



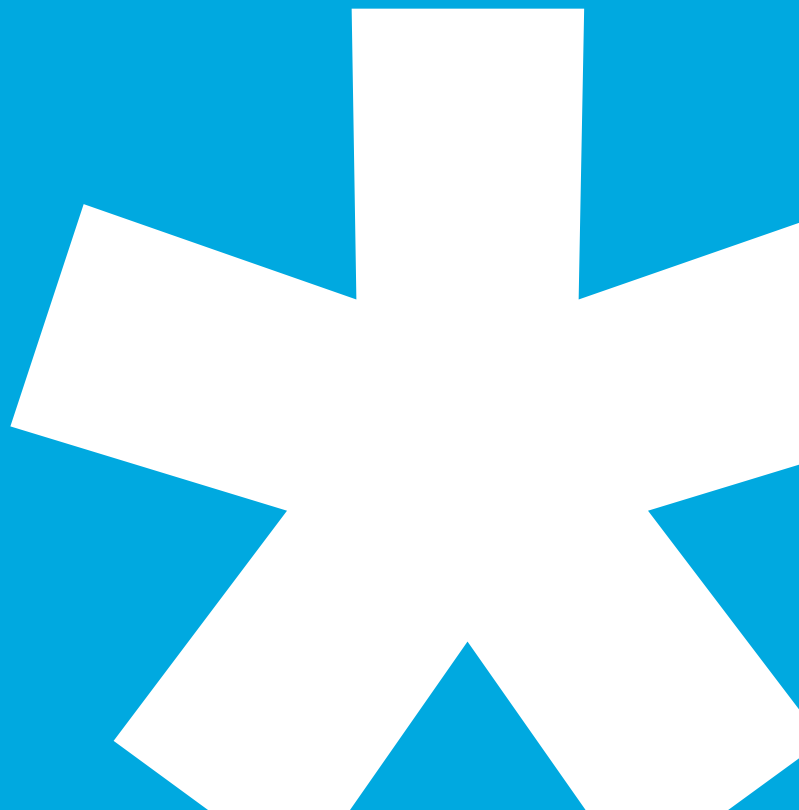
A Siemens Healthineers Company

Public Involvement Plan (PIP) Meeting

Phase IV Status Report

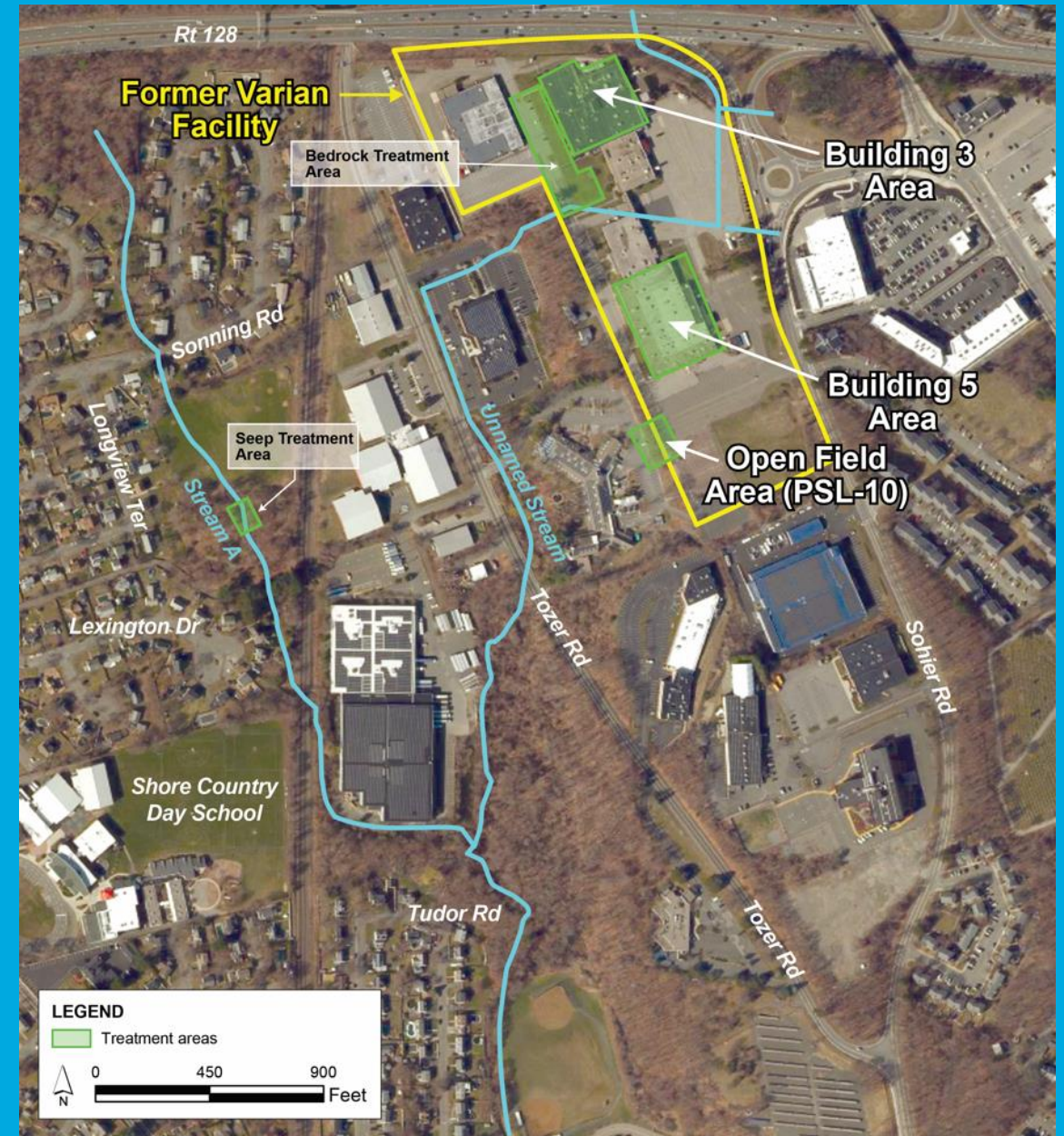
Former Varian Facility (Site 3-0485)
150 Sohier Road
Beverly, Massachusetts

Thursday, October 16, 2025
Beverly Middle School



Presentation Objectives

- Present information from the most recent status report
- Provide an update on treatment system designs
- Summarize progress of treatment systems construction
- Receive feedback and answer questions from the public



Reports Issued Since Last Public Meeting (May 2025)

1. Phase IV Status Report (Aug 21, 2025)
2. Bedrock Treatment Basis of Design
3. Building 5 Treatment Basis of Design
4. Enhanced Downgradient Monitoring Plan
5. Potential Source Location (PSL)-10 As-Built Report with Operations Manual

Jacobs

Phase IV Status Report (January through June 2025)

Version: Final

Former Varian Facility Site, 150 Sohler Road, Beverly, Massachusetts 01915
MassDEP Site # 3-0485

August 21, 2025

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[Reports 1-4](#)



[Report 5](#)

Treatment System Design & Construction Status



Status of Site Activities

- Status summary
 - **Building 3 Thermal Treatment System**
Interior drilling continues along with site preparation
 - **PSL-10 Subgrade Biogeochemical Reactor (SBGR)**
System operation and monitoring continue
 - **Building 5 Source and Bedrock Treatment**
Designs are complete and installation is ongoing
Bedrock injections conducted in September 2025
 - **Stream A Reactive Core Mat**
Inspections continue with no issues observed
 - **Monitoring**
Conducted routine groundwater and indoor air testing
Prepared updated monitoring plan
- Site activities are documented in the Phase IV Status Report (Aug 2025)

Bedrock packer
installation



Electric transformer
installation

PSL-10 – Overview

❖ Subgrade biogeochemical reactor (SBGR)

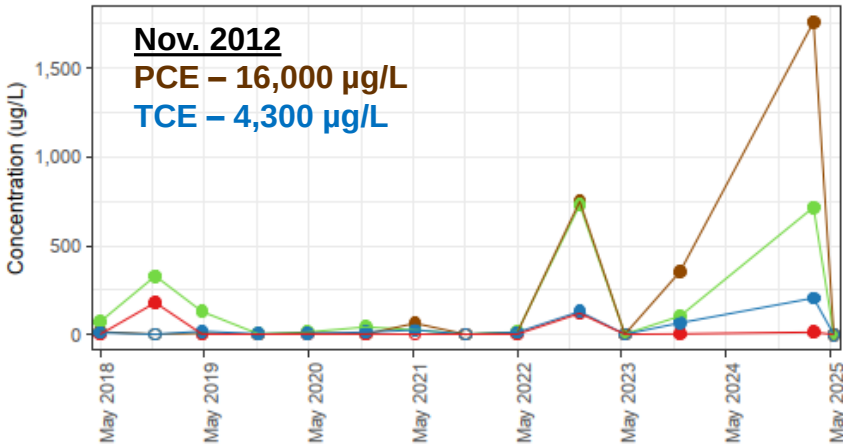


- SBGR operated passively in the spring and summer
 - Spring – Baseline and performance monitoring (results are in Aug. 2025 status report)
- System is now actively treating groundwater; recirculation started on Sept. 29, 2025
 - Fall/Winter – Performance monitoring (results will be in Feb. 2026 status report)

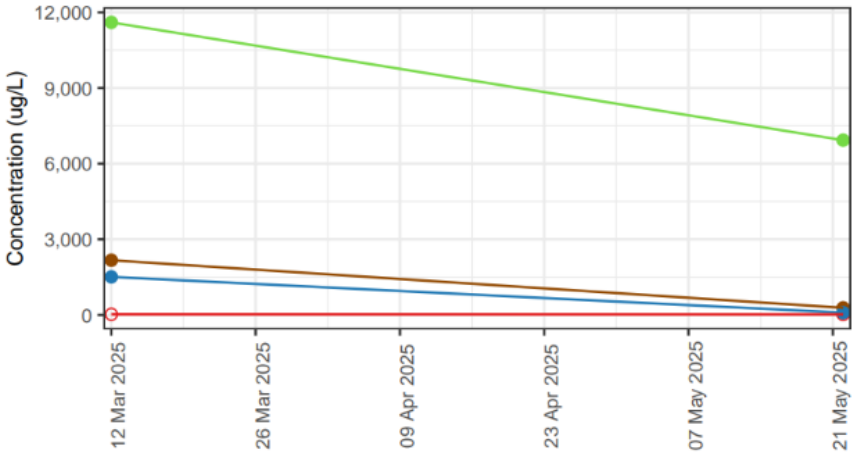
PSL-10 – Preliminary Results

❖ Subgrade biogeochemical reactor (SBGR)

MW-2_32-TOZER

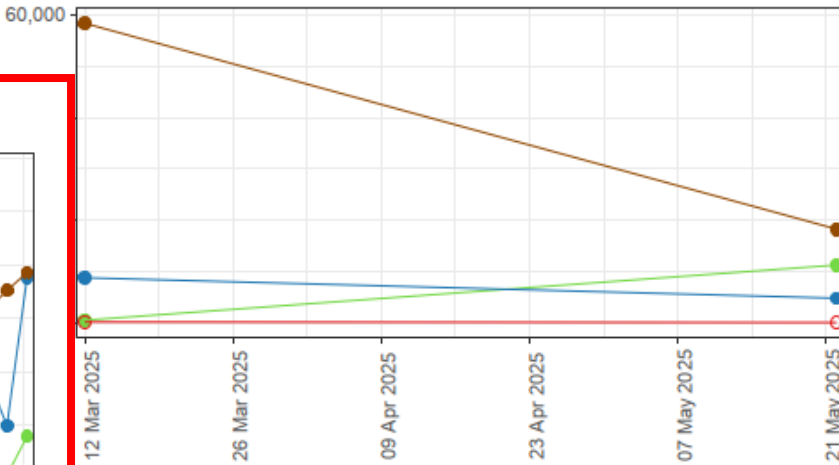


OB-66-DO

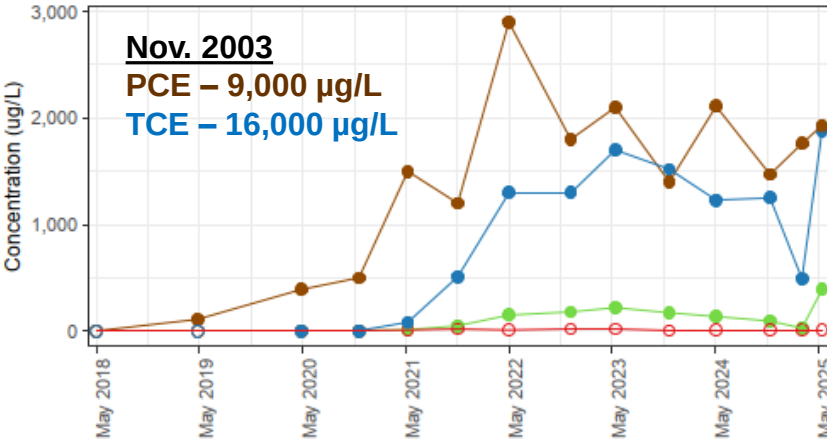


1,2-DCE PCE TCE VC
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OB-67-DO



CL10-DO

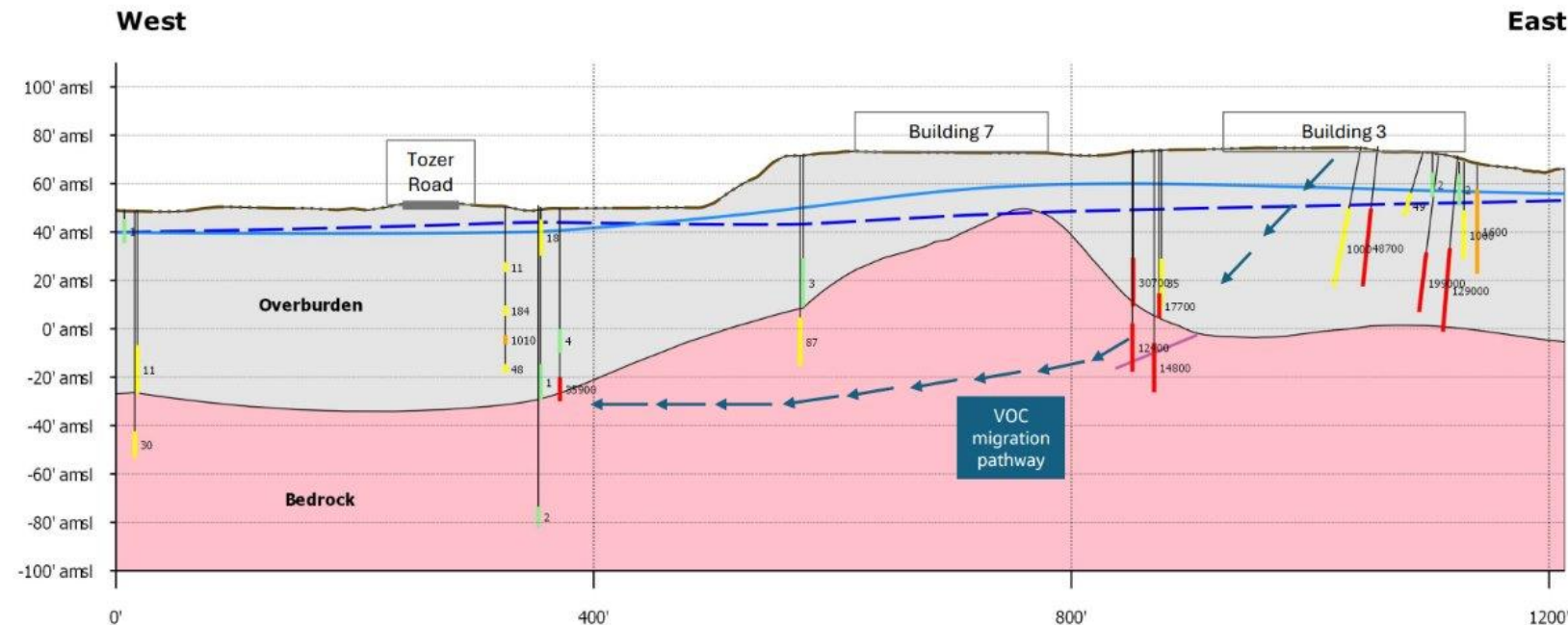


Bedrock

❖ In situ chemical reduction (ISCR)

- Injecting amendments to degrade VOCs in bedrock fractures
 - Cut off VOCs that may migrate from source areas during remedial activities
 - Reduce downgradient VOC concentrations moving back into the overburden
- Stage 1 – Completed (near Building 3)
 - Injections in 3 bedrock boreholes
- Stage 2 – November 2025 (near Building 5)

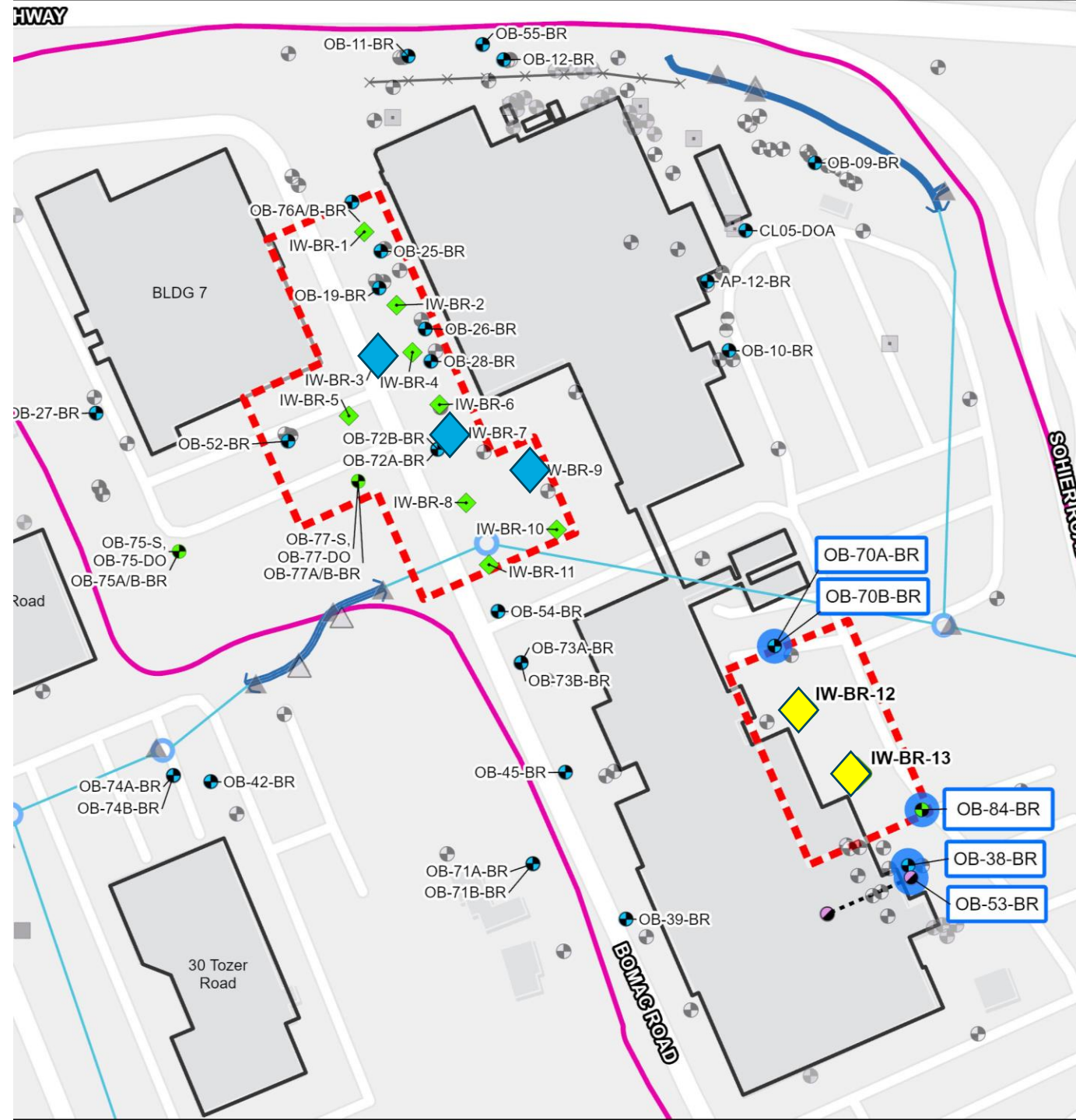
OB-77A/B-BR fracture zone (141-144 ft below grade)



Bedrock Injection

- Successful delivery of amendments
- Can distribute amendments farther into bedrock than initially estimated
- Using this information to refine design of Stage 2 injections

- ◆ Stage 1 Bedrock Injection Locations
- ◆ Stage 2 Bedrock Injection Locations



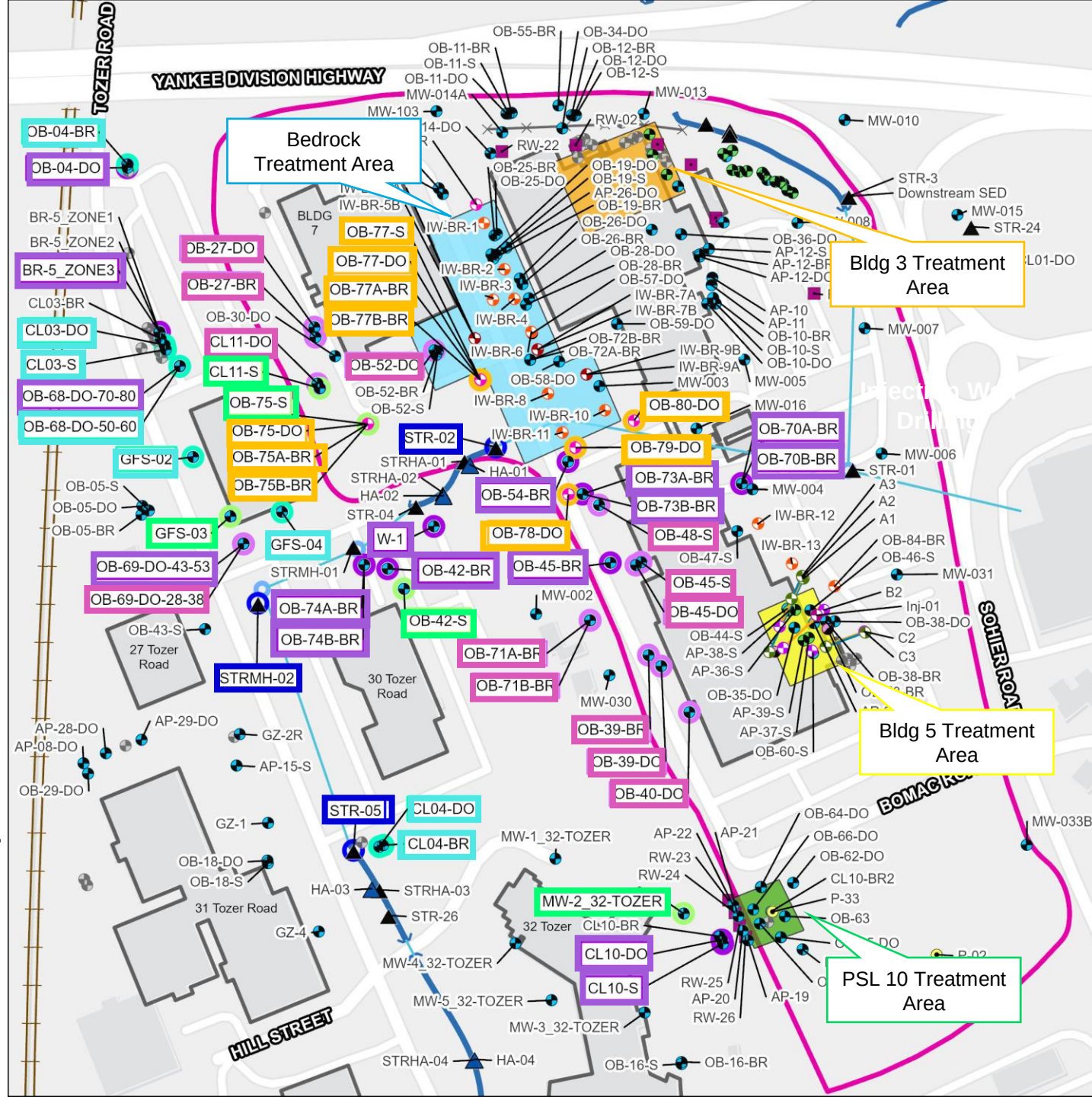
Bedrock – Next Steps



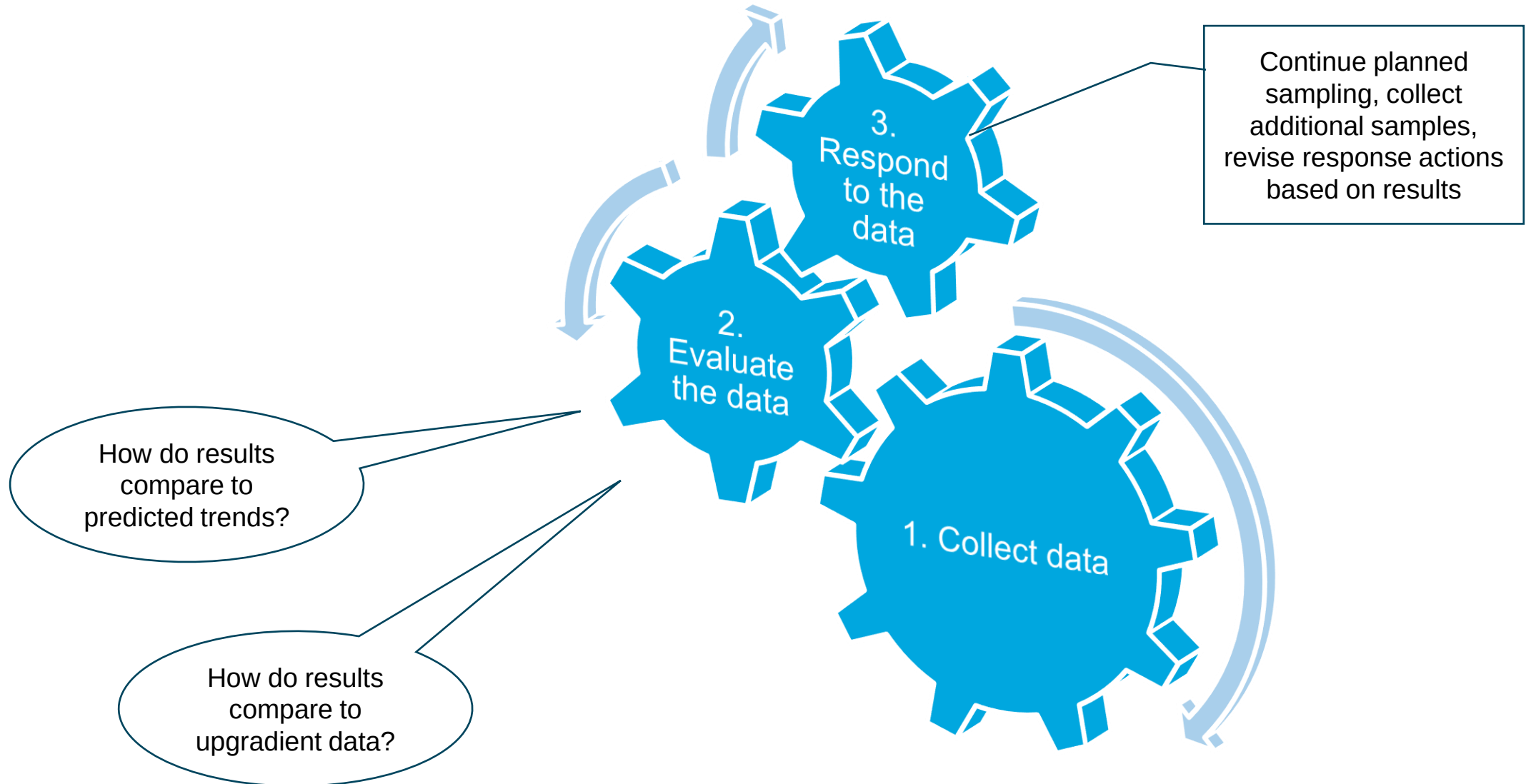
- Stage 1 performance monitoring (Oct.)
- Stage 2 bedrock boreholes; perform downhole geo-physics; construct bedrock monitoring wells (Nov.)
- Baseline sampling (Nov.)
- Inject additives (Dec.)
- Construct injection wells
- Performance monitoring

Monitoring Downgradient of Treatment Zones

- 52 downgradient monitoring wells sampled routinely
 - Key plume ($>1,000 \mu\text{g/L}$) migration monitoring, quarterly
 - Low concentration plume ($<1,000 \mu\text{g/L}$) migration, quarterly
 - Low concentration plume ($<1,000 \mu\text{g/L}$) migration, semi-annually
 - Surface water, quarterly
 - Vapor intrusion monitoring, bimonthly or quarterly
 - Location not yet classified (Key or Low concentration well), quarterly



Monitoring Downgradient of Treatment Zones (cont'd)



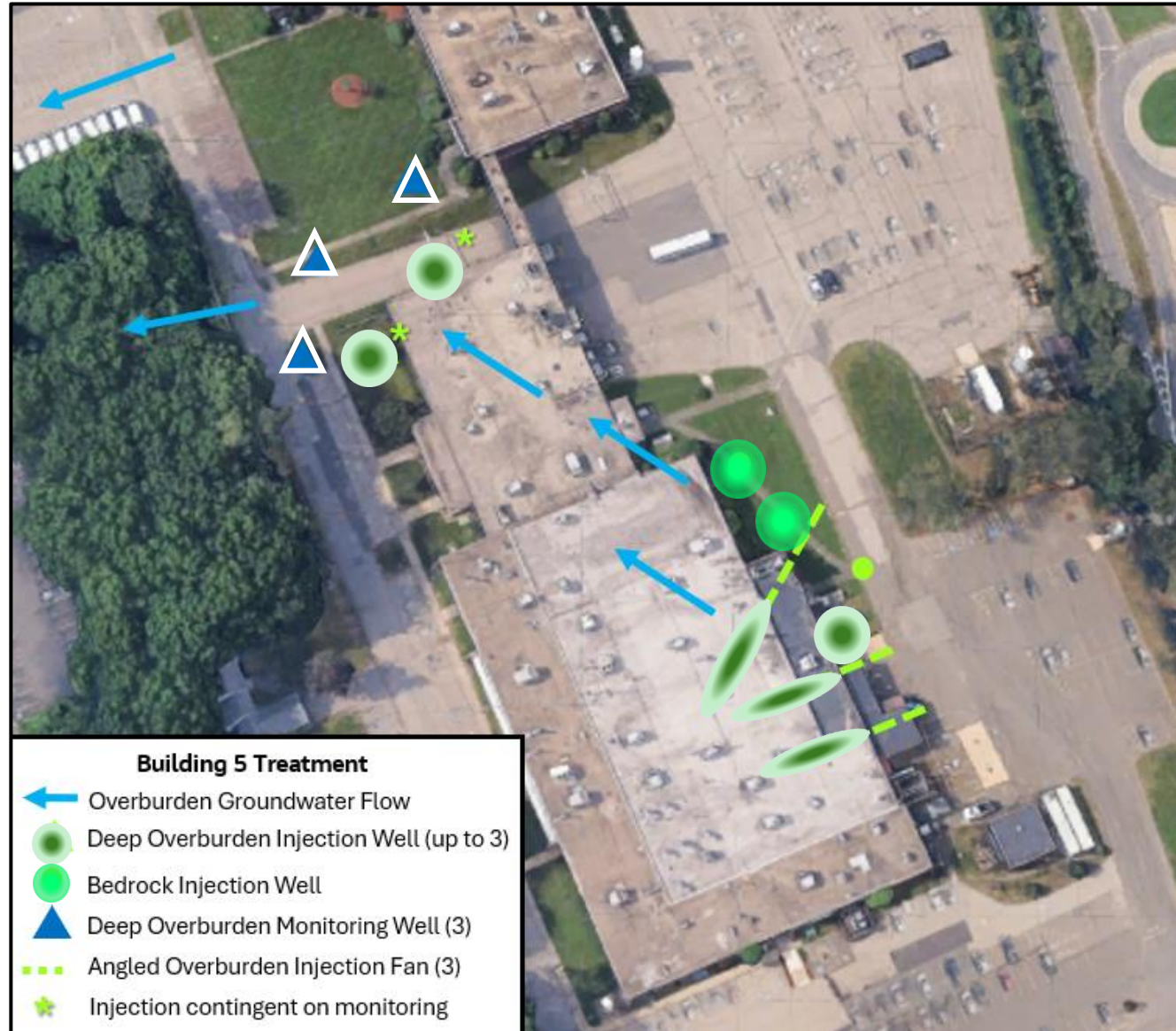
Building 5

- ❖ In situ bioremediation
- ❖ Continued soil vapor extraction

- Design now complete
- Well installation with pneumatic injection of sand to enhance permeability, plus zero-valent iron (ZVI) and emulsified vegetable oil (EVO) for treatment
- Investigation combined with initial treatment, includes vertical and angled wells
- After initial treatment, will complete additional treatment in shallow areas, as needed



Building 5 Treatment Plan

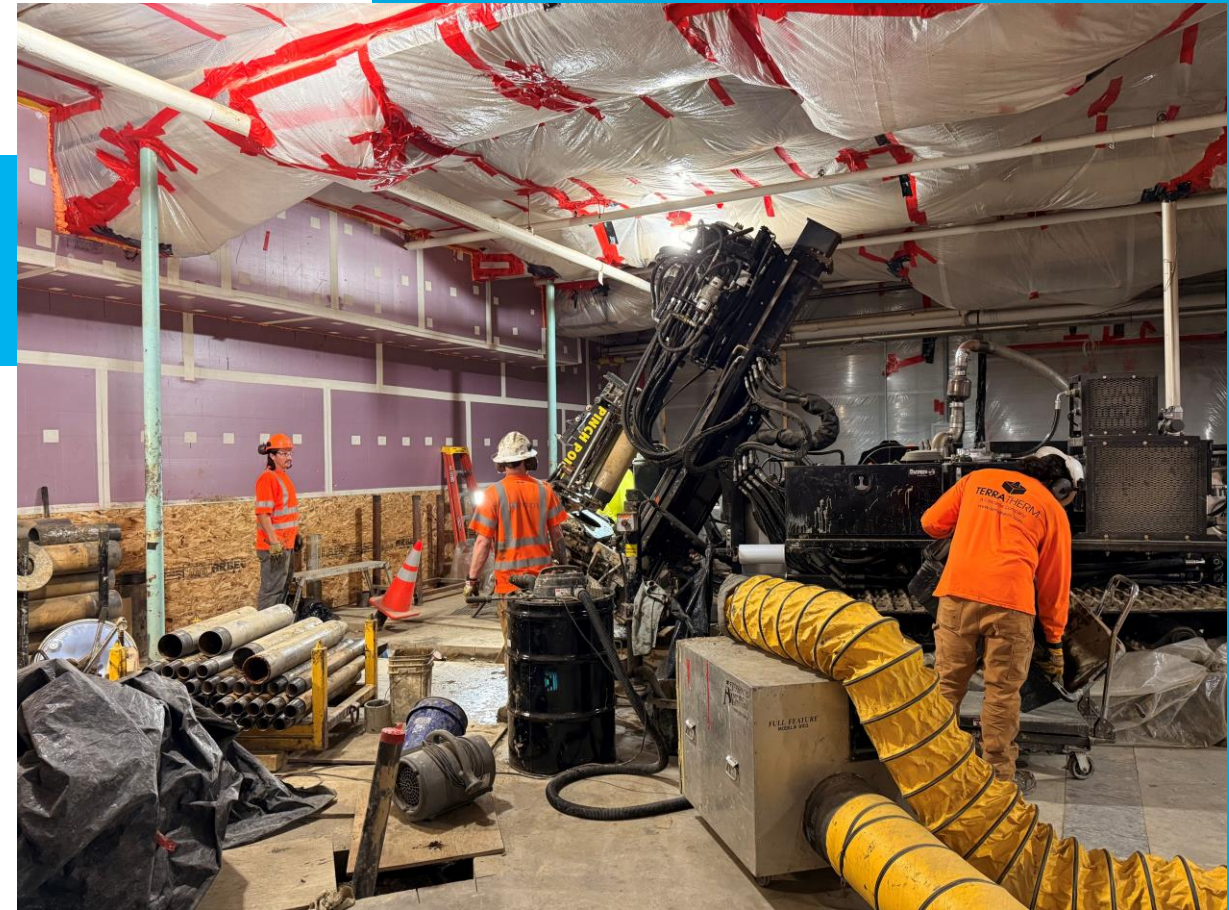


- Three monitoring wells already installed
- Next Steps
 - Baseline sampling
 - Angled drilling and treatment (once Stage 2 bedrock treatment started)
 - Post-treatment monitoring

Building 3 Source Area

- ❖ In situ thermal treatment
- ❖ In situ bioremediation polish
- ❖ Continued soil vapor extraction (SVE)

- Thermal treatment system construction continues
 - Stockroom drilling in progress (nightshifts)
 - In late October, a second drill rig will begin operating inside the building
 - Electric transformer now installed
 - Vapor migration control continues to protect facility personnel
- Drilling observations remain consistent with conceptual model of VOC distribution underground
- 7,100 feet drilled (71% completion) as of Oct 8



Well installation in the former stockroom with barrier wall in background to the left

System Installation Schedule*

Treatment Area	Design Completion	System Installation	Start of Treatment	Monitoring
Building 3 (Thermal)	Complete	In Progress	Spring 2026	2026
PSL-10 (SBGR)	Complete	Complete	Complete	Ongoing
Building 5 (Bio)	Complete	In Progress	Early 2026	2026
Bedrock (ISCR)	Complete	Stage 1 Complete Stage 2 Nov 2025	Stage 1 Complete Stage 2 Late Fall 2025	Ongoing
Stream A (Mat)	Complete	Complete	Complete	Ongoing

NOTES:

* = Estimated schedule, subject to change

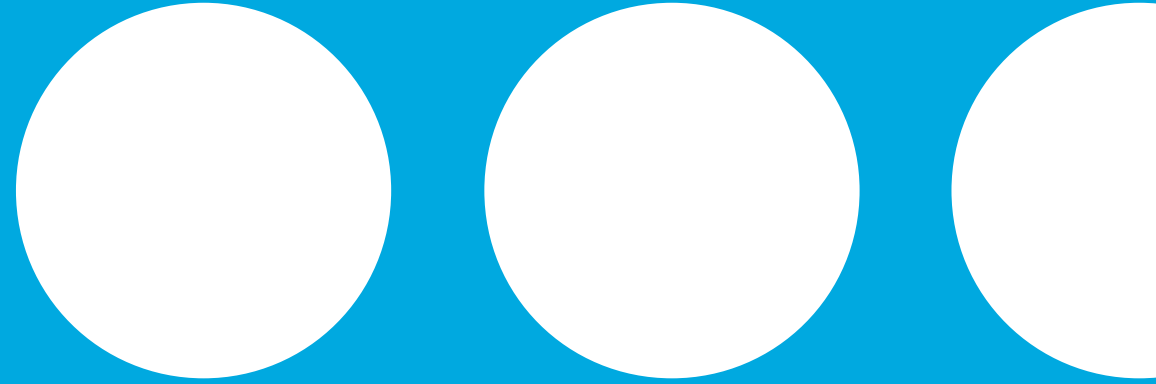
Bio = Bioremediation

ISCR = In situ chemical reduction

Mat = Reactive core mats

SBGR = Subgrade Biogeochemical Reactor

Upcoming Submittals and Public Involvement



Upcoming Submittals and Public Involvement Opportunities

Next Deliverables

- Phase IV/Temporary Solution Status Report (Feb 2026) – semiannual status report

Upcoming Meetings

- Quarterly – alternating PIP and TAG meetings
 - Winter TAG (Jan or Feb 2026)
 - Spring PIP (Apr or May 2026)

Monthly Updates

- Sign the mailing list with your email address if you want to receive updates by email
- Website homepage updated first week of the month



[Sign-up Link](#)



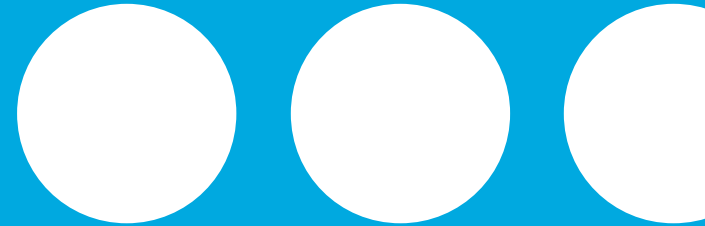
Reports Available

- Phase IV Status Report (August 2025)
Also includes (as appendices):
 - Bedrock Treatment Basis of Design
 - Building 5 Treatment Basis of Design
 - Enhanced Downgradient Monitoring Plan
- PSL-10 As-Built Completion Report (August 2025)
- Reports available as
 - A hard copy
Beverly Public Library Reference Desk
 - Or online
<https://eeaonline.eea.state.ma.us/portal/dep/wastesite/viewer/3-0000485>

For More Information

- Website: <https://beverlysitecleanup.com/>
 - Homepage updated monthly
 - Public meeting videos
 - Overview of environmental investigation and treatment to date
 - Links to MassDEP and EPA fact sheets on cleanup process and technologies
 - Forms to submit comments or sign up for emailed site mailing list
- Email: beverlysitecleanup@jacobs.com

Questions



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A Siemens Healthineers Company