CONSERVATION ASSESSMENT PROGRAM SURVEY REPORT
ARCHITECTURAL CONSERVATION ASSESSMENT

for

LAKE of the RED CEDARS MUSEUM

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Site Survey: July 28-29, 2014
Final Report: September, 2014

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ACKNOWLEDGMENTS

Funding for these services has been provided through the Conservation Assessment Program (CAP) by Heritage Preservation, administered by the Institute of Museum and Library Services (IMLS), and the assistance of each agency is gratefully acknowledged.

Julie Zasada, Vice-President of the Board of the Cedar Lake Historical Association, Inc., Tom Brown, Board Member and Past President, Scott Bocock, Association Historian, Anne Zimmerman, Museum Director and LouAnn Miller, Board Member, all provided invaluable assistance during the site visit and by completing the Site Questionnaire and furnishing copies of other relevant materials concerning the history and structural condition of the buildings. Their time and efforts in preparing for and conducting the Site Visit are much appreciated and their commitment to the Lake of the Red Cedars Museum is inspiring.

Ramona Duncan-Huse, Senior Director, Conservation at the Indiana Historical Society, who performed the Collections Assessment Report, provided information concerning the conservation needs of objects in the collection and shared valuable insights into issues that need to be addressed in the Strategic Plan being undertaken by the Association. Her open communication and creative ideas have been invaluable in this process.

EXECUTIVE SUMMARY

Purposes and Objectives of this Report:

The Lake of the Red Cedars Museum is located on the shore of Cedar Lake in Cedar Lake, Indiana. The Museum is operated by the Cedar Lake Historical Association, Inc. and is open to the public from May through September. This report summarizes the findings of an architectural conservation survey, made in conjunction with a collections conservation survey, undertaken on July 28-29, 2014, the purpose of which was:

- To observe conditions which affect the well-being of the buildings as historic structures and;
- To observe conditions which affect the well-being of collections housed within these buildings and;
- To offer recommendations for the correction or further investigation of conditions causing or contributing to the deterioration or damage of either the buildings or collections.

In their request for funding these reports the institution identified the following objectives:

- To improve the preservation of the building
- To improve environmental conditions
- To use as a tool for funding preservation of the buildings
- To develop a long-range plan for the Museum
- To increase staff awareness of collections preservation concerns
- To increase institutional commitment to collections
- To improve collections care

Prioritized Recommendations:

The following criteria have been used to prioritize recommendations for rehabilitation of the building:

Critical (Should be addressed within one year)

- An advanced state of deterioration that has resulted in the failure of a feature, or will result in the failure of a feature, if not corrected within one year; or
- Accelerated deterioration as a result of the feature's deficiencies if not corrected within one year; or
- An immediate threat to the health and/or safety of the user; or
- A failure to meet a legislated standard

Serious (Should be addressed within one to three years)

- A deteriorated condition that, if not corrected within one to three years, will result in the failure of the feature; or
- A threat to the health and/or safety of the user may occur within one to three years if the ongoing deterioration is not corrected; or
- Ongoing deterioration of adjacent or related materials and/or features as a result of the feature's deficiency

Minor (Should be addressed within three to five years)

- Standard preventative maintenance practices and preservation methods have not been followed; or
- Reduced life expectancy of affected adjacent or related materials and/or systems within three to five years and beyond; or
- A condition with a long-term impact within three to five years.

Critical:

Paint, thinner and all other flammable materials should be stored in metal fireproof cabinets except when being used. Until drywall has been installed in the rooms under rehabilitation on the second floor, it is recommended that all flammable materials be removed from the building when not in use.

The Strategic Plan should be completed.

The Strategic Plan should include a Space Allocation Plan.

The Archives should be moved to the first floor.

Collections accessions and cleaning rooms should be moved to the second floor immediately adjacent to the outside stairway.

Consideration should be given to relocating the Director's Office.

Suitable space should be allocated for rocker storage out of exit hallways.

Timelines for implementing the strategies required to meet each goal should be established and reviewed for progress on an annual basis.

The damaged tile in the first floor exhibit room should be repaired temporarily until an appropriate wood floor can be installed. (See below)

The basement window wells should be filled and graded to drain away from the building. Galvanized wells with a gravel drainage base and wire mesh cover should be installed on the vented windows.

The hole in the east foundation wall should be filled in to make it weather tight and to prevent pest from entering the building.

A funding plan for structural rehabilitation specified in the "Plan of Correction For Structural Deterioration at the Lake Of the Red Cedars Museum" prepared

by James Douglas Smith, AIA, Architect, Inc. should be prepared and implemented.

A schedule and Log Book should be set up to ensure that fire extinguishers and the alarm system are inspected yearly.

A plan for dividing the second floor rehabilitation into project areas should be devised and a schedule for accomplishing the work adopted.

Serious:

Window restoration should be completed.

A licensed Structural Engineer should be engaged to inspect the exterior stairway to the second floor to ensure that the supporting columns are properly designed and installed. Columns, even pressure treated wood, should be supported by concrete piers that extend at least 42" below grade or to undisturbed soil.

The structural rehabilitation specified in the "Plan of Correction For Structural Deterioration at the Lake Of The Red Cedars Museum" should be completed

The piers, columns, beams, joists and much of the flooring on the porch should be replaced. A licensed architect or structural engineer with experience in the rehabilitation of historic buildings should be engaged to prepare plans before proceeding.

The well room in the basement should be monitored for leaks. If the structure cannot be made watertight, consideration should be given to relocation.

A written Maintenance and Repair Schedule and Record should be prepared and instituted.

A Housekeeping Manual and Schedule should be prepared and instituted.

The first floor bathroom should be remodeled to make it meet ADA requirements.

Copies of historic photographs, floor plans and elevations and the "Plan of Correction For Structural Deterioration at the Lake Of The Red Cedars Museum" prepared by Douglas Smith, AIA should be made and stored off site.

Minor:

After rehabilitation of the second floor is complete, floors should be cleaned

and refinished where necessary.

Tile floors in spaces open to the public should be removed and replaced with wood floors to match the existing floors throughout the building.

A guided tour of the exhibit areas on the second floor should be filmed. A small area with a television and DVD player should be located on the first floor for viewing by those unable to climb stairs.

Should year round use of the building be considered, a qualified preservation architect and mechanical engineer with experience in historic buildings should be engaged to design environmental systems.

INTRODUCTION

General Information:
The Lake of the Red Cedars Museum is located in the former Lassen Hotel, an early 20th century resort on the shoreline of Cedar Lake, one of the largest fresh water lakes in Indiana. Woody's Barber Shop, a 20th century building recently moved to the Museum grounds, is connected by an open walkway to the hotel building. The Museum is operated by the Cedar Lake Historical Association, Inc. The Association currently has approximately 150 members and is governed by a 10 member Board of Directors. The Museum has no paid staff, all duties being performed by a group of dedicated volunteers led by the Museum Director, Association Historian and six Museum Guides in addition to those who serve on Special Projects Committees and who work at annual events. There are two fundraising events each year. All other programs, with the exception of a $2.00 per person entrance fee for the Museum, are free. The buildings are owned by the Town of Cedar Lake, Indiana and were leased to the Association for a period of 50 years in 1979. The Museum has about 800 visitors per year and is a popular destination for local school and Scout field trips. Total yearly income was about $6,250.00 in 2013.

Woody's Barber Shop is a small one room building that has been recently relocated to the Museum grounds and rehabilitated. It is in good condition. No conservation concerns were observed in the building so this report will focus on the former Lassen Hotel.

Historic Context:
The area around Cedar Lake, Indiana was first settled in the 1830's by New England farmers moving west. It remained a rural community of small family farms for about 50 years. Change came in 1881 when the Louisville, New Albany and Chicago (or Monon, as it was known locally) Railroad was built along the shore of the lake connecting Louisville, Kentucky and Chicago, Illinois. Another railroad, the New York Central, was built west of town in 1905. New business opportunities were made possible by the availability of rail transportation to urban centers. In 1888, Peter Hawkinson established an ice company which cut ice from the lake during the winter and shipped it by rail to nearby cities. The company continued in operation until around 1940.

The Armour Brothers & Company was a meat packing business that also cut ice in the winter. The east wing of the present museum building was formerly the Armour Boarding House which was used to house workers. Shortly after Armour closed the business in 1918, Mr. Lassen purchased the building and moved it across the ice to become the east wing of his new resort hotel which opened in 1920.

The railroad also made Cedar Lake a resort destination from 1880 until about 1940. Although many visitors spent summers or weekends in cottages, hotels and

resorts around the lake, the close proximity to Chicago made daytrips popular as well. A number of Dance Pavilions were built on docks over the water, the last of which burned in the 1980's. The Christian Assembly and Moody Church owned land that was used for tent meetings and revivals and a modern Christian Retreat is located across the lake from the Museum today.

In 1913, a developer named Samuel Bartlett began dividing lots with restrictions that prohibited indoor plumbing. Outhouses were replaced by makeshift septic systems beginning in the 1930's but the small size of the lots made them ineffective and the pollution from these systems almost killed the lake. The Town of Cedar Lake was incorporated in 1976 and a municipal sewer system was installed. The lake has largely recovered but high phosphorus levels contribute to the growth of algae.

In 1977, a group of local citizens formed the Cedar Lake Historical Association. The Town of Cedar Lake acquired the former Lassen Hotel adjacent to the City Municipal Building and leased it to the Association for use as the Lake of the Red Cedars Museum. The Lassen Hotel was placed on the Indiana Register of Historic Places in 1980 and on the National Register of Historic Places in 1981. The former Woody's Barber Shop, a one room 20th century building that housed a local barbershop for many years, was recently moved to the property to become part of the Museum.

Existing Conditions:

The Museum sits in a municipal park with a broad lawn sweeping down to the lake. A new gazebo has been constructed to one side of this lawn providing a serene setting for gatherings and events. Rocking chairs line the porch facing the lake and evoke the heyday of Cedar Lake's resort era. Given its small size and limited funding, the Association is to be commended for its efforts to rehabilitate and maintain this lovely old hotel and preserve it as a source of pride for Cedar Lake inhabitants.

The roof has been reshingled in the past few years, siding and trim is being sanded and painted this summer and historic windows are being removed and restored one by one. A ramp, exterior stair to the second floor and a connecting walkway to Woody's Barber Shop were added recently. Basement window wells need to be filled in and graded away from the foundation. It is hoped that a local Scout troop will take on the project this fall or next spring.

Unfortunately, the porch floor structure is deteriorated and was probably never as strong as necessary. Some boards are broken, split and spongy and the floor bounces noticeably when walked on. The columns supporting the floor structure are deteriorated. The condition of the piers, or the lack thereof, was indeterminate but appeared to need replacement.

One enters the building from the porch into a spacious foyer with large rooms on either side. Unfortunately, a large case for collection objects is placed immediately inside the front door, narrowing the exit and detracting from the appearance of the foyer. The porch rockers are also placed here when the building is not open to the public which is inconvenient and also blocks the exit. While the rockers certainly add to the ambiance of the setting, a better system for their storage when not in use must be found.

Immediately beyond the foyer is the stair hall, dominated by a fireplace and large, square antique piano which sits opposite the ornate stair leading to the second floor. At the time of the survey, the stair hall was being used as a conference space, with a table and chairs in the center of the space, and for rocking chair storage. The stair hall is situated at the intersection of the T-shaped hallways along which the former hotel rooms are located.

There are several functioning bathrooms on the first floor. One of these is large enough to accommodate the handicapped but it needs remodeling to meet ADA standards. A kitchen for the use of staff and for events is located near the south entrance. The Director's Office is located adjacent to the kitchen. Other rooms on the first floor, with the exception of the large room immediately to the north of the foyer which is used as a meeting room, are used for exhibits.

The Director's Office has become the drop-off spot for not only items being donated to the Museum but also for almost everything else that comes into the building. Having unprocessed materials in such close proximity to exhibit rooms can cause contamination of collection items on display.

The large landing at the top of the stairs is directly above the first floor stair hall at the intersection of a T-shaped hall configuration. Originally, all the rooms on the second floor, with the exception of the hall and landing, were used as hotel bedrooms or shared bathrooms. These rooms are currently being used for collections storage, archives, the Historian's office, a few have exhibits and a window restoration workshop. The remaining rooms were partially demolished several years ago. The plaster has been removed exposing the old wood lath and doors and woodwork have been removed and stored in several rooms on this floor. Unfortunately, demolition on this scale should not have been undertaken until plans, manpower and funds for rehabilitation were in place. It is hard on the building and even worse for the collection for these spaces to remain in this condition. However, given the limited funds and manpower available to the Association, the scope of the project is daunting. In cases such as this, the best recourse is often to divide the work into manageable projects – such as 4 to 6 adjacent rooms per project– and prioritize the their completion by space needs and logical construction sequence. A schedule should be prepared and adopted for both budgeting and construction of the projects in sequence. Any electrical or plumbing work required should be included in the plans.

The primary building rehabilitation problem in the Museum building is the deteriorated condition of the foundation and floor structure. A Plan of Correction was prepared by James Douglas Smith, AIA, Architect, Inc. of Crown Point, Indiana in 2003 for this rehabilitation work. The plan should be implemented as presented although the addition of a drainage mat should be considered when the waterproofing membrane is applied to the foundation wall. Although a few of the most easily and inexpensively corrected items specified in the plan have been completed, the most serious issues have not been addressed. Funding for this work through grants will be difficult, if not impossible, to obtain since the Association does not own the building and the lease will expire in just 15 years. It is therefore imperative to engage the Town of Cedar Lake, as the owner of the building, in this effort.

The building has no environmental control systems and is only open from May through September. This seasonal operation poses no hazard to the building as long as pipes are drained and winterized each fall. If the long term care of the collections and the viability of building use are not compromised by closing the building during the winter months, this is probably the optimal situation for the conservation of the building. Year round operation would require additional funding and manpower that could probably not be justified by the number of visitors touring during the winter months. In any case, until the structural issues are mitigated, installation of climate control systems should not be considered.

The Museum currently hosts about 800 visitors each year, many coming in groups on school or Scout field trips. Most of the exhibits are permanent and have been largely unchanged since the Museum opened. Visitorship could be increased by instituting a program of changing exhibits in several of the first floor rooms so that people would be enticed to visit on a regular basis. Enhancing the visibility of the Museum in the community by publicizing these exhibits and programs could lead to increased Association membership and financial support.

The Association has accomplished a great deal in the 35 years since it leased the Lassen Hotel from the Town of Cedar Lake. Although there are challenges ahead, the enthusiasm and dedication of the volunteers who participated in this survey and the work already in progress are good indicators of future success.

Conservation Assessment Program:

The Conservation Assessment Program (CAP) is a grant program of the Institute of Museum and Library Services (IMLS) and is administered by Heritage Preservation. In *The Conservation Assessment: A Tool for Planning, Implementing and Fundraising*, a publication of the Getty Conservation Institute and Heritage Preservation, the conservation assessment is defined as:

> "… a broad study of the Museum's policies, practices, and conditions that have an impact on the care and preservation of the collections. Conceptually, a conservation assessment has three components: the gathering, interpretation,

> and reporting of information. Thus, a conservation assessment identifies and describes the problems that affect the preservation of collections, analyzes the causes of these problems, and suggests a plan of action.
>
> Such an assessment of the Museum's collections and physical plant is a fundamental first step in addressing conservation needs and can be of lasting value to a museum. An assessment should not merely enumerate problems but should serve as the foundation for a long-range conservation strategy. In addition, its conclusions and recommendations may argue effectively for fund-raising efforts or for the reallocation of resources within the Museum.
>
> The goal of the assessment is to enable the museum staff to develop an overall Collections care program, and to establish conservation as an integral part of the museum's mission. An assessment, therefore, may not only be the impetus for a plan of action, but may become the catalyst for fundamental change, raising the level of consciousness about the need to protect the cultural patrimony."

Funding for an architectural assessor is included for institutions that are part of historic sites, or are located in structures not originally designed as museums or in older buildings with additions and environmental systems from different time periods. ***An older building that possesses historic or architectural significance should be treated as an artifact so that its integrity is preserved*** while those without significance may simply be treated as a shell which houses the collections. Since the collections and the building are interrelated, the effect on each must be weighed when considering alterations. These concerns were addressed at a meeting of conservation and preservation professionals from the Association for Preservation Technology and the American Institute for Conservation of Historic and Artistic Works in 1991 and a statement of principals, "The New Orleans Charter" (which appears as Appendix C in this report), was adopted. All preservation, restoration, rehabilitation or alterations to the site should recognize these principals and should be done in conformance with the *Secretary of the Interior's Standards and Guidelines for Preserving, Rehabilitating, Restoring or Reconstructing Historic Buildings* (Appendix B).

According to the *Handbook for Assessors*, published by Heritage Preservation, Inc.(1998):

> "The CAP survey provides an overview of issues relating to collections and building care, including environmental conditions, exhibitions, storage, the condition of the collections and building, and collections policies. The survey report resulting from the assessment will aid the institution by:
>
> - providing recommendations for conservation action, both immediate and long-term;
> - providing the basis for the development of a long-range institutional plan for the care and maintenance of the collections and building; and
> - serving as a fund-raising tool for implementation of future conservation projects."

Survey Methodology:

The primary purpose of the site visit and resulting written report is to identify conservation problems which warrant correction and to offer suggestions for their resolution. Because the information in the report is based on readily accessible conditions, some problems may warrant recommendations for more comprehensive investigation or for confirmation of findings. The architectural conservator's role is to identify strengths and weaknesses and to recommend the next steps that should be taken to address these issues. These observations are not meant as criticism of personnel or policies, as it is recognized that many circumstances over time have contributed to these conditions, but are offered in a constructive manner for the good of the building. The good intentions of the institution or its staff are not in question.

In order to evaluate the general condition and the historic and architectural integrity of the buildings, an on-site architectural survey was conducted on July 28-29, 2014, by Linda F. Grubb AIA, of Linda F. Grubb & Associates, Architects, of Barrington, Illinois. A general survey of the collections was conducted concurrently by Ramona Duncan-Huse, Senior Director, Conservation at the Indiana Historical Society.

The architectural survey consisted of the reviews of the completed site questionnaire and other documentation relating to the history and development of the site; a review of the "Plan of Correction For Structural Deterioration at the Lake Of The Red Cedars Museum" by James Douglas Smith, AIA, Architect, Inc., inspections of museum buildings (the former Lassen Hotel and Woody's Barber Shop) interviews with representatives of the Cedar Lake Historical Association. During the site visit, brief informal presentations were made by each assessor and time was provided for questions and discussion.

This report consists of an outline of recommendations for the buildings and the spaces within based on observations of the existing conditions; an explanation of proposed rehabilitation parameters to provide a framework for current and future planning; and of classification of the spaces in reference to these parameters. Appendices include supporting materials relating to the preservation and rehabilitation of historic buildings.

Historic and Architectural Considerations:

Consultation with the State Historic Preservation Office (SHPO) is required when Federal (and sometimes when State or even Local) government funds are expended on projects which affect properties listed on, or eligible for, the National Register of Historic Places to ensure that the property will not be adversely affected by the proposed work. This review may apply to the interior, the exterior, the site, and, in some cases, subsurface archaeological concerns. It

may also apply to properties adjacent to an historic site (even though they may not themselves be historic) where alterations might affect the historic property.

It is the responsibility of the recipient of public funds to determine if such a review is required and, if so, to secure approval prior to commencing work. Failure to do so can result in forfeiture of funding if the work is deemed inappropriate.

CONSERVATION PLANNING AND MANAGEMENT CONCERNS AND RECOMMENDATIONS

General Planning and Management

Long Range Planning:

The first step toward conscientious conservation of buildings and collections is careful and comprehensive planning. The Association, assisted by The Indiana Non-Profit Resource Network, has just begun the process of developing a Strategic Plan. This document should outline a carefully considered set of goals and identify strategies for meeting these objectives within a set period of time. The Plan should address each issue faced by the Association including, among other things, finances, programs, membership, collections policies, space needs, building preservation and maintenance, and capital projects such as building restoration, rehabilitation, and accessibility alterations. It is essential to remember that developing a plan is only the first step. Implementation of the strategies identified in the plan is the key to meeting goals.

Recommendations:

The Strategic Plan should be completed.

Timelines for implementing the strategies required to meet each goal should be established and reviewed for progress on an annual basis.

Space Needs and Utilization Plan:

One of the most common problems facing museums is the lack or inefficient or inappropriate use of space for collections storage and/or exhibits. Although this issue will be addressed in more depth in the collections assessor's report, any implementation of the recommendations therein will have a direct effect on the buildings. The needs of both the buildings and the collections must be carefully balanced in decisions regarding the use of existing spaces, as well as expansions or alterations, to ensure that the conservation and integrity of each is maintained. A Space Needs and Utilization Plan identifies space requirements and prioritizes major goals while addressing these concerns objectively.

Recommendations:

The Strategic Plan should include a Space Allocation Plan.

The following changes to current space allocation should be considered:

Relocation of collections accession functions to the second floor rooms that are immediately adjacent to the outside exit. Direct access via the outside stairway would allow objects to be isolated from collections until suitably cleaned. There are enough rooms available to have designated areas for isolation, cleaning and, if necessary, fumigation.

Relocation of the Museum Director's Office to the second floor. A location between the rooms designated for collections accession and cleaning functions and the collections storage areas would be convenient and allow better oversight of collections. It would also free up space on the first floor needed for other uses and discourage the use of the Director's Office as a drop-of point.

Relocation of the Archives to the First Floor. Since only the first floor of the building is accessible to the handicapped these records should be located here. The weight of file cabinets and bookcases place a heavier load on the existing floor structure than it was originally built to accommodate. Reinforcement of first floor spaces is possible from the basement and the crawl space. Structural improvements should include reinforcing floor joists under spaces used for archival storage.

Handicapped Accessibility:

Local building codes for new and substantially remodeled buildings open to the public and the Americans With Disabilities Act (ADA) administered by the Department of Justice require that buildings open to the public be accessible to all. Title III of the ADA requires organizations in historic buildings to make a "good faith effort" to eliminate barriers to accessibility that are "readily achievable." That includes those actions that can be taken without great cost of negative impact on the historic resource.

The ADA covers a wide range of disabilities including sight and hearing impairment and conditions such as arthritis as well as those disabilities that confine individuals to wheelchairs. While it may not be physically feasible, or financially possible, to make an historic building <u>fully</u> accessible, it is important to do as much as possible to make buildings, and programs, open to all.

At the Lake of the Red Cedars Museum, a ramp has already been constructed to make the first floor of the building accessible. The second floor is not accessible although it does contain exhibit spaces open to the public. Financial and structural considerations, as well as the limited number of visitors, make the installation of an elevator unrealistic. There is no fully accessible restroom although the existing first floor restroom is large enough, if remodeled, to meet ADA requirements.

Recommendations:

A guided tour of exhibit areas on the second floor should be filmed. A small area with a television and DVD player should be located on the first floor where those unable to climb stairs can view the film.

When restrooms are updated, one on the first floor should be remodeled to meet ADA requirements.

Fire Safety and Emergency Preparedness Planning:

Fire is a serious threat to historic buildings and prevention practices should be scrupulously followed. Electrical systems should be inspected regularly and brought up to building code requirements as necessary. Usage should always be limited wherever the system is at all questionable. Smoking should be strictly prohibited on the premises as should the use of overloaded extension cords, lighted candles or wood burning stoves or fireplaces. All hazardous materials such as cleaning solvents or paint must be kept in a fireproof cabinet or, whenever possible, stored off-site. Combustibles and trash should not be allowed to accumulate.

Staff, maintenance contractors and workmen employed in any rehabilitation or construction work must be required to have a fire extinguisher with them when performing any work that requires extreme heat such as soldering pipe, removing paint or installing roofing membranes. At the end of each work period, either a fire watch of at least one hour must be maintained to make sure that no materials are smoldering or an infrared heat sensor should be used to test for concealed combustion.

Fire extinguishers should be located throughout the building and all staff members should be trained in their use. Extinguishers must be inspected by the local fire department on a regular basis and fire department personnel should be acquainted with the historically significant features of the building so that, for example, in an emergency they might break out a non-historic window instead of an original one. Smoke and/or heat

detectors should be installed as unobtrusively as possible throughout the building and should be alarmed directly to the fire department.

Procedures for dealing with other threats such as flood, wind, or even terrorist attack, and contact information for museum staff should be outlined in an Emergency Preparedness Plan. Copies of the Emergency Preparedness Plan should be on file with local fire and police departments as well as with all staff and board members. All museum staff members, as well as members of the fire and police departments, should be made familiar with the procedures outlined in the plan.

The Cedar Lake Public Service Building is located immediately adjacent to the Museum property which provides a high level of security and quick response time in case of emergency. However, fire department officials have indicated that their action in the event of a severe fire would prioritize preventing flames from spreading to other properties over trying to save the building, making good prevention practices imperative.

Areas of the second floor are currently being used as workshops for the restoration of windows and other remodeling activities. Flammable materials including paint and paint thinner were out on tables or shelves in these areas. Other rooms are being used to store lumber, woodwork and other construction materials. The plaster has, unfortunately, been removed from many second floor walls and ceilings exposing the underlying wooden lath and structural frame and thus making the building especially vulnerable to flamespread. The plaster debris from this demolition has been removed from the building but construction dust is still a problem in many areas.

Recommendations:

It is strongly recommended that paint, thinner, etc. should not be stored in the building at all until new plaster or drywall has been installed on the second floor and then only those materials necessary for the immediate care of the building or collections should be permitted. All necessary flammable materials, including flammable glues and contact cement, should be kept in fireproof cabinets when not in use.

The Board should designate responsibility for regular inspection of fire extinguishers and the alarm system to either the Museum Director or the Chairman of the Facilities Committee. Inspections should be recorded in a Log Book and checked yearly.

Construction and materials storage areas should be cleaned regularly and all debris removed from the building promptly.

Documentation: Often old blueprints and drawings, photographs, Historic Structure Reports and other documentation are stored on site. So, if disaster strikes, this record of the building is lost, making restoration or reconstruction difficult or impossible. Though few older buildings have complete documentation of the changes that have been made over their history, it is important to document the existing condition of each structure as well as any future alterations.

Recommendations:
Copies of historic photographs, floor plans and the "Plan of Correction For Structural Deterioration at the Lake Of The Red Cedars Museum" prepared by James Douglas Smith, AIA, Architect, Inc. should be made and stored off site.

Maintenance Planning:
Responsible stewardship of an historic property requires the development and adoption of suitable policies and procedures for building care. A Maintenance Plan provides a written record of these procedures and documentation of all work performed in the following areas:

Routine Maintenance - All work, no matter how ordinary, should be performed using the most appropriate treatments and materials and should be recorded.

Inspection and Documentation - Regular inspections should be scheduled and their findings recorded.

Periodic Repair and Conservation Treatments

- When conditions require work beyond routine maintenance a preservation professional should be engaged to determine what mitigation measures are appropriate and, if necessary, to prepare detailed drawings and/or specifications.
- After mitigation measures are determined, execution of the required repairs should be made and followed by a post-treatment inspection to verify that the work has been performed properly.

Records Keeping - In addition to records of routine maintenance and of special treatments undertaken, the following detailed information should be documented:

- Description of the condition requiring the work
- Name and contact information of architect or engineer consulted
- Names and contact information of contractors and their field personnel
- Copies of contracts, with costs, and scopes of work
- Detailed descriptions of the work
- Equipment manuals and warranty information
- Product information and suppliers

- Before and after condition photographs
- Comments on the effectiveness of the work

References - Maintain a library of support information including, but certainly not limited to, the following publications:

- The Secretary of the Interior's Standards and Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings (www.nps.gov)
- Preservation Briefs (www.nps.gov – copy each topic that applies to your building)
- *Caring For Your Historic House* by Heritage Preservation and the National Park Service (1998)
- *Housekeeping for Historic Sites: Assessment, Planning & Training* by the National Trust for Historic Preservation (1993)
- *Historic House Museums: a Practical handbook for their Care, Preservation and Management* by Butcher-Younghans (1991)

At the time of this survey the exterior of the building was being painted and a program of window sash repair and glass replacement was underway. A new layer of cement had been poured on the basement floor in the past few years and basement windows had been filled in with concrete block to reduce water infiltration. Board members interviewed were aware of maintenance issues that need to be addressed in the next year or two but no written Maintenance Schedule had been prepared.

Recommendations:

The Board should prepare a written Maintenance Schedule for all regular maintenance tasks.

A Maintenance and Repair Record Book should be kept documenting all regular and periodic maintenance and repairs made to the building. It is especially important for organizations with no permanent staff to keep accurate and complete written records that can be consulted as Board membership changes over time.

Housekeeping Policies and Plan:

One of the most often overlooked areas of building maintenance is housekeeping, especially in non-public areas. However, the assortment of miscellaneous materials that often accumulate in basements, attics, and storage and work areas can serve as a home for pests, can encourage mold and mildew and can even, in some cases, be a fire hazard. Piles of debris can obscure problems that are occurring in the building, delaying their detection and resulting in expensive repairs.

The presence of live plants or of foodstuffs in the building can also attract or host pests that could damage collections objects. Damage to the building or collections objects can also be caused by well intentioned, but inexperienced, workers or by inappropriate cleaning products. (Ammonia-based products, for instance, can damage some objects including the plastics that are often used in protective cases.) Both of these issues will be addressed in more depth in the collections assessor's report.

It is important that sound housekeeping policies be written and adopted and that all workers are trained in these policies. The Housekeeping Plan should include the following:

Policies and Procedures – A copy of the written housekeeping policies and approved methodology for each housekeeping task

Task Schedule – All work, no matter how mundane, should be scheduled and recorded.

List of Approved Cleaning Materials and Methods – Safe materials and methods should be described in detail for each housekeeping task. Only those materials and methods listed should be used that have been investigated as to their appropriateness and approved.

Inspection and Documentation – Each space within the building and site should be inspected on a regular basis and its condition recorded. These inspections can be used to determine the need for periodic, non-routine, housekeeping tasks.

Periodic Task Schedule and Documentation – This may include such activities as cleaning out work and storage areas and removing any debris or unnecessary accumulated materials from the site, washing mildew with bleach, or other non-routine housekeeping tasks.

The Museum has a kitchen used by volunteers and at events on site. Food is stored in sealed containers although empty soda cans are left in an open wastebasket, a practice which can attract ants and other pests.

Housekeeping in exhibit rooms was much better than in the rest of the Museum. The demolition on the second floor and the ongoing window restoration makes cleanliness difficult but, since this condition will not be rectified for some time, vacuuming and dusting should be scheduled more frequently. Unnecessary clutter should be eliminated wherever possible.

Storage of the porch rocking chairs presents a problem since they need to be brought inside when not in use. Presently they are stored in the foyer and first floor hallways. This is not only inconvenient but presents a hazard in that exits are blocked and could hinder emergency personnel should a situation arise where they might be called to the building when it's not open to the public. Space reallocation perhaps could make the room directly opposite the kitchen (adjacent to the door opening onto the porch) free for rocker storage.

Recommendations:

A Housekeeping Record Book should be prepared and a regular program of maintenance instituted and documented.

Floors should be cleaned weekly from May through September and woodwork should be dusted twice yearly.

The exterior of the building should be inspected in late April and again in late September and any mold or mildew removed with a solution of bleach and water and paint touched up as needed.

Porch rockers should be stored in a more suitable, and safe, location.

GENERAL CONSERVATION AND ENVIRONMENTAL CONCERNS

Climate Control:

The Museum does not have an environmental control system, insulation, vapor barriers or storm windows since it operates only from May through September. The lack of heating, cooling and humidification systems is actually beneficial to the building as it allows the conditions within the building to fluctuate in concert with those outdoors. As long as objects in the collections are not suffering, closing the Museum during the winter is optimal for the building as long as plumbing pipes are drained and winterized each year. Moving to year round operation would not only involve significant expense for the installation of heating and humidification systems, changes to the building envelope and ongoing utility bills, but could also be a time burden on the small volunteer staff. Seasonal operation reduces conservation issues for historic buildings and is quite common, especially in Canada where even large, national institutions shut down during the winter months.

Although seasonal use of the building has many advantages for the Museum, the Association does not own the building so other factors may someday need to be considered. Should installation of environmental control systems be necessary to make the building viable in the future, a Mechanical Engineer experienced in the unique requirements of historic buildings should be consulted to design both the systems and the changes to the building envelope. The following paragraphs discuss some of the issues that would need to be resolved..

The most difficult issue to be faced in adaptively reusing an historic building to house collections is that of balancing the temperature and relative humidity inside the building so that it is safe for collections objects without causing damage or deterioration to the structure. The difficulty lies in the fact that historic construction methods allowed the relative humidity inside the building to fluctuate in concert with outside conditions but collections objects are best conserved when temperature and relative humidity levels fluctuate slowly within a narrow range. (A more detailed discussion of climate control issues for older buildings can be found the Appendix of this report. The collections assessor's report will deal more fully with the climate control needs of the collection.)

In a Midwestern climate, with cold winters and hot, humid summers, the set-points for indoor temperature and humidity may need to be adjusted seasonally. It is important that these changes take place slowly, over a period of weeks, for the safety of some architectural finishes and collections objects. Each building will have different tolerances and so should be assessed individually to determine set-points that are appropriate for it. Likewise, some buildings have wings from different periods that were built using different methods or materials and may need to have separate heating and humidification zones.

If indoor humidity is introduced it is important to monitor the building to detect any signs of stress. Signs that the indoor relative humidity is too high include (but are not necessarily limited to) condensation on window glass, the presence of mold or mildew, paint peeling from exterior walls, spalling of brick or masonry walls and, in some cases, efflorescence. Relative humidity levels can be raised to protect collections objects without adding moisture to the air by lowering the temperature. For this reason, it may be advisable to keep indoor temperatures between 65 and 68 degrees F during the winter months.

When new systems are introduced into an historic building it is essential that the work does not damage the historic fabric of the structure. Forced air systems are often preferred in buildings housing collections because the danger of leaking pipes is mitigated. However, installation of ductwork can be difficult in many older buildings. In a multi-story building it is often preferable to install one system in the attic and one in the basement so that vertical duct runs can be eliminated and cutting and patching of structural members can be avoided. If air-conditioners or humidifiers are installed in an area above collections, or even finished space, they should be installed on a metal pan and with condensate drain lines to prevent leaks. It is always wise to engage a preservation architect to work with mechanical engineers or HVAC contractors to ensure that the integrity of the building is maintained whenever installing or altering heating, cooling, humidification or de-humidification systems..

Recommendations:

If the safety of the collection or the viability of the building is not compromised,, the building should continue to be used only from May through September.

Should it be determined that year round use is necessary, a qualified Mechanical Engineer with experience in historic buildings should be engaged to design the system and the changes to the building envelope.

Airborne Pollutants and Dirt:

The most common airborne pollutants are common dust and gaseous contaminates. Gaseous contaminates include the sulfur dioxide from automobile exhaust systems; volatile organic compounds from fresh paint, stains and finishes and new carpet; ozone from aerosol cans; formaldehyde from certain composition wood products; and other similar pollutants. Some of these pollutants can cause pitting or staining on brick or stone walls. The serious damage that they can cause to collections will be addressed in the collections assessor's report.

Dust and dirt are abrasive and will hasten wear on historic finishes and wear as well as on the fibers in textiles. A more serious form of common dirt is urban soot, which can cause discoloration and stains on building materials and

collections objects. Dust caused by farming practices can be a seasonal problem in more rural areas. Cleanliness in a museum setting is essential, not only for the protection of the collection but also to avoid frequent repainting, which is not only costly but also adds to the build up of finishes on historic surfaces. Dust and dirt allowed into the building also requires more dusting of collections objects which, even with carefully trained housekeepers, can result in accidental damage.

The missing plaster on walls and ceilings and the window restoration and workshop areas on the second floor make cleanliness difficult. However, good housekeeping is especially important to protect collections objects while these activities are going on in the building. Workshop and materials storage areas should be confined to adjacent spaces in one wing on the second floor and that area sealed off from the remainder of the building until these projects are completed.

Recommendations:

Workshop and construction materials storage rooms should be confined to adjacent rooms in one wing of the second floor. This area should be closed off from the remainder of the building until construction and window restoration projects are complete.

Workshop spaces should be vacuumed after each use.

Light Management:

Both architectural finishes and collections objects are subject to light damage. Light levels, duration of exposure, and ultraviolet rays must all be carefully monitored and controlled or eliminated. Ultraviolet light, though not visible to the human eye, is especially damaging to finishes and most collections objects. This type of light is found in sunlight, in fluorescent lights and in some kinds of halogen lights.

Light control is critical because light damage is cumulative and irreversible. Architectural finishes, especially historic textiles and wallpaper, are subject to fading and color change as are fabric or paper collections objects, paintings or prints, a subject which is addressed more completely in the collections assessor's report. Furniture or finishes on stained wood millwork or floors will fade with prolonged light exposure. Light fixtures inside display cases can also generate enough heat to damage sensitive items.

Although some wallpaper and fabrics have faded, no other light damage to the building or finishes was observed. However, it is likely that UV damage is a more serious problem for the collections.

Recommendation:

All rooms that house collections should have black out roller shades which are kept down except when in use.

Pest Control:

Pests, which include insects, rodents, birds, and small animals, represent a variety of threats to both the building and to the collection. Buildings are most vulnerable to wood-destroying insects such as powder post beetles, termites and carpenter ants, but mice, squirrels and even raccoons can cause serious damage, especially if they become trapped and try to chew their way out. Birds can carry neurological diseases and bats are sometimes rabid. Their droppings can stain surfaces and have the potential to transmit disease.

Most wood-damaging insects are attracted to dampness so it is important to keep soil at least 8" below the top of building foundations and to divert water from the roof, or from overland drainage, away from the building. Leaks in roofs, around flashings, or from other vulnerable areas should be repaired immediately. Because water travels it is possible to have dampness at some distance from the actual leak, making regular inspections of the entire building for water and insect damage essential.

In order to avoid damage from pests it is important to prevent them from entering the building, to institute and maintain good housekeeping practices, and to inspect for signs of their presence on a regular basis. When pests are discovered, it may be advisable to engage the services of an exterminator who has an understanding of the special requirements and restrictions of museum collections. If no exterminator with this experience is available in your area, museum staff may need to write specific instructions on safe methods and materials to be used and may need to oversee the treatment. Although some evidence of spiders and other insects was found during the site visit, given the fact that window restoration work has left some windows open to the weather, the construction work on the second floor and the constant dampness and standing water in the basement, the presence of pests in the building was less than expected. A good, regular pest extermination program that is safe for collections objects is important for both the safety of the building and the collections. Carpenter ants and termites thrive in wet conditions and cause serious damage to structural elements and vermin and insects can cause great damage to artifacts so it is important to inspect the building regularly for signs of pest activity.

Strict controls of food kept in the staff kitchen should continue to be enforced to ensure that pests aren't attracted to the building and soda cans should be disposed of daily.

Recommendations:

The building should be carefully inspected for signs of pests twice yearly.

A Pest Extermination Program that is safe for the collections should be used on a regular basis.

Lead Paint:

Given the age of the structure some, if not most, of the paint found on, and inside, the building contains lead. Subject to local code requirements, finishes that are sound and are not alligatored or flaking generally should not be removed. If covered with new, sound coatings they are considered to be encapsulated. The effect of paint removal on the historic fabric of the building should always be considered. Should it become necessary to remove paint finishes containing lead due to severe deterioration or damage, all work should be done in strict accordance with approved methods for the removal, and disposal, of hazardous materials and in conformance with local building codes and ordinances.

The exterior of the building had been carefully sanded and was being painted at the time of this survey. Finishes in the first floor spaces appear to have been largely untouched since the Museum opened. The debris from the demolition on the second floor, which doubtless included lead painted materials, has been cleared from the building for several years.

Window restoration is currently in progress. The historic windows have lead paint and so workmen should use masks at all times and paint dust and particles should be disposed of according to EPA regulations and all local codes and ordinances.

Recommendation:

Workers should be made aware of EPA and local regulations concerning lead paint and all work should comply with these standards

CONDITION OBSERVATIONS AND RECOMMENDATIONS

Condition Ratings:
The qualitative condition ratings used throughout this report taken from the 2004 Heritage Preservation publication, "Best Practices for Conditions Assessments of Historic Structures" and are defined as follows:

Good: This rating indicates:
Routine maintenance should be sufficient to maintain the current condition; and/or
A cyclical maintenance or repair/rehabilitation project is not specifically required to maintain the current condition or correct deficiencies

Fair: The feature generally provides an adequate level of service, but
The feature requires more than routine maintenance attention
Also indicates that cyclical maintenance or repair/rehabilitation work may be required in the future

Poor: This indicates the feature is in need of immediate attention. This rating also indicates that:
Routine maintenance is needed at a much higher level of effort to meet significant safety and legal requirements
Cyclical maintenance should be scheduled for the current year and/or A special repair/rehabilitation project should be requested consistent with park requirements, priorities, and long term management objectives.

Existing Conditions: Exterior

Roof: Good

Gutters: Fair
Some downspouts need extensions to route water away from the foundation.

Siding: Fair to Good
The siding has a fresh coat of paint but, due to its age, should be monitored for splits or cracks yearly.

Windows: Good to Poor
A program to restore the historic windows has been begun but many windows don't fit openings due to movement of the structure, some have missing glass or need repair to the sash and most need weatherstripping.

Doors: Fair

Porch Floor: Poor

The structure supporting the porch floor needs to be reinforced or replaced as it is inadequate for the span and the floor bounces noticeably when walked on. Many floorboards are damaged and should be scheduled for repair or replacement.

The number of persons on the porch at any one time should be limited until the structural repairs are completed.

Ramp and Exterior Stairs: Good

A Structural Engineer should be engaged to check the construction of the exterior stairway to ensure that the columns are structurally sufficient and that they are supported properly.

Front Porch Steps: Fair

Existing Conditions: Interior

Ceilings: Good (First Floor) / Good to Poor (Second Floor)

Many rooms on the second floor have been stripped of plaster.

Walls: Good (First Floor) / Good to Poor (Second Floor)

Few cracks were observed on the first floor but many rooms have been stripped of plaster on the second floor. Some cracks were observed on in remaining rooms although they didn't appear to be severe.

Floors: Fair

The wood floors need maintenance in many areas. The floors in the second floor construction areas need to be protected from further damage.

Some rooms have tile floors inappropriate to the historic character of the building. In one exhibit room the tile was damaged and could be hazardous to visitors. Tile floors in areas open to the public should be replaced with appropriate wood floors and should be kept in good repair until replacement is possible.

Bathroom floors are in deteriorated condition.

The kitchen floor is old but serviceable for the time being.

Lighting: Fair

Some fixtures in non-exhibit areas aren't appropriate to the character

of the building but replacement is not a high priority since they don't detract from the Museum experience.

Lighting is needed at the top of the stairway.

Many roller shades need to be replaced. Shades should cover the window all the way to the outside edge.

Basement: Poor

Several serious conditions were observed in the basement. The foundation walls have areas of honeycomb throughout and the north wall has a lateral crack where the wall has bowed inward. There is an open hole in the north wall that should be filled in.

Much of the floor was wet and there has been standing water several inches deep in the past. The basement windows have been filled in with concrete block except for two which were filled with glass block and a vent, but the window wells have not been filled. When the wells fill with water it infiltrates the basement through the deteriorated wall.

The columns have been reinforced with temporary shoring. The beams which run the length of the building are inadequate. Both beams and columns should be replaced with steel on new concrete footings. Some floor joists have been cut out for plumbing and some are not properly supported. The long spans have caused the joists to deflect resulting in bowed and slanted floors, contributing to the slanting window sills. Where joists have been compromised, they should be reinforced with 1¼" x 9½" LVL microlams to stabilize the structure. However, trying to move the building enough to level the floors is not recommended. The building has settled gradually over time and sudden changes will result in further damage to floors and cracked plaster walls and ceilings.

There is also a well, pressure and water treatment tanks accessed from the basement that serve several municipal buildings, including the Museum that, according to several Board members, has contributed to the basement water problems in the past. The floor around the tanks was reasonably dry at the time of this survey so it was impossible to locate the source of water in this area but it may be coming from leaks in the ceiling of the well room.

Conservation Recommendations:

The hole in the east foundation wall should be filled and sealed.

The window wells should be filled and graded to slope away from the foundation wall.

Window restoration should be completed and all window openings repaired so that windows fit properly without gaps.

The well room in the basement should be monitored to determine where water is entering the building and the source eliminated.

The columns, piers, beams and joists supporting the porch should be reinforced and, where necessary, replaced and the floor reinstalled replacing damaged material as needed.

A plan should be implemented to raise the funds necessary to accomplish the "Plan of Correction For Structural Deterioration at the Lake Of The Red Cedars Museum" prepared by James Douglas Smith, AIA, Architect, Inc. in November, 2003. Consideration should be given to installation of a drainage mat when the foundation wall is waterproofed and drain tile installed. Drain tiles should, if at all possible, drain to the lake by gravity. If a pump is required, it should be located outside the building.

The second floor should be divided into individual project areas made up of 4 to 6 adjacent rooms. Each project area should be sealed off from the rest of the building with plastic sheeting (zippered panels can be used at the hallway for entry) while construction is in progress.. When work in one area is complete, construction can begin on the next. This incremental method is more manageable both physically and financially than attempting to rehabilitate the whole second floor at one time and the damage to collections which can be caused by construction dust and pollutants can be minimized.

After rehabilitation of the second floor has been completed, floors throughout the building should be cleaned and refinished or repainted where necessary.

The first floor bathroom should be remodeled to make it fully accessible.

REHABILITATION PARAMETERS

For the purposes of this report, each interior space and each exterior elevation of the individual buildings has been classified according to its historic architectural significance. The following criteria are generally used to assess the architectural significance of each space within the buildings and each exterior elevation.

Areas and features suitable for **restoration** are of primary importance to the integrity of the building and should be returned to their appearance at the period of historical and architectural significance. These areas or features contribute to the historic character of the building and retain a high degree of integrity.

Areas and features suitable for **rehabilitation** are of secondary importance but possess significant characteristics that relate them to areas or features of greater importance or integrity.

Areas or features suitable for **redesign** are those which contain no significant architectural details. These are areas that could be altered to meet current needs without adversely affecting the overall integrity of the building. Areas or features which have been so significantly modified that no original architectural details have been retained are also suitable for redesign as are areas, features or buildings which are not historic.

> *Please note the term "suitable" in these classifications. Designations are based on architectural and historic significance only. The final decisions regarding treatment must be based on numerous factors that are individual to each building and user. For example, it may not be feasible to restore a space classified as "suitable" for restoration due to lack of funds or because the use of the space precludes restoration. However, because this space retains enough of its historic architectural integrity to make restoration possible, the remaining architectural features should be retained and protected.*

Areas or Features Suitable for Restoration:

Building exterior
Foyer
First floor exhibit rooms
Second floor stair hall

Areas or Features Suitable for Rehabilitation:

Meeting Room
Second floor rooms, except bathrooms

Areas or Features Suitable for Redesign:

Kitchen
Bathrooms

Basement

PHOTOGRAPHS

West Elevation

No

South Elevation

W

East Elevation