

# **Architectural and Curation-Needs Assessment for GSA Collections and Proposed Curation Facility, Foley Square Project**

**Architectural-Archaeological Report Series No. 5**

**Prepared for**



**General Services Administration  
Northeast and Caribbean Region**



**US Army Corps  
of Engineers.**  
St. Louis District

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# **Architectural and Curation-Needs Assessment for GSA Collections and Proposed Curation Facility, Foley Square Project**

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Prepared for:



**General Services Administration  
Northeast & Caribbean Region**

Prepared by:



**US Army Corps  
of Engineers**

**Engineering Division  
St. Louis District**

## Executive Summary

In May 2000, the General Services Administration, Region 2 (Northeast and Caribbean Region) executed a Memorandum of Agreement (MOA) with the Department of the Army (DA), represented by the U.S. Army Corps of Engineers, St. Louis District. The agreement stipulated that the DA would conduct a museum architectural assessment of the South Street Seaport Museum (SSSM) building located at 213 Water Street, New York, NY for establishment of a potential archaeological curation facility. Specific topics for assessment include the condition of the physical facilities in terms of structure, site, code requirements, Americans with Disabilities Act (ADA), function, layout, equipment, fire, security, environmental control systems and compliance with 36 CFR Part 79.

The MOA also stipulated that a curation-needs assessment would be conducted to determine the nature, extent, condition, and curatorial needs of the archaeological materials from the Five Points Project. Specifically, the Mandatory Center of Expertise for the Curation and Management of Archaeological Collections (MCX-CMAC) within the St. Louis District (SLD), agreed to quantify the collection, characterize the nature of the objects in the collection, assess the condition of the collection in terms of current curation methods and general condition of the artifacts, and to identify specific needs for the long-term curation of the collections. In addition, MCX-CMAC was to provide GSA with a preliminary estimate of long-term maintenance costs for the collection.

Upon receipt of funding, DA personnel traveled to New York, NY, 21-22 August 2000, for the purposes of coordination and to assess the proposed facility. During the on-site inspection, SLD architectural staff made building measurements, developed photographic documentation and conducted discussions with SSSM personnel regarding existing building conditions and potential future use for the facility. Subsequent to the inspection and discussions, schematic building renovation plans were developed in compliance with regulatory requirements, repository needs for the collection, and professional curation practices. In addition, a building renovation cost estimate was developed and then compared to the estimate developed by a local construction company (Sciame), at the request of the GSA.

The SSSM estimated the cost to rehabilitate the building at \$1,962,771 and the Government estimated building rehabilitation cost to be \$1,900,350. A comparison of individual cost items appears on page 25 of this report.

A second trip was made on 17-20 October 2000, to assess the Five Points Collection currently stored in the basement and on the second floor of the Customs House at the World Trade Center (WTC). Two MCX-CMAC personnel evaluated the archaeological collections while a third reviewed the associated documents. In addition, samples of wood and ink from the original floor of the building at 213 Water St. were collected at the proposed curation facility for chemical analysis.

An assessment of the collections determined that the objects will require new primary (outer) containers, and many will require secondary (inner) containers. In addition, the collection is inadequately labeled and will require recataloging and labeling. The associated documents will require complete reorganization including the preparation of finding aids. Some of the objects will require conservation treatments.

The proposal submitted by SSSM for the rehabilitation and curation of the collection lacked sufficient detail for a meaningful evaluation. MCX-CMAC recommends that GSA negotiate with SSSM to obtain a more detailed workplan for the rehabilitation, rehousing, conservation, and curation of the Five Points collection. Additionally, it is recommended that an "Archives First" procedure be adopted for the rehabilitation of the collection. The primary consideration would be to complete archival rehabilitation prior to the commencement of object rehousing. This procedure would also include establishing priorities and laboratory procedures for systematic processing of the collection and identification of those items that require conservation treatments. This approach would provide a phased, systematic treatment of the collection's needs.

Part I:

**Assessment of Potential  
Archaeological Collections Facility  
located at the South Street Seaport Museum  
213 Water Street New York, N.Y.**

Prepared by: Richard L. Siemons, NCARB

U. S. Army Corps of Engineers  
Engineering Division  
St. Louis District



# Index

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Introduction.....	1
On-site Building Inspection.....	2
Existing Building Condition.....	3
Development of a Renovation Plans.....	5
Input from the SSSM Staff.....	5
Code of Federal Regulations.....	6
Building Code of New York.....	7
Building Renovation Costs.....	10
SSSM.....	11
Floor Plans	
First Floor.....	14
Second Floor.....	15
Third Floor.....	16
Fourth Floor.....	17
Fifth Floor.....	18
Section.....	19
Government Cost Estimate.....	20
Comparison of Estimated Costs.....	24
Appendix    Ink sample laboratory test results	

# Introduction

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On May 26, 2000 a Memorandum of Agreement (MOA) between the General Services administration, Northeast and Caribbean Region and the Department of the Army (DA) represented by the St. Louis District, U.S. Army Corps of Engineers was executed. The agreement stipulates that the DA will conduct a museum architectural assessment of the South Street Seaport Museum building located at 213 Water Street, New York, NY for establishment of a potential archaeological curation facility. Specific topics for assessment include the condition of the physical facilities in terms of structure, site, code requirements, Americans with Disabilities Act (ADA), function, layout, equipment, and fire, security, and environmental control systems. The DA staff was also tasked with objectively evaluating the SSSM's long-term storage capability measured against standards in 36 CFR Part 79. In addition, paragraph 5 of the MOA stipulates that the DA staff will assist with negotiations of an agreement with the SSSM. Furthermore, at the request of GSA, the DA staff will negotiate curation costs with SSSM staff to include, initial, one-time curation costs (e.g. equipment, supplies, rehabilitation, improvements), and annual long-term maintenance costs on a per-box basis.

By letter dated October 4, 1999 the SSSM proposed to accommodate the GSA's need to curate archaeological materials from the Five Points collection. Their written plan includes a proposed cost (but no plans) to renovate the 3rd, 4th, and 5th floors of its premises at 213 Water Street, consistent with standards set forth in 36 CFR Part 79, as the permanent repository for the GSA collection.

This report responds to the MOA, the proposal by the SSSM, includes an analysis of the existing building conditions, a reasonable plan to renovate the third, fourth, and fifth floors, and a cost estimate applicable to renovation. It is believed that the information presented in this report will be effective in establishing a negotiation position and pre-negotiation objectives for GSA pertaining to renovation costs for the building located at 213 Water Street.

Information presented in this report was developed through the following steps:

- On-site building inspection

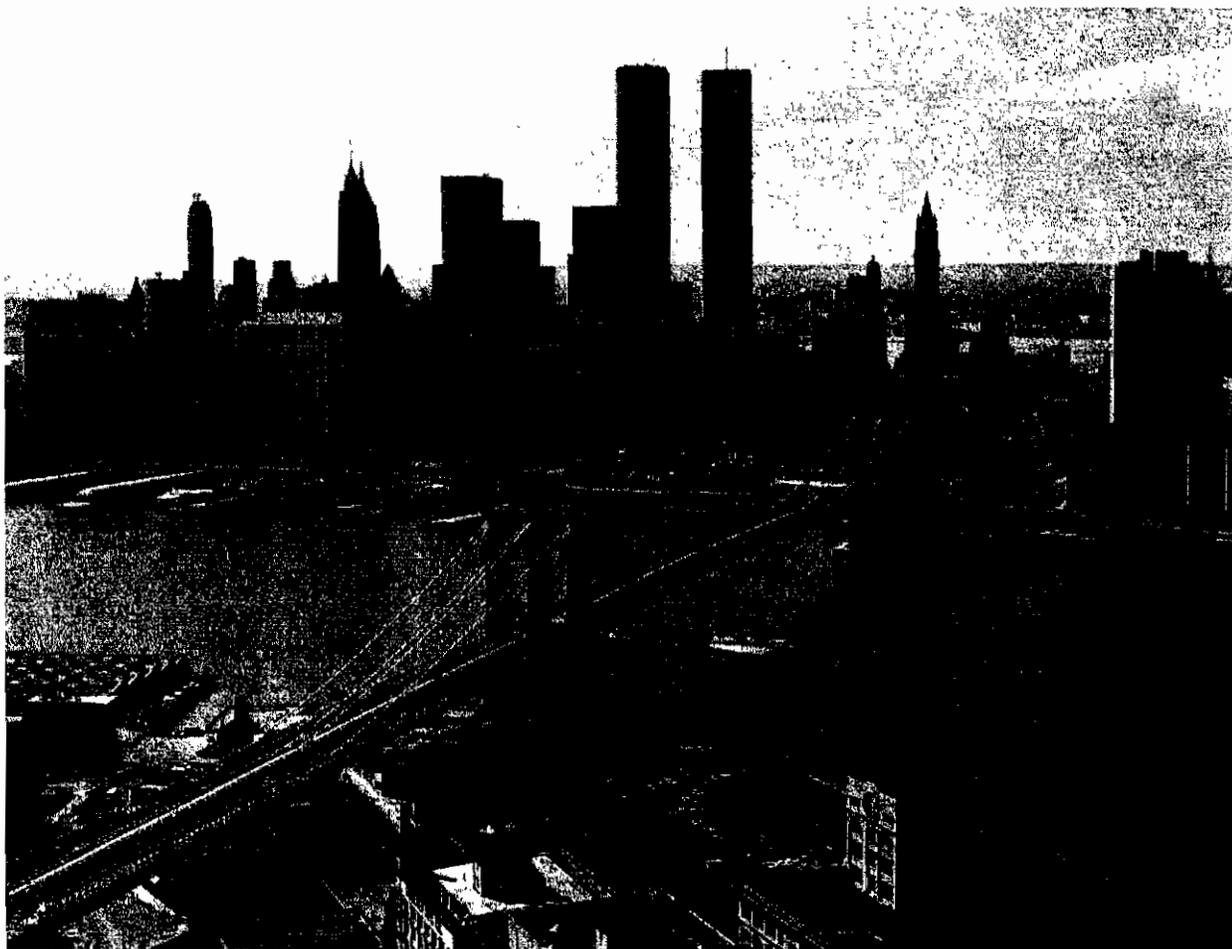
- Analysis of Existing building condition, CFR Part 79, Building code, ADA

- Development of a reasonable plan for renovation consistent with 36 CFR Part 79

- Cost Estimate

## On-Site Building Inspection

On August 21 and August 22, 2000 SLD personnel inspected the building located at 213 Water and made the following observations. The building is part of the South Street Seaport Museum District in lower Manhattan, NY, and within walking distance of the Brooklyn Bridge, the riverfront and a proposed site for a second Guggenheim Museum facility. The entire historic district is closely monitored (and protected) by the New York City Landmarks Preservation Commission. On site parking facilities do not exist and 90% of all visitors arrive after riding the subway and walking to the building.



**The SSSM is within walking distance of the Brooklyn Bridge and Riverfront**

The building was constructed in 1868 in the Italianate style with solid brick and stone masonry exterior walls for use as a warehouse for a tin and metal company. Each floor measures 38' - 9" x 65'-9" for a gross size per floor of 2,547 square feet. The floors and roof are of wood frame, heavy-timber type construction, consistent with 19th century warehouse construction methods. At the time of the inspection, the building was being used as museum/exhibit space on the first floor level, a small museum library (Herman Melville Library) on the second floor, storage,

office/maintenance shop on the fourth, and storage on floors three and five. Prior to becoming a part of the SSSM district, it is believed that the building was used as a printing plant.

The first and second floors have undergone prior renovation and are serving the SSSM consistent with their purpose. Improvements to these two floors include a moderate upgrading of finishes, the electrical distribution system, installation of motion detectors, an automatic fire suppression system, and a forced air heating and cooling system (HVAC).

The three upper floors have had some electrical upgrades, although have no heating, ventilating, and air conditioning system. Although changes have been made to the top three floors, renovation has not been to professional architectural standards. Many wood and metal stud partitions have been installed, some with a gypsum wall board/plaster finish; some wrapped with clear polyethylene. All three upper floors contain heavy ink stains and the scent from a previous use as a printing plant. Laboratory tests of ink samples indicated high concentrations of lead and zinc. Motion detectors have been installed at each floor and personnel access is controlled with door locks. Exterior masonry walls are exposed on the interior, are extremely dirty, and have undergone extensive structural renovation. The rear brick wall was reported to have been rebuilt from the third to the fifth floors. Some limestone windowsills on the front façade have been replaced and, along with limestone head trim, have been structurally secured to the building frame. The upper walls on the fifth level have been reinforced with steel brackets bolted to intersecting perpendicular masonry walls. In addition, threaded rods and turnbuckles span the entire width of the fifth floor, are anchored in side walls for additional laterally support. The upper three floors are without a working heating, ventilating and air conditioning system. The air quality is poor.

A solid brick elevator shaft (and penthouse) for moving freight was constructed in the Southeast corner of the building. The elevator is not in service and (when inspected) the metal platform was resting in the elevator pit. Belt driven elevator pulleys and machinery are still in place on the fourth floor and at the rooftop penthouse levels. Personnel access to all floors in the building is achieved by traversing one wood frame stair located adjacent to the Water Street side entrance.

### **Existing Building Condition**

Floors three, four, and five at the 213 Water Street building are in poor condition and do not meet requirements for an archaeological curation facility according to 36 CFR Part 79. In addition, these three floors do not comply with local building codes or the ADA. The presence of a high amount of lead renders the building unsafe to people until such time as remedial action is complete.

Requirements contained in 36 CFR Part 79 include the provision to comply with local electrical, fire, building, health and safety codes. An analysis of the building in comparison with the Building Code New York City (BCNY) revealed the following:

The building, as originally constructed, is of solid exterior masonry bearing walls and heavy timber type floor and roof framing. The floor and roof frames generally consist of solid wood

beams spanning between solid wood columns (eight inches in diameter) spaced at 9'-4" on center. Wood joists connect to beams and are generally spaced at 16 inches on center. Exceptions to the framing include the addition of two metal columns on the third level, the absence of two columns and beam at the second and fourth levels and a (seemingly random) spacing of joists at a distance of less than 16 on-inches in other areas. Initially, the structure was thought to be of Type II-A (or heavy timber) Construction as defined by the BCNY. However, after code review it was found that minimum dimensions for this classification require beams and girders to be at least six inches wide and ten inches deep (6 x 10) (p.128). The existing floor joists are 4 x 14 and do not meet these minimum dimensions. Type II-A construction is also required to have floor planks of tongue and groove material not less than 3-inches thick, covered with one inch thick T&G flooring, laid crosswise or diagonally to the planks. The existing floor is composed of 1 x 5 T&G material perpendicular to the joists. Although the existing 10 x 14 wood beams and 8 inch diameter wood columns are within the size definition for Heavy Timber Type II-A Construction, the joists and floor are not and as a result, the construction classification cannot be considered II-A, (p.57 of the BCNY). In some areas of the floor, cracks between the 1 x 5 members are wide enough to allow vision to the space below.

Floors three, four and five are currently without an HVAC system or an automatic fire suppression system. As a result, environmental comfort and safety for both people and archaeological materials is severely lacking at the upper three floors.

Access and circulation into and through the building is not in compliance with the ADA or the BCNY. The first floor of the building is approximately two feet above the adjacent sidewalk and access requires using exterior steps. Once inside and on the first floor level, user access to the upper floors is achieved by climbing wood frame stairs located adjacent to the Water Street entrance. This sole stair is inadequate because of its susceptibility to failure during a fire. An existing freight elevator with belt driven machinery and brick shaft, located in the rear of the building, is not in service and given it's antiquated condition, will never again operate. As a result, it is physically impossible for disabled users to gain unassisted access to the upper floors. Unisex restrooms on the first floor level are too small to allow a wheel chair user to enter or negotiate movement to the extent necessary to use the lavatory and water closets. Door hardware does not comply to current standards nor does the direction for door swings. (Exterior doors swing inward). The historic nature of the building, and a desire to preserve the visual character combined with the need to provide safe egress for occupants, presents design challenges for pedestrian circulation in and through the building.

There is presently no means to monitor access to the upper floors and no means of providing secure storage for fragile, small, or valuable items in a collection. Large single pane wood frame windows at the front of the building and smaller window units at the rear façade, are without an intrusion system or glass breakage monitoring devices.

## Development of Renovation Plans

Schematic renovation plans for the facility at 213 Water Street were developed after receiving input from the SSSM staff, reviewing requirements of 36 CFR Part 79, the BCNY and the ADA. Subsequent to receiving information from the SSSM and reviewing regulatory requirements, renovation plans were developed.

### Input from the SSSM

On September 26, 2000, Diane Dallal, archaeologist at the SSSM, suggested the following goal for the building.

1st Floor: Remain as gallery/exhibition or convert to a Children's Space. If converted to children's space, use for non-archaeological related activities.

2nd Floor: Retain as a library.

3rd Floor: Children's archaeological programs such as lectures pertaining to the Five Points area in which the GSA collection came from. Potential for 75+ kids at a time. Ideal to have capability for two spaces with a folding (insulated) partition separating the two with the capability to open a dividing partition and use the entire space as one large room.

A/V capability with a viewing screen. Projector capability for use from a rolling cart or a separate projection room.

Worktables for children's activities with space for chairs around tables.

Toilet Rooms: Boys and girls separate with two stalls per room.

Drinking Fountain: Two, one must be handicap accessible.

Secondary means of egress.

Closets for storage of rolling racks of chairs.

Supply closet for storage of art supplies.

Sink large enough for 3 or 4 people to wash their hands at one time. Handless faucet operation.

Secure Room: For storage of old maps and plans.

4th Floor: Rack Storage for artifacts.

Records storage.

Artifact Processing with work tables. Labels, bagging, and layout of artifacts.  
Minor work on artifacts but no conservation.

Research tables for scholars.

Office w/ door for archaeologist. Hookups for telephone and computer. The user of this office will monitor research scholars.

Bookcases for staff archaeological books, files, and record storage (separate from collection records).

Clean room. For use of microscope and photography but not for developing film.  
X-ray machine.

One sink for minor small scale cleaning with artifact drying racks. This could also be located in the artifact processing room.

Toilet rooms. One each for men and women.

Total occupants this floor is estimated at 3-people.

5th Floor: Storage Racks.

Space for tables, for sorting boxed collections and for use when retrieving an artifact for exhibit or lecture.

Work table with chairs (limited).

Estimate of total occupants this floor is 3-people.

**Code of Federal Regulations.** CFR Part 79 describes standards to determine when a repository possesses the capability to provide adequate long-term curatorial services. In addition to covering curatorial management practices, the CFR lists physical requirements applicable to the repository itself including the following that apply to the building located at 213 Water Street. Stipulations in the CFR apply to both the archaeological collection and the repository, or building that will house the collection. These requirements were followed during the development of the renovation plans.

- Meet local electrical, fire, building, health and safety codes;
- Appropriate and operational fire detection and suppression system;
- Appropriate and operational intrusion detection system;
- Provide fragile or valuable item with additional security such as a safe or vault;
- Limiting and controlling access to the collection.

**The Building Code of the City of New York.** Generally, federally owned properties are exempt from the requirements imposed by local building codes and indeed most federal are located on Federal lands where local building codes do not exist and, as a result, only federal requirements apply. However, the facility at 213 Water Street is located on city owned property while the collection is owned by the Federal Government. As a result, both Federal (CFR), and local codes (BCNY) requirements apply.

The local building code classifies structures by their use, occupancy and materials and methods of construction. Based on these classifications, judgements can then be made regarding the ability of the building to safely accommodate potential uses and occupants. These important requirements imposed by the BCNY are presented below:

**Occupancy**

	<u>Class</u>	<u>Load*</u>
Floor 1 - Exhibit/Museum	F-3	75
Floor 2 - Library/Education	G	25
Floor 3 - Educational	G	75**
Floor 4 - Storage	B-2	3
Floor 5 - Storage	B-2	3

\* Loading refers to the number of people that could occupy the space.

\*\*Includes teachers accompanying students and SSSM educational staff. Could be as high as 80.

The assumption was made that the existing uses for the first and second floor will not change and that repository needs for a federal owned collection can be accommodated on the upper three floors. Notwithstanding, building improvements to the third, fourth, and fifth floors of the building cannot be completed in isolation of the lower floors and some changes to the upper floors necessitate a corresponding change to the first and second floors. For example, an upgrade to the wood stairs from combustible to noncombustible for the upper three floors, is reasonable, only if the stairs at the lower levels are also upgraded. Likewise, the addition of an elevator to improve circulation for disabled users on the upper three floors is reasonable only if use of the elevator is available on the lower floors.

Student Workrooms are proposed as the primary use of space on the third floor. Hundreds of boxes of artifacts and records will be stored on the fourth floor and numerous trips between the third and fourth floors in support of student workshops and lectures are anticipated.

**Construction Classification:** The exterior walls of the building are solid masonry bearing. Floor and roof frames are of solid wood beams and joist and the construction classification can be made to be II-B. The front wall (facing Water Street), and the rear wall (facing the courtyard), underwent extensive masonry renovation and the entire masonry envelope was strengthened with the addition of various types of steel connections. At the Water Street side, some limestone façade units and sills have been replaced and structurally tied to the interior frame with steel pins welded to interior steel angles installed over window openings. The building structure, in terms of sustaining structural loads, is now in reasonably good condition.

The floor joists and stair framing are supported by solid wood beams and columns. Wood beams rest mostly on solid wood columns. (Exceptions exist at the third floor where two metal columns were installed). The existing 1 x 5 wood plank floor spans between floor joists.

**Load Carrying Capacity.** The structural load carrying capacity of the building was analyzed and compared to the proposed use, occupancy, and BCNY. Due to the existing heavy timber type of construction in the building, the dead load for each floor is assumed to be 20 p/SF. The live load distribution shown below is based on the proposed use and the BCNY, Reference Standard 9-2 (p.308, 309), and are as follows:

	<u>Live Load (psf)</u>
Floor 1 - Exhibit/Museum	100
Floor 2 - Library - Stack areas	100
Library - Reading room	60
Floor 3 - Classrooms	40
Floor 4 - Storage - Light	100
Floor 5 - Storage	100

Maximum floor loads were posted on the 2nd floor at 115 p/SF and the 4th floor at 85 p/SF. Columns at the first floor (that directly support floor 2) are spaced at 9'-4" on center throughout and provide maximum support for the floor above. On the second floor the column spacing and one wood beam were altered at the Northeast corner where two columns and portion of a beam were either not installed (with the original construction), or later removed. At the 3rd level the 9'-4" spacing is maintained throughout plus, two additional metal columns were added at the front/center of the floor. Fourth floor column spacing and wood beam location is identical to that on the second and two columns and one wood beam at the NE corner have been removed. Columns at the 5th floor level consist of one center row only, for roof support.

Based on the column spacing and floor framing, rough structural calculations were made to check the accuracy of the load postings and to ascertain the maximum load carrying capacity on floors where columns had been removed below. The results reveal that where the 9'-4" column spacing is maintained the posted loads are fairly accurate. In situations where columns have been removed, the load carrying capacity (for the floor above) drops to 32 p/sf. Therefore at the 3rd floor, load carrying capacity is 115 p/sf, except over bays where columns have been removed at the second level. Column spacing at the fourth floor is identical to the second so the 5th floor load carrying capacity is the same as the 3rd. As a result, the concept plans and cost estimate include provisions for adding two new columns and wood beams at the second and fourth floor levels.

Total floor loading capacity is based on the dead load (weight of the structure) and the loading imposed by the proposed use (live loads) as prescribed in the BCNY. The load carrying capacity appears below:

<u>Floor</u>	<u>Occupancy</u>	<u>Dead Load</u> p/sf	<u>Live Load</u> p/sf	<u>Total Loads</u> p/sf	<u>Capacity</u> p/sf
1	Exhibit	20	100	120	115
2	Library (Read) Stacks	20 20	60 100	80 120	115 115
3	Educational	20	40	60	32-115
4	Storage	20	100	120	115
5	Storage	20	100	120	115

The load carrying capacity for floors are based on postings in the building, measurements taken of existing structural members, assumptions regarding the existing timber type, and analysis by a SLD structural engineer, and design assumptions. The analysis indicates that the building can be renovated to a reasonably structural sound condition, adequate for the proposed use.

**Fire Resistance Qualities.** The abundance of exposed wood and the size of structural members and gaps in the finish floor, render the building inadequate in terms of resisting fire and the spread of fire and smoke from one floor to another. The floor should have a 1-hour fire resistance rating. In addition, fire walls, exitways, and shaft enclosures should be constructed of noncombustible material. The elevator shaft and stair enclosure require a 2-hour fire resistant rating (p. 59). A 1-hr. fire resistant rating is required for interior bearing walls, columns, girders, trusses, and floor construction including beams. The roof should have a 3/4 hr. fire-resistant rating. The existing wood frame stair should be replaced with one of noncombustible construction (p.87).

Plans and cost estimate that follow include provisions for removing the existing wood floor and replacing it with a 3/4 inch thick plywood substrate, 3/4 inch thick lightweight concrete fill and a resilient floor covering. Plans also include the addition of gypsum wall board to all columns and to the underside of all floor and roof joists and beams.

**Egress:** Exiting the building is addressed in the BCNY in terms of the number, width, and location of exits (based on occupancy group classification), number of occupants, floor area, travel distance, and capacity of the exits. Insofar as this building may be used for different activities at different times, the occupancy involving the greatest number of occupants was used in determining exit requirements; in this situation, the third floor, where eighty occupants are likely. A second means of egress from this level is needed. Although a fire escape is permitted as a second means of egress (p.82) none exist and none are proposed. The minimum width for exit stairs from the third floor to the first is 44 inches and 36 inches wide for floors four and five. The minimum corridor width outside a classroom is 66 inches (p. 79).

**Accessibility and Americans with Disabilities Act (ADA).** The existing building does not meet current accessibility requirements. To remedy this, minimal accessibility improvements should consist of the installation of a new handrail with chair lift at the Water Street main

entrance, a hydraulic elevator serving all floors, the addition of larger restrooms at the third level, and upgrades to door hardware.

**Security:** Operating motion detectors exist on all five floors in the building. These systems be removed, stored during building renovation and reinstalled. The existing windows are without an intrusion detection system and glass breakage detectors should be installed. In addition, access monitoring for the main storage room on the fourth floor is recommended. Card readers with provisions for computer monitoring of access/entry to the fourth floor storage room, linked to the curator's office should be installed.

**Fire Suppression System.** The first and second floors of the building are equipped with an automatic fire suppression system and the third, fourth, and fifth floors are not. Smoke detectors and automatic fire suppression systems should be installed on the upper three floors.

**Heating, Ventilating and Air Conditioning System.** The first and second floors of the building are equipped with separate HVAC units and the third, fourth, and fifth floors and not. The upper three floors should be equipped with separately zoned HVAC systems.

**Building Renovation Costs.** The SSSM estimated the cost to renovate the building but without the benefit of conceptual plans. Nor was the SSSM likely to have been aware of the lead abatement issue discovered on the third, fourth and fifth floors. The SSSM cost estimate was completed by the Sciame Construction Company which has extensive experience in renovating historic buildings. The estimate appears on the following page and is followed by conceptual plans developed by the USACE, a Government Cost Estimate and a comparison of costs. Individual estimated line items do not agree although the final cost figures are reasonably close and differ by only \$62,421.00.

During work on this project, it was determined that archaeological conservation, cleaning, and processing of materials/records will be completed off-site and thus a need for a laboratory and fume hood to curate the GSA collection was not identified. This item appears on the Sciame estimate only.

The Government Estimate is based on a carefully developed plan that included input from the SSSM staff archaeologist, and the collective experiences of the USACE/MCX architectural staff. The cost estimate includes the addition of two stair shafts, and a hydraulic elevator. These improvements will benefit users of all floors, not just the third, fourth, and fifth. In contrast, some partition upgrade, door changes and finish upgrades to the first and second floors do not have recognizable benefit to user of the upper three floors or the curatorial needs of the collection. Nevertheless, these costs were identified and were included in the Government Estimate.

Educational needs can be accommodated on the third floor and collection storage needs can be accommodated on the fourth floor. A clear need for use of the fifth floor could not be identified. Any use of the top floor will necessitate planning spaces under the steel rods and turnbuckles that span the width of each floor at the front and rear ends.

**F. J. SCIAME CONSTRUCTION CO., INC.**  
**BUDGET ESTIMATE**

**PROJECT: 213 WATER STREET / SOUTH STREET SEAPORT**

Description	Total
Demolition and Removals	33,280
Concrete	19,175
Masonry	60,158
Structural Framing	30,000
Steel Stair	100,000
Straight Run Stairs	22,750
Rough Carpentry	15,724
Drywall	136,000
Architectural Woodwork	40,000
Roofing	25,000
Doors and Frames	3,933
Windows	5,142
Finish Hardware	4,615
Flooring	48,000
Cutting & Patching	26,000
Specialties	2,600
Painting	20,000
Elevator	106,600
HVAC	320,000
Sprinkler	40,000
Plumbing	21,450
Electrical	200,000
ADA Handicap Access	50,000
Bathroom / Slop Sink	15,000
Fume Hood (incl. ventilation)	20,000
SUB-TOTAL	1,365,425
General Conditions @ 10%	136,543
Fees @ 8%	120,157
Contingency @ 10%	162,212
SUB-TOTAL	1,784,337
Arch. & Engin @ 10% (incl. permits and insp.)	178,434
TOTAL	1,962,771

Mr. John Evans of Sciame Construction Company provided the following explanation pertaining to the SSSM building renovation estimate.

Demolition and Removals: Gutting of the interiors on the 3rd, 4th, and 5th floors. \$33,280

Concrete: Footings for a new stair and a new elevator shaft. \$19,175

Masonry: New CMU stair enclosure, cleaning and resealing the existing interior brick walls. Mr. Evans suggested that it might be easier to abandon the existing elevator shaft and build a new one, demolish the existing elevator shaft and replace with a structural floor at each level. He did not indicate if the masonry additions included construction for a new elevator shaft. \$60,158

Structural Framing: Framing for a new stair. Modifications to existing framing. \$30,000

Steel Stair: Demolition of the existing wood stair from the first to the fifth floors and installation of a new scissors stair from the first to fifth floors. \$100,000

Straight Run Stair: New straight-run stair from the 3rd to the 4th floor and from the 4th to the 5th floor. Mr. Evans pointed out that this stair was intended as convenience only and not as a code-approved means of egress. \$22,750

Rough carpentry: Walls, partitions. \$15,724

Drywall: To cover new walls, partitions and some of the existing brick wall. The existing brick walls will be expected to emit dust even though sealed. GWB on the existing ceiling joists. \$136,000

Architectural Woodwork: As needed for interior. \$40,000

Roofing: Assumes replacing the existing roof with a new BUR. Mr. Evans did not look at the roof and assumed it needs replacing. \$25,000

Doors and Frames: Includes new wood doors and frames and may be low. Note the proposal did not include an allowance for new steel doors and frames. New steel doors and frames will be needed for the fire rated doors leading to the stair exits. Mr. Evans estimates steel doors and frames to cost another \$10K. \$3,933

Windows: Plexiglas on the interior as an energy conservation measure and to reduce drafts. The existing windows will not be replaced. \$5,142

Finish Hardware: Door hardware. \$4,615

Flooring: Vinyl tile or, carpet in some area. Mr. Evans thinks a one-hour rated floor can be achieved with a one-inch thick layer of PW over the existing floor. (The existing floor consists of 1x5 T&G wood members. \$48,000

Cutting and patching: As needed. \$26,000

Specialties: Not defined. \$2,600

Painting: All new walls and partitions. \$20,000

Elevator: New hydraulic elevator. The existing building is constructed on fill and rock is not expected to interfere with excavation for the elevator shaft. \$106,000

HVAC: Museum quality, package HVAC units for the 3rd, 4th, and 5th floors. One window on each floor will be used as a fresh air intake. Mr. Evans thinks the estimate of \$320K is high and that new HVAC units can be installed for a total of \$240K. Estimate is based on the assumption that the city steam system will not be used. \$320,000

Sprinkler System: For floors 3, 4 and 5. Mr. Evans estimates the cost at \$7.50 p/sf. \$40,000

Plumbing: New men's and women's toilet rooms on the 3rd floor. Does not include an electric water cooler (EWC) or lavatories elsewhere, for work rooms or labs. Mr. Evans did not consider the possibility of having 75 to 80 people on the third floor and indicated his cost for this item may be low. \$21,450

Electrical: New service to the 3rd, 4th, and 5th floors. Does not include changes or upgrade to the existing security system. \$200,000

ADA Handicap Access: A mechanical chair lift attached to a handrail on the Water Street side entrance. \$50,000

Bathroom/Slop sink. Fixtures only. \$15,000

Fume Hood (including ventilation). Assumes a fume hood will be installed. \$20,000

#### Summary of Costs by the SSSM

Subtotal of costs	1,365,425
General Conditions @ 10%	136,543
Fees @ 8%	120,157
Contingency @ 10%	162,212
Subtotal	1,784,337
Professional Fees (A-E)	<u>178,434</u>
<b>TOTAL</b>	<b>\$1,962,771</b>

**Plan Development.** The Government developed renovation plan concepts for the building that reflect balance between the goals of the SSSM, local and federal building codes and MCX experience. In most instances, the design plans do not take exception to the ideas proposed by the SSSM staff. However, extensive development of the fifth floor does not appear justified.

**WATER STREET**

**NEW ELEVATOR**

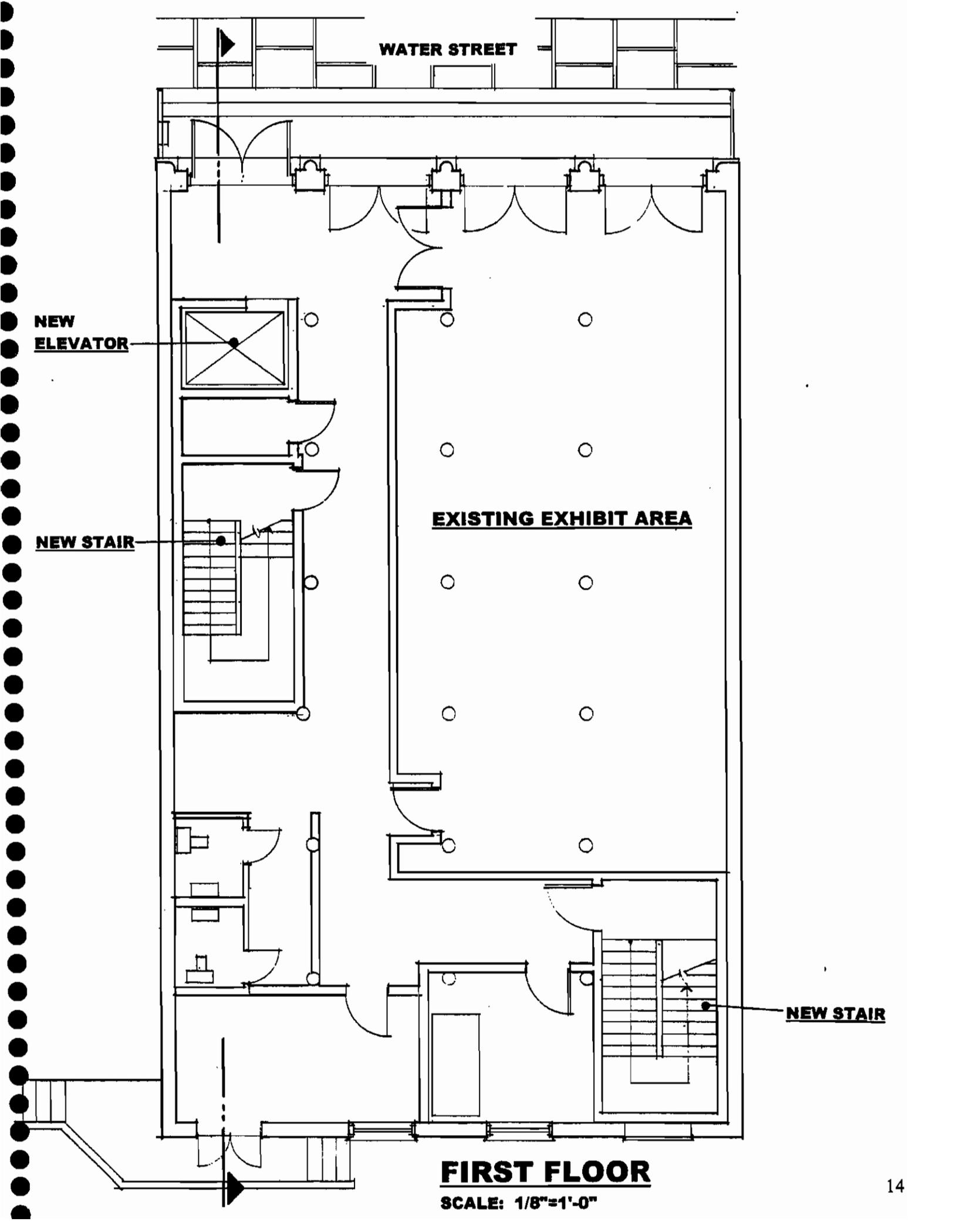
**NEW STAIR**

**EXISTING EXHIBIT AREA**

**NEW STAIR**

**FIRST FLOOR**

**SCALE: 1/8"=1'-0"**

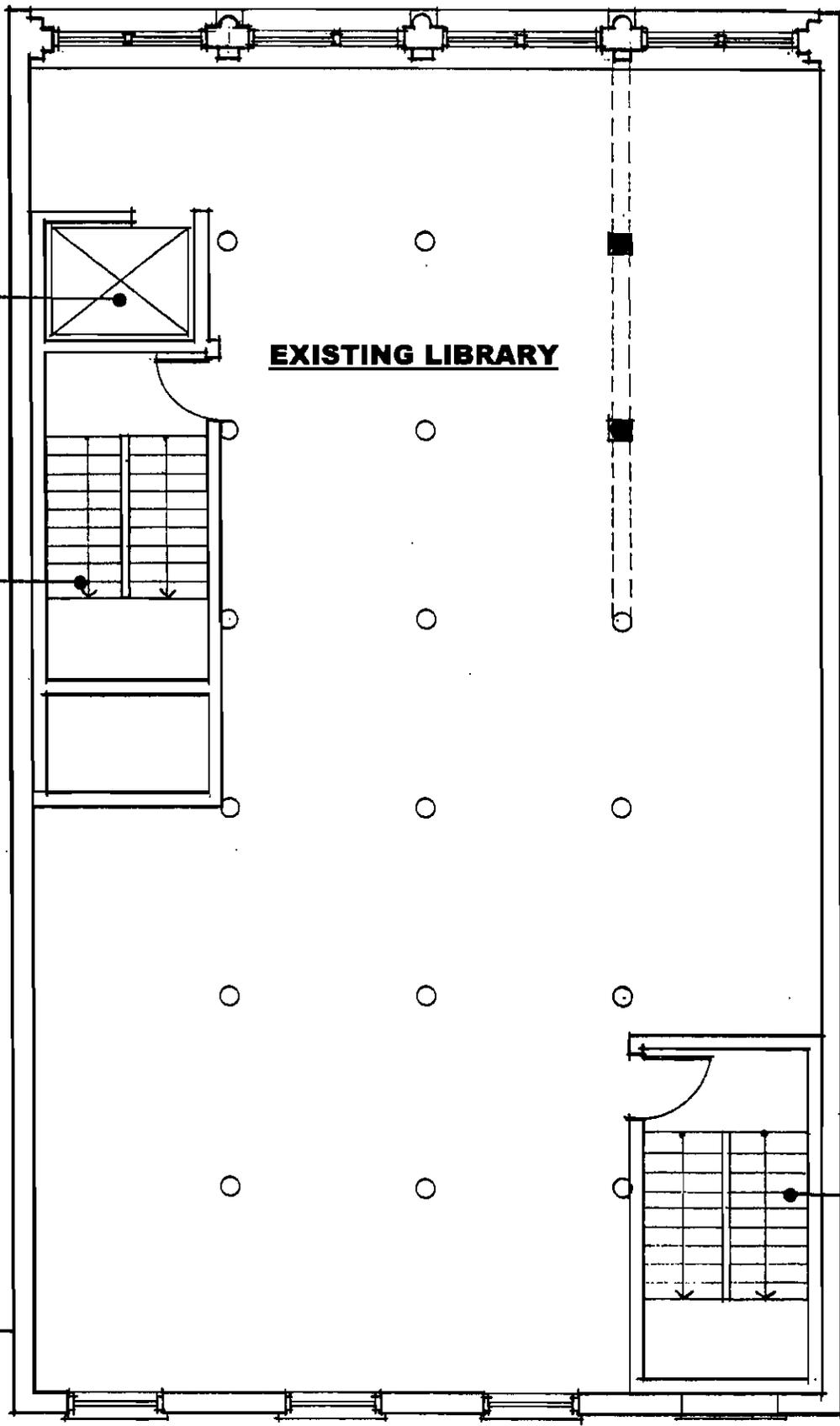


**NEW  
ELEVATOR**

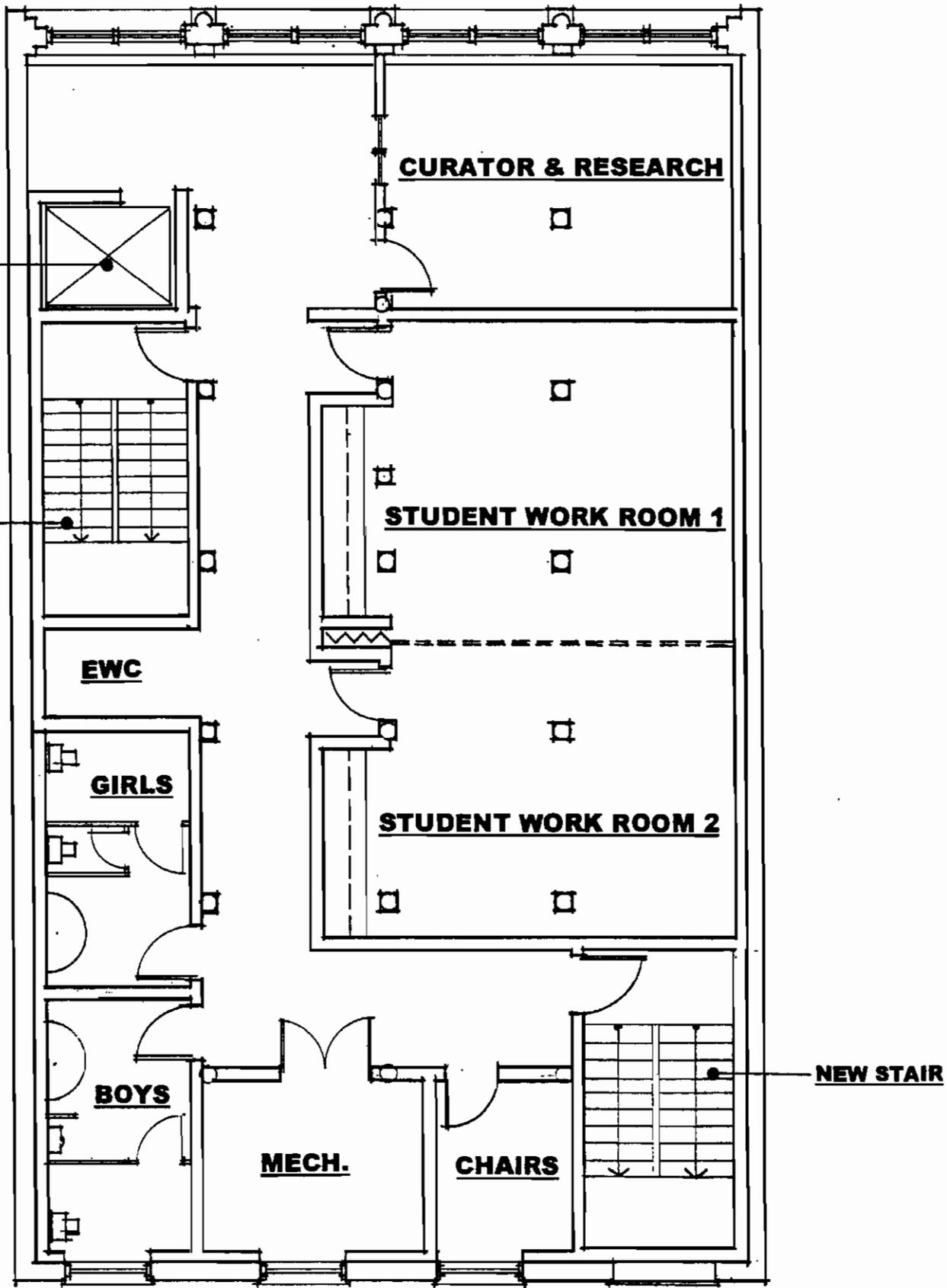
**NEW STAIR**

**EXISTING LIBRARY**

**NEW STAIR**

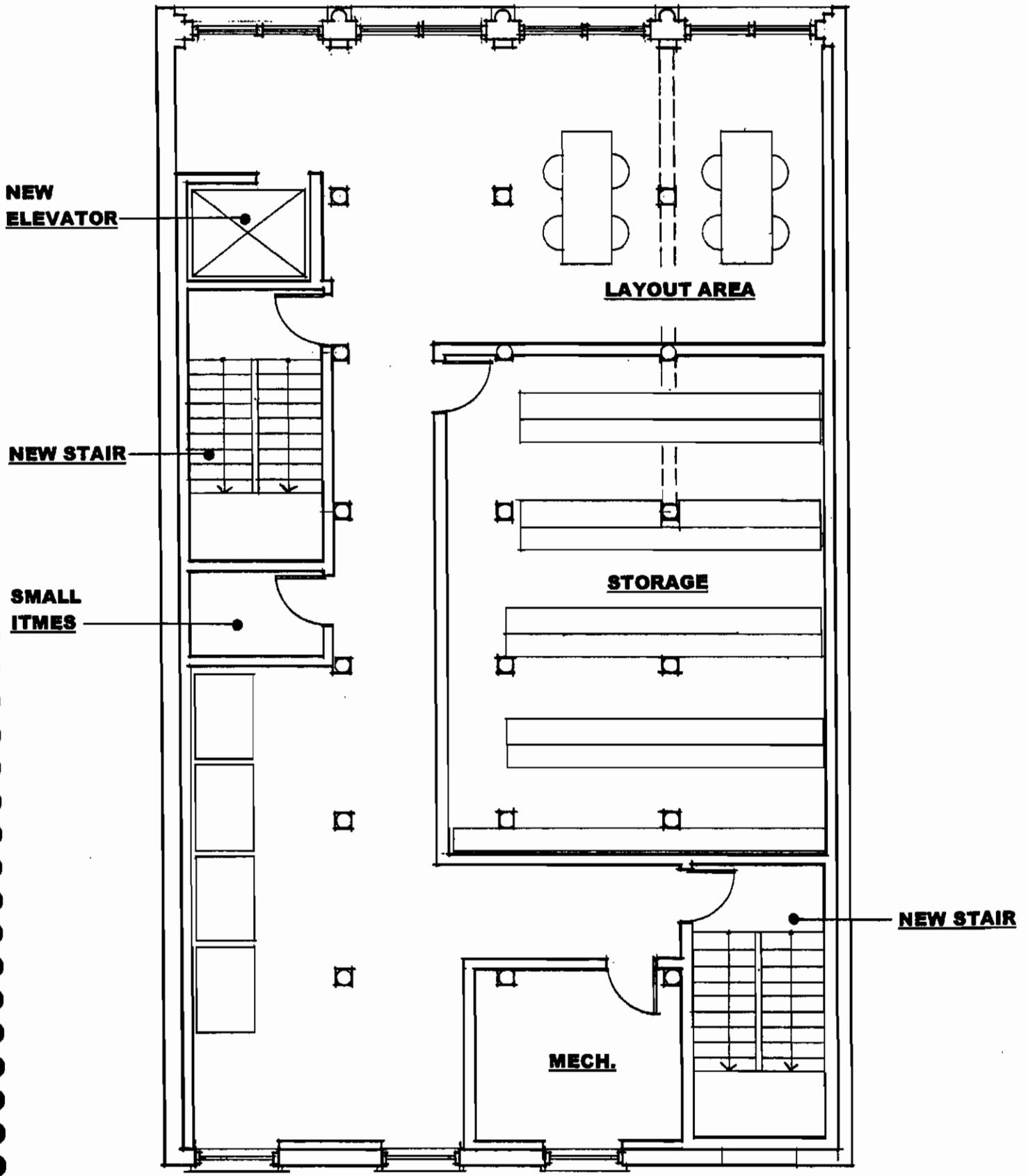


**SECOND FLOOR**  
**SCALE: 1/8"=1'-0"**



**THIRD FLOOR**

**SCALE: 1/8"=1'-0"**

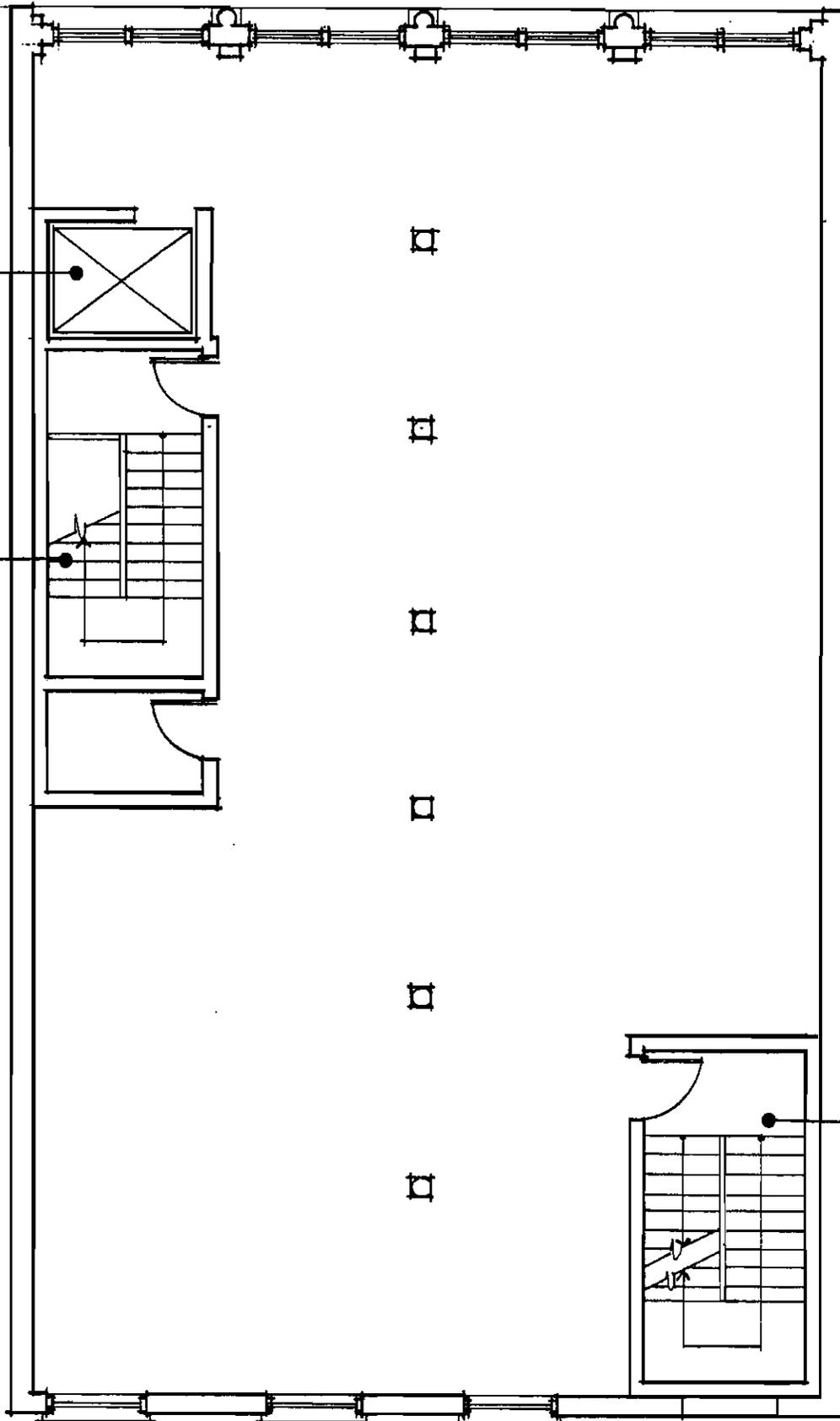


**FOURTH FLOOR**  
 SCALE: 1/8"=1'-0"

**NEW  
ELEVATOR**

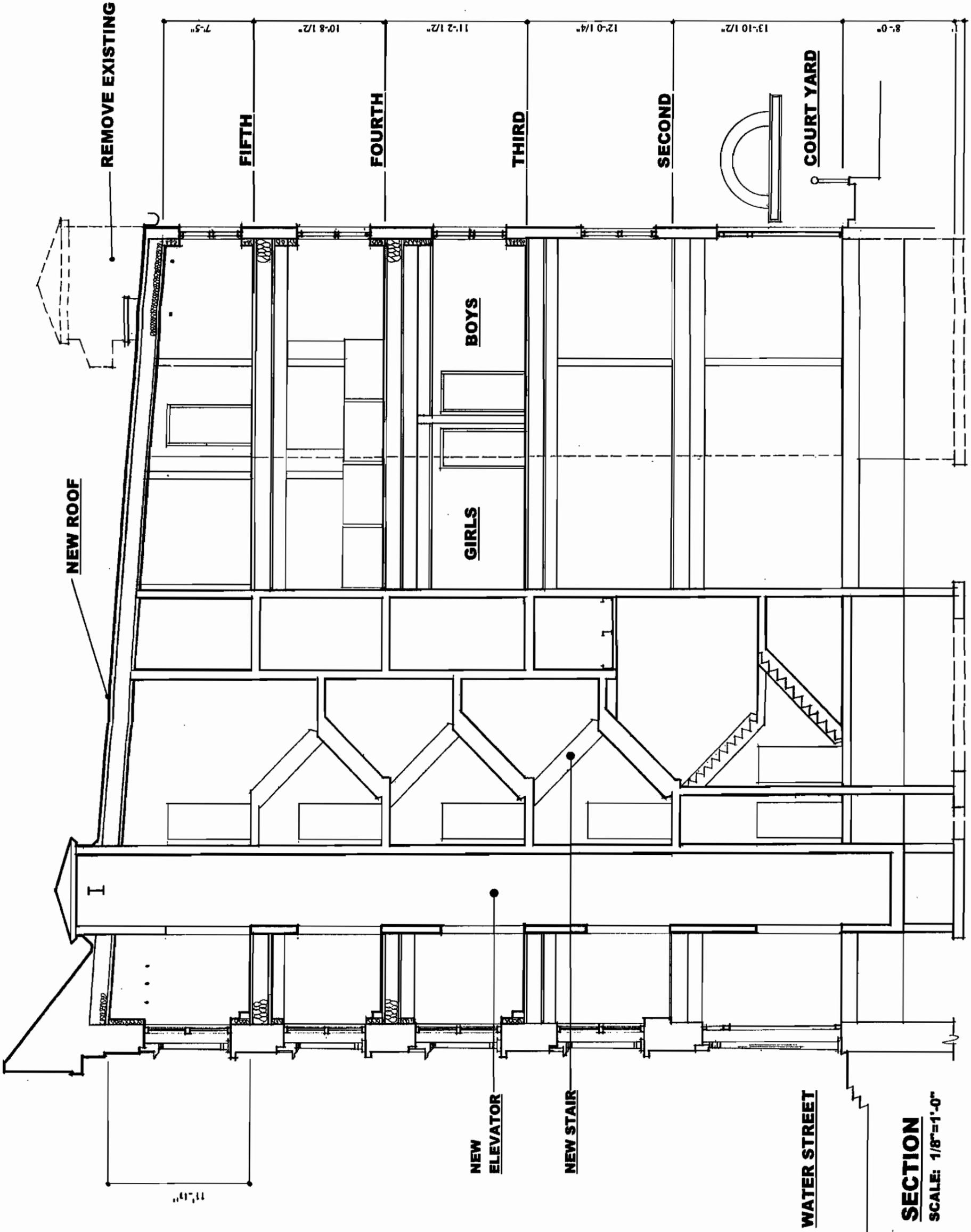
**NEW STAIR**

**NEW STAIR**



**FIFTH FLOOR**

**SCALE: 1/8"=1'-0"**



**SECTION**  
SCALE: 1/8"=1'-0"



GOVERNMENT ESTIMATE WORKSHEET

Sheet 2 of 4

Project: **SOUTH STREET SEAPORT MUSEUM  
CURATION PROJECT - NEW YORK**

DATE: 09 JANUARY 2001

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED AMOUNT
<b>4</b>	<b>DEMOLITION - 4 TH FLOOR</b>				
	Remove Wood Stair	SUM	JOB		\$500.00
	Remove 2"x4" Wood & Metal Stud Partitions	161	LIN FT	\$16.00	2,576.00
	Remove 1"x5" Wood Floor	2,275	SQ FT	1.60	3,640.00
	Remove Solid Wood Platform, 4' x 15'	60	SQ FT	6.00	360.00
	Remove Steel Plate Elevator Door	1	EACH	250.00	250.00
	Remove water closet & plumbing, drain lines	1	EACH	300.00	300.00
	Mop Sink & plumbing lines	1	EACH	300.00	300.00
	Remove raised Floor under water closet & sink	42	SQ FT	6.00	252.00
	Remove Metal Doors & Frames	2	EACH	120.00	240.00
	Remove Wood Doors & Frames	4	EACH	80.00	320.00
	Remove Light Fixtures, wiring & switches-Dispose	SUM	JOB		800.00
	Remove IDS-Intrusion Detection System,Re-use	1	EACH	80.00	80.00
	Temporary Bracing/Centering of existing Floor	SUM	JOB		5,000.00
	Clean Ceiling Joist-Lead Abatement required	2,547	SQ FT	7.00	17,829.00
	Subtotal: Demolition 4 th Floor				\$32,447.00
<b>5</b>	<b>DEMOLITION -5TH FLOOR</b>				
	Remove Wood Stair	SUM	JOB		500.00
	Remove 2"x6" Wood Stud Partitions,w/plaster	169	LIN FT	17.00	2,873.00
	Remove Polyethylene VB F/Ceiling,dispose	774	SQ FT	1.50	1,161.00
	Remove Steel Door & Frame	1	EACH	120.00	120.00
	Remove Wood Door & Frame	3	EACH	80.00	240.00
	Remove Steel Plate Elevator Door	1	EACH	250.00	250.00
	Remove Wood Floor & Joists/Beams	189	SQ FT	6.00	1,134.00
	Remove 1"x5" Wood Floor Decking	2,275	SQ FT	1.60	3,640.00
	Remove plaster ceiling at Stair Well	209	SQ FT	1.20	250.80
	Remove Light Fixtures, wiring & switches-Dispose	SUM	JOB		800.00
	Remove Intrusion Detection System,Re-use	1	EACH	80.00	80.00
	Temporary Bracing of Floors	SUM	JOB		5,000.00
	Clean Ceiling Joist-Lead Abatement required	2,547	SQ FT	7.00	17,829.00
	Subtotal: Demolition 5 th Floor				\$33,877.80
<b>6</b>	<b>DEMOLITION -ROOF</b>				
	Remove Penthouse Roof Framing	SUM	JOB		2,000.00
	Remove Steel Plate Door, 5' x 4'	1	EACH	250.00	250.00
	Remove Mechanism	1	EACH	400.00	400.00
	Remove Roof Hatch	1	EACH	300.00	300.00
	Remove Roof Framing	72	SQ FT	6.00	432.00
	Remove BUR & Sprayed on Rubber finish	2,564	SQ FT	0.75	1,923.00
	Remove BUR & Sprayed on Rubber finish-pediment	150	SQ FT	1.00	150.00
	Subtotal: Demolition Roof				\$5,455.00
	<b>PAGE TOTAL:</b>				\$71,779.80

GOVERNMENT ESTIMATE WORKSHEET

Sheet 3 of 4

Project: **SOUTH STREET SEAPORT MUSEUM  
CURATION PROJECT - NEW YORK**

DATE: 09 JANUARY 2001

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED AMOUNT
<b>7</b>	<b>CONCRETE FOUNDATIONS</b>				
	Elevator Shaft @ Water Street & Stair Well	26	CU YD	\$400.00	\$10,400.00
	Footing @ Elevator Shaft @ Water Street/Stair Well	9	CU YD	400.00	3,600.00
	Foundation @ Rear Stairwell	15	CU YD	400.00	6,000.00
	Footing @ Rear Stairwell	5.4	CU YD	400.00	2,160.00
	Concrete Floor @ Elevator Pit	0.8	CU YD	400.00	320.00
	Steel Reinforcing for Footings & Foundations	4,500	LB	1.00	4,500.00
	Concrete Landings in Stairwell-Water Street Side	7.6	CU YD	400.00	3,040.00
	Concrete Landings in Stairwell-Rear Stairwell	7.2	CU YD	400.00	2,880.00
	Steel Reinforcing for Stair Landings	900	LB	1.00	900.00
	Lightweight Gypsum Concrete 3/4" Thick PW	6,420	SQ FT	2.50	16,050.00
	Subtotal: Concrete Foundations				\$49,850.00
<b>8</b>	<b>CONCRETE MASONRY UNIT WALLS (CMU), 8"</b>				
	Elevator Shaft & Stair Well @ Water Street Ent.	5,102	SQ FT	\$7.00	35,714.00
	Rear Stairwell	2,706	SQ FT	7.00	18,942.00
	Subtotal: Concrete Masonry Unit Wall				\$54,656.00
<b>9</b>	<b>METALS:</b>				
	3 1/2" Wide Metal Stud Partitions (16" OC)	5989	SQ FT	\$3.50	20,961.50
	Steel Stringers "C" Channels	296	LIN FT	2.00	592.00
	Steel Treads & Risers, Stair Width 3'-8"	5	FLIGHT	3,000.00	15,000.00
	Steel Pipe Handrail (1 1/2" Dia.)	296	LIN FT	30.00	8,880.00
	Subtotal: Metals				\$45,433.50
<b>10</b>	<b>WOOD AND PLASTICS:</b>				
	Install 3/4" T&G Plywood over Joists, Floors 3,4,5	6,420	SQ FT	4.00	25,680.00
	Install 9" Dia Solid Wood on Floors 2,4	4	EACH	6.00	24.00
	Install 10"x14" Laminated Wood Girders, Floors 2,4	2	EACH	1,500.00	3,000.00
	Reffit Front & Rear Exterior Wood Doors	2	EACH	1,000.00	2,000.00
	Plastic Laminate Counters, 3 rd floor	21	LIN FT	40.00	840.00
	Miscellaneous Cutting & Patching	SUM	JOB		\$20,000.00
	Subtotal: Wood and Plastics				\$51,544.00
<b>11</b>	<b>THERMAL &amp; MOISTURE PROTECTION:</b>				
	6 Mil Poly. Vapor Barrier under conc. Slabs, 1st Fl.	290	SQ FT	0.50	145.00
	Batt Insulation @ Walls, Floors 3,4,5.	1,049	SQ FT	1.10	1,153.90
	6" Batt Insulation, under floor @ Perimeter Ext walls	420	SQ FT	1.25	525.00
	Roof Hatch (Blcco)with Ladder	1	EACH	2,000.00	2,000.00
	Roof Insulation, 1 1/2" Rigid Insulation	2,550	SQ FT	1.50	3,825.00
	Roof Insulation 1/2" Thick Walking Surface	2,550	SQ FT	0.70	1,785.00
	EPDM Roof (Mechanically Attached)	2,550	SQ FT	2.20	5,610.00
	Flashing & Sealants, Pressure bars	SUM	JOB		\$1,000.00
	Subtotal: Thermal & Moisture Protection				\$16,043.90
<b>12</b>	<b>DOORS AND WINDOWS</b>				
	HM Doors and Frames, Single Doors	14	EACH	350.00	4,900.00
	HM Doors and Frames, Pair Doors	2	EACH	600.00	1,200.00
	Wood Doors and Metal Frames	5	EACH	250.00	1,250.00
	Door Hardware	23	EACH	100.00	2,300.00
	Panic Hardware for Stair well doors	10	EACH	100.00	1,000.00
	Subtotal: Doors and Windows				\$10,650.00
	<b>PAGE TOTAL:</b>				\$228,177.40

GOVERNMENT ESTIMATE WORKSHEET

Sheet 4 of 4

Project: **SOUTH STREET SEAPORT MUSEUM  
CURATION PROJECT - NEW YORK**

DATE: 09 JANUARY 2001

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED AMOUNT
13	<b>FINISHES:</b>				
	Gypsum Wall Board, 5/8" thick	17,929	SQ FT	\$3.00	\$53,787.00
	Metals Channels	6,420	SQ FT	2.00	12,840.00
	Paint Interior, Latex - 2 coats	33,369	SQ FT	0.50	16,684.50
	Resilient Floor, Sheet Vinyl	6,420	SQ FT	3.00	19,260.00
	Vinyl Base - 4" high	782	LIN FT	1.60	1,251.20
	Ceramic Tile Floor	224	SQ FT	9.00	2,016.00
	Ceramic Tile Walls	608	SQ FT	6.00	3,648.00
	Suspended Ceiling Act w/hold down clips	224	SQ FT	2.50	560.00
	Subtotal: Finishes				\$110,046.70
14	Folding Acoustical Partition, (10'high x 1'=1 LinFt)	22	LIN FT	500.00	\$11,000.00
15	Hydraulic Elevator, 5-Floors, 7'-4" x 5'-9"	1	EACH	80,000.00	\$80,000.00
16	<b>MECHANICAL HVAC</b>				
	HVAC, packaged unit @ Floor 3,4,5	3	EACH	100,000.00	300,000.00
	Ductwork	520	LIN FT	6.00	3,120.00
	Exhaust Fans	2	EACH	300.00	600.00
	<b>PLUMBING:</b>				
	Water Supply Lines & Drain Piping	SUM	JOB		10,000.00
	Hotwater Heater, 40 Gal @ 3rd floor	1	EACH	500.00	500.00
	Floors Drains	6	EACH	200.00	1,200.00
	Water Closet	3	EACH	600.00	1,800.00
	Urinal	1	EACH	600.00	600.00
	Lavatory, Industrial w/remote operator	2	EACH	2,500.00	5,000.00
	Drinking Fountain	2	EACH	1,000.00	2,000.00
	Toilet Partitions, Metal-Painted w/doors	8	EACH	500.00	4,000.00
	Toilet Accessories, Mirrors, paper holder, dryer	SUM	JOB		2,000.00
	Automatic Sprinkler System, Floor 3,4,5(3x2,550sf)	7,650	SQ FT	3.00	22,950.00
	Chair Lift & Handrail @ front stair entrance	1	EACH	25,000.00	25,000.00
	Subtotal: Mechanical HVAC				\$378,770.00
17	<b>ELECTRICAL</b>				
	Electrical Service, Floors 3,4,5,w/Box, 2550sf/floor	7,650	SQ FT	5.00	38,250.00
	Electrical Distribution System, Floors 3,4,5, outlets	7,650	SQ FT	7.00	53,550.00
	Fluorescent Light Fixtures, Floors 3,4,5, UV Filters	8	EACH	150.00	1,200.00
	Reinstall IDS - Motion Sensors @ Floors 3,4,5	3	EACH	120.00	360.00
	Install new IDS system on windows, Floors 3,4,5	3	EACH	400.00	1,200.00
	Electric Baseboard Heaters, Floors 3,4,5(208 x3fl.)	624	LIN FT	40.00	24,960.00
	Smoke Detectors, Floors 3,4,5	15	EACH	150.00	2,250.00
	Card Reader on doors to artifact storage	2	EACH	1,200.00	2,400.00
	Computer Reader @ Curation Office, record entry	2	EACH	9,000.00	18,000.00
	Exit Signs	5	EACH	40.00	200.00
	Emergency Lighting in Stairwells	8	EACH	250.00	2,000.00
	Subtotal: Electrical				\$144,370.00
	<b>PAGE TOTAL:</b>				\$724,186.70
	<b>SUBTOTAL: Construction Costs, St. Louis Area</b>				\$1,092,129.70
	Area Adjustment Factor = 23 %				\$251,189.83
	<b>SUBTOTAL: Construction Costs, New York Area</b>				\$1,343,319.53
	Contingency - 15%				201,497.93
	<b>SUBTOTAL:</b>				\$1,545,000.00
	Planning, Engineering & Design - 15%				231,750.00
	Construction Management - 8%				123,600.00
	<b>TOTAL PROJECT COST: NEW YORK AREA</b>				\$1,900,350.00

**Comparison of estimated costs. Government Estimate costs include 23% adjustment.**

<u>Item</u>	<u>Government Estimate</u>		<u>SSSM Proposal</u>
Demolition	106,123		33,280
Lead Abatement (Floors 3, 4, 5)	65,789		-0-
Concrete	61,315		19,175
Concrete Masonry	67,227		60,158
Steel Stair/Handrails	30,002		122,750
Metal Framing	25,782		30,000
Carpentry/Wood & Plastics	63,399		15,724
Thermal Moisture Prot./Roofing	19,734		25,000
Doors/Frames/Hardware	13,100		8,548
Windows	-0-		5,142
Flooring & Base	27,708		48,000
Gypsum Wall Board	81,951		136,000
Architectural Woodwork	-0-		40,000
Painting	20,522		20,000
Other finishes	5,176		26,000
Specialties	-0-		2,600
Folding Acoustical Partition	13,530		-0-
Hydraulic Elevator	98,400		106,600
HVAC	373,576		320,000
Plumbing	25,953		36,450
Sprinkler System	28,228		40,000
Toilet Partitions/Accessories	7,380		-0-
Electrical	177,575		200,000
ADA Hdc. Access	30,750		50,000
Fume Hood	-0-		<u>20,000</u>
<b>Subtotal</b>	<b>1,343,220</b>		<b>1,365,425</b>
General Conditions	-0-	(10%)	136,543
Fees	-0-	(8%)	120,157
Contingencies	(15%) 201,497	(10%)	162,212
Arch/Eng.Fees	(15%) 231,750	(10%)	178,434
Construction Management	(8%) <u>123,600</u>		<u>-0-</u>
<b>TOTAL</b>	<b>1,900,350</b>		<b>1,962,771</b>

# **Appendix**

## **Ink Sample Laboratory Test Results**

INORGANIC ANALYSIS DATA PACKAGE

Corps of Engineers – St. Louis District  
Contract No. DACW43-95-D-0533  
Delivery Order No.: VISA

Report Date: 11/16/00

ARDL Report No.: 8160

Lab Name: ARDL, Inc.  
Samples Received at ARDL: 26-Oct-00  
Project Name: Ink Samples

CASE NARRATIVE

<u>Sample ID No.</u>	<u>Date Collected</u>	<u>Lab ID No.</u>	<u>Analysis Requested</u>
IH-24-00	10/26/00	8160-01	Total Metals (1)

(1) Including aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium and zinc.

NOTE: Due to insufficient sample quantity, duplicate LCS's were prepared and analyzed in lieu of matrix spike/matrix spike duplicate analyses for Method 6010B.

The quality control data are summarized as follows:

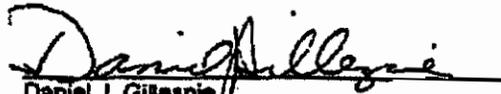
LABORATORY CONTROL SAMPLES

Percent recovery of all LCS analyses were within control limits.

PREPARATION BLANKS

Results of all preparation blanks were within acceptable limits.

Release of the data contained in this package has been authorized by the Technical Services Manager or his designee as verified by the following signature.

  
Daniel J. Gillespie  
Technical Services Manager

**ARDL, INC.**  
 Rt. 15N, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 008160

Report Date: 11/16/2000

Project Name: INK SAMPLES		Analysis: Inorganics						
Project No: VISA								
Field ID: IH-24-00		ARDL No: 008160-01						
Sampling Loc'n: MOOR		Received: 10/26/2000						
Sampling Date: 10/28/2000		Matrix: MISC MATERIAL						
Sampling Time: 1200		Moisture: No Moisture Present						
Analyte	Detection Limit	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
Aluminum	10	2370	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Antimony	2	5.5	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Arsenic	2.5	21.8	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Barium	1	2310	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Beryllium	0.1	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Cadmium	0.5	10.0	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Calcium	10	23400	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Chromium	0.5	153	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Cobalt	0.5	2.8	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Copper	1	122	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Iron	5	20400	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Lead	10.5	52100	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Magnesium	10	2320	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Manganese	0.5	316	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Mercury	0.085	3.1	MG/KG	7470A	7470A	10/31/00	10/31/00	C1430
Nickel	1.5	10.7	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Potassium	200	2110	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Selenium	5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Silver	0.5	0.98	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Sodium	40	23400	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Thallium	3	11.6	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Vanadium	0.5	11.7	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609
Zinc	0.5	25900	MG/KG	3050B	6010B	10/30/00	11/02/00	P3609

*Thick,*

*12/6/00*

*The ink dust contains lead which is more than 10 times the legal limit. Zinc is also high but not as great a concern as lead.*

*The dust in this building must be cleaned by a licensed lead abatement contractor before the building can be used by us. The New York state and city regulations for lead abatement must be followed.*

*Jim Twichell*

**BLANK SUMMARY REPORT**  
**ARDL, INC. Rt. 152, Mt. Vernon, Illinois 62864**

Lab Report No: 008160      Report Date: 11/16/2000

Project Name: **INX SAMPLES**  
 Project No.: **VTEA**

Analyte	Detect Limit	Blank Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run	QC Lab Number
Aluminum	10	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Antimony	2	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Arsenic	2.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Barium	1	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Beryllium	0.1	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Cadmium	0.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Calcium	10	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Chromium	0.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Cobalt	0.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Copper	1	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Iron	5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Lead	2.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Magnesium	10	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Manganese	0.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Mercury	0.08	ND	MG/KG	7470A	7470A	10/31/00	10/31/00	CL430	008160-01B1
Nickel	1.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Potassium	200	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Selenium	5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Silver	0.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Sodium	40	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Thallium	1	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Vanadium	0.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1
Zinc	0.5	ND	MG/KG	3050B	6010B	10/30/00	11/02/00	P3509	008160-01B1

Inorganic Method Blanks for 008160

**ARDL, INC. Rt. 15E, Mt. Vernon Airport Mt. Vernon, Illinois 62864**

**LABORATORY CONTROL SAMPLE REPORT**

Lab Report No: 008160

Report Date: 11/16/2000

Project Name: **INK SAMPLES**  
 Project No.: **VISA**

Analyte	MS 1 Result	MS 1 Level	LCB 1 % Rec	LCB 1 Result	LCB 2 Level	LCB 2 % Rec	# Reps & Rec	Mass % Rec	Analytical Run	QC Lab Number
Aluminum	19.6	20	98	19.9	20	99	98	98-120	P1509	000160-01C1
Antimony	1.22	2	96	1.34	2	97	97	88-120	P1509	000160-01C1
Arsenic	1.27	2	99	2.03	2	101	101	88-120	P1509	000160-01C1
Borates	19.3	20	97	19.8	20	99	98	88-120	P1509	000160-01C1
Barium	0.83	0.5	106	0.844	0.5	118	107	88-120	P1509	000160-01C1
Cadmium	0.287	1	97	0.295	1	98	96	88-120	P1509	000160-01C1
Calcium	21.8	25	94	23.8	25	95	95	88-120	P1509	000160-01C1
Chromium	0.275	1	98	0.289	1	99	98	88-120	P1509	000160-01C1
Cobalt	0.91	9	94	9	9	100	99	88-120	P1509	000160-01C1
Copper	2.44	2.5	97	2.48	2.5	99	98	88-120	P1509	000160-01C1
Iron	0.76	1.0	98	0.91	1.0	99	98	88-120	P1509	000160-01C1
Lead	3.02	1	102	1.09	1	103	101	88-120	P1509	000160-01C1
Magnesium	94	25	96	29.3	25	97	97	88-120	P1509	000160-01C1
Manganese	1.5	1.5	100	1.50	1.5	102	101	88-120	P1509	000160-01C1
Mercury	0.02491	0.005	98	--	--	--	--	88-120	CL130	000160-01C1
Nickel	3.24	4	99	3.29	4	100	99	88-120	P1509	000160-01C1
Potassium	23.1	25	93	23.1	25	92	93	88-120	P1509	000160-01C1
Selenium	0.81	1	101	0.803	1	98	96	88-120	P1509	000160-01C1
Silver	0.252	1	85	0.259	1	96	96	88-120	P1509	000160-01C1
Sodium	23.9	25	95	24.3	25	97	96	88-120	P1509	000160-01C1
Thallium	2.04	2	103	2.1	2	105	104	88-120	P1509	000160-01C1
Vanadium	0.89	5	99	0.90	5	101	99	88-120	P1509	000160-01C1
Zinc	1.91	2	95	1.93	2	96	96	88-120	P1509	000160-01C1

**NOTE: Any values tabulated above marked with an asterisk are outside of acceptable limits.**

Inorganic LCS Results for 008160

Part II:

**Curation-Needs Assessment of the  
Archaeological Collection from Non-Burial  
Contexts of the Foley Square Project**

Prepared by: Michael K. Trimble  
and James E. Barnes

U.S. Army Corps of Engineers  
Mandatory Center of Expertise for  
the Curation and Management of  
Archaeological Collections  
St. Louis District

# Contents

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<b>1. Introduction.....</b>	<b>1</b>
Background	
Organization of Report	
<b>2. Methods.....</b>	<b>3</b>
Data Collection Strategy	
Artifact Assessments Methods	
Associated Documents Methods	
<b>3. Findings.....</b>	<b>5</b>
Artifact Assessment Findings	
Assessment of the Associated Documents	
<b>4. Inventory of Equipment.....</b>	<b>12</b>
<b>5. Review of South Street Seaport Museum Proposal.....</b>	<b>13</b>
<b>6. Summary and Recommendations.....</b>	<b>17</b>

# **1. Introduction**

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## **1.1 Background**

In addition to the architectural assessment of the South Street Seaport Museum proposal, the Memorandum of Agreement (MOA) between General Services Administration, Region 2 (Northeast and Caribbean Region), hereafter referred to as GSA, and the Mandatory Center of Expertise for the Curation and Management of Archaeological Collections (MCX-CMAC), U.S. Army Corps of Engineers, St. Louis District, included a technical review of the collections to be curated at the proposed facility. Specifically, MCX-CMAC was to review and evaluate the condition of the archaeological collection generated by the Foley Square Project in New York City. The evaluation of the archaeological collections was limited to the collection generated by excavation in non-burial contexts. Human remains and associated artifacts were not included in the collections to be assessed. The subset of collections to be assessed are referred to as the Five Points Collection.

The purpose of the assessment of the collection was to determine the nature, extent, condition, and curatorial needs of the archaeological materials from the Five Points Block. Specifically, MCX-CMAC agreed to quantify the collection, characterize the nature of the objects in the collection, assess the condition of the collection in terms of current curation methods and general condition of the artifacts, and to identify specific needs for the long-term curation of the collections. In addition, MCX-CMAC was to provide GSA with a preliminary estimate of long-term maintenance costs for the collection.

Upon receipt of funding, MCX-CMAC made a brief trip to New York, New York for the purposes of coordination and to assess the proposed facility. A second trip was made on 17-20 October 2000, to assess the Five Points Collection currently stored in the basement and on the second floor of the Customs House at the World Trade Center (WTC). Two MCX-CMAC personnel evaluated the archaeological collections while a third reviewed the associated documents. The results of these assessments and associated recommendations are provided in this technical report.

## **1.2 Organization of Report**

The data collected during the fieldwork has been compiled and summarized in the present document. The report focuses on the current condition of the collection, both objects and associated documents, the rehabilitation needs of the collection, and an evaluation of the proposal by the South Street Seaport Museum for the provision of long-term curatorial services. The report is organized in similar fashion. The first section following the introduction reviews the methods used in assessing the collection. Section 3 summarizes the condition of the objects and documents and their rehabilitation needs. The following section provides an inventory of the excess equipment located in the lab space at the WTC. Section 5 reviews the proposal by South Street Seaport Museum with alternative recommendations. Finally, the summary and recommendations in the last section provide an outline of the steps required to bring the

collection into compliance with 36 CFR Part 79, *Curation of Federally-Owned and Administered Archeological Collections*.

## **2. Methods**

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### **2.1 Data Collection Strategy**

The methods used to evaluate the collections from the Foley Square excavations were based on the techniques developed over the past eight years by MCX-CMAC for the evaluation of Department of Defense archaeological collections. The collections assessment methods were modified to ensure that a collection overview could be provided in a short timeframe and in accordance with the goals established by GSA. The evaluation focused on (1) the organization of the collection (catalog/inventory assessment), (2) the suitability of all housing/containers used to store the materials, (3) the efficiency of the labeling process for all housings/containers, and (4) the manner in which the containers are packed. Information regarding the current storage facility and conditions were omitted as the collections will be moved to a new location.

### **2.2 Artifact Assessment Methods**

The primary organization of the collection was assessed by reviewing the descriptive information labeled on the exterior of the primary containers to identify consistent patterns in packing that would indicate how the material was sorted. Similarly, the actual contents of each box was compared with that information to ensure the accuracy of the labeling. The labeling and content of the secondary containers were also reviewed to detect patterns of internal sorting.

The primary containers, or exterior boxes, were also assessed for their suitability as long-term storage containers. Ideally, these containers should be acid-free to prevent deterioration as well as the transfer of acids to the contents. In addition, the containers were evaluated for current condition. The presence of water damage or physical damage were noted. The secondary containers associated with each box (e.g., polyethylene bags, vials, etc.) were also evaluated for suitability and current condition.

Labeling of both primary and secondary containers was assessed for the accuracy of the information, the suitability of the labeling media, and current condition of the labeling. The accuracy of the information provided by the labels was assessed only in terms of whether it reflected the actual contents of the container. The accuracy of the provenience information, or intrasite origin, could not be evaluated. However, particular note was made regarding the information about the material contents of the containers. The suitability of the labeling media was also evaluated in terms of permanence and appropriateness for the container type. The condition of the labeling was assessed in terms of legibility, fading, and smearing.

The manner in which the primary and secondary containers were packed was assessed in terms of the containers' ability to protect the objects from damage and the ease with which individual objects could be located. Attention was focused on such issues as whether fragile objects were supported or packed with heavy objects that could shift position. In addition, we also noted whether containers were overpacked resulting in excessive weight or distortion of the container, or underpacked and, therefore, underutilizing shelf space.

### **2.3 Associated Documents Assessment Methods**

The archaeological records that were assessed consist of documents and photographs from the Courthouse, Broadway, and Foley Square area. Documents and photographs from burial contexts were not assessed. The records were located in the basement of the Custom House at the WTC.

All records, whether they were housed in notebooks or folders, were examined. The label on the container was copied as a general description of the contents. The contents of each container were examined to determine the accuracy of the container label. The containers were examined for their archival suitability. All folders were examined and an assessment was made on the condition of the records and their immediate and long-term needs. For ease of review, these observations have been coalesced into a table that is presented in the findings section.

### 3. Findings

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The assessment findings for the Five Points collection is provided in two sections. First, the findings of the artifact assessment is presented followed by the findings for the associated documents.

#### 3.1 Artifact Assessment Findings

##### 3.1.1 Organization and Storage of the Collection

The collections from the Foley Square project are typical of most archaeological collections in this country. The collections are organized on the basis of the analytical needs of the investigators who carried out the work. They are not currently organized to facilitate the ease of use for research, education, or exhibits. The artifacts are sorted and stored primarily based upon their intrasite origin, i.e., provenience, and further subsorted according to analytical categories based upon both material and functional classes. An example of the sorting hierarchy follows.

- Provenience (i.e., excavation unit or feature)
  - Analytical Categories
    - a) Glass
      - 1) Whole vessels
      - 2) "Remainders" (glass fragments not reconstructable into a recognizable vessel)
    - b) Ceramics
      - 1) Whole vessels
      - 2) "Remainders"
        - Subsorted by temper and/or decorative treatment
      - 3) "Tobacco/Ceramic," i.e., clay pipes
      - 4) Kitchen Ceramics (It is not known how these items were differentiated from other ceramic items.)
    - c) Architectural (includes multiple material classes derived from building construction, e.g., metal nails, ceramic brick.)
    - d) Faunal
    - e) Metal (non-architectural items)
    - f) Textiles
    - g) "Sewing Related" (multiple material classes)
    - h) Shell
    - i) Soil Samples
    - j) Kiln furniture
    - et cetera*

While this organizational schema is suitable and appropriate for the analysis of the collection and subsequent report production, it is not entirely suitable for long-term curation. Sorting by provenience is, of course, the starting point in the sorting of any archaeological collection. However, it is generally better to sub-sort on the basis of material class. The rationale for this approach is that similar materials will require similar curation environments and conservation treatments. Coalescing like-materials will facilitate the long-term monitoring of the collection for any signs of deterioration. It will also facilitate future research focusing on analysis of material types. The drawbacks are that organizing by material class may hamper

research based upon the original analyses and will certainly disrupt the current organization of the collection. This latter factor will be discussed further with reference to labeling.

In their current condition, the primary containers hold the smallest sub-category of the analytical class. In other words, all things being equal, a box contains whole ceramic vessels from a feature while another box contains ceramic remainders from the same feature. And, another box holds architectural materials from the same feature. All of the faunal material from that feature is currently boxed separately from architectural material, sewing-related material, etc. It should be noted however, that some boxes contained items of the same material/functional class from multiple proveniences and some, such as architectural and "unprocessed" objects, contained multiple material classes from a single provenience.

### 3.1.2 Object Housing

The primary containers housing artifacts consisted of acidic, corrugated cardboard boxes originally designed for the storage of records. Although the boxes are labeled as "Archive" storage boxes, the use of the term is incorrect. The boxes are not of archival quality and should be replaced. Plastic bins were used to store some leather objects that appeared to have received some form of conservation treatment. The total number of boxes counted was 1,557. The breakdown of boxes by contents/material class is enumerated in Table 1.

Currently, there are 13 empty boxes that may be discarded from the total. In addition, there are fifty-eight (58) boxes containing empty field collection bags that may be discarded after the information on the bags is recorded and verified. These two actions will reduce the total number of boxes to 1,486.

Secondary containers within the boxes are 4-mil ziplock polyethylene bags. The subsorts of ceramic remainders were typically packaged in smaller polyethylene bags nested within the larger bags from the same provenience. Some, but not all, of the bags were intentionally perforated to

**Table 1. Number of Boxes for each Material/Analytical Class**

<b>Box Contents/Material Type</b>	<b>No. of Boxes</b>
Ceramics (Vessels and Remainders)	252
Glass (ditto)	205
Soil Samples	197
Mixed Materials	185
Architectural	165
Faunal	126
Unprocessed	109
Shell	82
"Kiln Furniture"	69
Field Bags (Boxes containing empty field collection bags)	58
Wood	31
"Tobacco/Ceramic"	27
Empty Boxes	13
"Sewing Material"	12
"Display Items" (Items previously used for exhibits)	5
Fabric/Leather	5
Metal	4
Coal/Charcoal/Coal Ash	4
Flotation/Heavy Fraction	3
Leather	3
"Botanical"	1
Textile	1
Cobblestones	1
<b>TOTAL NO. OF BOXES</b>	<b>1,557</b>

allow climatic conditions within the bags to reach equilibrium with exterior conditions. In our

analysis it was noted that some bags exhibit yellowing. When polyethylene begins to turn yellow it is most often an indication of a deterioration or aging of the chemical composition. These types of bags should not exhibit these signs for at least 20-30 years. We suspect the chemical used to produce the bags was unstable-thus accelerating the aging process. Due to these conditions, all of these types of bags should be replaced with an archivally proven bag from a reliable vendor.

Whole vessels, both glass and ceramic, were sometimes, although rarely, placed in the primary container without a secondary container.

### **3.1.3 Labeling of Containers and Objects**

The primary containers are directly labeled in permanent black marker. The information includes the analytical class, the site name/project name, the feature number, and, in the case of vessels, the inclusive vessel numbers (see below for discussion of vessel numbers).

Each of the secondary containers is labeled in permanent black ink with provenience information similar to that on the primary containers. Within most, but not all, secondary bags is a pre-printed label on spun polymer paper, probably Tyvek brand, with spaces for provenience and artifact identification. While these inserts are excellent, archival-quality labels, some of the labels are completed in ball-point pen ink, which is not permanent.

### **3.1.4 Labeling of Objects**

Not all of the artifacts have been labeled.

For those artifacts that are labeled, the labeling appears to be of archival quality. The ink has been placed on a base coat of a clear substrate such as butvar or B-72 with an overcoat of the same material. The numbers labeled on each object refer to their provenience. Individual objects (artifacts) are not designated with a unique number. Therefore, the labeling cannot be strictly regarded as a catalog or inventory number. The exceptions, however, are ceramic and glass vessels, and tobacco pipes. In addition to the provenience number, whole vessels (both glass and ceramic) and clay pipes are given individual "vessel" or "pipe" numbers of the form "V. ####" or "P. ###." It is assumed that these vessel/pipe numbers are sequential for the site although this was not verified.

### **3.1.5 Condition**

Some of the leather items appeared to have received a conservation treatment. These objects were wrapped in damp, acid-free tissue paper. It is assumed the moisture is the result of the application of a preservative compound. Any conservation treatments should have been documented. It is assumed that a review of the conservation tracking forms noted in the assessment of the associated documents (see below) will identify the type of treatment administered

Some problems exist in the manner in which the boxes were packed. A few boxes containing materials such as kiln furniture and architectural materials were overpacked and exhibited damage from stress loads. In general, boxes should not exceed 35 lbs. for ease in handling. Other material types were underpacked. The most obvious example of this is for the category "Tobacco/Ceramics." Often a box would contain less than 10 small plastic bags. The result is under-utilized shelf space. These materials could be consolidated. The final problem with the packing was the placement of whole, fragile vessels in boxes with other items. Unsupported, these vessels could be damaged by shifting and colliding within the box.

A small portion of the artifacts has not yet been processed and will require full rehabilitation. A number of glass vessels were mended for reconstruction using either masking or drafting tape. This tape should be removed at the earliest opportunity. The longer the tape is attached to the vessels, the more difficult it will be to remove any adhesive residues.

### **3.2 Assessment of the Associated Documents**

#### **3.2.1 General Condition Assessment of Associated Documents**

Based upon the preliminary assessment conducted on the GSA records by MCX-CMAC personnel, the following was ascertained.

- The total extent of the records assessed was approximately 34 linear feet.
- Of this total extent, approximately 10 linear feet of this material is photographic records (primarily prints, negatives, and slides).
- The records assessed include administrative records, field records, analysis records, background records, in various record formats.
- Most records are labeled with one of the following references:
  - 1.) Courthouse
  - 2.) Broadway
  - 3.) Foley Square

As these materials are processed, record groups will require sorting according to site and need to be identified and described as appropriate.

- The bulk of the paper records are photocopies of the original documents.
- All materials assessed require complete archival rehabilitation and processing.
- Oversize materials require at least minimal conservation.
- Additional photographic records exist, but were not included in the preliminary assessment at the direction of GSA personnel.

#### **3.2.2 General Organization of Records**

Documentation associated with the Five Points and Above-the-Burial Ground archaeological materials will require complete archival rehabilitation. The records present at WTC were in disarray and were stored in three-ring binders, acidic file folders, and corrugated cardboard boxes. What follows is a summary, in tabular form of the boxes examined and their general condition (see Table 2).

**Table 2. Containers holding records assessed at the World Trade Center.**

Box Label	Comments
"Bone Frags" (2 boxes)	Primarily photos of artifacts in archival sleeves. Labeled in code. No inventory sheet.
"Courthouse, Five Points, Slides and B&W"	Loose archival sleeves containing negative strips with photo record sheet. Four black, spiral-bound notebooks of slides and negative strips. Some photo record sheets present.
"Courthouse Block, 1855 Census Provenience Sheets"	In two overpacked three-ring binders. Census data on computer printout.
"Foley Square, Block 154 Field Note Copies"	Includes loose misc. catalog sheets, 1 binder of Lot 12 profile and plan drawings, 1 binder Lot 12 excavation unit sheets (with Post-Its), 1 binder Lot 20/21 excavation unit sheets (copies), and 1 binder Block 154 plan/profile sheets.
"Broadway Block, Small Finds & Conservation, Non ABG"	Open box of artifacts. Extremely disorganized.
"Courthouse 5-Points Records"	Four misc. 3-ring binders: conservation tracking forms, artifact description worksheets (originals), Courthouse non-provenience field drawings, and level forms.
"Courthouse 5-Points, Slides and B&W Courthouse exhibit slides and Key"	5 notebooks (ring binders) of slides and negatives in sleeves. Empty sleeves suggest some slides may be missing.
"Courthouse Block Slides"	Excavation photos, candid photos, and feature photos. Stored in archival 3-ring binder. No inventory sheet. Post-It notes on sleeves.
"Courthouse Block, Five Points, Actual cloth textile samples chem sample list, notes on health in NY"	Loose file folders of laboratory processing and artifact description sheets. One binder of textile samples from excavation.
"Foley Square Database Code Bk, Mixed w/ Berger Work Bk, non-burial ceramic vessels paperwork, books, etc."	Six binders of listed material. Most of codes and descriptions for artifacts appear to be present.
"Courthouse Block, Five Points Conveyances"	File folder of photocopied real estate records, deeds, etc.
"Broadway Block Slides"	Three conservation slide housings with excavation slides.
"Courthouse maps"	Rolled, crushed, field maps
"BWay Conservation Tracking Forms"	Six binders containing conservation tracking forms, level forms, and field plan/profile drawings.
"Courthouse Five Points Records"	Seven ring binders containing lab records.
"Courthouse Conservation Tracking Forms"	Binders containing tracking forms.
"Foley Square Block 154 Copy in Field Notes in Sequential Order by Cat No"	Binders containing materials as described.
"3-26-97 Original 5 Pts Coding Sheets and Animals Prog & Data"	Files and notebooks containing the documents described.
"Courthouse Block Block 160-Lot Specific Research- Tax Assessment 1789-1886 - Orginal Census Data- 1880 Census- Other Census Data - Sanitary Condition of the City (excerpt)"	Files and notebooks containing the documents described. Appears to be accurate description of contents.
"Foley Square Block 154 Broadway Artifact Processing Forms"	Seven binders containing documents described.
"290 Broadway- Title and Deeds- Conservation and Map List- Artifact Treatment Reports"	File folders and hanging file folders. Extremely disorganized.
"BWay Conservation Tracking Forms"	Lab and conservation records in folders.
"Courthouse 5 Points GSA "	Administrative and project records in acidic file folders. Well-organized.

"290 Broadway...Property of GSA"	Administrative records in hanging file folders. Well-organized.
"Courthouse--5 Points Slides, etc. Property of GSA"	Loose file folders of administrative records and loose slides in sleeves.
"Files pertaining to Courthouse-Five Points, (Mainly Glass Analysis) Property of GSA"	Photocopied journal articles.
Binder: "Artifact Slides: Stoneware"	Slides as described.
Binder: "Artifact Slides"	Slides as described.
Loose Files: 1.5 linear feet of files	On desk in lab room. Excavation records.
Photo Logs	Six logs on desk in lab room.
Photo Albums	10 archival quality slide housings of burials.
Photo Notebooks	10 black notebooks of B&W negatives and contact sheets of burials.
Fireproof Filing Cabinet	Two drawer filing cabinet filled with excavation records including field notebooks and field notes. Approximately 2 linear feet.

In most cases, archivists try to maintain the "original order" of document collections, many of the records are in such disarray that they should be organized before being placed in archival quality folders and boxes. The records were apparently arranged for the use of lab personnel and are not accessible for educational and research purposes. Upon completion of reorganization of the records, an archival finding aid, or a master inventory, of the records should be produced. This inventory should be analytical in nature and understandable to the lay-person to facilitate greater use.

As currently stored, it is not possible with any degree of ease, to determine the subject matter of many of the individual photographs. Many of the color slides examined are labeled with a code. There was no key to this code available and no description of the subject matter. In addition, many of the photo albums did not contain a photo record sheet. The slides were stored in sleeves and empty slots suggest that some of the slides are missing. All photographs and negatives should be inventoried and matched to existing photo records. Once housed in archival quality containers, the photographic material should have an accompanying record sheet with descriptive information. Further cataloging and the development of an electronic inventory may be warranted as well.

### 3.2.3 Condition of Containers

As previously stated, many of the records are stored in three-ring binders. These records evidence heavy use and are often torn at the punch holes. All of these records should be removed from the binders and, ideally, photocopied onto acid-free paper and placed in acid-free folders and document boxes. All materials should be labeled in a standardized format in appropriate media.

Additional problems with the associated documents include textile samples from the excavations stored in a three-ring binder and a box of "small finds" in extreme disarray. Also, large documents such as maps have been rolled and stored in a manner so that they have been crushed. These maps should be unrolled, flattened, and stored in appropriately sized storage cabinets. In some cases, maps may require mending and conservation.

Finally, it is not clear whether all of the original documentation was stored with the collections at the WTC. Many of the documents examined were photocopies. Representatives of John Milner and Associates stated that all records were located at WTC. Only an inventory of the documents will determine if any are missing.

#### 4. INVENTORY OF EQUIPMENT

In addition to assessing the artifacts and documents, MCX-CMAC was asked to create an inventory of equipment in the basement storage area to include research equipment and shelving. The inventory of materials currently stored in the basement of the WTC is contained in Table 3.

**Table 3. Equipment Inventory**

No. of Items	Description
3	CTX Computer Monitors
1	DTK Computer Monitor
1	Magnavox Computer Monitor
1	Unisys Computer
1	Zip Drive
1	USMACH 586 CPU
1	M & S Computers CPU
3	DTK Computers with 486 processors
1	Ohaus Triple-beam Balance
1	Light Table
1	Lab Oven, Cole-Parmer Model 05015-58
1	Microscope, Olympus BH2, with lightsource, powersupply, and Hitachi Color Digital Camera
1	Sony Trinitron monitor and power supply for microscope
1	Airbrasive 6500 Compressor Unit
1	Airbrasive Work Cabinet
1	Cabinet X-Ray system
1	Benchtop Freezer
1	Nanopure Water System
1	M <sup>2</sup> Waterpure System
1	Speedking air compressor
2	Double sinks
2	Wheelbarrows
1	Refrigerator
17	Tables
5	Desks
1	Supply cabinet
3	Cabinets with sliding glass doors
1	Rolling Cart, Large Metal
1	Filing Cabinet
1	Rolling Stairstep
14	Chairs
95	Drying trays
12	Drying tray racks, rolling
2	Rolling carts, plastic
1	Stepstool
204	Shelving units, Standard size
14	Misc. Sized Shelving Units
2	Sentry fireproof safes

## 5. SOUTH STREET SEAPORT MUSEUM PROPOSAL

As part of the agreement with GSA, the MCX-CMAC was tasked with reviewing the South Street Seaport Museum's proposal for education, exhibits, conservation, and long term curation services. The following outlines our review of said proposal.

### 5.1 Review of SSSM Proposal

The programmatic and financial information provided by the SSSM in connection with their proposal to provide long-term curatorial services indicates a well-conceived program for the establishment of a well-equipped curatorial facility. The list provided for personnel, equipment, and supplies required would be sufficient to address any conceivable need of the Five Points collection. However, as thorough as it may be, the proposal may not directly address the immediate needs of the collection. Prior to the establishment of a long-term curatorial regime, the collection requires immediate rehabilitation.

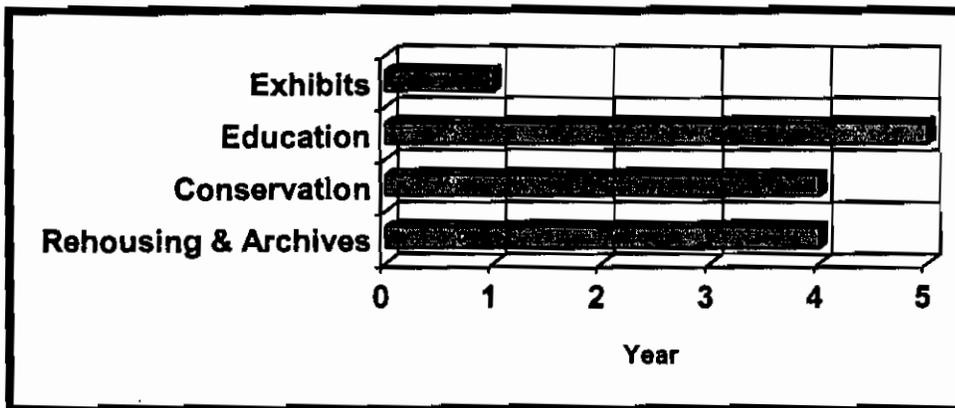


Figure 1- South Street Seaport Museum's proposal for curating the Five Points Collection.

Implicit within the proposal provided is a four year program comprised of four persons, the curator of archaeology, a registrar, a conservation technician, and a curatorial assistant, to document, rehabilitate, and conserve the collection, as well as develop an educational program and exhibits (Figure 1). The advantage of this approach is that there is strict intellectual and supervisory control over the processing of the collections. And, it permits GSA to take a "pay-and-forget" approach reducing GSA's need for oversight as well as eliminating some potential GSA administrative costs. The disadvantage to this plan of action is that it does not put resources against tasks in what we believe represents the most efficient and timely fashion in which to complete rehabilitation of the collection. Based upon the existing number of boxes of archaeological collections, SSSM's approach would produce a completion rate of just over 1 box per day. This low rate of completion is achieved because, of the four individuals who would be directly involved in rehousing and conserving the collection, only the curatorial assistant, with occasional assistance from the conservation technician, would be accomplishing the actual task of rehousing the collection, which is the largest single task and the task we believe must receive the lion's share of the resources in a long-term strategy. In addition, the inclusion of an

educational programmer and exhibit personnel in the budget before the full range of artifacts has been examined, rehoused, and conserved seems premature.

We would recommend a more directed and phased approach that addresses the immediate needs of the collection, which is to establish archival control of the at-risk associated documents while completing collection management and rehousing of the collections (see Figure 2). The tasks that must be completed in order to prepare the collection for long-term curatorial care are relatively straight-forward and conducive to completion in stages. By managing the collections first, GSA and SSSM will also be more efficient in their development of educational and community-based exhibits. It is necessary to understand your universe before preparing educational programs or exhibits.

As stated previously, archivally preparing the associated documents is the first step that should be completed. The documents are at greatest risk and are needed as data for the collections management program. Additionally, from the prepared documents working copies may be prepared that will allow systematic checking of the artifacts as they are processed. By addressing the archives first, the documents are stabilized and staff will then be able to use the documentary data to note any discrepancies in the excavation records that require clarification from the excavators without disrupting rehousing efforts. In addition, rehousing staff would have a corpus of documentary data to consult regarding the artifacts recovered for each excavation unit as they are working on the rehousing. Missing or misplaced artifacts would then be immediately noted.

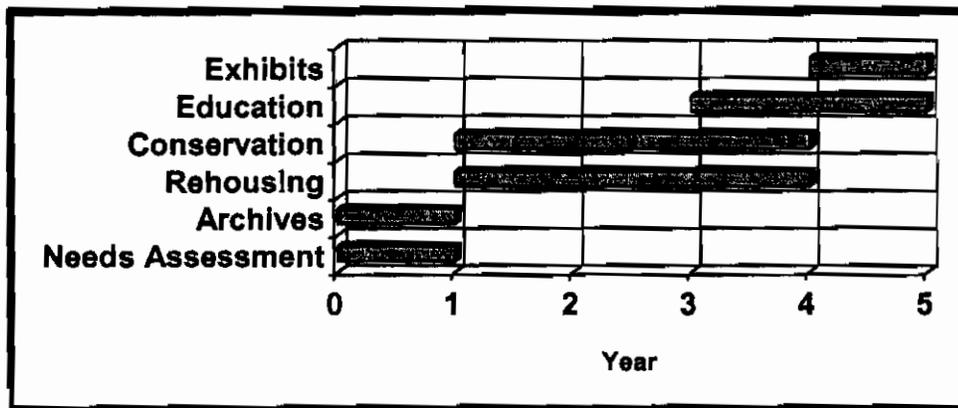


Figure 2- MCX-CMAC proposed time frame for the Five Points Collection

In Part II of our recommendation, we propose museum staff prepare a detailed needs assessment and workplan for the rehousing of the objects. This workplan should address how the museum plans to rehouse the collection and how they propose to manage the collection-down to the data management system to be used. The needs assessment should tie the rehousing efforts to specific needs for supplies and labor expenditures to complete the rehousing in a three year time span. Issues to be addressed include an organizational schema based on provenience and material type, a specific supplies list for rehousing materials, a protocol for conservation including supplies and equipment required, and a protocol for processing the objects. We believe this needs assessment and workplan can be completed in one year's time. The workplan

will be the blueprint for all future work and reports the best strategy and tactics for the Foley Square Project.

General conservation of the artifacts, particularly whole vessels, can begin simultaneously with rehousing of the archaeological collection. We believe that conservation and rehousing should proceed in Year 2, after acceptance of the needs assessment and workplan. As previously noted there are specific materials that will require different kinds of attention. This should be spelled out in SSSM's needs assessment. The equipment and supplies specified in the SSSM proposal for the conservation lab may well be required. However, without knowing the specific needs of the collection based on a plan of action, current funding projections appear excessive. We propose the preparation of such a conservation/collections management workplan during the needs assessment that begins with the immediate known requirements of the collection, e. g., rehousing, conservation of leather goods and preparation of housings for fragile objects, etc. During the process of the needs assessment of the collection, the specific conservation requirements for the collection should be more precisely determined and a workplan specifying the appropriate equipment and supplies required could be submitted for GSA's approval.

Finally, the SSSM proposal includes exhibit personnel in the first year budget and an educational programmer from the first year onwards. Until the collection is well into rehabilitation and rehousing, MCX-CMAC believes this is premature. It would seem more optimal to begin educational programming after the rehousing has been mostly completed. Then, the educational programmer and exhibits personnel can develop plans based more firmly on the contents of the collection. In addition, the funds originally programmed for exhibits and education can initially be used to devote more personnel (at lower salaries) to rehousing the collection, thereby speeding the process. We believe this phased plan is a more effective use of government resources. It calls for a detailed needs assessment of the collections which is then tied directly to funds for personnel and materials. It proceeds in steps and allows the museum to develop an understanding of the collection and its assets before embarking upon an educational program. This system allows control of resources and ensures the education program does not become constructed on premises and promises that cannot be met. In short, we have reprioritized the tactics and schedule.

## **5.2 Recommendations for Collections Management Policies**

In addition to the rehousing and conservation of the collection, collections management policies for the repository should be developed. In order to ensure the proper administrative care and oversight of the collection, it is important that the repository develop and maintain the follow policies. These are the minimal administrative units that should be included in SSSM's curation needs assessment workplan.

**Inventory Policy**-- How often will the collection be inventoried? Will there be a complete inventory or a random spot check?

**Access/Use Policy**-- Who will be granted access to the collection? What stipulations will there be on use of the collection? How will researchers acknowledge GSA in their work?

**Loan Policy--** Will objects be sent out on loan? Who shall qualify for a loan? How will loans be documented and reported to GSA?

**Packing/Shipping Procedures--** Related to the question of loans, does the facility have procedures for packing and shipping objects to ensure their safe movement?

**Disaster/Emergency Plan--** Does the repository have a plan to deal with emergencies or disasters which might affect the collection?

**Conservation Policy--** How will the on-going conservation needs of the collection be assessed and addressed? Will there be periodic inspections of varying timespans for different material types?

**Exhibition Policy--** Does the facility have a policy regarding exhibitions? That is, will exhibits be rotated at set intervals? Will objects be on display for only limited time spans? What light levels will be used in the exhibits area?

**Integrated Pest Management Plan--** Does the repository have a proposed plan for the systematic and integrated control of potential pests?

**Security Guidelines--** How will the collection be secured from unauthorized access? In the case of unauthorized access, what steps are to be taken?

It is recommended that the curation facility address these issues and forward their responses to GSA for review.

## 6. Summary and Recommendations

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In summary, the objects and records have obviously been organized and stored for the purposes of conducting analyses rather than for curation. This is not a criticism, simply an observation. However, the current organization is not optimal for long-term collections management, nor for the educational and exhibit plans to be developed for this collection. With that stated, we believe that the collection will require extensive but not complete rehabilitation. The objects are labeled only with a number referencing provenience. Therefore, the objects will require additional cataloging to provide unique catalog numbers for individual objects or lots. Additionally, the objects will require resorting and it is suggested that this be done on the basis of provenience and material class. New, archival quality, primary containers will be required. Some of the secondary containers exhibited evidence of deterioration and should be replaced. All secondary containers should receive labeled inserts with site, provenience, catalog number, and artifact description information. There was a box of blank, spun polymer, printed forms in the basement storage room. These forms would be ideal provided they are completed in permanent ink. Some objects have apparently received conservation treatments. The nature of these treatments should be determined and the extent to which additional treatment is required. And, some of the more fragile objects require support to prevent breakage. All complete objects or repaired objects should have appropriate housings constructed for them and completed conservation assessments.

Regarding the documents and photos, it should be determined if all of the original documents are present. Copies of the originals should be made on acid-free paper and filed separately from the originals. The documents will require organization to make them more usable. The documents should be inventoried and description-of-use and finding aid documents created. Photographs-both slides and negatives-should be inventoried and compared against original photo logs. The images should be archivally stored with a descriptive inventory. Ideally, digital thumbnail images should be made for easier review and accessibility. Any existing records of conservation treatments should be collated for easy reference to the objects so treated.

To summarize the recommendations:

- Archive Associated Documents-- The first step to rehabilitating the collection is to archivally prepare the associated documents. Working copies should be available for reference during the remainder of the rehabilitation process. (Refer to MCX-CMAC estimate for archival rehabilitation.)
- Sort/Order Collection-- The objects should be sorted and packed by provenience and within each provenience by material class.
- Replace Primary Containers-- At present, the objects are stored in acidic boxes and should be placed in archival containers.
- Replace Deteriorated Secondary Containers-- Some of the secondary containers exhibit signs of deterioration and should be replaced. Concurrently, fragile objects should be placed in protective housings.
- Replace Secondary Container Label Inserts-- Some of the labels were completed in ball-point pen and should be replaced.

- Integrate "Display" Objects-- Objects separated from the collection and used for displays should be integrated with the collection. All these objects should receive appropriate housings to ensure their long-term care.
- Re-catalog and Label Objects-- The present catalog system is inadequate not only for collections management purposes but for property management purposes as well. Catalog numbers should be assigned to each unique object, or lot, and labels appropriately applied.
- Digitize Catalog Information-- The provenience, object description, and box location should be entered into a database that is of use to collection managers and also researchers, educators, and exhibits personnel.
- Establish long-term curation regime-- Once the objects have been rehoused and placed on shelving, a long-term plan should be initiated for the periodic examination of the objects. This examination should include random inventory checks and condition assessments by an organization independent of the museum.

As part of the long-term curation, the curation facility should address the administrative issue of developing collections management policies consistent with the intent and letter of 36 CFR Part 79 and that meet the goals of GSA in curating this collection.