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BREATHING LIFE BACK INTO AGING INDUSTRIAL INFRASTRUCTURE

*Thomas R. Kline – Division Manager - Engineering Services
Structural, Deer Park, Texas*

Daily, infrastructure ages throughout the world, regardless of the means and methods provided to protect it against deterioration while in service. In light of shrinking industrial maintenance budgets in a suffering economy, Owner/Operators frequently make "hard" decisions that in their own personal life they wouldn't think twice about....whether to repair, patch or delay actionable maintenance. In one's own personal life, prior to taking a long trip on vacation, an individual routinely tune-ups and services their vehicle, making sure critical features such as oil, fuel, brakes and tires are all operating at top efficiency, providing insurance against premature "breakdown" while traveling. Unfortunately, many maintenance budgets only activate subsequent to a significant event caused by unscheduled outages (i.e., fires, explosions, cessation of process, etc.). As such, Owners/Operators are looking for "out-of-the-box" solutions to their maintenance challenges.

see Infrastructure - page 5



**View of Vacuum Tower Support
Structure prior to repair in advanced
state-of-deterioration.**

ANCHORED VENEER

HOW GOOD IS YOUR FASTENER?

Part 2

By: S.H.Getz, BSCE

In part 1 of the fastener selection article, a brick veneered cavity wall applied to a masonry or concrete structure was reviewed. Expansion anchors used for the brick tie securement for the non-typical tie application were evaluated. A fastener for a brick veneer/steel stud application is the current topic to be addressed.

see Anchor - page 9



**Typical steel stud brick veneer insulated cavity
wall construction**

CHAPTER MEETINGS

3rd Quarter Dinner Meeting

September 8, 2011

Holiday Inn, College Park, MD

**ELECTRONIC LEAK DETECTION/
ELECTRONIC FIELD VECTOR MAPPING**

*By Dave Honza
The Honza Group*

COME EAT, DRINK AND BE MERRY!

see page 3

2nd Quarter Dinner Meeting

The Baltimore Washington DC Chapter of ICRI held their second membership dinner meeting of 2011 on Thursday, May 5th. The featured speaker was Mr. Keith Kesner, Ph.D., P.E., S.E. from WDP and Associates. The topic of the meeting was "Assessment of existing structures in the absence of drawings" and over 60 people attended the meeting.

see page 15

ICRI MISSION STATEMENT

The mission of the International Concrete Repair Institute is to be a leading resource for education and information to improve the quality of repair, restoration, and protection of concrete and other structures in accordance with consensus criteria.

ICRI is an organization composed of Engineers, Consultants, Contractors, Manufacturers and other Material Suppliers, Property Managers and Owners all working together for the betterment of the industry and of all involved. Providing an open forum to speak about our work, new technologies and methods, exchange ideas.

Creating and following standards to produce the best results for all involved.

PRESIDENT'S MESSAGE



It has been a hot summer and I hope that all have been busy repairing the crumbling structures in our region. I look forward to seeing all of you at the September 8 meeting at the College Park Holiday Inn. An emerging technology in leak detection will be discussed, from which I am sure that we will all benefit.

Several things to watch for this coming fall are:

- 20th Annual Golf Outing – October 6 at Glenn Dale Golf Club. This year marks our Emerald Golf Event, which is always a great time. This year it will be even more exciting as we mark this milestone with special prizes and awards. Jay Whitton will be organizing the event again this year. Watch your email for announcements and check the website for more information.
- Chapter Outstanding Project Awards – Applications are due September 23 and the top three projects will be presented at our November 3 meeting. Please contact Oscar Valenzuela if you have any questions.
- Fall Hands On Seminar – Will take place on December 1 and will be focused on green construction and sustainable design. Local experts and those from around the country will present various topics on this current industry trend. Look for more information to follow. Tom Ouska will again be chairing the seminar, please contact him if you have a case study or topic that you want to present or would like to learn more about.

This fall the Board will be focusing quite a bit of attention on obtaining more chapter sponsors. If you have not yet received a phone call, you will soon. We ask that you be prepared to support our local chapter so that we can continue our rich tradition of giving back to the community and the industry through our expanded scholarship program and community service projects. Thus far we have completed one service project with the Habitat for Humanity and we have two more projects lined up. Volunteers are needed to assist these very deserving causes.

The Fall National Convention will be in Cincinnati on October 12 – 14. If you have not attended a National ICRI event, then consider this one. ICRI will also be holding a slab moisture technician certification class in Baltimore on October 25 – 26. Check www.icri.org for more information.

Elections for new Board members will take place this fall. We are actively pursuing candidates and are seeking nominations from interested chapter members. I have served on the Board for five years and have really enjoyed the experience and getting to know more of the members in the largest and most outstanding ICRI Chapter in the world. I encourage anyone who has not served before to do so, as the experience is very rewarding. Please contact Matt Nachman of TCE if you are interested in furthering the goals of our industry leading organization.

The chapter has accomplished so much this year and we look forward to a productive and busy fall as we close out 2011 and meet all of our goals. See you all on September 8 and check our website www.icribwchapter.org for updates on our progress and upcoming activities.

Chris Carlson

Engineering and Technical Consultants, Inc.

THE BALTIMORE WASHINGTON CHAPTER OF ICRI

Thursday, September 8, 2011

Holiday Inn College Park

10000 Baltimore Blvd.

College Park, MD

301-345-6700

Exit 25 (Baltimore Blvd. North US 1) off Beltway
Hotel on Left



Advance Reservations by 09-01-11:	\$50
After 09-01-11 & Non Members:	\$60
4:00	Board Meeting
5:30	Social Hour
6:30	Dinner & Presentation

ELECTRONIC LEAK DETECTION/ ELECTRONIC FIELD VECTOR MAPPING

OUR FEATURED SPEAKER

Dave Honza
The Honza Group



Dave Honza has over 35 years experience in the roofing and waterproofing industry. 21 of those years were with major manufacturers (Owens Corning, Firestone, Hydrotech, Barrett) promoting products to the architectural community and providing technical support and application training to contractors. 14 years were as a roofing and waterproofing consultant involved in identifying roofing and waterproofing problems and implementing solutions. Dave has been involved in roof design, written survey reports, created specifications, and overseen the production efforts.

The last 10 years, Dave has been actively promoting Green Roofs, has acted as a course trainer, and has been involved in the design and installation of over 70 Green Roofs. The consequences of poor waterproofing membrane performance has lead Honza Group to seek improved quality assurance standards resulting in our providing electronic leak detection services since 2006.

OUR FEATURED PRESENTATION

This presentation will discuss

- Current quality assurance test methods;
- The fundamental basis of electronic leak detection;
- An explanation of low voltage and high voltage leak detection;
- Additionally, limitations of these test methods will be discussed.

REGISTRATION DEADLINE IS September 1, 2011 **NO-SHOWS WILL BE BILLED**

Please email (oscarv@skaengineers.com) or print this page and fax to **Oscar Valenzuela**, Secretary, at 301-881-8066 no later than September 1, 2011. Checks to ICRI BWC may be turned in at the meeting or mailed with your form to:

Oscar Valenzuela, Secretary
ICRI BW Chapter
C/O Smislova, Kehnemui & Associates
12505 Park Potomac Avenue, Suite 200
Potomac, MD 20854
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(Please include receipt)
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INDUSTRY OUTREACH

Industry Outreach Update Garrett County Habitat for Humanity July 26, 2011 Garrett County Habitat for Humanity

Habitat for Humanity is a nonprofit, Christian ministry that seeks to eliminate poverty and homelessness. Habitat for Humanity operates entirely on donations. This is accomplished through the efforts of volunteers, working alongside of the prospective Habitat homeowners, to build the Habitat house. In addition to volunteer labor, donations of money and materials are also accepted to help build the Habitat homes.

On Wednesday, July 20th, members of the ICRI BW Chapter travelled to Oakland, MD to begin their volunteer work for the Industry Outreach Program. This was the third year a team of ICRI volunteers from the Baltimore Washington Chapter has volunteered their time to assist at the Garrett County Habitat for Humanity.

The ICRI BW Chapter provided a total of fifteen (15) volunteers this year. Work commenced at the Garrett County Habitat for Humanity worksite on Thursday, July 21st and was completed on Friday, July 22nd. Work items that were completed this year included the following:

- Installation of doors;
- Installation of trim work;
- Installation of electrical outlets and ceiling fans;
- Installation of flooring (hardwood floors);
- Installation of vinyl siding;
- Installation of roof shingles;
- Site grading.

Despite record high temperatures that blanketed the East Coast, the team of ICRI volunteers impressed the Garrett County Habitat for Humanity Chapter by completing a significant amount of work in just two days. Frank Ferry, site supervisor for Habitat, stated that he was amazed at the amount of work completed by the volunteers, including the installation of the roof shingles under a scorching sun. Deer Park water sales went through the roof.

This was a very worthy cause and successful effort by the group of ICRI volunteers that participated. It provided our ICRI members with an opportunity to give back our communities by helping those that are less fortunate than us.

The ICRI BW Chapter is grateful to all of the volunteers that helped support this very rewarding project.

The ICRI-BW Chapter would like to congratulate two of our Board Members on their recent additions to their families and recognize these future ICRI Members!

Matt & Jess Nachman

Dylan Matthew

Cindy & Tom Garman

Riley



TO SEE MORE PICTURES GO TO OUR [WEBSITE!](http://WWW.ICRIBWCHAPTER.ORG)

Infrastructure

continued from page 1

Innovative approaches to these challenges have emerged more frequently when the stakes are the highest, as in a stalled economy. Transferring technological advances in infrastructure rehabilitation from alternate market-places to the Petrochemical sector has provided an edge in many situations to Restoration Professionals - even in a down-side economy. Many times, especially in Petrochemical Facilities, plant processes must remain on-line; making asset repairs only during planned outages a wistful dream. Commanding knowledge of available technologies to answer the call of demanding Owner/Operator requirements requires a large cache of cross-industry experience in restoration.

A Repair Case History is presented to illustrate the implementation of a repair cost alternative that employed technological advancements in rehabilitation, yet provided a long-term, enduring restoration. The repair approach/alternative comes from the Power Generation and Marine sectors of the economy and was developed based on the need in those sectors for excellent Return-on-Investment (ROI) strategies due to the massiveness of the structures and the sheer number requiring repair. As with structures in the Power Generation and Marine industries, many similar massive equipment support structures exist within Petrochemical Facilities. These structures require restoration normally allocated for conventional "means and methods" of repair during short duration outages when maintenance budgets are fully-funded.

Repair Case History

A massive 50 year-old conventionally reinforced concrete structure supporting a critical Crude Unit Vacuum Tower within a Petroleum Refinery along the Gulf Coast in the Southwest USA, was significantly distressed and perceived by plant reliability personnel to have reduced operating serviceability; leaving the Owner/Operator in a quandary as to whether they should repair or replace the structural support system. Supporting well over 600,000 lbs of process equipment weight while in service, the eight (8) Column support structure was experiencing on-going embedded metal corrosion activity resulting in extensively deteriorated support Columns and Beams. Significant cross-sectional losses in reinforced concrete members were noted, as well as falling concrete hazards. The Owner/Operator had to barricade the areas surrounding the structure from plant personnel as a hazard mitigation measure. Recognizing the need to address the conditions of this critical support structure, the Owner/Operator contracted to have a comprehensive Condition Assessment and Structural Analysis be performed on the subject structure. The evaluative effort, it was hoped, would identify "Root-Cause" deterioration mechanisms as well as provide recommendations that would restore the support structure to as-designed serviceability.

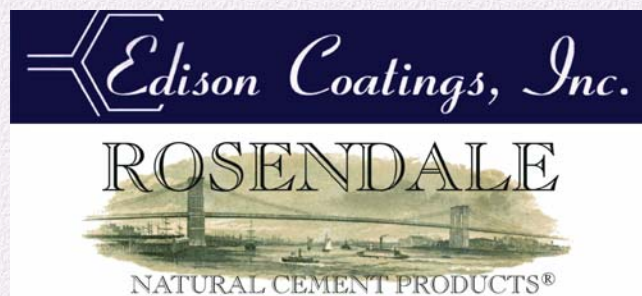
Conventionally Reinforced Concrete Structure Metrics:

- 8 Columns – 30" diameter circular in cross-section by 33'-0" in height
- 8 Beams – 2'-6" x 3'-0" x 7'-6" rectangular cross-section
- 16 Anchor Bolts – 1-1/4" in diameter by 3'-3" in length (ASTM A-7)
- Minimum Concrete Compressive Strength (f'_c) 3,000 PSI
- Minimum Specified Concrete Cover – 2-1/2"

Determining the physical and chemical characteristics of the materials-of-construction is an important facet of a Condition Assessment as it sets the stage for a more complete understanding of the alterations and modifications to the reinforced concrete in aggressive service environmental conditions. Especially significant in 1960's construction in the USA was the practice of incorporating Calcium Chloride admixtures



Concrete Core Sampling During the Condition Assessment Phase of the Project.



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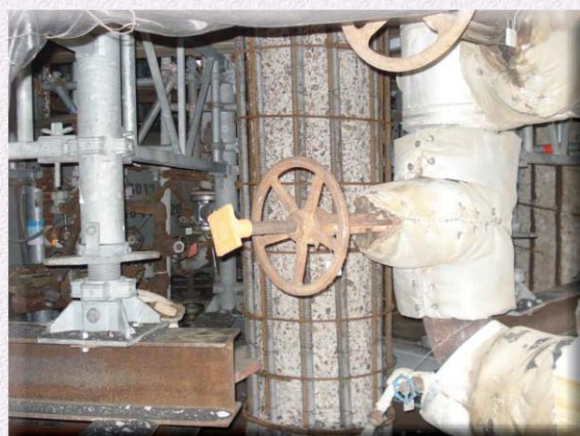
Tom Ouska, FICRI

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into Ready-Mix Concrete to accelerate the rate of strength gain without the incorporation of additional Portland Cement. This practice, at the time, was thought to lower the cost of the delivered product. Unfortunately, although well-intentioned, this practice introduced an aggressive electrolyte (i.e., chloride ions) into the concrete mixture that initiated and exacerbated the process of embedded reinforcing steel bar corrosion. In the case of the subject support structure, not only were chlorides introduced via admixtures, but being located close to the Gulf Coast region of the USA, provisions regarding the washing of local aggregates were not routinely practiced. Consequently, brackish mixing water conditions existed at the time of original Ready-Mix Concrete batching and placement.

During the Condition Assessment, a series of Non-Destructive and Semi-Destructive Testing (NDT & SDT) protocols were employed to determine both the chemical and physical characteristics of the concrete materials-of-construction. Existing concrete materials were determined to be carbonated (cement paste matrix at a pH <9.8), extensively delaminated (internal separations within the concrete caused by the expansion of corroding embedded reinforcing steel bars) and thoroughly contaminated with elevated levels of chloride (2 to 5 times the threshold value established by the American Concrete Institute). Although poor chemically, once the delaminated concrete was removed, the physical characteristics of the concrete were good with corrected existing compressive strength values ranging 4,500 to 7,500 PSI on a structure originally specified to be a minimum of 3,000 PSI.

Because certain features of the Support Structure required further and more sophisticated scrutiny, a Finite Element Analysis (FEA) was authorized by the Owner/Operator as standard repair "means and methods" would undermine the structural integrity, without incorporating a "sequential" repair program. The Owner/Operator, during this phase of the assessment, imposed an additional requirement due to economic necessity. The Support Structure's process equipment would have to remain functional - uninterrupted and "On-Line". This requirement further "loaded" the FEA Model with not only Dead



Exposed Steel reinforcement, with new augmented bars and Column ties. Note Vessel Support Shoring next to Column and Operating Jacketed Hot Process Piping/Valves.

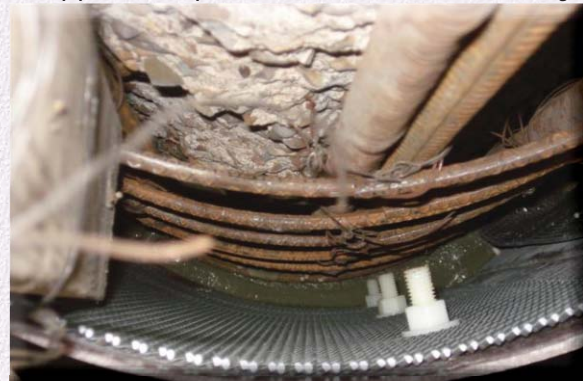
Loads, but also Live Loads, Seismic Loads and Wind Loads up to hurricane force due to it's proximity to the Gulf of Mexico. Based on the results of the structural analysis, a sequential process of opposing structural members of equivalent vertical measure could be repaired simultaneously without the need to shore the overlying process equipment. However, the repair as specified was cost prohibitive and involved a lengthy repair construction schedule.

By reviewing various structural repair alternatives with passive and active repair features, an innovative hybrid repair program was developed that would both lower the repair construction costs, as well as decrease the duration of the project. The program included the "active" shoring and support of existing Process Equipment, as well as repair technology borrowed from the Power Generation & Marine Facilities markets. The main feature of the borrowed technology involved incorporating Lifejackets® into the repair both at Column and Beam locations.

Employing a comprehensive Condition Assessment prior to developing a Repair Strategy is important because the root-cause analysis can determine the actual deterioration mechanisms. In this case, understanding the plant environment to be essentially "coastal" and the reinforced concrete to be laden with elevated chloride ion contents, either the structure had to be removed in its entirety or "active" means and methods were needed to mitigate the embedded metal corrosion processes. Active techniques at mitigating ongoing corrosion processes typically means the application of cathodic protection methods to embedded reinforcing steel portions of the structural concrete members. Specifically, Lifejackets® provide sacrificial zinc-alloy technology – allowing the anode to be preferentially consumed rather than the embedded reinforcing steel bars. This action significantly extends the service life of the reinforced concrete structural members.

The repair process began with the removal of delaminated (i.e., partially detached/unsound) concrete from specific support Columns - essentially repairing opposing Support Column Legs, two at a time in phases in a manner similar to tightening lugs bolts when changing a car tire. The repair required that the two phased Columns be completed prior to proceeding to the next set of opposing Support Column Legs with the repair of the elevated supporting Beams following a similar sequential repair format. Work took place even with all the process equipment supported as an additional safety precaution.

With the delaminated/unsound concrete removed, the exposed corroded reinforcing steel was cleaned and new reinforcing steel installed to augment existing reinforcement containing significant cross-sectional losses. The exposed reinforcement was then tested for continuity and electrically connected where discontinuous. Then, the two-piece Lifejacket® assembly was placed overtop of the prepared surfaces, strapped into place and the annulus cavity grouted with prebagged cementitious grout, mixed, batched



View of the Annulus Cavity during Cementitious Grouting Operations. Easily seen are the non-metallic hold-off bolts, Zinc-anode Mesh, Fiberglass Form and grout placement rising from base of form.

Note the form follows the original circular contour of the Column structural member, although approximately 4" larger in diameter.



Delaminated "cover" concrete removed from Support Beam members exposing corroded reinforcing steel bars and relic indicators of rebar beam stirrups.

and placed on-site. The installed cementitious grout not only provides a structural composite repair to the existing substrate, but also encapsulates and promotes electrical connectivity between the embedded reinforcing steel and the Zinc-anode attached to the external Fiberglass Form.

The added value of the prebagged cementitious grout materials was rapid strength gain which allowed relatively quick cycling between phased repair operations and the flexibility to adjust the construction schedule should the Owner/Operator require modifications due to process demands.

An unexpected feature of the project, discovered during the course of the Work, was that of Corrosion-Under-Insulation (CUI) involving the Vessel Skirt Base Ring and Anchor Bolts. Essentially, once cementitious fireproofing materials were removed from overtop the structural steel vessel support elements, significant laminar corrosion deposits were observed. These observations required

timely evaluative efforts as well as a strategic repair approach that wouldn't affect the Project Repair schedule. Repairs were made to the Vessel Skirt that included repair/strengthening of the Vessel Skirt Base Ring, Base Ring Stiffeners, Anchor Bolts, and Anchor Bolt Chairs. Due to the severity of the corrosion and the associated Work Scope changes, a more substantial Shoring Support Structure had to be designed and installed. The enhanced support structure contacted additional process equipment members while the Vacuum Tower was in operation.

Although challenging, this project provided the Owner/Operator with an innovative and proven repair concept integrated from other industries that not only was less expensive but also offered a shorter project duration. Initially designed to be performed during a short duration outage (T/A), the repair design was flexible enough to be undertaken even though the Vacuum Tower came back On-Line due to Owner/Operator Process requirements.



On-site Cementitious Grout Batching Operation adjacent to the area of Work using pneumatic mixers and hydraulic pump conveyance.



View of Vacuum Tower after completing phased Column, Beam, and Vessel Skirt Repairs and subsequent to the removal of Structural Support Shoring.

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Anchor

continued from page 1

In order to establish a selection guide for the fastener, it is assumed that the steel stud design and construction incorporates the required details established by the appropriate trade related standards. Pursuing fasteners for the brick tie applications will assume also that 5/8" exterior grade sheathing is applied to the studs. The stud for this example is 6" deep having a 1-5/8" flange and 16 gauge thick (0.0566") Additional design variables such as flashing, waterproofing, and insulation impact the tie selection process more then the fastener and are not included within the discussion.

TIE SELECTION:

A preferable choice of adjustable ties can be a base plate with a "v" or triangular tie, a plate and two leg pintle, or a single post and tie system. The selection is a function of the wall make up, waterproofing/ flashing and insulation applied if applicable. Ideally, the base plate should make firm contact with the sheathing in order to assure compression load transfer. Extended legs for piercing the insulation are taxing to maintain a perpendicular installation to the 1- 5/8" wide surface of the steel stud. Also note that two screw installations required by manufacturers are not for redundancy, but performance. A lose of one screw for a two pair set renders the tie compromised and remediation is required.

Brick ties have been developed to comply with a stiffness criterion of 2000 lbs per inch, which becomes a critical standard as the veneer reacts to wind blown pressure and the wall tie systems must transfer the live load to the parent structure – with minimal veneer deflection. Insufficient and inadequate ties and fasteners can exacerbate the wall deflection and allow for deficiencies in the performance based expectations of the veneer for water tightness and air permeability. Tie manufacturers have done an excellent job developing wall tie systems for the veneer. The unexpected weakness of the tie configuration can be the fastener used or installed that leads to a less then adequate fixing result.

FASTENER SELECTION:

Cost effective connections to the steel stud have limited options. Preferably, self-drilling/self-tapping screws are ideal. The screw incorporates a drilling tip designed to provide a pilot hole for optimum thread engagement to the steel. Sheet metal screws which are self tapping but require a pre-drilled pilot hole are acceptable, however the installation method requiring two drilling operations usually limits the appeal from a cost and efficiency point of view. The performance of the self tapping screw is also dependent on the pilot hole drill size used. A 300 series stainless steel sheet metal screw or self tapping screw may be more cost effective then using bi-metal self drilling tips on a 300 series stainless self drilling screw and possibly worth evaluating.

see our website for the entire Article

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- Sept. 8, 2011 ICRI-BWC 3rd Quarter Dinner Mtg.
*Holiday Inn,
College Park, MD*
- Oct. 6, 2011 ICRI-BWC 2011 Golf Tournament
*Glenn Dale Golf Club
Glenn Dale, MD*
- Nov. 3, 2011 ICRI-BWC Annual Awards Banquet
*Holiday Inn,
College Park, MD*
- Dec. 1, 2011 ICRI-BWC Fall Technical Seminars
Location: TBD

Upcoming National Events

- Oct. 12-14, 2011 ICRI 2011 FALL CONVENTION
*Theme: "Water & Wastewater
Treatment Plant Repairs"
The Westin Cincinnati
Cincinnati, OH*
- Oct. 25-26, 2011 CONCRETE SLAB MOISTURE
TESTING PROGRAM
Baltimore/Washington
- April 18-20, 2012 ICRI 2012 SPRING CONVENTION
*Theme: TBD
Hilton, Quebec
Quebec, QC, Canada*
- Nov. 7-9, 2012 ICRI 2012 FALL CONVENTION
*Theme: TBD
Rancho Las Palmas Resort and Spa
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SAFETY COLUMN

Safety Tips for Electronic Field Vector Mapping

While Electronic Field Vector Mapping (EFVM) itself doesn't present much of a safety hazard, the jobsite it is conducted on can. Companies that provide EFVM and Contractors employing the services of these companies should be aware of some of the safety rules that may apply to them.

When analyzing the jobsite for potential safety hazards consider the following:

Access – Getting to and from the worksite in addition to the location of the work.

I encourage both the Host Contractor and the EFVM Inspector to discuss and hazards associated with access to the worksite prior to starting. Be aware of any special conditions that may require additional training or equipment.

If the worksite is an elevated surface with unprotected sides or edges 6 feet or more above a lower level, for example roofs or plaza decks, employees must be protected from falls. An unprotected edge is one that does not have a wall or guardrail system at least 39 inches tall. Fall protection may include a guardrail system, safety net system, personal fall arrest system, or a combination of warning line system and guardrail system, warning line system and safety net system, warning line system and personal fall arrest system, or warning line system and safety monitoring system. Additional requirements such as having a written plan apply to several of the combinations. Seek the support of your safety department or a safety professional for more information.

If an EFVM Inspector is required to use Personal Fall Protection Devices they should be properly trained on how to use the equipment and demonstrate proficiency in using the equipment in the site specific situations they will encounter before being allowed to work.

OSHA does provide one exception to the use of fall protection. The provisions of this standard do not apply when employees are making an inspection, investigation, or assessment of workplace conditions prior to the actual start of construction work or after all construction work has been completed. This provision should not be used as a "Get out of jail free card", so to speak. Contractors and inspectors must be prepared to prove the infeasibility to provide fall protection in these situations. With more *continued on page 12*



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The money we raise will provide increased exposure for sponsoring companies to our local and national members and, in addition, provide an additional revenue source to expand and enhance the member service program of our chapter. So, PLEASE -

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Safety

continued from page 12

new construction incorporating anchorage points into the building design, I recommend coming to work prepared to use fall protection. During construction and after the waterproofing installation is complete, keep any fall protection systems in place until the membrane has been surveyed and signed off as 100% leak free.

On a jobsite where more than one contractor is performing operations, rules regarding multi-employer worksites may apply. If OSHA finds a violation on your jobsite they will take into consideration four basic points when issuing citations:

- Who is the Controlling Employer?
- Who created the hazard?
- Who is exposed to the hazard?
- Who is responsible for correcting the hazard?

For more information and to view examples of how these rules are applied by OSHA Search CPL 2-0.124 or follow the link below.

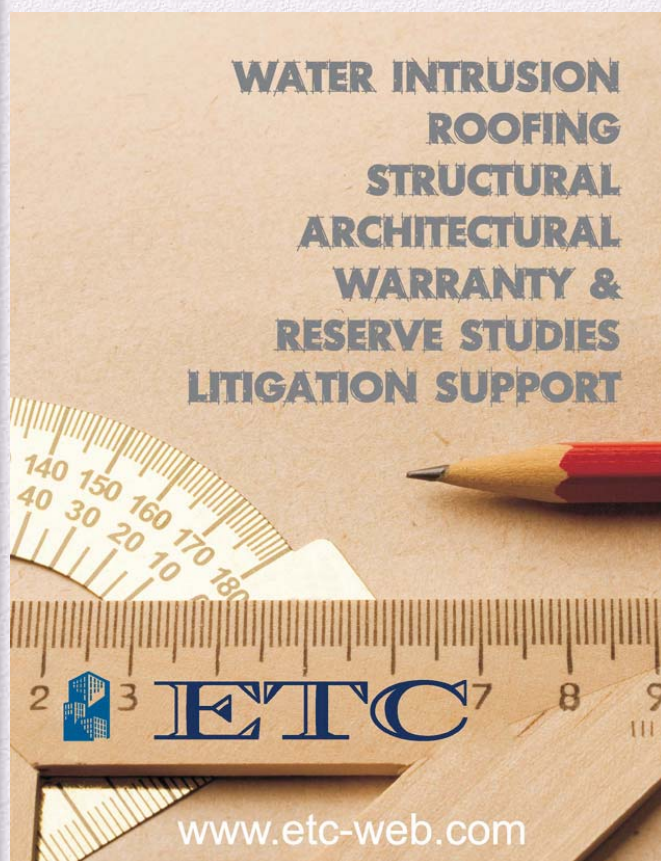
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=2024

Other measures to avoid fall hazards are:

1. Wear work boots with a slip resistant soles; and,
2. Stay alert and aware of your location and surroundings. This sounds obvious, but people have fallen to their death by walking off the side of a building or scaffolding because they developed "tunnel vision". While focus on the specific task at hand is vital, the worker must also frequently observe their surroundings.

For more information or to recommend a topic for a future publication please contact me at d.p.cable@gmail.com

David Caple is a Construction Safety and Health Specialist and a Principal Member of Pinnacle Safety Network, LLC. He has over 15 years experience in a combination of structural restoration and safety.



SCHOLARSHIPS AND AWARDS

ACADEMIC SCHOLARSHIP

APPLICATIONS ARE BEING ACCEPTED FOR THE ICRI-BWC ACADEMIC SCHOLARSHIP

The scholarship recipient will be notified by **October 3, 2011**.

ELIGIBILITY

To be eligible for the ICRI-BWC Scholarship Award you must be:

1. An employee (full-time, part-time) OR family member of the employee of an ICRI-BWC Member Company.
2. Any other ICRI-BWC Member OR his/her family member, in good standing.
3. All applicants must be a U.S. citizen or a resident alien.

INDUSTRY SCHOLARSHIP

APPLICATIONS ARE BEING ACCEPTED FOR THE ICRI-BWC INDUSTRY SCHOLARSHIP

The scholarship recipient will be notified by **October 3, 2011**.

ELIGIBILITY

To be eligible for the ICRI-BWC Scholarship Award you must be:

1. An employee (full-time, part-time) of an ICRI-BWC Member Company.
2. Any other ICRI-BWC Member OR his/her family member, in good standing.
3. All applicants must be a U.S. citizen or a resident alien.

APPLICATION PROCEDURES

1. Applications may be obtained at anytime by calling **Brian McCabe @ (410) 298-2669** or by emailing **bmccabe@c-p-rinc.com**. They may also be downloaded from our website.
2. Applications, transcript, and recommendation letters must be submitted to the

ICRI-BWC Education and Scholarship Committee
c/o Brian T. McCabe,
6737 Dogwood Road,
Baltimore, MD 21207

and received or postmarked no later than **September 12, 2011**. Awards will be made by **October 3, 2011**.

2011 ICRI-BWC Outstanding Repair Project Awards

The Baltimore Washington Chapter conducts an awards program each year to honor and recognize outstanding projects in the concrete repair industry. Entries are received from throughout the region, and the winning projects are honored each year at the annual ICRI-BWC Awards Dinner and Reception

Rules and Entry Forms for the 2011 ICRI Project Awards are now available on our website or contact:

ICRI Baltimore Washington Chapter
Outstanding Repair Projects Awards Program
c/o Mr. Oscar Valenzuela
Smislova, Kehenmui & Associates, P.A.
12505 Park Potomac Avenue, Suite 200
Potomac, MD 20854
(301) 881-1441
EMAIL: oscarv@skaengineers.com

Due Date: Friday, September 23, 2011 no later than 4:00 PM.

2011 ICRI-BWC Service Awards Program

The Baltimore Washington Chapter conducts a recognition awards program of individuals who unselfishly volunteer their time and display the spirit of the International Concrete Repair Institute and the Concrete Industry throughout the Baltimore Washington Area.

To Nominate someone for the ICRI-BWC Service Award, submit his or her name, contact information and the kinds and types of service this individual has performed for ICRI-BWC and the local concrete repair industry.

Questions & Nominations shall be submitted to:

ICRI-BW Chapter Service Awards Program
c/o Tom Ouska
Manganaro
6405-D Ammendale Road
Beltsville, MD 20705
EMAIL: touska@manganaro.com

**Due Date: Thursday, October 15, 2011
No Later Than 4:00 PM.**

SAVE THE DATE!

THE 20TH ANNUAL ICRI BALTIMORE WASHINGTON CHAPTER GOLF TOURNAMENT

Join us Thursday, October 6, 2011 at Glenn Dale Golf Club in Glenn Dale, MD.

STAY TUNED FOR MORE INFORMATION

MOLD CONTAMINATION CLAIMS CAN BE COSTLY

By Jennifer A. Mahar, Esquire

One of the last things a contractor or designer wants to hear during or after a construction project is the word "mold". The discovery of mold contamination inside a building during construction can lead to costly delays if work is stopped to investigate and remediate the mold before work is allowed to continue. The discovery of mold contamination after the completion of the project can be an expensive proposition due to the frequent need to perform destructive testing and then repairs to the existing structure and any collateral damage to the interior contents of the building. The building's occupants may also make personal injury claims alleging the mold made them sick.

Mold has three basic needs to flourish: food, water, and a hospitable temperature. Improvements in the construction industry may inadvertently contribute to favorable conditions for mold growth. For example, new building materials, such as insulations, may contain organic compounds which can become a palatable food source for mold. Advances in construction techniques and designs permit the construction of tighter builder envelopes, which in turn may make it more difficult for moisture to escape and create a moist environment for mold growth.

Mold's impacts to the construction industry include the increased exposure to mold contamination claims and subsequent litigation. When mold is discovered on a project it must be determined how it occurred and who is responsible. These determinations often result in competing theories between parties of defective construction versus improper design as the discovered mold is typically attributed to trapped moisture, water infiltration or a leak of some kind. A third party consultant is often hired to perform destructive testing to determine how the water is getting into the areas where the mold is found. Once the path of entry is found, a debate typically ensues over whether the architect's design created the pathway or the contractor failed to perform its work in accordance with the architect's design, and thereby created the pathway.

The construction industry is responding to this increased exposure to mold claims by becoming more vigilant of conditions that may lead to mold contamination. For example, some contractors are more carefully documenting during construction that their work is installed in accordance with the project's plans and specifications. Some designers are conducting more frequent field inspections to make sure their designs are being properly implemented. When mold is discovered, contractors and designers often cooperate to remediate the situation before claims are made by building occupants and then resolve later between themselves who is responsible for paying the costs for the repairs or damages. This has resulted in the expansion of the mold remediation service industry which is now regulated by many states. Maryland and Virginia now have regulations for mold inspectors and remediation professionals. See VA Code § 54.1-100; MD Code Ann., [Bus. Reg.] § 8-701.

As a contractor or design professional in the construction industry, you may want to expand your business risk program to include potential exposure to mold contamination claims. At a minimum you should review your existing insurance policies before you are faced with a mold contamination claim to determine whether these claims are covered and the applicable reporting procedures. You may also want to consider whether improvements can be made to your contract documents to limit your exposure to mold contamination claims.

Do you have a legal issue you would like addressed in a future newsletter? Send me an email with your question to jmahar@smithpachter.com or contact me at 703-847-6300



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2ND QUARTER MEETING WRAP-UP

continued from page 1

The focus of the presentation was on non-destructive evaluation methods. Lack of accurate, as-built drawings is something that most everyone in the concrete repair industry has had to overcome on a project. Mr. Kesner gave an enlightening presentation that outlined many of the methods available to determine the existing in-situ concrete material properties, steel reinforcing size and depth, size of members and identification of any defects. Once this information is obtained, methods of using the data to analyze and determine the in-situ strength of the reinforced concrete members were presented. The methods presented can be used when repairing concrete structures, changing the structure's use which may require strengthening of the structural members, upgrading structures to meet current code requirements or simply to verify that the structure is adequate in its current condition. We thank Mr. Kesner for presenting at our spring meeting.



Registration and Socializing before the meeting!

Jim Ninteman, *Commercial Waterproofing*, and Dan Watkins, *Facility Engineering*, discuss their latest projects.



Matt Nachman was recognized for his contributions made as Chapter President in 2010!

Keith Kesner, WDP, gave a great presentation on Assessment of Existing Structures in the Absence of Drawings.



Good Food and Good Company!

Mike Prizzi, *Metro Sealant*, and Alfred Kessi, *Aquafin*, catch up before the meeting!



2011 BUSINESS CARD SERVICE DIRECTORY



Tom Ouska
Manager, Business Development
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