Philadelphia Refinery
LEGACY REMEDIATION

YARDS COMMUNITY SPOTLIGHT

2022 Q2 NEWSLETTER

BACKGROUND ON REMEDIAL ACTIVITIES

The former Philadelphia Refinery is a 1300-acre site located in South Philadelphia along the Schuylkill River. The site, now known as the Bellwether District, has a long history of petroleum transportation, storage, and processing. Currently, Evergreen is working on remediation at the former refinery site for contamination that happened before 2012. This remediation takes place under various regulations of the Pennsylvania Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (EPA):

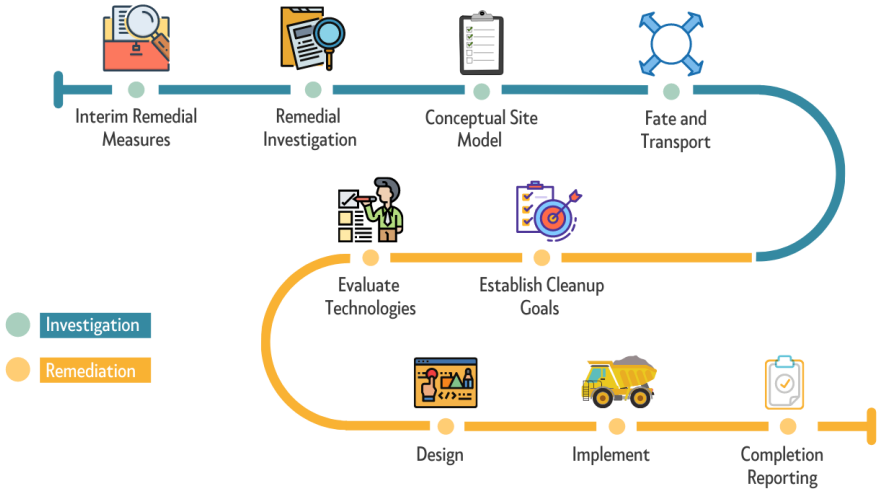
1. **DEP's Land Recycling Program (Act 2)**
2. **EPA's Resource Conservation and Recovery Act (RCRA)**
3. **EPA/DEP's One Cleanup Program**
4. **DEP's Storage Tank and Spill Prevention Act (Tank Act)**

Recent Activities

1. February 2022 Quarter 1 Meeting

On February 17th, 2022, Evergreen and their consultants, Geosyntec and Hummingbird, hosted a public meeting on the basics of remediation. During this meeting, Tiffani Doerr of Evergreen reviewed the Act 2 Technical Submittals for 2022 and Derek Jelinek of Geosyntec gave a presentation on remediation basics, which included:

- **Evergreen's Remediation at the Former Philadelphia Refinery,**
- **The remediation process and,**
- **Selected remedial technologies**



Remediation Process diagram shared during February 2022 meeting

To allow for a better understanding of the information presented, Hummingbird facilitated breakout rooms in which meeting participants had a chance to ask Evergreen and Geosyntec, as well as representatives from the City of Philadelphia, the Pennsylvania Department of Environmental Protection (DEP), and the U.S. Environmental Protection Agency (EPA) specific questions on Evergreen's remediation process. After the breakout rooms, each group shared key takeaways from their breakout room conversations and any remaining questions. The meeting ended with Hummingbird sharing recent engagement activities and facilitating questions and answers.

If you did not have a chance to attend the February 2022 meeting, we invite you to watch the recording, which is available on Evergreen's website. Our next public meeting is scheduled for Tuesday, May 24th, 2022. Register at bit.ly/EvergreenPublicMeetingMay24. We hope to see you there!

2. PFAS Sampling

One of the materials that Evergreen is testing is PFAS which stands for perfluroalkyl and polyfluoroalkyl substances. PFAS are man-made chemicals that are found in a variety of products ranging from cookware to firefighting foam. To learn more about PFAS, visit EPA's webpage.

Evergreen tested groundwater wells for PFAS in 2021 (deep groundwater) and 2022 (shallow groundwater). The results of those tests are posted on the project website under the PFAS page. Evergreen had also previously sampled discharge water from its remediation systems (shallow groundwater) and added those results to the PFAS page. Evergreen is now in the next step of the process, where soil sampling (collecting PFAS samples from the surface soil) will begin.

3. Unit Sampling

Hilco Redevelopment Partners' (Hilco's) demolition of the processing units at the former Philadelphia Refinery has allowed Evergreen to conduct soil sampling in areas they could not previously get to. With the processing units removed, Evergreen is now able to get soil samples that were not included in past remedial investigation efforts. The soil sampling will provide additional subsurface data (more information about the soil, at or below the surface). So far, Evergreen has sampled close to half of the units. Once sampling is complete, soil sampling results will be submitted to DEP and EPA in a Remedial Investigation Report Addendum.

4. System Changes

In June 2022, Evergreen will switch from using the facility's onsite Wastewater Treatment Plant to the Philadelphia Water Department's (PWD's) sewer system to discharge groundwater recovered from the remediation systems. To prepare for this change, Evergreen's team is working on the following activities:

- **Obtaining approval to discharge to the PWD (PWD discharge permits),**
- **Adding more treatment equipment to the existing remediation systems and,**
- **Relocating discharge lines to new discharge connections.**

Future Highlights

Small Group Chats

Evergreen and Hummingbird recently began hosting Small Group Chats where residents and stakeholders can provide input on communication materials and ask questions about Evergreen's environmental program. The Small Group Chats cover three main areas:

- Understanding of Evergreen's Environmental Program
- Concerns about Evergreen's Remediation/cleanup of the Former Philadelphia Refinery site
- Communication Needs and Preferences

Youth Community Ambassadors Program

Evergreen and Hummingbird are piloting a Youth Community Ambassadors Program that aims to reach high school students. We want to provide high school students an opportunity to learn more about Evergreen's environmental program and STEM-related jobs in site cleanups. In this program, students will:

- Complete an activity to learn about the basics of Evergreen's legacy environmental program
- Attend a virtual workshop on careers in remediation
- Pass out flyers in their communities

Model Runs for Fate and Transport & Q2 Meeting

Evergreen's consulting team is working hard on the fate & transport model, a model that predicts how dissolved petroleum compounds (such as benzene) move in groundwater. To prepare for the model report submission in June 2022, Evergreen will present the basics of groundwater flow, and contaminant fate and transport in the next public meeting in May 2022.

Key Terms (Fate & Transport)

- **Adsorption:** Attachment of contamination to soil
- **Biodegradation:** The biological process of microorganisms breaking down contamination
- **Dispersion and dilution:** When contamination spreads in groundwater and mixes in surface water
- **Flux:** Amount of water or contamination moving from groundwater into surface water over time
- **Hydraulic conductivity:** Speed that groundwater moves through soil

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