

Conservation of Heritage Masonry

Canadian Project Case Studies

A two-day workshop featuring case studies of conservation projects that illustrate the implementation of practical strategies based on technical concepts

Copy of
Conservation of Heritage
Masonry book
included in
Registration Fee



Featuring over
25 Project Case Studies
including 6
National Historic Sites

**Tuesday & Wednesday
16th & 17th April 2024**

**Basilica of Our Lady Immaculate
Monsignor Dennis Noon Basement Hall
28 Norfolk Street, Guelph, Ontario**

WORKSHOP INFORMATION

WORKSHOP DESCRIPTION

Based on the Presenter's book, this two-day workshop has been developed to provide examples of critical factors that can influence the successful restoration, preservation and rehabilitation of heritage masonry. Projects will be visually presented as case studies to highlight key technical and practical aspects. Sometimes the presentations will use an individual project - from the investigation stage through to completion of the restoration - and sometimes a number of abbreviated (mini) case studies will be used to cover specific factors. The projects include institutional, residential and municipal buildings, churches, a masonry memorial tower, a lighthouse, museums and more - many of them National Historic Sites. A variety of different types of masonry construction and restoration methods will be illustrated by the case studies.

PRESENTATIONS ~ The topics will be presented using digital slide projection with extensive use of photographs, charts and graphs.

WORKSHOP MANUAL ~ A signed copy of the presenter's book **Conservation of Heritage Masonry** will be provided to each registrant. The cost of the book is included in the registration fee.

CERTIFICATE OF ATTENDANCE ~ A Certificate of Attendance will be provided, which may be used for applying for Professional Development Learning Hour Units where appropriate.

DISCUSSION & DEBATE ~ Although questions will be encouraged at any time, at the end of each day there will be Discussion & Debate Session when attendees will be invited to discuss the various topics and share their own experiences.

BREAKFAST, REFRESHMENTS & LUNCH ~hot breakfast and lunch, as well as break-time refreshments, will be provided on each day ~ the cost of which is also included in the registration fee. Registrants are encouraged to use this opportunity to meet and greet other participants and share experiences.

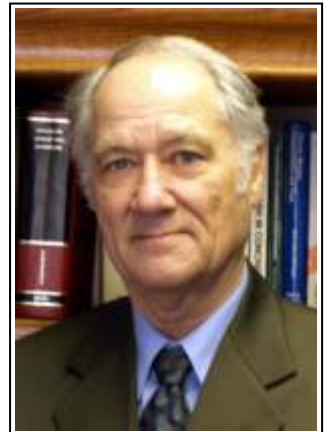
SPECIAL ACKNOWLEDGEMENT

A very special *Thank You* to the Basilica of Our Lady Immaculate's Rector, Reverend Father Ian Duffy, for graciously allowing us to use the Basilica's Basement Hall.

PRESENTER

Paul Jeffs (PJ Materials Consultants Limited) has a career spanning over 40 years within the construction industry and has experience from around the world having lived and worked in the U.K., Bahrain, Iran & Japan. He transferred to Canada with his family in 1983 and in 1989 founded PJ Materials Company to serve construction related industries utilizing his knowledge and experiences in materials technology and practices. Although also specializing in concrete structures, Paul now predominantly provides consulting services for the conservation of historic buildings and structures.

Paul has provided professional technical training in Ontario through PJ Materials Consultants Limited and across other Provinces within Canada through the Continuing Technical College of Dalhousie University. Those who have attended include Engineers, Architects, Authorities, Contractors, Materials Suppliers, etc. He has also been an instructor for the Professional Development Centre of the University of Toronto providing course modules and special event courses as part of their Building Science Certificate Program.



Paul Jeffs

Paul has also presented for many organizations, such as the Capital Projects & Design ~ Precinct Properties Branch of the Legislative Assembly of Ontario, the National Capital Commission, the Canadian Society for Civil Engineering, the Canadian Dam Association and the Ontario Building Envelope Council (Toronto & Ottawa Chapters).

Paul has been a guest lecturer at several Canadian universities, he has authored and presented papers at many national and international conferences and has been a regular presenter of technical training courses in the Middle East. He has also written many technical articles for North American magazines and journals. He is the author of "Conservation of Heritage Masonry", "Investigating Concrete Problems" & "Masonry Problems - Investigation, Identification & Restoration".

WORKSHOP TOPICS

Introduction ~ Guelph's Historic Catholic Hill ~ A brief overview of the historical buildings at the workshop location, including the Basilica, the Rectory, and the Guelph Civic Museum, the latter serving for decades as a convent for the Loretto Sisters.

Conservation Strategies - The Idealistic, the Pragmatic & the Disastrous! ~ This introductory presentation highlights the influencing factors that should be considered when developing strategies that meet the guiding principles of the "Standards and Guidelines for the Conservation of Heritage Places in Canada." The benefits and cautions of the various components that make up an objective strategy are evaluated - and how they can influence the success or failure of a project. Examples of strategies other than those associated with good conservation practice will also be discussed!

The Importance of Investigation, Monitoring and Cause Analysis ~ A compilation of mini-case studies will be used to illustrate where structured investigations formed a critical part of the restoration strategy development process. The studies will feature the use of non-destructive testing techniques - such as Ground Penetrating Radar to investigate hidden conditions - as well as movement and moisture monitoring devices, such as laser measuring equipment, displacement gauges, and RH sensors.

Understanding Masonry Construction & How it Influences Durability ~ Several mini-case studies will be used to illustrate the considerable number of different masonry assemblies that can be encountered during condition assessments of buildings and structures. Also discussed will be how the transition from traditional mass masonry construction to modern cavity walls sometimes created buildings that suffered accelerated deterioration and damage due to inappropriate design and detailing.

Stabilizing, Repairing & Strengthening Cracked Traditional Masonry ~ Two case studies will be presented to illustrate techniques that may be considered when faced with restoring buildings suffering from severe cracking of masonry components. The causes of the cracking will be evaluated and how this influenced the development of restoration strategies. Below grade waterproofing and the use of core rubble grouting techniques will be presented, together with the installation of retrofit masonry ties and joint reinforcement.

A Holistic Approach to Conservation ~ A comprehensive study of how a 100-year old badly damaged art gallery and museum was restored to a durable condition will be presented from investigation to completion. The primary and influencing causes of the damage will be examined, together with some novel techniques that countered what had happened to the building during past restoration and renovation work. The importance of the investigation process and understanding how the masonry assembly can be vulnerable to original design factors will be presented, as well as lessons to be learned when renovation work includes a dramatic change to the gravity load distribution dynamics of a structure.

Cape Race Lighthouse - A History of Restoration ~ Constructed in 1905 and designated a National Historic Site in 1975, Cape Race Lighthouse is believed to be the oldest reinforced concrete lighthouse in North America. Over the decades, it had undergone three major attempts at restoration, each failing to address the cause of the deterioration - with more damage being the result. The history of these attempts is reviewed by the presentation, together with details of the most recent comprehensive and novel restoration project which - hopefully - addressed both the cause and the result!

Conservation of Fredericton City Hall ~ Built in 1876, Fredericton City Hall is a National Historic Site. Over the years, restoration work had been carried out to restore cracked masonry - but the cracks either reopened or continued to occur at other locations. This case study will comprehensively review details of the investigation phase which identified several influencing factors that caused the cracks, as well as the restoration work which addressed the causes and restored the building to a durable condition.

ORGANIZED TOUR

An organized tour of the Basilica interior and exterior will take place at the end of the first day's sessions, at which time attendees can witness the history and beauty of the 150-year old *Catholic Church on the Hill*

continued

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WORKSHOP TOPICS - CONTINUED

A Tale of One Tower! ~ This case study highlights major restoration work carried out on the Dingle Memorial Tower in Halifax, Nova Scotia, to address the extensive damage that had occurred to both the interior and exterior of the stone tower. The causes of the damage will be discussed, together with the reasons why the masonry had continued to crack - even after previous restoration work had been carried out some years before. The presentation will also highlight the combination of conventional and novel restoration materials and techniques that were used to restore the tower to a durable condition.

Accommodating Excessive Differential Movement ~ A University Fine Arts building in Sackville, NB and a stone church in Moncton, NB will be used to illustrate where strategies can be developed to counter excessive differential movement that sometimes occurs between building components. How the strategies can help to prevent re-occurrence of damage will also be presented.

Cladding Panel Deterioration ~ Solving the Mystery ~ For many years a mystery existed regarding Mount Allison University's Convocation Hall in Sackville, NB - why was it that the sandstone cladding wall panels at the base of the imposing entrance were deteriorating so badly? How the mystery was eventually solved and how the surprising cause was discovered and addressed are the topics of this presentation.

Restoration of Stone Porticos and Steps ~ Completed in 1827 at the University of New Brunswick's Fredericton Campus, the Sir Howard Douglas Hall building - commonly referred to as the Old Art Building - is the oldest university building still in use in Canada. The building was designated a National Historic Site in 1951. This presentation discusses a major restoration project to address the extensive deterioration of its entrances. The challenges of the projects - including stone sourcing and fabrication, as well as a new design of the treads - are discussed within the presentation.

To Clean or Not to Clean? That is the Question!

Many experts claim that if masonry cleaning cannot be undertaken without a strong justification it should not take place at all. However, this topic uses a 1930s stone museum as an example of why cleaning can sometimes be essential - if the heritage masonry fabric is to be preserved.

Conservation of Terracotta Masonry - What are the Challenges?

A major conservation project to restore and preserve the architectural glazed terracotta masonry of a 1900s building is examined - in order that the many challenges facing development of an effective and appropriate conservation strategy can be better understood.

A Tale of Two Towers ~ This presentation highlights the award-winning restoration of a National Historic Site in Guelph, Ontario - Church of Our Lady Phase I - Tower Restoration project. Deterioration mechanisms will be discussed, as well as the condition assessment process. Also examined will be the way in which the investigations assisted in the development of a restoration strategy to address the serious damage that had occurred - despite major restoration work carried out just 15-years before.

REGISTRATION & SCHEDULE

Registration will take place between 8.00 and 8.30 am on the first day. (Please arrive early for your breakfast)

Presentations will be between 8.30 am and 12.00 noon and between 1.00 pm & 4.30 pm each day

Coffee & Conversation breaks will be between 10.00 am & 10.30 am and between 3.00 pm and 3.30 pm each day.

**To Register, please complete the form accompanying this brochure - or go to www.pjmc.net
Space is limited, so please register early**

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Canadian Project Case Studies WORKSHOP REGISTRATION DETAILS

WORKSHOP REGISTRATION FEES

\$750.00 for a single attendee + 13% HST (\$97.50) = \$847.50

Group Discounted Registration Fee Calculations

2 people ~ 2 x \$750.00 x 95% = \$1,425.00 + 13% HST (\$185.25) = \$1,610.25

3 people ~ 3 x \$750.00 x 90% = \$2,025.00 + 13% HST (\$263.25) = \$2,288.25

4 people ~ 4 x \$750.00 x 85% = \$2,550.00 + 13% HST (\$331.50) = \$2,881.50

(Please contact us for more than four attendees
and for details about Student Discounts)

Fee includes hot breakfast, break-time refreshments and lunch on each day

Fee also includes the presenter's book ***Conservation of Heritage Masonry***

Please note: attendees are responsible for their own overnight accommodation/s and for their meal if attending the optional evening dinner on the first day.

Workshop Registration Form

Dr. Mr. Mrs. Ms. _____
Last Name First Name Initials

Mailing Address: Business Residence _____

Postal Code: _____ Business Phone: _____

Fax: _____ Email address: _____

Employer: _____ Position: _____

I will attend with _____ other person/s

For two or more registrations, fees need
only be detailed on one completed form

Course Location
**Basilica of Our Lady Immaculate
Monsignor Dennis Noon Basement Hall
28 Norfolk Street, Guelph, Ontario**

Total = \$ _____

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Please photocopy this form and complete for each registrant.
Space is limited, so please register early
Late registrations may be emailed, with payment mailed or presented at registration

Please make your cheque payable to:
PJ MATERIALS CONSULTANTS LTD
and mail to:
11 Wagoners Trail, Guelph, Ontario N1G 3M9

Alternatively, you may register online using www.pjmc.net
(Payment is by PayPal)

**Tuesday & Wednesday
16th & 17th April 2024**

WORKSHOP LOCATION

