

THE NEWSLETTER OF
THE BALTIMORE
WASHINGTON DC
CHAPTER OF ICRI

3RD QUARTER 2020

#### CHAPTER CALENDAR

Chapter Scholarship Application Due September 18, 2020

Outstanding Project Applications Due September 20, 2020

Chapter Golf Outing NEW DATE & LOCATION: October 8, 2020 at Waverly Woods



# THE AGGREGATE

- PRESIDENT'S MESSAGE
- FALL GOLF OUTING \*UPDATED\*
- OUTSTANDING PROJECT AWARDS

### MESSAGE FROM OUR PRESIDENT

RICH BARRETT - LYMTAL INTERNATIONAL, INC



It is that time of year again where I am sure we are all extremely busy. Summer has come and nearly gone and we have been enduring a first in our lives living in a semi quarantined life style without an end in sight. Our kids are getting ready to head back to school which is normally a time to see friends again and are still having an altered school schedule with some completely online and some a sort of hybrid style. Nothing has been routine this year for each and every one of us including the Baltimore Washington Chapter of the ICRI. I look forward to seeing everyone again.

As we get ready for the fall wanted to go over the status of a few upcoming events for our Chapter.

- Unfortunately, with the pandemic comes social distancing along with restrictions on large gatherings. As such, the 3rd Quarter Dinner Meeting is being cancelled. We are keeping our fingers crossed that we will be able to meet again at our 4th Quarter Dinner Meeting which is scheduled on November 5, 2020 at The Hotel at College Park.
- The 29th Annual Golf Outing has been rescheduled from October 1, 2020 to October 8, 2020 and has been moved to Waverly Woods Golf Course. Changing to Waverly Woods allows us to keep a shotgun start for the outing which was not an option at The Timbers due to their current Covid restrictions. The Board felt this would help be a better option for our members and would preserve the traditional format for our outing. The course has put several safety precautions in place and you can see their list on our website. Brian McCabe is organizing the event this year and is available to answer any questions. Hopefully myself and the ICRI Baltimore Washington Officers and Directors will see you at Waverly Woods on the 8th.
- Scholarship Applications are due on September 18, 2020 and are available for college students. If you have any questions please contact Dominic Huey who is the chair of the Education and Scholarship Committee at dhuey@structural.net.
- The ICRI National Fall Convention which was scheduled to be held in Minneapolis, Minnesota has now transitioned to a virtual format. More details will be coming in the near future from ICRI National. Stay tuned.
- Our Annual Fall Technical Seminar is scheduled for December 3, 2020 at Concrete Protection & Restoration's office. More information to follow.

As I mentioned in my last Presidents Message, please be safe and I encourage everyone to make smart decisions when we are out on our projects. For now, I wish you and your family safety and health as we continue to weather these unprecedented circumstances.

Please feel free to contact me at rich@lymtal.com with any comments and suggestions for the remainder of the year.

VISIT US AT: ICRIBWCHAPTER.ORG



One impact of the COVID-19 pandemic on the construction industry has been an interruption in the supply chain. This interruption has led to shortages of material and escalation of material costs. These problems translate into project delays and project cost over-runs. Although the problems may have eased to some extent, there is no guarantee that they will not be exacerbated as new waves of the pandemic make their way around the world.

Little if any relief from these problems can be found in most current contracts. However, the AIA A201-2017 General Conditions, which are incorporated into the A401-2017 Subcontract and into the A101-2017 Owner-Contractor Agreement,

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does open the door to potential relief. General Conditions section 10.4 states as follows:

Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

By taking the position that the COVID-19 pandemic constitutes an emergency, a good argument exists for recovery of pandemic-related cost escalation and for obtaining a time extension for pandemic-related delays.

In negotiating future construction contracts, these problems should be squarely addressed so that these risks are allocated fairly. For example, contractors can insert contract terms which expressly allow recovery of cost-escalation, as well as time extensions for delay, resulting from pandemic-related material shortages.

Please feel free to contact Ken Sorteberg at sorteberg@ constructionlaw.com with any questions or suggestions for future Legal Columns. Mr. Sorteberg is a civil engineer and an attorney (licensed in MD and DC) who focuses his practice on construction law.

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# ICRI Baltimore Washington Chapter 2020 Annual Golf Tournament

## Thursday, October 8th, 2020

**SCHEDULE**:

**REGISTRATION:** 

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

Single Golfer: \$185 Foursome: \$700



#### \*\*REGISTRATION DEADLINE IS SEPTEMBER 25, 2020\*\* Player Name Company Contact Information for yourself or your team: Phone Email Name Golf Tournament \$2500 Luncheon Sponsor \$500 Breakfast Sponsor Sponsorship Opportunities (Includes free foursome and sign (Includes sign at breakfast at lunch table) table) \$2000 Beverage Cart Sponsor \$500 Range Ball Sponsor (Includes free foursome & (Includes sign at range) Name sign on beverage cart) \$400 Competition Sponsor \$1500 Hole in One Sponsor (Includes sign at hole. 4 Company (Includes free foursome and available competitions: sign at hole) Men's/Women's Longest Drive, Men's/Women's Phone \$1500 Putting Contest Sponsor Closest to Pin) (Includes free foursome and sign at putting contest) \$200 Hole Sponsor **Email**

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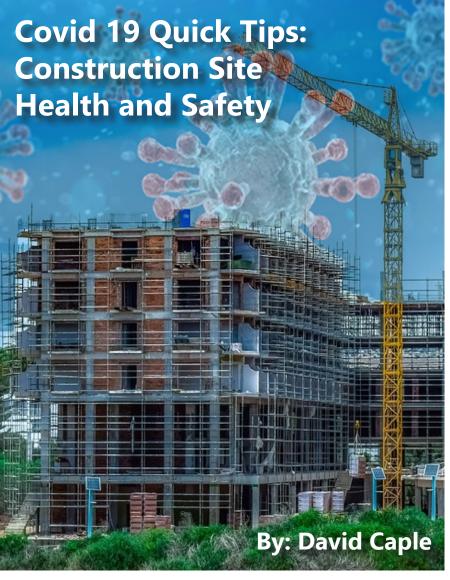
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am sure we have all heard our fair share about the spread of coronavirus. Many companies do not have or cannot afford a robust Human Resources Department or Safety Department. For those that fall into that category I will be brief and share with you what I have seen working on the job sites I service.

#### I have observed the following precautions:

Training employees on the signs and symptoms of COVID19. Encourage employees to stay home if showing symptoms of illness. Post Covid 19 Placards on site with useful information. Your insurance provider should have these resources to share with you.

Avoid personal contact with other employees.

Encourage routine washing of hands (wash stations) and placement of hand-sanitizer stations throughout the worksite.

#### Use EPA List N Disinfectants.

Check employee's temperature before the start of the shift. Maintain a daily log. Send employees home with a Temperature above 99°F and encourage medical attention.

Have employees and visitors to the site complete Covid 19 Related Medical Surveillance Questionnaires at the start of each shift.

Avoid sharing tools and disinfect those that are shared frequently.

Social Distancing; and/or, wearing face coverings when not able to social distance or when required by local ordinance.

NOTE: There is a difference between a face covering and a respirator. Work that requires a respirator should not be confused with other general conditions wear employees will wear a mask. Also, face-shields are face coverings so consider them as alternatives for those who are uncomfortable wearing a mask and not required to wear respiratory protection to perform their duties.

Switch from an Air-Fed Hood for Sand-blasting operations to a P.A.P.R. Respirator. Disinfect respirator before each use. Visit **THE OSHA WEBSITE** for further details on control measures to help maintain a healthy and safe construction site.

#### **Contractors Working in Virginia**

Those contractors working in Virginia should be aware of the temporary measures enacted in that state. The Virginia Covid19 Emergency Safety Rule. Essentially, work sites and work orders must be classified into risk groups as defined by VOSH. Once classified those tasks must be performed following the precautions outlined for the category. For further details you can view the <u>Virginia Emergency Temporay Standard for Covid.</u>



## ICRI BW Chapter Scholarship Program APPLICATIONS NOW AVAILABLE AT WWW.ICRIBWCHAPTER.ORG/SCHOLARSHIPS

Each year, the chapter offers both an academic and industry scholarship to qualified individuals. Criteria and eligibility rules and applications can be found on our web site under the heading **SCHOLARSHIPS AND AWARDS.** 

### CONTINUING EDUCATION SCHOLARSHIP PROGRAM GUIDELINES AND APPLICATION 2020 (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 2020 (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: Dominic Huey: dhuey@structural.net or call at 443-293-6395

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## ICRI BW Chapter Outstanding Repair Project Award

Submission instructions at www.icribwchapter.org/outstanding-repair-project-award/

#### SUBMISSION DEADLINE IS SEPTEMBER 20, 2020

Each year, the BW Chapter of ICRI presents awards for recognition for exceptional and innovative repair projects in the Baltimore/Washington, D.C. area. To be eligible, repair and/or restoration must be the major aspect for the overall project. This is defined by at least 25% of the project costs being associated with the repairs and/or restoration scope of work. The repair and/or restoration portion of the project must be performed, designed and/or supplied by an ICRI Baltimore-Washington Chapter member, in good standing and the project submitted for consideration must be completed between June 1st the year prior to the Award (2019) and by May 31st of the year of the Award (2020). A single phase of a long term project may be submitted provided it meets the above completion timeline. Maximum of one (1) award per individual ICRI Baltimore-Washington member or member-company with multiple submittals. CLICK FOR DETAILS & APPLICATION

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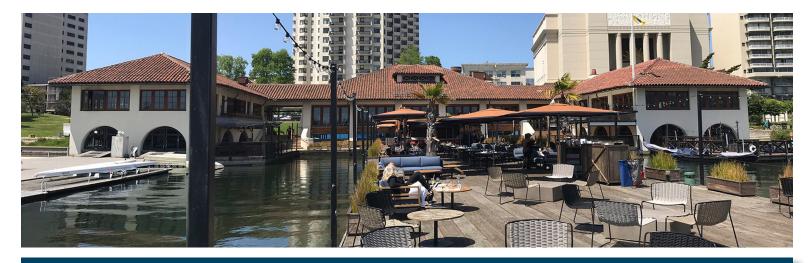




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## LAKE MERRITT BOATHOUSE 10 YEARS LATER

Courtesy of SIKA Corporation

Originally publised in the ICRI Concrete Repair Bulletin, Vol. 32, #6

#### **INTRODUCTION**

The Lake Merritt Boathouse is located on Lake Merritt (a large body of in-land, salt-water) within the city of Oakland, California. It was built in 1909 to serve as an emergency pumping station in response to the 1906 earthquake. The building is U-shaped and has two stories, each approximately 8,500 sf. The two wings were used to store canoes and sailboats used for recreational purposes and the midsection was used to house a pumping station for firefighters. The foundation piers, girders, beams and slabs are all constructed of cast-in- place, reinforced-concrete. The exterior fascade consists of cement plaster over reinforced concrete.

Voters approved a plan in 2002 to return the dormant historic Boathouse to its origi- nal design. In addition to upgrading the lower levels to enhance the boating facili- ties the upper levels were renovated and converted to a restaurant. The new design required installation of micro-piles for seis- mic upgrade of the building. The general contractor installed a coffer dam, dewatered the area and began excavation to expose the foundation to complete this work. Once exposed, it became evident the buildings substructure had many problems.

#### **INVESTIGATION & EVALUATION**

The investigation to assess the extent of damage yielded some dramatic results:

- Most of the beams, girders, piles and slabs had cracking, spalls and signs of corrosion.
- Concrete core compressive strength were less of a concern, ranging from 4,900 5,800 psi.
- Chloride contents were very high, ranging from 0.4-0.9% by weight of concrete (20x theoretical threshold for corrosion).
- Depth of carbonation was very little.
- Cover concrete over the steel ranged from 0" 1".
- Heavy corrosion was noted in many areas and several areas had complete loss of the stirrups and/or the longitudinal steel.



The investigation concluded the spalling was caused by corrosion of the reinforcing steel accelerated by

insufficient cover and chloride ingress. (FIG 2)

#### **REPAIR SYSTEM DESIGN & IMPLEMENTATION**

The Owner and Engineer had several goals to address the field conditions - including properly repairing the damaged concrete, protecting from moisture penetration and future steel corrosion and structurally upgrading deficient members with minimal impact on the overall project schedule.









#### **Site Preparation**

Access to the work areas was a major challenge. Equipment was modified to excavate horizontally under the existing slab and substructure (FIG 3). Because of the tight conditions and the requirement to replace all excavated fill with the original material, the project was completed in two phases. Once the earth was excavated, the work space was very tight, 3 feet of clear head space.

Due to the muddy conditions and to ensure a clean, dry and safe work area a working platform was built. Netting was laid down first followed by a layer of styrofoam then tongue and groove plywood to provide a good surface to work from. The workers had to work from their hands and knees and used dollies to roll from one place to the next. (FIG 4)

#### **Demolition & Surface Preparation**

As the demolition began, the repair contractor inquired on the need to shore the slab during repairs. The engineer inspected the conditions and concluded it to be safe; however shoring was installed as a measure of caution (FIG 5). Not only did this add to the complexity of the completing the repairs, it made a very tight work space even tighter. Old wooden piers were also found during excavation which required remova to gain access to the work area.

Significant demolition was required to remove spalled concrete and expose corroded reinforcing steel (FIG 6). Sandblasting was not permitted and compressed air chipping guns were used for bulk concrete removal. All removals were reclaimed and recycled; thus the netting below the plywood and styro foam ensured that debris was left behind. Reinforcing steel was cleaned with wire brushes and grinders. Areas to receive the CFRP were grinded to re-move surface laitenance. Areas to receive a coating were powerwashed.

The work was done in two phases and each phase was divided into smaller sections due to concern about the lack of slab strength. The work sequence consisted of:

- Installation of galvanic anodes in the repair and core drilled into the beams and piles. (FIG 7)
- Application of the rebar coating and bonding agent.
- · Installation of formwork and
- Placement of the concrete repair material. (FIG 8)

Once the entire phase was completed the next steps entailed:

- Surface preparation and installation for the CFRP (wet-layup technique)
- Surface preparation of the exposed concrete substructure surfaces.(FIG 9)
- Application of the epoxy coating.
- Removal of the shoring.
- Final clean up and removal of the temporary work platform.
- Backfill.







#### **SUMMARY**

Severe corrosion problems and structural deficiencies were uncovered once excavation began and the substructure was exposed in December, 2006. Thorough investigations were immediately employed to determine the extent and causes of the deficiencies. Plans and specifications were developed by February, 2007. The repair contractor mobilized in April and started excavating in May and completed the repairs in September, 2007.

The project was awarded LEED Gold certification. Uniqueness included sustainability/adaptive reuse of a histork landmark, coffer dam required to access submerged elements of the structure, excavation of saturated soil/soupy mud, tight access to the work space with 2-3 feet headroom and shoring, load limits on the slab, restricted storage and work sequence, possible liquidated damages if the project was not completed on time and dewatering to maintain access.

The full system repair/strengthening/protection approach was designed to withstand for many years. Ten years later, the repairs are still performing wihile the residents continue to enjoy the upgraded boating facilities and restaurant.





## LAKE MERRITT BOATHOUSE 10 YEARS LATER

Submitted by SIKA Corporation Owner: City of Oakland, CA

Project Engineer/Designer: Degenkolb Engineers

**Repair Contractor: Alpha Restoration** 

Materials Suppliers/Manufacturers: SIKA Corporation & Vector Corrosion Technologies



# CRI THEAGGREGATE

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## THE BALTIMORE/WASHINGTON D.C. CHAPTER OF ICRI IS SEEKING TECHNICAL ARTICLES FOR PUBLICATION IN ITS QUARTERLY NEWSLETTER, THE AGGREGATE.

The Aggregate is the official newsletter for The Baltimore/ Washington, DC Chapter of The International Concrete Repair Institute and is published quarterly and sent to tall current sustaining members of the chapter. In addition to chapter news, highlights, and possible advertising opportunities, The Aggregate includes informative technical articles on a variety of issues related to the concrete repair industry.

The ICRI BWC chapter is looking for individuals interested in contributing a technical article (s) related to industry practice or instruction, technology and design, professional concepts/issues, project profiles, or any other topics relevant to ICRI members. Articles will be presented as the main article in an upcoming edition of The Aggregate. Articles do not necessarily need to be authored by an ICRI member, so please forward this request to any individual outside of the organization who may be interested in submitting. This could be a great opportunity for younger professions to get published or for someone to share an informative or interesting lesson learned article. Please visit the Aggregate archives on the ICRI-BWC website to see the types of articles that have been published previously.

Also, technical article contributors to the Aggregate will recieve a complimentary registration for the succeeding quarterly dinner meeting for ICRI BWC. Please contact Rich Barrett (<u>rich@lymtal.com</u>), Chapter President for more details.



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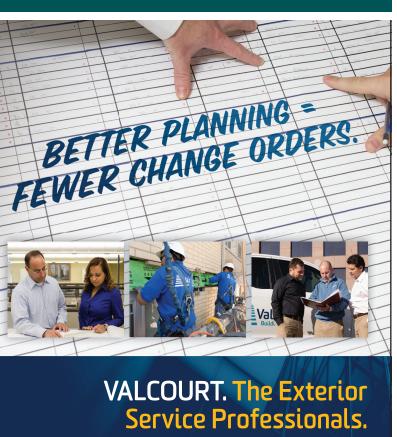


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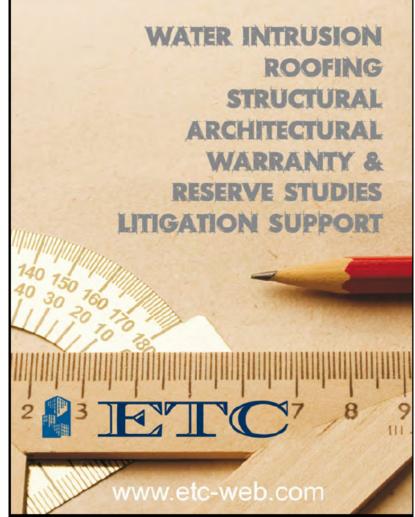
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