walls are constructed on non-combustible materials and have an approximate fire resistance rating of two (2) hours. All other structural components appear to have a one (1) hour rating. The exterior walls and interior corridor walls are load bearing multi-wythe masonry walls with plaster and terra cotta finishes. Interior non-load bearing partitions are typically clay tile with direct applied plaster on each side. The floor construction is wood joists with tongue and groove subfloors and finish floors; the underside of the floor assemblies is finished with lath and plaster.

5.1.1. Building Envelope

5.1.1.1. *Flat and Mansard Roofs*

The existing roof system on the low slope/flat roof areas are constructed of multi-ply asphalt sheet system with base flashings comprised of similar material to the roof field membrane. The roof systems appear to have been recovered (re-roofed) as evidenced by the aluminum reflective coating applied and what appears to an APP Modified Bitumen Membrane (a blend of asphalt and atactic polypropylene with polyester or glass fiber reinforcement) installed over the original roof. Given the roof construction, it is doubtful that insulation board was installed as part of the original system.

Numerous locations examined during the walk through were noted to have blistered plies and open seams (figure 1). The roof system and its components generally have exceeded their useful life.

Figure 1

The existing roof system on the mansard roof areas are constructed of asphalt shingle (figure 2) – this system is not the original system; which was most certainly slate shingle as it still remains on the clock tower (figure 3).

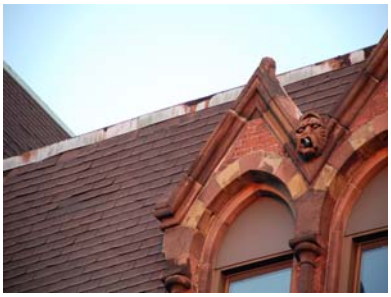

Figure 2

Figure 3

All the asphalt shingle roofs have exceeded their useful life. Most location observed have missing and worn shingles. These mansard roof areas drain to gutters located at the perimeter of the roof. The existing gutters are red copper (with patina) and generally appear to be in good working order and condition (figure 4). There are areas, however, where some replacement will be required.

Figure 4

5.1.1.2. *Exterior Masonry*

As stated prior in this report, the exterior walls are constructed primarily of solid brick masonry with sandstone adornments throughout the façade.

As is typical to most structures of similar vintage and construction, the most prominent façade deficiency noted was weathered and deteriorated mortar joints (figure 5).
Mortars (both bedding and pointing) are designed to be softer and/or more permeable than the surrounding masonry – this prevents damage to the individual units. Typical stresses within the wall

Figure 5

resulting from expansion, contraction, moisture migration or settlement must be accommodated; in a masonry wall, the stresses are relieved by the mortar – not the masonry units. Mortar repairs are far less expensive than masonry unit repairs. In some cases, mortar deterioration has progressed too far and replacement of masonry is the only option (figure 6 and 7).

Figure 6

Figure 7

In addition, localized areas of cracked and displaced masonry were also noted (figures 8 and 9). The cause of this damage is typically exposure and age. The extent of damaged brick masonry in limited and vast areas of brick replacement will not be required.

Figure 8

Figure 9

By in large the most prominent envelope feature is the stone adornments. The lintels, window arches, water tables, sills and bands are only a few of the stone elements ornamenting the facades. The stone exhibits typical signs of weathering and deterioration, exfoliation, contour scaling, and disaggregation (figures 10 and 11). Although these conditions were noted, most are repairable through composite patching with limited areas of dutchman replacements also expected. The limited visual assessment performed by this office did not indicate areas requiring full unit replacement.

Figure 10

Figure 11

5.1.1.3. *Windows* :

The windows are aluminum, double hung, insulated replacement windows. The exact age and time of installation is not known by this office, but based upon our experience, the age is estimated to be in excess of twenty-five (25) years old. A limited number of windows were operated by LM and their condition documented. Generally the integrity of most of the replacements is intact, however, difficulty of operation was noted and racked/broken sashes (figure 12 and 13).

Figure 12

Figure 13

The remaining windows, primarily located at the chapel and the fourth floor dormers and kitchen (interior courtyard) are single glazed wood windows. The condition of these windows varies with location (dry rot, broken glazing, and inoperability were a few of the conditions noted), however, most are considered to be repairable. Repairs to existing single glazed units will not address the window inefficiency.

5.1.2. Interior Areas

The interior of the main building is in a condition that would be expected given the years of deterioration that have continued unabated. The first floor generally is in the best condition. Most locations (above the first floor) have areas in each of the rooms where cracked and spalled plaster finishes and worn floor finishes are readily observable. Most areas of damage appear to be a result of water infiltration through failed roofing terminations, gutters and leader deficiencies and open or damaged windows. Although the exterior masonry is weathered and in need of repair, it does not at this juncture appear to be the major contributing factor to the documented infiltration.

In addition, the age of the building and its interior finishes indicate that a substantial amount of remediation and abatement will be required to address asbestos, lead, PCB's (sealants) and environmental hazards (pigeon waste, etc.).

6. Review of Stabilization Plan

The proposed stabilization plan prepared by SBG generally appears to be in keeping with "good practice" techniques. The measures proposed for the building envelope are consistent with accepted preservation practices. The

narrative plan provided is general in nature and therefore, specific items of work were only able to be obtained by the budget estimate.

Summarized below are the recommendations for the major items of work by SBG. Areas or items where LM disagrees with the recommendations, if any, are noted and are included in the independent cost estimate provided with this report.

6.1. Roof Replacement:

Replacement of roofs and their related accessories as recommended in the building stabilization plan is complete "rip and replace". At the low slope (or flat) roofs, a complete removal of the existing and replacement with a new SBS modified system is recommended. Typically, these roofs carry a warranty up to twenty-five (25) years and typically exceed the warranty period with regular maintenance.

At the mansard roof, a complete removal of the existing and replacement with new thirty (30) year asphalt shingles is recommended. LM was informed by the Committee that the State Historic Preservation Office (SHPO) has indicated that asphalt shingles may be entertained if an "asphalt shingle with enough texture to stand up to the rest of the building" could be found.

6.1.1. Considerations:

While not specifically noted in the narrative, the budget provided does provide for replacement of underlayment (sheathing), replacement of structural members, and the required sheet metal (copper) repairs to the gutters, leaders, and flashings. It should be noted that these repairs (to the roofs, gutters and leaders) are essential to the maintenance of the exterior walls. It is commonly accepted that the root cause of mortar joints deterioration is leaking roofs and gutters.

The recommended material by SBG to be used at the mansard roof is considered inappropriate by this office for use with preservation standards given the complete replacement and the knowledge that the original material was slate. If the work at the mansards were simply repairs and not a complete replacement, then asphalt shingle would be acceptable (currently in-place). Research indicates that faux slate (with a warranty period of 50 years) may be an acceptable and appropriate substitute material at the mansard

roofs. While only minor labor savings are realized with faux slate, the material cost and lead time are significant.

Furthermore, the program recommended appears to be missing some items such as cinder panel replacement at the roof, repairs to the clock tower, and suspected asbestos abatement at the flat roof membrane and flashing and shingle roof flashing.

6.2. Exterior Masonry:

The SBG recommended repairs to the exterior masonry are comprehensive in nature and therefore, not “throw away” repairs. It is understood that the proposed repairs are to be the first step in a greater preservation program. The recommended cleaning of the façade is considered a necessary first step to the program.

6.2.1. Considerations:

Masonry and stone, although a durable material, does require periodic maintenance. The quantity of repairs and time between maintenance projects cannot be specifically determined; however, it may be estimated that limited maintenance will be required every 5-7 years. Further, annual periodic monitoring and examination of the exterior walls should also be considered.

The detailed budget provided by SBG fails to indicate any sealant repairs to transverse, skyward facing joints or multi-wythe repairs to reconstruct severe damage to the exterior wall. Further, the utilization of man-lifts was reviewed with restoration contractors LM works with; the consensus is that while feasible, staged platform scaffolding will prove more effective.

Additional preliminary research is also recommended to ensure that the proposed preservation program will be both physically and appropriate to the structure. The following research should be performed:

- Mortar – test for strength, composition, and the color and gradation of the aggregate (sand).
- Brick – test for strength and adsorption.
- Stone – test for strength, composition, and adsorption.

6.3. Interior Work:

The interior rehabilitation of the partial first and second floors proposed by SBG addresses code concerns, accessibility issues, and greatly considers retainage of the historical fabric. Although use and occupancy of the space will change, the major spaces and their individual character will remain. It was noted that no ADA access to the first floor from grade was provided in the narrative. As there is no definitive use being defined for the rehabilitated areas, this office will not include any comment pertaining to the appropriateness of the proposed uses.

The revised SBG budget narrative dated December 15, 2010 does considered the required remediation and abatement of hazardous materials. The draft hazardous materials reports prepared by Airtek Environmental Corp. (retained by the Village) were supplied to LM to assist in review of budget provided by SBG. The material reports, while most contain quantities of materials to be removed, abated, or encapsulated, do not (for the most part) provide specific locations. SBG provides for approximately four (4) percent of the total estimate for these activities.

6.3.1. Considerations:

The remaining interior spaces not be rehabilitated are called to be “mothballed”. While this term appears to be simple, the execution of mothballing a structure is not simple. Careful planning is required to ensure that the physical repairs to the structure are made prior to de-activating the area. It is generally accepted that mothballing when properly executed can protect a building for about ten (10) years. The success of the program is dependent on continued, although very limited, monitoring and maintenance.

The preservation program proposed as mentioned earlier, addresses the major item of a mothballing program which is securing of the envelope from moisture penetration. Items not mentioned, that should be provided for in the mothballing program are: an initial housekeeping (clean-up) of all the spaces not to be rehabilitated, the installation of interior storm windows for all original windows, regular ventilation, and pest and animal control measures. At a minimum, an annual examination of these spaces should be performed.

6.4. Budget Estimate:

The budget estimate provided by SBG includes most items required by the proposed program. As would be expected in the scoping phase of a restoration project, the SBG estimate is provided in unit cost form with percentages included for items such as general conditions, contingencies and profit.

This office (LM) has provided its own estimate in similar format (see item 7 – Appendix). It should be noted that additional items have been added; as well as quantities provided in lieu of lump sums or allowances.

7. Appendix:

7.1. Budget Estimate (attached)

PROJECT: St. Pauls Academy
ADDRESS: Garden City, NY

FILE NO. 10-0189-00
DATE: 12/17/2010
REV: 0

PRELIMINARY ESTIMATE

SUMMARY

BUILDING ENVELOPE		
Roof/Repair Replacement		786,238
Roof/Repair Replacement (Mansard Roof)		1,047,500
Clock Tower		35,000
Scaffolding and Access		580,000
Exterior Masonry		559,200
Windows and Doors		244,898
SUBTOTAL BUILDING ENVELOPE		3,252,836
ADAPTIVE RE-USE AND COMPLIANCE		
Interior Construction/Repairs		1,015,280
Mechanical/Electrical/Fire Protection		1,954,800
Vertical Access		80,000
Hazardous Materials Allowances		109,250
SUBTOTAL ADAPTIVE RE-USE AND COMPLIANCE		3,159,330
SUBTOTAL		6,412,166
OVERHEAD & PROFIT -	10%	641,217
SUBTOTAL		7,053,382
ESCALATION TO CONSTRUCTION MID-POINT- (assumed project start 1st/2nd quarter of 2011)	1.5%	105,801
DESIGN CONTINGENCY	5.0%	357,959
CONSTRUCTION CONTINGENCY	10.0%	715,918
BONDING (LABOR AND PERFORMANCE)	6.0%	429,551
TOTAL CONSTRUCTION COST		**$8,662,611**

NOTE: ESTIMATE DOES NOT INCLUDE FURNITURE; EQUIPMENT, (OTHER THAN NOTED)
LAND COSTS OR FINANCING

LAWLESS &MANGIONE, ARCHITECTS AND ENGINEERS, LLP

PROJECT: St. Pauls Academy
ADDRESS: Garden City, NY

FILE NO. 10-0189-00
DATE: 12/17/2010
REV: 0

PRELIMINARY ESTIMATE

	DESCRIPTION OF WORK	UNIT QNTY	UNIT MEAS	MATERIAL UNIT COST	MATERIAL TOTAL	LABOR UNIT COST	LABOR TOTAL	TOTAL COST
Roof Repair/Replacement (Flat/Low Slope Roofs)								
1	Remove roofing materials	26500	SF	$ -	$ -	$ 4.00	$ 106,000.00	$ 106,000.00
2	Remove damaged sheathing and cinder panels (7% of total area)	1855	SF	$ -	$ -	$ 7.50	$ 13,912.50	$ 13,912.50
3	New 3 ply roofing system including related flashings	26500	LF	$ 7.00	$ 185,500.00	$ 13.00	$ 344,500.00	$ 530,000.00
4	Replace damaged sheathing and cinder panels (7% of total area)	1855	SF	$ 5.00	$ 9,275.00	$ 10.00	$ 18,550.00	$ 27,825.00
5	Skylight over center stair *	1	EA	$ -	$ -	$ -	$ -	$ -
6	Copper gutters and leaders	100	LF	$ 10.00	$ 1,000.00	$ 15.00	$ 1,500.00	$ 2,500.00
7	Asbestos Abatement	26500	SF	$ -	$ -	$ 4.00	$ 106,000.00	$ 106,000.00
							LOW SLOPE ROOF REPLACEMENT SUBTOTAL	$786,237.50
Roof Repair/Replacement (Mansard Roofs)								
8	Remove roofing materials	30000	SF	$ -	$ -	$ 4.00	$ 120,000.00	$ 120,000.00
9	Remove damaged sheathing and cinder panels (10% of total area)	3000	SF	$ -	$ -	$ 7.50	$ 22,500.00	$ 22,500.00
10	Remove damaged framing members (10% of total area)	3000	SF	$ -	$ -	$ 15.00	$ 45,000.00	$ 45,000.00
11	New faux slate roofing and flashings	300	SQ	$ 1,000.00	$ 300,000.00	$ 600.00	$ 180,000.00	$ 480,000.00
12	Replace damaged sheathing and cinder panels (10% of total area)	3000	SF	$ 5.00	$ 15,000.00	$ 10.00	$ 30,000.00	$ 45,000.00
13	Copper work at dormer roofs, gutters and flashings	5000	LF	$ 10.00	$ 50,000.00	$ 15.00	$ 75,000.00	$ 125,000.00
14	Replace damaged framing members (7% of total area)	3000	SF	$ 10.00	$ 30,000.00	$ 20.00	$ 60,000.00	$ 90,000.00
15	Asbestos Abatement	30000	LF	$ -	$ -	$ 4.00	$ 120,000.00	$ 120,000.00
							MANSARD ROOF REPLACEMENT SUBTOTAL	$1,047,500.00
Clock Tower Roof								
14	Repairs to slate and copper	500	SF	$ 10.00	$ 5,000.00	$ 30.00	$ 15,000.00	$ 20,000.00
15	Repairs to louvers, wood etc.	1	LS	$ -	$ -	$ 15,000.00	$ 15,000.00	$ 15,000.00
							CLOCK TOWER SUBTOTAL	$35,000.00
Scaffolding and Access								
16	Scaffolding and Hoists	58000	SF	$ 10.00	$ 580,000.00	$ -	$ -	$ 580,000.00
							SCAFFOLDING AND ACCESS SUBTOTAL	$580,000.00
Exterior Masonry								
17	Cleaning of façade - light duty cleaner and water blasting	68000	SF	$ 1.00	$ 68,000.00	$ 1.00	$ 68,000.00	$ 136,000.00
18	Pointing of face brick	16000	SF	$ 2.50	$ 40,000.00	$ 7.00	$ 112,000.00	$ 152,000.00
19	Replacement of face brick	2200	SF	$ 15.00	$ 33,000.00	$ 50.00	$ 110,000.00	$ 143,000.00
20	Multi-wythe replacement of face brick	50	SF	$ 60.00	$ 3,000.00	$ 100.00	$ 5,000.00	$ 8,000.00
21	Pointing of stone joints	2700	LF	$ 2.00	$ 5,400.00	$ 8.00	$ 21,600.00	$ 27,000.00
22	Stone patching	300	SF	$ 20.00	$ 6,000.00	$ 40.00	$ 12,000.00	$ 18,000.00
23	Stone Replacement (Avg. 2SF per unit)	50	EA	$ 1,200.00	$ 60,000.00	$ 150.00	$ 7,500.00	$ 67,500.00
24	Caulking of transverse skyward facing joints	1100	LF	$ 3.00	$ 3,300.00	$ 4.00	$ 4,400.00	$ 7,700.00
							EXTERIOR MASONRY SUBTOTAL	$559,200.00

Windows and Doors								
25	Replacement of windows (first floor re-use area only 28SF each)	1064	SF	$ 55.00	$ 58,520.00	$ 60.00	$ 63,840.00	$ 122,360.00
26	Repairs to existing replacement windows	1	LS	$ -	$ -	$ 25,000.00	$ 25,000.00	$ 25,000.00
27	Repairs to original windows	1	LS	$ -	$ -	$ 10,000.00	$ 10,000.00	$ 10,000.00
28	Interior storm windows (all orginal window locations)							
	Interior storm windows (avg. 12-20 SF)	6	EA	$ 138.00	$ 828.00	$ 35.00	$ 210.00	$ 1,038.00
	Interior storm windows (avg 20-28SF)	60	EA	$ 150.00	$ 9,000.00	$ 35.00	$ 2,100.00	$ 11,100.00
	Interior storm windows (avg >28SF)	12	EA	$ 165.00	$ 1,980.00	$ 35.00	$ 420.00	$ 2,400.00
	Interior storm windows (monumental)	20	EA	$ 300.00	$ 6,000.00	$ 150.00	$ 3,000.00	$ 9,000.00
29	Repairs to main entrance doors	1	LS	$ -	$ -	$ 15,000.00	$ 15,000.00	$ 15,000.00
30	Replacement of entrance door (double leaf)	2	EA	$ 9,000.00	$ 18,000.00	$ 3,000.00	$ 6,000.00	$ 24,000.00
31	Exterior Sealants	1	LS	$ -	$ -	$ 15,000.00	$ 15,000.00	$ 15,000.00
32	Window Ventilaton (fans)	1	LS	$ -	$ -	$ 10,000.00	$ 10,000.00	$ 10,000.00
33	Asbestos Abatement at original windows	90	EA	$ -	$ -	$ 500.00	$ 45,000.00	$ 45,000.00
							WINDOWS AND DOORS SUBTOTAL	$289,898.00

LAWLESS &MANGIONE, ARCHITECTS AND ENGINEERS, LLP

PROJECT: St. Pauls Academy
ADDRESS: Garden City, NY

FILE NO. 10-0189-00
DATE: 12/17/2010
REV: 0

PRELIMINARY ESTIMATE

	DESCRIPTION OF WORK	UNIT QNTY	UNIT MEAS	MATERIAL UNIT COST	MATERIAL TOTAL	LABOR UNIT COST	LABOR TOTAL	TOTAL COST
Interior Construction/Repairs								
1	Create new bathrooms	350	SF	$ 75.00	$ 26,250.00	$ 150.00	$ 52,500.00	$ 78,750.00
2	Cleaning and spot repairs at corridor				$ -		$ -	$ -
	Cleaning of floors and walls	4500	SF	$ 1.00	$ 4,500.00	$ 6.00	$ 27,000.00	$ 31,500.00
	Floor tile salvaging (10% of total area)	165	SF	$ 2.50	$ 412.50	$ 20.00	$ 3,300.00	$ 3,712.50
	Repairs to wainscot (5% of total area)	225	LF	$ 2.50	$ 562.50	$ 22.00	$ 4,950.00	$ 5,512.50
3	Walls Ceiling repair and painting	1600	SF	$ 5.00	$ 8,000.00	$ 15.00	$ 24,000.00	$ 32,000.00
4	Grand Stair Work (Repair and Refinish)	1	LS	$ -	$ -	$ 50,000.00	$ 50,000.00	$ 50,000.00
5	Public Space Work (Repair and Refinish)	7800	SF	$ 15.00	$ 117,000.00	$ 40.00	$ 312,000.00	$ 429,000.00
6	2 hr Partition/Separation	500	SF	$ 55.00	$ 27,500.00	$ 88.00	$ 44,000.00	$ 71,500.00
7	Rated Doors and Hardware	2	EA	$ 1,900.00	$ 3,800.00	$ 1,000.00	$ 2,000.00	$ 5,800.00
8	Masonry Opening for Chapel Egress	1	EA	$ -	$ -	$ 1,000.00	$ 1,000.00	$ 1,000.00
9	Exterior Fire Stair at Chapel	15	EA	$ 800.00	$ 12,000.00	$ 400.00	$ 6,000.00	$ 18,000.00
	Fabricate and install new stair risers	30	Riser	$ 813.00	$ 24,390.00	$ 90.00	$ 2,700.00	$ 27,090.00
	Fabricate and install new landing	65	SF	$ 96.00	$ 6,240.00	$ 15.00	$ 975.00	$ 7,215.00
10	Footings and Piers	4	EA	$ 2,000.00	$ 8,000.00	$ 1,000.00	$ 4,000.00	$ 12,000.00
11	Slab on Grade	120	SF	$ 15.00	$ 1,800.00	$ 20.00	$ 2,400.00	$ 4,200.00
12	Chapel Interior (Repair and Refinish)	2200	SF	$ 15.00	$ 33,000.00	$ 75.00	$ 165,000.00	$ 198,000.00
13	Chapel Lighting (Allowance)	1	LS	$ -	$ -	$ 15,000.00	$ 15,000.00	$ 15,000.00
14	Interior Clean-up and Pest Control	1	LS	$ -	$ -	$ 25,000.00	$ 25,000.00	$ 25,000.00
							INTERIOR CONSTRUCTION SUBTOTAL	$1,015,280.00
Mechanical/Electrical/Fire Protection								
14	HVAC (Heat and Cooling) with distribution	30	TON	$ 4,000.00	$ 120,000.00	$ 1,000.00	$ 30,000.00	$ 150,000.00
15	New gas service for HVAC	1	EA	$ 20,000.00	$ 20,000.00	$ -	$ -	$ 20,000.00
16	New electrical service (600 amp)	1	LS	$ -	$ -	$ 40,000.00	$ 40,000.00	$ 40,000.00
17	Electrical Distribution	10200	SF	$ 5.00	$ 51,000.00	$ 10.00	$ 102,000.00	$ 153,000.00
21	Lighting	10200	SF	$ 3.00	$ 30,600.00	$ 6.00	$ 61,200.00	$ 91,800.00
22	Fire Supression System (Dry pipe)	125000	SF	$ 3.00	$ 375,000.00	$ 3.00	$ 375,000.00	$ 750,000.00
23	Fire Alarm/Security System	125000	SF	$ 3.00	$ 375,000.00	$ 3.00	$ 375,000.00	$ 750,000.00
							EXTERIOR MASONRY SUBTOTAL	$1,954,800.00
Vertical Access								
23	LU/LA elevator (ADA compliant)	1	EA	$ -	$ -	$ 55,000.00	$ 55,000.00	$ 55,000.00
24	Vertical Wheel Chair Lift	1	EA	$ -	$ -	$ 25,000.00	$ 25,000.00	$ 25,000.00
							VERTICAL ACCESS SUBTOTAL	$80,000.00
Hazardous Materials Allowance								
35	Asbestos Abatement floor tile (50% of total 5900 SF)	2500	SF	$ -	$ -	$ 4.00	$ 10,000.00	$ 10,000.00
36	Ceiling tiles	315	SF	$ -	$ -	$ 10.00	$ 3,150.00	$ 3,150.00
37	Lead Abatement	1	LS	$ -	$ -	$ 25,000.00	$ 25,000.00	$ 25,000.00
38	Flourescent lights and ballasts	20	EA	$ -	$ -	$ 55.00	$ 1,100.00	$ 1,100.00
39	Pigeon waste removal	1	LS	$ -	$ -	$ 10,000.00	$ 10,000.00	$ 10,000.00
40	Abatement for required plumbing work	1	LS	$ -	$ -	$ 25,000.00	$ 25,000.00	$ 25,000.00
41	Montioring and Sampling (10% of sum of all materials - 350K)	1	LS	$ -	$ -	$ 35,000.00	$ 35,000.00	$ 35,000.00
							HAZARDOUS MATERIALS ALLOWANCE SUBTOTAL	$109,250.00