

Connecticut Society of Civil Engineers October Newsletter

From the Editor

Thank you for taking the time to read the October 2021 Newsletter. This month's newsletter features an article in the Excellence in Civil Engineering section about **Arash Zaghi**, Ph.D., P.E., S.E., M.ASCE, of the University of Connecticut and winner of the ASCE 2021 **Raymond C. Reese Research Prize**., as well as an article written by Christopher Hill, Quirien Muylwyk, John Konkus, and CSCE Member Tom Loto that highlights changes to the EPA's current lead and copper rule and includes strategies for inventory and testing compliance. The article also addresses funding strategies to meet the new requirements.

Also, CSCE hopes you had a safe and fun summer! We look forward to providing you more opportunities for virtual lunch meetings as we approach the new year. Below is a recap of our previous month's meeting featuring Julianne Marrion's work on Permeable Reactive Barrier Feasibility for Nitrogen Removal, and October is already filled with 2 great CSCE events. First on October 20th, CSCE is hosting a virtual lunch meeting on the topic of, Engineers, Ethics and the Law presented by Frederick E. Hedberg, Partner at Robinson+Cole, <u>Click Here</u> to register for the Event. This meeting is followed by our Virtual Geotechnical Mini-Series on October 22 & 29 featuring Emerging Geotechnical Markets and Technologies, <u>Click Here</u> to register for this Event.

Do you have a project, article or anything else you can think of that is newsletter worthy? Reach out to me at <u>tparker@hwlochner.com</u>; we would love to feature your work.

Tyler Parker, P.E., M.ASCE Newsletter Editor

9-22-21 Virtual Lunch Meeting Recap

On September 22, 2021, Julianne Marrion, P.E., a Project Engineer at AECOM with nine years of experience working on a variety of water, wastewater, chemical and environmental engineering projects, gave a presentation to 22 people at a virtual lunch meeting co-sponsored by the CSCE Water Resources Committee and the ASCE Student Chapter at the University of New Haven (UNH). The meeting began with a presentation by Raymundo Bigalbal, Civil Engineering Student at the University of New Haven, Class of 2022, on the latest events and initiatives of the ASCE Student Chapter at UNH. The Chapter is always on the lookout for speakers at its meetings. In particular, the students are looking for CSCE members who would be interested in speaking at Chapter meetings about their current projects or growing trends in the industry.

Following this presentation, Ms. Marrion shared her experiences with permeable reactive barrier feasibility for nitrogen removal. Permeable reactive barriers (PRBs) are a non-traditional wastewater treatment technology with the potential to reduce nitrate by treating groundwater biologically upgradient of sensitive surface waters. A demonstration PRB was installed in the Town of Orleans, MA, which is one of several Cape Cod communities that must reduce groundwater nitrate loading. The PRB was installed by injecting an emulsified vegetable oil (EVO) substrate along a transect line that cuts across a plume of nitrate. The EVO volume used was based on the mass flux of nitrate, site specific groundwater chemistry, and establishing a PRB with persistence of a minimum of five to seven years.

The demonstration project was implemented in November 2016 and modified in June 2018. Data collected over a five year period indicate that the PRB is reducing groundwater nitrogen concentrations. Information gained through the demonstration is currently being utilized in full-scale design and to predict nitrogen removal efficiency for cost effectively achieving water quality goals. The team compared life cycle cost estimates for PRBs to that of traditional sewering in key areas identified and is currently conducting additional geological investigations to inform full-scale PRB design.

CSCE was happy to provide 2 CSCE members with New York State Professional Development Hours (NYS PDHs) and to accept \$20 in donations at this meeting. If CSCE members would like to learn more about the activities of the CSCE Water Resources Committee or the opportunities to speak at the meetings of the ASCE Student Chapter at the University of New Hampshire, please send an email to csceinfo@gmail.com or call/text 860-879-2723.



Upcoming Events

October 20 - Virtual Lunch Meeting - 12-1:30 p.m.

- Topic: Engineers, Ethics and the Law
- Speaker: Frederick E. Hedberg, Partner at Robinson+Cole
- Co-Sponsors: Younger Members Group and ASCE Student Chapter at CCSU

October 22 & 29 - Virtual Geotechnical Seminar

- Topic: Emerging Geotechnical Markets and Technologies
- 8-10 a.m. on 2 days = 4 NYS PDHs will be offered
- \$60 for two 2-Hour Sessions (4 hours total or \$15 per session)
- \$40 for each 2-Hour Session (2 hours each or \$20 per session)
- \$250 sponsorship (includes 1 attendee registration for all 4 sessions, logo placement on all correspondence, and recognition in the opening slides)
- This Mini-Series has been generously sponsored by: AeroAggregates, Subsurface Constructors, and Helical Drilling and Your Company Logo could go here image. Join this sponsor by registering for a Mini-Series Sponsorship for \$250 - ALL PROCEEDS GO DIRECTLY TO THE CSCE SCHOLARSHIP FUND \$250 sponsorship (includes 1 attendee registration for all 4 sessions, logo placement on all correspondence, and recognition in the opening slides)









November 17 - Virtual Lunch Meeting - 12-1:30 p.m.

- Topic: Walk Bridge
- Co-Sponsors: CT Chapter of the ASCE Construction Institute & ASCE Student Chapter at UConn

December 15 - Virtual Lunch Meeting - 12-1:30 p.m.

- Sponsor: CT Valley Chapter of the ASCE Geo-Institute
- Topic: Benjamin Wright: Father of American Civil Engineering
- Speaker: Steven Pennington, P.E., PLS, Geo-Instruments

10-20-2021 Virtual Lunch Meeting



CSCE VIRTUAL LUNCH MEETING EARN 1 NYS PDH

OCTOBER 20, 2021 12-1:30 P.M. EST

ENGINEERS, ETHICS AND THE LAW

Co-Sponsors: CSCE's Younger Members Group and ASCE Student Chapter at CCSU

Please join CSCE at this meeting where Frederick E. Hedberg, Partner at Robinson+Cole, will examine how ethics and the law have shaped the engineering profession. You will learn tips & pitfalls to avoid to ensure compliance with different ethical codes & laws in the practice of engineering and the do's & don'ts of serving as an expert witness without running afoul of ethics & the law.

Register at www.csce.org:

View the Presentation - No NYS PDH: Free CSCE Members who want to earn 1 NYS PDH: \$20 Non CSCE Members who want to earn 1 NYS PDH: \$30





14th Annual Achievement in Civil Engineering (ACE) Awards

CSCE would like to honor the design and construction achievements of Connecticut Civil Engineers through it's achievement in Civil Engineering (ACE) Awards. As such, CSCE invites engineering firms to nominate projects that were planned, designed, or constructed substantially between January 1, 2020 and December 31, 2020 in Connecticut. The Awards will commend projects in which significant engineering expertise or innovation was exhibited by Connecticut Engineers and especially CSCE members.

- Applications Closed as of October 1, 2021
- Applications available at <u>www.csce.org</u>.



ASCE Multi-Region Leadership Conference (MRLC) 2022

Due to the continued uncertainty and volatility of COVID, the 2022 MRLC scheduled for January 2022 have been cancelled. In the meantime, younger member group/forum leaders should plan to attend the virtual Multi-region Leadership Conference in mid-February, along with Section/Branch/Institute, and Student Chapters. The Leader Training Committee of ASCE will be releasing details and registration information next month.

Despite this news, the Committee on Younger Members will be offering in - person leadership training programming for all members 35 years-old and younger later this year during special events tentatively scheduled for the summer months in addition to the Easter Region Younger Member Council.

ASCE will continue to monitor COVID impacts and will design programming with everyone's health and safety in mind. Region Younger Member Council Business meetings will be scheduled in coordination with these events. This programming is still under consideration, but the committee hopes to reach a much wider audience during the summer events. More details about this programming will be forthcoming. This event will still include mutli-regions from across the eastern region, Canada and Puerto Rico. Consider supporting this conference at one of the following suggested sponsorship levels.

To confirm your sponsorship level, please visit our website: www.ctmrlc.com

Please email any questions to <u>csceymg@gmail.com</u>.



Excellence in Civil Engineering

CSCE would like to congratulate CSCE Member **Arash Zaghi**, Ph.D., P.E., S.E., M.ASCE, for winning the ASCE 2021 **Raymond C. Reese Research Prize**. *The award is presented to an author of a paper in a print issue of an ASCE journal that describes a notable achievement in research related to structural engineering and which indicates how the research can be used.*

Dr. Zaghi's pioneering work advancing novel repair and inspection techniques for bridges has twice been recognized as High-Value Research by the Transportation Research Board (TRB) in 2016 and 2019. These novel techniques have been adopted by several departments of transportation. He is a recipient of the highly competitive CAREER award from the National Science Foundation and in 2012, he was recognized as an outstanding reviewer of the ASCE Journal of Bridge Engineering (JBE), for which he currently serves as an associate editor.



Project Spotlight

DEVELOPING EFFECTIVE FUNDING STRATEGIES FOR COMPLIANCE WITH THE LEAD AND COPPER RULE REVISIONS

Authors: Christopher Hill, Quirien Muylwyk, John Konkus, and Tom Loto, AECOM Technical Services

The federal government is currently negotiating a U.S. infrastructure plan and, as details emerge, funding for lead service line replacement remains a priority of any future bill related to the plan. While the details continue to evolve, Drinking Water State Revolving Funds (DWSRF), the Water Infrastructure Finance and Innovation Act (WIFIA) and federal earmarks are likely vehicles for funding to improve water systems including lead service line replacement. Understanding the potential impacts of the Lead and Copper Rule Revisions (LCRR) and having an effective compliance and funding strategy to address the impacts of the rule are critical for CSCE members to know to meet the rule requirements & revisions. As such, it is important for CSCE members to understand how those programs work and what it will take to apply for and administer funds received under those programs to support LCRR compliance.

Introduction

The Lead and Copper Rule Revisions were finalized in January 2021. In June, the United States Environmental Protection Agency (USEPA) affirmed the rule requirements and extended the effective date of the LCRR to December 16, 2021 and the compliance date to October 16, 2024. The LCRR includes a number of key provisions that will impact water systems, including changes in corrosion control treatment (CCT) requirements, find-and-fix provisions for homes with elevated lead levels, sampling requirements for schools and childcare facilities, and additional public outreach and education requirements. This article focuses on three specific areas of the LCRR – service line inventories, and lead service line replacement (LSLR) planning and changes in compliance monitoring – and strategies to take advantage of available funding for LSLR.

Developing a Service Line Inventory and Understanding LCRR Compliance Risk

All water systems, including those that do not have lead service lines (LSLs), are required to create a publicly accessible service line inventory by October 16, 2024. Service lines will be given one of four possible designations. Known LSLs will be labeled as "lead service lines." Galvanized service lines that are or were previously downstream of an LSL will be designated "galvanized requiring replacement." Service lines of unknown material are to be labeled "lead status unknown service lines" and those known to be "non-lead" can be designated as such. A "non-lead" designation does not require the water system to identify the exact material of a service line, such as plastic or copper, if it is not an LSL or galvanized requiring replacement service line. It is also worth mentioning that the LCRR does not require water systems to investigate or inventory lead connectors (i.e., goosenecks or pigtails). However, the replacement of lead connectors is expected to be undertaken opportunistically when discovered in the system.

• Developing an inventory will be an iterative process due to the availability of records that may be incomplete or erroneous, the presence of unknown service lines and the need to update the inventory over time.

The inventory must be updated over time to reflect changes, such as verification of unknown service line materials or LSLs that have been replaced. Water systems with only non-lead service lines are required to conduct an initial inventory, but are not required to provide inventory updates and may fulfill the requirement to make the inventory publicly accessible with a statement that there are no LSLs, along with a general description of the methods used to make that determination.

Our experience helping multiple utilities find and document lead services has involved a range of different methods, including:

- Desktop reviews of historical data, building codes and ordinances, maintenance records, staff knowledge, and other sources of data, such as geographical information system (GIS) and asset management information.
- Field investigations, including non-destructive testing or visual check of the interior, observations at the meter, and pothole investigations. Our experience has shown multiple pothole excavations may be necessary, particularly where there is a history of partial LSL replacements or where there is evidence of a service line repair.



• Water quality sampling as an indicator of lead.

1 - Machine learning can be an effective means of identifying LSL locations and prioritizing replacement

If using water quality data to identify possible LSL locations, it is important to consider the role of CCT and its potential impacts on water quality. For example, a water quality profile can be used to observe changes in lead concentrations from the tap to the water main. Observed increases in lead concentration in samples collected away from the water main can be indicative of an LSL. However, a system using an orthophosphate inhibitor might see little variation in lead and should be cautious about assuming a service line is non-lead based solely on water quality. The threshold lead concentration used to indicate lead will vary by water system and thus calibration will be necessary to demonstrate the efficacy of water quality sampling to find lead.

Confirmation of Non-Lead Status

One of the most challenging things about the LCRR may be confirming the non-lead status for an individual property or water system. As USEPA has not yet released guidance related to conducting a service line inventory, a recommended first step is to meet with the state or primacy agency to establish expectations for the LSL inventory, including what is required to demonstrate a service line is non-lead versus lead status unknown. While there is no deadline to investigate the material of all lead status unknown service lines, water systems must include a strategy in their LSLR Plan for investigating the unknowns in their inventory. This strategy, coupled with the incentive to investigate unknowns to ease the burden of future LSLR, will encourage water systems to verify unknown service line materials in a timely manner.

USEPA states in the LCRR that service lines installed after a state or federal ban on the use of lead may be designated as non-lead but provides no real guidance beyond that criteria. In the absence of additional guidance, a pragmatic approach is to balance the risk of lead exposure and the cost to conclusively determine that there is no lead (conduct water quality sampling, perform interior and pothole inspections, etc.), and prioritize service line material confirmation based on that risk. For example, a household childcare facility located in an area where LSLs are known to exist is a relatively higher priority for confirmation. Alternatively, a service line at a home near an area where a water main was recently replaced and all of the homes were observed to have copper service lines is a lower priority for investigation (or could even be designated "non-lead" based on discussions with the state or primacy agency).

Lead Service Line Replacement Planning to Reduce the Risk of Lead Exposure

Though USEPA opted not to lower the lead action level (AL) from its current value of 15 ug/L, the revisions establish a new lead trigger level (TL) of 10 ug/L. Compliance and associated actions by a water system are based on the 90th percentile of lead monitoring results in comparison to the AL and TL.

Water systems with LSLs are required to submit a LSLR Plan by October 16, 2024. The rule does not require mandatory LSL replacement unless a system exceeds the AL or TL, however, replacement of the publicly-owned portion of the service line is required when replacement of the privately-owned portion is initiated by a customer. *As such, water systems should develop service line replacement policies and procedures, inclusive of construction materials and methods, customer outreach, and funding strategy before October 2024.* A water system that exceeds the AL must implement full LSLR at a rate of 3 percent per year. A water system that exceeds the TL must implement LSLR at an annual rate approved by the State. In both scenarios, LSLR can be discontinued after two consecutive years of monitoring below the TL.

The LSLR Plan must describe how replacements are prioritized. It is recommended that LSL replacement be prioritized based on risk. However, risk is relative. A water system with relatively few LSLs may prioritize individual replacements based on lead levels at a particular home and/or based on the risk to occupants. On the other hand, a system with a significant number of replacements may prioritize both individual sites and geographic areas based on risk. It is recommended the following factors be considered to prioritize replacements:

- 1. Location, distribution, and density of LSLs
- 2. Sociodemographic factors that reflect the consequence of lead exposure

3. Construction constraints and opportunities to minimize community disruption

When all three are considered, a balance between public health protection and construction efficiencies can be realized. Experience suggests that LSL occurrence often coincides with household income and therefore sociodemographic indicators for poverty, education, and other factors can be used with the lead inventory to determine which areas of a water system might be given higher priority. Consideration should also be given to construction opportunities (e.g., water main rehabilitation projects) to realize cost efficiencies. A transparent prioritization framework can be shared with the public and city leaders, so that customers know when the lead at their home or in their neighborhood will be replaced and why.



2 - Lead Service Line Replacement Plans are due by October 2024. Though replacement may not be required, the availability of funding should make LSL replacement a priority for most systems.

Using the LSL Inventory: Impacts of Changes in Monitoring Requirements

Sample site selection under the LCRR will be based on a new set of tiering criteria (Table 1) that prioritize structures served by a LSL. For Tier 1 and 2 sites, a first liter and a fifth liter must be collected and analyzed. The first liter will be analyzed for copper and the fifth liter for lead. For all other sites, a first draw one-liter sample will be collected and analyzed for lead and copper.

LCRR Sample Site Tiering Criteria

The prioritization of sampling at sites served by an LSL could result in significant increases in the statistics used to determine LCRR compliance. Figure 1 compares lead statistics for a system that collects 100 samples twice per year under the current LCR (i.e., minimum of 50 percent single family structure served by an LSL and 50 percent sSFS served by a copper service line with lead solder installed prior to 1982) and LCRR (SFSs served by LSLs only). The results show significant increases in lead statistics when only homes served by an LSL are considered. Under the LCR or current sampling protocol (columns labeled "50:50"), the 90th percentile lead concentration is well below the AL and appears to be comfortably below the TL. However, exclusion of the copper service line sites (columns labeled "LSL only") results in a 90th percentile lead concentration that exceeds the TL in each of the first two years evaluated and approaches the TL in the third year. When additional LSL sites are added (i.e., new LSL sites are substituted for the copper service line sites), this system may be at even more risk of exceeding the TL, and perhaps the AL.

Table 1.	LCRR	Sampl	e Site	Tiering	Criteria
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Tier	Definition	
Tier 1	SFSs served by LSLs	
Tier 2	Buildings, including multi-family residences served by LSLs	
Tier 3	SFS served by galvanized service lines that are/were downstream of an LSL	
Tier 4	SFS service by copper service line with lead solder	
Tier 5	Representative sites	

SFS = single family structure



3 - Figure 1. Comparison of Lead Statistics Under Current and LCRR Monitoring Protocols

(For LCR sampling, data from a mix of 50 percent LSL sites and 50 percent copper with lead solder sites are indicated by "50:50". For LCRR sampling, data from only single-family structures served by an LSL indicated by "LSL only".)

Figure 1 only considers the impacts of the change in sampling location. The potential impact on lead concentrations due to the fifth liter sample in homes with LSLs can be seen in Figure 2. In this instance, the increase in total lead concentration was not significant, maybe 20 to 30 percent, but it was sufficient to push the value at this home over the TL.





When considered together, the focus on locations with LSLs and the shift to a fifth-liter sample could significantly impact a water system's compliance status resulting in the need to optimize or study corrosion control treatment and/or initiate LSL replacement.

Funding Strategies: How do I pay for LSLR Planning and LSL Replacement?

USEPA estimates the average cost to replace a single LSL is approximately \$4,700 (2019). However, costs can vary significantly from system to system and could be as high as \$10,000 to \$15,000 or more per LSL when all costs (site restoration, public outre ach, household filters, etc.) are considered. For those communities with a significant number of LSLs, the financial burden of replacement could be quite significant. Further, disadvantaged homeowners may be unable to afford LSL replacement if the water system is unable to pay for the full cost of replacement.

Fortunately, there are a number of existing grant and loan programs available and a number of agencies which may fund LSL replacement, including: the Drinking Water State Revolving Fund (DWSRF), Water Infrastructure Finance and Innovation Act (WIFIA), United States Department of Housing and Urban Development (HUD), Federal Emergency Management Agency (FEMA), and the United States Department of Agriculture (USDA) Rural Development, as well as state and federal earmarks and other programs.

• The federal government is currently negotiating a U.S. infrastructure plan. Though the details continue to emerge, one priority remains a focus of any future bill – funding for lead service line replacement.

In addition, the federal government is currently negotiating a U.S. infrastructure plan. Though the details continue to emerge, one priority remains a focus of any future bill – funding for LSL replacement. While the details regarding funding evolve, the most recent Senate bill includes \$15 billion

in DWSRF specifically for LSL replacement, as well as an additional \$11.7 billion for DWSRF which the White House has indicated can be used for LSL replacement. WIFIA and federal earmarks may also be used to provide funding to water systems. It is important to understand how these programs work and what it will take to apply for and administer funds received under those programs. For example, securing DWSRF funds typically requires submission of a Facility Plan (i.e., an LSLR Plan) and other commitments by a water system. Similarly, the first gate for WIFIA funding is the submission of a letter of interest, and although there is no deposit required with the submission of the letter of interest, the water system will need to provide a deposit with the application approximately one year after submitting the letter. In addition, the utility will be charged a financing fee for each successfully funded project, though that may be waived by USEPA if conditions warrant. WIFIA may also require the water system to fund 50 percent or more of the replacement as a condition for award.

If and how DWSRF or WIFIA requirements may change when it comes to funding LSL replacement is unclear, but water systems should begin developing a strategy to apply for and administer funds for LSL replacement. Understanding current DWSRF and WIFIA requirements is an important first step to determining which funding model is best suited for a particular water system. For example, DWSRF might be a better option for small systems due to the priority given to small systems with the greatest funding needs. Once made available, there will be deadlines to apply for and, perhaps more importantly, use funds to replace LSLs. Having an answer to the question "how and what will it take for my system to replace every LSL as quickly as possible?" will be key to preparing your LSLR Plan and determining the most appropriate funding strategy for your system.

Funding and Compliance Timeline

The LCRR are the most significant drinking water regulation in the U.S. in more than a decade. Water systems will be required to meet the requirements of the LCRR by October 2024. Figure 3 provides a suggested timeline to guide systems to meet the LCRR requirements by the compliance deadline and have a funding strategy in place for LSL replacement. A few key elements of the proposed timeline:

- **Begin reviewing historical data now** to determine how changes in monitoring requirements could impact future compliance. In the absence of fifth liter samples at homes with an LSL, collect some samples to approximate the impacts of fifth liter sampling on compliance status.
- *Meet with your state or primacy agency as soon as possible* to understand their expectations for the inventory and what they will require for designation of non-lead status.
- Begin preparation of your inventory and have a plan for implementation of the public interfaces.
- **Review current funding program requirements** (e.g., DWSRF or WIFIA) and identify which program is best suited to your system. Monitor federal legislation to understand how funding for LSL replacements will be distributed to water systems and what the associated administration and utility-provided funding commitments will be.
- Assess funding program eligibility to cover the cost of the inventory and LSLR Plan preparation. For example, DWSRF can be used for engineering design fees after submittal of the Facilities Plan. Preparing the Facilities Plan in such a way that it identifies how the LSLR Plan will be developed, including field verification and additional testing, may make those costs eligible for funding. Similarly, the WIFIA funding may be used for "development phase activities,

including planning, preliminary engineering, design, environmental review, revenue forecasting, and other pre-construction activities." WIFIA funds can be used to reimburse the cost of these activities if the activities were carried out under federal guidelines.

- **Prepare funding applications** and other required program documents in 2022 (e.g., DWSRF Facilities Plan or WIFIA letter of interest).
- Use the time available between now and December 2024 to collect additional data to assess the potential impacts of changes in monitoring on your system. You want to avoid surprises when the first round of new compliance data is gathered in 2025.
- Verify service lines of unknown status now. The requirements for non-lead sites and systems are substantially less than those with LSLs or lead status unknowns. Use the time between now and December 2024 to verify service line materials and reduce the number of lead status unknown service lines in your system. This can have significant financial impact on a water system. For example, if a system has 1000 known LSLs and 4000 unknowns and is required to implement LSL replacement, the required 3 percent per year is 150 LSLs. The number of required replacements could be reduced significantly by verifying those unknown status services are non-lead.
- Though not discussed at length in this article, *understand the new monitoring and public education requirements for schools and childcare facilities*. Review data from previous sampling efforts at these facilities, if available. Water systems should initiate discussions with school districts and childcare facilities in their service areas as soon as possible. It is important that schools and childcare facilities not be caught off guard by the rule requirements and have a plan to communicate with their customers about the risks of lead in drinking water.



5 - Figure 3. Recommended Funding and Compliance Timeline

The LCRR will be challenging for many water systems for a variety of reasons. Understanding how the rule might impact your water system and developing an effective funding strategy for LSL replacement will be key to achieving compliance with the new rule. Water systems should begin an evaluation of their compliance and potential financial risk and exposure and formulate a strategy to address those risks immediately. The suggestions in this article can serve as a road map to initiate that assessment.

About the authors:

Christopher Hill is AECOM's Drinking Water Market Sector Leader. He has nearly 30 years of experience helping water systems throughout the U.S. develop and implement effective lead and copper corrosion control strategies.

Quirien Muylwyk is AECOM's Water Quality Technical Director. She has more than 25 years of experience helping water systems throughout the world effectively manage distribution system water quality and is currently working with some of the largest water systems to develop and execute their LSL replacement programs.

John Konkus is AECOM's Senior Manager of Government Affairs. He has over 20 years of experience in government affairs and strategic planning and has helped his clients secure more than \$250 million in state and federal funds since joining the firm in 2019.

Tom Loto is AECOM's Regional Municipal Market Sector Leader for Northeast Water including New England and Upstate New York. He has over 28 years of experience in managing water and wastewater projects throughout the Northeast and New York.

Employment Opportunities



- Luchs Consulting Engineers, LLC
- Chief Inspector, Office Engineer, Senior Inspector, and Inspector positions
- Job Posted: October 18, 2021

Luchs Consulting Engineers, LLC, a Meriden based Consulting Engineering firm is seeking candidates for a Chief Inspector, Office Engineer, Senior Inspector and Inspector positions. Experience with State of Connecticut and Municipal Construction Inspection procedures is required. Current NICET, NETTCP, ACI, ATSSA and NACE Certifications are a plus.

Competitive Benefit Package

Email: dcrandall@luchs.com

An Affirmative Action Employer (EOE)



- Luchs Consulting Engineers, LLC
- Civil Design Engineer
- Job Posted: October 18, 2021

Luchs Consulting Engineers is a multi-disciplined engineering, surveying firm based in Meriden, CT. We have immediate opportunities for professionals who are ready to join our dynamic team.

Civil Design Engineer BS Degree in Civil Engineering; EIT or NICET a plus

- 3-7 years' experience in CTDOT design environment
- Roadway Drainage Design/HEC-RAS Hydraulic experience required
- Knowledge of MicroStation or AutoCAD required

Comprehensive Benefit Package

Please email resumes to: dcrandall@luchs.com



- Siefert Associates, LLC
- Structural Project Manager
- Job Posted: October 13, 2021

Siefert Associates, LLC. is a Structural-Geotechnical Engineering firm practicing in the niche field of Construction Engineering. We are the professional service firm of choice for contractors across the Northeast and are proud to call 10 of the top 15 Domestic Heavy Contractors [per ENR] as our Clients. Our specialty is developing working drawings and calculations for heavy highway, building, railroad, & utility projects. Our work includes temporary & permanent design, inspection, & field services.

We seek a Structural Project Manager for responsibilities that include the management & preparation of calculations for complex projects, business development, proposal writing, & training/mentoring of production staff. BS or MS in Civil Engineering, PE license in NY/CT, & 10 years of design experience in construction engineering preferred. Located in Naugatuck, CT office with hybrid work options.

Apply at: <u>www.siefertassociates.com</u> – email cover letter & resume to **info@siefertassociates.com**



- Siefert Associates, LLC
- Geotechnical Project Manager
- Job Posted: October 13, 2021

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We seek a Geotechnical Project Manager for responsibilities that include the management & preparation of calculations for complex projects, business development, proposal writing, & training/mentoring of production staff. MS in Civil Engineering, PE license in NY/CT, & 10 years of design work in construction field preferred. For our Naugatuck, CT or White Plains, NY office with hybrid work options.

Apply at: <u>www.siefertassociates.com</u> – email cover letter & resume to **info@siefertassociates.com**



- Siefert Associates, LLC
- Assistant Geotechnical Engineer
- Job Posted: October 13, 2021

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We seek an Assistant Geotechnical Engineer for the preparation of engineering calculations & reports, design drawings, review of boring logs & test results for soil samples & identification of soil parameters. Site work includes monitoring subsurface exploration. MS in Civil Engineering w/geotechnical focus, EIT license, & 0-2 years of experience. For our Naugatuck, CT or White Plains, NY office.

Apply at: www.siefertassociates.com – email cover letter & resume to info@siefertassociates.com



- RACE Coastal Engineering
- Project Engineer
- Job Posted: October 6, 2021

RACE, a licensed professional engineering firm in the State of Connecticut, provides coastal engineering consultation and design to clients throughout the Northeast.

We are seeking a Project Engineer with 3-7 years experience to provide technical expertise in the field of structural and/or geotechnical engineering to support various waterfront projects, including field inspection, analysis, design and preparation of plans and technical specifications for marine structures.

A Bachelor of Science Degree in Structural or Geotechnical Engineering preferred. RACE offers excellent compensation and benefits, including health and dental insurance, paid holiday/vacation/sick time, and a retirement savings plan. Please visit <u>https://www.racecoastal.com/project-engineer</u> for more information.



- RACE Coastal Engineering
- Engineer
- Job Posted: October 6, 2021

RACE Coastal Engineering is looking to hire an Engineer to work on marine structures and coastal projects. This role requires engineering aptitude combined with an interest and comfort level of being around, in and on the water.

A Bachelor of Science Degree in Structural or Geotechnical Engineering preferred. RACE offers excellent compensation and benefits, including health and dental insurance, paid holiday/vacation/sick time, and a retirement savings plan. Please visit <u>https://www.racecoastal.com/engineer</u> for more information.



- b-cubed engineering llc
- Structural Engineer/Project Manager
- Job Posted: October 6, 2021

Established Structural Engineering firm with diversified projects portfolio, seeking talented, self-starter Structural Engineer/Project Manager to join our office located in Westport, CT.

Our projects range from new buildings to renovation of both commercial and residential structures, to structural assessments of parking garages and high rise buildings (NYC FISP -LL 11), forensic engineering, peer reviews, etc. Projects include steel/concrete/cmu commercial projects and conventional timber high-end residences.

As a Structural Engineer/ Project Manager you will be responsible for:

- Scope definition, project scheduling, budget administration and quality control
- · Managing projects from inception to construction administration, including meeting with clients
- · Lead/direct structural staff in calculations, drawing production & specifications

JOB REQUIREMENTS

Ideal candidates must have the following qualifications:

- PE and 5+ years experience in sectors and uses listed above
- · Bachelor's degree in Structural Engineering, Master's preferred
- Design of steel, concrete, cmu and timber structures
- · Capable of managing multiple projects
- · Knowledge of structural engineering software is essential, RISA preferred
- · Intimate knowledge of IBC, ACI & AISC

BENEFITS

We offer an extremely competitive salary, life insurance, retirement plan, flexible work schedule, bonus incentives, medical and dental/vision coverage.



- GNCB
- Sr. Geotech Engineer
- Job Posted: July 22, 2021

GNCB seeks Sr. Geotech Engineer to serve as Project Manager. Responsibilities: Manage projects including all aspects of field & lab investigations, project design, & construction administration; prepare budgets, proposals, reports & contracts; build and maintain Client Relationships. Minimum Quals: B.S. or M.S. in Civil Engineering with geotech concentration; P.E. in Connecticut; 8 to 12 years' experience showing proficiency in job responsibilities & knowledge of local subsurface conditions.



- Hardesty & Hanover
- Civil Engineers
- Job Posted: June 22, 2021

Hardesty & Hanover is currently seeking engineers to join our expanding civil engineering design group in New England. Our New Haven office seeks experienced Civil Engineers with expertise in roadway, drainage, traffic, and highway safety design. Applicants should be able to perform design tasks, lead small groups, communicate effectively, and collaborate to meet objectives. Our firm offers a close -knit employee-based culture and opportunities for professional growth and leadership. Please visit https://www.hardestyhanover.com/current-openings/for further details.



- Conlon Engineering, LLC
- Structural Engineer
- Job Posted: June 21, 2021

Conlon Engineering, a growing structural design firm in Brookfield, CT is seeking a structural engineer with 0-3 years of experience doing design work and calculations. We are looking for a smart, hardworking engineer who wants to be part of a profitable firm that is set up for sustainable growth. Visit our website at <u>conlonengineering.com</u> and email resumes to **office@conlonengineering.com**



- Down To Earth Consulting, LLC
- Geotechnical Senior Project Engineer
- Job Posted: June 21, 2021

Down To Earth Consulting is seeking a Senior Project Engineer to join our geotechnical group in Naugatuck, CT. The successful candidate should have a BS degree from an ABET accredited civil engineering program, 5 to 10 years of experience, and be a licensed PE. Down To Earth Consulting is an Affirmative Action/Equal Opportunity Employer. To learn more about this opportunity, please submit your resume to **ray@downtoearthconsulting.com**.



Civil • Environmental • Land Surveying

- Pereira Engineering
- Civil Engineer, Land Surveyors & Survey Technicians
- Job Posted: June 21, 2021

Pereira Engineering is an established Civil/Environmental/Land Surveying firm located in Shelton, CT. PE is seeking a Civil Engineer as well as Land Surveyors and Survey Technicians (at all levels of experience) to expand our Survey Department.

PE offers a very competitive salary and benefits. Please email resume to: joe.pereira@pereiraeng.com

Memberships

ASCE and CSCE Membership

ASCE members come from all disciplines of civil engineering, from all types of environments, and from all over the world. With benefits geared to meet the high standards of professionalism, ASCE strives to cater to each member's needs.

Membership in CSCE is granted to ASCE members upon receipt of Connecticut Section dues. Connecticut Section dues are \$30 per year. Please include your section dues with your national membership renewal. We can accept mid-year memberships. Please contact our <u>Membership Committee Chair Rich Cohen at</u>

<u>rcohen@hwlochner.com</u> for more information about CSCE and ASCE. To join the Connecticut section of ASCE, please go to the ASCE website (<u>www.asce.org</u>) and click on Join at the top of the page.

Why join CSCE? Please click <u>here</u> for our PowerPoint Presentation from a Professional Issues Seminar on Tuesday, April 8, 2008 about the Advantages to Joining Professional Associations

Transferring Section Membership

Have you recently moved to Connecticut, or are you about to? If you are a current ASCE and local Section member you can transfer your Section membership to CSCE. Once you move to Connecticut, you may go online to <u>www.asce.org/myprofile and</u> log in change your address information. This will initiate the transfer from your old Section to the Connecticut Section. If you encounter any trouble while online, you can also contact the ASCE Records Department via email at <u>memrec@asce.org</u> or (703) 295-6300 to provide you new address information and the transfer can be handled that way as well.

If you are moving out of Connecticut, you can follow the same procedure to transfer from CSCE to you new local Section. We are sorry to see you go, but hope that you continue to be active in ASCE and your new local Section. For information about the local Section for where you are moving, you can visit the ASCE website @: http://www.asce.org/Regions-Sections-Branches/

Advancing your Membership Grade

Do you need to advance your membership grade? Are you a recent graduate? Did you get your P.E. license? ASCE and CSCE encourage you to advance your membership grade as your professional career progresses. Information and instructions are available on the <u>ASCE website</u>

Unemployed?

ASCE National has a program to waive dues of unemployed members. For more information,

Write to:

ASCE

Attn: Member Services Dept.

1801 Alexander Bell Drive

Reston, VA 20191-4382

Or Call : Toll free: 1-800-548-ASCE Direct: 703-295-6169 Fax: 703-295-6335

About **CSCE**

The CSCE is the result of a merger of two organizations that occurred 30 years ago. The Connecticut Society of Civil Engineers was founded in 1884, while the Connecticut Section of the American Society of Civil Engineers was founded in 1919. In 1958, the Section had 523 members. In 1955 (the nearest comparable year for reliable numbers), the Society had 1,033 members. The two organizations met separately until they merged in 1981, by mutual vote of membership, to become the Connecticut Society of Civil Engineers Section of American Society of Civil Engineers or CSCE.

Civil Engineers design and build our increasingly complex infrastructure; work with government officials, citizens and businesses to promote better infrastructure maintenance and renewal; and build commerce in Connecticut and throughout the World. We serve diverse industries including government, consulting, construction, academics and manufacturing and we work in a variety of disciplines including gootechnical, environmental, structures, transportation, and water resources.

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Contact Us

The 2021-2022 CSCE Executive Board thanks you for taking the time to read this newsletter. Should you have any questions, comments, or concerns - feel free to contact <u>one of our members</u>.