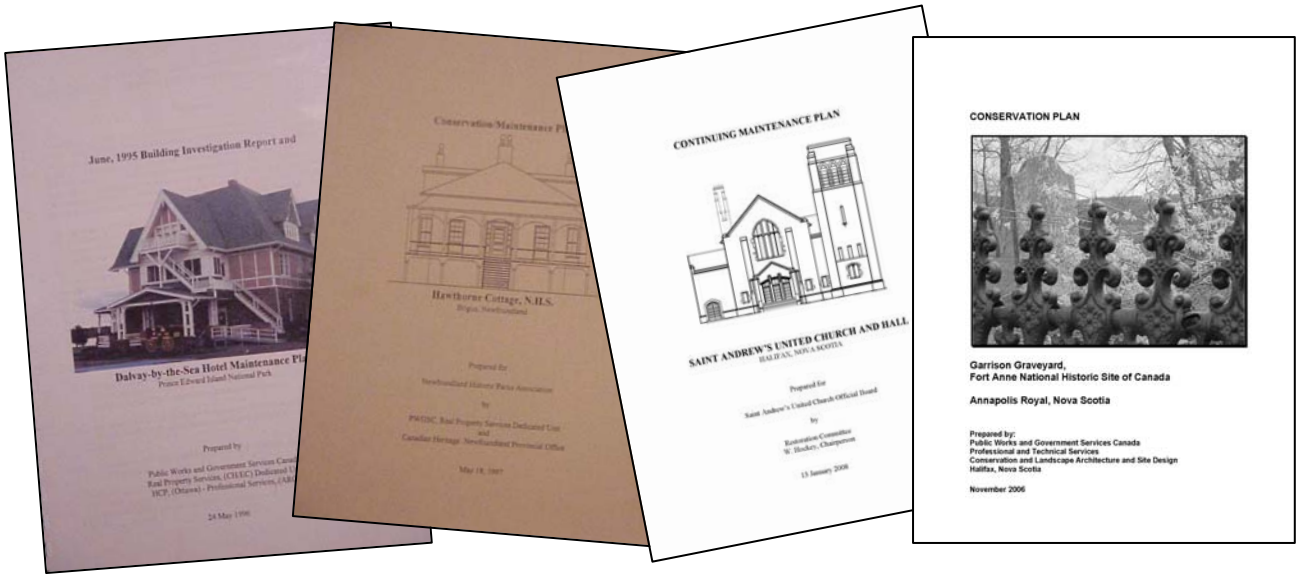
Conservation and Maintenance

Mr. Hockey is a strong advocate of maintenance planning and the delivery of timely, appropriate maintenance for conservation of historic sites and buildings. It is a sobering thought to realize that about 80% of work on historic structures is undertaken to mitigate deferred maintenance or the effects of it. Only recently has deferred maintenance that affects commemorative integrity been identified as a significant intervention and the person(s) responsible for the resource held accountable for his non-action. During his career with PWGSC Mr. Hockey was heavily involved in the preparation of maintenance plans for historic structures, artefacts, sites and graveyards. He also had an individual from another region ask him to mentor him on the preparation of maintenance plans.



Samples included above include investigation report and maintenance plan for the Dalvay Hotel, PE; the maintenance plan for Hawthorne Cottage and artefact furnishings in Brigus, NL; the Maintenance Plan for the Church and Hall for St. Andrews United Church, Halifax, NS; and the Conservation Plan for the Garrison Graveyard in Annapolis Royal, NS.

Trinity Anglican Church and Rectory, Kingston NB

ACS was approached by the Anglican Parish of Kingston to consider preparing a maintenance plan for the church and rectory - the oldest Anglican Church in New Brunswick and a National Historic Site of Canada. Mr. Hockey made a presentation to the congregation regarding the importance and content of maintenance plans on January 21, 2008 and ACS was engaged to prepare a Maintenance Plan for the Church and Rectory which includes basic measured drawings, photographs, a condition assessment, writing the plan including all aspects of maintenance, housekeeping and capitalization of building envelope elements. This work is currently under way with the parish and will be completed as time and opportunity permits. Attached is the presentation made to the Parish.

Conservation of Historic Buildings

"Maintenance"

a presentation by
B. Hockey, B. Arch., MEDS(Conservation)
Architectural Conservation Services

Cultural Resource Management (CRM) and Buildings

Five CRM Principles of value, public benefit, understanding, respect and integrity do apply to management of designated buildings.

Heritage Character

Trinity Church, the oldest Anglican Church in New Brunswick, was built in 1789 by newly settled United Empire Loyalists from Connecticut and New York. Like those its builders had known in England, this new building originally featured round-headed windows and a large Venetian window over the chancel. In 1857 it was enlarged and refurbished in the Gothic style that was considered the most appropriate for Anglican churches of the period. The rectory was built in 1787-89 for the use of the Reverend James Scovil.

Synthesis of building's heritage values;

Historical associations;

Architectural Significance;

Environmental importance;

Continuity of use;

Full understanding necessary.

May require adjustment over time.

Minimum Intervention Approach

Recognize value resources have developed;

Least harsh cleaning method of removing dirt;

Repair a defective element instead of replacing it;

Timely and appropriate maintenance;

Repair defects early;

Some elements are sacrificial such as roofing or masonry pointing;

Deferred maintenance leads to problems.

CRM – Commemorative Integrity

Conservation

activities to retain cultural value and extend physical life;

Preservation

short and long term protective measures or actions to retard deterioration, extend life and provide a stable maintenance environment;

Modification

Activities that may change the form or materials;

Treatment;

Repair;

Replacement of missing or deteriorated parts.

Adaptation

Restoration

Conclusions - Broad Concept

Least intervention to the greatest;

Maintenance to modification;

Historic Character must be considered;

Impact of treatments on historic fabric;

Opportunities for presentation and appropriate uses;

Available financial and human resources;

Issues can be complex and multi-faceted.

Finally

Teamwork and discussion among disciplines;

Consensus should be reached;

Best courses of action developed;

So that the resource can be conserved, developed and presented.

Remember, maintenance is a conservation activity!

Designed to assist property managers and custodians whose decisions affect Designated Heritage Buildings

Introduction

Primary Purpose is to provide sound, practical guidance to achieve good conservation;

Secondary Purpose is to develop a pan-Canadian set of Standards and Guidelines for adoption by all jurisdictions;

Third purpose to assist people who intend to apply for government financial incentives.

General

Conserve Heritage Value;

Conserve Changes;

Use Minimal Intervention;

Recognize as Record;

Find Compatible Use;

Protect and Stabilize;

Evaluate Condition;

Maintain Character;

Intervention Compatible & identifiable.

Rehabilitation/Restoration

<u>Character-Defining Elements</u>

Rehabilitation

Repair;

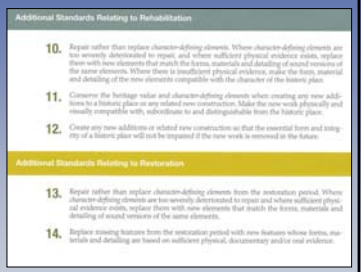
Conserve Heritage value when making additions;

Changes to be reversible.

Restoration

Repair before Replace. New work match original;

Replace based on Evidence.

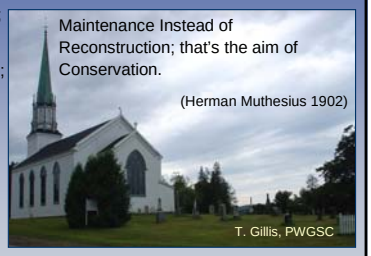


Buildings

Building Element:	
Recommended	• Not Recommended
Preserving	• Removing
Documenting	• Interventions before
Protecting by preventing	• Failing to evaluate and treat causes problems
Inspecting	• Removing coatings
Retaining	• Replacing elements
Repairing/Stabilizing	• Removing sound material
Replacing in kind	• Total if limited possible, unmatched material, failing to protect.

Intervention Guidelines

Maintenance and Repair;
Use and Occupancy;
Additions and Alterations;
Accessibility;
Health and Safety;
Energy Management;
Human Comfort;
Site and Setting;
Reality Management.



Maintenance and Repair

Inadequate or deferred maintenance that damages or threatens heritage character will be considered to be a significant intervention.

All maintenance activities are risky;

Repair, consolidation, for retention of original material are preferable;

Modifications are acceptable when there are technical problems;

Use of maintenance-free substitute materials such as aluminum, fiberglass or vinyl could reduce heritage character and alter desirable characteristics of building envelopes.

Preparing a Maintenance Program for the Historic Site

Conservation involves not just a once in a lifetime intervention to a cultural resource, but equally its routine and cyclical maintenance.

Content of Presentation

Maintenance activities are often placed low on the priority list and deferred maintenance of historic sites and structures is likely the biggest source of deterioration of built heritage - Death by neglect;

Current cultural resource management practices recognize this factor and hold managers of historic resources accountable for deferred maintenance that affects the integrity of the resource.

How do we Plan?
Introduction
Program
Initial Inspection
Scheduled Inspection
Housekeeping
Maintenance
Emergency Maintenance
Monitoring
Conclusions

Introduction - Goals

Goal of historic buildings maintenance is preservation;

One wants to slow the deterioration process;

Inherent problems of historic buildings makes it necessary to program inspections as an integral part of their maintenance and survival.

Introduction - Buildings

Conservation of historic fabric is important;

Must have records of all work undertaken in historic buildings;

They are important for monitoring and managing the building;

Contemporary facilities would be maintained the way any contemporary building;

Life cycle planning does not apply.

Introduction - Grounds

Site maintenance and landscaping will depend on interpretation of site;

Modern walkways, services and plantings would be treated using contemporary standards;

Historic zones with their plantings, fences and small structures require historic approaches to the maintenance;

Strict specified guidelines.

Program

Long term Preservation:

careful analysis of complex requirements;

preparation of maintenance Routines for site;

Information gathering;

Prepare Manual:

- Background;
- Specifications;
- References.

Background/Specifications

Development history;

Maintenance objectives:

- particularly unique.

Physical Information:

- site plan;
- inventory and drawings;
- photographs & narrative showing original and replacement material.

Maintenance Specs:

- basic maintenance functions;
- service levels;
- applicable standards;

All elements must be tailored to individual sites or structures and phase in cycle.

References

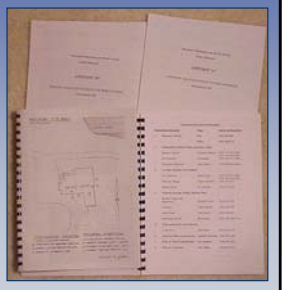
Resource persons:

- functions;
- specialties.

Suppliers, Products, and Contractors;

Written Resources:

- As-found/As-built drawings;
- Construction documents and contracts;
- Location of operating manuals.



Document Interventions

This is a continuous theme of historic sites maintenance;

Set it up as part of normal process to generate and track work orders;

Provide an excellent way to monitor time and costs;

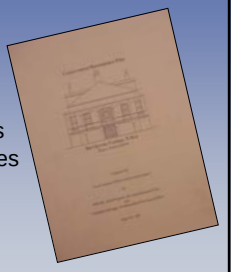
Part of permanent record.

Five Maintenance Action Streams

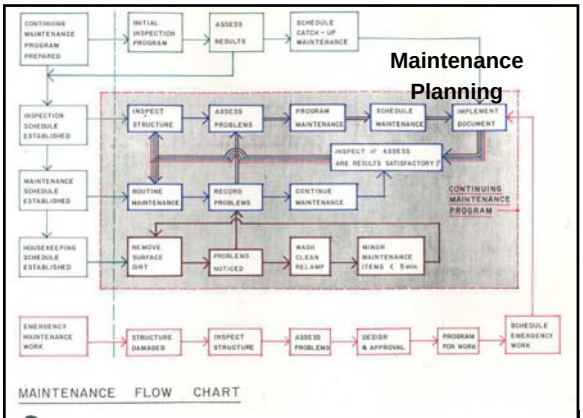
Initial Inspection Program

Routine Inspection Schedules
Routine Maintenance Schedules
Routine Housekeeping Schedules

Emergency Maintenance Work



Maintenance Planning



Initial Inspection Program

When
- acquisition;
- taking responsibility for long term care;

Why
- get to know the resource;
- schedule catch-up maintenance.

Scheduled Inspection - When

Should be scheduled
- spring;
- fall;
- following repairs.

Maintenance should also be identified during housekeeping tasks.

Scheduled Inspections - How

Conducted by those responsible for maintenance, must include necessary technical expertise;

Procedures should be consistent and resource specific;

Site & Resource Specific Forms.

Scheduled Inspections - What

Grounds Inspections:

turf and non-turf areas;

gardens, trees and shrubs;

pathways, trails and trail bridges;

structures, fences and outbuildings.

Buildings Inspections:

each exterior elevation starting with the north, (roof, wall, foundation, windows and doors)

interior spaces each floor from attic to basement, connection circulation;

include, mechanical, electrical, fire protection and suppression systems, telecommunication systems, legislated inspections.

Scheduled Inspections - End

Equipment includes:
- ladders, safety lines, protective clothing, equipment, probing lifting and cleaning materials, flashlight, binoculars, moisture meter, sample bags.

Recorded/Analyzed:
- camera, tape recorder, and a note pad.

Appropriate Action

Housekeeping

Must be kept clean:

dust/dirt can cause deterioration through abrasion/corrosion, chemical activity;

create conditions for biological/insect attack;

cleaning methods, start with dry cleaning methods such as vacuuming, go to damp mopping, then chemical cleaners;

fragility of some historic finishes and materials require special approaches.

Housekeeping - Wear/Vandalism

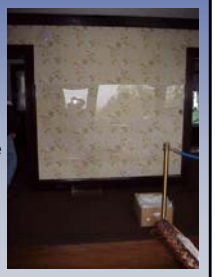
The number of people touring our facilities often cause heavy wear patterns;

There are 3 courses of action possible

- allow for wear and replacement of fabric;
- keep the source of erosion off fabric;
- install sacrificial surface over more delicate one.

Vandalism/Graphitti

- least harsh method to get job done.



Housekeeping Activities

Visitor Facilities must be handled properly;

conditions for artefacts in facilities are not always best for facility/resource;

grounds maintained, litter picked up and removed;

historic formats require special care;

fabric requirements, special care;

re-lamping, tacking down carpet, tightening screws;

major maintenance items noticed by cleaning staff referred to supervisor.

Housekeeping Activities

Housekeeping Cycle

specific schedule and frequency depending on visitor load, climatic and geological conditions, type of structure and materials;

cleaning level depends on desired end;

high standard not always appropriate for display/preservation of structure/facility.

Maintenance

Will require many specialist tasks related to preservation;

Continuous process of cyclical inspections and maintenance is the best way to protect a resource;

Besides housekeeping, major maintenance activities are required for preservation.

Five Major Maintenance Activities

Shielding from Sunlight:

- use UV filtered glass, lowest light levels, angles direct;

Providing Protective Coatings:

- deterioration of surfaces, provide sacrificial one;

Maintaining a Uniform Temperature:

- needed to extend fabric life, control humidity, paradox;

Controlling all Forms of Water:

- keep water out inspections/maintenance, damp mop in;

Controlling Biological and Insect Attack:

- control wet/dry cycle, pesticides/preservatives, remove severely affected portions as last resort.

Identified Maintenance

Discovered conditions should first be stabilized;

repairs must be scheduled, planned and approved.

As level of intervention increases, so does risk to commemorative integrity.

Historic structure is an artefact, a reconstructed facility is only a resource.

Systems for Protection

All systems installed for protection of structure must be inspected/maintained;

they are modern intrusions with a definite life cycle;

they are vital to survival of resource.

Winterization

An important aspect of building maintenance;

degree depends if site open/closed in winter;

Install storm doors, windows, shutters;

drain pipes;

provide minimal heating for resource and artefact protection.

Specifications

Must be established for each site/structure;

Site specific, building specific solutions;

Micro-climates are important aspects;

Standard procedures to be adapted - resource and situation - provide satisfactory solution.

Minor Works

Are those which can be carried out in-house using site staff and resources;

normal maintenance identified by inspections, not regular maintenance such as re-painting;

work should be recorded and added to file;

if complicated/interfere with historic fabric need approval before work;

resume normal cycle.

Major Maintenance Activities

Outside Contractor required
Construction or Restoration
Capital Program
More input required from others
- approvals
- drawings/specifications

Emergency Maintenance

Initiated because
- serious defect found during inspections;
- damage from storm, fire or vandalism.

Emergency Repairs

Develop, Plan and Implement long-term solution.

Long-term Solution

Inspect the nature of the defect, extent of problem;

results analyzed, proposals prepared, reviewed, approved and funded;

Sent to site to implement;

Method depends on nature and extent of work, who is available, season for work;

Assess results, resume normal operations.

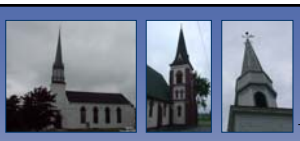
Monitoring

Technical problems or defects do not pose immediate threats to the resource;

need to be monitored to ensure that an intervention will occur when necessary;

Example, crack monitoring, cyclical, cumulative, or static.

Conclusions



Trinity – Hockey; All Saints/St. James - Gillis

Cyclical inspections and maintenance best way to preserve heritage buildings , not major capital programs:
- identifies problems early;
- ensures timely and appropriate solutions are developed and implemented.

As the owner you are front line preservation team members.

Your role of providing continuing maintenance for heritage resources is critical.

In fact, the commemorative integrity/survival of the asset is in your hands!

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