

THE MORTAR CONUNDRUM

June 10 - 12, 2022

**Presented by the
ONTARIO ASSOCIATION OF HERITAGE PROFESSIONALS
(OAHP)**



**in collaboration with
WILLOWBANK SCHOOL OF THE RESTORATION ARTS,
Queenston**





Whether its new build or historic buildings, the choices for the type of mortar can seem overwhelming.

Does one size fits all or should we consider different mixes?

This multi-day seminar designed for building owners, contractors, architects, and engineers, will help you understand the menu of options and lead you to making informed decisions.

Included will be optional Queenston quarry and historic lime kiln tours, various presentations from a number of key industry professionals; in addition to a panel discussion which will include an extended question and answer period, in order that we may all have the opportunity of sharing our experiences and participating in a topic that continues to be the subject of ongoing interest and debate!

OAA Structured Points = 8.5

VENUE: Willowbank School of the Restoration Arts
[Willowbank National Historic Site] www.willowbank.ca
14487 Niagara Parkway
Queenston, ON. L0S 1L0

SPEAKERS / PANEL MEMBERS:

- Keith Blades, *ICON, MA Conservation Studies*
Willowbank Faculty, Masonry Conservation Consultant
- Ken Trischuk, *M.Eng., P.Eng.*
NRC/IRC Coordinator, Mortar Working Group
- Spencer Higgins, *OAA, ICCROM, CAHP*
Conservation Architect, Spencer R. Higgins, Architect Incorporated
- Philip Hoad, *CAHP*
Willowbank Faculty, Heritage Projects Director, Robertson Restoration
- Paul Jeffs,
P J Materials Consultants
- John Swales,
Graymont & Skycon Building Group
- Alex Blades, *MSc. Historic Building Conservation, Willowbank Faculty*
Capital Conservation Services, Ottawa

WILLOWBANK STUDENT VOLUNTEERS

Chris Thorne, Class of 2022
Mackenzie Campbell, Class Of 2023
Sean Blank, Class of 2023
Joshua Chan, Class of 2023
Johanna Keus, Class of 2023
Charlie Porter, Class of 2024
Guy Taylor, Class of 2024

Programme & Schedule

FRIDAY, JUNE 10th

REGISTRATION

12.30 - 1.30 pm

Reif Hall [Ground Floor]

- Receive information pack.
- Sign up for Saturday evening function & Sunday morning Quarry and Kiln tour.
[limited space – max 10 persons]

SESSION 1

1.30 – 1.45 pm

Bright Parlour [Second Floor]

INTRODUCTION

Caitlin Wooll, Director of Willowbank School of Restoration Arts
Philip Hoad

SESSION 2

1.45 – 2.45 pm

Bright Parlour [Second Floor]

THE MORTAR BINDERS; FROM LIME TO CEMENTS

1

Their Development and Characteristics.

Pore structure and performance

Porosity and permeability

Keith Blades

2.45 – 3.00

BREAK

SESSION 3

3.00 – 4.30 pm

Bright Parlour [Second Floor]

THE MORTAR FAMILIES

1.5

Lime Mortars

Hydraulic Lime Mortars

Natural Cement Mortars

Portland Cement, Lime, Sand Mortars

Hybrid Mortars and Additives

Breathability: MVT and WTF

Keith Blades

SESSION 4

6.30 – 8.30 pm

Drystone Building [on campus]

LIME BURN

FOOD & REFRESHMENTS - Pizza, Soft Drinks, Wine & Beer

Tours of Willowbank School

SATURDAY, JUNE 11th

SESSION 5

9.00 – 10.30 am

Lime Kiln

PRACTICAL DEMONSTRATIONS

1.5

Slaking Lime: Hot Lime Mixing, Lime Putty Mixing, Hydrated Lime.

The Myth in the Mix: The 1:3 Ratio of Binder to Aggregate. Hi-Calcium and Dolomitic Limes.

Sampling Fresh Mortar.

Keith Blades, Alex Blades, John Swales, Ken Trischuk.

10.30 – 11.00

BREAK

SESSION 6

11.00 – 12.30 pm

Bright Parlour [Second Floor]

MORTAR ANALYSIS and TESTING

1.5

What information would we like; what can we test, what's important and why; what results/information can we expect.

Are the requirements of the Standards and Guidelines valid. Do we need to test every time?

How to use the information to help arrive at the Specification.

Spencer Higgins

Ken Trischuk

12.30 – 1.30 pm

Reif Hall / Drystone Building (subject to weather)

LIGHT LUNCH - Sandwiches & Refreshments

SESSION 7

1.30 – 3.00 pm

Bright Parlour [Second Floor]

SOURCING THE MATERIALS: WHATS AVAILABLE & WHERE TO GET IT

1.5

FROM PRE-MIXED MORTARS TO THE BESPOKE

Premixed Repointing Mortars – Their Evolution, Benefits & Cautions

Premixed mortars have been available for well over 20 years with Daubois and King foremost in supplying the industry with solutions that take some of the guesswork out of mortar preparation. They, of course have evolved over this period, now offering an extensive range of products.

Paul Jeffs

Like-for-Like Really is Possible.

Traditional mortar binders and additives: quicklime, lime putty, hydraulic limes, natural cements, pozzolans, air entrainers, casein, blended binders, stone dust, pigments and aggregates are all available to the conservation industry, permitting custom mortars to be prepared for historic buildings.

John Swales

3.00 – 3.30 pm

BREAK

SESSION 8

3.30 – 5.00 pm

Bright Parlour [Second Floor]

ONE SIZE DOESN'T FIT ALL: BALANCING THE ISSUES

1.5

“Like for Like”; “Fit for Purpose”; “Compatibility”.

ROUND TABLE DISCUSSION and Q & A

All Speakers / Panel Members.

SESSION 9

6.30 – 8.00

Olde Angel Inn, Niagara-on-the-Lake

Optional Dinner [*not included in registration*]

SUNDAY JUNE 12th

SESSION 10 [Pre-registration necessary]

9.00 - 10.00 am

Geology of the Niagara Escarpment at the Queenston Quarry
The Natural Cement Industry of the Niagara Region

10.00 – 10.15 am

BREAK

10.15 – 12.00 pm

Tour of the Queenston Quarry and Historic Lime Kilns on the Niagara Escarpment

REGISTRATION DETAILS

CAHP Members: \$300.00

Non-Members: \$380.00

Registration Email: mortar.symposium@gmail.com

Please provide attendees full name, contact information (cell and email) with your company name and address if applicable.

Sunday Quarry Tour: YES / NO

Payment: Cheque payable in advance with attendee name clearly indicated on the back of the cheque, and mailed to;

ONTARIO ASSOCIATION OF HERITAGE PROFESSIONALS,
c/o Willowbank (MORTAR SYMPOSIUM)
14487 Niagara Pkwy, Queenston, ONT. L0S 1L0

UNFORTUNATELY, SPACE IS RESTRICTED FOR THIS EVENT TO THE FIRST 45 REGISTRANTS

- Proof of Vaccination will be required on attendance.
- Wearing of Masks shall be voluntary.

LOCAL ACCOMODATIONS:

Blairpen House Inn

287 Davy St, NOTL, L0S 1J0

905 468 3886

reserve@blairpenhouse.com

South Landing Inn and Kent Motel

21 Front St, Queenston, L0S 1L0

905 262 4634

reservation@southlandinginn.com

SPEAKER / PANEL MEMBER BIOS

Keith Blades, ICON, MA Conservation Studies, is one of Canada's most highly regarded conservation specialists with 50 years of experience in the conservation field. Trained in England, he has acted as a Consultant, Conservator and Educator on numerous conservation projects across Canada and abroad. Prior to setting up his own practice Keith spent 12 years with the Federal Department of Public Works in Ottawa where his responsibilities included work to the Parliament Buildings and other nationally significant buildings. Previously he worked with a small architectural practice in England concerned with conservation work and with the Directorate of Ancient Monuments and Historic Buildings, (now Historic England) where he worked on the Palace of Westminster, Royal Palaces and other buildings and monuments in the care of the Secretary of State for England. He obtained his MA in Conservation Studies from the Institute of Advanced Architectural Studies, University of York, England in 1987. Set up in 1989, his practice is concerned with the conservation of historic buildings, dealing with a broad range of conservation, technical and education issues in both the public and private sectors. He continues to be in demand to present lectures and training as one of Canada's leading authority in the field of masonry conservation. For over 10 years he has taught masonry conservation with an emphasis on the principles and practice of conservation at Willowbank School of the Restoration Arts in Queenston, Ontario. His continuous and extensive involvement with historic buildings and sites throughout Canada, give him a unique perspective, knowledge and understanding of the philosophical, technical and practical issues associated with their conservation.

Ken Trischuk, M.Eng, P.Eng, is a technical officer at the National Research Council of Canada's Construction Research Center in Ottawa. He has spent the last 25 years studying material durability of a variety of construction materials (including concrete, steel and wood) with a focus on repair materials for older masonry structures. He has conducted numerous testing contracts for a variety of clients to carry out comparative testing of repair mortars for restoration projects across Canada – aiding the clients in making appropriate selection of repair mortars. He was one of the founding members of the NRC Repointing Mortar Working Group as well as the vice chair of the APT 2017 annual conference in Ottawa. Along with material durability testing, Ken has spent considerable time conducting structural health monitoring of buildings and infrastructure, instrumenting numerous structures to monitor thermal performance of building envelopes or seismic and vibrational response of structures.

Spencer Higgins, OAA, CAHP, MRAIC, is the principal of Spencer R. Higgins, Architect Incorporated, which is based in Toronto and since 1980 has provided specialist consulting services related to the conservation of historic buildings across Canada. His architectural practice and affiliated architectural conservation testing laboratory ArconTEST Incorporated have extensive experience in the development, testing and implementation of mortars and grouts for heritage masonry structures. Spencer obtained a Certificate in Architectural Conservation in 1980 from ICCROM (The International Centre for the Study of the Preservation and the Restoration of Cultural Property in Rome), following a Master of Architecture in Urban Design at Harvard University in 1976 and a Bachelor of Architecture degree from the University

of Toronto in 1974. From 1996-2006 he was a partner in the architectural Joint Venture that undertook the internationally award-winning conservation work on the Library of Parliament in Ottawa. Mr. Higgins' firm has carried out numerous important masonry conservation projects across Canada, including the Saskatchewan and Manitoba Legislative Buildings, and most recently on the historic Toronto Club and York Club facilities in Toronto.

Philip V. Hoad, CAHP, was educated in England and transferred to Milton, Ontario by the UK concrete roof tile manufacturer, Marley Roof Tiles in 1986. He now provides consulting and project management services in the conservation and restoration of historic buildings and structures, with a special emphasis on traditional roofing, sheet metalwork and masonry components across Canada. He has worked on many significant National Historic Sites during a career spanning over 40 years, having worked in both the public and private sectors; including 10 years as Vice President of Roof Tile Management (RTM) during the 1990's, which was followed by a 6-year tenure with Parks Canada at the Fortress of Louisbourg as Technical Services Officer for the Cape Breton Field Unit, and then two years as Senior Project Manager with Acadia University in Wolfville, NS, responsible for recapitalization of their heritage buildings. Latterly, Philip was at the City of Hamilton as Manager of Heritage Facilities and Capital Planning. He is currently Heritage Projects Director at Robertson Restoration of Brantford, a well-established multi-trade and traditional crafts contractor. He also represents Darwen Terracotta, a major architectural terra cotta and faience manufacturer in the UK. For the past 10 years, Philip has taught historic roofing and sheet metalwork, as well as project management for heritage buildings, at Willowbank School of Restoration Arts.

Paul Jeffs, has a career spanning more than 55 years within the construction industry around the world, having lived and worked in the U.K., Bahrain, Iran & Japan, before transferring to Canada in 1983. In 1989 he founded PJ Materials Consultants to serve construction related industries by utilizing his knowledge and experiences in materials technology and practices. Although he also specializes in concrete structures, Paul now predominantly provides consulting services for the conservation of heritage buildings and structures. Paul has conducted investigations and building condition assessments and has developed/implemented conservation strategies for a large number of buildings and structures, including many National Historic Sites. He has provided services as either Prime Consultant or as a specialist Sub-Consultant. Clients have included the PWGSC, Provincial & Municipal authorities across Canada, as well as Architects, Engineers and Property Managers. Paul has provided professional development technical training across Canada for Engineers, Architects, Authorities, Contractors, Materials Suppliers, etc. He has been a guest lecturer at several Canadian universities, he has authored and presented papers at many national and international conferences and he has written many technical articles for North American magazines and journals.

John Swales is the founder and co-owner of Skycon Building Products based in Toronto. Since graduating from Seneca College business program in 1982, he worked for a small independent molded brick company in Wallenstein, Ontario. When this company closed its doors, he purchased their manufacturing equipment and moved it to a larger company in the U.S. where the Ontario size molded brick is now manufactured for the Ontario market. During this period, he saw a resurgence in Lime Mortars and became the Canadian sales representative for Graymont Building Limes (formerly Genlime) as well as being their stocking distributor. Skycon sells their wide range of lime products including Type S, SA, Niagara Lime Putty, Pozzolan Hydraulic Lime and Quick Lime. Additionally, they stock Secil Natural Hydraulic Lime from Portugal and other specialty mortar products and additives. They also import restoration bricks from the Netherlands and Italy. Skycon also represents Sandkhul Clayworks, that manufactures structural clay tile, terra cotta and custom bricks. Throughout his more than 30 years in the building restoration industry, John has worked on many historical restoration projects including the Parliament buildings in Ottawa and Queens Park, Casa Loma, Fort York, and the Toronto Club, including supplying specialty brick for the Toronto Carpet Factory and Woolworth building in Toronto. He has been a frequent attendee at the Repointing Mortar Working Group. Skycon continues to branch out into thin brick slices and corners with their US Manufacturer. The Company is committed to expanding their business to support this niche and the historical brick and mortar industry.

Alex Blades, MSc. Historic Building Conservation, graduated from Carleton University in 2008 with a BA (hons) in History; with a Diploma in Heritage Conservation from Willowbank School of the Restoration Arts in 2015 and from the University of Portsmouth in 2018 with an MSc (hons) in Historic Building Conservation. For the past 6 years she has worked as a stone conservator in Canada, working on buildings within the Parliamentary complex in Ottawa, the Saskatchewan Legislature and at Sainte-Marie among the Hurons where she acted as Head Conservator for the conservation work undertaken to the 1639 Great Fireplace stonework in 2016 and 2017 and where she gained experience of working with hot-mixed lime mortars. In the UK she worked on the conservation of the medieval sculptures on the west front of Lincoln Cathedral and with a small conservation practice working on a variety of listed buildings within the care of The National Trust and Historic England. She has recently returned to Canada and now works with Capital Conservation Services on the program of conservation to the Centre Block of the Parliament Buildings in Ottawa and has joined the Faculty at Willowbank, teaching masonry conservation.