

# National Heatset Printing Co. (Site No. 152140) Town of Babylon, Suffolk County

## Remedial Site Optimization Planning Meeting

*Prepared for:* NYSDEC



*Prepared by:*



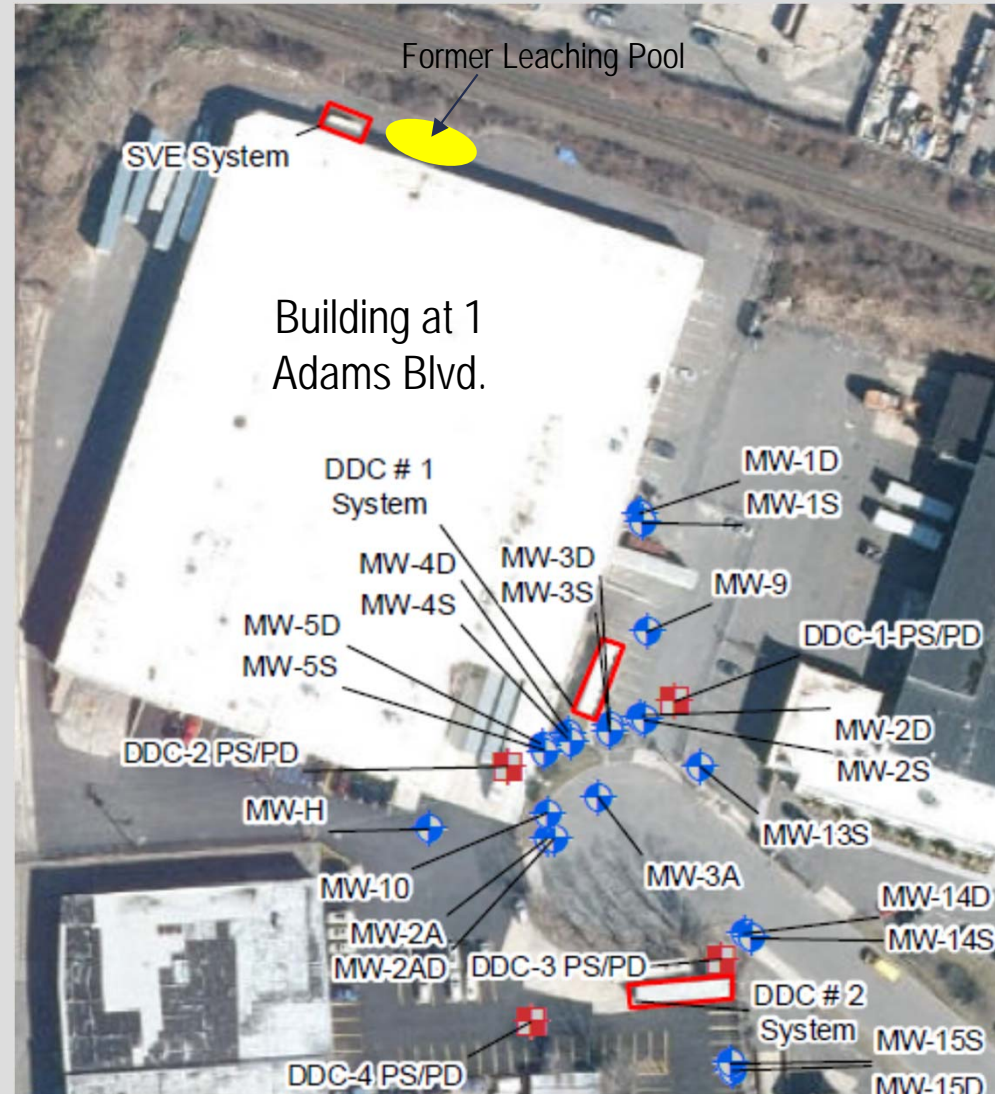
10 February 2022

# Agenda

- **Overview**
- **Remedial Site Optimization Strategy**
  - ◆ **Onsite**
    - **Limited existing information due to presence of structure**
      - Groundwater concentrations
      - Stratigraphy
    - **Data gaps**
    - **Areas of proposed investigation**
    - **Investigation methods**
  - ◆ **Downgradient Area**
    - **Receptors Investigation**
      - Downgradient private well survey - update
      - Water supply production well details
      - Surface water bodies

# Site Overview

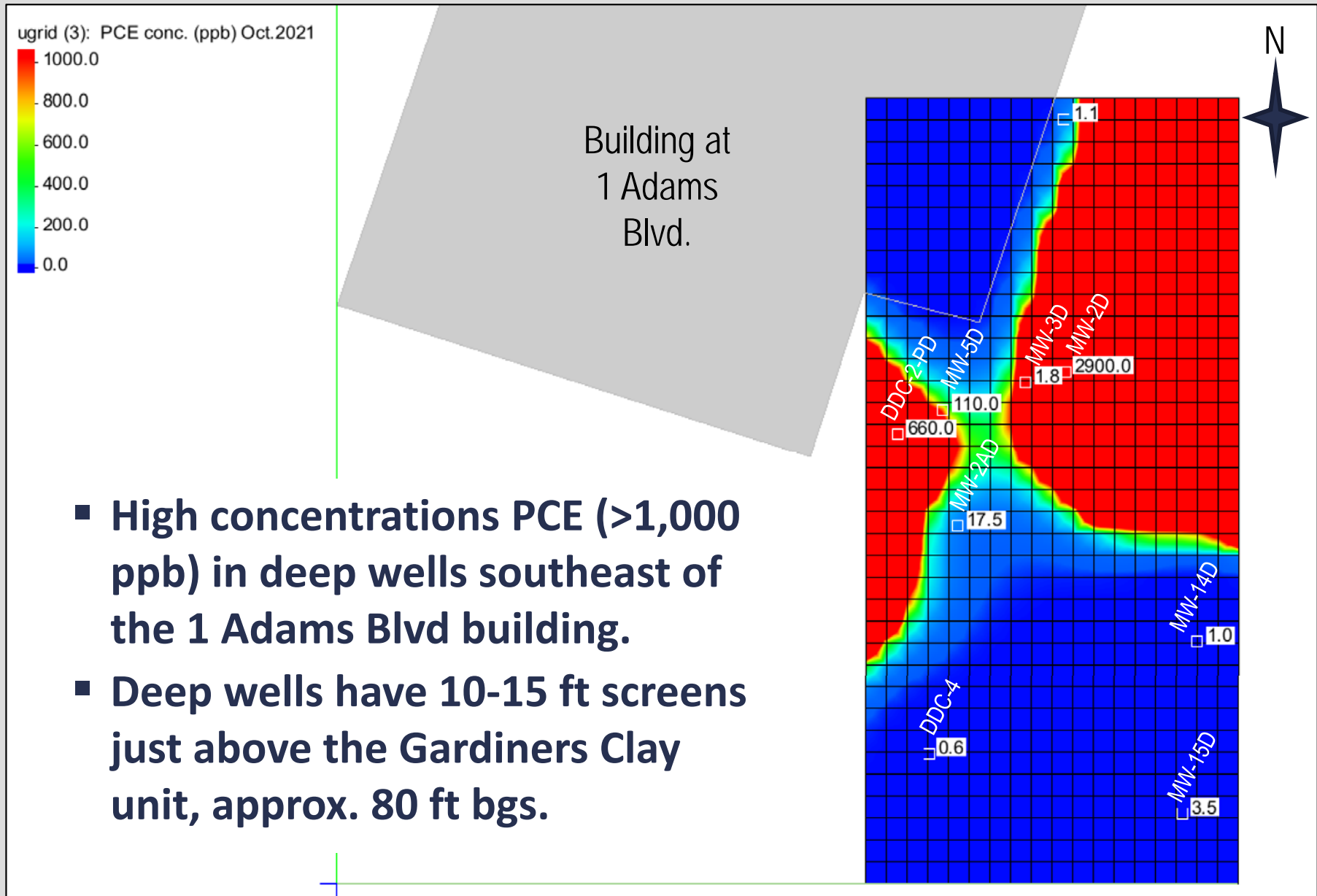
- **Location:** Babylon, New York
- **History:** Former tri-color printing operation, chemical inventory of organic solvents was dumped into onsite soils and former leaching pool.
- **COCs:** CVOCs, specifically: PCE, TCE, and DCE in soil and groundwater
- **Soil:** Contaminated soils in source area excavated to 15 ft bgs and backfilled with clean material prior to RI.
- **1999: Record of Decision**
- **Permanganate Injection in Source Area 2005**
- **Onsite SVE System 2002/2016**
- **Groundwater treatment using in situ density driven convection (DDC) 2006-2021**
  - ◆ DDC systems shut down due to operational issues associated with high groundwater elevation and failure of systems to effectively remove contamination
- **Remedial Site Optimization**



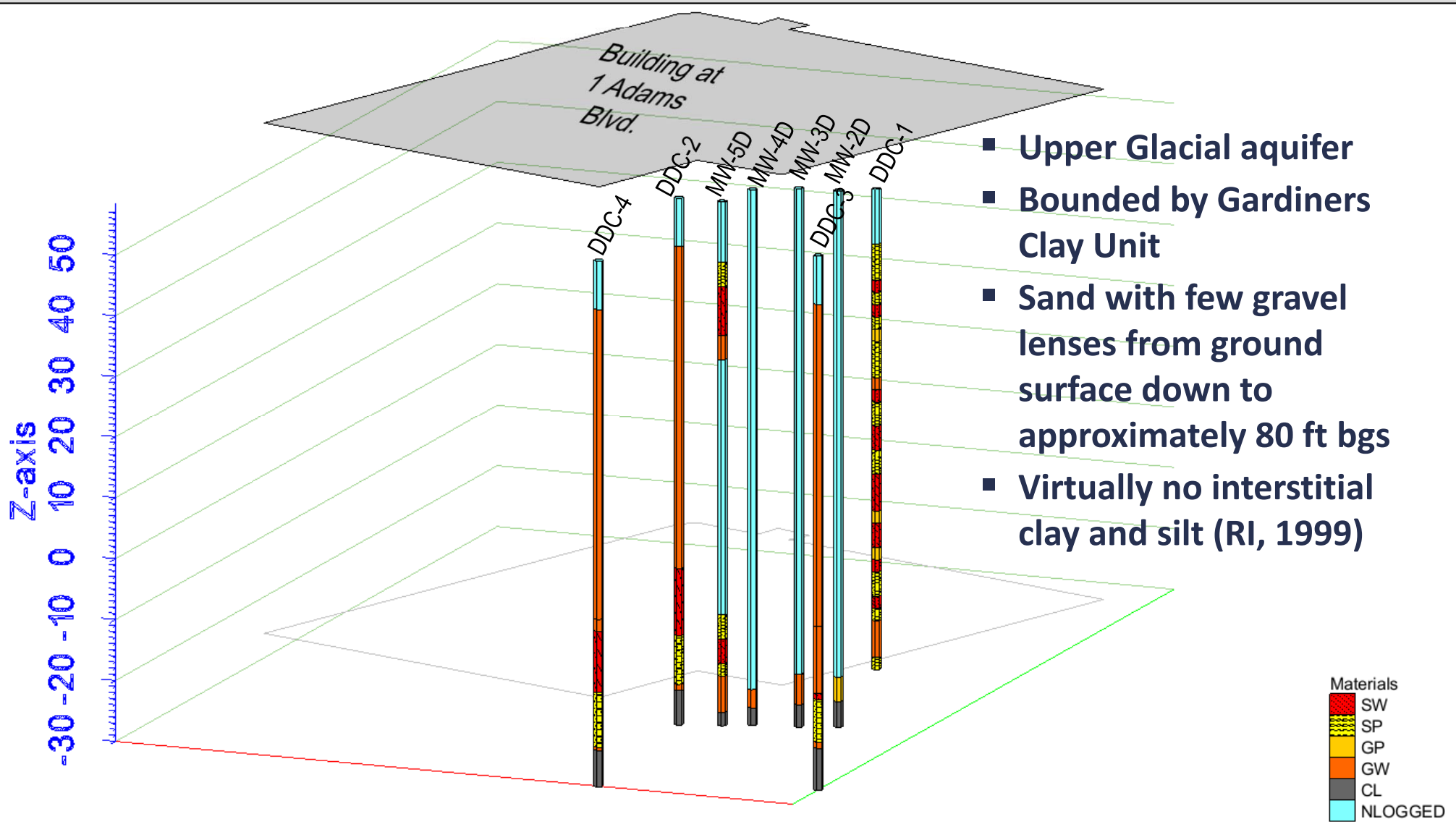
# Remedial Site Optimization Strategy

- **Onsite Continuing Source Investigation due to remaining high concentrations in groundwater samples collected just south and southeast of the site building**
  - ◆ **Will inform selection of alternative treatment technology**
    - ISCO
    - ISCR
    - Enhanced Bioremediation
- **Downgradient Receptors Investigation**
  - ◆ **Will determine whether further measures are needed downgradient to protect human health and the environment**

# Recent Onsite Groundwater Conditions



# Site Stratigraphy



# Data Gaps

## Horizontal Bounds of Contamination:

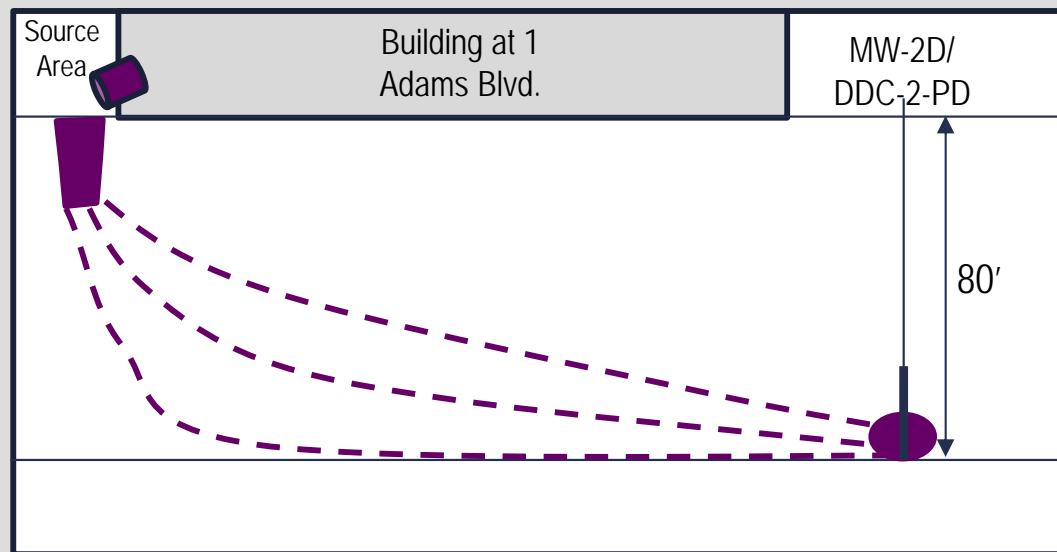
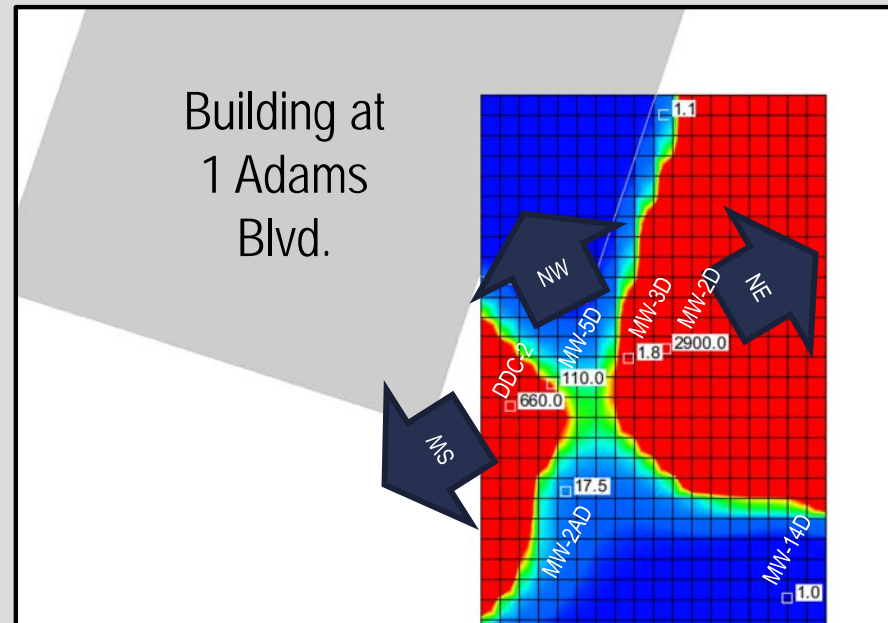
- Contamination is unbound horizontally
  - Northeast
  - Southwest
  - Northwest

## Vertical Bounds of Contamination:

- 80 ft down to confining layer
- Depth to water approx. 12-15 ft.
- Average 65 ft thickness of water column to confining layer
- Most well locations have a shallow and deep interval, separated by 40 ft

## Stratigraphy:

- Only one fully characterized boring (DDC-TB)
- MW-5D also logged, but not with the same level of detail as DDC-TB



# Proposed Sampling Locations

## Monitoring Wells

- 8 points within building footprint
- 1 point east of building
- 1 point north of building in source area





# Drilling Methodology

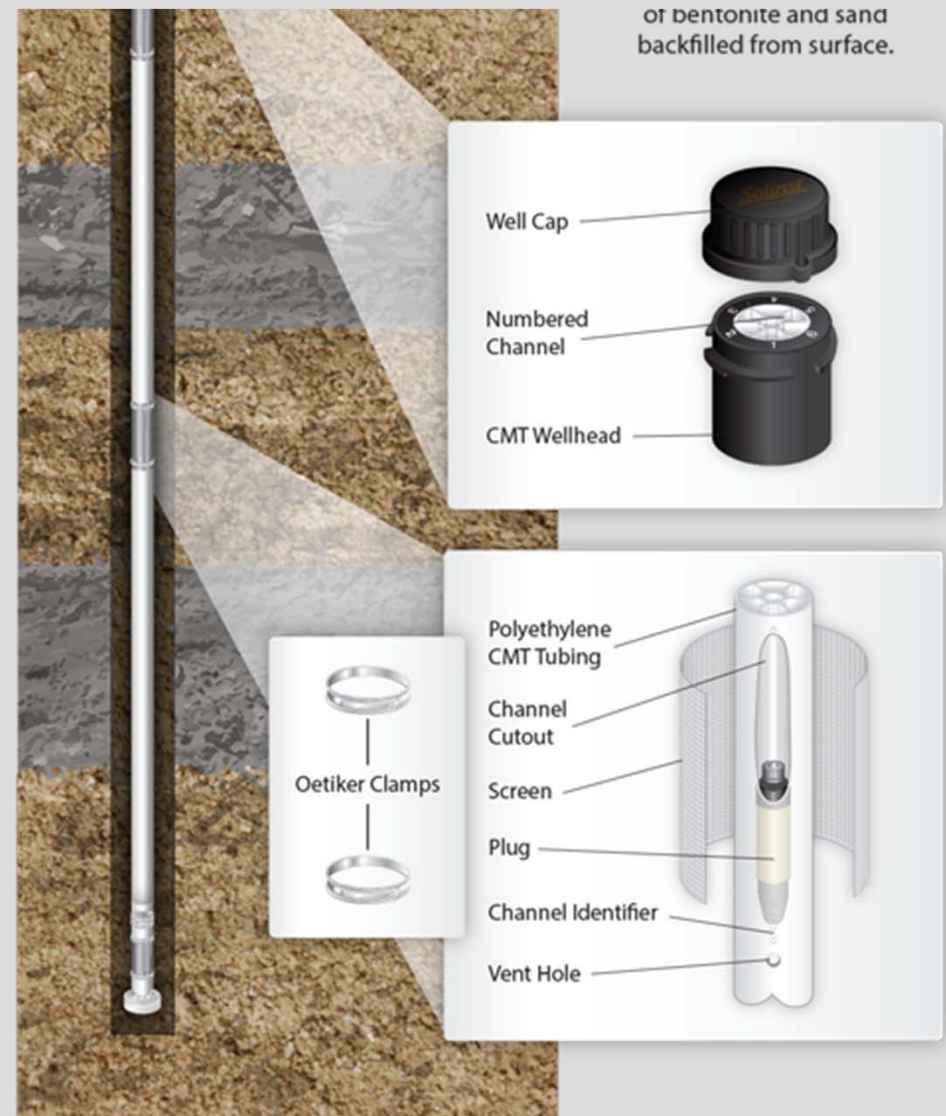
## Phased Approach

- Geoprobe with Hydraulic Profiling Tool (HPT) at four locations (Shown in green)
  - ◆ Relative conductivity
  - ◆ 24-hr VOC data
- Collect in situ water samples from four HPT locations for lab analysis to determine vertical thickness of the plume
- Following receipt of results, install 10 CMT wells
- Geoprobe with continuous logging at all locations



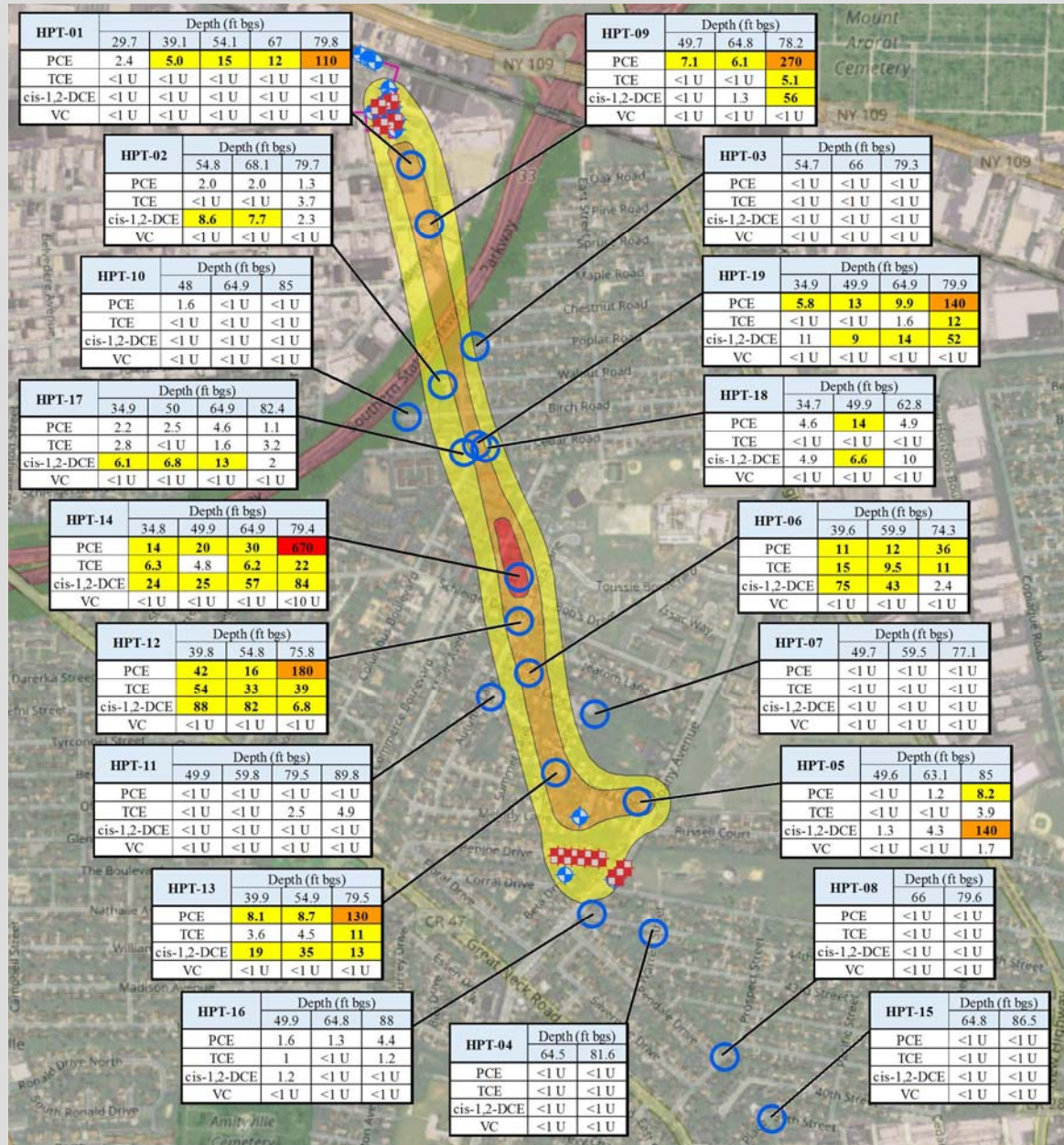
# Continuous Multichannel Tubing Wells

- Propose to use CMT multilevel system
- Allows up to 7 groundwater sample intervals in one boring.
- Depths of intervals to be determined during drilling
- Will help refine contaminant mass calculations, likely reducing target volume for treatment
- Sample CMT wells for VOCs, MNA parameters, microbial analysis



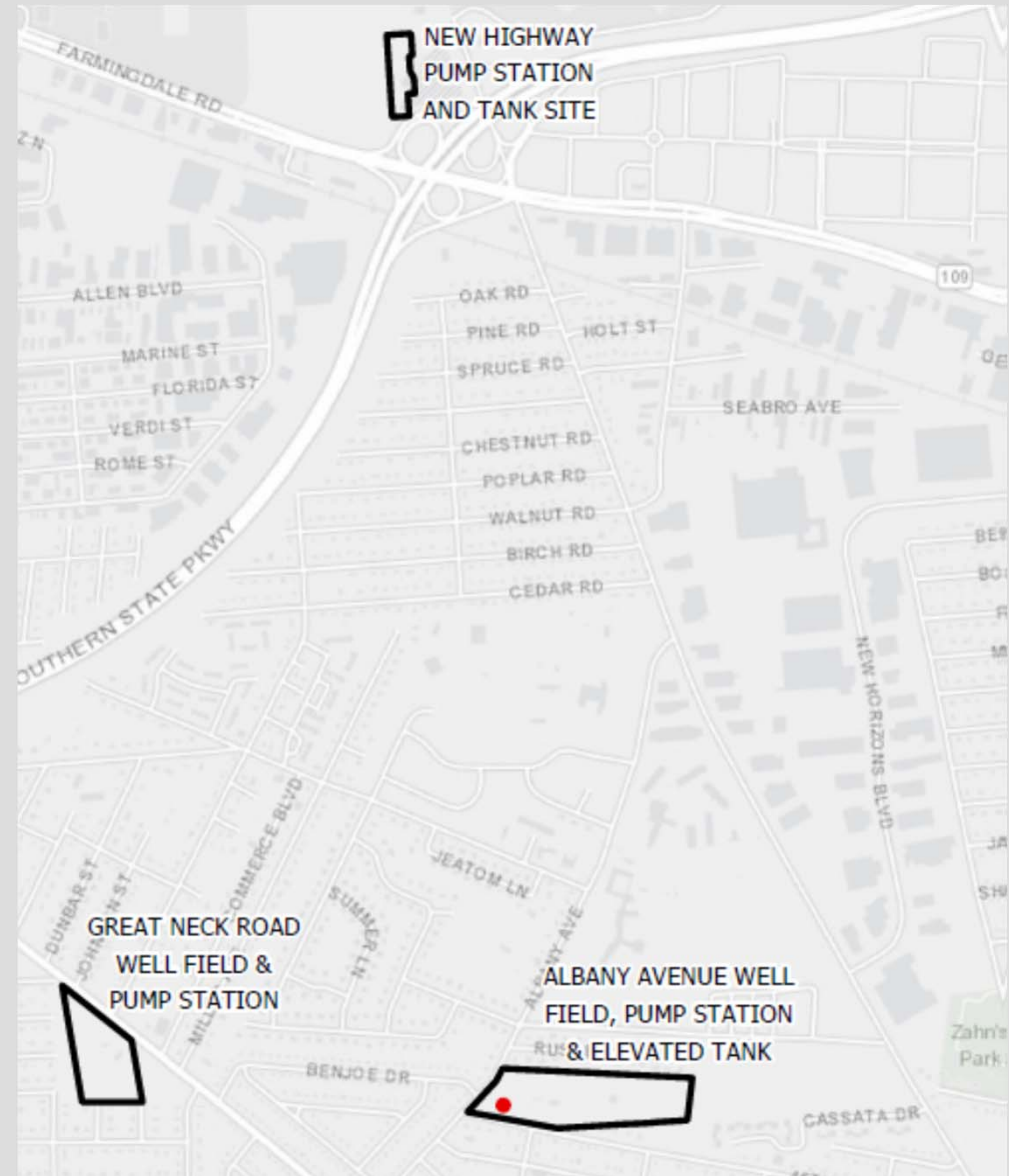
# Downgradient Area

June 2016  
PCE Plume



# Downgradient Area

- Receptors Investigation
  - ◆ Downgradient private well survey was conducted following issuance of ROD (1999)- update and verify no changes
  - ◆ Water supply production well details
    - Request details from Suffolk County
    - Review historic data
  - ◆ Surface water bodies



# Objectives

Following proposed activities, information will be used to:

- **Develop Conceptual Site Model**
- **Define Target Treatment Objective**
- **Evaluate recommended remedial technologies**
  - ◆ **ISCO**
  - ◆ **ISCR**
  - ◆ **In Situ Bioremediation**

***Thank You!***

**Megan Miller**  
**Project Manager**  
**[mmiller@eaest.com](mailto:mmiller@eaest.com)**