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News

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Fall 2023

Lincoln Yards Environmental Remediation

Written by Jerome F. McGovern, P.E.

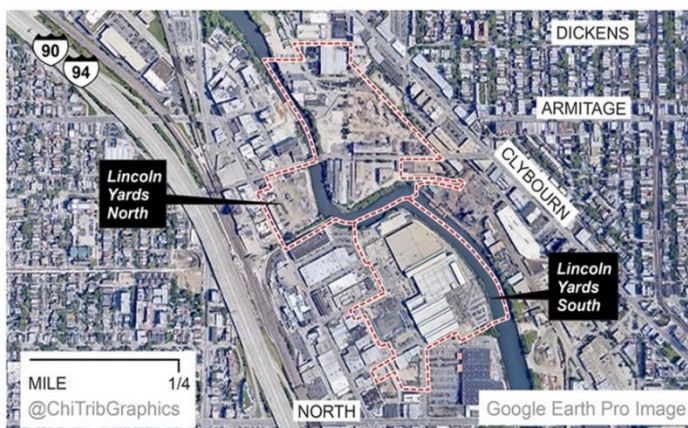
The City of Chicago and Northeast Illinois grew and prospered based upon an industrial economy that took raw materials and produced manufactured goods. The industrial processes usually involved chemicals and materials that are now recognized to be health hazards but at that time were not regulated or controlled. Such materials were often dumped onto the ground or remained

onsite after the business closed. The result is urban brownfields, real estate that is not productive because the cost to clean-up the pollution on site exceeds the economic value of the land.

On the north side of Chicago, in an area bounded roughly by North Avenue on the south, Webster Avenue on the north, Elston Avenue on the west and Kingsbury

Avenue on the east, a major redevelopment project of multiple brownfields is currently underway. Lincoln Yards is a redevelopment of 53 acres of former industrial land that, when completed, it will add up to 14 million square feet of new commercial and residential construction and 21 acres of public open space.

The site of the Lincoln
(Continued on page 9)



Lincoln Yards redevelopment site. Credit – Chicago Tribune

President's Notes

Sandra Homola, P.E., CFM



As we mark the end of what was hopefully a productive and enjoyable summer for all, we look forward to the start of ASCE's new business year. We are excited to be hosting the ASCE Illinois Section (IS) Annual Awards Dinner on October 5th at the Swissotel Chicago where we will be installing the 2023-24 IS Board and celebrating exceptional IS members and local projects. Congratulations to all our award winners!

As I write the last of my four President's Notes for the year, I wanted to reflect on the work the IS has completed and show appreciation to all of the individuals who helped make it a successful year.

Thank you to all IS Board members, Institute, Group and Committee Chairs, Region 3 Governor John Lazzara, Executive Secretary Sarah Harbaugh, and all members that supported the IS by planning and attending the year's various events.

In Fall 2022, we identified three (3) broad initiatives that the IS would focus on in 2022-2023 year:

1. Increasing our membership,
2. Expanding student outreach, &
3. Supporting Society initiatives.

As a result of everyone's contributions, we were able to advance all 3 of these initiatives.

The IS currently has 2,962 registered members, which is the highest number we have seen in years and includes over 120 new younger members. This is due in large part to reinvigorated programs and events from our Groups and Institutes, the Member-Get-A-Member program (which has been outlined in our recent IS events

emails), and word of mouth from our active members. As we move into next year, we plan to continue growing our membership and hope to pass the 3,000 member mark. There is no better introduction to ASCE than from an active member, so I would again challenge all of our members to invite someone new to attend an event or meeting with you. Share the value you get from your ASCE membership and ask them to get involved.

Student outreach activities included the renewal of our relationship with the ASCE Student Chapters from UIC, IIT, and Northwestern University, completion of another successful year of our Mentorship Program, and presentation of over \$15,000 in scholarships to local students. We will continue to support our student groups in the coming year as they work to plan and fundraise for the 2024 Western Great Lakes Student Symposium to be held in Chicago in April.

On a Society level, we are grateful to all members who participated in the Local Planning Sub-Committee (LPS) for the 2023 ASCE Convention taking place October 18-21 at the Hilton Chicago. The LPS assisted the Society in setting up a large amount of local content including technical tours, presentations, a community service project, and special events including the first screenings of *Cities of the Future: Reimagining Our World* at the Museum of Science and Industry during the welcome reception.

It has been a rewarding year. I am proud to hand over the reins to a fantastic group of leaders and honored to continue serving the Section as Past President in 2023-24.

ASCE Illinois Section News

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Yours sincerely,

Sandra Homola, P.E., CFM
ASCE Illinois Section President
2022-2023

Joint Utility/Utilidor Design

Written by Bethany Turk, P.E.

Utility relocation for public agency projects can oftentimes be an afterthought and ultimately, cause project delays. However, with early planning and creative design options, including joint utility/utilidor designs, it can be a smooth process.

What is a utilidor? It is defined as *“A utility tunnel, utility corridor, or utilidor is a passage built underground or above ground to carry utility lines such as electricity, steam, water supply pipes, and sewer pipes. Communications utilities like fiber optics, cable television, and telephone cables are also sometimes carried”*

As John Lussow stated in his ASCE article from the Spring 2023 Newsletter, “joint utility ducts provide a single, compact and cohesive conduit network that’s shared by all the utilities, making utility relocations more efficient, cost-effective and safer for workers while making it easier to replace lines in the future. Cables are housed within PVC conduits that are then

Joint Utility/Utilidor design has benefits for both the private utilities as well as public agencies

encased in concrete to protect the cables from extreme weather, corrosion, and breakage from accidental damage from contractors... Rather than each utility doing its own relocation, all utilities share a

single facility that houses all utilities with all entrances and exits to the duct package clearly defined.”

There are many benefits to a joint utility/utilidor design:

- Efficient and managed use of frequent very limited ROW available by designers (both project and utility companies)
- Less opportunity for delays as there is one civil contractor on site, not one for each utility and no need for utilities to re-design relocation designs if conflicts come up as they are all in on same design
- Less opportunity for future damage as all utilities are within one concrete duct package
- Ease of any future locating as all utilities are in one corridor vs. many lines running within the public ROW or parkways

They have been used in several notable projects within the Chicago-land area where a utilidor was constructed— Tollway EOWA, CTA RPM and Lincoln Yards for example.

CTA RPM - The CTA’s Red/Purple Modernization Program is a Federally funded 3-mile long project that includes reconstruction of the CTA track infrastructure and stations on the north side of Chicago. Federal guidelines for the relocation of utilities are being followed. Coordination was performed for the large number of utilities present throughout the corridor and the very tight ROW limits into which the utilities must

relocate. The utility coordinator was able to gain the cooperation of power and multiple telecom utilities to execute joint relocations. The result is that these utilities were able to relocate into common duct banks and clustered manholes/handholes; this has saved time, cost and ROW space. Most importantly, it reduces disruptions to the ROW, the traveling public, and adjacent property owners.

A notable challenge on this project was the coordination of utility large number of utilities present throughout the project and the very tight ROW limits into which the



utilities had to relocate. To solve this, the utility coordinator was able to gain the cooperation of power and multiple telecom utilities (Continued on page 12)

Enhancing Infrastructure and Connectivity: The Benefits of the CREATE Program in Illinois

Written by Mark Converse, P.E.

The Chicago Region Environmental and Transportation Efficiency (CREATE) Program stands as a testament to the transformative power of collaborative efforts in infrastructure development. In the bustling metropolis of Chicago, where railroads converge and commerce thrives, the CREATE Program has emerged as a groundbreaking initiative, bringing forth a harmonious blend of engineering prowess, environmental stewardship, and economic vitality. This article delves into the significance of the CREATE Program and its far-reaching benefits for the community at large.

Introduction: A Crucial Nexus of Transportation

At the heart of the Midwest, the city of Chicago is a central hub for both passenger and freight transportation, connecting coasts, crossing borders, and propelling commerce. However, the intricate web of rail lines has historically led to congestion, inefficiencies, and environmental concerns. This is where the CREATE Program has stepped in, aiming to untangle this web and lay the tracks for a smoother, more efficient transportation network.

The CREATE Program Unveiled

Formally announced on June 16, 2003 and launched as a partnership between the Illinois Department of Transportation, Chicago Department of Transportation, Metra, Amtrak, and various freight railroads, the CREATE Program is a multifaceted initiative designed to alleviate congestion, reduce bottlenecks, and enhance the overall efficiency of rail and transportation systems. With an investment of approximately \$4.6 billion spread across 70 different projects, the CREATE Program is stepping up to modernize our rail network to better handle our region's freight and passenger needs, both today and in the future.

Addressing Bottlenecks and Enhancing Capacity

One of the core objectives of the CREATE Program is to address bottlenecks and conflicts that hinder the fluid movement of both passenger and freight trains. By constructing underpasses, overpasses, and flyovers, the program enhances rail capacity, reducing delays and facilitating the coexistence of different types of trains. This not only improves the efficiency of the transportation system

but also minimizes the environmental impact of idling trains.

Environmental Stewardship and Sustainability

The CREATE Program is not merely an exercise in engineering excellence; it's also a testament to environmental stewardship. By reducing congestion and idling, the program contributes to decreased air pollution and lower carbon emissions. Moreover, the enhancement of freight and passenger rail connectivity promotes a modal shift toward rail transportation, which is inherently more sustainable than road-based alternatives.

Boosting Economic Competitiveness

A robust transportation network is the lifeline of commerce, and the CREATE Program is poised to amplify the economic competitiveness of the Chicago region. The reduction in transportation bottlenecks translates to faster and more reliable movement of goods, bolstering trade and spurring economic growth. Additionally, the program's emphasis on connectivity improves accessibility to job centers and markets, benefiting local communities.

(Continued on page 13)

The Driller, The Geotech and The Tester

Written by Andrés Matos

Although these three are usually in the same sentence, are they the same?

Are there any similarities? What are the implications of each for the future of the project? The drillers, the geotechs and the testers, which their real title is inspectors, are all different but related. Many companies in the Chicagoland area and around the nation, provide the three services together but, that does not have to be always the case. Discussing the scope of each is an important part but more relevant is, how each professional impacts the advancement of the project.

Geotechnical Engineering, Construction Inspection and Material Testing.

The drillers are highly trained and proficient personnel who spend countless hours retrieving the soil samples the geotechnical engineers are going to analyze. They operate large pieces of equipment commonly known as drill rigs to sample the soil to a specific depth. Although they are heavy, loud and their design is a bit ancient, they are way more convenient than shovels! As an engineer, communicating with the drillers makes the job easier and their experience generally brings valuable information. Driller's expertise is a key component of the geotechnical

investigation that sometimes gets overlooked. The drillers are in some cases subcontracted by the geotechnical engineer or in some instances, the geotechnical engineering company owns the equipment and employs their own drillers. Scheduling the drillers is the first step into getting the geotechnical investigation done. Drilling operations can be part of the critical path of design as the geotechnical engineers need the samples in order to provide recommendations.

The Geotechnical Engineer or "The Geotech", is an engineer who take samples of the soils at a specific location and using the combination of scientific disciplines, report the capacities, concerns, expected behavior of the material under specific conditions and recommendations for a successful construction. A Geotech will test and analyze the soils, using a wide variety of procedures and resources to delineate the capacity of the soils on site. With the information,

Recommendations for a successful construction.

they will provide bearing capacities and settlement calculations based on the loading conditions provided by the structural designer. Based on the results, analysis and calculations of the geotechnical engineer, the structural

engineer will continue with the remaining of the structure. Architectural and/or structural changes will delay the final foundation design and geotechnical report. It is important to keep the geotechnical engineer updated and informed of any changes. That way, the geotechnical can ensure that the foundation system properly supports the project as intended.

After the geotechnical engineer design, specify and stamp the design, magic happens and then goes to construction! However, someone has to be there with enough knowledge to assist the contractor with any heterogeneity of the soils.

Meeting specifications for a safe structure.

The inspectors, commonly known as "testers", similar to the drillers, are highly trained and experienced individuals that ensure the structure is built in general accordance with the project specifications. The inspection work is usually the "last-mile" of the geotechnical work. The inspectors, in addition to visual inspections, perform a wide variety of field tests to ensure the soil meets the specified strengths. Some of those tests are combined with laboratory testing. Examples of the field tests are; Dynamic Cone Penetration (Continued on page 6)

State Legislative Drive Down

Written by Brian Castro, P.E.

ASCE Illinois Section representatives went to Springfield on April 19th for the legislative drive down organized by Transportation for Illinois Coalition. Members of the American Council of Engineering Companies of Illinois, the Illinois Road and Transportation Builders Association and the ASCE St. Louis Section were also in attendance.



During the day, ASCE representatives heard from Transportation Leaders and advocates such as:

Sen. Ram Villivalam (Chair of the Senate Transportation Committee), Sen. Don DeWitte (R – 33rd District, Minority Spokesperson of the Transportation Committee), Rep. Eva-Dina Delgado (D – 3rd District), IDOT Secretary Omer Osman and Tollway Executive Director Cassandra Rouse. The representatives of the Illinois Section distributed printed copies of the 2022 Infrastructure Report to elected officials and to other drive down attendees.

Megan McDonald (Past IL Section President) and Brian Castro (Past T&DI Chair) spoke with State Representatives Dan Ugaste (R - 65th District) and Norma Hernandez (D - 77th District). Rep. Ugaste, while he expressed that he voted against the Rebuild Illinois legislation due to concerns with regards its funding mechanisms, expressed support for additional infrastructure investment. Rep. Hernandez, who is in her first term, expressed a high familiarity with our cause. She is an Urban Planner and has experience within our field. Rep. Hernandez expressed unconditional support for our agenda.

John Lazzara (ASCE Region 3 Governor) met with Rep. Jed Davis (R - 75th District). Representative Davis noted that he went to Valparaiso University and is a degreed

IS-ASCE sponsored and supported the Transportation for Illinois Coalition's Lobby Day

civil engineer. Rep. Davis works for a company making concrete street light posts. Rep. Davis is interested in how the money generated from increased gas taxes is helping support infrastructure investment. Rep. Davis is on his first term.

Overall, the representatives of the section enjoyed their day in Springfield and are hopeful that the General Assembly of the State of Illinois will continue to approve investments in the State's infrastructure.

Author Bio: Brian Castro P.E. is the Design Manager for d'Escoto, Inc. and has 13 years of professional experience. He is the Past Chair of IS-ASCE T&DI.

The Driller, The Geotech and The Tester

(Continued from page 5)

(DCP), Pocket Penetrometer, Compaction test using nuclear devices, etc. The results of these tests, beyond determining compliance, provide more information to the inspectors and the engineers to

make additional recommendations when the soil does not provide enough capacity. The inspectors generally are able to inspect and test other materials and elements like concrete, steel, fireproofing

material, wood, post-tensioning cables, floor flatness, and more.

In summary, the driller, the geotech and the tester are not the (Continued on Page 14)

Until the Last Drop

Written by Sydney Trimble

Fresh, potable water is currently not valued for its innate, yet unrecognized scarcity. If it were, water prices should reflect the high cost of sanitation treatment and transportation logistics. Because it is undervalued, a pandemic of water overconsumption has ensued for decades across the globe, ranging from industrialized Western nations to even developing ones. Often the items that cost the least get mistreated the most because it is believed that they would not be that expensive to replace. But water cannot just be replaced. The solutions are deceptively simple: use less water and use it more efficiently. However, these two goals embody broader changes necessary from societies around the world including industrial regulations, behavioral shifts, and personal responsibility.

Citizens in developed countries are often not aware of the mounting water crisis because they are so far removed from the process that brings water to them. They just have to pay a monthly bill

“water cannot just be replaced”

and turn on a faucet or spigot, without even needing to understand their own water meter which would tell them their approximate usage. Compare this to impoverished families with women and children that spend a substantial portion of their day

just fetching water that could even be polluted unbeknownst to them. Just for the sake of saving themselves another trip, it is likely the less fortunate individu-



July 6, 2000 Lake Mead

als are generally more conservative of their water usage and more grateful when they do have local access to water with a certain level of guaranteed sanitation. This conservancy does not appear to have a bottom-up effect since groundwater overdraw is occurring in many developing countries of Africa, Asia, and the Middle East and whatever minimal monitoring programs or resource management was present, is now being diminished, even within developed countries (UNESCO pg 12-13, 2006). Governments should recognize and enforce more water conservation within their own countries because they have the most resources for regulatory action and a large capacity for collecting and applying data.

Currently, many developed nations provide cheap access to water through subsidies especially to

their big industries like agriculture; however, this has begun to affect the market allocation of water resources and greatly undermines the finite value of what-



July 3, 2022 Lake Mead

ever drinkable freshwater resources are still left. Subsidies should be used to close the gap between basic resources and those unable to afford them but over time, they have been exploited by top producers instead.

World Bank research shows that the richest 20% receive 56% of subsidies while the poorest 20% only receives 6%. Badly designed subsidies do not effectively direct resources to those in need, often because they cannot get access to these networked and subsidized services. This allows opportunists to step in and take a lion's share of the subsidies, which are most directed toward urban water, network services and agriculture. If it were balanced across water treatment and conservation management, on residential and commercial levels, the subsidies could work more effectively for those in (Continued on page 14)

Looking to the Future in a Post-Pandemic EWB Volunteering Environment

Written by Alan Phelps, P.E., Past-President, EWB Chicagoland Professional Chapter

In this article:

- One year of returning to in-person meetings
- Upcoming social and volunteer events
- How to get involved

Engineers Without Borders Chicagoland Professional Chapter is a volunteer group in Chicago that upholds the mission and vision of EWB-USA. The Chapter is completely volunteer-run and is made up mostly of engineering professionals across all fields. It is directly involved with community leaders to make infrastructure and quality-of-life projects in developing countries a reality. The Chapter currently has two active programs: (1) water treatment and sanitation in Wema, Kenya and (2) water supply and distribution in T'Zaput, Guatemala as well as new projects on the horizon.

The pandemic has impacted every aspect of our lives and EWB is no different. The Chicagoland Professional Chapter has adapted to the changing work environment by returning in a hybrid setting 1 year ago. This was meant to be temporary as we anticipated our membership to return to meetings in person. However, we are still rebuilding our chapter and need new

volunteers to get excited about the rewarding work that is EWB!

We are continuing to make efforts to rebuild our chapter and our volunteer base. We have exciting new international projects and want you to volunteer with us today! Our opportunities are: (1) water treatment and distribution upgrades in Patzajito, Guatemala and (2) latrine project at a school in Ibuga, Uganda which we need to build a team to adopt this project. The following are upcoming events, meetings, and other opportunities to



EWB members at the EWB-USA CEO Boris Martin meet & greet event

meet our executive committee members and regulars.



Last Summer's Chicago Fire game fundraiser and social

(Continued on page 16)

Lincoln Yards Environmental Remediation

(Continued from page 9)

Yards redevelopment is bisected by the North Branch of the Chicago River and was the location of heavy industry due to excellent transportation for raw materials and goods. The site contained steel mills, smelters, tanneries, a petroleum terminal, metal scrapping and other industrial uses. The Lincoln

Multi-million-dollar clean-up of industrial properties.

Park area to the east and the Bucktown area to the west are residential areas where people who worked in the industrial area once lived. With changes in land use and gentrification of the north side, the industrial area became more valuable and a developer, Sterling Bay, approached various landowners with the idea of acquiring adjacent parcels for redevelopment. One active industrial site, A. Finkl and Sons, relocated to another location for the purpose of expansion and the property they owned was decommissioned and demolished in 2015. That property on the north side of the river was then acquired by Sterling Bay. Another site was the city of Chicago's Fleet Maintenance Facility, which was previously used as the North Chicago Rolling Mill/Illinois Steel North Works, where rails for the westward expansion of the United States were milled in the late 1800's. Vehicles such as fire engines, garbage trucks and other City maintenance vehicles were repaired during the period occupied by the fleet maintenance facility, which was relocated by the city to the Englewood community,

freeing up that parcel south of the river for redevelopment. An environmental clean-up of the entire site was necessary to ensure that people working and living in the proposed development would not be at risk of exposure to hazardous substances that can endanger their health. Most of the acquired land that is now Lincoln Yards was then enrolled in the Illinois Site Remediation Program, with only several smaller parcels to be enrolled yet in the future.

The Illinois Site Remediation Program (SRP) is a voluntary cleanup program for brownfield sites administered by the Illinois Environmental Protection Agency (IEPA). The SRP establishes

the program, the IEPA issues a "No Further Remediation" (NFR) letter stating that the cleanup is satisfactory for the site's intended use and the owner of the property has no additional responsibility for completing an approved cleanup plan. The IEPA and the United States EPA Region 5 have a formal agreement where the federal government also recognizes the NFR.

The SRP promotes a risk-based, site-specific cleanup plan. This means that the cleanup objectives for a site can be derived from the intended use of the redeveloped site. The cleanup objectives for a site that is to become a residential development or a park are more



Contaminated soil and water. Credit – V3 Companies, Ltd.

investigation and cleanup guidelines for sites where release or possible release of hazardous or regulated substances may occur. Once a site owner has completed

stringent than those for a site that will be used for a parking lot or industrial facility. In the case of Lincoln Yards, Sterling Bay felt
(Continued on page 10)

Lincoln Yards Environmental Remediation

(Continued from 10)

strongly that all of the property should be remediated to the more stringent residential cleanup standards even though some of the land will have commercial uses.

The first step in remediating the site was to determine the presence and source of contamination and how extensive it may be. This was not a simple task given that the property may have been used for multiple purposes since its original development. Researching the site includes a review of business directories that were arranged by street number (a crisscross directory), municipal records, utility records, the State of Illinois Bureau of Land database, historic aerial photos, and Sanborn Fire Insurance Maps. Sanborn Fire Insurance Maps were detailed maps dating from 1867 depicting commercial, industrial, and residential sections of some 12,000 cities in the United States, Canada, and Mexico. The maps were designed to assist fire insurance companies and their underwriters in determining the degree of fire hazard associated with a particular property. The U. S. Library of Congress has Sanborn maps on its website for review.

Transformation of industrial property into a live-work-play community.

One of the greatest unknowns in assessing a site is determining the presence of underground storage tanks. Such tanks may have been used to store petroleum products, cleaning solvents or waste products from industrial processes. It is not uncommon for the tanks to

contain residual product that needs to be pumped out and disposed of legally. Some underground storage tanks are shown on the Sanborn maps but they are not complete or

containment systems. Thirty-six underground storage tanks were located, removed, and disposed of. Nearly a year was spent on site investigations, the development of



Underground storage tank (UST) removal. Credit – V3 Companies, Ltd.

definitive. Part of the site investigation is the taking of soil and groundwater samples where contamination is believed to be present and determining the chemical profile and concentration of regulated substances.

In the case of Lincoln Yards, geophysical surveys, available records, and mapping were all used to locate any underground storage tanks and other subterranean features that remained at the site. A portion of the remediation included the removal of existing brick and concrete foundations, timber piles and underground pipelines and underground tanks that still had residual product contained within, or petroleum that had been leaked from, the tank and

remedial strategies and remediation plans, permitting and Illinois EPA approvals prior to the initiation of the first cleanup efforts.

Approximately 28,000 tons of soil was remediated by excavation and disposal in landfills, and an additional 1,000 cubic yards of soil contaminated with lead was remediated in place to render non-hazardous.

Electrical Resistance Heating (ERH) was utilized on a portion of Lincoln Yards South (less than ½ acre) adjacent to the North Branch to remediate volatile organic compounds present in vadose (water below the soil surface but above the groundwater level) and saturated zones of soil. This treatment (Continued on page 11)

Lincoln Yards Environmental Remediation

(Continued from 10)

typically achieves a reduction of 99% of contamination. This process can take an extended period of time (up to six months) in order to achieve remediation. The ERH process inserts electrodes into the contaminated soil and electrical power is applied to the electrodes. The resistance of the current passing through the ground raises the temperature of the soil to a point where the contaminants are “cooked” out of the soil. Any open areas of the soil are covered with plastic tarps and secured. Any vapor that is generated during the process is collected, neutralized, and disposed of.

The proposed development will be a dense mix of high-rise buildings for medical research, residential towers, and commercial buildings. The development will be built out over a period of 10 years with an

Innovative use of Electrical Resistance Heating (ERH) to remediate part of the site.

estimated investment of \$6 billion dollars which includes new roads, open space, and a new bridge to extend Throop Street over the river. An extension of the 606 pedestrian trail into the development is proposed. The initial development started with the first building completed at 1515 West Webster (formerly the site of the Gutmann Tannery). 1229 Concord Place (aka Ally) is now completed and will be occupied by life science laboratories for biotech and medical research. Currently proposed is 1665



Electrical Resistance Heating (ERH) remediation. Credit – V3 Companies, Ltd.

North Throop which will include mixed use office, retail, and entertainment.

With the environmental cleanup work at Lincoln Yards complete, Sterling Bay has been obtaining final NFR letters from Illinois EPA parcel by parcel as each site is developed. Hence, the final NFR letters for some locations will be completed in the future once these parcels are developed. A commitment to obtaining an NFR letter is often needed to secure financing for any construction on the remediated site and to transfer ownership when the development is sold. The approximate cost of the environmental clean-up was \$9 million dollars which was paid for by Sterling Bay. The remediation began in 2017 and concluded in 2021.

The pace of development has been slower than expected because the commercial real estate market was upended by the Covid 19 pandemic. Given the desirable

location of Lincoln Yards, eventually all the site will be built out.

This environmental cleanup project was designed and overseen by V3 Companies, Ltd., who is also providing infrastructure and civil site engineering for Lincoln Yards.

Cleanup partners included RW Collins, TRS Group, Cabeno Environmental and Heneghan Wrecking. Lincoln Yards North Site Remediation received an Illinois ACEC Environmental Engineering Excellence Award for 2021, while the Lincoln Yards South Site Remediation received the Illinois Section ASCE Outstanding Engineering Achievement (less than \$10 Million dollars) Award in October 2022.

Special thanks to Keith Oswald, P. E., Technical Director, Environment and Geosciences - V3 Companies, Ltd., for his help and input for this article.

Author Bio: Jerome F. McGovern, P. E. is a retired Civil Engineer who worked for the Metropolitan Water Reclamation District of Greater Chicago (MWRD) and is active in the Chicago Chapter of EWRI.

Joint Utility/Utilidor Design

(Continued from 3)

ties to execute joint relocations. The result of this was that these

Utilidor design can be used in various settings.

utilities relocated into common duct banks and clustered manholes/handholes, which saved time, money, and ROW space.

Lincoln Yards

Lincoln Yards is a large-scale development on the near north side of Chicago. The development in-



cludes new high rises for commercial and residential use, development of public park spaces, and new roadway alignments that include new bridges across the Chicago River. The utilidor for this project includes new conduit and manholes for electric distribution, telecommunication infrastructure

installations within the newly developed CDOT ROW.

Tollway EOWA



STHA's Elgin-O'Hare project, a 12-mile project which includes widening of existing tollway infrastructure and construction of new tollways along Thorndale



Boulevard and around the west side of Chicago's O'Hare airport.

A notable challenge on this project was the coordination of utility large number of utilities present throughout the corridor and the very tight ROW limits into which the utilities had to relocate.

To solve this, we were able to gain the cooperation of power and multiple telecom utilities to execute joint relocations. The result of this was that these utilities relocated into common duct banks and clustered manholes/handholes.

In conclusion, utility coordination and joint utility designs/utilidors can be very beneficial to helping a large agency project stay on schedule, stay on budget, minimize impacts to the greater ROW both in current and future conditions. Utility relocation concepts should be discussed as early as possible on a project for maximum benefit as well.

Author Bio: Bethany Turk, P.E. is a Division Manager at HBK Engineering. She has led efforts for utility coordination on the public agency side as well as utility relocation design for private utilities. She is the current Secretary for the ASCE UESI – IL Chapter.

Enhancing Infrastructure and Connectivity: The Benefits of the CREATE Program in Illinois

(Continued from page 4)

A Catalyst for Collaboration and Progress

The CREATE Program is more than a series of construction projects; it's a testament to the power of collaboration between public and private entities. By pooling resources, expertise, and funding, the program showcases how partnerships can yield transformational results that eliminate rail and motor vehicle bottlenecks, boost the economy of northeastern Illinois, and improve the overall safety and environment of the region to benefit the entire community.

Status of a Current CREATE Project

Among the ongoing endeavors within the CREATE Program, one project that is currently in Phase II is the CREATE WA1 project. Nestled along the Western Avenue corridor, the project spans from West Fulton Street to West 16th Street in Chicago, serving as a vivid example of how the CREATE projects utilize partnerships between private and public entities with Union Pacific Railroad, CSX Transportation, Norfolk Southern Railway, Chicago Department of Transportation, Illinois Depart-

ment of Transportation and Chicago Transit Authority all stakeholders in the project.

With the replacement of fourteen aged railroad bridges, the removal of two others and rehabilitation of two more, the CREATE WA1 project breathes new life into a vital corridor. These bridges, having borne the weight of time, now make way for structures that align with the demands of the modern era. Vertical clearances for roadways under the railroad bridges are maintained or improved at all locations. In addition, all existing lighting under the bridge is replaced with modern underdeck lighting and roadway improvements are being made under the bridges as required.

The CREATE WA1 project provides a transformative change to the corridor beyond replacing structures in need of replacement. The project significantly reduces train operation delays by improving signal operations along the corridor. The time saved in each train movement radiates into the future, an indication to the far-reaching impact of innovation.

The project is currently nearing the

end of Phase II with the corresponding construction phase coming soon.

Conclusion: A Path Forward

As the CREATE Program continues to reshape the landscape of transportation in Illinois, it stands as a beacon of innovation, sustainability, and progress. With a keen focus on addressing transportation challenges, enhancing rail connectivity, and promoting environmental stewardship, the program embodies the ideals of a modern, interconnected society. As we look to the future, the CREATE Program serves as a reminder that when diverse stakeholders come together with a shared vision, the possibilities for transformative change are boundless.

To access more CREATE project details, readers are invited to explore the dedicated website at: <https://www.createprogram.org/>

Author Bio: Mark Converse, P.E. is a Railroad Bridge Engineer at Benesch in Chicago and currently serves as Vice President for the Structural Engineering Institute, Illinois Section.

The Driller, The Geotech and The Tester

(Continued from 6)

same person. The driller works with the geotechnical engineer in the early stages of the project. The geotechnical engineer, after their analysis and recommendations, works with the tester or inspector during construction. Some companies offer the three services together, drilling, geotechnical and inspection. This can be helpful for the rest of the design team as it avoids miscommunication. On the other hand, it is always good to

have another set of eyes. The drillers, geotechnical engineers and the inspectors play a key part in the development of a project. At their own time, they become essential to ensure a safe structure for all.

Author Bio - Andrés Matos is a Geotechnical Engineer for the Chicago office of Shannon and Wilson, Inc. and is responsible for business development in the

Midwest. Andrés, also oversees the field operations including drilling, sampling, and performing specialized testing. In this capacity, he assists the design team in the analysis and recommendations for design and construction of deep foundations. Matos currently serves as the Chair of the Geo-Institute in Illinois.

Until the Last Drop

(Continued from page 7)

need (Andres, 2019).

It will be increasingly more critical that we create these systems that more efficiently use water and use less of it because of a growing

“the global water withdrawal from 1900-2010 has increased 1.7 times faster than the world population growth”

global population’s need for a finite resource. The Food and Agriculture Organization of the UN states that the global water withdrawal from 1900-2010 has increased 1.7 times faster than the world population growth (Food and Ag.). According to Jackson’s *Water in a Changing World*, this basic necessity is only directly available in 0.01% of all water resources on Earth, with a 99% majority of it being in ground water aquifers (Jackson, 2001). The large

“fossil aquifers” that we have depended on since agriculture started thousands of years ago are already showing declining water tables, a subtle symptom of a much deeper problem of resource mismanagement (Brown, 2009). Our understanding of agriculture and ecosystems is based off a previous climate, not the one it is changing into. Since Earth is a closed system with only so much hydrogen and oxygen, we could choose to focus on water conservation and consumption reduction or try to literally create water out of thin air but at least the former would save money and improve overall quality of life.

Jackson and Brown both outline some of the water related stresses that various regions are already being affected by. Climate change will increasingly affect the global water cycle and humans will be forced to adapt and innovate to follow this biological process that is

heavily coupled with our global agriculture output. Droughts and flooding will become more severe and rising sea levels and acidification will threaten coastal ecosystems which include humans. We may even see mass migration inward from almost all global shorelines (Jackson, 2001; Brown, 2009). However, the rebuttal to this man-made crisis does not have to be as painful as the consequences some of us are already feeling. In fact, sustainable water management can improve our quality of life by providing less-

“Badly designed subsidies do not effectively direct resources to those in need”

polluted water that needs less treatment and it can renew a sense of stewardship for the world around us. Securing the basic need for clean, accessible water will also (Continued on page 15)

Until the Last Drop

(Continued from page 14)

reap economic benefits over time as struggling individuals can share more of their potential with society instead of just subsisting (Hutton, 2012). This is what sustainable water management could be like and it undeniably involves equity. If we support Gleick's sustainable criteria at a personal level, we can begin to realize our responsibility to shift our own behaviors and expect the same from others, including industries and governments. If we support water quality standards for our own water, we must consider what countries that water has to pass through to get to us and the condition of those nations' water quality. If we support a basic water requirement for human and ecosystem health within our own nation, extending those values beyond our country will benefit other nations as well as our own (Gleick, 1998). A more sustainable future seems to come with built-in equity and altruism. Having evolved into the humans we are today, we are familiar with this second quality, and it will be a matter of bringing equity to the global masses with whom we have to contend with.

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- Author Bio: Sydney Trimble** has a Bachelor's degree in Natural Resources & Environmental Sciences, with a minor in Chemistry from UIUC. Currently, she is serving a Climate Impact Corp term for the Forest Assisted Migration Project, and has previous experience in sustainable agriculture and waste stream management.

Looking to the Future in a Post-Pandemic EWB Volunteering Environment

(Continued from page 8)

Join us today!

August 30th – Chicago Fire game fundraiser and social

6:00 pm: Tailgate Party

Location: Waldron Deck

Tailgate Contribution: \$3 (Covers food and helps with planning)

BYOB: Bring Your Own Beverages

Contact: Vanessa (president@ewb-usa-chicago.org) for dietary restrictions

For tickets, use the QR code:



We want to get 50 attendees so we have a chance to stand on the field and meet the players! Get your tickets today!



Your participation in EWB lets you travel to help children in need!

September 26th, October 31st, November 28th – Remaining 2023 Monthly Meetings, 6:00pm

Always check our website calendar for locations as they are subject to change.

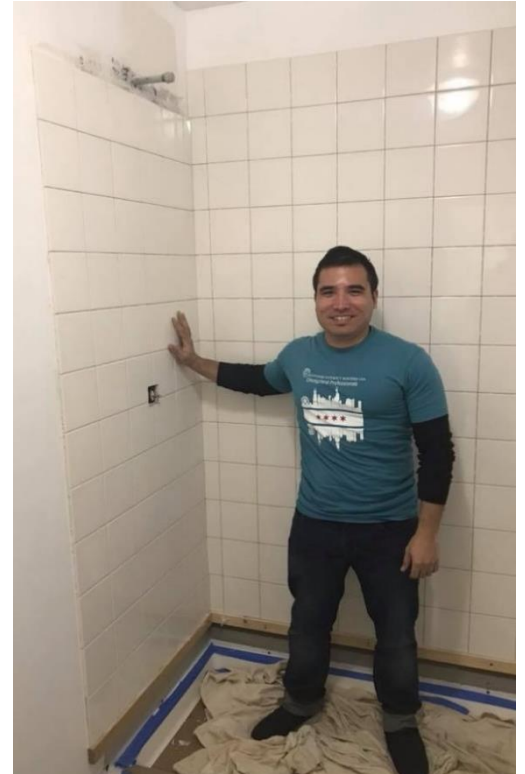
Email Membership (membership@ewb-usa-chicago.org) to get on the mailing list.

TBD – Volunteer/Team Building Event

Previously, we have volunteered as a group to do a build day with Habitat For Humanity, volunteered to participate in 5K races, and more. This year we are polling the group to see what our next volunteering event will be. Use this QR code to submit the interest form:



EWB Chicagoland Professional Chapter meets regularly in-person, usually on the final Tuesday of every month at 6pm unless announced otherwise. The Chicago Fire social event will replace our August meeting. Details and meeting locations can always be found



EWB volunteer at Habitat for Humanity Build Day. Join us for our next volunteer day event!

on the EWB Chicagoland website calendar at <https://ewb-usa-chicago.org> or contact president@ewb-usa-chicago.org for more information.

Author Bio: Alan Phelps P.E. is a project engineer with Robinson Engineering, Ltd. and is the project leader of the Wema Program in Kenya with the EWB Chicagoland Professional Chapter.

To inform Illinois Section members of the discussions at monthly Board meetings, the Section Secretary contributes this article to the newsletter covering the August 2023 IS Board Meeting. The Illinois Section Board Meetings offer in-person and virtual attendance options. Access to historical IS Board Meeting Minutes, Constitution, and Bylaws can be found on ASCE Collaborate at <https://collaborate.asce.org/home>. Any questions or comments on the Board activities are welcome by contacting Secretary Monica Crinion at monica.crinion@aecom.com.

■ *Treasurer's Report & Meeting Minutes*

▲ A treasurer's report covering July and August financials was presented and approved at the August 2023 IS Board meeting. The June 2023 Board Meeting minutes were approved.

■ *Highlights from Illinois Section Activities and Institute/Group Reports.*

▲ **Incoming FY23-24 IS Board Officers** – The FY22-23 officer nominees were announced at the August board meeting and presented to the full membership via special announcement email on September 8, 2023.

Executive Board

President – Matthew Huffman, P.E.
Past President – Sandra Homola, P.E., CFM

President-Elect – Thomas Janicke, P.E., S.E.

Treasurer – Kris Salvatera, P.E.

Secretary – Monica Crinion, P.E.

Directors to 2024

Muhammad Ali, P.E.

Robert Brzezoni, P.E.

Saki Handa, P.E., ENV SP

Directors to 2025

Brian Castro, P.E.

Michael Kowalski, P.E.

Joe Wilk, P.E.

Per the “2023-2024 ASCE Illinois Section Leadership Ballot Announcement” email sent on September 8; members may submit petitions to file additional nominations to the IS Secretary no later than September 15, 2023.

All officers will be sworn in at the Annual Meeting on October 5, 2023, at Swissotel Chicago.

▲ **2023 ASCE Convention** – The 2023 ASCE Convention (October 18 - 21, 2023) at the Hilton Chicago is fast approaching! The convention is the Society's flagship membership event and presents integrated, cross-cultural, technical, and educational programming. Attendees can earn up to 19.5 PDHs and will experience the premier of the “Cities of the Future” IMAX film. Registration is open at <https://convention.asce.org/> with discounted rates available through September 26. Corporate sponsorship and exhibit packages are also available. For more information on sponsorship, please contact Kevin Bryan at Kbryan@asce.org or (703) 295-6234.

▲ **Western Great Lakes Student Symposium** – The three Chicago area ASCE student chapters (UIC, IIT and Northwestern) are co-hosting the upcoming student symposium on April 4-6, 2024, and are seeking sponsorship from local engineering and industry firms. The symposium will include ASCE student chapter representatives from 19 universities participating in three days of competitive events. For more information or to provide sponsorship for the spring symposium, please contact wglc2024@gmail.com.

▲ **Construction Institute (CI)** – The CI held their Board meetings on July 12 and August 2. Due to the busy summer construction season, CI did not hold any events in July or August. For more information or if interested in joining this institute, please contact CI Chair Michael Kowalski at mkowalski@ciorba.com.

▲ **Environmental & Water Resources Institute (EWRI)** – The EWRI held their Board meeting on July 11. A Green Infrastructure Rooftop tour and talk was held on June 22. The EWRI also gathered for a summer social at Parlor Pizza (West Loop) on August 8. Please contact EWRI Chair Joe Wilk with any questions or for information about EWRI activities at jwilk@cbbel.com.
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Secretary Report

(Continued from page 17)

▲ **Geo-Institute (GI)** – The GI held their Board meeting on August 9. Please contact GI Chair Andrés Matos with any questions or for information about GI activities at andres.matos@shanwil.com.

▲ **Structural Engineering Institute (SEI)** – The SEI held their Board meetings on June 28 and August 16. Registration is now open for the [25th Biennial Lecture Series](#). Upcoming lectures on September 27 and October 18 will be held at 150 N Riverside in downtown Chicago. Please contact SEI Chair Chris Knipp with any questions or for information about SEI activities at Christopher.Knipp@parsons.com.

▲ **Transportation & Development Institute (T&DI)** – The T&DI held their Board meetings on June 13 and August 8. A luncheon was held on August 17 at Maggiano's in Oak Brook featuring keynote speaker Jamie Rhee, Chicago Department of Aviation Commissioner. Please contact T&DI Chair Michal Miczek with any questions or for more information at michal.miczek@hdrinc.com.

▲ **Utility Engineering and Surveying Institute (UESI)** – The UESI held their Board meetings on July 10 and August 14. For more information or if interested in joining this institute, please contact UESI Chair Steve Rienks at s.rienks@AmericanSurvey.com.

▲ **Younger Member Group (YMG)** – The YMG held their Board meeting on August 1. The group hosted a Geotechnical Engineering lunch and learn for younger members on June 27 at the HNTB office. A summer happy hour was held on July 6 at Island Party Hut on the Riverwalk. YMG hosted their annual Bags Tournament on August 31 at Midwest Coast Brewing. For more information about YMG activities or if interested in joining this group, please contact YMG Chair Matt Gazdziak at matt.gazdziak@strand.com.

The Illinois Section Board Meetings are held the first Monday of

the month, except for holidays. The next board meeting is scheduled for October 2, 2023, and will be in-person at EXP (205 N. Michigan Avenue). For any guests or Board Members that cannot attend in-person, a virtual option will be provided via MS Teams. If you are interested in attending these meetings, please contact President Sandra Homola at sandra.homola@exp.com.

By Monica Crinion, PE
ASCE Illinois Section Secretary
2022-2024
monica.crinion@aecom.com



Illinois Section

Activities

25th Biennial Lecture Series Presented by ASCE-SEI Illinois Chapter

Dates: Wednesdays September 6,
27 and October 18

Time: 5:30-8:30PM

Place: 150 North Riverside,
Downtown Chicago)

[Registration](#)

IL Section CI Joint Event with UESI - Static Pipe Bursting presentation by TT Technologies

Date: Thursday, September 21

Time: 5:30pm - 7:30pm

Place: Pazzo's at 311 (311 S.
Wacker Drive, Chicago, IL
60606)

[CI & UESI IL Chapter September Event- Trenchless Technology \(constantcontact.com\)](#)

IL Section ASCE EWRI Green Infrastructure Seminar

Date: Wednesday, September 27

Time: 8:00AM-4:30PM

Place: ACI Resource Center. 945
Busse Road, Elk Grove Village,
IL 60007

Cost: \$150 Professionals
\$45 Students

PDHs: 6.5 PDHs

[Event Flyer](#)

Registration Link:

<http://bit.ly/489klKG>

IL Section ASCE Annual Award Dinner

Date: Thursday, October 5

Time: 6:00-10:00PM

Place: Swissotel (323 E. Wacker
Dr., Chicago, IL 60601)

[Event Flyer](#)

IL Section ASCE Geo-Institute October Dinner Meeting – SAVE THE DATE

Date: Tuesday, October 18

Place: Pazzos

Speaker: John Wysocky of
Thatcher Foundations

More information to come.

ASCE 2023 Convention - Chicago

Date: Wednesday-Saturday,
October 18-21

Place: Hilton Chicago (720 S.
Michigan Ave., Chicago, IL
60605-2116)

Convention Information: **<https://convention.asce.org/>**

Join ASCE at the 2023 Convention in Chicago, Illinois, October 18 - 21 to connect with colleagues, join innovating and future forward sessions, and earn professional development hours (PDH). Be Future Ready.

IL Section ASCE Geo-Institute November Dinner Meeting – SAVE THE DATE

Date: Wednesday, November 8

Place: Pazzo's

Speaker: Prof. Kyle Rollins of
BYU

More information to come.