

North Beverly Technical Advisory Group Meeting

March 29, 2022

Agenda

- I. Greeting and introductions
- II. Summary of site work since last Technical Advisory Group (TAG) meeting
- III. Project Timeline
- IV. Public Involvement Plan (PIP) Meeting
- V. Next Steps

SUMMARY OF WORK SINCE LAST TAG MEETING

- ▶ November 2021 and February 2022 Stream & Groundwater Sampling
 - > Volatile organic compound (VOC) levels generally consistent in groundwater across site
 - > VOC levels in shallow neighborhood wells continue to be non-detect
 - > VOC levels in surface water consistent

- ▶ Passive diffusive bag (PDB) and low flow comparison study
 - > Evaluation did not indicate a statistically significant difference between the two paired data sets
 - > Both the PDB and the low flow sampling method provide VOC data that is representative of site conditions



SUMMARY OF WORK SINCE LAST TAG MEETING

- ▶ Sampling of indoor air at residential properties
 - > Sampled at five homes
 - > No further action at four homes (i.e. vapor intrusion pathway of concern was not identified)
 - > One home required additional sampling (additional sampling conducted)

- ▶ Sampling of indoor air at commercial properties
 - > Sampled in buildings at three properties
 - > No further action at two properties (i.e. vapor intrusion pathway of concern was not identified)
 - > One property requires additional sampling (still potential industrial background sources)



SUMMARY OF WORK SINCE LAST TAG MEETING

- ▶ Sampling of Indoor air at Building 3
 - > Fifth event with levels below state guidelines
 - > Building 3 soil vapor extraction (SVE) system deactivated in January 2022
 - > Will conduct quarterly tests to confirm levels remain below state guidelines

- ▶ Sampling of new soil vapor locations at Building 5
 - > Soil vapor results indicate limited area of shallow VOC impact upgradient of the shallow bio treatment area beneath Building 5
 - > Impacts likely contributing to VOCs detected in indoor air
 - > Installing new well in April 2022 to confirm conditions
 - > Varian evaluating additional shallow treatment in this area



SUMMARY OF WORK SINCE LAST TAG MEETING

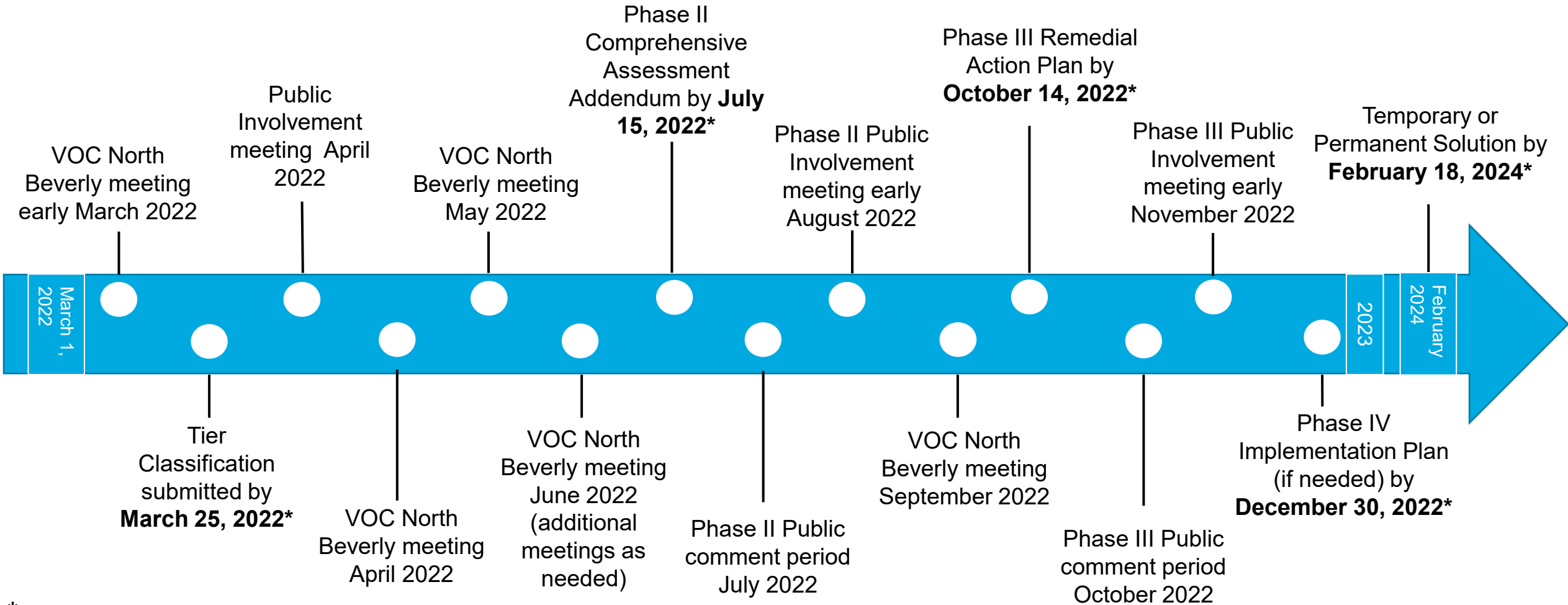
- ▶ Negotiated access to Building 3 to complete work
 - > Accommodations for operating facility
 - > Ground penetrating radar (GPR) study (look at utilities)
 - > Electrical resistance imagery (ERI) study (assess geology and VOCs in subsurface)

- ▶ Conducted GPR study inside and outside of Building 3
 - > Work estimated to take one weekend, required three weekends
 - > Results did not indicate a safety or data collection concern with ERI Study

- ▶ ERI study will start April 18th
 - > Data from ERI study will be used by TRS and Terra Therm to evaluate feasibility of thermal treatment beneath Building 3



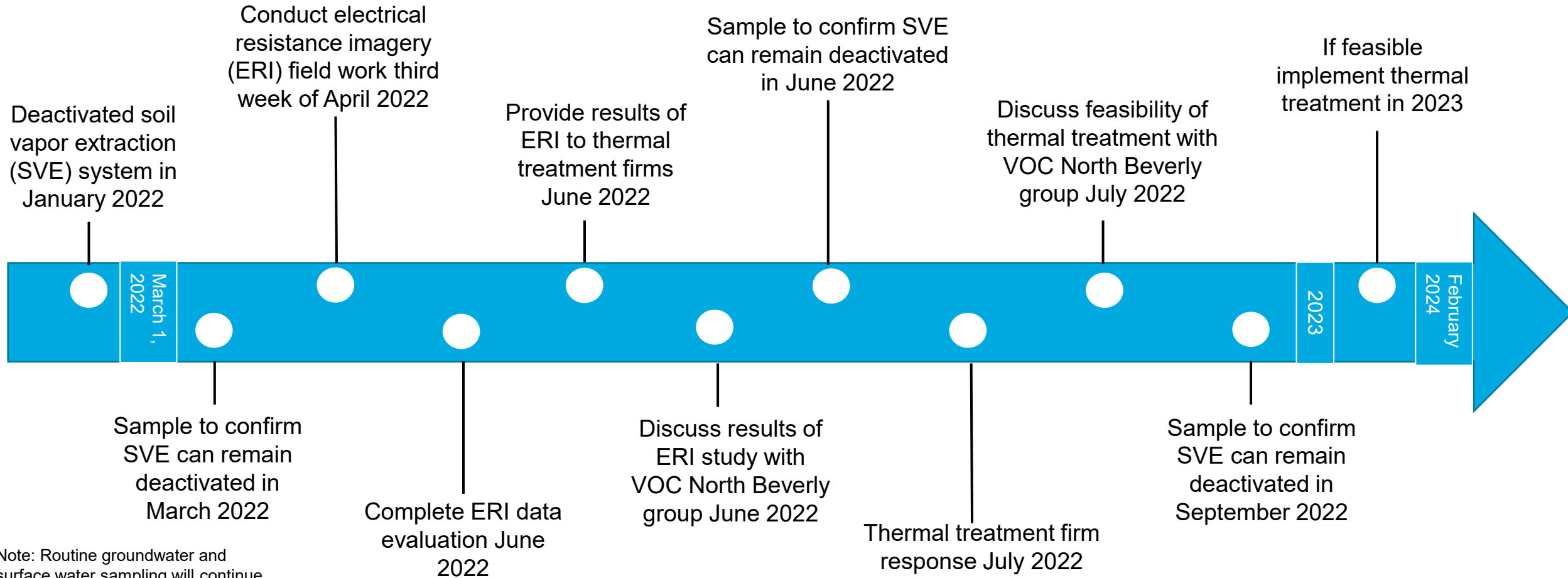
Overall Site Public Engagement Cadence & Milestones



* Document and deadline required in 2/18/2022 MassDEP Letter



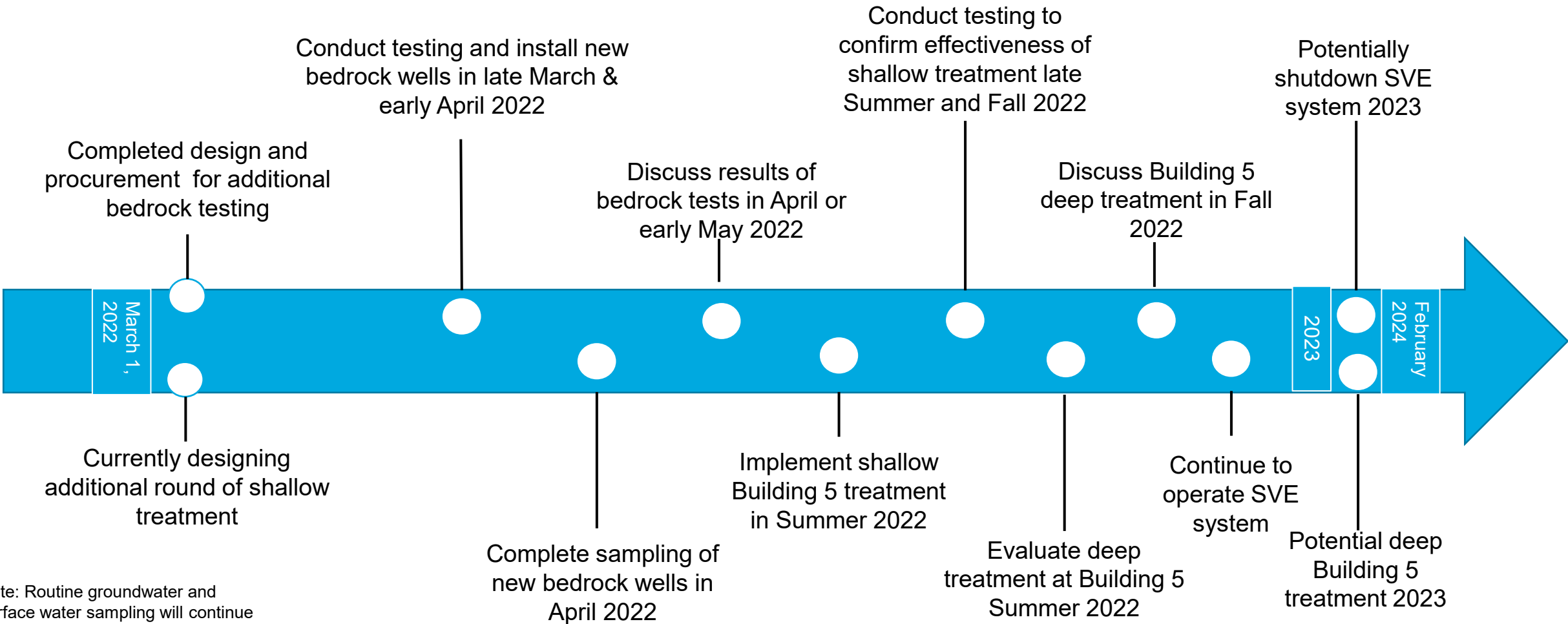
Building 3 Milestones



Note: Routine groundwater and surface water sampling will continue at least twice per year



Building 5 Milestones



Note: Routine groundwater and surface water sampling will continue at least twice per year



PUBLIC INVOLVEMENT PLAN (PIP) MEETING

- ▶ Site History
 - > What was released and where
 - > Assessment and treatment completed

- ▶ Pretreatment and current trichloroethene (TCE) plume maps (shallow, deep and bedrock groundwater)

- ▶ Cross sections to discuss vertical flow

- ▶ Recent assessment work
 - > Indoor air testing
 - > New wells, groundwater testing, sediment sampling and surface water sampling

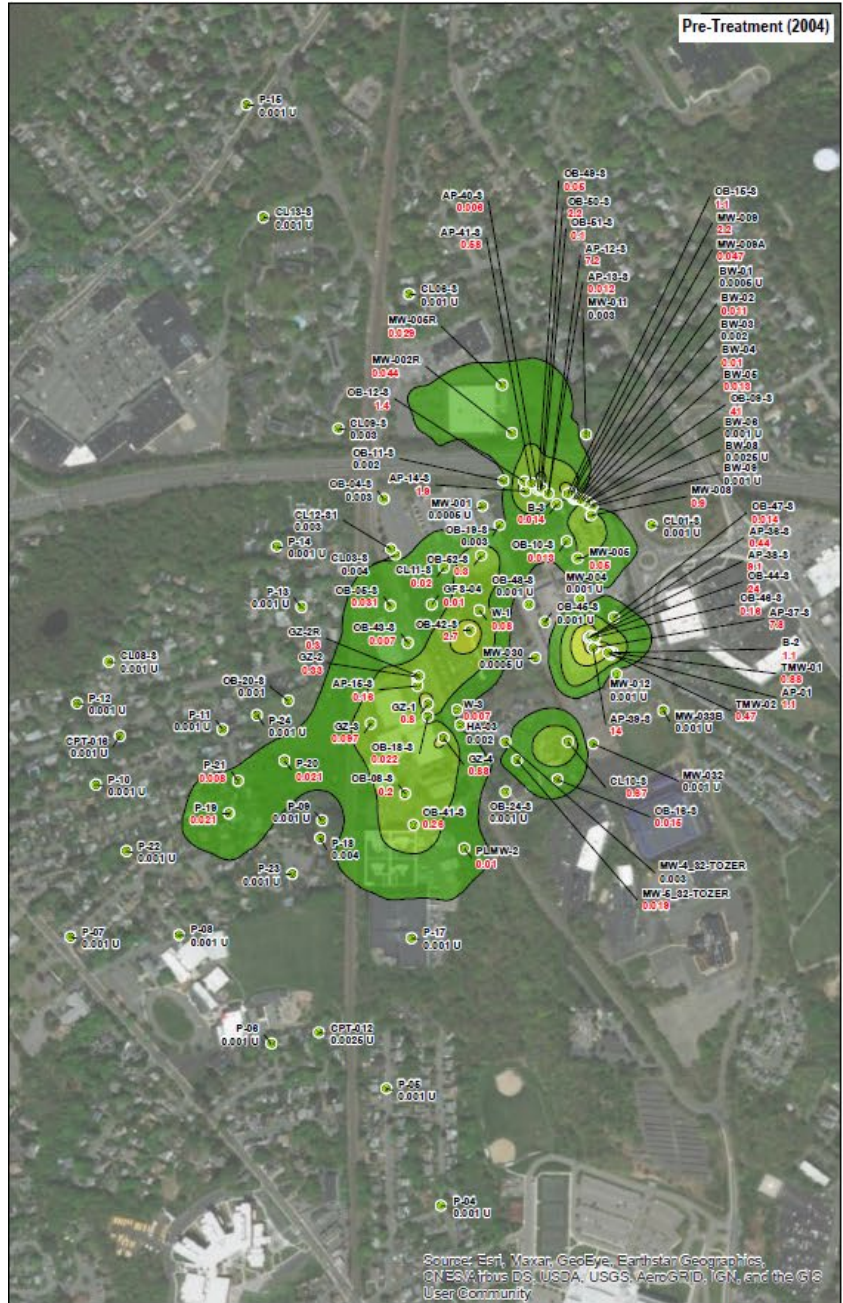


PUBLIC INVOLVEMENT PLAN (PIP) MEETING

- ▶ Current and planned work
 - > Assessment work
 - > Planned reports

- ▶ Review timeline





Legend

- Sample Location

Trichloroethene Concentration

- 0.005 - 0.05 mg/L
- 0.05 - 0.5 mg/L
- 0.5 - 5 mg/L
- 5 - 50 mg/L
- 50 - 500 mg/L
- >500 mg/L

Notes:

- All concentrations in milligrams per liter (mg/L)
- Detected concentrations are shown in red text

N
0 300 600 1,200
Feet

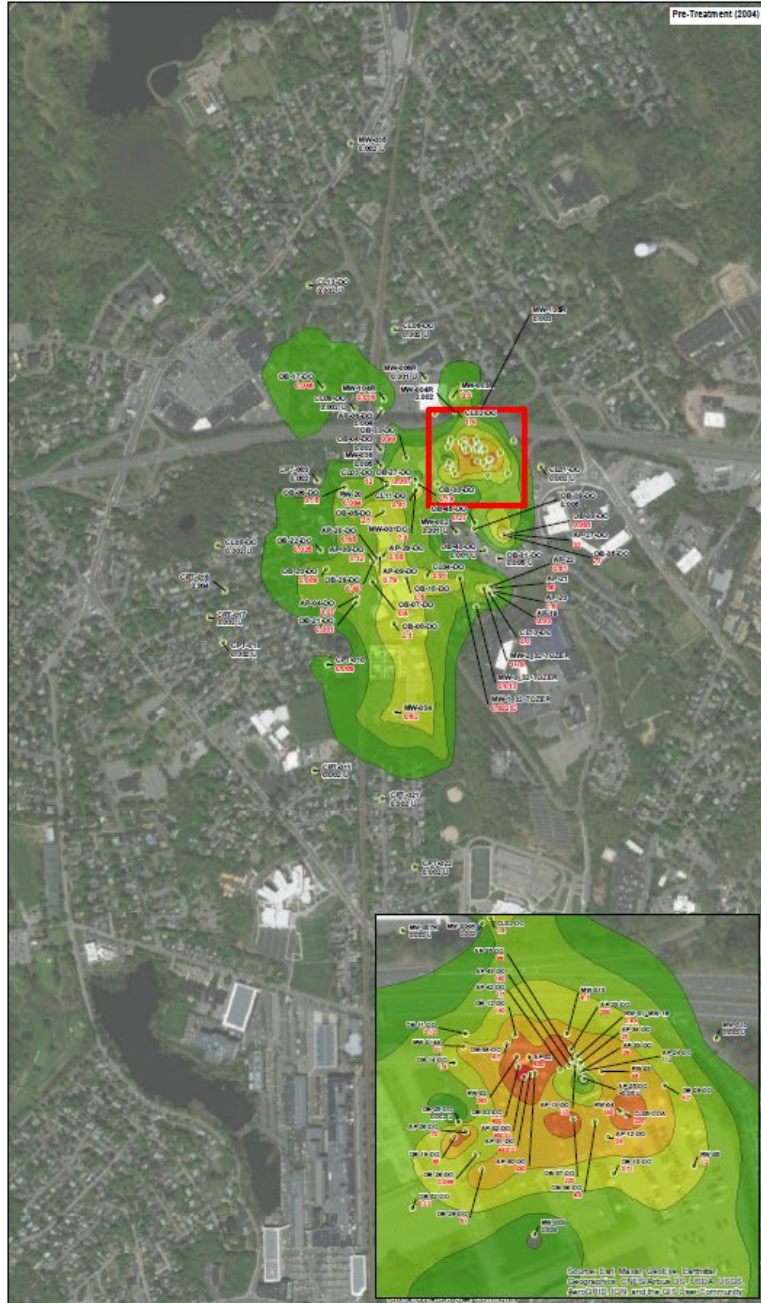
APTIM

VARIAN MEDICAL SYSTEMS, INC.
PALO ALTO, CALIFORNIA

FIGURE X
ESTIMATED PRE-TREATMENT AND
CURRENT TRICHLOROETHENE
CONCENTRATIONS IN SHALLOW
GROUNDWATER

**FORMER VARIAN FACILITY SITE
BEVERLY, MA**





Legend

- Sample Location
- Trichloroethene Concentration
- 0.005 - 0.05 mg/L
- 0.05 - 0.5 mg/L
- 0.5 - 5 mg/L
- 5 - 50 mg/L
- 50 - 500 mg/L
- >500 mg/L

Notes:
 1. All concentrations in milligrams per liter (mg/L)
 2. Detected concentrations are shown in red text



VARIAN MEDICAL SYSTEMS, INC.
 PALO ALTO, CALIFORNIA

FIGURE X
 ESTIMATED PRE-TREATMENT AND
 CURRENT TRICHLOROETHENE
 CONCENTRATIONS IN DEEP
 OVERBURDEN GROUNDWATER
 FORMER VARIAN FACILITY SITE
 BEVERLY, MA





Legend

- Sample Location
- Trichloroethene Concentration
- 0.005 - 0.05 mg/L
- 0.05 - 0.5 mg/L
- 0.5 - 5 mg/L
- 5 - 50 mg/L
- 50 - 500 mg/L
- >500 mg/L
- LOCATION

Notes:
 1. All concentrations in milligrams per liter (mg/L).
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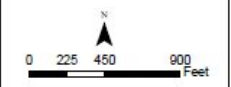


FIGURE X
 ESTIMATED PRE-TREATMENT AND
 CURRENT TRICHLOROETHENE
 CONCENTRATIONS IN
 BEDROCK GROUNDWATER
 FORMER VARIAN FACILITY SITE
 BEVERLY, MA



NEXT STEPS

- ▶ Discussion of PIP meeting date
- ▶ Varian & APTIM will facilitate monthly TAG meetings
- ▶ Ongoing communication flow
- ▶ Next TAG Meeting



QUESTIONS

