

THE NEWSLETTER OF THE BALTIMORE WASHINGTON DC CHAPTER OF ICRI

3RD QUARTER 2023

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THE AGGREGATE

- PRESIDENT'S MESSAGE
- DINNER MEETING RECAP
- [,]2023 FALL GOLF OUTING

MESSAGE FROM OUR PRESIDENT

LUKE VALENTINE, P.E. - ENGINEERING AND TECHNICAL CONSULTANTS, INC. (ETC)



It's hard to believe that the summer is nearly over, but there seems to be no signs of slowing down this fall. The Chapter calendar is packed with upcoming events and various application deadlines, so please continue to monitor the website (www.icribwchapter.org) on a regular basis for new postings and information.

Our upcoming **Golf Tournament** is scheduled for October 5th and will be held at Waverly Woods. Start pulling together your foursomes now as registration will open soon! We have revamped our sponsorship opportunities for the event, so please consider being a sponsor when registering. Feel free to reach out to Taylor Crampton with any questions.

We also have several application/submission deadlines coming up in September. Submissions for the **Outstanding Repair Project Award** are due on September 15th. Winners will present their projects at the 4th Quarter Dinner Meeting which will be held at Martin's West in Baltimore. This is a great opportunity to recognize your entire project team, so please consider submitting your project. Please check out our website for more information and reach out to Randall Kratz with any questions.

Applications for the **Academic Scholarships and Industry Scholarships** are also due on September 15th. Eligibility criteria is outlined on our website if you, or someone you know, is considering applying. Please contact Thomas Brennan with any questions.

Last, but certainly not least, applications for the **Concrete Repair Tradesman Recognition Awards** are due on... you guessed it...September 15th. This award was created last year as a way to recognize and celebrate specific individuals for their significant contributions to the concrete repair industry, and we are looking to expand the award program this year. Please take the time to submit nominations for a deserving superintendent, foreman, laborer, technician, or apprentice. Please contact Thomas Brennan with any questions.

I am looking forward to seeing everyone at our September 7th Dinner meeting. Please feel free to contact me personally at Ivalentine@etc-web.com with any feedback, comments, or questions you may have.

Luke

UPCOMING CHAPTER DATES:

OCTOBER 5, 2023 - 2023 ANNUAL GOLF TOURNAMENT

OCTOBER 16-18, 2023 - ICRI NATIONAL 2023 FALL CONVENTION - ST. PETERSBURG, FL

NOVEMBER 9, 2023 - ANNUAL MEMBERS MEETING & OUTSTANDING REPAIR PROJECT 2022 AWARDS

BANQUET - LOCATION TBD - MARYLAND VENUE

DECEMBER 7, 2023 - 2023 FALL TECHNICAL SEMINAR - CP&R'S MAIN OFFICE

3RD QTR ICRI JOINT DINNER EVENT WITH IIBEC MID-ATLANTIC

By Justin Long, PE, RBEC, BECxP - BW-ICRI, Past President - Mid-Atlantic IIBEC Treasurer

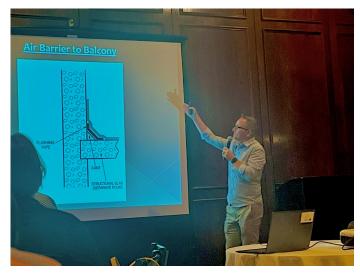


On September 7, 2023 the Baltimore-Washington Chapter of ICRI hosted its first ever Joint Dinner meeting with the Mid-Atlantic Chapter of International Institute of Building Enclosure Consultants (IIBEC). 120 engineers, consultants, contractors, and material suppliers from both industry organizations enjoyed a lively social hour which was full of robust conversation, networking, and sharing of stories and mutual connections. While this social hour was an opportunity for many to meet new faces and expand their networks, many of those in attendance are proud members of both organizations and happy for the opportunity to introduce themselves & others.

Following the social hour, announcements for upcoming chapter events were given by BW-ICRI Chapter President, Luke Valentine, PE and Mid-Atlantic IIBEC Chapter President, Sam Zalok, PE. Each table was filled with a mix of concrete repair & restoration professionals and building enclosure specialists. Conversation continued as a promotional marketing video for ICRI was then shown and family style Italian appetizers were served.

Just as the main courses began to make their way to the tables, the guest speaker Brian Baker of PPSI was introduced. Brian, who has been working closely with & consulting ICRI and IIBEC members alike since 1993, delivered a technical presentation on critical building envelope transitions. From foundation-to-plaza, plaza-to-wall, wall-to-roof, and expansion joints Brian highlighted the importance of using compatible materials, proper detailing, and proper construction sequencing to ensure a watertight building envelope. The presentation was filled with countless project-specific photographs and experience driven examples which provided deeper insight into the ways things can (and have) gone wrong and how to prevent such events in the future. The technical content was made all the more enjoyable through Brian's humor and deep passion for his profession.

This first of many joint-dinner events was solidified by the Mid-Atlantic IIBEC Chapter who has made a commitment to keep this tradition going next year by hosting the BW-ICRI Chapter. We look forward to next years joint dinner event and other future opportunities to collaborate with the local IIBEC Chapter.





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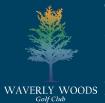


ICRI Baltimore Washington 2023 Fall Golf Tournament

Thursday, October 5th, 2023

SCHEDULE:

7:30 am: Course and Driving Range Open 9:00 am: Shotgun Start



TOURNAMENT LOCATION:

WAVERLY WOODS GOLF COURSE 2100 WARWICK WAY MARRIOTTSVILLE, MD 21104 WWW.WAVERLYWOODS.COM

Chapter Sponsors are invited to use their included discounts for registration:

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Contact Information for		
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ALTERNATIVE CONCRETE DEMOLITION TECHNIQUES - HYDRODEMOLITION BY BILL PALMER

Concrete contractors dream about placing perfect concrete for precisely positioned columns, beams, and slabs. But sometimes things aren't quite perfect or plans change and it's necessary to demolish concrete. In many cases, a 60-pound breaker or a smaller chipping hammer are the answer, but there are alternatives that should be considered, especially when noise, dust, or vibration are important issues. Here is one technique to consider: hydrodemolition.

Hydrodemolition

Cutting concrete with water seems unlikely and yet it has proven to be very effective, especially for surface preparation and scarification. Hydrodemolition is done with various devices, from handheld guns to robotic equipment. The water is directed at the concrete at 20,000 psi and 10 to 15 gallons per minute (for handheld guns). It can cut clean lines or remove the surface as deeply as desired.

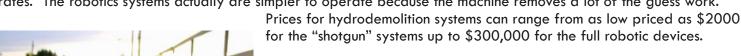
Because there is no vibration or impact, the surrounding concrete is not prone to bruising (microcracking) as it is with surface preparation using mechanical devices. The surface ends up looking like rough exposed aggregate, ready for new concrete and capable of achieving high bond strength. Rebar is not damaged or cut (at these pressures) and any corrosion on the bars is removed.

Taking advantage of what Rampart Hydro Services calls "coincidental and beneficial removal," loose or slightly damaged concrete near the removal area that might well be missed by mechanical demolition also is removed by the high pressure water. Any loose or delaminated concrete is automatically reduced to small 1/2-inch pieces. Where hidden delamination existed, the hydrodemolition will cut deeper with no "collateral damage" to adjacent sound concrete.

An important issue with hydrodemolition is water. "Hydrodemolition is not recommended in remote locations with no water source," says Richard Scruggs, product manager with Jetstream, a hydrodemolition equipment manufacturer. In those cases, water would need to be trucked into the site—which is possible but will add cost. Handheld guns may use as little as 10 gallons per minute (gpm) while larger machines can use as much as 60 gpm. Concrete is removed with water only—no abrasives are added.

Disposing of the water is also an important issue. "The environmental regulations on the slurry are all over the place," says Scruggs. "Some regions don't regulate the slurry at all while some require complete segregation and conditioning of the water." Check with local environmental officials when considering hydrodemolition to determine how to handle the slurry.

Training to safely and effectively use hydrodemolition equipment usually is provided by the manufacturer. Jetstream provides a one-day class for simple work or a three-day blaster training course for more sophisticated equipment. "Training provides a good foundation," says Scruggs, "but it takes experience to know how to balance the pressures and flow rates." The robotics systems actually are simpler to operate because the machine removes a lot of the guess work.





Safety First

Demolition work by any method raises safety risks. Although expansive grouts, microblasting, and hydrodemolition are reasonably safe techniques, each has their own dangers and often are accompanied by drilling, sawcuts, and chipping. Every contractor needs to have a demolition section in their safety program. A couple of good resources for this are the National Demolition Association (NDA) and the Concrete Sawing & Drilling Association (CSDA).

The NDA, for example, has a series of safety talks including number XLVII on prestressed and post-tensioned concrete. This short primer has some great advice on the need to recognize post-tensioned structures, because there is a significant amount of energy stored in the cables that must not be released without warning. Not only can tendons turn into missiles but a sudden release can lead to progressive collapse of a structure. "Demolition of these types of members requires specific knowledge of the types of tendons and the exact placement of the tendons," advises the safety talk. For more, visit the NDA at www.demolitionassociation.com.

The CSDA also has an extensive safety manual and a series of tool box talks on safety issues related to cutting and drilling. Here, for example, is an abbreviated version of CSDA's safety rules for chain saws:

- 1. Operators must read and understand the manufacturer's operating manual and safety requirements. Always wear personal protective equipment, including, but not limited to, hard hat, hearing protection, safety glasses, and safety footwear.
- 2. NEVER operate a diamond chain saw with the side cover missing or broken.
- 3. NEVER insert a diamond chain into a slot that is narrower than the chain segments, as rapid pushback might occur.
- 4. NEVER install or run the chain backward. The bumpers should lead the segments into the cut. The chain should flow

away from the operator on the top of the bar and return to the operator on the bottom of the bar.

- 5. NEVER run a diamond chain saw upside down. Concrete debris can fly back into the operator's face.
- 6. Be aware of what is on the backside of a cut.
- 7. Always turn the saw off before performing any maintenance
- 8. Always maintain secure footing when operating a diamond chain saw. Housekeeping in the work area is important for operator safety.
- 9. Operators should always use both hands on the saw and keep their arms close to their body.

*This article is in an excerpt of an article originally appearing in the March 2012 edition of Concrete Construction



Randall Kratz

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THE BUILDING ENVELOPE BREAKDOWN BY MARK HOWELL (MARK.HOWELL@BECSMD.COM)

From energy-efficiency to indoor air quality, the issues that face today's building owners are increasingly complex. However, one key to success is a thorough review of the building envelope. By examining the way the exterior of a building was designed and constructed, as well as the repairs that have been made during its lifetime, you can help pinpoint the source of problems.

Building Envelope Breakdown

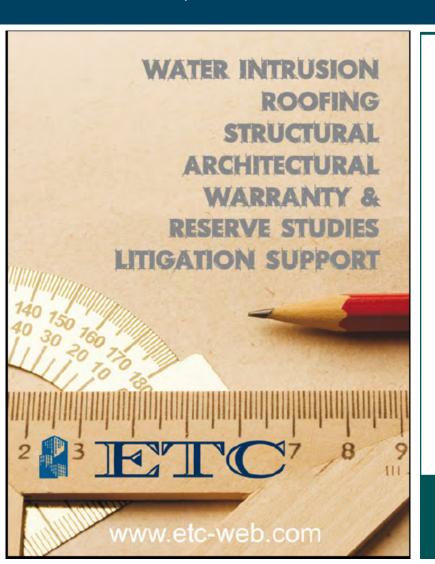
Perhaps the most important component when determining the source of a structure's problem is the wall system. In order for a wall system to function as intended, several factors must be taken into consideration. These include the selection and design of compatible materials and systems, proper detailing of material junctions and terminations, installation and inspection of these details during construction, the ability of composite envelope systems to function during weather cycles, and proper wall, though a wall system may have characteristics of both. Barrier walls use a blocking or interrupting mechanism to prevent the movement of water to the interior of the building. Mass barrier walls, such as those constructed of multi-wythe masonry and stone, rely on sufficient thickness and mass to prevent water infiltration. In contrast, face-sealed barrier walls depend on the exposed exterior wall surface to prevent water infiltration. With facesealed barrier walls, it is imperative that all joints and interfaces be sealed to provide this exterior barrier.

Proactive Maintenance: Key to Proper Performance

With any type of wall system, the key to long-term performance is a regular maintenance program that is designed with the life-cycle of specific building components in mind. Exterior seals, sealants, and waterproofing membranes used in contemporary design should be given particular attention.

Proactive maintenance should encompass an annual budget, regular building condition assessments, annual proactive maintenance, and seasonal visual inspections. Visual seasonal inspections should include checking drains, gutters and downspouts as well as using a pair of binoculars to review the structure. In areas of seasonal change and freeze thaw cycles, it is important to perform these inspections after every major weather event. In addition, to planned maintenance repair work, capital renewal funding should be set aside for existing structures separately from new construction.

Armed with building envelope knowledge, building owners have the opportunity to avoid quick fix solutions and implement long-term solutions that will save money and time. The end result is a more efficient, durable, and cost effective facility.





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ICRI BW Chapter Scholarship & Award Program

APPLICATIONS AVAILABLE AT:

www.icribwchapter.org/scholarships and www.icribwchapter.org/tradesman-recognition-award

Each year, the chapter offers both an academic and industry scholarship, as well as a tradesman recognition award, to qualified individuals. Criteria and eligibility rules and applications can be found on our web site under the heading

CONCRETE REPAIR TRADESMAN RECOGNITION AWARD PROGRAM

The first place Concrete Repair Tradesman Recognition Award entry granted under this program will receive a \$500.00 award that can be used for the purchase of new tools/equipment or for continuing education, training, or other industry certification. The first-place award will also receive a complimentary one-year individual membership in the Baltimore Washington Chapter of ICRI. The second and third place Concrete Repair Tradesman Recognition Award entries granted under this program will each receive a \$250.00 award that can be used for the purchase of new tools/equipment or for continuing education, training, or other industry certification.

CONTINUING EDUCATION SCHOLARSHIP PROGRAM GUIDELINES AND APPLICATION 2023 (ACADEMIC)

Each scholarship granted under this program may be up to \$1,000.00, plus a one year individual membership in the National ICRI and the Baltimore Washington Chapter of ICRI. The award shall be for one year. Applicants may reapply for subsequent years. The Scholarship Award may be used towards an accredited institution of higher learning, professional certification program or a continuing educational program. The winner will have to submit an accountability of the Scholarship Award.

CONTINUING EDUCATION SCHOLARSHIP PROGRAM GUIDELINES AND APPLICATION 2023 (INDUSTRY)

Each scholarship granted under this program may be up to \$1,000.00. The award shall be for one year. Applicants may reapply for subsequent years. The Scholarship Award may be used towards an accredited institution of higher learning, professional certification program or a continuing educational program. The winner will have to submit an accountability of the Scholarship Award.

Questions: Alexander Gugliotta: Gugliotta@mineralstech.com





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