

STICKNEY SLUDGE THICKENING FACILITY RESTORATION



What's that Smell?

Shane R. Crowe



- Bachelor of Science in Civil Engineering from the University of Michigan with a concentration in Structures and Economics
- United Restoration and Preservation – 2009- present
 - Vice President – Chicago Operations Manger

Prior Experience

- Western Construction Group – 2002 – 2009
 - Project Manager/ Sales – Minneapolis 2002 – 2005
 - Branch Manager- Boston 2005 – 2009
- Walker Parking Consultants – 1999- 2002
 - Design Engineer in Restoration

Craig A. Frier



- Bachelor of Arts in Political Science from the University of Illinois with a concentration in International Relations.
- Sika Corporation – 2005 – Present
 - Project Representative – Illinois, Wisconsin, N. Indiana 2005 – 2011
- ICRI Chicago Chapter- Board of Directors- 2006-2011
 - President – Chicago Chapter 2011

Prior Experience

- W. R. Meadows, Inc. – 1991- 2005
 - Inside Sales- Chicago, WI 1991-1996
 - Outside Sales- Arizona, New Mexico, Nevada, Utah- 1997-2000
 - Outside Sales- Michigan 2000 – 2005
 - Air Barrier Specialist 2003- 2005

ICRI Chicago Chapter

New Website!!

The screenshot shows the homepage of the ICRI Chicago Chapter website. At the top, there is a navigation menu with links for Home, Chapter, Calendar, Members, Publications, and Contact Us. Below the menu, there are several sections:

- Announcements:** A section titled "ICRI CERTIFICATION SCHEDULE UPDATE!" with a sub-heading "For 2011 ICRI continues to offer its Slab Moisture Testing Technician Certification, Grade I program." It includes a "Read more..." link and a notice about a scholarship deadline on Thursday, June 16, 2011.
- Upcoming Events:** A list of events including a Golf Tournament on July 14, 2011; Clubs Event on September 16, 2011; Dinner Meeting on September 20, 2011; Fall Convention on October 12-14, 2011; and another Dinner Meeting on November 11, 2011.
- Project Awards:** A section with a "PROJECT AWARDS" logo and text asking if the user's repairs are built to last, and providing instructions on how to enter a project in the "Longevity" category.
- Welcome:** A central message from the Board of Directors, welcoming visitors and listing the benefits of the website, such as an updated calendar, online sign-up and payment for events, and updated local magazine publications.
- Supporting Members:** A section for listing members.
- Register Today!:** A section with a "REGISTER NOW" button and a list of benefits: staying up-to-date on news, being notified of events, and receiving special event information.



www.icrichicago.org

Agenda

- I. Why Wastewater Treatment Plant?
- II. How Can I Acquire Work?
- III. Scope of Work & Highlights of Performed Repairs
- IV. Safety Concerns
- V. Access Issues
- VI. Managing Mobilizations and Demobilizations
- VII. Paperwork Requirements
- VIII. Payment Terms
- IX. Scheduling and Shutdowns
- X. Change Order Potential

I. Why Wastewater Treatment Plants



How Can I Acquire Work

I. Engineers:

- General Contractors
- Public Notices
- Specification Consulting
- Dodge or Other Services
- Municipality Websites

II. Contractors:

- Public Notices
- Dodge or Other Services
- Material Manufacturers
- Distributors
- Municipality Websites

Hard Bid Scenarios. Look for change order opportunities and go in as inexpensive as possible. Sharpen your pencil!!!

III. Manufacturers/ Distributors:

- General Contractors
- Public Notices
- Restoration Contractors
- Dodge or Other Services
- Municipality Websites

Stickney WRP- Overview

- Worlds Largest wastewater treatment facility in the world serving 2.38 million people in a 260 Sq. mile area including Chicago and 43 suburbs.
- Stickney WRP is actually 2 contiguous plants dating from the 1930' s when the Western section came into service. The Southwest portion of the plant was placed into service in 1939. It is operated by the Metropolitan Water District of Greater Chicago (MWRDC)
- The plant has a design capacity of 1.2 billion U.S. gallons of wastewater per day.



Scope of Work at Stickney

- I. GC- McHugh Construction- (300K)
 - A. Concrete Patching
 - B. Crack Repair

- II. GC- IHC Construction Companies- (600K)
 - A. Crack Repair-Route and Seal
 - B. Crack Repair-Injection
 - C. Expansion Joint Repairs
 - D. Concrete Patch Repairs
 - E. Waterproof Coatings

Concrete Repairs to Stickney Tanks

(Fall 2010- Present)

1. **Topside Crack Repairs:** Walkways-8,000lf.
2. **Leaking Cracks:** Horizontal/Vertical.
3. **Spall Repairs:** Tank Walls-100 sf
4. **Joint Repair:** Cold joint, expansion joints-2,000 lf
5. **Edging Repairs:** Grate concrete edge restoration
6. **Waterproof Coatings:** Tanks, Sluce Gate



**Full Tank in the cool
spring temperatures.**



Water Pumped Out



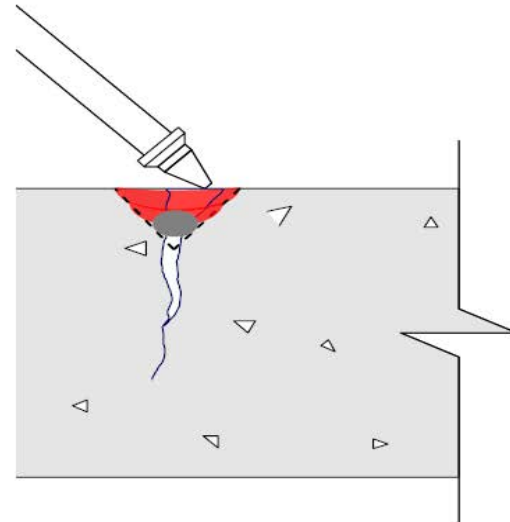
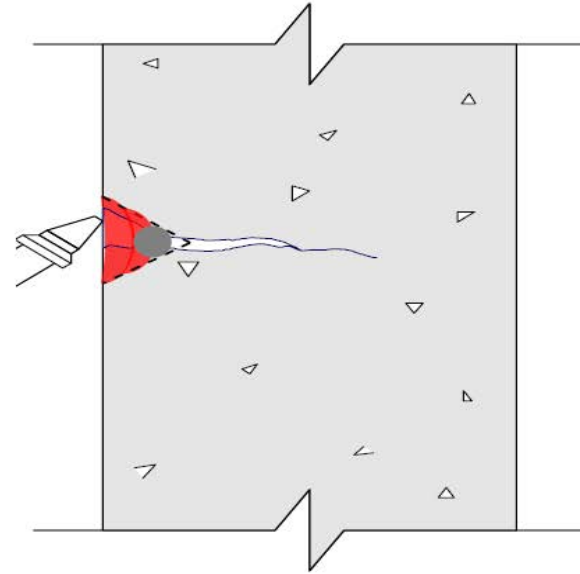


Top-Side Horizontal Crack Repairs



Two Component Non-Sag Urethane Crack Filler Detail

1. Gun sealant into prepared crack, minimum depth $\frac{1}{4}$ ".
2. Tool as required to properly fill crack.



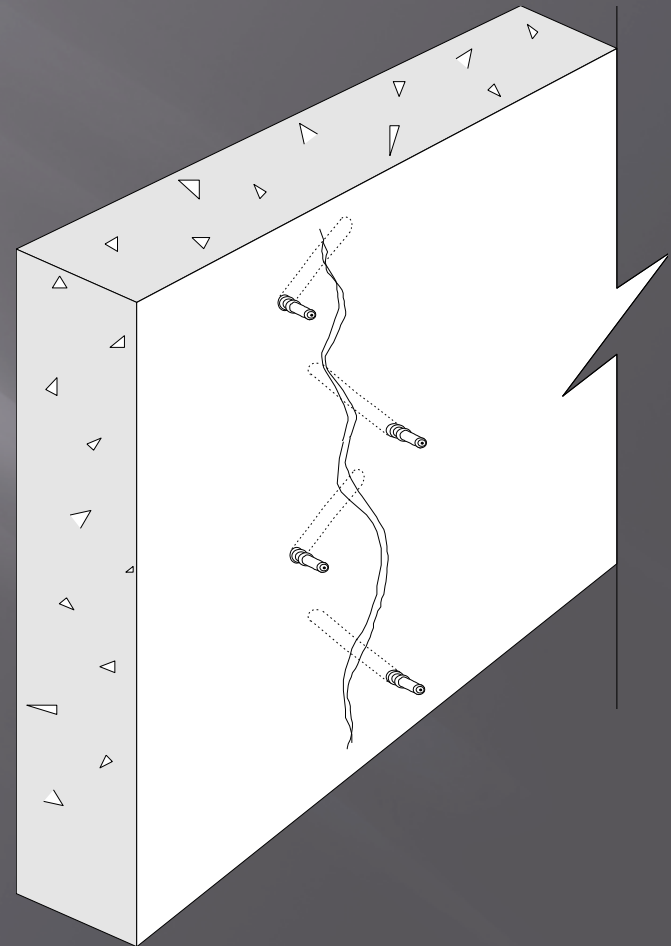
Top-Side Horizontal Crack Repairs

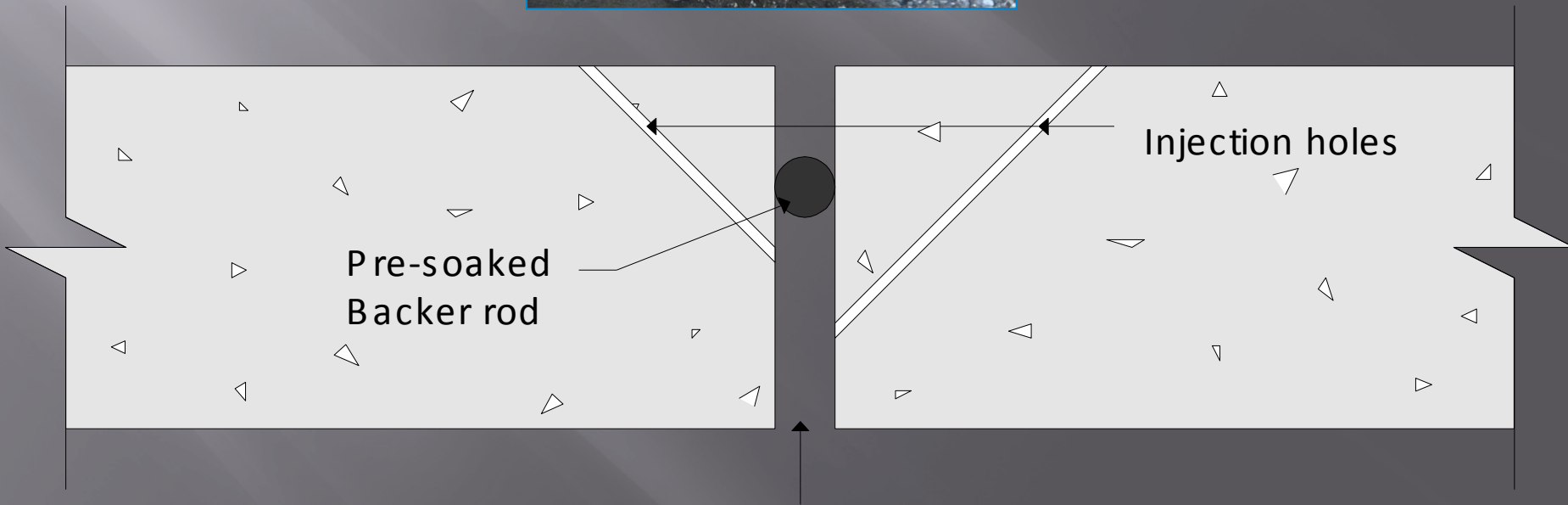
Non-Structural Crack Repairs-Route & Sealed with High Performance Non-Sag, 2-Component Urethane Sealant.



Wet Cracks

Injected with Polyurethane Chemical Grout





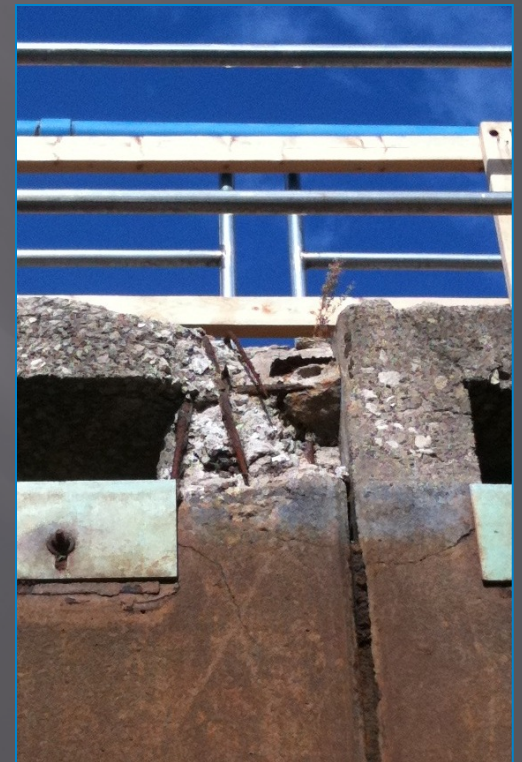
Spall Repairs



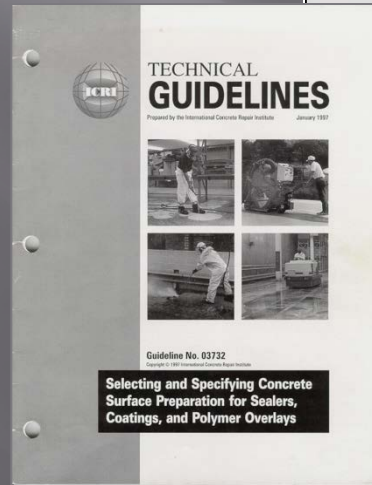
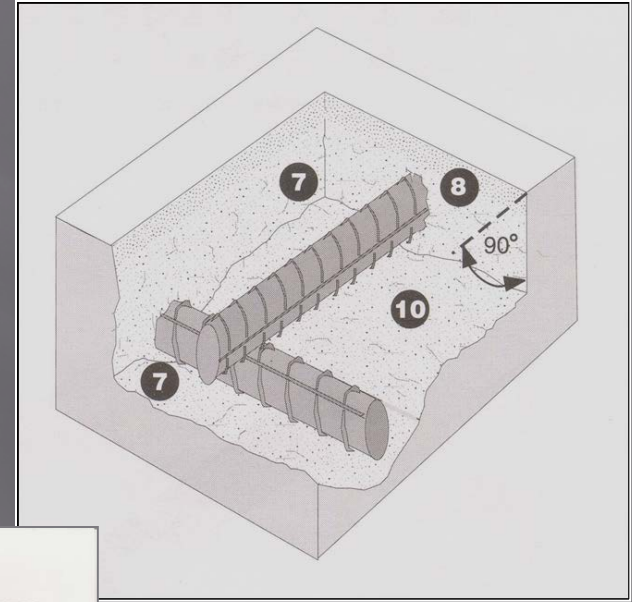
Spall Repairs



Delaminations and hollow spots identified and marked.



Spall Repairs

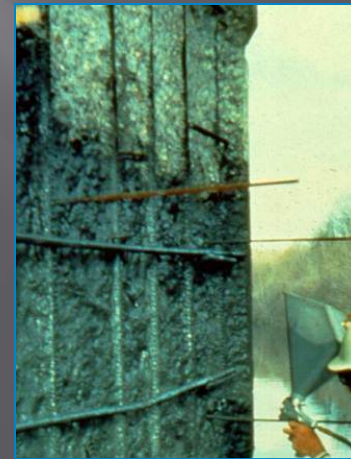


Repair perimeters created in accordance with ICRI surface preparation recommendations.

Spall Repairs



Steel reinforcement was mechanically cleaned to remove all traces of rust and coated with an anti-corrosion coating



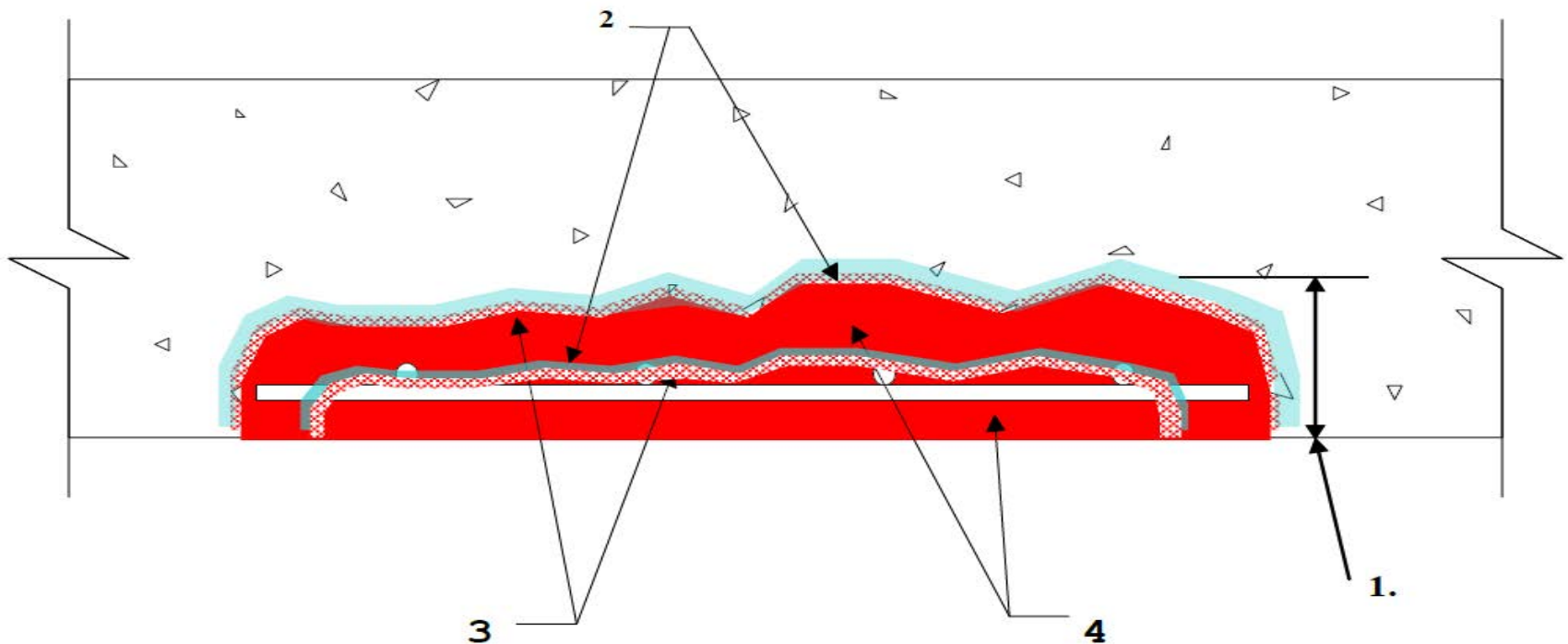
Spall Repairs

Type I. Hand Patching

Type II. Form & Pour

2-component, polymer-modified, cementitious, non-sag mortar with penetrating corrosion inhibitor

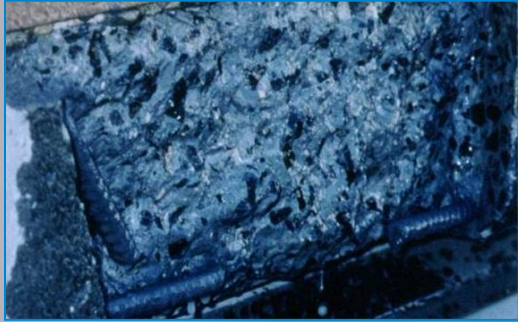
Hand-applied (Vertical / Overhead)



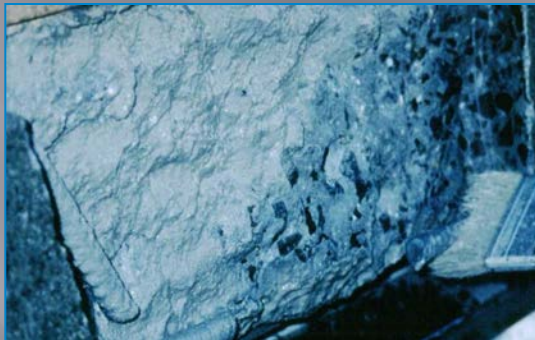
1. Repair area should not be less than $\frac{1}{8}$ " in depth.
2. Substrate should be saturated surface dry (SSD) with no standing water during application
3. Apply scrub coat to the substrate, filling all pores and voids.
4. While scrub coat (or epoxy bonding agent) is still wet apply **Repair Mortar**.

Spall Repairs

Hand-Patch Material Placement



Cavity Surface
Saturated Dry (SSD)



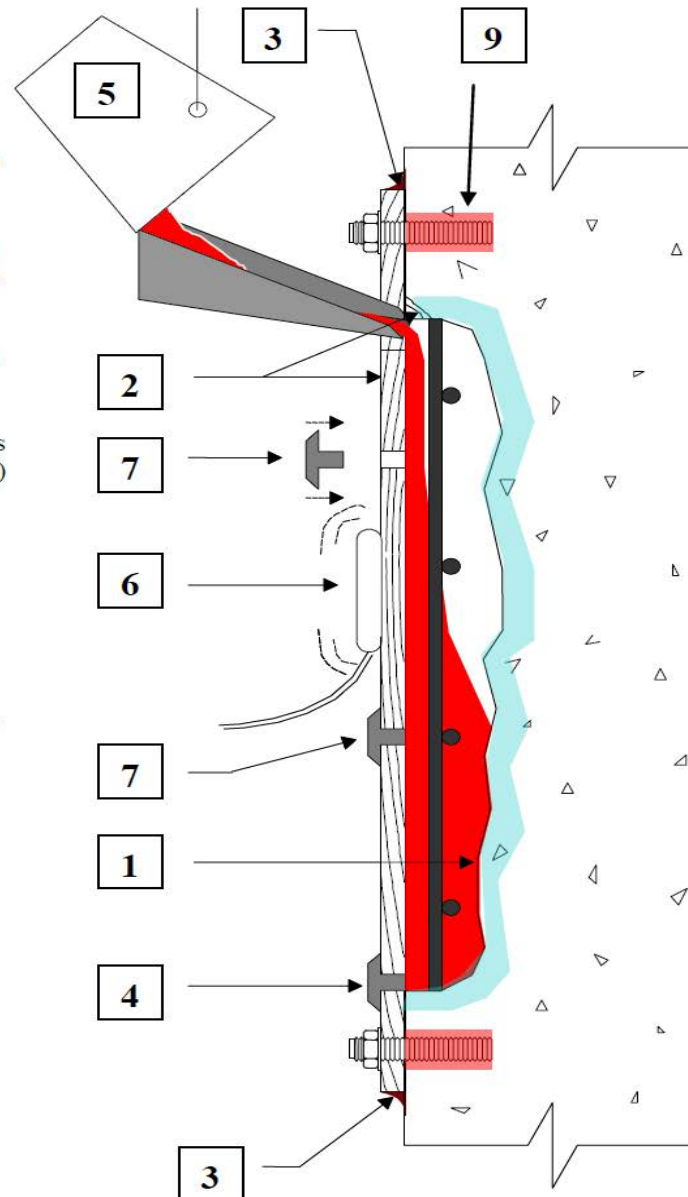
Scrub Coat of
Repair Mortar



Installing Repair
Mortar

Form & Pour Repair

1. Substrate shall be clean, sound and lattinace-free prior to repairing. (Refer to ICRI Technical Guideline No. 03730.)
2. Fit form, provide vent holes and chip spot for pour box. Apply release agent to form, or use plastic lined plywood.
3. Anchor form and seal perimeter with bead of sealant, let cure.
4. Fill with water to check for water tightness and to provide saturated surface dry (SSD) substrate. Let drain to no free standing water.
5. Mix and place FNP mortar per the technical data sheet.
6. Vibrate form while pouring mortar.
7. Vent holes to be capped when steady flow is evident.
8. Strip form when appropriate.
9. Dry pack anchor holes with Grout.



Spall Repairs

Form & Pour Placement



Placing polymer-modified, cementitious flowable mortar with a penetrating corrosion inhibitor.



3/8" pea gravel wetted and used to extend mortar

"Bird Mouths" hand patched



Edging Repairs

Epoxy Grout



Edging Repairs

Epoxy Grout

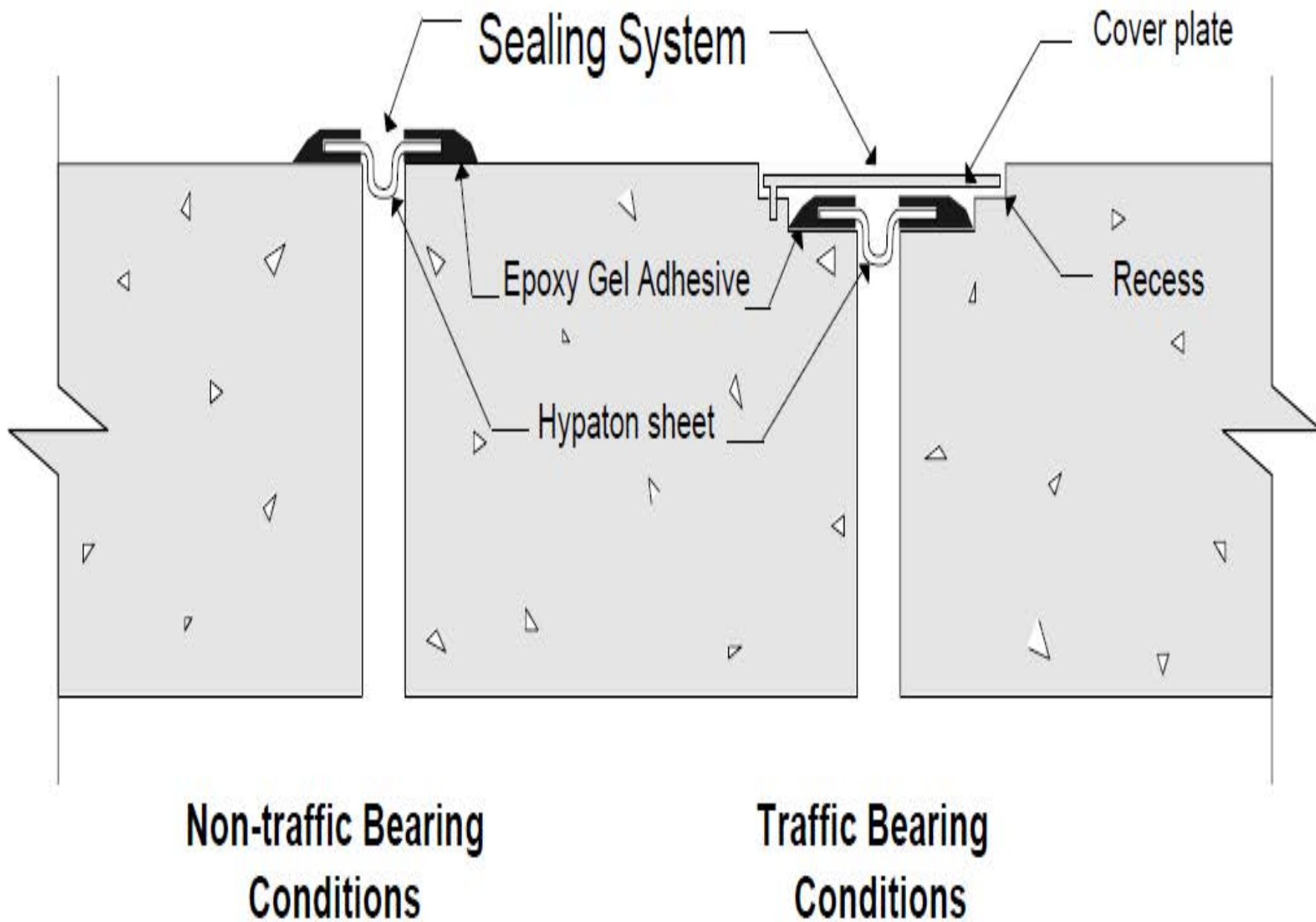


“Strip & Seal” System

For Sealing and Waterproofing Joints

- Preformed Hypalon sheeting bonded with a non-sag structural epoxy.
- Withstands extreme movements & chemical exposures while maintaining a watertight seal.
- Permanently elastic, even at low temps.
- Construction and Expansion Joints and cracks.





“Strip & Seal” System

For Sealing and Waterproofing Joints



“Strip & Seal” System

For Sealing and Waterproofing Joints

Applying 1/32nd” of Non-Sag Epoxy to concrete substrate.



Placing membrane into wet epoxy



“Strip & Seal” System

For Sealing and Waterproofing Joints

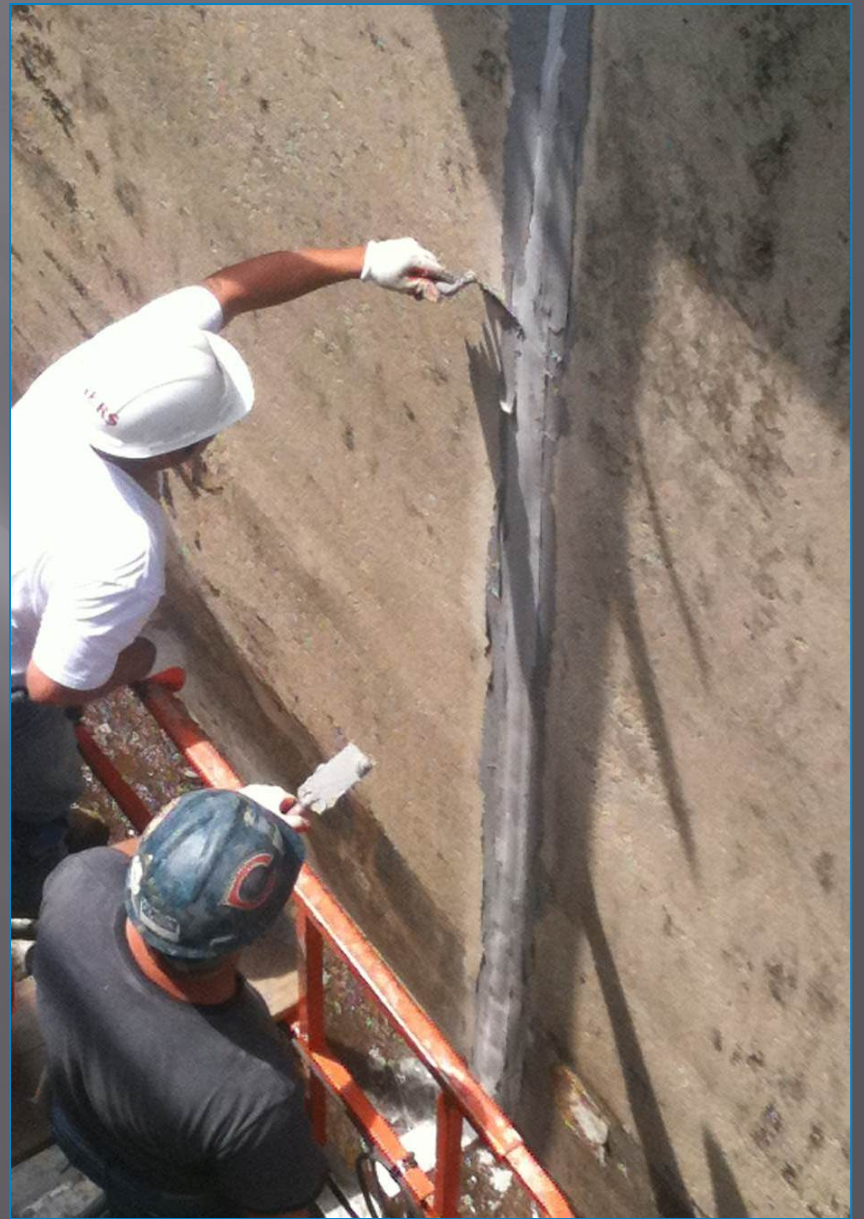
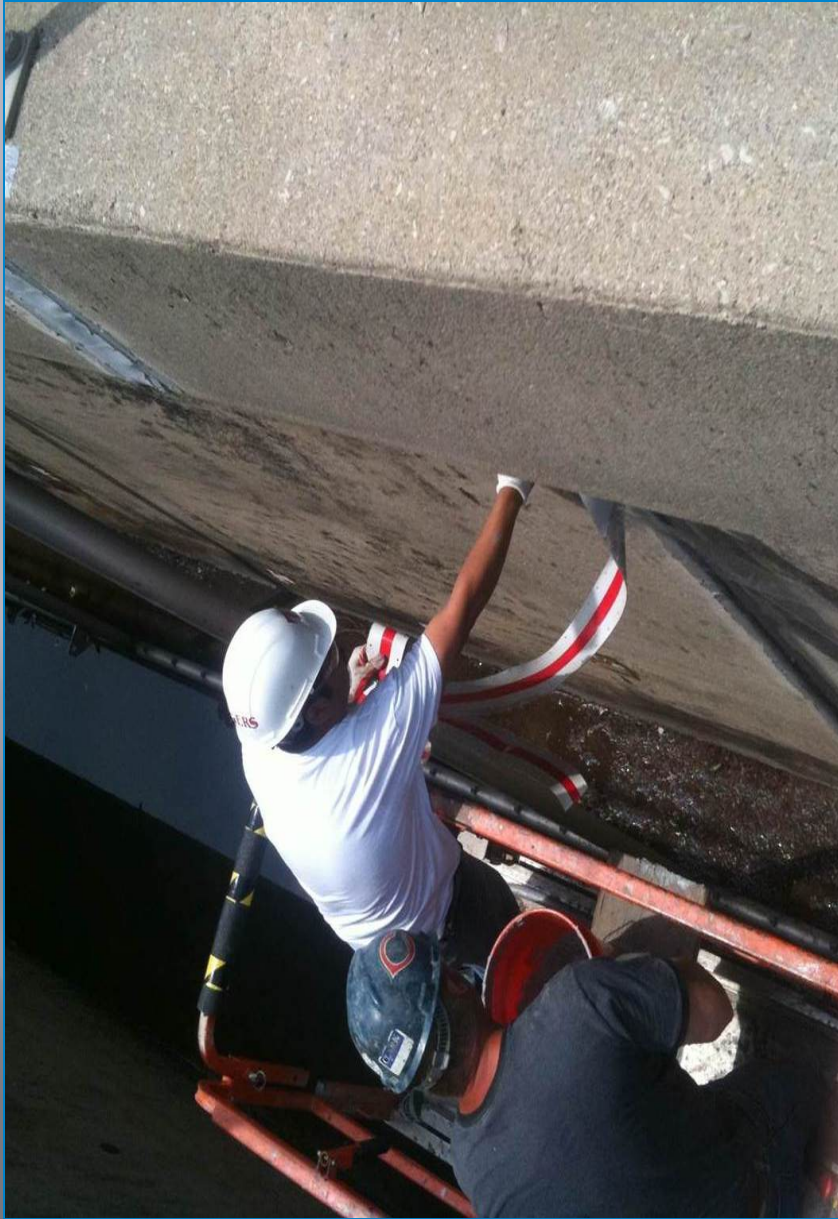
Tile Roller



“Strip & Seal” System For Sealing and Waterproofing Joints



Heat Welding



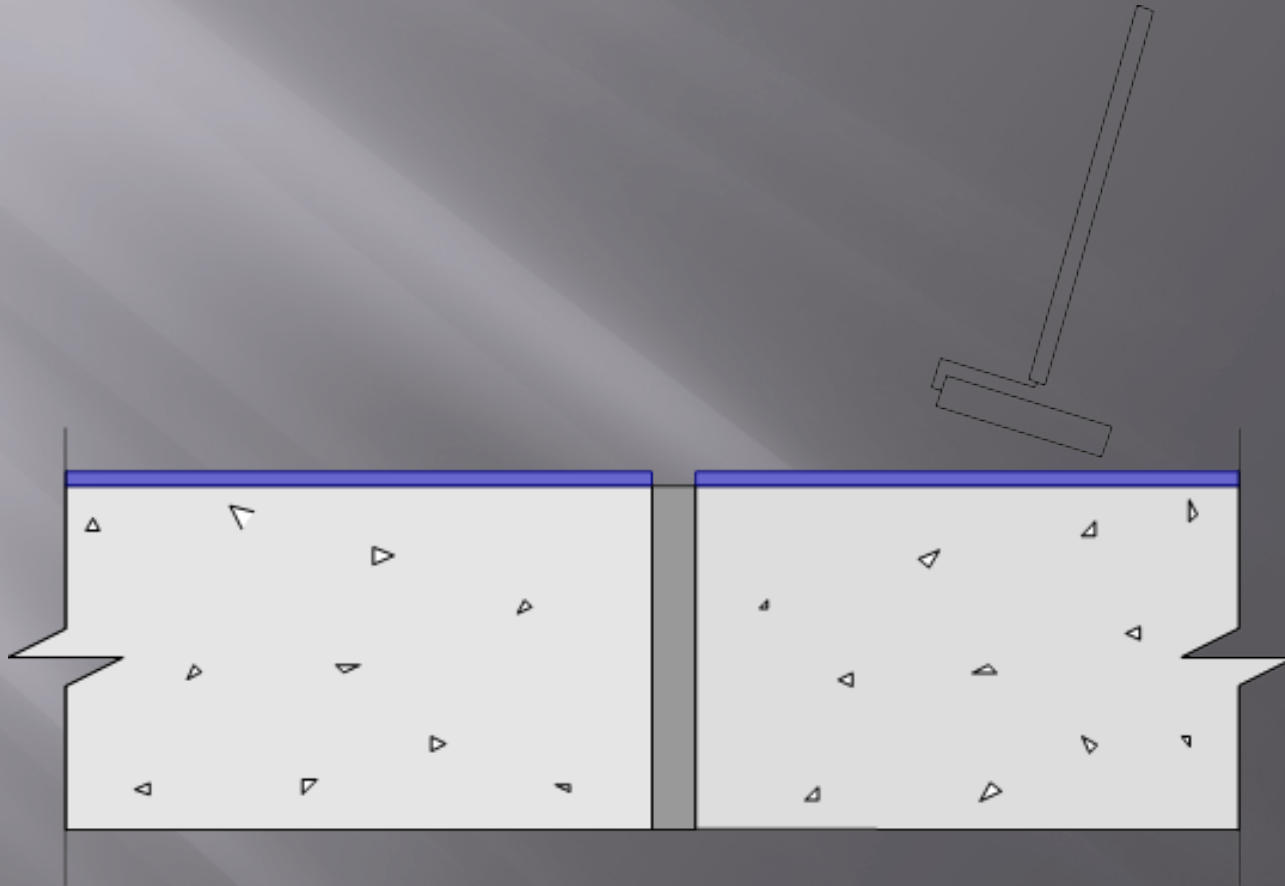




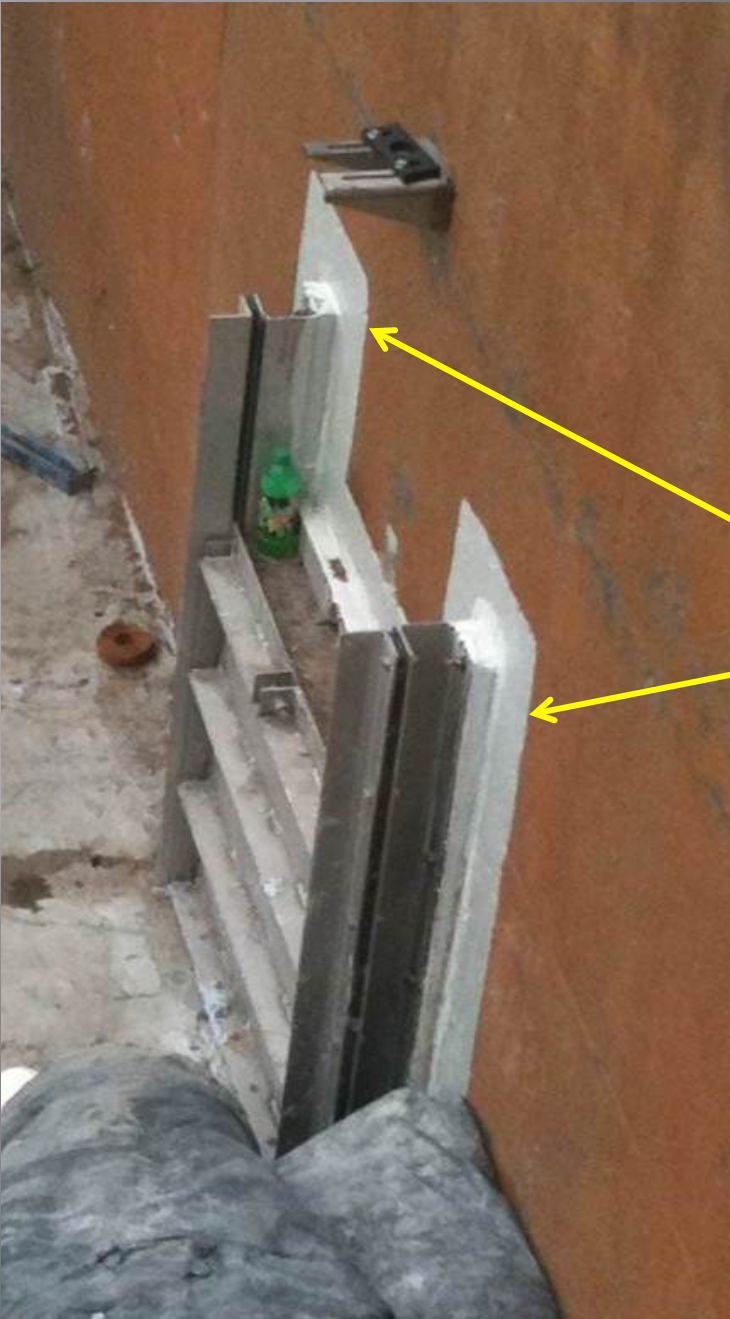


Waterproofing Cold Joint

Waterproof Coating



High-Build Protective, Solvent free, Colored Epoxy Coating



**Waterproofing
Perimeter of Sluice
Gate**

Access/ Safety Issues

- ▣ **As a Contractor you will encounter many unique situations at Water Treatment Plants**
 - **Confined Space**
 - **Access**
 - **Tie Off Situations**













Managing Mobilizations

- ▣ Restoration work is typically a small part of a larger project
 - ▣ Qualify, Qualify, Qualify
 - ▣ Team up with other subcontractors
 - ▣ Relationships are key
 - ▣ TEAMWORK!
 - ▣ Storage Areas
 - ▣ Hog Trading

Paperwork/ Payment

- ▣ Publicly Funded
- ▣ Its either right or its rejected
- ▣ It can be done with 30 day payment
- ▣ TEAMWORK IS KEY!
- ▣ Empower your field personnel – SMART PHONES

① ^{west} $4\frac{1}{2}'' + 16'' \rightarrow 72''$
 $8\frac{1}{2}'' + 16'' \rightarrow 136''$
 $5\frac{1}{2}'' + 15'' \rightarrow 82.5''$
 $3\frac{1}{2}'' + 21'' \rightarrow 73.5''$

② center
 $10'' + 56'' \rightarrow 560''$

③ east

$30'' \times 19'' \rightarrow 570$

total = $1494'' / 144$
 $= 10.4 \text{ sqft}$



Stickney Sludge Thickening Project
 Contract 09-176-3P
 Contractor: James McHugh Construction

3rd
Time

Verification of Quantities of Tank Repairs

Tank Number: 5

Type of Repair	Quantity
Repair Type I	<u> </u> sf
Repair Type II	<u>10.4</u> sf
Crack Repair	<u> </u> lf

District Representative sign-off: [Signature]
 Date: 6/13/2011 Ralph Kokoszka

Subcontractor representative sign-off: [Signature]
 Date: 4/13/2011

McHugh Representative sign-off: [Signature]
 Date: 6/13/2011

TO (OWNER): James McHugh Construction Co.
1737 S. Michigan Ave
Chicago, IL 60616
Attn: Zannetha Moss

FROM (CONTRACTOR): United Restoration and Preservation, Inc.
520 Marksmen Ct.
Fayetteville, GA 30214

PROJECT: Stickney Water Treatment Plant

VIA (Consultant):

APPLICATION NO: **6**

APPLICATION DATE: **9/3/2011**

PERIOD TO: **6/31/11**

DUE DATE: 10/3/2011

CONTRACT DATE:

Distributed to:

OWNER

ARCHITECT

CONTRACTOR

CONTRACT FOR: Concrete Repairs and Injection
PROJECT # IL-10-007

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for Payment, as shown below, in connection with the Contract Contract Continuation Sheet, attached.

CHANGE ORDER SUMMARY		
Change Orders Approved in previous months by Owner	ADDITIONS	DEDUCTIONS
TOTAL		

1	ORIGINAL CONTRACT SUM	\$	320,950.00
2	Net changes by Change Orders	\$	20,674.26
3	CONTRACT SUM TO DATE (Line 1 +, - 2)	\$	341,624.26
4	TOTAL COMPLETED & STORED TO DATE (Same as Total Of Column G on Page 2)	\$	48,476.86
5	RETAINAGE:		
	a. 10 % of Completed Work		4,847.69
	b. 10 % of Stored Material		0.00
	Total Retainage (Line 5a+5b or total in Column I of G703)	\$	4,847.69
6	TOTAL EARNED LESS RETAINAGE (Line 4 less Line 5 Total)	\$	43,629.17
7	LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)	\$	28,087.52
8	CURRENT PAYMENT DUE	\$	15,541.65
9	BALANCE TO FINISH, PLUS RETAINAGE (Line 3 less Line 6)	\$	297,995.09

APPROVED THIS MONTH:			
Number	Date Approved		
1	3/16/2011	9,416	
2	5/2/2011	\$11,258.50	
TOTAL		\$20,674.26	\$0.00
Net Changes by Change Orders		\$20,674.26	

The undersigned Contractor Certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of: _____ County of: _____

Subscribed and Sworn to before me this _____ day of: _____

Notary Public: _____ My Commission expires: _____

CONSULTANT'S CERTIFICATE FOR PAYMENT

AMOUNT CERTIFIED

(Attach explanation if amount certified differs from the amount applied for.)

In accordance with the Contract Documents, based upon on-site observations and the data comprising the above application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the work as progressed as indicated, the quantity of the Work is in

CONSULTANT:

By: _____ Date: _____

WAIVER OF LIEN TO DATE

STATE OF ILLINOIS }
COUNTY OF GRUNDY } SS

Gty#
Loan#

TO WHOM IT MAY CONCERN:

WHEREAS the undersigned has been employed by IHC Construction
to furnish concrete restoration repairs
for the premises known as STICKNEY SLUDGE FACILITY
of which METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

THE undersigned, for and in consideration of Three Hundred Twelve Thousand Eight Hundred Fifty Four and 43/100 dollars
\$ 312,854.43 Dollars, and other good and valuable considerations, the receipt whereof is hereby acknowledged do(es) hereby waive and release ar
or right to, lien, under the statutes of the State of Illinois, relating to mechanics' liens, with respect to and on said above-described premises, and the improvements thereo
material, fixtures, apparatus or machinery furnished, and on the moneys, funds or other considerations due or to become due from the owner, on account of labor services, m
apparatus or machinery, furnished to this date by the undersigned for the above-described premises, INCLUDING EXTRAS.*

DATE September 8, 2011

COMPANY NAME United Restoration and Preservation, Inc.

ADDRESS PO BOX 843, Morris, IL 60450

SIGNATURE AND TITLE _____

VICE PRESIDENT

*EXTRAS INCLUDE BUT ARE NOT LIMITED TO CHANGE ORDER, BOTH ORAL AND WRITTEN, TO THE CONTRACT.

CONTRACTOR'S AFFIDAVIT

STATE OF ILLINOIS }
COUNTY OF GRUNDY } SS

TO WHOM IT MAY CONCERN:

THE UNDERSIGNED, (NAME) Shane R. Crowe
DEPOSES AND SAYS THAT HE OR SHE IS (POSITION) Vice President
United Restoration and Preservation, Inc. WHO IS THE CO
Concrete Restoration Repairs WORK ON
AT Stickney Sludge Facility
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

That the total amount of the contract including extras* is \$ 561,205.00 on which he has received partial payment of \$ 212,037.63

That all waivers are true, correct and genuine and delivered unconditionally and that there is no claim either legal or equitable to defeat the validity of said waivers. This names of all parties who have furnished material or labor, or both, for said work and all parties having contracts for specific portions of said work or for material enteri thereof and the amount due or to become due to each, and that the items mentioned include all labor and material required to complete said work according to plans an

NAMES	WHAT FOR	CONTRACT PRICE INCLUDING EXTRAS*	AMOUNT PAID	THIS PAYMENT
United Restoration and Presrvation Inc.	Concrete Repairs	\$ 561,205.00	\$ 212,037.63	\$ 312,854.43
		\$ -	\$ -	\$ -

Scheduling Requirements/ Shutdowns

- ▣ A Story about a trip to Marion, Ohio

Change Orders

- ▣ Once on site opportunities abound.
 - Negotiated
 - Higher Profit
 - **TEAMWORK!**

THANK YOU FOR YOUR TIME
QUESTIONS?

