

Public Information Meeting Greenwich High School

Phase 1 Remedial Action Plan
under the CT Voluntary Remediation Program

January 15, 2020

Agenda

- Welcome and Introductions
- Background and Current Status
 - Activities to date
 - How did we get here?
 - Public Input Opportunities
- Phase I Remedial Action Plan
 - Remediation Target Areas
 - Remediation Approaches
- Schedule of Activities
- Public Comment Period
- Open House

Introductions

- Town of Greenwich
 - Toni Jones, Superintendent Greenwich Public Schools
 - Amy Siebert, Commissioner Public Works
- CT DEEP
 - Jeff Wilcox, Remediation Division Project Manager
 - Peter Hill, Remediation Division Section Head
 - Gary Trombly, PCB Coordinator
- USEPA
 - Kim Tisa, Region 1 PCB Coordinator
- AECOM
 - Patrick Haskell, LEP
 - Mike Doherty, P.E.
- McCarter & English, Town legal counsel
 - Jane Warren

Background and Current Status

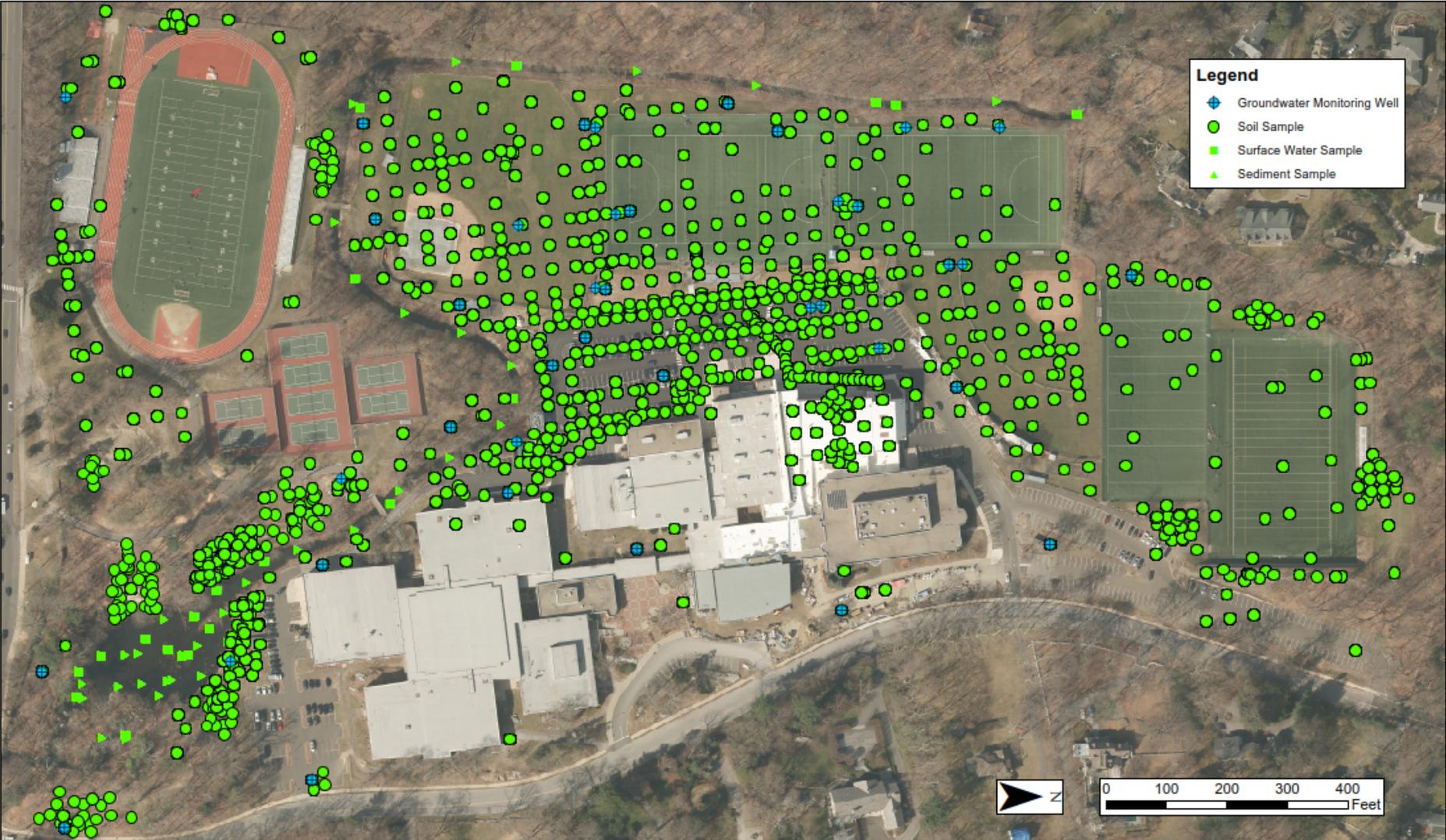
A lot has happened over the last few years!

- Remedial Investigation, Risk Assessments
 - Completed in 2013
 - Updated by current activities
- Interim Remedial Actions
 - 2011 completed to continue to ensure property is safe and accommodate site activities
 - 2014 activities to address southern portion of site
 - 2015 activities to address western parking lot area and site operations
- MISA construction
 - Included removal of contaminated soil
- Ongoing monitoring and additional site investigation through to the present

How is this Phase I of Remediation?

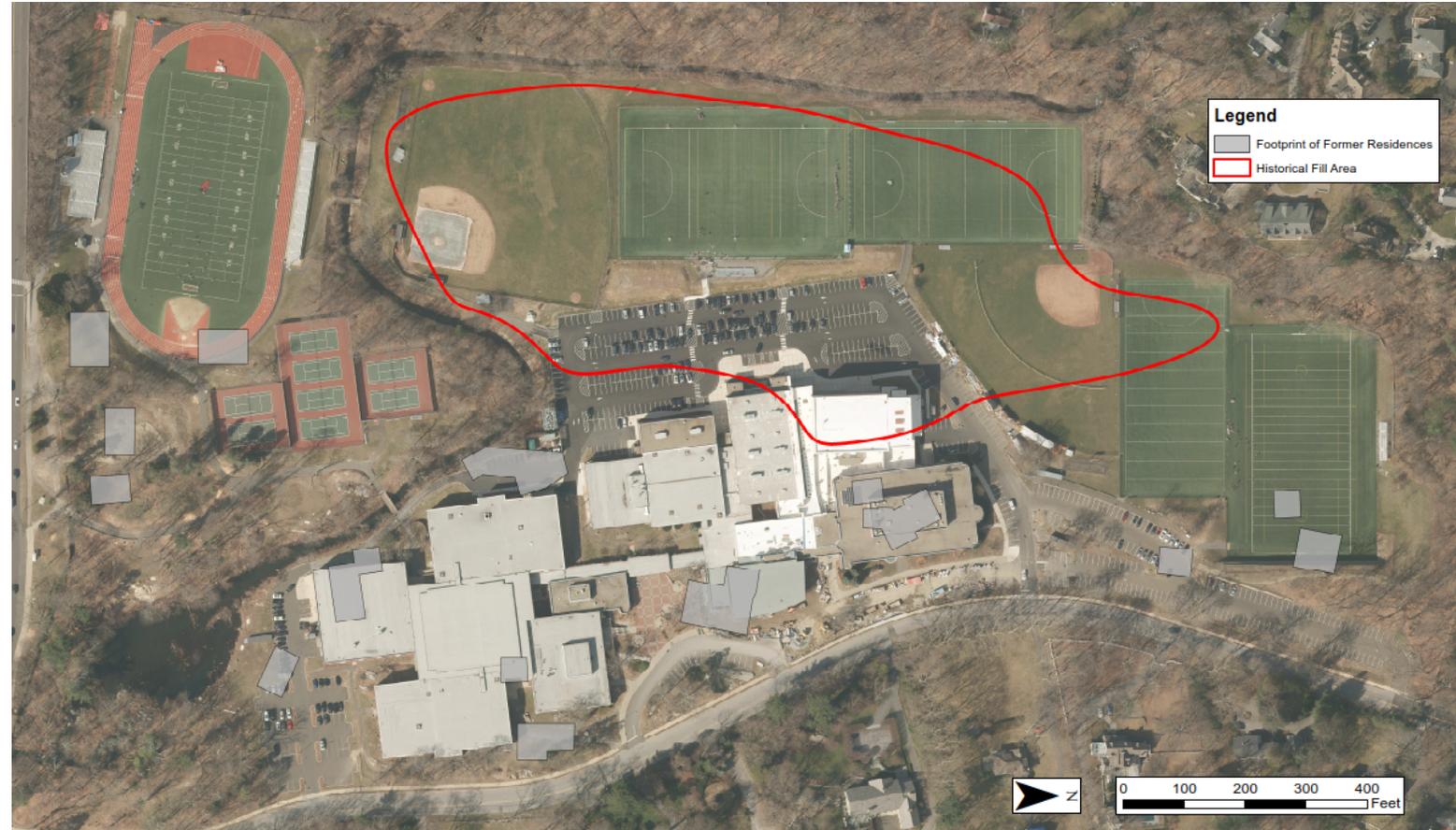
- Entered CT Voluntary Remedial Program (VRP) in 2017
 - Investigation completed in May 2019 to supplement earlier environmental testing and meet CT VRP requirements
- Continue to work with CT DEEP and EPA
- Regular groundwater monitoring
- Phase I Remedial Action Plan (first Phase under CT VRP)
 - To address known issues and to allow renovation of Fields #6 and #7
- Second Phase of Remediation Under CT VRP
 - To address areas around Fields #2, #3 and #4
 - Address renovation of Fields #3 and #4

Site Investigation Overview



Background – How did the property get impacted?

- Filling of wetlands during site development - where athletic fields are now
- Other areas of concern investigated under VRP
 - Fuel tanks
 - Other physical plant features
 - Former residences
 - Pesticide use

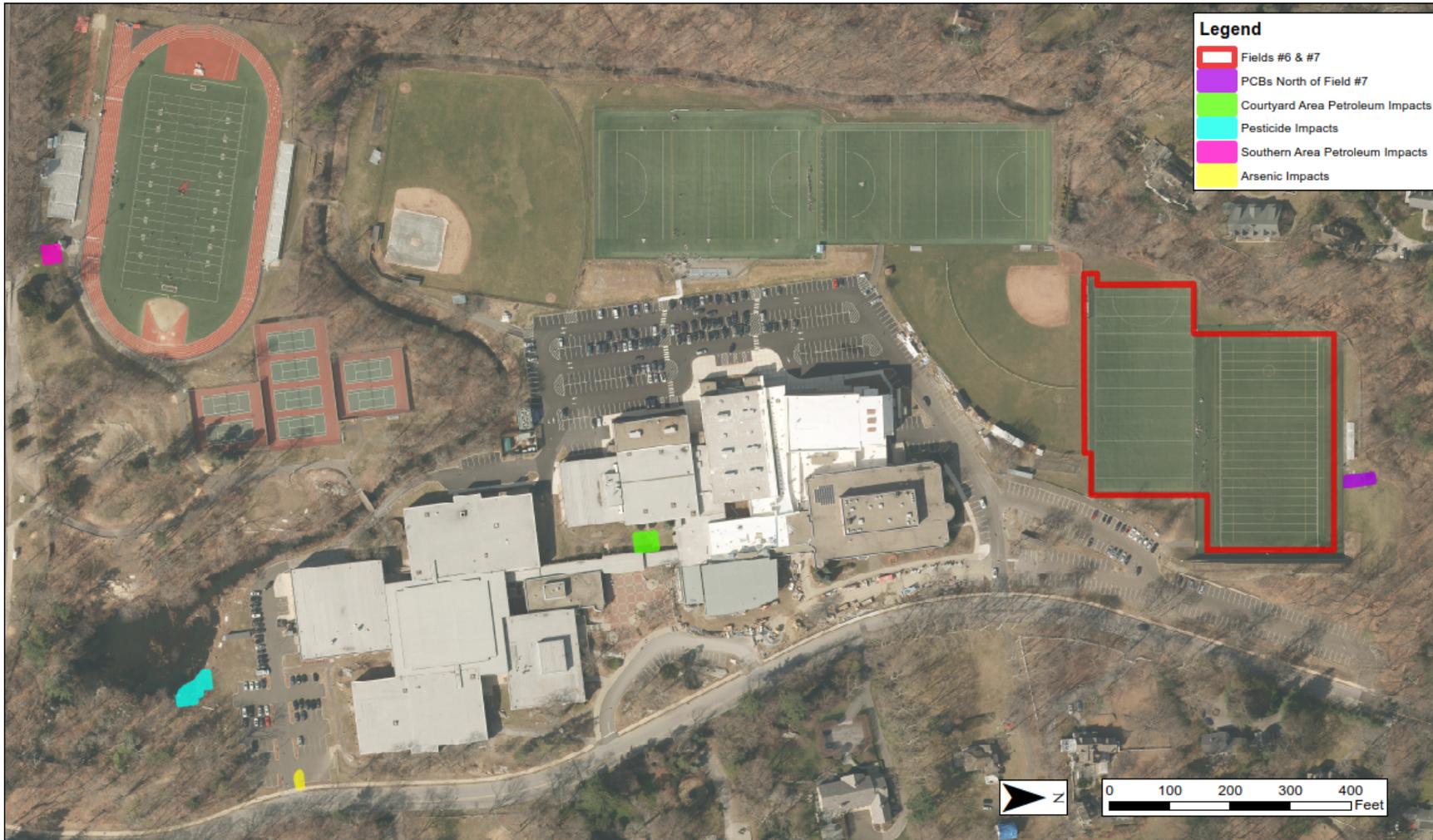


Public Input Opportunities

- Please share your comments:
 - In person at this meeting OR...
- Written comments can be submitted:
 - Tonight – grab a comment form and leave it with our team OR...
 - Write to: Jeffrey Wilcox, CT DEEP, 79 Elm Street, Hartford, CT 06106
OR Jeff.Wilcox@ct.gov
- Public Comment Period
 - Through February 1, 2020
 - Public can provide input on the cleanup plan
- Phase I Remedial Action Plan can be reviewed at:
 - CT DEEP
 - On the Greenwich Public Schools website

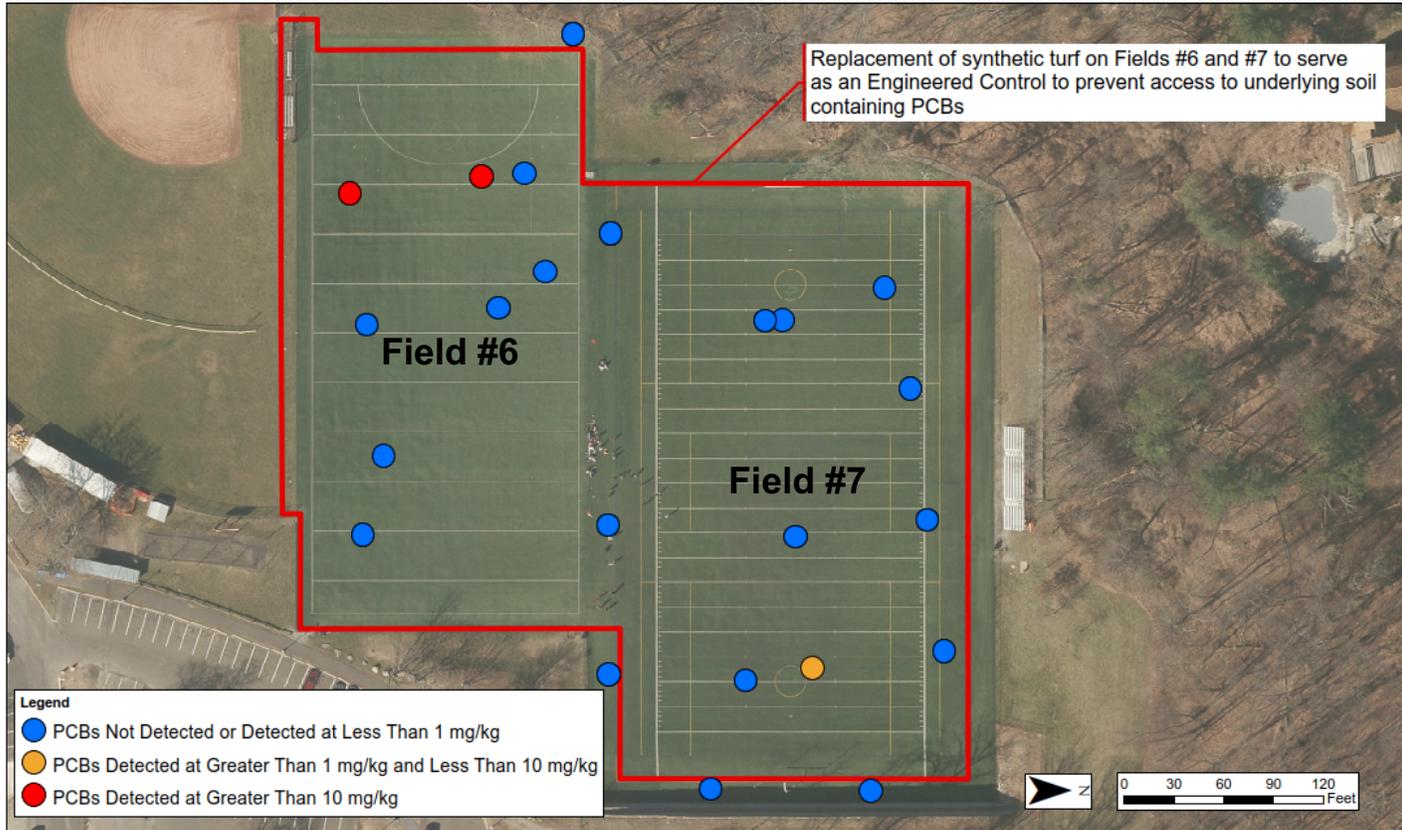
Remedial Action Plan First Phase under CT VRP

Remediation Target Areas



- **Replace Fields #6 & #7**
 - Engineered Control for underlying soil with PCBs
- **PCBs North of Field #7**
 - Excavation of soil with PCBs
- **Courtyard Area**
 - Excavate soil with petroleum
- **South of Cider Mill Pond**
 - Excavate soil with chlordane
- **South Parking Lot Entrance**
 - Excavate soil with arsenic
- **Cardinal Stadium Area**
 - Excavate soil with petroleum

Remediation Target Area – Fields #6 and #7



– PCBs in deep soil

- Field #6

- >50 ppm PCBs at depths of >10 feet below ground surface (bgs)

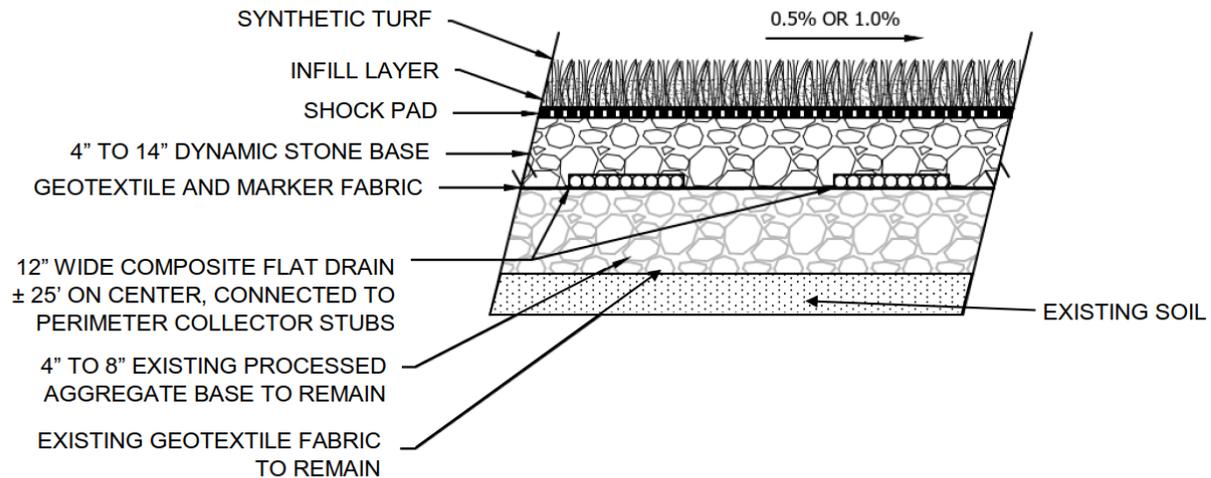
- Concentrations up to 223.3 ppm
- Present in thin layer of fill material observed at 11-12 feet bgs
- PCBs <1 ppm in shallower soil

- Field #7

- 1.8 ppm PCBs detected at depth of 1-2 feet bgs in one sample

- Plan to use field turf & underlying stone base as Engineered Control

Engineered Control for Fields #6 and #7



SYNTHETIC TURF FIELD CONSTRUCTION CROSS SECTION

NOTE: CROSS SECTION IMAGE MODIFIED FROM MLONE & MACBROOM GREENWICH HIGH SCHOOL
SYNTHETIC TURF FIELDS 6 & 7 REPLACEMENT DESIGN DRAWINGS DATED 4/8/2019

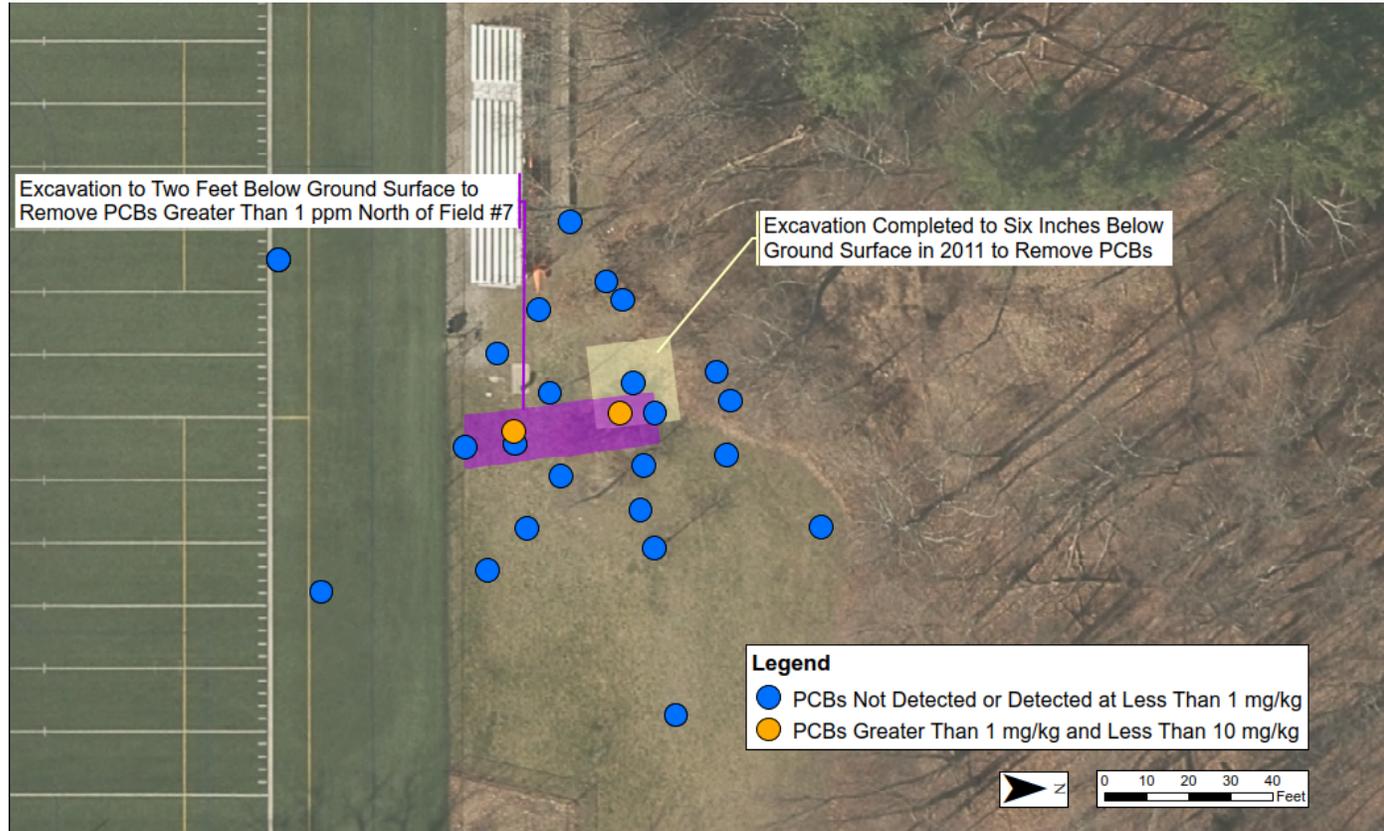
– What it is

- A physical barrier between people and contaminated soil
 - Clean stone overlain by artificial turf
- Inspected and maintained to ensure the barrier remains intact

– Why it's safe

- Prevents exposure to PCBs
 - PCBs under the field are immobile
- Marker fabric under turf to warn maintenance workers not to dig
- Environmental Land Use Restriction to require maintenance

Remediation Target Area – North of Field #7



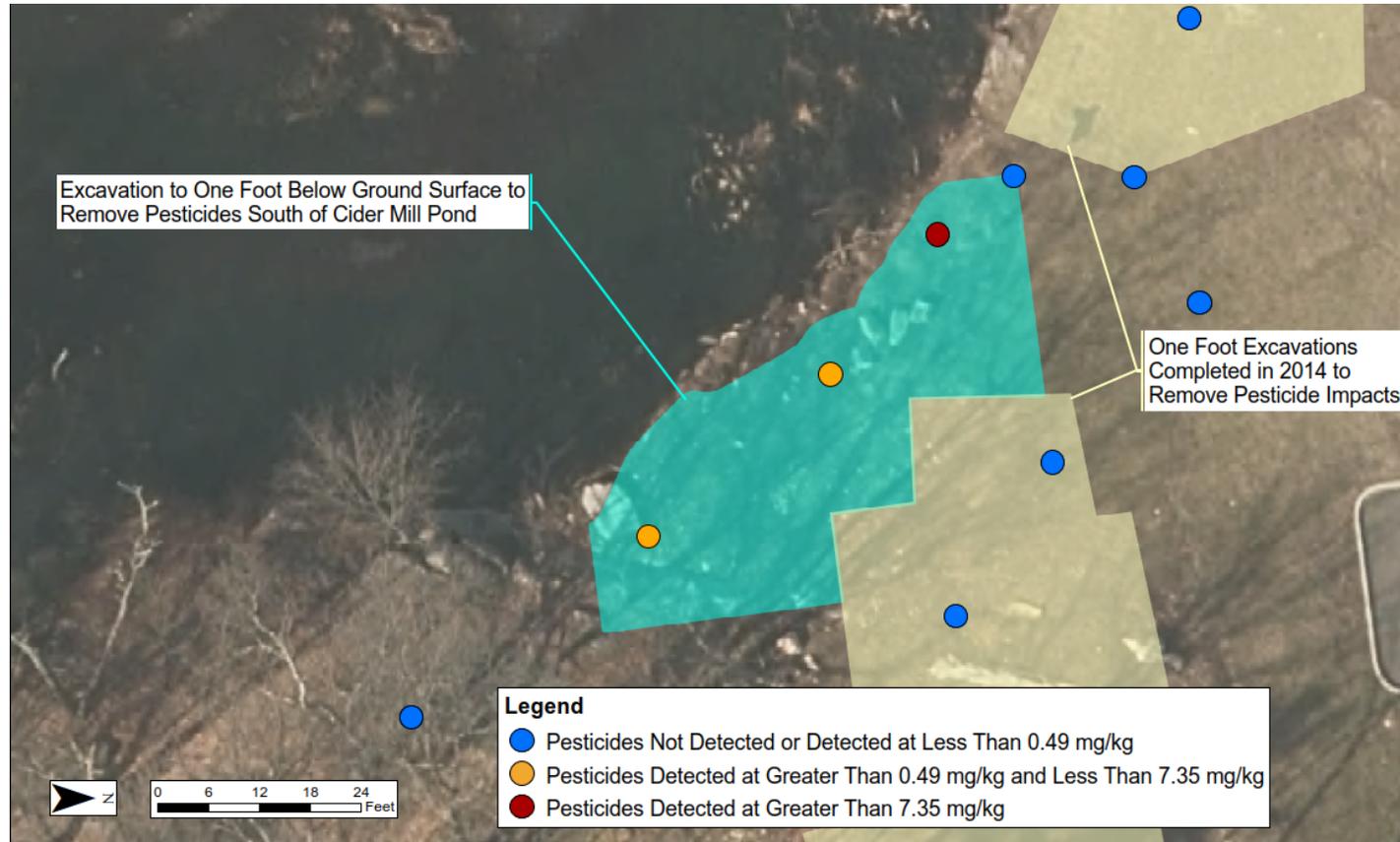
- PCBs found in shallow soil north of Field #7
 - Concentrations of approximately 1.4 mg/kg found at 1 to 2 feet bgs
 - Cleanup level is 1 mg/kg
 - Delineated in all directions
 - Does not extend under Field #7
- Focused excavation planned in accordance with EPA regulations

Remediation Target Areas – Petroleum Impacts



- Petroleum hydrocarbons found in a stained soil layer at one location in courtyard
 - Focused excavation to 4 feet bgs planned using visual observations of staining as guide
- Petroleum impacts found near Field #1 outbuilding
 - Delineated to small area
 - Focused excavation planned to 2 feet bgs

Remediation Target Area – Pesticides Near Cider Mill Pond



- Chlordane detected in shallow soil near Cider Mill Pond
 - Chlordane likely from termite treatment at the former residence in this area
- Focused excavation to top of shallow bedrock planned to remove affected soil

Remediation Target Area – Arsenic in South Parking Lot



– Arsenic detected in shallow soil near entrance to high school parking lot

- Concentrations 100x natural background levels
- Excavate to 4 feet bgs

Site Controls

- Access will be limited during work, which will be performed during Summer 2020
- Truck traffic entering and exiting the site will be controlled
- Air monitoring for dust will occur around the perimeter of the work area
 - Protects site workers, other site users, the surrounding community, and the environment
- Sediment and erosion controls



Post-Remediation Activities

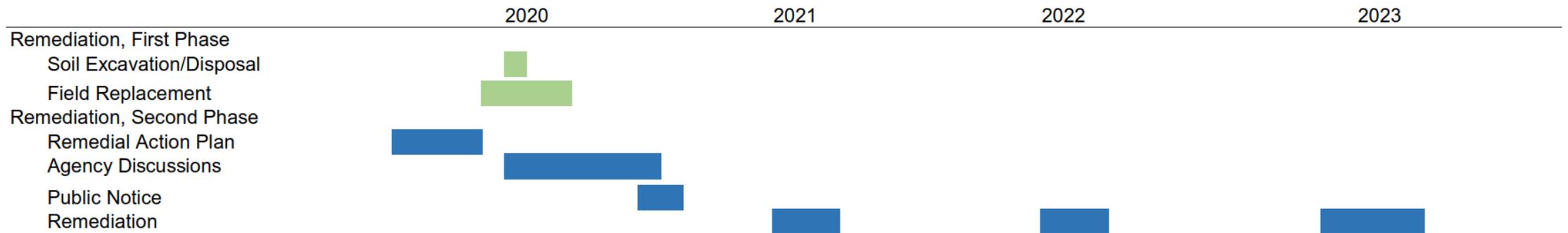
- Verification sampling performed after excavation areas
- Excavated soil disposed off-site at a permitted facility
- Excavation along Cider Mill Pond restored with grass and native plants
- Other excavations restored with grass and/or plantings as appropriate for location



Anticipated Schedule

Anticipated Remediation Schedule

- Remediation, First Phase
 - Soil excavation June 2020
 - Field Replacement Summer 2020
- Remediation, Second Phase
 - Remedial Action Plan, Spring 2020
 - Agency discussions Summer/Fall 2020
 - Public Notice, Winter 2020-2021
 - Remediation begins Summer 2021
 - Remediation likely continues for three or more summer sessions



Public Comment Session

Public Input Opportunities

- Public Comment Period
 - Through February 1, 2020
 - For public to provide input on the cleanup plan and use of Engineered Control
- Remedial Action Plan can be reviewed at:
 - CT DEEP
 - on the Greenwich Public Schools website
- Written comments can be submitted:
 - On comment forms tonight OR
 - To: Jeffrey Wilcox, CT DEEP, 79 Elm Street, Hartford, CT 06106
OR Jeff.Wilcox@ct.gov

Additional Questions & Answers

AECOM

Imagine it.
Delivered.