Site Background and PCB Remedy at OU3

Bethpage, NY

June 14, 2022

Opening Remarks and Meeting Purpose Ed Hannon, Alexis Stabulas, Carol Emery	2:30-2:40
Site Background and History Joel Balmat 20-minute presentation, 10 minutes Q&A	2:40-3:10
HHRE Discussion / Q&A	3:10-3:25
Conceptual Design for Areas Outside the Ballfield Bill Lais	3:25-3:40
RBDA Process / Deliverables Facilitated discussion	3:40-3:50
Meeting Close	3:50-4:00

Meeting Purpose

To describe the site background and the conceptual design of the PCB remedy at site areas other than the ballfield.

Site Background and History

Property Ownership and Potential Sources of PCBs

Property Ownership

- Park property was acquired by Grumman (now Northrop Grumman) in the early 1940s
- An area was used for drying sludge which was later disposed of off-site
- Grumman donated the 18-acre property to the Town of Oyster Bay in 1962

Potential Sources of PCBs

- Electrical transformers, lighting ballast
- Fire resistant high temperature thermal heat absorbing oil such as Monsanto Therminol FR-1 used in autoclave operations for military fighter aircraft construction

Historical Overview

1994-2003: Navy, TOB, and then NG Pre-RI soil sampling

2002 to present: Ballfield closed to the public

2005: Consent Order to conduct RI/FS

2005-2007: RI Site Area field studies - soil, soil gas, groundwater, perched water

2005-2007: TOB soil sampling and soil excavation IRM

2008-2009: Soil gas IRM and groundwater IRM implemented

Site Features Prior to 2005 TOB Redevelopment (4/04)

Historical Overview (continued)

2011: Final Site Area RI and FS Reports

2013 ROD: PCB soil cleanup levels:

- 1 mg/kg in upper 2 ft
- 10 mg/kg from 2-10 ft
- 50 mg/kg below 10 ft

2014: Consent Order to implement ROD

2014-2017: Pre-design PCB delineation

2015-2017: Soil washing evaluated and meetings with EPA

Current Site Features

Historical Overview (continued)

2016-present: Implement RW-21 off-site groundwater remedy with startup in Q3 2022

2018: Excavation remedy for PCBs selected

2019-2020: TOB Brownfields remedy for Freon

2020-2022: Implemented first phase of VOC source remedy, in ballfield

Current Site Features

Pre-RI PCB Soil Sampling

1994-1998: Navy & TOB sampled in Park, with PCBs less than criteria

1997-2001: NG sampled on access road, with PCBs detected

March-June 2003: NG sampled in Park, with PCBs and metals above criteria

Site Features Prior to 2005 TOB Redevelopment (4/04)

RI Soil Sampling, 2005-2007

Soil sampling conducted in 5 phases using:

- Vertical profile borings
- Conventional soil borings
- Test pits
- Geoprobes

PCBs: found primarily in southwestern corner of Park (ballfield)

Non-PCB COCs:

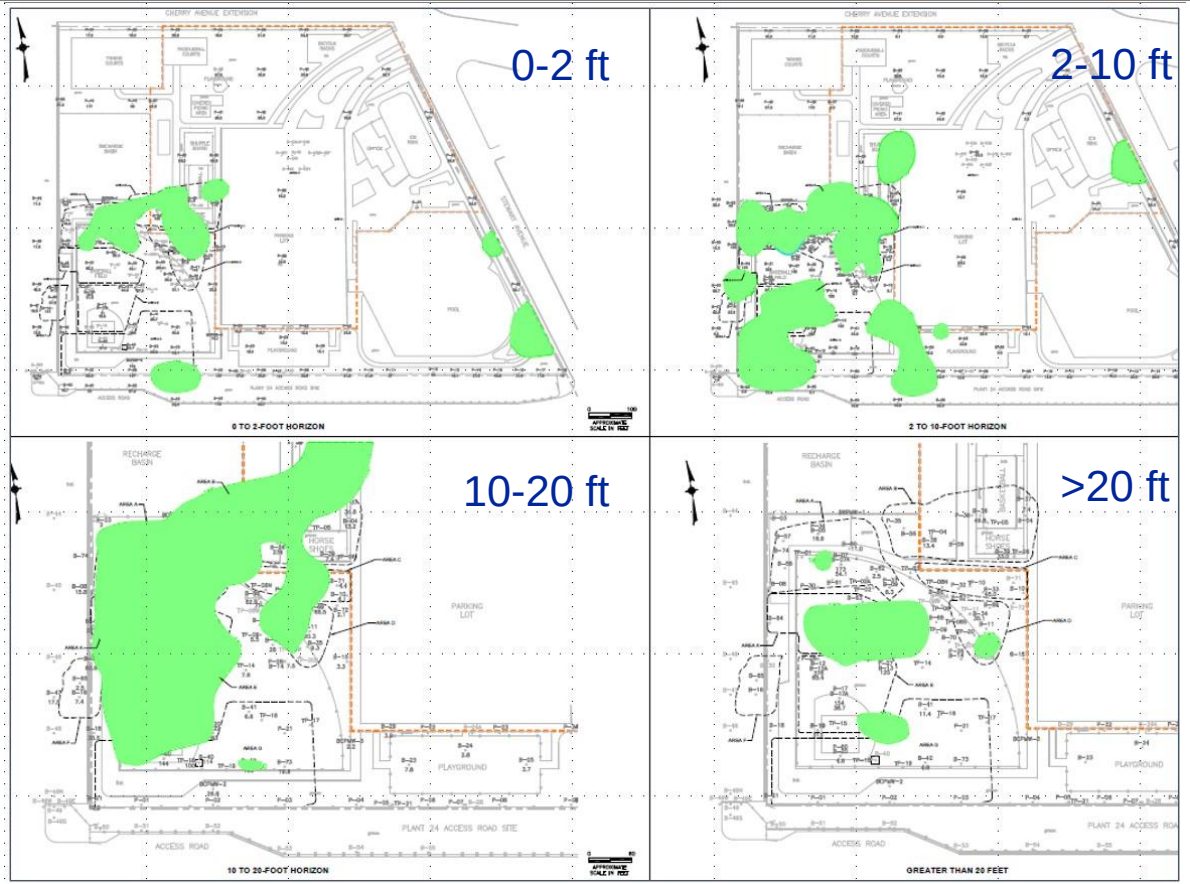
- Soil - TCE, VC, cis-1,2-DCE, aromatic hydrocarbons, chromium, cadmium
- Soil gas - TCE, Freon-12 and 22 suggest non-NG source
- Perched water - TCE, toluene, cis-1,2-DCE, and VC
- Groundwater: TCE, PCE, 1,2-DCE, 1,1,1-TCA, 1,2-DCA, Freon-113, 1,1-DCE, and 1,1-DCA

Chromium Data from RI report

Green: >180 mg/kg (restricted-residential SCO)

More recent metals data from pre-remedial sampling are available

Presence of metals and other non-PCB parameters may affect soil reuse



Post-RI PCB Sampling

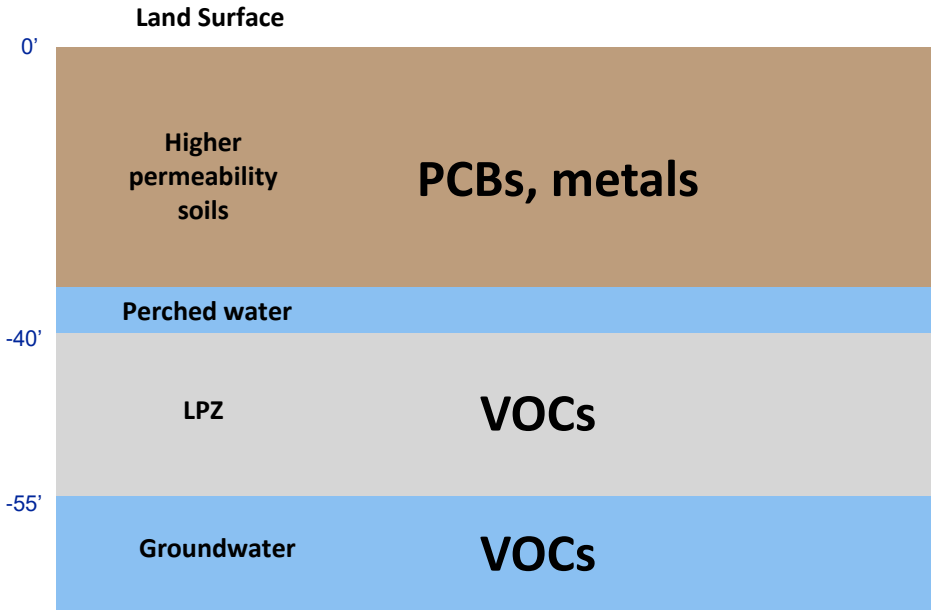
2014-2017: Pre-design investigations for PCBs and metals delineation

2018: PCBs sampled in soil during ballfield LNAPL investigation

Remedial Actions

Ballfield Area Conceptual Model

- Land surface relatively flat
- Depth to groundwater ~55-60 ft
- Groundwater flows SSE
- Low permeability zone 40-55 ft
- Perched water at ~38-42 ft
- VOC source area 40-55 ft, treated by thermal remedy
- PCB impacts to ~30 ft
- Metals in upper 10 ft



OU3 ROD Remedies Implemented

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- 2008: Soil gas IRM to prevent off-site vapor migration
- 2009: Groundwater IRM to prevent off-site groundwater migration
- 2013 ROD accepted IRMs as final remedies
- 2020-present: VOC source area thermal remedy in ballfield
- 2016 - present: Off-site groundwater remedy installation (RW-21)

TOB IRM – Soil Excavation, 2006-2007

Soil Excavation, 2006-2007

NYSDEC SCOs for PCBs:

- 1 mg/kg in surface soils (0-2 feet bls)
- 10 mg/kg in subsurface soils (below 2 ft bls)

Actual excavation by TOB:

- 1 mg/kg to 10 ft bls
- 10 mg/kg up to 20 feet in source areas and historical fill areas

Source, IRM Final Engineering Report, H2M Group, March 2008

ISTR, 2016 - Present

ISTR system installed in ballfield 2019 – 2020

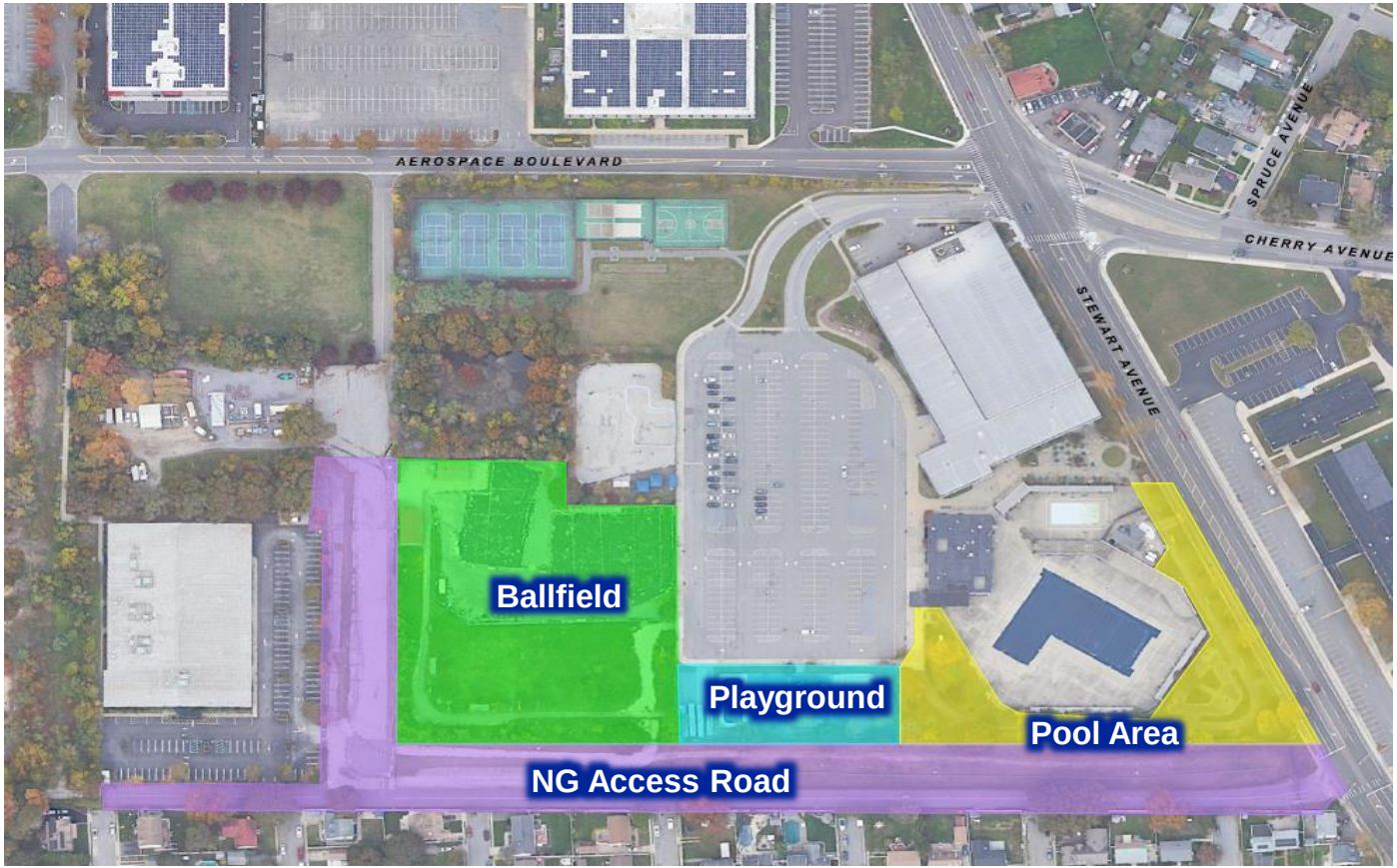
System operated from Aug. 2020 – May 2022

Soil in deep VOC source area thermally treated to average TVOC concentration < 10 mg/kg

System equipment will be partially reused for second phase of ISTR, under design

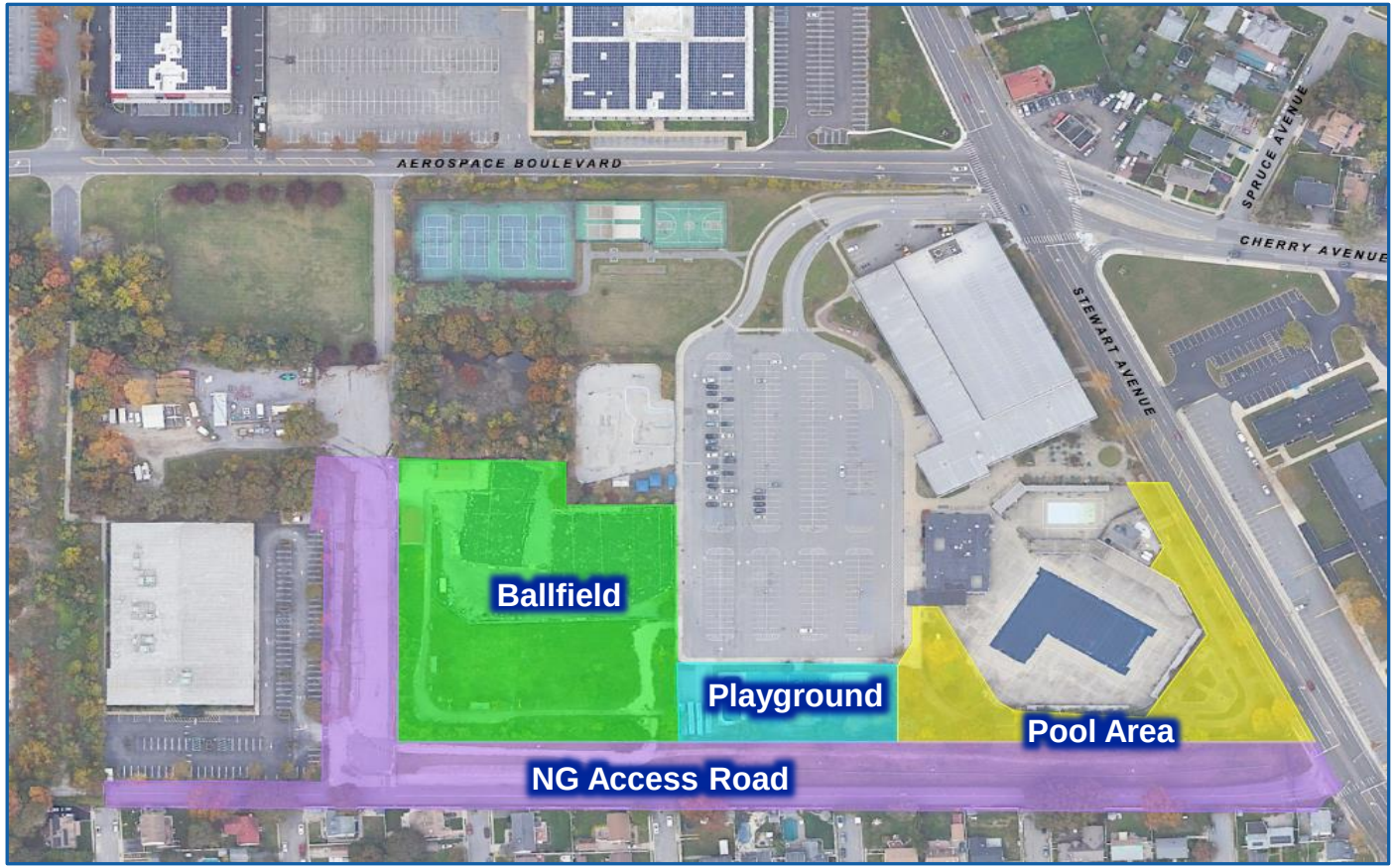
HHRE Discussion / Q&A

Potential Exposure Areas and Remediation Areas

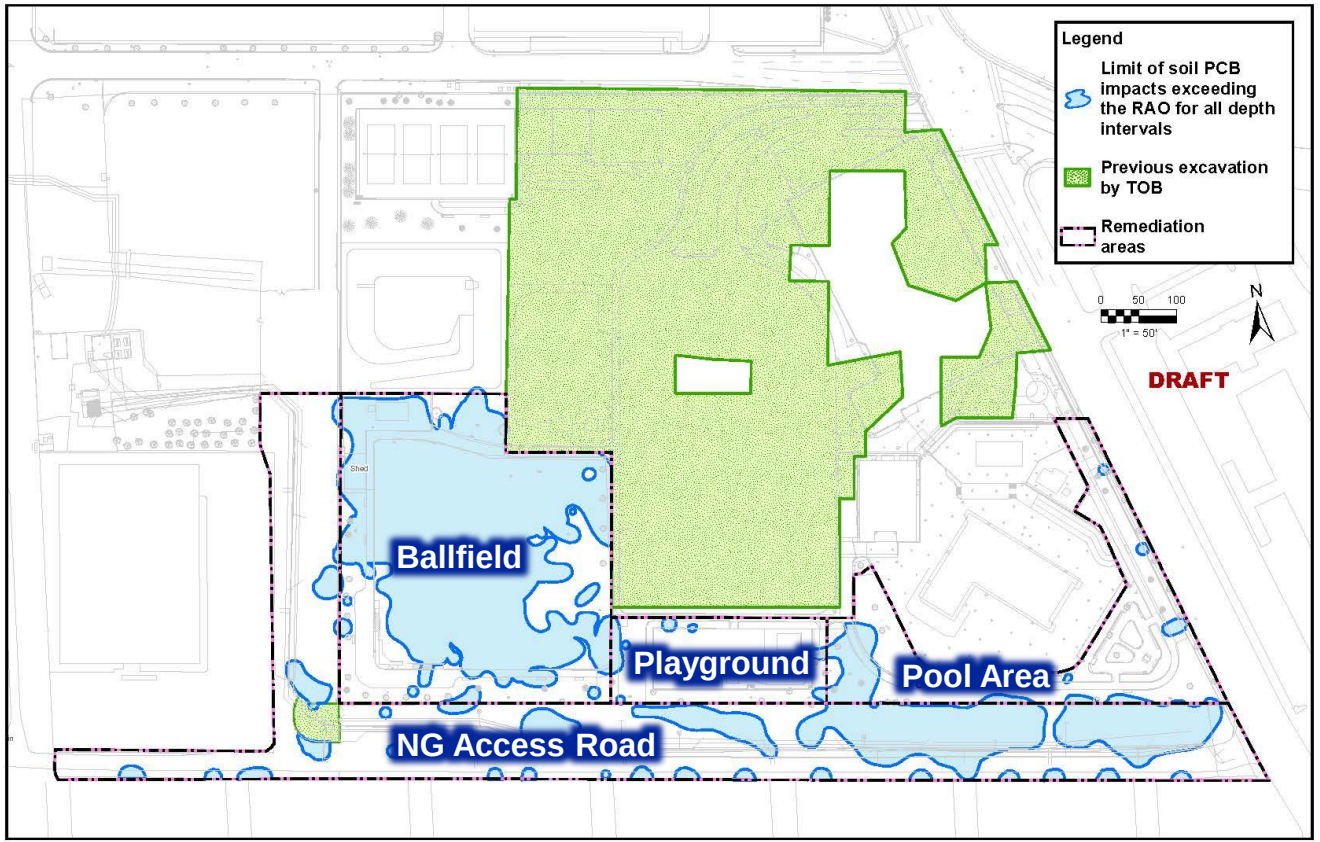


Conceptual Design for Areas Outside the Ballfield

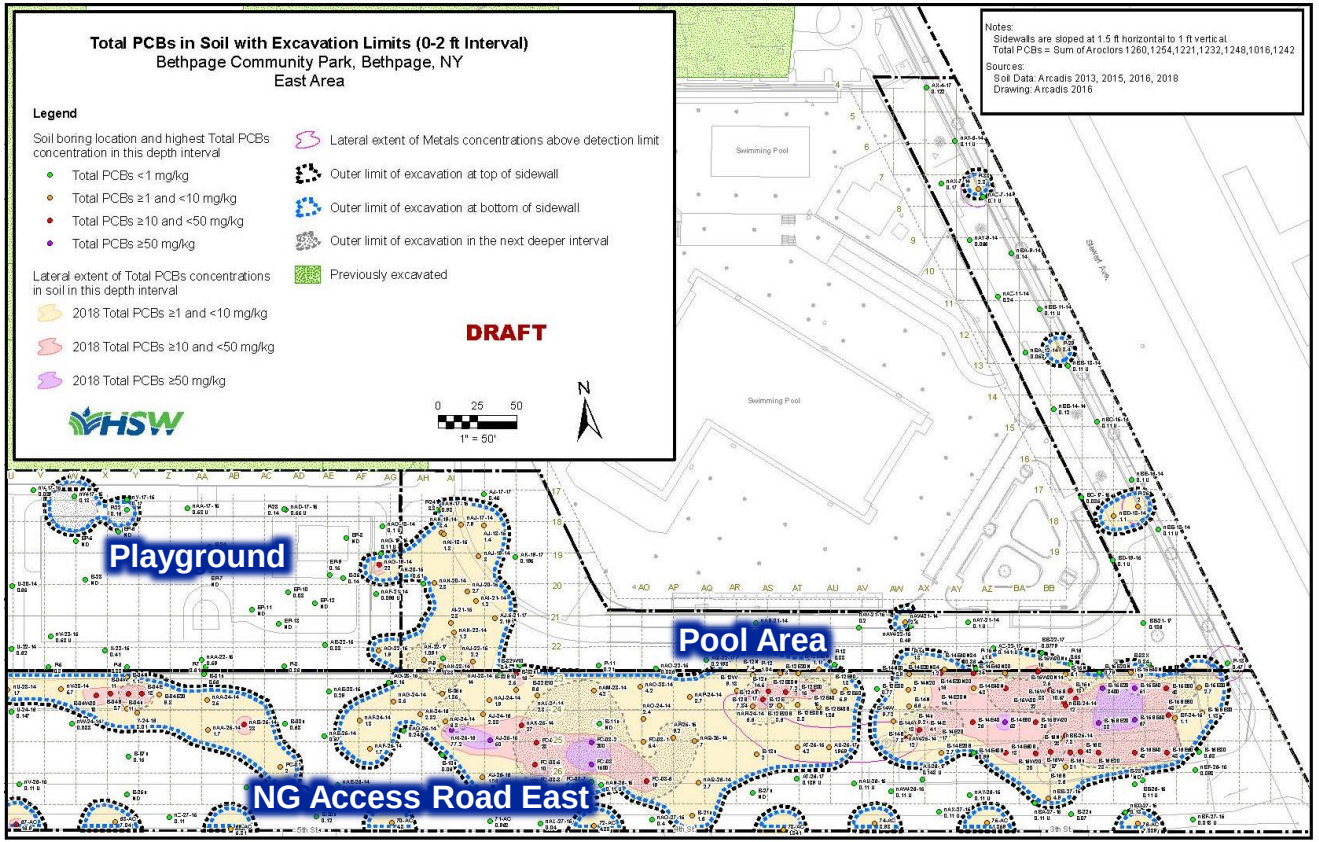
Remediation Areas



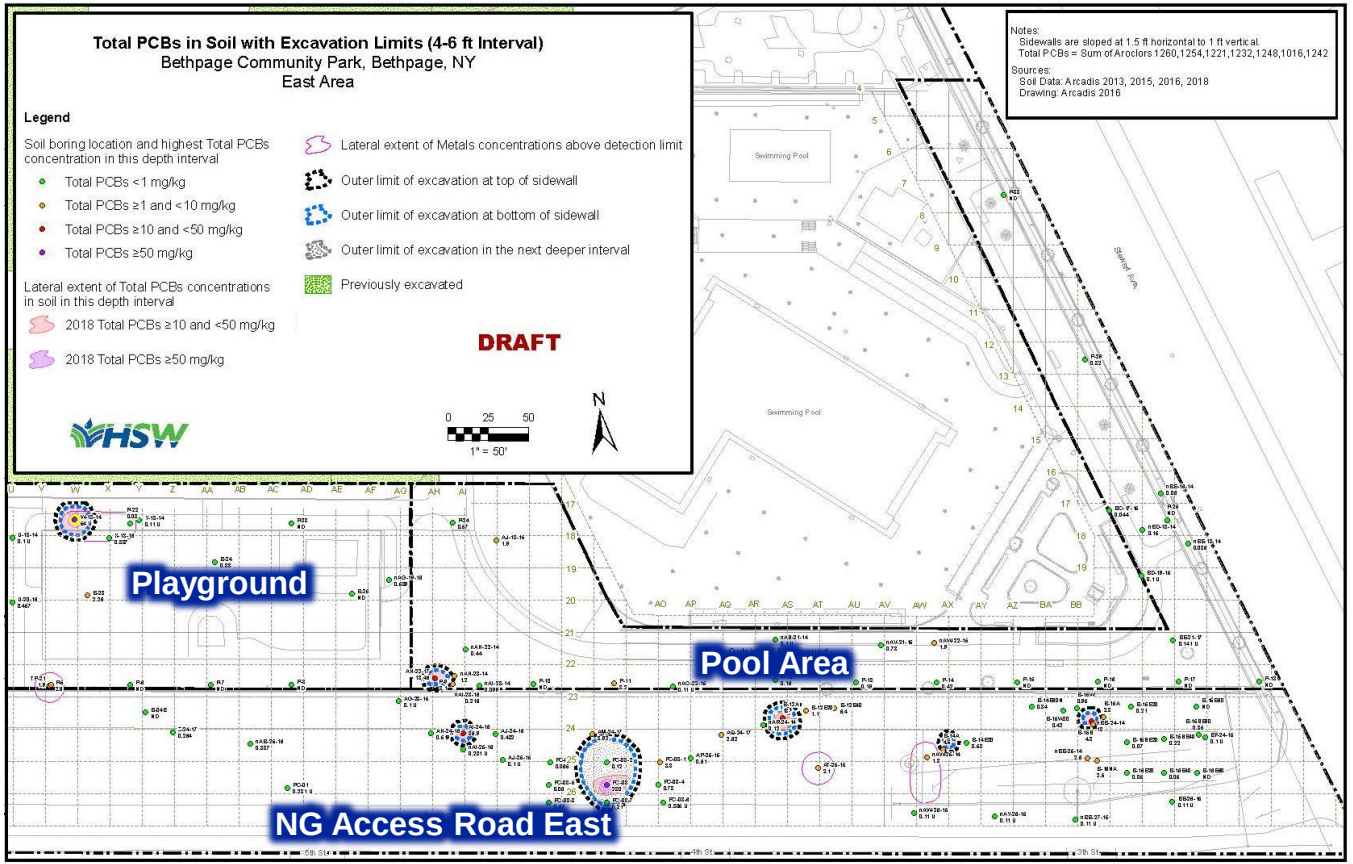
PCB Soil Impact Distribution



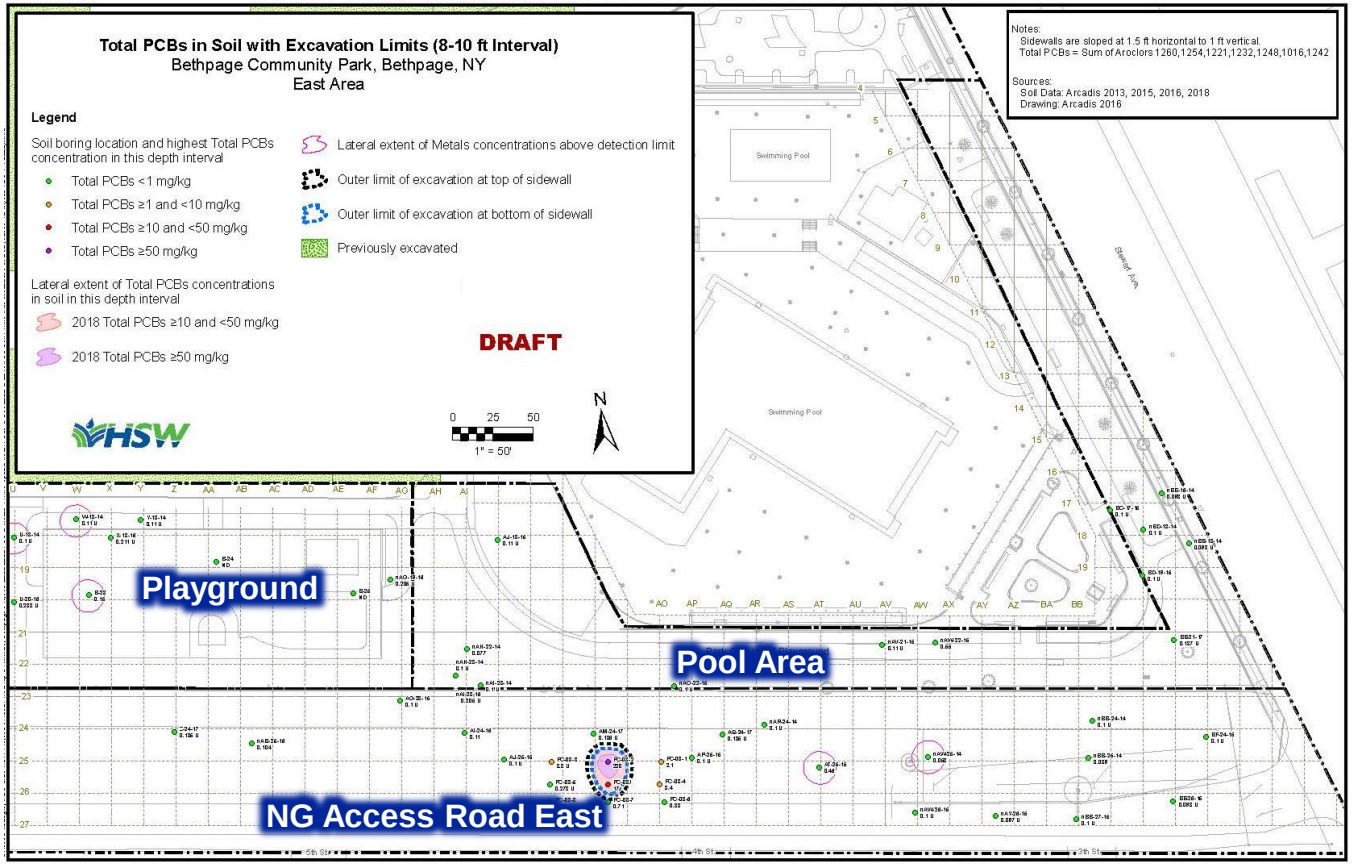
PCBs in Soils (0-2 Ft Interval), East Side



PCBs in Soils (4-6 Ft Interval), East Side



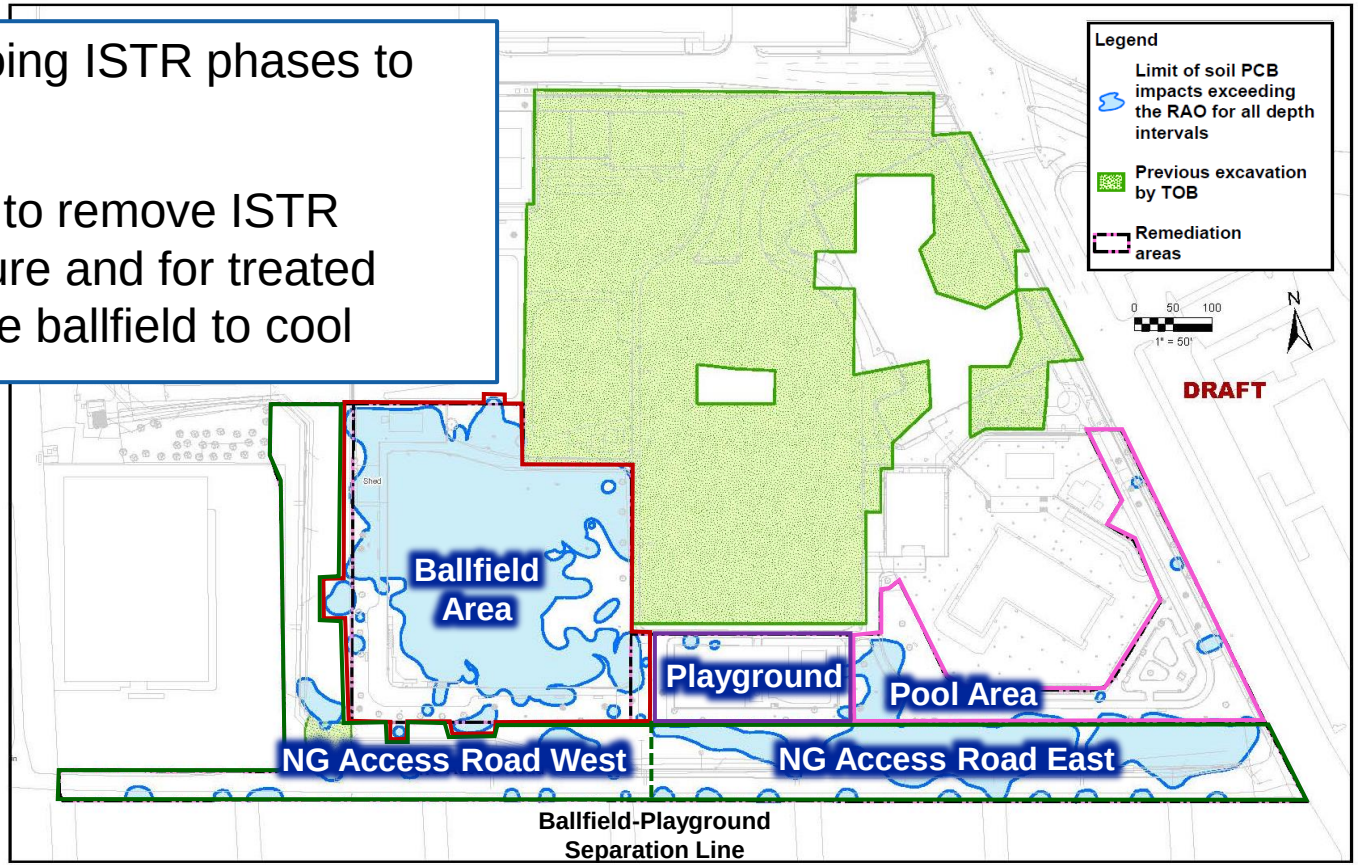
PCBs in Soils (8-10 Ft Interval), East Side



PCB Excavation Phases

Allow ongoing ISTR phases to continue

Allow time to remove ISTR infrastructure and for treated areas in the ballfield to cool



PCB Excavation Procedures

Excavations will be completed in phases

Excavate in 2- or 5-foot intervals based on pre-characterization soil sampling results

Excavations deeper than 4 feet will require cutbacks and sidewall sloping

Excavate lateral extents and depths per the RAOs in the approved ROD

Stockpile soil and characterize for disposal or reuse

Areas pre-characterized with “as-found” PCBs ≥ 50 mg/kg will be managed as TSCA waste per 40 CFR 761.61

Pool Area

Max depths of PCB impacts >RAOs is 6 feet

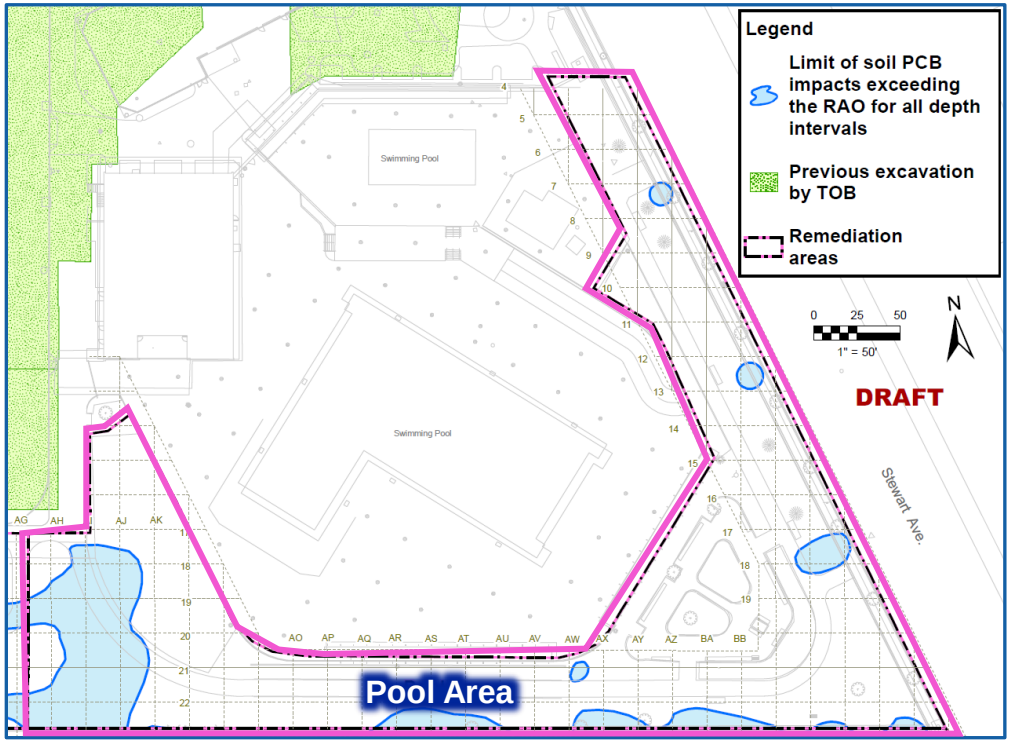
Excavation from 0 to 6 feet bls

Maximum concentration 55 mg/kg

Sidewall and excavation bottom confirmation sampling

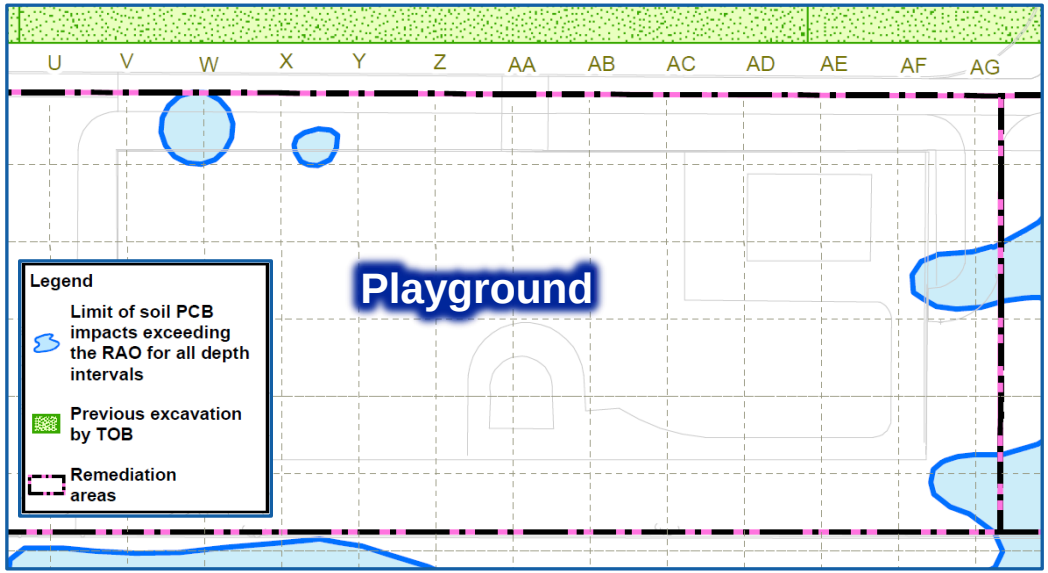
Backfill:

- 0-2 feet - certified clean
- 2-6 feet – clean fill or reuse excavated soils that are non-hazardous and PCBs ≤10 mg/kg



Playground

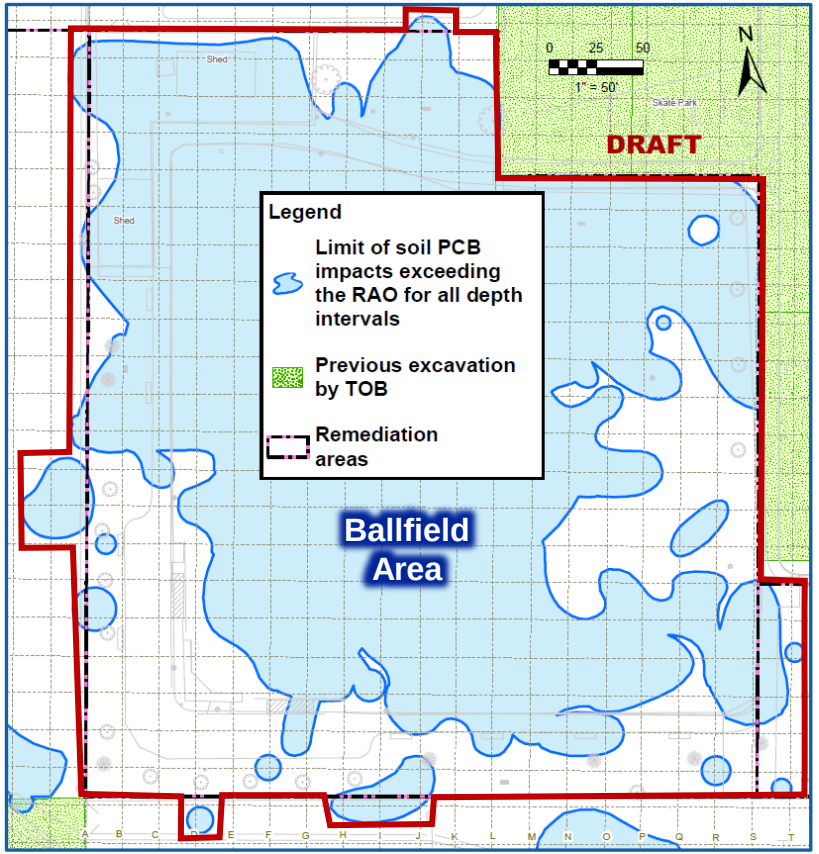
- Max depths of impacts >RAOs is 6 feet
- Excavation from 0 to 6 feet bls
- Maximum concentration 54U mg/kg
- Sidewall and excavation bottom confirmation sampling to 6 feet bls
- Backfill with certified clean fill at all depths



Ballfield Area

Described in May 25th presentation, which was sent to NYSDEC and EPA on June 2.

To be excavated following completion and demolition of the second phase of the ISTR remedy.



NG Access Road (East)

Max depths of PCB impacts >RAOs is 10 feet

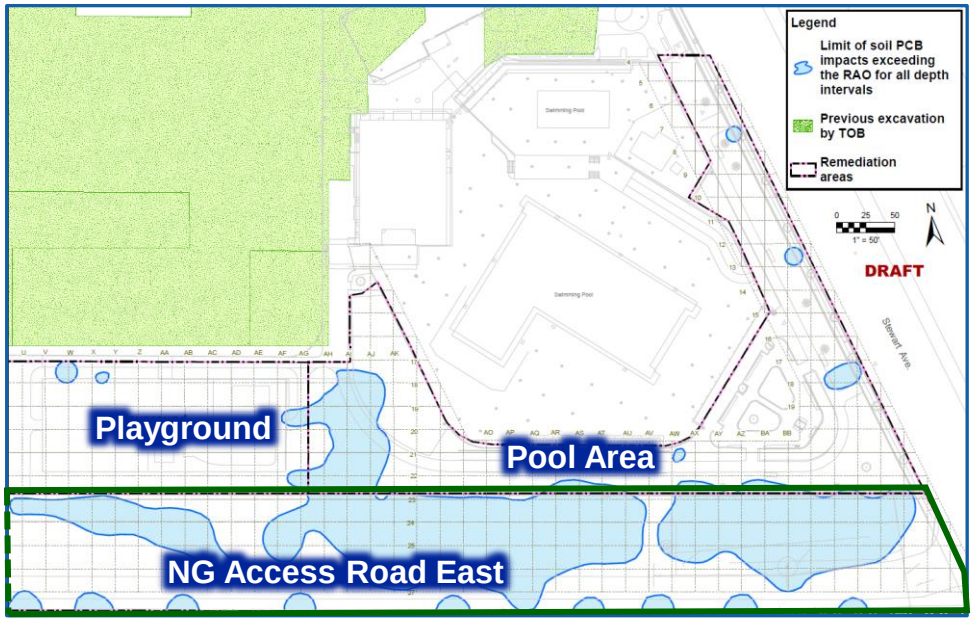
Excavation from 0 to 10 feet bls

Maximum concentration 3,400 mg/kg

Sidewall and excavation bottom confirmation sampling

Backfill:

- 0-2 feet - certified clean
- 2-10 feet – clean fill or reuse excavated soils that are non-hazardous and PCBs ≤10 mg/kg



NG Access Road (West)

Max depths of PCB impacts >RAOs is 4 feet

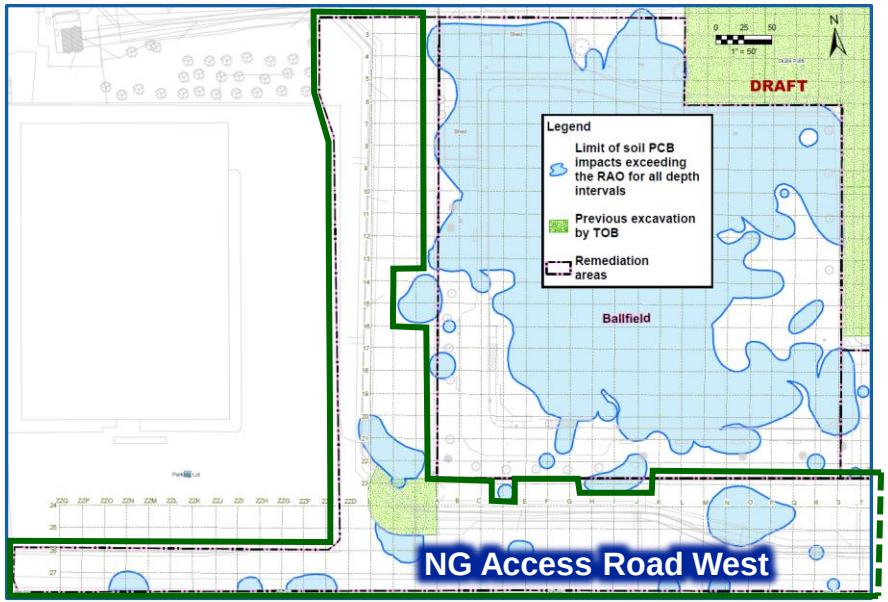
Excavation from 0 to 4 feet bls

Maximum concentration 18 mg/kg

Sidewall and excavation bottom confirmation sampling

Backfill:

- 0-2 feet - certified clean
- 2-4 feet – clean fill or reuse excavated soils that are non-hazardous and PCBs ≤10 mg/kg



RBDA Process / Deliverables

Meeting Close


NORTHROP
GRUMMAN