Solebury Township Historical Society
Preservation Needs Assessment Report

Institution:	Solebury Township Historical Society Drawer 525 3016 North Sugan Road Solebury, PA 18963
Date of Survey:	September 30, 2015
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Staff Members Interviewed:	Robert McEwan, Vice President Judy Clarke, Archivist Marilyn Lanctot, Volunteer Archivist

I. Introduction

A. Preamble

This Preservation Needs Assessment conducted by the Conservation Center for Art & Historic Artifacts (CCAHA) for the Solebury Township Historical Society on September 30, 2015 was made possible through funding from the William Penn Foundation.

The surveyors would like to thank Robert McEwan and Judy Clarke for their hospitality, helpfulness, and cooperation given throughout the visit, and additional thanks to Marilyn Lanctot for her availability and conversations. The volunteer staff members at the Solebury Township Historical Society are to be congratulated for their strong commitment to the preservation of the collections and to the mitigation of identified risks to staff, visitors, the collections, and the historic structure.

B. Purpose of Assessment

This report has been prepared in order to aid the Solebury Township Historical Society (hereafter referred to as "STHS") in evaluating the preservation needs of its collections. This report will serve as a guide for the process of creating a preservation plan, generating a list of preservation priorities, and assessing other needs. The recommendations highlighted in the report address the preservation needs and concerns for STHS's collections in the areas of policies, building and maintenance, environment, security, disaster preparedness, collections care, and preservation planning.

In addition to developing a preservation plan, the Historical Society will use recommendations from this assessment in order to improve collections care, building and environmental conditions, and security and fire protection. This assessment will be useful to increase staff, board, and patron awareness of preservation concerns, as a tool to obtain funding for collections care, and for inclusion in grant applications.

C. Brief History[1]

Founded in 1981, the Solebury Township Historical Society (STHS) is a non-profit organization dedicated to the interpretation and preservation of the historical heritage of Solebury Township. The Historical Society is headquartered in the historic one-room schoolhouse located in Solebury Village, Bucks County, PA. It contains an extensive research library, files on the history of most of the homes built before 1900 in Solebury, partial township school records from before 1938 including grades and attendance, a large historic map of the township, many smaller maps, and much more. Built in 1757, it was the first schoolhouse in the township. Originally established by the Buckingham Friends Meeting, it was deeded to the public school system in 1870 and has been used for education continuously up to the present day. The schoolhouse was rebuilt in 1810 and 1870.

Up until the 1920's students in grades one through eight attended this schoolhouse. Thereafter through the 1950's students in grades one through three were educated there, with just one teacher for all grades. In more recent years the school district used it for their school library, and then later for special education classes. It now houses the Historical Society's office and research library. In 2013 the Society renovated the schoolhouse, including installing a new roof, repairing the windows and gutters, and painting the exterior surfaces. Now more work is being done on the interior including resurfacing the floors and updating the bookcases.

Membership of the Solebury Township Historical Society helps to support the Society's mission of historic preservation through exhibitions, programs, history walks and tours, and projects throughout the year. There are approximately 150 visitors per year.

D. The Collections

STHS collections date from the 1800's to the present and are housed in one building. Among the most important of these artifacts are those centered on Solebury Township history, including photographs, maps, house records, family files, school attendance registers, Farmer's Club records, oral histories, Ned Harrington local research files, local history, and Solebury/New Hope records and minutes from the 20th century.

E. Mission and Vision Statement

Mission Statement

> *"Our resources, the schoolhouse, archives and people, will work to educate and promote an appreciation of Solebury's history. The board and member volunteers will reach out to our township, county, state, and others by bringing together citizens in regular social and educational events as well by individually assisting those seeking family and local history information."*
>
> *- STHS Board of Directors, 2015*

[1] Adapted from the Solebury Township Historical Society website, http://soleburyhistory.org/.

Vision Statement

"The Solebury Township Historical Society seeks to be the most respected, well-known, and valuable historical resource in the community."

- STHS Board of Directors, 2015

II. Report Abstract

During the site visit, it was clear that the Solebury Township Historical Society (STHS) Vice President and Archivist are dedicated to the care of the irreplaceable collections that are under their stewardship and that they have the desire to see preservation projects completed.

Some steps have been taken to care for the collections, with notable advancements in securing full ownership of the Schoolhouse in 2013. This was done to guarantee permanent placement of the historical records in the one-room schoolhouse. In addition, this allowed for the replacement of the roof, painting the exterior, and newly refurbished windows. The STHS has also been using acid-free storage enclosures, and they have been proactive by adding several volunteers in order to archive, document, and provide access to the collections.

While STHS has made strides forward, some collections-focused work still remains to address current conditions and preservation concerns. Storage space presently available is at capacity. Funding may need to be sought to carry out some projects, and some projects may require additional assistance – most likely by volunteers. Developing a comprehensive preservation plan will help in prioritizing projects, and create a framework for moving forward in a systematic manner.

Overall, based on the site visit and the pre-visit questionnaire completed by the Vice President, future priorities for collections care and preservation for the collections are:

- Maximizing the use of current collections storage space and planning for future growth;
- Continuing to work toward a complete, updated inventory of all historical records and artifacts at STHS and having better intellectual control over all of the collections. This includes all collections in storage, and may also entail making decisions about what will or will not be incorporated into the collection;
- Reorganizing the areas that house collections, in particular unboxing materials that may be prone to damage, to provide secure and safe storage spaces for existing and newly processed archives;
- Policy development, particularly a Collections Development Policy, Collections Management Policy, and Handling and Use Policies;
- Implementing a formal environmental monitoring program throughout the building;
- Addressing light exposure issues throughout the building;
- Refining security policies and investigating options for increased security measures;
- Developing an Emergency Preparedness and Response plan for STHS;
- Planning periodic training sessions on emergency preparedness for the volunteers;
- Continuing to implement best practices for collections processing, housing, and storage;
- Implementing a formal, strategic Preservation Plan for the collections.

The surveyors would like to thank all of the STHS volunteer staff for the opportunity to view the collections and for generously sharing their time and knowledge of the collections to assist in the preparation of this report.

III. Executive Summary

The recommendations listed below highlight the major preservation issues for the Solebury Township Historical Society (STHS) that were identified during the Preservation Needs Assessment conducted by the Conservation Center for Art & Historic Artifacts (CCAHA). The recommendations are not listed in order of priority, although those highlighted in this summary section describe the primary preservation concerns facing STHS. Additional information on each of the recommendations and more detailed information are provided in the body of the assessment.

A. Preservation Planning Issues

1. Strategic and Preservation Planning

STHS has a Strategic Operating Plan for 2014-2016 related to the entire institution. The Plan presents goals and objectives, some of which will ultimately aid in the preservation of collections, but does not directly address specific preservation needs of the collections. These objectives predominantly address operating plans, budgets, fundraising, grants, and membership. While there is a line item about organizing research materials, this plan is broad in scope and should be accompanied by a more detailed, collections-focused preservation plan.

a. A strategic preservation plan, providing specific recommendations for the collections, is essential for the proper care and future survival of the materials. This plan should be formulated based on the missions of STHS, the institutional goals, and projected use and growth of the collections. The plan should include projections for staffing and funding levels that are necessary to fulfill the collections care and management needed to maintain the collections. The plan should also outline the actions necessary to provide adequate staff and funding, assign responsibilities, and set a schedule for implementation.

2. Collections Management

Processing and cataloging collections materials along with impactful policy documents form the foundation of all collections care and preservation work. Preservation work cannot be fully implemented or completed in a meaningful way until the contents of the collections are known. Without this fundamental collections knowledge, it is difficult to know how to prioritize preservation activities such as digitization, housing, or conservation treatment. Processing, cataloging, and policy development should be high priority projects for the STHS staff.

a. STHS does not have a Collections Management policy. During the site visit, staff expressed interest in the development and organization of policies designed to prioritize preservation activities.

   A collections management policy, governing the overall care and stewardship of the collections, is particularly important for STHS. This policy should include:

   - Collection vision and scope;
   - Acquisitions policy;
   - Deaccessioning policy;

- Loan policy;
- General statements on collections care, access, and handling.

b. STHS should develop a written Collections Development Policy. This policy will clearly define the scope of the collections and inherently prioritize items, identifying those that may be considered for deaccession, and distinguish some that would gain from permanent or long-term storage.

c. Some additional policies to guide the STHS collections' care and preservation should be developed and implemented. In addition to the aforementioned plans and policies, STHS should develop the following documents:

   - Cyclical Maintenance Schedule
   - Environmental Monitoring Program
   - Housekeeping Guide and Schedule
   - Emergency Preparedness and Response Plan
   - Processing Plan and Priorities
   - Access, Handling, and Use Policies

   Each of these policies is addressed in more detail within the body of the report.

d. While STHS has fair intellectual control over its collections, some work remains to be accomplished to determine exactly what materials are on shelves, in storage, or in boxes that have not yet been accessioned. An important goal for STHS should be to work toward an accurate, updated inventory of the collections, including unprocessed material and works, with shelving locations recorded.

3. Staffing

STHS is extremely fortunate to have a highly enthusiastic, supportive, and dedicated board. Collections care and preservation activities at STHS are accomplished by part-time volunteer staff members, including the President, Vice President, and Archivists, as well as from high school student workers. There are four volunteer archivists on a regular basis who work 4 to 6 hours per week. All of these individuals are extremely knowledgeable and dedicated to their own various collections preservation responsibilities. Even so, the lack of a full time staff position dedicated to collections management and preservation means that some projects cannot be undertaken and/or completed.

a. STHS should continue to explore ways it can work with nearby colleges or graduate programs, perhaps offering more formal internships to history, archive, or library science students to work on collections care initiatives. Not only can a good intern be a dedicated worker and complete discrete projects (such as the processing of one small collection or a specific portion of a collection), but he or she can also provide the up-to-date knowledge that comes from being currently enrolled in a professional academic discipline.

b. Continue to identify projects that are appropriate for local high school students.

4. Funding

STHS should continue to dedicate funding to sustain long-term preservation planning and a preservation program for its collections. It may be necessary to solicit grant funding or other outside funding for special projects, but it is vital that funding also be available internally.

a. A line item for collections management and preservation activities, such as the purchase of supplies, conservation treatment, and preservation training for volunteer staff should be maintained in the budget of STHS.

b. Additional small grants for finite processing, storage and rehousing projects should be identified.

c. STHS has been fortunate to be supported by several grants, and to have a proven track record of grant-funded accomplishments, which may help when applying for future funding. The Society should continue to identify and apply for grant funding using their participation in the Philadelphia Stewardship Program as reference. STHS should continue to pursue local, regional, and national grants to help support preservation activities. A possible grant project could include a Preservation Assistance Grant (PAG) through the National Endowment for the Humanities for supplies and consultants.

5. Space Needs

Storage space at STHS is predominantly all in one room and nearing capacity, and some collections are stored in less than ideal conditions, such as the basement. There is no room for collections to grow in the present arrangements, but the Vice President, board members, and member volunteers are working diligently on a new space plan to allow more processing room and organization.

At present, storage spaces for collections objects need efficient organization to meet the demands of an institution that is consistently and continually accepting materials. STHS has been receiving collections of items lately, and could potentially fill usable collections storage space to capacity very soon. There are some areas where collections storage is clearly and coherently separated from areas with other functions, but other areas where collections are stored in boxes or in the basement. As the new space plan is formulated and put into practice, the Vice President is working with contractors and members in order to move things around and consolidate shelving for better usage.

a. Materials presently stored in the basement should be fully surveyed and inventoried. During the site visit, volunteer staff stated that the materials down there were likely not priorities for the collection. Any materials presently stored there that are found to in fact be significant assets to the collection, however, should be moved to the ground floor as soon as possible, and the space plan reconfigured accordingly if necessary. The basement is not an acceptable space for the long-term preservation of anything that could be considered collections, particularly not relatively vulnerable formats such as archival and audiovisual materials.

b. More explicitly defining the scope of the collection in a formal collections development policy will likely identify materials that should be deaccessioned, which may open up space for items that adhere to STHS's collecting mission.

B. Building

STHS is headquartered in a one-room schoolhouse (plus basement), constructed in 1868. In 2014 renovations included a new roof with faux slate, repairing gutters and windows, adding new windows, and painting the exterior of the building. More work is continuing to be done on the interior, with updates to the floors and bookcases. Any building issues at the STHS are addressed promptly by the Vice President, who maintains a close working relationship with contractors and volunteers, in all areas pertaining to the operations of STHS.

1. Building Maintenance

a. There have been previous problems with minor flooding in the basement, which has caused mold/mildew to accumulate on collections stored there. As the basement is generally damp, dehumidifiers run constantly, and there are frequently patches of standing water on the ground due to rain. Moisture seeps through the field stone walls. The walls should be carefully monitored; if degradation appears to be occurring rapidly, consult with a structural and/or environmental engineer about methods of more thoroughly sealing the building's foundation, installing a vapor barrier, and/or having the surface of the walls repaired or refinished.

b. Windows were redone in the basement, but trees and other plants are extremely close to the building.

c. There are no regular schedules for building and facilities maintenance and housekeeping followed by the volunteers of STHS; issues are addressed reactively rather than proactively. Systematic schedules should be developed and formally compiled into a written building and facilities maintenance and housekeeping plan, to ensure continuity and comprehensiveness. All volunteers should be aware of these plans and have input on the sections that include collections storage.

2. Furnishings and Shelving

STHS is in the process of reorganizing storage spaces in the schoolroom on the ground floor, including building wood shelves, rearranging storage furniture, and adding more vertical filing cabinets.

Some archival materials are stored in the basement, in metal cabinets. Storing collections inside of closed cabinets is not ideal, for a variety of reasons: the potential for a microclimate to develop, increased risk of mold and insect damage, and increased risk of contamination and deterioration from offgassing pollutants that are inherent to the collections (acidic paper, metal components in binders, etc.). There are also several bins on open shelves containing moldy contaminated materials.

a. Particular materials, surfaces, and sealants are much more suitable than others for preservation; this will be discussed further in the body of the report. Any upgrades to shelving should be chosen with collections care in mind and it is preferred that they be constructed from metal

such as anodized aluminum, powder-coated steel, chrome-plated steel, or baked enamel (as long as it has been tested for proper baking).

b. As priority collections are moved from the basement to the ground floor, it is preferable to store materials in boxes on shelves than in closed cabinets.

C. Environment

Providing environmental controls (temperature, relative humidity, light) is one of the greatest single steps an institution can take in preserving its collections. In recent years there has been some shifting in the conservation community away from stringent temperature and environmental requirements for collections materials. Rather, the focus has shifted to creating environmental conditions that are attainable and cost effective for institutions to maintain in the long term. New research indicates that some flexibility in ranges of temperature and humidity levels over time may be safe for some collections materials, as long as there is careful environmental monitoring and data analysis in place. That said, for the long-term care of the collections, the following ideal environmental conditions are recommended:

	Recommended Goal	**Recommended Range**
Temperature	59 - 77°F	
Relative Humidity	45 - 55%	**+/- 3-5%**

For the most part, measurements taken during the site visit (a mild, humid, post-rain day in early autumn) indicated that temperature was within the ranges recommended for the long-term preservation of the collections. Relative humidity (RH) in the basement was within normal levels likely due to the operational dehumidifiers, but RH was well above the recommended levels in the schoolroom, exhibiting readings at approximately 75.7%. A damp environment can be destructive to paper collections and lead to mold growth; STHS has had mold outbreaks in the basement in the past. At the time of the site visit, the door to the schoolroom was kept open to the exterior for air circulation, and dehumidifiers run constantly in the basement to address the moisture infiltration. Since these were all just spot readings, they are not nearly as informative as data from ongoing monitoring equipment would be.

1. HVAC Systems

The HVAC system at STHS consists of one in-room air conditioning unit with a condenser outside, which was added in 2007. STHS has an oil-fired forced air furnace that is approximately 15 years old, with foam forced heat. There are no environmental set-points for the space. The building does not have a sophisticated system of environmental controls to regulate fluctuations in temperature and RH. While portions of the collections have been in the same space for years and likely have acclimatized, it is still important to understand the magnitude of environmental fluctuations in the space and resultant impact on collections materials.

The basement is not served by any HVAC system. It generally stays cool because it is underground, but this is not controlled. Staff expressed concern about RH in this space, with mold outbreaks the most critical consequence. The archival collections stored there may be subject to poor air circulation.

a. There is currently no system in place controlling RH at the schoolhouse, and the door to the building is often left open for circulation. STHS should purchase additional dehumidifiers, ideally at least one more for the schoolroom, and have them on hand for periods during the year when there is an elevated level of RH.
b. It is vitally important to ensure that the building's exterior and foundation is sufficiently waterproofed as much as possible given the historic structure and available resources; STHS staff will need to remain particularly vigilant in monitoring for any signs of moisture infiltration and/or elevated relative humidity levels.

c. In any future upgrades, STHS should also investigate options to add climate control to the basement.

d. Explore methods, perhaps with the consultation of an environmental engineer, of improving air circulation in the basement. STHS could install low-power fans in the space, but it likely needs improved venting as well.

2. Environmental Monitoring

Striving for a stringent, narrow range of ideal environmental conditions is less productive for STHS than understanding the average seasonal drifts in conditions. Focus should be placed on environmental monitoring. Monitoring helps to establish baseline temperatures and relative humidity for storage spaces. Monitoring is also a useful tool in gathering hard data on the environmental extremes in areas where collections are stored. Once a year of data has been collected, STHS can identify collections that would best benefit from improved environmental conditions, and explore the option of providing new, upgraded housing and storage spaces for these objects. The materials most susceptible to fluctuating environmental conditions are works on paper and photographs, which should be considered priorities for relocation.

a. Environmental conditions should be monitored on a regular basis in every room where collections are used and stored. Purchase a datalogger system and implement a program that will enable the STHS volunteer staff to document and record adverse conditions in the building and identify which collections items might be at risk.

b. Data resulting from monitoring of environmental factors could be beneficial when approaching funders and board members for support on projects involving upgrades.

3. Light

All light is damaging to collections. Visible and ultraviolet (UV) light cause irreversible damage to collections and must be controlled as much as possible. Light initiates and accelerates chemical reactions that cause weakening, brittleness and discoloration of paper, leather, and adhesives. Light also causes fading. The provision of light levels that meet conservation standards should be an institutional policy. Recommended levels for collections spaces are as follows:

Storage	10-50 lux (1-5 footcandles)	< 75 µW/lm
Circulating Stacks	60-340 lux (6-34 footcandles)	< 75 µW/lm
Reading and Work Areas	330-660 lux (33-66 footcandles)	< 75 µW/lm

A combination of daylight and incandescent lighting illuminates the schoolhouse at STHS. There are numerous windows throughout the space, many of which are covered with shades, but the shades are not always kept closed. This is of particular concern when paper-based collections, and framed objects pertaining to Solebury Township such as maps, are sometimes displayed permanently. Surveyors measured light levels in the center of the school room with the blinds open; while UV was acceptable, visible light exposure was far higher than recommended for a space where collections are on permanent exhibition. Volunteer staff should be aware of the dangers of light exposure, and make efforts to control it as much as possible. Light exposure is not a great concern for collections in storage, as lights are only on when staff is working in the schoolhouse approximately one day per week. Light exposure for materials in the open and on exhibition is of somewhat greater concern.

a. All windows in collections storage spaces should be covered with curtains, blinds, or solar shades to restrict both visible and UV light exposure.

b. All light fixtures in areas where collections are stored and used should be ideally fitted with UV absorbing sleeves, and unless shades are kept closed at all times windows should be covered with UV filtering film.

4. Pest Management

Although there are no persistent problems with pests inside the building, on rare occasion cockroaches have been sighted. Though there has been no known damage to collections as a result of pests, consistent monitoring for any signs of penetration is necessary to prevent an infestation. With the front door of the schoolhouse kept open, eating and drinking allowed in storage spaces, and live plants and flowers permitted, there is always the potential that pests can get in.

a. An integrated pest management (IPM) plan should be developed and implemented. IPM is a means of dealing with living pests, such as insects and rodents, using non-chemical methods. The plan should outline appropriate actions and strategies that can be taken to eliminate pests in a manner that would not harm collections materials. Extermination using chemicals should always be the last resort in handling a pest infestation.

b. In addition to regularly inspecting the building, strategically place glue boards throughout the space. Glue boards should be monitored and documented on a regular schedule (approximately once a month). A glue board should be replaced promptly if an insect has been caught to prevent the attraction of further insects.

c. Establish routine procedures for inspecting all incoming collections for pest infestations to ensure that pests are not introduced into the building. If possible, establish an area where new materials can be segregated for a specified period of time. If a segregated holding area is not available, inspection should be made immediately upon receipt or, if possible, while the materials are still held by the originating donor. Infested materials should not enter collections areas if they cannot be adequately quarantined.

5. Mold

It is important for staff to remain vigilant and address any sign of mold as soon as it is spotted. Mold outbreaks can seriously damage collections and can be a health hazard to staff and visitors, and remediation from a large outbreak would be costly.

a. The elevated levels of relative humidity throughout STHS leave collections at risk for more mold outbreaks.

   Due to a prior outbreak, there are currently moldy materials kept in the basement in plastic storage bins. STHS staff responded to the mold issue by isolating the collections, but must remain vigilant to check for and address any future mold growth that may occur. Since the moldy bins are stored alongside materials that have not been detected to have mold, thoroughly survey the rest of the contents in the basement for mold growth and respond as necessary. STHS has recently received a new donation that staff is uncertain whether it contains mold, and this donation is currently housed in the schoolroom.

   When cleaning a shelf that has signs of mold, remove all material from the shelf, as well as adjacent shelves, and clean and disinfect the shelves thoroughly with a solution of water and isopropyl alcohol. Take great care to ensure that all collections remaining in the room during this process are protected from cleaning supplies. If the mold affected only enclosures themselves and not the material inside, discard the enclosures. If collections have mold damage, surface-clean them – when possible – using procedures described in the body of this report. ***It is always advisable to first consult with a conservator when addressing mold-impacted collections.***

6. Housekeeping

The Board and President perform general cleaning and housekeeping in the schoolroom on an as-needed basis at STHS, though no procedures are formally written down. Shelving units, boxes, bound volumes, and miscellaneous collections items in the schoolroom and the basement are essentially not ever dusted.

a. A formal housekeeping plan should be written that outlines frequency of cleaning, products acceptable to use, and techniques for cleaning areas around collections materials. The plan should establish a cleaning program for collections both in storage and on exhibition to ensure that collections are dusted and cleaned on a regular basis.

b. Ensure that all housekeeping schedules and policies include all collections storage spaces, including the basement.

D. Security and Emergency Preparedness

Loss of collections materials due to theft, carelessness, or disaster can potentially devastate a collection.

1. Security

Fortunately the STHS building and surrounding property have not had problems with break-ins. The building is easily accessible from the street and closed during most of the week. There is no centralized intrusion security system, bells, or alarms, and staff noted that the windows are not secure. In addition, the basement door does not lock. There are only lights that illuminate the walkway to the building. Researchers and visitors are always monitored and in view of staff, but there are no official handling guidelines or registration forms in place for patrons, and visitors are not required to check bags and coats when using collections. Security plans should be evaluated and updated on a regularly scheduled basis, addressing first and foremost the safety of volunteers and visitors, and secondarily the protection of the collections.

a. The Vice President noted that there is very little funding for a centralized alarm system, but STHS should consider installing a security camera that will monitor the exterior and perimeter of their property.

b. At minimum, additional lights should be added to the STHS property to illuminate the entire property and drives leading up to the building, not just the walkway to the schoolhouse. Security lights that trip on when someone is close to the building would be recommended.

c. To ensure better protection, window locks should be upgraded or repaired.

d. Researchers and visitors should be required to register and review handling guidelines prior to accessing the collections materials at STHS.

e. Consider installing an additional handle on the basement door so that at minimum a pad-lock can be used. If this is not feasible, consider constructing a "cage" in which to store the collections material inside the basement as an additional level of protection. Security issues, in addition to the environmental concerns discussed previously, are another reason that significant collections materials should be a priority for relocation out of this space.

f. STHS should maintain close relationship with the local police department and emergency responders, to foster knowledge and understanding of the site and its importance, and to provide all necessary information should assistance be needed.

g. Complete an updated inventory of the collection (including objects that are considered part of the collection but have not yet been formally accessioned), which provides centralized, comprehensive knowledge of the Society's collections in the event of a theft or disaster.

2. Fire

There is no fire detection or suppression system in place at STHS, which is of particular concern since the building is unoccupied for most of the week. There is one fire extinguisher located onsite.

a. Purchase automatic fire detection equipment such as smoke alarms and detectors, which can be discreetly installed in the building on both the ground floor and in the basement. The detectors should be centrally monitored (possibly as part of a new security system), since the building is unoccupied many hours each week.

b. Purchase at least one additional hand-held fire extinguisher. At least one should be available on each floor.

c. Ensure that fire extinguishers on hand are inspected on an annual basis. Provide training for use and maintenance; an easy online training tutorial is available at http://www.fireextinguisher.com.

d. Maintain close contact with the local fire department to familiarize them with the mission and significance of the collection. Invite them to conduct an inspection of the site; such site visits often result in discoveries of previously unseen fire hazards. Share the Emergency Preparedness and Response Plan with the fire department personnel and responders.

3. Emergency Preparedness and Response

STHS has taken a good first step in creating a hidden file on their website that contains all board contact information. However, STHS does not have a written Emergency Preparedness and Response Plan. Although there have been incidents of water infiltration in the basement, fortunately collections have not been extensively impacted by this. Due to the conditions of basement storage, STHS is not entirely certain of the impact this has had on all materials.

a. An Emergency Preparedness and Response Plan should be drafted and implemented, to identify potential risks to the collection, mitigate risk, define disaster procedure and identify resources for collections recovery (perhaps using an online tool such as dPlan or dPlan Lite http://www.dplan.org).

b. Compile a list of collections materials that are a priority for salvage as part of the plan so that non-collections staff and non-collections emergency responders can retrieve the materials in the event that the collections areas cannot be immediately secured for staff entry after a disaster. Periodically review and update these salvage priorities.

c. Develop and maintain an easy-to-use emergency flipchart or other quick use guide for immediate response to an emergency. A condensed disaster plan will be useful for non-collections staff.

d. Plan periodic training sessions on emergency preparedness. Ensure that volunteers, staff and other identified responders are appropriately trained to respond in the event of an emergency, including evacuation, personal safety, and collections salvage procedures. All STHS staff should be trained in emergency response salvage and recovery, including the proper use of fire extinguishers.

e. Maintain a stockpile of emergency supplies on-site, such as plastic sheeting, plastic gloves, a roll of unprinted newsprint paper, sturdy boxes, paper towels, a camera (to document emergency), etc.

E. Collections Care

1. Exhibition

STHS does not currently mount rotating exhibitions featuring material from the collections, but there is one object on exhibit and a few framed materials on the wall on permanent display. If STHS ever does decide to exhibit materials on a rotating basis, they should develop an Exhibition Policy to stipulate rotation schedules, selection criteria, and guidelines for preservation.

2. Storage, Processing, Housing, and Treatment

Some of the largest projects ahead for STHS will be to continue processing their collections, and refine housing for a large portion. The body of the report will provide more detailed recommendations and guidelines for processing and rehousing, but the following tasks should be among STHS's priorities.

a. STHS should address their processing backlog by first developing a processing plan, supported with written guidelines. Staff will need to make decisions regarding a timeline and order in which collections and/or portions of collections will be processed; policies on maintaining original order versus separating/integrating collections by format; preservation procedures such as removing staples and paperclips, unfolding, etc.; and when possible, identify staff and possible intern responsibilities going forward, and identify areas for which additional staffing may be necessary.

b. As part of the above planning process, compile a procedures manual to ensure consistency and provide information on accepted practices for present staff, committee members, other volunteers, and interns.

c. The basement does not offer a consistently appropriate climate. As a priority, collections without mold should be removed from the basement and separated from spaces with more environmental threats. Objects are in boxes without spacers, cabinets, lined on shelves getting dusty, and kept in spaces with moldy materials and moisture. If it is not possible to remove items from the basement, it is highly recommended that the entire basement storage space be reorganized, possibly even renovated, with collections stored in boxes on open shelving rather than in closed cabinets. More specific tips on arrangement and housing will be provided in the body of this report.

d. All collections materials in storage should be kept 4"- 6"off of the floor, on pallets or risers.

e. Any drawers or case surfaces holding paper, textile, or other vulnerable collections materials should be lined with a barrier of acid free card stock or Mylar.

f. Rolled materials should be stored rolled around an acid-free tube, no more than 15 to 20 sheets of paper per roll. Multiple items should be rolled as one unit, not sequentially. The tube must be at least 4 inches longer at each end than the length of the items. A protective covering, such as acid-free unbuffered tissue or a polyethylene sleeve, should then be placed over the piece. Archival suppliers sell acid-free boxes specifically for the storage of rolled works on paper. Documents should not be rolled and slipped inside a tube for storage; once inside the tube, the document will unroll to fill the interior space, making safe removal very problematic.

g. Most framed items in storage can likely be removed from their frames, and stored in document boxes or flat files. If certain frames themselves are significant and should remain with the items, provide vertical storage for frames on shelves or padded risers. Use heavy board stock between framed objects to protect from damage.

h. Some parts of the collections are stored in suitable, acid-free enclosures, but others are stored in boxes and other enclosures that are likely acidic. Check storage boxes and enclosures for acidic content with an Abbey pH pen. This testing pen should never be used on collections materials. Boxes or enclosures with significant acidic content should be replaced. Any new boxes or other enclosure materials that are purchased, such as sleeves or folders, should be acid-free.

3. Digitization and Reformatting

STHS has started working on digitizing the collections, but they do not have a formal Digital Preservation Policy. The Society is also working on making the collections searchable on their website, particularly oral histories, finding aids, typed histories, postcards, and some photos that they have uploaded.

a. A formal Digitization and Reformatting Plan should be written for the collections to support, describe, and provide guidelines for the projects. Criteria for selection should be specified. This plan will drive goals and set best practices for procedures going forward. It will also help them determine capabilities and priorities, and help the President, Vice President, and Board decide whether they should pursue digitization in-house or through an external vendor or initiative.

b. As discussed at the time of the site visit, the photograph collection, a small portion of which has already been digitized, should be considered a priority for digitization. Consider applying for a grant to fund this initiative.

V. Goals

The necessity for thoughtful preservation planning for cultural organizations cannot be overemphasized. At the completion of the site visit, the surveyors created a list of initial goals for the Solebury Township Historical Society in order to jumpstart the planning process. Short-term (completion within the next 12 months), medium-term (completion within 1 to 3 years), long-term (completion within 3 to 8 years), and ongoing goals were identified. The STHS staff and Board are encouraged to expand these goals and develop them further into a preservation plan. Goals within each of the categories are not listed in order of priority.

A. Short-Term Goals

1. Write and implement a Collections Management Policy and Collections Development Policy.

2. Develop a Processing Plan in order to tackle the sizable backlog of unprocessed and uncataloged manuscripts and other material.

3. Complete inventorying all objects in storage, and make decisions regarding which materials will be formally incorporated into the collection, considering which collections will be moved to storage or deaccessioned.

4. Undertake space reorganizations as planned for the ground floor.

5. Begin planning to completely reorganize the basement storage space, which will include sorting through materials currently stored there to separate collections and non-collections items, separating uncontaminated materials from moldy ones. As significant collections items are identified in the basement, transfer them to storage on the ground floor whenever possible.

6. Write and implement a cyclical maintenance plan for the site.

7. Implement a regular schedule of environmental monitoring for both floors of STHS, using tools such as recording environmental dataloggers, enabling volunteer staff to document and measure adverse conditions.

8. Purchase at least one additional hand-held fire extinguisher, ensuring that at one is available on each floor. Ensure that a smoke/heat detector is located in the basement as well, in whatever area will be used for collections storage.

9. Establish more rigorous security practices.
    a. Install a security light that trips on when someone is close to the building or on the property.
    b. Secure the collections in the basement by installing a lock.
    c. Upgrade, repair, or replace window locks.

10. Thoroughly dust and clean shelves and furniture.

11. Keep shades down at all times or replace them with UV-filtering film.

B. Medium-Term Goals

1. As soon as alternate storage arrangements are identified, begin moving collections materials out of vulnerable spaces such as the basement.

2. Identify projects for and begin to work with interns to help with the backlog of processing, such as digitizing the photograph collection.

3. Take action to separate non-collections material from collections material and implement a formal handling policy for collections material.

4. Consult an architect and/or environmental engineer about the moisture infiltration in the basement.

5. Develop an Emergency Preparedness and Response Plan.

6. Line new wood shelves where collections are stored with a barrier such as acid-free cardstock or Mylar.

C. Long-Term Goals

1. Create and implement a full Preservation Plan with a timeline for implementation and assigned responsibilities.

2. Identify damaged collections materials for rehousing and conservation.

3. Continue to develop a Digitization and Reformatting Plan to outline priorities and timelines for these activities. Particular attention should be paid to collections that are currently fragile enough to be unusable.

D. Ongoing Goals

1. Once they are in place, review and update all policies, plans, and procedures on a regular basis, especially the emergency preparedness and response plan.

2. Continue processing, rehousing, and arrangement of collections. As materials are inventoried and processed, identify damaged collections material for rehousing and conservation. Check housing materials for acidic content with an Abbey pH pen and replace as necessary.

3. Continue to thoroughly inspect collections, enclosures, and storage furniture for pests or mold growth, and respond as soon as possible.

4. Continue with regular building maintenance and housekeeping schedules.

5. All items should be raised 4”-6” off of the floor on shelves or risers.

6. Continue to seek outside funding sources for preservation, conservation, and storage of collections.

VI. Findings and Recommendations

A. Preservation Planning

A.1 Findings and Current Conditions

a. Strategic and Preservation Planning

STHS has a Strategic Operating Plan for 2014-2016 related to the entire institution. The Plan presents goals and objectives, some of which will ultimately aid in the preservation of collections, but does not directly address specific preservation needs of the collections. These objectives predominantly address operating plans, budgets, fundraising, grants, and membership. While there is a line item about organizing research materials, this plan is broad in scope and should be accompanied by a more detailed, collections-focused preservation plan.

b. Collections Management

i. STHS does not have a Collections Management policy or a Collections Development Policy, which will clearly define the scope of the collections and inherently prioritize items, identifying those that may be considered for deaccession, and distinguish some that would gain from permanent or long-term storage. During the site visit, staff expressed interest in the development and organization of policies designed to prioritize preservation activities.

ii. While STHS has fair intellectual control over its collections, some work remains to be accomplished to determine exactly what materials are on shelves or in storage that have not yet been accessioned. An important goal for STHS should be to work toward an accurate, updated inventory of the collections, including unprocessed material and works, with shelving location recorded.

iii. STHS is not aggressively pursuing acquisitions, but they do acquire new materials from time to time.

c. Policies and Procedures

i. While STHS has some policy documents in place that guide the collections' care and preservation, most remain to be updated or developed. The STHS Strategic Operating Plan (2014-2016) presents goals and steps for the Society, but does not directly address specific preservation needs of the collections. STHS needs to develop and strengthen policy documents so that they can be used to help guide staff and administration in making preservation-related decisions.

ii. STHS lacks a Collection Management Policy; Collection Development Policy; Preservation Plan; Emergency Preparedness and Response Plan; Handling and Use Policies; Environmental Monitoring Program; Digitization and Reformatting Policy; Housekeeping Policies and Procedures; and Cyclical Maintenance Schedule.

d. Staffing

i. STHS is extremely fortunate to have a highly enthusiastic, supportive, and dedicated board. Part-time volunteer staff members, including the President, Vice President, four Archivists, and high school student workers, accomplish collections care and preservation activities at STHS. Volunteers work approximately 4 to 6 hours per week. All of these individuals are extremely knowledgeable and dedicated to their own various collections preservation responsibilities. Even so, the lack of a full time staff position dedicated to collections management and preservation means that some projects cannot be undertaken and/or completed.

e. Funding

i. While funding is allocated for "Development" and "Education," there is no specific line item for preservation services and supplies listed in the budget. It is important that STHS maintains a regular line item in their budget dedicated to preservation actives, including purchasing the necessary supplies and consulting services for the preservation and conservation of the collections. Without consistent, dedicated budgeting, it becomes difficult to plan for long-term projects and the ongoing maintenance and care of collections.

ii. STHS has been fortunate to be supported by several grants, and to have a proven track record of grant-funded accomplishments, which may help when applying for future funding.

f. Space

i. Storage space at STHS is predominantly all in one room and nearing capacity, and some collections are stored in less than ideal conditions, such as the basement. There is no room for collections to grow in the present arrangements, but the Vice President, board members, and member volunteers are working diligently on a new space plan to allow more processing room and organization.

ii. STHS has been receiving collections of items lately, and could potentially fill usable collections storage space to capacity very soon. There are some areas where collections storage is clearly and coherently separated from areas with other functions, but other areas where collections are stored in boxes or in the basement. As the new plan is formulated and put into practice, the Vice President is working with contractors and members in order to move things around and consolidate shelving for better usage.

g. Access

i. STHS is open to the public every Wednesday from 3 pm to 5 pm and by appointment. Collections receiving the most use are home research, schoolhouse attendance records and grades, and family history. In the past STHS has not welcomed a large number of researchers (two to four per year), but staff expressed a desire to increase research use. Including preliminary finding aids, catalog records, and oral histories on their website is helping raise the collections' profile, but once the collections are fully processed and made even more accessible, hopefully STHS will begin to welcome more researchers.

ii. When the collection is eventually better-inventoried and processed, STHS will need to identify a location for researchers to use the material, and will need to develop access and use policies accordingly.

A.2 Recommendations

1. Strategic and Preservation Planning

When an institution undertakes preservation planning with a clear understanding of the purpose, scope, and nature of its collections, preservation plans can be developed that are responsive to institutional priorities, users' needs, and the preservation needs of the collections. A mission statement that clearly defines the purpose of the collections and a collections development policy that accurately describes the collecting scope and practices form the foundation for preservation planning.

Preventive measures have the greatest impact on the long-term preservation of collections. To the extent practical, preservation planning should focus first on the activities that benefit all of the collections by preventing or minimizing damage or loss, before considering the remedial treatment needs of specific parts of the collection or individual items. For example, it makes little sense to invest resources on conservation treatment only to return items to a poor storage environment or allow careless handling to continue to inflict damage. Preventive measures include the establishment and maintenance of appropriate environmental conditions, disaster preparedness, collections security, proper storage methods and materials, and proper handling and use practices.

Also key to effective preservation planning is the establishment of intellectual control over existing holdings. The staff's knowledge of the nature, scope, and quantity of the collections guides many of the decisions involved in preservation planning, including selecting and prioritizing materials for preservation and determining needs for resources, such as staffing, funding, and supplies. Staff's familiarity with the content of collections also provides information about their value for research, as well as their historical, artifactual, or aesthetic value. The staff's understanding of the value and potential use of collections helps to determine both the priorities for preservation action and the appropriate preservation methods to use.

a. While STHS has a Strategic Operating Plan that presents some goals and objectives, it does not directly address specific preservation needs of the collections. The plan is broad in scope, and should be accompanied by a more detailed, collections-focused preservation plan.

   The needs of the collections are multifaceted and complex, and should be strategically addressed. Collections staff could greatly benefit from having a detailed preservation plan that can direct and guide the ongoing care and management of STHS by outlining collections needs, ongoing projects, and the necessary staffing and funding needed to carry out the projects. Outlining these needs and associated long-term goals in a preservation plan will help STHS staff communicate their vision to the STHS board and funders and remain on task internally.

   STHS should develop a strategic preservation plan that outlines the management, care, and future goals for the collections, with preservation addressed as a stated goal. This should be based on the missions of STHS, the institutional goals, and projected use and growth of the

collections. The preservation plan should outline goals, objectives, and strategies for the next three to five years for the collections. The plan should focus on staffing, funding, space, building, environment, security, emergency preparedness, collections development, access, intellectual control over collections, and more detailed topics that relate specifically to collections preservation. The plan should also outline the actions necessary to provide adequate staff and funding, assign responsibilities, and set a schedule for implementation.

b. To implement the preservation plan, a timetable, with duties assigned, should be developed, taking into consideration staffing and funding levels. A realistic timetable with short- and long-term goals should be established.

c. As part of the planning process, designate when the preservation plan and the strategic plan will be reviewed. There should be at least an annual review of the whole plan. Reviews ensure that the plan is systematically implemented and the process is documented. Depending on annual projects, additional review periods should be established.

Resource:

Ogden, Sherelyn, drafted. "Long-Range Preservation Plan." Minnesota Historical Society, 2010. <http://www.mnhs.org/preserve/conservation/reports/2010longrangeplan.pdf>

2. Collections Management

a. Policies, Plans and Procedures

Having policies, plans, and procedures in place that assist in the governing, planning, and maintenance of the collections is vital in order to have properly functioning and thriving collections. Policies and procedures are essential documents for any collections holding institution to have in place. Some of the policies and plans for STHS are already in place. Staff should collectively review these documents to make sure they are meeting stated goals. In addition, some of the other policy and planning documents that form a collections management framework still need to be established.

If done properly, policy and procedural documents will be items that are regularly referenced by staff and administration. The documents are also valuable in showing public and potential donors that the institution is committed to good stewardship of the collections.

The following chart indicates written policies, plans, and procedures in place at STHS:

Policies/Plans/Procedures	Have Written Policy/Plan/ Procedures	Policy/Plan/Procedures Written but Must be Reviewed and Updated	None (or unwritten)
Strategic Plan		Written (2014-2016) but needs updating.	
Mission Statement	x		
Collection Development Policy			x
Collections Management Policy			x
Preservation Plan			x
Emergency Preparedness and Response Plan			x
Salvage Priorities for Collections			x
Security/Theft Procedures			x
Cyclical Maintenance Plan/Schedule			x
Housekeeping Policy/Procedures			Unwritten policy (2013)
Environmental Standards			x
Environmental Monitoring Procedures			x
Loan Policy			x
Exhibition Policy			x
Access Policy			x
Handling and Use Policies			x
Registration Procedures			Unwritten policy (2006)
Inventorying, Cataloging, and/or Processing Procedures			x
Digitization/Reformatting Plan		Policy in progress but needs to be written.	

Policies and plans that need to be reviewed or developed, adopted and implemented are listed and described below.

- Preservation Plan – a strategic planning document that outlines the preservation needs of the collections and identifies specific projects related to those needs with assigned staff responsibility and timeframes.

- Collections Management Policy – Actually a consolidated series of shorter policies, an in-depth collections management policy is a vital document for any institution to have in place. This policy should include:
  - ❖ Institutional mission;
  - ❖ Collection vision;
  - ❖ Collecting scope;
  - ❖ Acquisitions policy;
  - ❖ Deaccessioning policy;
  - ❖ Loan policy;
  - ❖ General statements on access and handling (these should also be explored in greater depth in their own detailed policies).

- Collections Development Policy – This policy can be written as part of the Collections Management Policy or as a standalone document. A collections development policy should outline in detail the breadth and scope of the collections. A collections development policy can also be used to identify and outline gaps in the collections and designate areas for concentration in future collecting. This will help to identify criteria by which material in the collection can be deaccessioned.

- Exhibition Policy – An exhibition policy should be written and implemented for STHS's few items that are on exhibit that establishes a rotation schedule for sensitive materials (such as photographs, maps, and interior pages of books), light level requirements, exhibit material specifications, and exhibit furniture specifications.

- Processing Plan and Priorities – Written guidelines that identify collections that are a priority for processing (a ranked list, if relevant), and include a timeline for completion. When possible, identify staff responsibilities going forward; identify areas for which additional staffing may be necessary.

- Processing Manual – A manual that describes, in detail, the procedures for processing, arranging, and housing various types of collections and collections materials; allows for consistent procedures for these processes over time.

- Handling and Access Guidelines – A document that provides individuals who will physically use collections material with tips for the safe care of these objects while they are being used for research, shelved, cleaned, reproduced, moved, or touched for any other reason. May delineate different guidelines and stipulations based on different categories of materials, e.g. access copies vs. duplicate copies of items. Addresses procedures for accessing the collections and outlines rules for whom, and under which circumstances, may use the collections.

- Digitization/Reformatting Plan, Housekeeping and Cyclical Maintenance Plans, and Emergency Preparedness and Response Plan – These will all be described in subsequent sections of the report.

Any policies already in place should be reviewed to ensure that they accurately reflect the collections and current procedures.

Resource:

Simmons, John E. *Things Great and Small: Collections Management Policies.* Washington DC: American Association of Museums, 2006.

b. The staff should continue to work through the inventory of the materials in storage, with the eventual goal of having a complete list of all items, official collections as well as unaccessioned material. Although fully cataloging and describing all materials may be a seemingly indefinite project, it is imperative to have a general sense of the collection contents. Cursory box descriptions and volume counts are highly important steps toward intellectual control. A long-term goal for STHS should be to work toward a complete inventory of the collections, including unprocessed material.

   Processing, cataloging, and inventorying will improve access to the collections in the long-term. The provision of access and tools to manage the collections underpins all stewardship activities. Decisions about retention, space requirements, collections interpretation, and preservation needs cannot be adequately made without accessioning, cataloging, and inventorying records.

   As a part of the inventory process, continue to record measurements, condition issues, and rehousing needs. In addition to the ongoing importance of more comprehensive intellectual control, recording this information aids in budgeting staff time, supplies, and financial resources for implementing all further steps to formalize and manage the collection. This information will also be useful for grant applications, reports to the STHS board, and internal planning.

c. Finite processing, storage and re-housing projects should be identified and can be included in grant applications. Projects with defined goals attainable in a limited period of time can be contracted to graduate interns or additional volunteers to complete under the supervision of the STHS regular staff and member volunteers.

d. Copies of all records and inventories should always be kept in two separate locations, one on-site and one off-site location. This will provide documentation of the contents of the collections in the event that STHS's on-site inventories are damaged or destroyed.

3. Staffing

STHS is extremely fortunate to have a highly enthusiastic, supportive, and dedicated board, as well as several committed volunteer archivists. As the Preservation Plan is developed, however, it is vital to take into account the staffing resources necessary to carry out various projects, and evaluate whether these projects can be completed with the current staffing levels. STHS may have to commit to acquiring additional staff (part-time or temporary) to ensure that projects outside of daily duties can be completed on a reasonable timeline. At minimum, interns can be valuable resources of assistance if STHS staff has time to provide proper training and consistent supervision.

It is vital to remember that as the collections are more fully documented and cataloged, and as finding aids and online resources are created, there may likely be an increased interest from researchers. If use of the collections should increase, additional staff time will be needed to assist and monitor researchers in addition to continuing processing, inventorying, and cataloging tasks. Should this occur, it may be necessary to periodically reevaluate staffing needs and adjust staffing levels accordingly.

a. As finite processing, storage, and rehousing projects are identified for which grant funding might be pursued, evaluate the staffing levels that will be necessary for these projects and consider writing in funding for paid project staff.
b. STHS should continue to explore ways it can work with nearby colleges or graduate programs, perhaps offering more formal internships to history, archive, or library science students to work on collections care initiatives. Not only can a good intern be a dedicated worker and complete discrete projects, but he or she can also provide the up-to-date knowledge that comes from being currently enrolled in a professional academic discipline.

c. While developing the strategic plan for STHS, clearly define and record job titles and descriptions for all volunteer staff.

4. Funding

With adequate funding, STHS can accomplish the preservation goals that are identified. A variety of strategies to provide the needed financial support should be developed. All possible funding sources should be explored, such as redistributing regular budget allocations; applying for various local, regional, and national grants; and seeking private donations.

It is imperative that there be an annual preservation budget for supporting collections care activities, including the purchase of supplies and equipment, cleaning, repair, and treatment. Grant funding should be sought for special projects, but STHS should also contribute to funding and maintaining an ongoing preservation program. Funders are supportive of institutions that are committed to collections care as demonstrated in their annual budgets.

In addition to regular funding, public relations and promotion are also vital in accomplishing preservation related goals. Preservation needs to be a component of STHS's public relations efforts to ensure that the preservation concerns for the collections are continually brought to the attention of board members, users, and donors.

a. There is no specific line item for preservation services and supplies listed in the STHS budget. A line item for preservation supplies, activities, and training should ideally be inserted into the budget, and should be consistent and steady from year to year. Without a guaranteed allocation, there is a risk that important preservation initiatives may go unfunded. This could possibly be accomplished by establishing a separate preservation fund, into which donations and other types of funding could be funneled for restricted purposes.

b. Continue to identify and pursue additional grants that fund finite processing, storage, and rehousing projects, using STHS's successful track record with past grant funding such as this survey, funded through the William Penn Foundation, as a model and indication of accomplishment.

5. Space Needs

A preservation plan for STHS must consider adequate and appropriate space for collections storage. Potential options for available collections storage spaces in the schoolhouse must consider square

footage, environmental conditions, potential obstacles to accessibility by staff, accommodations for materials processing, and inclusion of security and fire protection.

While there is ample storage space available in the basement, environmental conditions do not make it a viable space for housing collections. STHS would need to do renovations and reorganize in order to safely store their materials.

Any space utilization plans should take into consideration:

- Adequate and appropriate storage space and furniture for all collections materials (taking into account that collections may require more furniture than just traditional bookshelves, such as flat files).
- Space to accommodate collections growth, in order to minimize future shifting of collections.
- An area where new materials can be safely housed before processing.
- Adequate space for processing collections.
- An area that is segregated from the rest of the collections where new acquisitions can be inspected for pests and mold, and where infested items can be quarantined.
- An area or where administrative supplies can be centralized and easily accessed.
- Adequate space for the retrieval and handling of materials, for example an adequate number of landing spaces and work tables.
- A location that must be able to support the weight of the collections, displays or furniture.
- Protection from areas prone to leaking or flooding.

c. A written collections management policy will clearly define the scope of the collections and inherently prioritize items, identifying those that may be considered for deassession. Deaccessioning material not suitable for STHS's collections, and discarding out-of-scope material that has not been accessioned, will free up storage space that should be occupied by collections. This may be a time consuming project, but should be considered a priority. One of the first steps in this project should be to physically separate collections that will be kept from material that will be discarded**.**

6. Access

As the rate of growth and space needs of the collections are evaluated, additional consideration should be given to providing a secure area where the collections can be utilized by staff and researchers. To aid in this process, additional policies may need to be developed, including an access policy, handling guidelines, and registration procedures.

B. Building Conditions

B.1 Findings and Current Conditions

a. Background

STHS is headquartered in a one-room schoolhouse (plus basement), constructed in 1868. The entire building is constructed of stone. The schoolroom has wood floors, and the basement, which only houses 5% of the collections related materials, has concrete floors.

b. Renovations

In 2014 renovations included a new roof with faux slate, repairing gutters and windows, adding new windows, and painting the exterior of the building. More work is continuing to be done on the interior, with updates to the floors and bookcases.

c. Maintenance

There is no formal cyclical maintenance schedule; the Vice President addresses issues with the building on an as-need basis with an outside contractor.

d. Concerns

i. The STHS building has ongoing problems with moisture, water infiltration, and minor flooding in the basement. Water tends to puddle on the floor and may be seeping through the foundation and walls. STHS staff must remain vigilant in the event that heavy rainstorms or snowfalls could bring about more water problems. This could continue to exacerbate current problems STHS has with mold and mildew.

ii. Although good progress in stabilizing the building has been made, the building has a stone foundation that could be prone to flaking and result in exposure of the stones and bulging, bowing, shifting, or settlement.

iii. Trees and other vegetation surround the property, and are in very close proximity to the building.

iv. The Vice President noted that the chimney needs a new lining, but since it is not urgent, this is not currently a priority for STHS.

B.2 Recommendations

1. Building Issues

The STHS staff and board members must be aware of the interdependent roles that the building, environment, security and fire systems, as well as pest control and housekeeping programs, play in the preservation of archival collections. Staff members need to be very familiar with building, environmental control, internal protection systems, and storage needs of the collections to understand their relationships and to foresee potential hazards that will affect collections.

A systematic approach to building maintenance will prolong the life of the structure and its systems. A failure of the mechanical systems can cause a disaster more expensive to repair than the cost of regular maintenance of these systems.

Any building repairs or structural stabilizations should be considered before dedication to other preservation actions, as the building envelope will affect the entirety of the collections. STHS must be vigilant to inspect the buildings for potential areas of water infiltration and repairs as necessary.

a. A project to upgrade the building against water permeability should be considered if collections are going to remain in the basement. The building's stone foundation and walls are constructed in such a way that condensation may be forming within the wall. An architect, mason, or contractor familiar with historic structures should examine the foundation and walls to determine the extent of damage (potential levels of bulging, bowing, shifting, or re-settlement that may be occurring in the structure) and the urgency of response. An architect can recommend mitigation strategies that may reduce the moisture that is able to infiltrate to the interior of the building, such as methods of more stringently sealing the building's foundation and the possibility of installing an interior vapor barrier.

b. A regular facilities inspection and building maintenance plan should be established and implemented, to ensure continuity and comprehensiveness. The plan should create a schedule for inspection of the various parts of the building, assign responsibilities and also include a schedule for cyclical maintenance activities.

c. For work such as roof repair that has been completed by an outside contractor, establish a regular schedule for the contractor to return to the site to check conditions and potentially recommend follow-up maintenance.

d. Check interior painted surfaces for losses or discoloration that might indicate leakage or moisture penetration. Any areas of ceilings, walls, or storage furniture where paint has cracked or been stained, likely from past water damage, should be repainted so that any new damage can be identified as soon as it occurs.

e. With trees being so close to the building, STHS should incorporate an annual tree and foliage maintenance plan in the cyclical maintenance schedule to ensure any overhanging branches are removed from areas where they could impact the building.

2. Furnishings and Shelving

STHS is in the process of reorganizing and updating storage spaces in the schoolroom, including building wood shelves, rearranging storage furniture, and adding more vertical filing cabinets.

Some archival materials are stored in the basement in metal cabinets. Storing collections inside of closed cabinets is not ideal, for a variety of reasons: the potential for a microclimate to develop, increased risk of mold and insect damage, and increased risk of contamination and deterioration from offgassing pollutants that are inherent to the collections (acidic paper, metal components in binders, etc.). There are also several bins on open shelves containing moldy contaminated materials.

a. In any reorganizations and future renovations, collections staff must be conscious of the materials involved in painting and furnishing the renovated space and installing new storage furniture. Any new investments in furniture, shelving units, or room fixtures such as flooring or

curtains must be chosen with collections care in mind; preservation-safe materials should be used whenever possible.

b. As noted by the Vice President during the site visit, new collections storage shelves will be wooden. Harmful acids and other substances are emitted from wood and wood composites, and some wood sealants and adhesives. Particular materials, surfaces, and sealants are much more suitable than others for preservation. Ideally, shelves should be constructed not from wood, but from metal such as anodized aluminum, powder-coated steel, chrome-plated steel, or baked enamel (as long as it has been tested for proper baking). If wood shelves are to be used, they need to be lined with a barrier such as acid-free cardstock or Mylar.

The following chart provides information on safe and unsafe materials for use in collections storage spaces and furnishings:

Materials	Acceptable Products	Products to Avoid
Paints	Acrylic Latex (Krylon, Rust-Oleum, Ace "Sensations," Benjamin Moore "Eco Spec")*	Oil-based paints and varnishes
	Shellac*	Oil-modified paints and varnishes (alkyd, tung oil, tall oil, mineral spirits)
	Two-part epoxy resins*	Latex paints and varnishes
		Polyurethanes
Wood	Seasoned spruce, mahogany, walnut, basswood, poplar, and balsa	Oak, chestnut, Douglas fir, yellow pine, red mahogany, teak, western red cedar, cork
	Exterior grade plywood that used formaldehyde-free adhesives	Masonite, chip board, particle board, interior plywood, C-grade plywood
	MDF (medium-density fiberboard) that uses formaldehyde-free adhesives	
Plastics	Plexiglas, Lucite	Polyvinyl chloride
	Polyethylene (Colara, Coroplast, Ethafoam)	Bubble wrap
	Polycarbonates	Cellulose nitrate
	Polystyrene	Cellulose acetate, diacetate, triacetate
	Polyester (Mylar, Melinex)	Vinyl lettering, pockets, and sheeting
Metals	Anodized aluminum	Enamel that has not been properly baked
	Powder-coated steel	Any other metal that has not been sealed with appropriate sealants, and thus might be susceptible to chemical off-gassing or corrosion
	Chrome-plated steel	
	Baked enamel (only if it has been tested for proper baking by performing a methyl ethyl ketone rub test)	
Fabrics	Cotton	Wool
	Linen	Animal fur or leather
	Polyester	Nylon 6 and nylon 66
	Acrylic	Permanent press fabrics
		Flame-resistant fabrics
		Sulfur dyed fabrics (many cottons)

* All paint products require 3-4 weeks curing/aeration

Chart adapted from the National Park Service's "5:1 - Safe and Harmful Materials for Use in Exhibits." National Park Service. Exhibit Conservation Guidelines. April 1999.

C. Environmental Conditions

C.1 Findings and Current Conditions

a. HVAC Systems

i. The HVAC system at STHS consists of one in-room air conditioning unit with a condenser outside, which was added in 2007. STHS has an oil-fired forced air furnace that is approximately 15 years old, with foam forced heat. The basement is not served by any HVAC system. It generally stays cool because it is underground, but this is not controlled. Staff expressed concern about relative humidity (RH) in this space, with mold outbreaks the most critical consequence of elevated RH. The archival collections may be subject to poor air circulation. Uneven conditions and constant fluctuations in temperature and RH can be having a negative impact on the collections.

ii. There is currently no system in place controlling RH at the schoolhouse, and the door to the building is often left open for circulation. It is vitally important to ensure that the building's exterior and foundation is sufficiently waterproofed.

b. Environmental Monitoring

There is no environmental monitoring program in place at STHS. At the time of the site visit, STHS did not have the equipment necessary to reliably measure temperature or RH within the building.

c. Temperature and Relative Humidity

i. The thermostat on the main floor is set at temperatures of 58°-63° at all times, unless someone is in the building, at which time it is set to 68°.

The following levels of temperature and relative humidity were measured during the site visit, a warm, humid, post-rain day in autumn, using an Elsec Environmental Monitor:

	Temperature	Relative Humidity
Basement	75.7°F	55.9%
First Floor	77.7°F	75.7%

For the most part, measurements taken during the site visit indicated that temperature was within the ranges recommended for the long-term preservation of the collections. RH in the basement was within normal levels, likely due to constantly operational dehumidifiers, but RH was well above the recommended levels in the schoolroom on the ground floor where the front door was open throughout the visit.

ii. Although RH was not found to be too excessive in the basement at the time of the site visit, due to the standing water and moisture found, it is evident that this space does not offer a consistently appropriate climate for collections. A damp environment can be destructive to paper collections and lead to mold growth.

iii. At the time of the site visit, the door to the schoolroom was kept open for air circulation, and dehumidifiers run constantly in the basement to tend to the moisture infiltration. Since the measurements recorded that day were all just spot readings, they are not nearly as informative as data from ongoing monitoring equipment would be.

d. Light

i. A combination of daylight and incandescent lighting illuminates the schoolhouse at STHS. There are numerous windows throughout the space, many of which are covered with shades, but the shades are not always kept closed. This is of particular concern when paper-based collections, framed objects pertaining to Solebury Township such as maps, are sometimes displayed permanently.

ii. Surveyors measured light levels in the center of the school room with the blinds open. It was a sunny early afternoon but windows were largely obscured by foliage. 486 lux of visible light and 50.7 microwatts per lumen of ultraviolet (UV) light were measured. While UV was acceptable, visible light exposure was far higher than recommended for a space where collections are on permanent exhibition. Volunteer staff should still be aware of the dangers of light exposure, and make efforts to control it as much as possible. Light exposure is not a great concern for collections in storage, as lights are only on when staff is working in the schoolhouse approximately one day per week. Light exposure for materials in the open and on exhibition is of somewhat greater concern.

e. Pest Management

i. Although there are no persistent problems with pests inside the building, on rare occasion cockroaches have been sighted. Though there has been no known damage to collections as a result of pests, consistent monitoring for any signs of penetration is necessary to prevent an infestation. With the front door of the schoolhouse kept open, eating and drinking allowed in storage spaces, and live plants and flowers permitted, there is always the potential that pests can get in.

ii. There is presently no area where collections can be segregated upon arrival. The multi-use nature of the building is also of concern; since there are kitchens, eating areas, live and fresh flowers permitted in the building, and many different types of areas where events are held and people congregate, it might be difficult to control pest infestations in different parts of the building from spreading into collections spaces.

f. Mold

The elevated levels of RH throughout the building put the collections at risk for mold outbreaks. Due to a prior outbreak, there are currently moldy materials kept in the basement in plastic storage bins. STHS staff responded to the mold issue by isolating the collections, but must remain vigilant to check for and address any future mold growth that may occur. STHS has recently received a new donation that staff is uncertain whether it contains mold, and this donation is currently housed in the schoolroom.

g. Housekeeping

The Board and President perform general cleaning and housekeeping in the schoolhouse on an as-needed basis, but there is no housekeeping policy or schedule in place. The building, including collections storage spaces, is cleaned consistently, but the schedule remains unrecorded. Collections theirselves, particularly collections in storage, are essentially never dusted or otherwise cleaned. At the time of the site visit, the schoolhouse was generally clean and orderly.

C.2 Recommendations

A continuing goal for STHS should be to provide spaces that allow for the storage of collections materials in areas that are environmentally stable and that conform to professional preservation standards. Provision of appropriate environmental controls (temperature, relative humidity, air quality, and light) is fundamental for ensuring the long-term preservation of collections materials. A stable environment slows down the deterioration process and is a critical strategy that can continually help the preservation of collections materials.

1. HVAC System

Most preservation investments affect items one by one or in groups, however, the HVAC system provides an environmental situation that impacts the care of the entire collection. Making adjustments to these systems and mitigating drastic fluctuations in temperature and relative humidity is the single largest preservation action that can be taken for the preservation of the collections.

During the site visit, the need for tighter environmental controls was evident. Environmental controls are inconsistent throughout the building: throughout the year, certain areas may hold pockets of warm air while other areas stay relatively cool, and RH may vary drastically throughout the space. There is currently no system in place controlling RH at the schoolhouse, and the door the building is often left open for circulation. These uneven conditions and constant fluctuations in temperature and RH can have a negative impact on the collections.

It is highly unlikely that STHS will be financially and logistically capable of installing an HVAC system to run at all times, and so should focus on understanding environmental condition fluctuations at the site over time to ensure that the system currently relied upon is effective.

a. Since there is currently no system in place controlling RH at the schoolhouse, and RH was found to be high during the site visit, STHS should purchase additional dehumidifiers and have them on hand for periods during the year when there is an elevated level of RH. Volunteer staff must be aware, however, that if dehumidifiers are run and emptied irregularly (i.e. only when volunteers are present), or run constantly but not self-draining (which would cause them to shut off when the vessel reaches capacity), this may create additional fluctuations of RH, which could be destructive to collections and/or contribute to mold growth. It still may be advantageous for STHS to have dehumidifiers on hand in case of a major water event or extended periods of very high RH in the area.

b. It is vitally important to ensure that the building's exterior and foundation is sufficiently waterproofed; STHS staff will need to remain particularly vigilant in monitoring for any signs of moisture infiltration in the basement and/or elevated RH levels in the schoolroom.

c. In any future upgrades, STHS should also investigate options to add some climate control to the basement if collections will continue to be stored there.

d. Explore methods, perhaps with the consultation of an environmental engineer, of improving air circulation in the basement. STHS could install low-power fans in the space, but it likely needs improved venting as well.

e. It is essential that climate control equipment be maintained on a regular basis. Effective climate control systems, along with regular systems maintenance and routine monitoring of environmental conditions, are needed to meet the preservation needs of the collections. These systems and procedures need to be manageable to maintain and support.

   Staff should work with an HVAC contractor to see that the HVAC system is maintained and inspected on a regular basis, and ensure that it is working at maximum capacity. Staff should be aware of the inspection and maintenance schedule.

f. It is important to consider the interior air quality of collections storage areas. Particulate matter can accelerate chemical reactions, including those responsible for deterioration, and can cause abrasion. Gaseous pollutants, most particularly ozone, sulfur dioxide, and nitrogen oxides, increase the deterioration rates of cellulose materials, such as paper and leather. Sulfur dioxide is a major factor in the deterioration of paper, leather, and some construction materials, such as concrete and certain stones. Should sooty greasy particles be observed, the building may be polluted by diesel exhaust.

   Monitoring air quality is difficult and expensive. Solutions to air quality issues would require installation of complex filtration systems, which would be a cost that STHS would not likely want to incur. However, HVAC systems should be equipped with air filters with the highest level of filtration efficiency that the systems can handle. Ensure that filters are appropriately changed as needed. If the air ducts are dirty, they should be cleaned.

2. Environmental Monitoring

Monitoring, recording, and analyzing existing environmental conditions in collections storage is an essential step in instituting and maintaining a stable environment that meets conservation standards. Monitoring helps to establish baseline temperatures and relative humidity for storage spaces. Monitoring is also a useful tool in gathering hard data on the environmental extremes in areas where collections are stored.

a. Purchase recording environmental dataloggers for each space where collections are used or stored. One type of reliable, relatively inexpensive datalogger is the Hobo, produced by Onset Corp.

b. As part of the environmental monitoring program, ensure that the data gathered is properly analyzed on a regular basis. Online software tools, such as the Image Permanence Institute's freely available eClimateNotebook.com, can assist with data analysis. In order to assist in the analysis, systematically record weather conditions and events in the building, such as basement or wall leaks that would affect environmental conditions. Once one year of data has been collected, note any extreme changes in environment that may have occurred and, if necessary, consult an environmental engineer to determine the cause of any severe fluctuations and possible methods to address them. An engineer can make recommendations for cost-effective changes that can be made to the current HVAC systems so that they can function more efficiently, or an upgraded system that will disallow the need for supplementary heating, cooling, and dehumidification.

c. Although environmental controls are inconsistent throughout the school building, it is important to recognize that many of the STHS collections materials have had years to acclimatize to their space. Sometimes artifacts, especially those that are permanent fixtures or furniture, that have been stored in an environment with lack of controls for decades may have already "learned" to adjust to seasonal changes, and would be better served to stay in that environment.

3. Temperature and Relative Humidity

New research indicates that some flexibility in ranges of temperature and humidity levels over time may be safe for some collections materials, as long as there are not extended periods of extreme conditions, and there is careful environmental monitoring and data analysis in place.

In 2009, the American Institute for Conservation (AIC) developed a working group to recommend new environmental requirements for loans (as requested by the American Association of Museum Directors) that reflect current research in this area. The AIC group established interim guidelines in 2010, which will be further refined in the coming years. The interim guidelines are:

	Recommended Goal	Recommended Range
Temperature	59 - 77°F	
Relative Humidity	45 - 55%	+/- 3%

Keep in mind that these are broad and general guidelines. While it is important to be aware of these specifications, even more vital than reaching ideal temperature and relative humidity set points is to have an environment that does not have extreme fluctuation.

Extremes in relative humidity (below 40% and above 60%) can potentially cause irreversible physical damage in many objects. Some artifacts will be better preserved in low RH ranges; for example, most photographic materials should ideally be stored at 20-40% RH. Complex objects that are constrained (e.g. scrolls with their composite layers of materials, furniture, and wooden frames) require tighter parameters, as the different materials will expand and contract at different rates. Variations in temperature are generally better tolerated than variations in RH. However, higher temperatures increase the rate of chemical reactions, including those that decay paper-based materials.

While it may not be possible to meet ideal specifications, it may be feasible to mitigate the fluctuations and provide more stable conditions through minor modifications to the HVAC systems. The door to the

schoolroom should be kept closed at all times in order to mitigate any potential swings in temperature and relative humidity where collections are stored.

4. Light

All light is damaging to collections; light damage is cumulative over time and irreversible. Light initiates and accelerates chemical reactions that cause weakening, brittleness and discoloration of paper, leather, and adhesives. Light also causes fading. The provision of light levels that meet conservation standards should be an institutional policy.

Recommended light levels for collections storage and work areas are:

Storage	10-50 lux (1-5 footcandles)	< 75 µW/lm*
Circulating Stacks	60-340 lux (6-34 footcandles)	< 75 µW/lm
Reading and Work Areas	330-660 lux (33-66 footcandles)	< 75 µW/lm
Exhibition	55-165 lux (5-16 footcandles) *for no longer than six weeks*	< 75 µW/lm

* µW/lm = microwatts per lumen

a. Volunteer staff should be aware of the dangers of light exposure, and make efforts to control it as much as possible. Light exposure is not a great concern for collections in storage, as lights are only on when staff is working in the schoolhouse approximately one day per week. Light exposure for materials in the open and on exhibition is of somewhat greater concern.

b. Daylight from all windows should be restricted with the use of curtains, blinds, or solar shields, even if UV-filtering film is installed. While light is not a concern for the portions of the collections that are boxed, it is of concern for those materials that are stored open on the shelves and walls, and those that will be exposed to light during research and processing.

c. All light fixtures in areas where collections are stored and used should be fitted with UV absorbing sleeves, and windows covered with UV filtering film, otherwise shades should be kept closed at all times.

d. Exhibition

   Materials that are particularly prone to damage caused by light, such as books, photographs, paper documents, and textiles, should ideally only be exhibited for finite amounts of time. When rotating items on exhibition, consider the following recommendations:

   i. Purchase or borrow a light meter to monitor light levels in potential exhibition spaces. If exhibitions are mounted, continue to monitor on a consistent basis.

   ii. Exhibit reproductions as much as possible. Use high quality facsimiles instead of original photographs, documents, or artwork.

   iii. Consider the placement of items on exhibition so they are located in areas with limited light exposure. Sensitive materials should be placed in the areas with the lowest light levels.

iv. Never leave paper-based artifacts on "permanent" exhibition unless they are considered expendable. Frequently rotate sensitive materials, such as books, photographs, hand-written documents, and textiles. Recommended light levels for paper-based collections on exhibition is 55 to 165 lux for no longer than six weeks.

5. Pest Management

Even though a large-scale infestation has not occurred at STHS, a plan should be put in place to deal with the problems that are present and to detect new pests should they appear. Even the occasional presence of water bugs is a concern. With the front door of the schoolhouse kept open, eating and drinking allowed in storage spaces, and live plants and flowers permitted, there is always the potential for pests.

a. Integrated Pest Management (IPM) Program

STHS should consider developing an Integrated Pest Management (IPM) Plan. IPM is a means of dealing with living pests, such as insects and rodents, using non-chemical methods. IPM focuses on preventing future pest infestations as well as managing infestations that may already be present, through means such as controlling the climate, food sources, and building entry points. The IPM Plan sets a schedule of monitoring, housekeeping, and identification of pests that may be found. IPM is the safest manner of pest control for cultural institutions, since chemical pesticides and cleaners may cause damage to collections material.

An IPM program can be implemented with the assistance of a consultant familiar with libraries, archives, and museum collections, and maintained for all areas where collections materials are stored. An IPM program includes an assessment of the current pest management procedures and potential spots of vulnerability; a program to monitor pests by a routine inspection of collections areas and placement of glue boards; the written recording of any pests found; the exact identification of the insects or other pests if a pest problem or infestation occurs; and the use of eradication procedures appropriate to the specific pest and the infested materials. The use of appropriate eradication procedures, rather than nonspecific sprays or poisons, is safer for humans and collections, and is usually more effective.

b. In addition to a regular visual inspection, staff should place insect glue boards strategically about the building. They should inspect the collections and the glue boards on a regular schedule and record any insects found (approximately once a month.) If an insect has been caught, the glue board should be replaced promptly to prevent the attraction of further insects.

c. Establish a written protocol for inspecting all incoming collections to ensure that pests are not introduced into the building, and for collection materials that are found to have or suspected to have a pest infestation. If possible, establish an area where new and/or infested materials can be segregated for a specified period of time. If it will not be possible to segregate material in a designated separate area, inspect materials immediately upon receipt or, if possible, while the materials are still held by the originating donor. Infested materials should not enter collections storage areas if they cannot be adequately quarantined.

d. Infestation Procedures

The presence of pests should be considered a symptom of a larger problem. Investigating the cause of the pest or insect infestation is a necessary part of the response to the infestation. If an insect or pest infestation occurs in the building, consult with an exterminator or pest management consultant who has experience with cultural collections for appropriate eradication techniques. Before the introduction of any pesticides or fumigation occurs in the building, research should be done to ensure that the proposed procedures would not harm the collections or people. Caution is needed in the assessment and use of pesticides as they present health hazards to people and potentially damaging effects to collections items.

e. Promote good housekeeping practices that keep the workspaces and storage areas clean. Good and consistent housekeeping is the first defense against pests. Prohibit food and drink in areas where collections are used and stored.

6. Mold

It is important for staff to remain vigilant and address any sign of mold as soon as it is spotted. Mold outbreaks can seriously damage collections and can be a health hazard to staff and visitors, and remediation from a large outbreak would be costly.

a. The elevated levels of relative humidity at STHS leave collections at risk for more mold outbreaks. Staff must thoroughly survey the rest of the contents in the basement and incoming donations for mold growth and respond as necessary.

b. An area should be established where materials with mold can be segregated for a specific period of time.

c. The mold must be thoroughly cleaned off any incoming collection before they are physically integrated into the collections. If collections staff are not comfortable doing the cleaning on their own, and/or if the extent of necessary cleaning is too great to handle in-house, consult a conservator.

d. For collections that have mold damage, test with a small, natural-hair brush to determine whether the mold is dormant/inactive (dry and powdery) or active (soft and smeary). Active mold will continue to grow and damage collections. Dormant mold will cause no further damage unless spores germinate and it becomes active once more, which may happen if the relative humidity increases again.

Cleaning should be done after mold is inactivated. Attempting to clean active mold from paper or other porous materials tends to embed the mold in the paper. Unless great care is taken to avoid embedding the mold, the result can be worse disfigurement and loss of legibility. Inactive mold can be readily vacuumed or wiped away using dry surface-cleaning methods with minimal additional damage or disfigurement.

It is advised to consult a conservator before doing any mold removal, but it is imperative to do so if mold is still active. A conservator can advise on appropriate approaches to inactivation and

mold removal based on types of collections materials and physical condition, as well as provide necessary training for staff.

e. For valuable and/or fragile collections materials, a conservator or a skilled technician should carry out all mold removal.

For storage furniture, enclosures, and some collections materials, such as papers or books that are in stable condition, vacuuming is the most effective method for quickly removing dry, inactive mold residue. Vacuuming avoids spreading or further embedding the mold. A vacuum with variable suction controls is always recommended.

All mold cleaning procedures should use the following guidelines:

- Any vacuum used to remove mold should be equipped with a HEPA filter to prevent spores from spreading. The exhaust should be directed into a fume hood or outdoors. Rig a homemade ventilation system if necessary by working at a table below a window with a strong exhaust fan.

- Always use a respirator, goggles, and gloves.

- Any parts of vacuums that come in direct contact with moldy surfaces/materials should be cleaned with isopropanol (rubbing alcohol) or detergent. Rags used during the cleaning process should be changed frequently. Used rags should be placed in a closed container and washed in detergent and/or bleach, or discarded. Any blotters or papers used for drying or protecting surfaces should be discarded. Place all disposable cleaning supplies in sealed, polyethylene bags prior to removing these items from the "dirty" area for disposal.

- Tables, counters, and work surfaces should be regularly cleaned with isopropanol.

i. To clean paper and porous material:

- Lift mold with a soft, natural-hair brush into a variable-suction vacuum device, or

- Vacuum papers through a fiberglass screen held down over the paper with weights.

- Dry cleaning using a grated vinyl eraser or vulcanized rubber sponge may be necessary for thorough cleaning after vacuuming has removed most of the residue. If an eraser is used, brush used eraser crumbs into the vacuum. *It is important to be aware that the paper structure and media surface can be physically compromised and weakened by mold damage; always handle artifacts very gently and carefully.*

ii. To clean bindings and boxes:

- Direct vacuuming using controlled suction is acceptable for boxes and books in stable condition. Adjust the suction of vacuum to condition of objects. Book should be vacuumed in-situ (on shelves) prior to removal for more thorough cleaning.

- After vacuuming, bookbindings and boxes can be thoroughly wiped with dry rags or cleaned using dry eraser-cleaning methods described above to remove additional mold residue if necessary.
- Books should be held firmly closed during cleaning. The pastedown and flyleaf inside the cover can be vacuumed or surface cleaned as necessary.

iii. To clean photographs:

- Mold damages and destabilizes the emulsion that forms the photographic image of most prints and negatives. *Photographs, therefore, should not be cleaned without the advice of a conservator.*

- If only the back of a print exhibits mold residues, it can be very carefully cleaned in the same manner as paper.

f. Implement a formal mold monitoring plan. Collections staff should systematically inspect collections, with a schedule and process for recording findings. Hopefully any future mold issues can be addressed before they spread and cause extensive damage.

7. Housekeeping

A regular housekeeping program is essential to the preservation of the collections. Having clean conditions is important for long-term collections care and for good emergency preparedness. Dust, dirt, and debris can not only accumulate and cause damage to collections items, but also can potentially complicate collections salvage operations. When materials are handled, dust and dirt will stain and abrade papers and books. If there is a disaster, such as a water leak, the recovery will be complicated by the presence of dust and dirt.

a. STHS staff should formalize procedures and draft a housekeeping schedule and plan to supplement the unwritten procedures that are in place. The housekeeping plan should outline the frequency of cleaning, products that are acceptable to use, and acceptable techniques for cleaning areas around collections materials. Ensure that all housekeeping schedules and policies include all areas where collections are used, including the basement. The policy should provide strict guidelines and appropriate training in desired cleaning practices that should be used by anyone who will do the cleaning. The plan should include not only the rooms themselves, but also storage furniture, enclosures, and collections items that are not in enclosures.

b. Cleaning products can be a source of interior pollution. The contents of any cleaning and polishing products being used in collections storage areas should be evaluated to determine if any should be replaced with ones less harmful to the interior environment and collections. For example, cleaners containing peroxides or ammonia should not be used in proximity to collections.

c. Food and drink should be prohibited in any area where collections are stored, and limited/monitored if possible in all spaces where collections are used.

D. Security and Emergency Preparedness

D.1 Findings and Current Conditions

a. Security

i. The STHS building is exposed to the street and can be easily accessed through the adjacent rear parking lot. Being closed most of the week, it is fortunate that the STHS building and surrounding property have not had problems with break-ins or incidents of crime. There is no centralized intrusion security system, bells, or alarms, and staff noted that the windows are not secure. In addition, the basement door does not lock. The only lights are those that illuminate the walkway to the building.

ii. Researchers and visitors are always monitored and in view of staff, but there are no official handling guidelines or registration forms in place for patrons, and visitors are not required to check bags and coats when using collections.

iii. There are no procedures in place to document thefts or vandalisms. The lack of a complete inventory is also a security concern, since in the event of a theft or disaster it would be difficult or impossible to know what was lost or damaged without a comprehensive list of holdings.

b. Fire Detection and Suppression

There is no fire detection or suppression system in place at STHS, which is of particular concern because the building is unoccupied for most of the week. There is one fire extinguisher located onsite.

c. Emergency Preparedness

STHS does not have an Emergency Preparedness and Response Plan. Some basic supplies for emergency response may be on hand, but they have not been identified as such and consolidated into a response area or kit. Staff members have not been trained in any emergency response procedures. Salvage priorities have not been established for the collections. Fortunately, the site has not suffered any collections loss or severe damage as the result of any emergency or disaster incident in recent years; the first two iterations of the schoolhouse building burned down and had to be rebuilt, but that was hundreds of years ago.

D.2 Recommendations

Loss of collections materials due to theft, carelessness, or disaster can potentially devastate a collection. The collections staff should work to carefully evaluate current security plans, first in terms of staff and visitor safety and secondarily in regards to collections safety.

1. Security

While STHS has been fortunate not to have any major incidents, there need to be better security procedures and systems in place to ensure that they can provide the needed protection for staff, visitors,

and the collections. Security procedures should be reviewed on an annual basis. Staffing levels should reflect the safety requirements for staff and the collections.

a. The Vice President noted that there is very little funding for a centralized alarm system, but STHS should consider installing a security camera that will monitor the exterior and perimeter of their property.

b. At minimum, additional lights should be added to the STHS property to illuminate the entire property and drives leading up to the building, not just the walkway to the schoolhouse. Security lights that trip on when someone is close to the building would be recommended.

c. To ensure better protection, window locks should be upgraded or repaired.

d. Researchers and visitors should be required to register and review handling guidelines prior to accessing the collections materials at STHS.

e. Consider installing an additional handle on the basement door so that a pad-lock can be used. If this is not feasible, consider constructing a "cage" in the basement in which to store any collections which might remain there as an additional level of protection.

f. STHS should maintain close relationship with the local police department and emergency responders, to foster knowledge and understanding of the site and its importance, and to provide all necessary information should assistance be needed.

g. Complete an updated inventory of the collection (including objects that are considered part of the collection but have not yet been formally accessioned), which provides centralized, comprehensive knowledge of the STHS collections in the event of a theft or disaster.

h. STHS should develop a full security policy that covers documenting thefts and vandalism, as well as day-to-day procedural details regarding the protection of collections. This can be written in conjunction with an Emergency Preparedness and Response Plan.

2. Fire

Although many of the risks for fire can be mitigated, there are uncontrollable events that can cause a fire, such as human error and arson. The need for adequate fire detection throughout storage areas is critical because of the speed and totality of the destruction and loss of materials that can occur in a fire.

Periodically evaluate the fire protection needs for the collections. The National Fire Protection Association (NFPA) has a number of publications that can assist in assessing the fire protection needs of an institution. There is a useful assessment checklist in the *NFPA 909 Standard* (see below).

a. There is no fire suppression system at STHS. If a fire were to occur, it may spread very quickly and the damage to or loss of collections materials could be high. Incorporating a building-wide suppression system within the historic structure would be a major, costly endeavor that may not be feasible for STHS to undertake, so it is important to know how a fire would affect the site and take all precautionary measures.

b. Purchase automatic fire detection equipment such as smoke/heat alarms and detectors, which can be discreetly installed in the building, including in the basement. The detectors should be centrally monitored since the building is unoccupied many hours each week. Once installed, smoke and heat detectors should be inspected annually.

c. Purchase at least one additional hand-held fire extinguisher to have onhand in the basement. At least one should be available on each floor.

d. Ensure that fire extinguishers are inspected on an annual basis. Fire extinguishers' locations should be marked on floor plans that are posted on each floor. Provide training for use and maintenance. An easy online training tutorial is available at <http://www.fireextinguisher.com>.

e. Annually review procedures for evacuation.

f. Maintain close contact with the local fire department to familiarize them with the mission and significance of the collection. Invite them to conduct an inspection of the site; such site visits often result in discoveries of previously unseen fire hazards. Share the Emergency Preparedness and Response Plan with the fire department personnel and responders.

g. Maintain an ongoing emergency and fire safety program, including fire drills for staff and volunteers. Emergency preparedness training should be a component of the staff orientation training programs.

h. Fire exits and evacuation routes should be kept unobstructed, clearly identified, and well marked on floor plans.

i. Paints, solvents, and any other toxic or flammable materials on-site should be moved to a fire-rated metal cabinet stored separately from the collections.

Resource:

National Fire Protection Association. NFPA 909: Standard for the Protection of Cultural Resources Including Museums, Libraries, Places of Worship, and Historic Properties. Quincy, MA: 2013. Available for purchase, or online as a read-only document. Requires free registration: <http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=909>

3. Emergency Preparedness

The provision of adequate emergency preparedness systems and procedures, including internal and external security systems, fire detection and suppression systems, emergency response and recovery plans, evacuation routes, emergency supplies on-site, and staff training in emergency procedures, is needed to minimize the risk of loss of materials and to ensure the safety of staff and visitors.

Preparation, mitigation, and swift and appropriate response are cost effective approaches. Response to a small or major disaster should be as quick as possible. It is essential that STHS maintain procedures that allow for fast and coordinated response and decision making in the event of a disaster. Procedures need to be in place so supplies and hiring of consultants and vendors for recovery efforts can be procured quickly.

An Emergency Preparedness and Response Plan is an integral part of a comprehensive Preservation Program. The preparation and continued updating of a plan has several benefits including identification of areas of risk and hazards, establishment of procedures and systems to mitigate potential risks, determination of collections priorities, and development of procedures for quick response to limit damage to collections.

a. STHS should develop a written Emergency Preparedness and Response Plan, perhaps using an online tool such as dPlan or dPlan Lite for guidance <http://www.dplan.org>.

b. Once in place, review and update the plan on an annual basis, or more frequently if necessary, with a staff member assigned this responsibility.

c. Assign volunteer staff roles during collections recovery as part of the planning process.

d. Copies of the Emergency Preparedness and Response Plan should be kept off-site at homes of relevant volunteer staff and board members. Procedures should be developed to ensure that updated call lists and supplier lists are distributed to all who have an emergency manual.

e. Develop and maintain an easy-to-use emergency flipchart or other quick use guide for immediate response to an emergency. A condensed disaster plan will be useful for non-collections staff.

f. Compile a list of collections materials that are a priority for salvage as part of the plan so that non-collections staff and non-collections emergency responders can retrieve the materials in the event that the collections areas cannot be immediately secured for staff entry after a disaster. Periodically review and update these salvage priorities.

g. If feasible, install water alarms that are incorporated into the centralized alarm system in the basement storage space. The water alarms will give the staff early warning of water infiltration into the space from a flood or leaking pipe.

h. Plan periodic training sessions on emergency preparedness for the volunteer staff and board. Ensure that staff is appropriately trained to respond in the event of an emergency including evacuation, personal safety, and collections salvage procedures. All members of the response team should be trained in emergency response salvage and recovery, including the proper use of fire extinguishers. Assign staff roles during collections recovery as part of the planning process.

i. Copies of all critical and vital records, such as inventories, personnel records, cataloging records, accession records and emergency plans, should be stored off-site in a safe location to ensure their security and accessibility in the event of a disaster. Documentation for insurance or disaster relief aid can be made only if a full inventory is available.

j. Maintain a stockpile of emergency supplies on-site, such as plastic sheeting, plastic gloves, a roll of unprinted newsprint paper, sturdy boxes, paper towels, a camera (to document emergency), etc. A list of supplies to have on hand for emergency response will be included with the appendices of this report.

k. Be familiar with insurance policies. Ensure that there is appropriate collections documentation required for insurance claims. Consider insurance coverage for collections salvage.

E. Collections Care and Storage

E.1 Findings and Current Conditions

The volunteer staff and board at STHS have accomplished a number of positive steps toward the long-term care of the collections, and should be commended for their efforts. Staff members have been well trained in and are enthusiastic about preservation, processing, and other aspects of collections care; shortfalls should not be seen as a lack of knowledge but are generally a consequence of limited funding, staff time, and space on-site.

a. Digitization and Reformatting

STHS has started working on digitizing the collections, but they do not have a formal Digital Preservation Policy. STHS is also working on making the collections searchable on their website, particularly oral histories, finding aids, typed histories, postcards, and some photos that they have already uploaded.

b. Exhibition

i. The schoolroom houses several items on permanent exhibit, including a Solebury framed 1857 map; a Farmer's Club photograph hung in a frame with an acidic mat, protected with a dark cloth; and a framed stock certificate hung above the photograph without protection from the elements. STHS's most valuable item in the collection, a Revolutionary War Bowl, is currently exhibited in a UV-restricting glass case.

ii. Collections on exhibition are vulnerable to damage from both visible and UV light from windows, doors, and lighting fixtures. The potential for fading and damage to these paper-based materials is especially high.

c. Collections Storage

Some of the largest projects ahead for STHS will be to continue processing their collections, and refine housing for a large portion. Notes on condition (including concerns) in STHS storage spaces are as follows. This list is not comprehensive.

i. Unprocessed collections are somewhat disorganized and not stored optimally. Collections are stored in cardboard boxes that are likely acidic or plastic tubs that are not appropriate for long-term storage. In several areas, boxes and collections materials are stacked on the ground. This is found with collections of unprocessed certificates, school records, autograph books, sketchbooks, and recipe boxes.

ii. The basement does not offer a consistently appropriate climate, and storing collections inside of, underneath, and incorporated with items that are already affected by mold creates a

compromised arrangement. The materials that are presently stored in such spaces are subject to great damage. Objects are in boxes without spacers, in cabinets, placed directly on shelves and therefore accumulating dusty, or kept in spaces with moldy materials and moisture. As these items were not thoroughly treated and cleaned by a conservator to remove the mold, this is a concern. Even if the mold is not active and not likely to cause further damage to the collections, these materials should be removed from the enclosed space (which could be creating a detrimental microclimate) and thoroughly cleaned.

iii. An assortment of objects, some of which may be considered collections materials and some of which are clearly not, are presently stored locked in a metal cabinet in the basement. This cabinet contains such varied items as bank papers, AV materials, oral history cassettes, easels, beer, and a printer. It is not recommended to store collections materials inter-mixed with non-collections.

iv. STHS is in the process of reorganizing storage spaces in the schoolroom, including building wood shelves, rearranging storage furniture, and adding more vertical filing cabinets. Rearranging storage spaces to provide more appropriate conditions for collections is a priority, as many of the storage arrangements at the time of the site visit were not ideal. Books housed on shelves directly below windows, for example, are subject to undue levels of light exposure.

v. While some collections are housed in quality, acid-free enclosures, some boxes and enclosures are older and may likely be acidic.

vi. There are numerous framed items that likely do not need to stay in their frames. The frames, which are likely not valuable or significant to the items contained, are taking up undue space and may even harm collections within if they are not made of preservation-grade materials.

E.2 Recommendations

1. Digitization and Reformatting

Digitization and other methods of reformatting can be the final step in processing collections. It provides a use copy so that originals can be stored and used infrequently. Limiting the use and handling of the original, which may be brittle or damaged, reduces risk of further damage. However, it alone should not be seen as a preservation method because it preserves the information but does not preserve the artifacts. While care must be taken in considering digital imaging as the format for permanent collections, this technology provides the benefit of enhancing retrieval and access. The conversion of collections to digital format will enable staff to store original materials, thus preventing unnecessary damage as a result of use.

STHS staff needs to continue to keep up-to-date on preservation issues regarding new digital technologies.

a. A formal Digitization and Reformatting Plan should be written for the collections to support, describe, and provide guidelines for all projects. Criteria for selection should be specified. This plan will drive goals and set best practices for procedures going forward. It will help STHS

determine capabilities and priorities, and help staff decide whether they should pursue digitization in-house or through an external vendor or initiative.

A Digitization Plan can be defined as follows:

A document that delineates an institution's priorities and selection criteria for choosing which material to digitize/reformat; explores the digital asset management plan once electronic surrogates have been created and must be stored; and may explain basic procedural information such as care and handling while digitizing. This policy should also include at least a statement regarding intellectual property of items that are digitized and their surrogates that are created.

b. Collections that have the potential to be heavily used, particularly if they contain multiple media and/or have fragile or compromised portions such as scrapbooks and photographs, should have reproduction access copies available so that originals can be safely stored and handling can be minimized.

c. Collections staff must continue to be aware of storage, access, and preservation needs for digital files, and explore options for digital asset management systems. Any digital surrogates will need storage space, arrangement, and ongoing preservation initiatives just as their physical counterparts do.

d. Consider applying for a grant to fund this digitization initiative.

Resource:
Cornell Digital Imaging Tutorial
<http://www.library.cornell.edu/preservation/tutorial/contents.html>

2. Exhibition

Rotating exhibitions might be an opportunity for STHS to raise the profile of their collections and invite more visitors; staff must be very cautious to always keep preservation as a top priority if this should happen.

While exhibition is not a key aspect of STHS's mission, if they do ever begin to mount rotating exhibitions they should develop an Exhibition Policy to stipulate rotation schedules, selection criteria, and guidelines for preservation of those few items on permanent exhibit.

Some strategies for providing a safe exhibition environment include:

a. An exhibition policy should be written and implemented that establishes a rotation schedule for sensitive materials (such as photographs, textiles, and interior pages of books), a housekeeping schedule and procedure list for exhibitions, light level requirements, exhibit material specifications, and exhibit furniture specifications.

b. Keep a log of all collections materials placed on exhibition and the length of time they were on display; this can be noted on the object record.

c. Whenever possible, exhibit quality facsimiles instead of original paper items. Consider replacing the framed materials currently on permanent exhibition with printed digital surrogates.

d. Examine all hanging hardware and wires on framed materials and evaluate for soundness.

e. Exhibited objects should not overlay each other; overlaying can cause permanent "shadows" from resulting light damage, as well as fading and discoloration.

f. Exhibition supplies and furniture should take into consideration the preservation needs of the pieces on exhibit. Any materials that are used in an exhibition should be chemically stable and not emit any gasses. When on exhibition, artifacts should be fully supported in order to minimize stress and damage to the piece.

g. Security conditions need to be evaluated in areas identified for exhibition space and any necessary improvements implemented prior to installation.

h. Develop ways to minimize the exposure of light on exhibition materials.

Recommendations for the appropriate length of light exposure during exhibition depend upon the type and condition of the item, such as the type of paper (rag or wood pulp), the type of medium and color, sensitivity to light damage, degree of damage, the irreplaceability, etc. As a general rule, a book, work of art, artifact on paper, textile, or photograph should not be on exhibition at the below recommended light levels for more than six weeks. This exposure time can be shortened or lengthened depending upon the specific item and the exact light level within the range. Advice from a conservator can help set an appropriate length of exhibition time in relation to light exposure.

Recommended light levels for paper-based collections on exhibition are 55-165 Lux.

Some methods of limiting light damage to artifacts on exhibition are:

- UV filtering film can be placed on the glass in exhibition cases in order to limit UV light exposure.
- Consider the placement of items on exhibition so they are located in areas with limited light exposure. Sensitive materials should be placed in the areas with the lowest light levels.
- Rotate sensitive materials, such as books, broadsides, photographs, maps, and textiles. It is generally recommended that paper-based materials displayed at the above recommended light levels be rotated every six weeks. Collections items should not be on permanent exhibition unless they are considered expendable in the long-term.
- Purchase or borrow a light meter so light level readings can be taken when exhibitions are installed. The readings can help make good decisions about where to place light sensitive materials.

3. Storage, Processing, and Rehousing

All collections items should be stored in ways that minimize damage. Provision of a stable environment, security, adequate space, proper storage materials, and appropriate furniture is crucial for ensuring the long-term preservation of the collections.

Storage materials for collections materials should be carefully chosen. Good storage enclosures can help to protect collections but poor quality enclosures can create a more inhospitable storage environment. It is important to remember that just because a product is carried in an "archival" catalog does not mean that it is appropriate to use with collections; collections caretakers must also be informed consumers.

The term "archival" is a commercial term used to describe materials that manufacturers feel are suitable for long-term storage. However, the term has gained such a broad definition that the word has become nearly meaningless. Rather than assuming something labeled "archival" is safe to use with the collections, use specific requirements to ensure that the materials are appropriate. For STHS, materials purchased for the storage should be labeled as acid-free, lignin-free, and buffered. Any storage materials used for photographic collections should be labeled as passing the Photographic Activity Test (PAT). Definitions of these terms are in the chart below.

Term	Definition
Acid-free	Acid-free is a term used to describe papers or boards that are between pH 6.0 – 9.0 at the time of their production. This designation does not guarantee that the material described is good for collections storage, as it may become acidic as it ages. It is important to also look for products labeled lignin-free.
Lignin	Paper made from wood-pulp might contain lignin, which is a naturally-occurring complex aromatic polymer. Having lignin in a paper will cause the paper to rapidly become acidic, brittle, and yellowed. Newspapers are usually printed on a wood-pulp paper containing lignin. However, not all wood-pulp paper is bad. Wood-pulp papers that have had the lignin chemically removed can be as safe as cotton-based papers. **Look for products labeled lignin-free.**
Buffered	Buffered paper enclosures contain an alkaline material that elevates the pH of the paper to a 7.5-9.5 range. Buffered papers, paperboards, and matboards contain an alkaline reserve material such as calcium carbonate and have a pH between 7.5 and 9.5 which is intended to neutralize acids as they are formed. Buffered materials contain 3% (by weight) of calcium carbonate, which is added to the paper pulp during the manufacturing process.

There are numerous recommended storage, processing, and rehousing activities that lie ahead for STHS. Detailed advice on a number of different collection formats is provided in Section VI, General Collections

Care Information. The following points include recommended actions that were discussed during the site visit, and may not cover the totality of tasks that should be accomplished.

a. STHS should address their processing backlog by first developing a processing plan, supported with written guidelines. Staff will need to make decisions regarding a timeline and order in which collections and/or portions of collections will be processed; policies on maintaining original order versus separating/integrating collections by format; preservation procedures such as removing staples and paperclips, unfolding, etc.; and when possible, identify staff, volunteer, and possible intern responsibilities going forward, and identify areas for which additional staffing may be necessary.

b. Some space that could be used for collections storage at STHS is currently occupied by material that may be outside of Solebury Township's collection scope. If this material can be deaccessioned, areas may be re-evaluated and fit for efficient storage.

c. As part of the above planning process, compile a procedures manual to ensure consistency and provide information on accepted practices for present staff, committee members, other volunteers, and interns.

d. The basement does not offer a consistently appropriate climate. Collections without mold should be removed from the basement and separated from spaces with more environmental threats. If it is not possible to remove items from the basement, it is highly recommended that the entire basement storage space be reorganized, possibly even renovated, with collections stored in boxes on open shelving rather than in closed cabinets.

e. As discussed during the site visit, books that are currently on shelves below windows will be moved to the newly built bookshelves.

f. Wood is not ideal for collections storage furniture; wood, wood composites, and some wood sealants and adhesives can emit harmful acids and other substances. A level of protection can be gained by placing inert material like acid-free mat board or a sheet of Mylar between the wood and the collections. Wooden shelves and drawers should be lined with some type of this barrier material. An extra layer of protection can be added by inserting small books or pamphlets into Mylar enclosures or L-sleeves.

g. Check all storage boxes and enclosures for acidic content with an Abbey pH pen, and replace any boxes or enclosures with significant acidic content with acid-free lignin-free housing materials. Any new boxes or other enclosure materials, such as sleeves or folders that are purchased should be acid-free.

h. Place photographs into individual inert plastic sleeves (made of polyester, polyethylene, or other materials that pass the Photographic Activity Test). Once housed in individual sleeves the photographs can then be placed into acid-free folders and appropriately sized boxes. If photographs are not placed in their own separate polyester sleeves, they must be separated from each other with acid-free interleaving paper.

i. While there is at least one flat file unit used for oversized documents, posters, maps, etc., within this flat file, materials should be placed into appropriately sized folders that are made to fit the size of the container or file drawers for consistency and ease of retrieval. Flat files should be organized so like materials are stored together. In general, it is always recommended that like materials are stored together. Materials should be stored in acid-free buffered folders, with folders cut to fit the size of the drawer and not the size of the object it contains; this minimizes shifting within the drawers. Items within the flat file should be stored by size, with smaller items on top of larger pieces to help prevent distortion while in storage.

j. All collections materials in storage should be kept 4”- 6”off of the floor, on pallets or risers. Any drawers or case surfaces holding paper or other vulnerable collections materials should be lined with a barrier of acid free card stock or Mylar.

k. Rolled materials should be stored rolled around an acid-free tube, no more than 15 to 20 sheets of paper per roll. Multiple items should be rolled as one unit, not sequentially. The tube must be at least 4 inches longer at each end than the length of the items. A protective covering, such as acid-free unbuffered tissue or a polyethylene sleeve, should then be placed over the piece. Archival suppliers sell acid-free boxes specifically for the storage of rolled works on paper. Documents should not be rolled and slipped inside a tube for storage; once inside the tube, the document will unroll to fill the interior space, making safe removal very problematic.

l. Most framed items in storage can likely be removed from their frames, and stored in document boxes or flat files. If certain frames themselves are significant and should remain with the items, provide vertical storage for frames on shelves or padded risers. Use heavy board stock between framed objects to protect from damage.

VI. General Collections Care Information

This section of the assessment includes general recommendations for housing collections materials by format. The information contained below should be used in conjunction with the specific recommendations in section III, E when making housing decisions for the collections.

Archival Materials

The main concerns for the preservation of archival materials are the provision of adequate storage space, proper storage materials, a place for safe usage, and provision of appropriate finding aids.

1. Handling and Access

With archival collections, use of original collections items should be limited. If part of a collection is used frequently, consideration should be given to photocopying or digitizing those items that are of high value or regularly used in order to limit use and handling of the originals. Having a duplicate copy of archival materials also allows staff to store the original in safe and appropriate environmental conditions while still having easy access to a use copy. Duplication can be done on an as needed basis, as a routine practice when items are originally taken, or selectively for frequently used items.

2. Storage

As collections are being arranged and described, transfer materials into appropriate housing. Collections can be stored in boxes or file cabinets. Ensure that the boxes chosen for archival collections have lids. Assuring that lids are placed on boxes reduces the amount of dust and dirt that may accumulate on the documents inside. In addition, if boxes have open spaces on the sides for handles, be sure that these are also covered to reduce the dust and dirt from accumulating inside the box.

Boxes should be made from acid-free paperboard. Paper boxes are preferred above other types such as plastic, even hard plastic that will not leach harmful chemicals into the boxes' content. Paper boxes act as an environmental buffer; for example, in an occurrence of high relative humidity, the box itself could absorb some of the moisture from the air and thus create a barrier to protect the collections within. In addition, paper has the capability to "breathe" and does not create a microclimate. If items are placed in a closed plastic box, any pollutants (including acid from acidic paper, and chemicals from many inks) or adverse environmental conditions trapped inside the box will not be able to escape and will accelerate the aging process of the materials within.

i. Store all archival boxes in an upright, vertical position. Storing boxes horizontally creates a large amount of weight and pressure on those materials that are stored at the bottom of the boxes; by storing the boxes vertically, the weight and pressure is distributed evenly throughout the box.

ii. Review all of the storage boxes and cabinets to ensure that they are packed properly. Archival boxes should not be packed so tightly that the boxes are heavy and folders are difficult to retrieve, nor should they be packed so loosely that items within are slumping. For those boxes that are overfilled, separate the contents of the boxes into two separate boxes. For those boxes

that are not full enough, insert spacers made from acid-free board that keep materials upright, or create larger spacers by cutting inert foam such as Ethafoam.

iii. Records should be stored in folders or sleeves for additional support, not loose in a box. Envelopes can be used, but it is hard to safely retrieve fragile items from an envelope without risking damage.

iv. Ensure that file folders are not overfilled. Archival quality folders can be scored to accommodate different amounts of paper.

v. While processing, remove all fasteners, such as pins, paper clips, staples, and rubber bands from the documents. If fasteners are essential, purchase stainless steel paper clips, which are sturdier and cause less warping of the originals than plastic paper clips.

vi. Brittle, paper-based archival materials can be backed by acid-free, buffered paper such as MicroChamber or Permalife and inserted into polyester L-sleeves for protection.

vii. Boxes, file folders, envelopes, and wrappers that house paper-based collections should be buffered to a pH of 8-8.5 and have an alkaline reserve of 1-3% calcium carbonate. Supply companies should be able to provide the specifications for their materials. Catalogs and suppliers use a variety of terms for housing materials, such as archival quality, acid-free, and Perma/Dur. Regardless of the name, ensure that the materials meet the specifications stated above.

Check all archival boxes, folders, and other housing materials for acidic content with an Abbey pH pen. This testing pen should never be used on collections materials. Boxes and housing materials with significant acidic content should be replaced.

viii. Segregate highly acidic materials, such as newspaper clippings, from other materials either in separate folders or separate locations. Photocopy the newspaper clippings onto acid-free paper to keep as the permanent copy. The originals can be discarded or saved for exhibition.

ix. All folders should be labeled in pencil for easy access and to eliminate unnecessary handling of materials. After the collections are arranged and described, location numbers corresponding to the inventory, finding aid, or folders will also eliminate unnecessary handling. Do not use pressure sensitive labels, such as Post-it ™ notes, which will eventually fall off of folders.

x. Take care with storage and handling of fragile and brittle materials. It is possible that a folded item might break or crumble while being handled. If an item appears to be this fragile, do not open or remove the item and risk further damage. Consult a conservator about procedures to flatten brittle and damaged materials.

3. Conservation Treatment

Fragile, damaged, and rare materials should be assessed for their treatment needs. Conservation treatment by a qualified conservator should be considered for materials that are historically and artifactually valuable.

Whenever material is submitted for treatment, a conservator should provide a written condition report, treatment proposal, and an estimate, which must be approved before treatment is begun. The American Institute for Conservation (AIC) can provide a copy of the professional Code of Ethics and Standards of Practice.

Bound Materials (Books)

The major concerns for bound materials such as books are maintaining stable environmental conditions that meet conservation standards, ensuring that all of the fragile volumes have been identified so strategies for housing and treatment can be implemented, and developing strategies to limit handling of the most fragile and valuable materials.

1. Storage of Bound Volumes

   i. Store volumes upright or flat. Avoid shelving or storing the volumes on their fore edge. Large volumes should be stored flat or, if necessary, spine down.

   ii. It is important that bookends be provided for support. When new bookends are purchased, they should have a thick profile, as opposed to the thin sheet metal variety that tends to cut into bindings and text block edges.

   iii. Volumes that are exceptionally rare, fragile, damaged, or highly susceptible to light damage should be stored in acid-free boxes, card wrappers, or in acid-free paper wrappers.

   iv. Establish procedures for the selection of materials for boxing, wrapping, and repair. The selection of a treatment option involves a balance of factors including the condition of an item, available treatment options, use, storage conditions, exhibition needs, intrinsic value, historical and research value, and significance to the collections as defined by the collections development policy. Cost of treatment options and available funds are also factors to include in the decision. Treatment options should be investigated on a regular basis.

2. General Housing Information for Books

There are a variety of ways to provide adequate support for storage and protection of bound materials, such as acid-free boxes, card wrappers, polyester film jackets, polyethylene wrappers, or acid-free paper wrappers. Proper housing of materials will also facilitate handling objects. These various types of enclosures can be purchased from archival suppliers (such as Conservation Resources, Gaylord Bros., University Products, Custom Manufacturing, Inc., and commercial binders), or made in-house.

If volumes with leather decay such as red rot (a deterioration of the leather caused by acidity) are causing handling or housekeeping problems, box these items or wrap them in inert plastic book jackets made from polyester film. If volumes are seldom used, they can be wrapped in acid-free paper. This is the least expensive option, but can be most cumbersome if frequent unwrapping and rewrapping is needed to access the volume.

3. Treatment

Valuable and/or heavily used bound volumes or pamphlets that are deteriorating should be assessed for conservation treatment. Treatment options can range from no treatment, repair, commercial rebinding, encapsulation, reformatting, to full conservation treatment. Each item will require individual evaluation to assess condition, artifactual value, financial value, and role in the collections. Full conservation treatment should be considered only if the item is valuable and historically significant to the collections.

i. Special consideration should be given when repairing or rebinding rare materials in order to preserve the integrity and artifactual value of the book. A book conservator should be consulted for treatment options for rare materials.

ii. Conservation treatment should be considered for materials that are historically and artifactually valuable. Whenever material is submitted for treatment, a conservator should provide a written condition report, treatment proposal, and an estimate, which must be approved before treatment is begun. The American Institute for Conservation (AIC) can provide a copy of the professional Code of Ethics and Standards of Practice.

Oversized Loose Materials

1. Storage of Oversized Materials

i. Maps, prints, architectural drawings, and posters should be stored in acid-free, unbuffered folders, about ten items per folder, and placed in flat files. The weight of the folder stock should be 10 or 20 points. Folders should be labeled with an inventory of their contents. Placing the materials in folders provides additional protection and facilitates their removal and replacement. The folders should be constructed, or purchased, to fit the file drawer and not the individual piece. This will allow conformity within the drawer and assist the easy retrieval of materials. Place folders seam side towards the front of the drawer to prevent items from slipping when removing the folder.

ii. As much as possible, group like-sized materials together to assist in handling and to prevent uneven support for materials that might cause damage. Smaller items should be placed on top.

iii. Fragile and damaged materials should be identified. Additional support is needed for storage and protection from adjacent materials. If an item needs to be used, place it in a presentation folder that allows researchers to view the object without removing it from the folder.

iv. Due to space constraints it may be necessary to store some oversized materials rolled. If this is necessary, these materials should be rolled around an acid-free tube, no more than 15 to 20 sheets of paper per roll. Multiple items should be rolled as one unit, not sequentially. The tube must be longer at each end than the length of the items. A protective covering, such as acid-free unbuffered tissue or a polyethylene bag, should then be placed over the piece. Archival suppliers sell acid-free boxes specifically for the storage of rolled works on paper. Documents should not be rolled and slipped inside a tube for storage; once inside the tube, the document will unroll to fill the interior space, making safe removal very problematic.

v. Rolled items should be stored horizontally in cabinets designed for rolled storage, on the tops of map cases, on oversize shelves, or in large flat boxes. Rolled materials should not be stored

upright in bins or standing on the floor, which will cause the items to shift to the bottom of the tubes with increased possibilities for damage.

vi. If materials are brittle or difficult to unroll, no rehousing should be done until a conservator has been consulted.

Photographs

1. Storage for Photographs

In order to ensure the long-term preservation of the photographic collections, attention needs to be given to providing good environmental conditions and proper storage materials. For long-term stabilization, some damaged photographs may need some conservation treatment, such as cleaning and mending.

2. General Housing Recommendations for Photographs

Storage enclosures for photographic materials should conform to the recommendations specified in *ISO 18902-2001 Imaging Materials - Processed Photographic Films, Plates, and Papers - Filing Enclosures and Storage Containers*. This standard was formerly ANSI/PIMA IT9.2 *Photographic Processed Films, Plates, and Papers - Filing Enclosures and Storage Containers*. Paper enclosures in direct contact with photographic material should have a high alpha-cellulose content and be free of lignin (groundwood), alum rosin sizing, and sulfur. Papers in contact with black and white photographs should have a pH of 7 to 9.5 and an alkaline reserve of 2%. Papers in contact with color photographs should have a pH between 7 and 8 and do not need an alkaline reserve (buffer).

Plastic enclosures should be stable and inert, and meet the requirements of the Photographic Activity Test (PAT). The PAT is a predictive test of reaction between an enclosure material and photographic material. Many suppliers of archival products provide this information about their materials.

Paperboard boxes that contain photographs, but are not in direct contact with them, should have a pH between 7 and 9.5 and an alkaline reserve of 2%. A product that proves especially useful for storage of photographs and negatives, known as MicroChamber, incorporates a material called zeolites, or molecular sieves, into the paper or paperboard. Zeolites trap gaseous pollutants either present in the environment or those produced by the deterioration of the artifact. Testing has shown that these materials provide additional protection for paper artifacts and photographic prints enclosed within them. Though it is less clear that the rate of deterioration of film negatives is significantly slowed by the presence of zeolites, it is known that damaging gasses produced by deteriorating cellulose acetate or cellulose nitrate negatives are trapped within the structure of the enclosure. This is significant since these gasses can damage other artifacts and present a health problem to workers.

i. Ideally, photographs should be housed in individual sleeves or folders. If this is not practical, several photographs can be housed in one folder. These photographs should be interleaved with papers that are especially made for use with photographs. Interleaving is essential, especially if photographs have notes and labels adhered to the back. Interleaving prevents the photographs from sticking to each other and causing surface abrasion.

ii. Fragile and brittle photographs should be housed in polyester film. Polyester film offers more physical support than other plastic materials. Photographs mounted on paperboard should also be housed using polyester film. If brittle or damaged photographs will not be handled, storage in individual folders is acceptable and less costly.

iii. Photographs that are presently enclosed in unidentified plastic sleeves should be resleeved in Mylar or placed in folders with acid-free interleaving paper.

iv. Photographs that have been stored in glassine envelopes should be removed from the glassine and refoldered. Glassine is a material that begins as inert, but deteriorates and becomes acidic relatively rapidly over its lifespan. It should only be used, if at all, as a very short term storage solution.

v. Oversize photographs should be stored flat in folders in metal flat files or large drop-front acid-free boxes.

vi. The storage folders should be slightly larger than their contents. Since oversize photographs require special care in handling, use folders of a slightly heavier stock than 10 point to provide the additional support needed. Ensure that folders are not over-full and interleave photographs with papers that are especially made for use with photographs. Like-sized photographs should be stored together. An addition of 2-ply rag board may be needed for additional support in folders with larger photographs.

vii. Prints with significant tears should be sleeved or housed in polyester film folders for physical support.

viii. Have some presentation folders available for use when visitors come to view the prints. A presentation folder will allow visitors to view an item without removing it from the folder, and will assist in safe handling.

ix. Original and duplicate negatives should be stored in individual sleeves or envelopes of archivally stable materials. Negatives in good condition and polyester negatives can be stored in appropriate plastic enclosures or buffered paper. High-use negatives should be stored in inert plastic enclosures in order to reduce handling.

x. Cotton or latex gloves should be worn at all times when handling photographs and negatives. If the individual handling the photographs is allergic to latex, nitrile gloves are an acceptable substitute.

3. Treatment

i. Damaged photographs should be identified. Before duplication, photographs with long tears or broken mounts should be treated in order to have a better scan.

ii. Damaged photographs should be examined by a photograph conservator for possible conservation treatment, such as cleaning and mending, for long-term stabilization.

Audio and Video Materials

Audio, film, and video (AV) materials have unique preservation needs because of their fragility and the specialized playback equipment that is needed to retrieve the information that they hold. Identifying formats, understanding the risks, and assessing the condition of materials, should be the first steps when caring for an AV collection.

1. Environment

    i. AV materials, such as magnetic tapes, digital video discs (DVDs), and compact discs (CDs) are highly susceptible to dirt, dust, and airborne pollutants. Good storage and housekeeping are vital for the preservation of these materials.

    ii. Providing stable environmental conditions is one of the primary methods of preserving AV materials. Ideal environmental conditions for these materials are: 65-70 degrees Fahrenheit and 40-50% relative humidity. Lower temperatures and relative humidity are recommended for film collections to lessen the rate of deterioration.

    iii. Optical discs, which include CDs, DVDs, and mini DVDs, should not be subject to prolonged light exposure. When subject to long-term light exposure, optical discs have been shown to deteriorate dramatically.

    iv. Cleaning products can be a major source of interior pollution. Strong bleaches or other oxidizing chemicals can have a very damaging effect on magnetic materials in particular. When cleaning any storage areas that contain magnetic tapes, use a minimal amount of water to clean floors, and static free cloths to remove dust from shelves and containers. Ideally, no chemical cleaning solutions should be used in areas that contain these materials.

2. Storage

    i. If AV material is found within a larger collection, such as a manuscript collection, it is recommended that the cassettes or DVDs be removed from the collection and stored in a separate AV collection. Standard record cartons are acceptable as storage containers.

    ii. Magnetic tapes (VHS, cassette tapes) and optical discs (CDs and DVDs) should be stored vertically, as one would shelve a book. AV materials should not be stored horizontally for an extended period of time, as this places unwanted pressure on the tape or recorded surface.

    iii. Make sure that tapes are wound smoothly and evenly. The best way to ensure that tapes are wound evenly is only to use the play and reverse modes on playback equipment. The fast forward and rewind modes on most playback equipment wind the tape with an uneven tension.

    iv. Before a tape (video or cassette) is placed into storage, remove the tab on the tape that puts the tape in to “save mode.” This will ensure that the tape is not accidentally recorded over when being used on the playback equipment.

v. Do not store tapes near strong magnetic fields. Also, do not store on windowsills, even temporarily, televisions, electronic equipment, or any type of machinery.

3. Handling

i. AV materials should only be handled using white cotton gloves. Handling materials with gloves is especially important with materials where the recorded surface can easily be touched, such as CDs, DVDs, film, and reel-to-reel tape.

ii. CDs and DVDs should be handled only by the center hole or outer edges. Every effort should be made to never touch the recorded surface.

iii. Audio and videotapes should be inserted and ejected from playback machinery at points on the tape that holds no information. This should be done in order to avoid potential damage to the tape and any information that it may contain.

iv. Optical discs should be marked using only a non-solvent based felt tip pen. Fine tip markers and markers containing solvents, as well as pens, or pencils should never be used to mark CDs or DVDs as they can cause irreparable damage to the recorded surface.

v. Develop a plan for the purchase and regular maintenance of any playback equipment that would be necessary to make these collections materials accessible.

4. Reformatting

i. As insurance against loss of information, multiple copies of AV materials should be made as back-ups. Reformatting can involve either creating additional physical copies in either the same or a more physically stable format as the original; or digital reformatting, by creating a digital copy of the original. If digitization is chosen as a reformatting option, the same considerations must be taken as when digitizing images or documents - ensure that digital files are securely backed up and that file formats are consistently migrated as standards may change.

ii. Two copies should be set aside as archival copies, with a third copy being designated the use copy. If possible, one of the archival copies should be stored off site. In any circumstance, analog or digital, it is usually considered imperative to save the original item from which copies are made.

iii. As playback equipment for certain formats becomes obsolete and/or difficult to replace or repair, it may be necessary to reformat materials in order to preserve them. If playback equipment is not available for a recorded format, all previous preservation efforts are, in effect, null and void.

Newspapers

Since nearly all newspapers are brittle and will eventually deteriorate to a degree unsafe for usage, all original newspapers should be properly housed and use limited or completely restricted. A policy to limit use of newspapers should be developed and enforced.

1. Original newspapers should be stored flat in acid-free boxes. Each issue should be in an acid-free folder. An 80 pound text-weight paper folder can be sufficient for these issues.

2. If newspapers are placed in permanent storage and not used by researchers, the papers should be wrapped in acid-free paper and stored flat in boxes on shelving that fully supports the newspapers.

3. The main effort in preserving any newspaper collection is to ensure that all of the newspapers are reformatted. Microfilming or scanning is essential in order to limit use of the original and to ensure that the intellectual content of the newspapers is saved. The urgency for staff to film the newspapers depends on the use of the collection and quality of available film.

Scrapbooks

1. Storage

   i. Scrapbooks with compromised bindings and/or loose pages should be placed in enclosures such as custom-built phase boxes.

   ii. Store volumes upright or flat. Avoid shelving or storing the volumes on their fore-edge. Large volumes should be stored flat or, if necessary, spine down. Store oversize volumes flat on shelving units that provide support for the whole volume. Only stack two to three volumes high to avoid problems with retrieval. Ensure that the smaller volumes are on top of the larger ones to prevent warping or unnecessary stress on the bindings.

   iii. Place sheets of acid-free interleaving paper between pages of scrapbooks.

   iv. Alternately, if the binding is not considered integral to the value of the scrapbook and/or can be stored on its own, disband the scrapbooks and place each page in its own polyester sleeve.

2. Reformatting

If a volume has the potential to be heavily used, a use copy should be made available, and the original placed in storage. Preservation photocopy, microfilm, or digitization are three viable options to consider for making a use copy.

Framed Works on Paper and Paintings on Canvas

1. Ensure that all framed materials are properly mounted. Proper framing can greatly reduce the risk of damage to the surface of the materials. A backing board should be applied to framed pieces. A backing board prevents the canvas, document, or photograph from accidentally being punctured

from behind, and helps to reduce the accumulation of dirt and debris. A rigid or semi-rigid material, such as foam core, Coroplast, or blueboard, can be used as backing materials.

2. All framed materials should be examined to make sure that they are held securely in their frames.

3. Hanging wires on all framed materials should be inspected. If any of the wires are frayed or rusted they should be replaced. In addition, inspect all of the hanging hardware to ensure that it is in good condition and appropriate for the size and weight of the piece.

4. Ensure that all works on paper that are stored in frames are properly framed. Proper framing can greatly reduce the risk of mechanical damage such as tears and punctures, and chemical deterioration, such as fading. (Note: Any paper or photographic artifact permanently "stored" on exhibit is at risk of light-induced damage. Improved framing, such as UV filtering glazing, only slows the deterioration process, it does not prevent it.) Works on paper should be securely hinged or secured to a backmat. There should be sufficient space between the surface of the artifact and the glazing to allow for natural expansion and contraction of the paper sheet while preventing direct contact of the artifact with the interior surface of the glazing.

5. Inspect all framed works on paper to ensure that they are all matted and framed using conservation grade materials.

    - Mats should be made of pH neutral, 100% ragboard.

    - Ultraviolet-filtering acrylic sheeting should be used for glazing of most framed paper artifacts, friable media excluded.

    - Hinges should be made of 100% mulberry paper adhered with wheat starch paste.

    - A sealed package is recommended for display of paper or photographs in less than ideal environments. In addition to the above materials, the frame package is sealed along the edges and Marvelseal (a nylon, foil, polyethylene laminate), a vapor barrier, is applied on the reverse. The sealed package protects the object from dust and atmospheric pollutants and helps mitigate against fluctuations in temperature and humidity.

6. Frames should be stored vertically in bins or mounted to hanging racks. Bins need to be appropriately sized to allow frames to slide all the way in, thus avoiding potentially uneven light exposure and other accidental damages. Corrugated cardboard interleaving can be used to protect and isolate frames within the vertical bins.

7. If a framed piece must be leaned against a wall for temporary storage, it should be placed on padded blocks to protect the frame and to keep the piece elevated off of the floor. If framed objects are stacked against each other, they should be placed back-to-back and front-to-front.

Textiles

1. Storage and Handling

i. Small textiles should be stored in acid-free boxes using unbuffered acid-free tissue.

ii. Boxes should be as large as possible so that textiles do not have to be folded unnecessarily. If it is necessary to fold a textile, all of the folds must be cushioned with lengths of acid-free tissue.

iii. If possible, only one piece should be stored per box. If this is not possible due to space limitations, limit the number of pieces per box and ensure that they are loosely packed.

iv. Cotton gloves should always be worn when handling textile collections.

2. Cleaning

i. Wet cleaning of historically valuable textiles should only be done by a trained conservator.

ii. Dry cleaning of historically valuable textiles is not recommended since the chemicals used in the process can degrade some fabrics.

iii. Surface dirt may be easily removed from a textile in good condition if it has no three-dimensional decoration, such as beading, sequins, or feathers. To remove the surface dirt, cover the nozzle of a low suction vacuum with a soft, flexible net material, such as nylon netting, available at most fabric stores. Slowly vacuum the textile by lightly moving the vacuum nozzle across the surface of the textile. Always move the vacuum in the same direction; do not use back and forth motions.

Three-Dimensional Objects

Three-dimensional objects require significantly different housing and handling guidelines from paper-based materials and have distinct needs depending on composition and condition, which must be individually evaluated.

1. Ideally, small to medium sized objects should be stored in acid-free boxes that are the appropriate size for the artifact. Boxes would not only protect the objects within but could be stacked in order to consolidate and maximize shelf space. Objects should always be made secure inside boxes and measures should be taken to ensure that the objects do not shift inside the box. Materials such as acid-free unbuffered tissue, polyester batting, and Ethafoam can be used inside a box to prevent shifting. If more than one object is to be packed into a box, padding materials are essential to ensure that materials do not shift or touch. Objects should not be stacked inside of boxes unless there is a rigid support separating the layers of materials.

2. If objects are not boxed, but rather placed directly onto shelves, the shelves should be lined with a barrier material, such as Ethafoam or acid-free board, so that objects sit on a flat surface rather than directly on the ridged shelves. In addition, if stored in this manner, dust covers should be made for the shelving, or a plan for the regular dusting of these materials should be implemented.

3. Depending on the condition and design of an object, it may require a custom made storage mount in order to keep it secure during storage.

4. When using shelves for the storage of smaller items, adequate space should be left around objects so that they can easily be retrieved without disturbing surrounding items.

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September 2015

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