

LIFT Scholarship Exchange Experience for Innovation & Technology (SEE IT)
Sponsored by: WRF, WEF, and NACWA

TRIP REPORT

SCHOLARSHIP UTILITY: *Houston Water, Houston, Texas*

SCHOLARSHIP UTILITY CONTACT: *Aisha Niang, Assistant Director,
Aisha.niang@houstontx.gov*

ATTENDEES:

- Shannon Dunne, Wastewater Operations
- Jack Canfield, Wastewater Operations
- Aisha Niang, Wastewater Operations
- Stefanie Leija, Communications
- Markos Mengesha, Capital Projects
- Jeff Masek, Capital Projects
- Fazle Rabbi, Planning

TRIP DATES:

- August 7, 2019 and August 8, 2019

UTILITIES/SITES VISITED:

- DCWATER, Clean Rivers Project

TECHNOLOGIES/INNOVATIONS SEEN: The use of tunnel system for storage and conveyance

TRIP BACKGROUND and RATIONALE (250 WORDS): *What technology did you select to visit? What is the problem you are trying to address? How did you envision the LIFT SEE IT scholarship trip helping your utility?*

Technology Visited: Large diameter tunnel systems

Problem: Houston Water is in the initial planning and design stages for consolidation and flow diversion projects for various waste resource recovery facilities. These projects will reduce plant facilities from 39 to 31 as well as minimizing the number of lift stations that are maintained and operated. Houston Water is convinced tunneling is the best option for eliminating SSOs in neighborhoods by lowering capacity issues and stabilizing rising costs via control of O&M and capital.

LIFT SEE IT: Close collaboration long with field trips would speed up learning, adopting and implementing tunnel innovations. The LIFT SEE IT exchange provided a foundation to pave the way to avoid project setbacks that other utilities have encountered.

TRIP SUMMARY (1 page max. Please include 10 photos and a 1-2 minute video montage

from the trip. The video does not need to be professional, however if you have the means to create a professional video feel free to do so): *Why did you select the specific utility and technology for the visit? Based on your visit, do you think this technology/approach works for your utility? How useful was the trip in your decision-making process? What were some of the trip highlights and takeaways?*

Houston Water conducted research to find utilities that were in different phases of their tunneling projects and after an in-depth review, we chose to visit DCWATER since they have a tunnel already in operation as well as one that is under construction.

DCWATER complimented the Seattle trip by exposing the Houston team to completed and under construction projects. Having an exchange with a utility that was also under a consent decree was informative. The field visits showcased the sheer magnitude of what Houston Water is going to embark on and gave perspectives that could not have been gained without seeing it in person. The lessons learned are under consideration for implementation. There was also a rain event that took place during our visit which afforded the opportunity to see flow entering the tunnel system.

This trip solidified project approaches and gave invaluable insight from the host utilities lessons learned. The knowledge, experience, and relationships that were gained because of this trip will be utilized moving forward.

Trip highlights and Takeaways:

- Provided insight into how the delivery methods began and evolved. The trip provided ideas without creating a whole new delivery method.
- Reinforced Houston Public Works organizational structure by comparing it to other municipalities.
- Afforded the opportunity to learn the different delivery methods utilized to deliver major projects within deadlines.
- Enlightened to the many aspects an undertaking of this magnitude will take – from public relations to organization to logistics.
- Obtained invaluable resources and vital tips on how to engage with the community for a large-scale project like tunneling.
- Awareness of the unforeseen hurdles that were faced served to provide us with a broader perspective of the significant impacts of a tunneling project.
- Created more mindfulness regarding safety for projects of this size.



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