PCB Remedy at OU3

Bethpage, NY

June 23, 2022

Opening Remarks and Meeting Purpose Ed Hannon, Jason Pelton, Alexis Stabulas, Richard Lenz	10:00-10:10
PCB Distribution Bill Lais	10:10-10:20
Human Health Risk Evaluation Bob DeMott	10:20-10:30
Conceptual Design for PCB Remedy Bill Lais	10:30-10:40
Closing Remarks Ed Hannon	10:40-10:45

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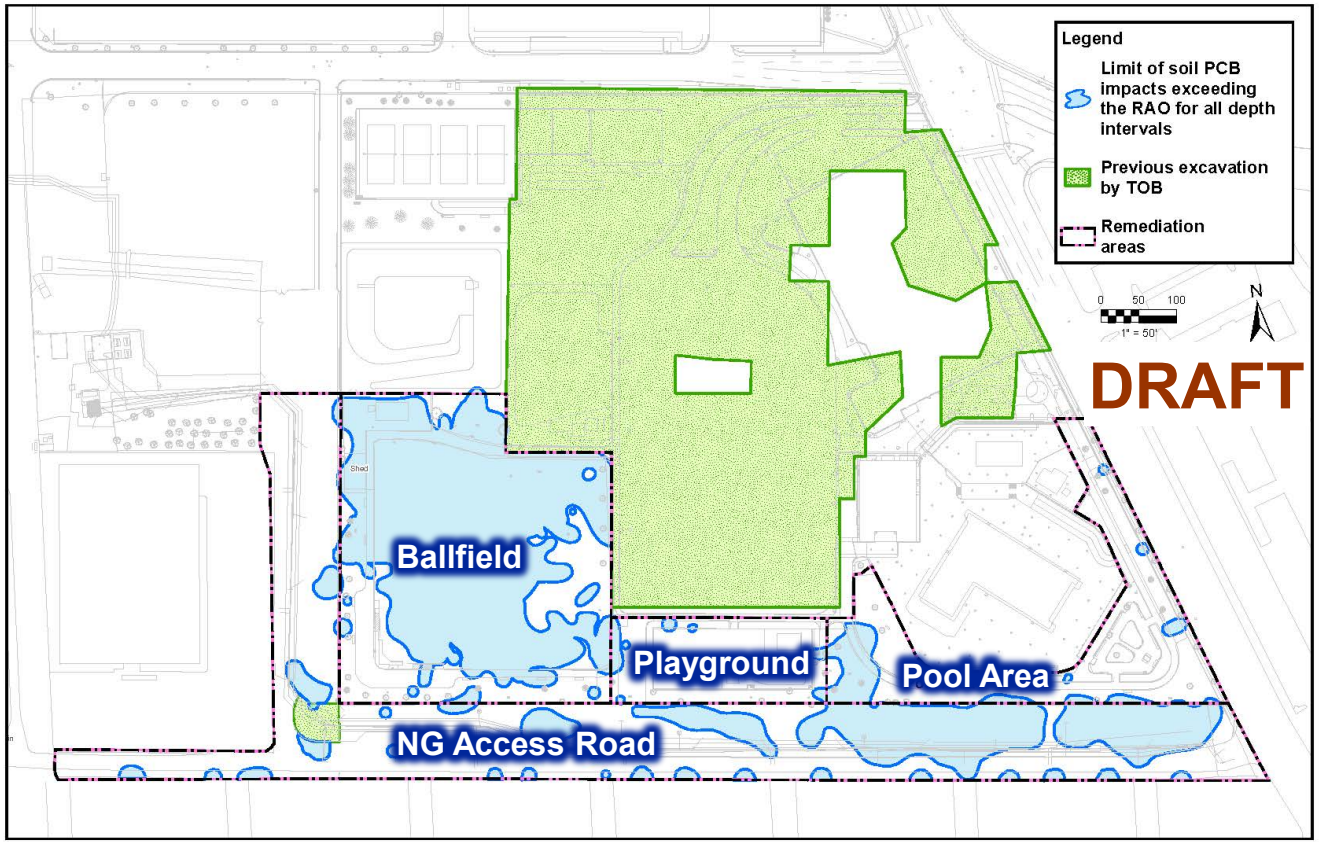
Meeting Purpose

To describe the conceptual design for the PCB remedy for soil at OU3

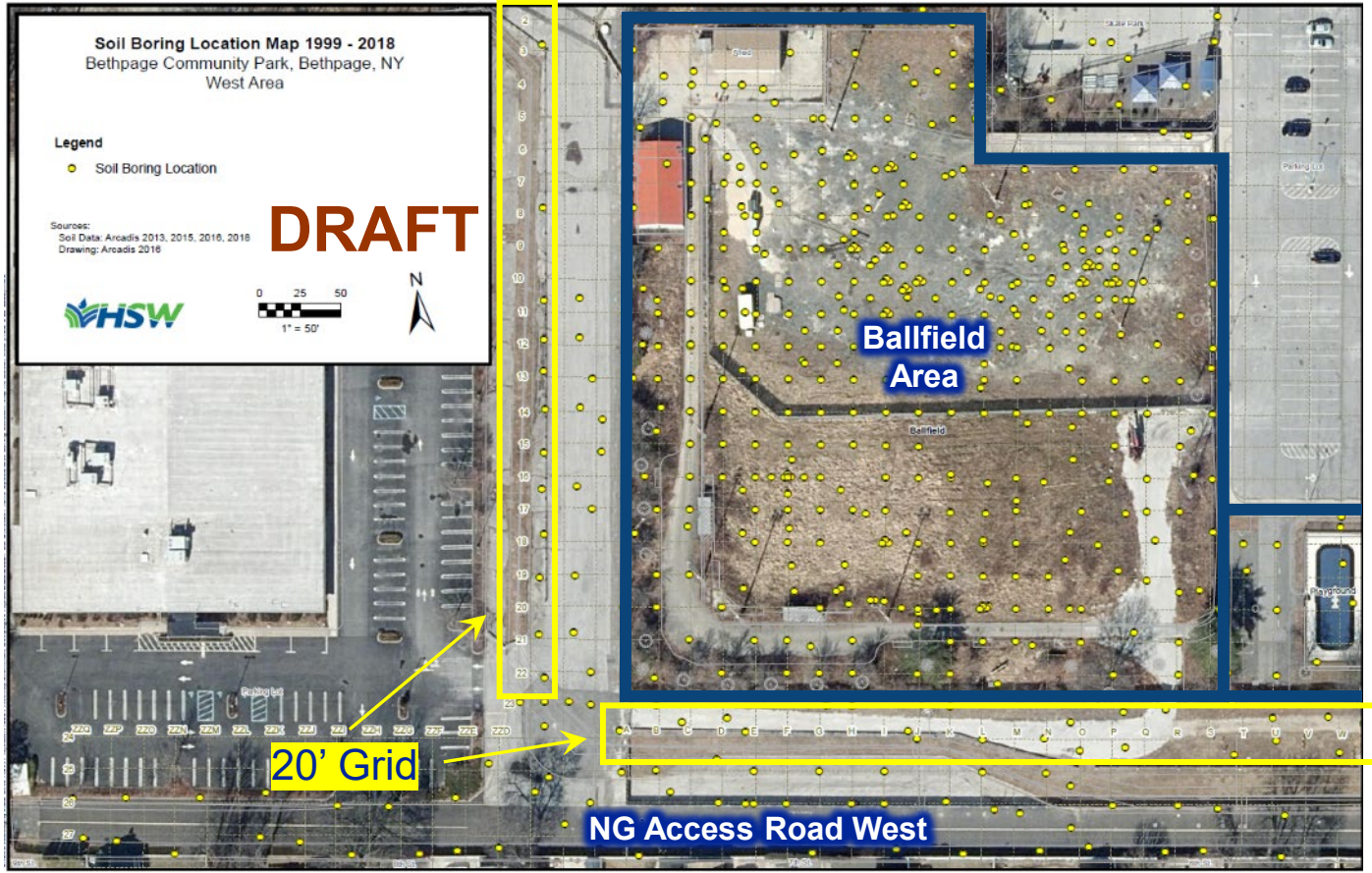
PCBs Soil Distribution

PCBs Soil Distribution



PCBs at the Park - East

PCBs at the Park - West



PCBs in Ballfield Soil

0-2 feet

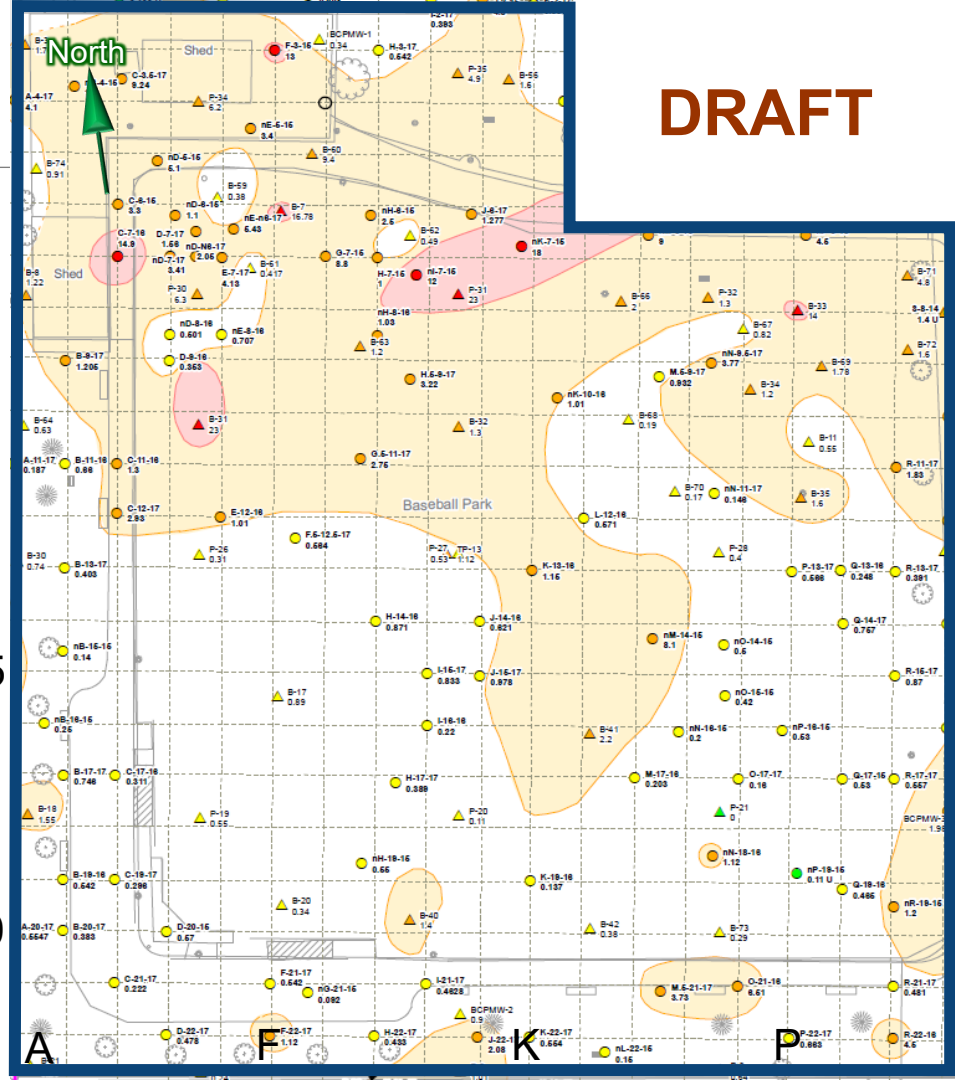
DRAFT

Data shown represents highest concentration in 0-2 ft interval

Isocontours are 1 mg/kg and 10 mg/kg:

- Soils with PCBs <1 mg/kg
- Soils with PCBs >1 and <10 mg/kg
- Soils with PCBs >10 mg/kg

Sources:
Soil data: Arcadis 2016, 2018, 2019
Drawing: Arcadis 2016 with HSW modifications 2022



PCBs in Ballfield Soil

4-6 ft

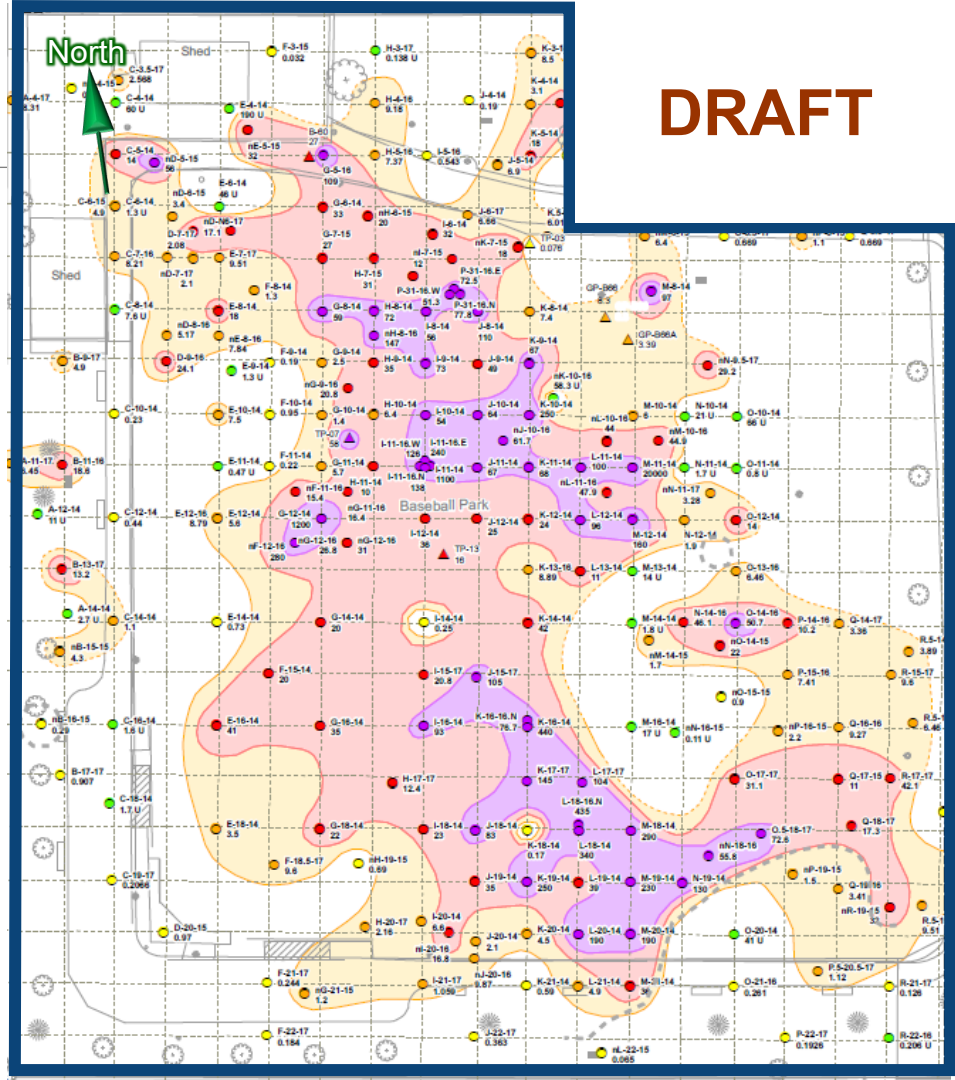
DRAFT

Isocontours are 1, 10, and 50 mg/kg:

- Soils with PCBs <1 mg/kg
- Soils with PCBs >1 and <10 mg/kg
- Soils with PCBs >10 and <50 mg/kg
- Soils with PCBs >50 mg/kg

Data shown represents highest concentration in each 2-ft interval

Additional delineation may be conducted to enhance delineation and to define soil geotechnical properties



PCBs in Ballfield Soil

15-20 ft

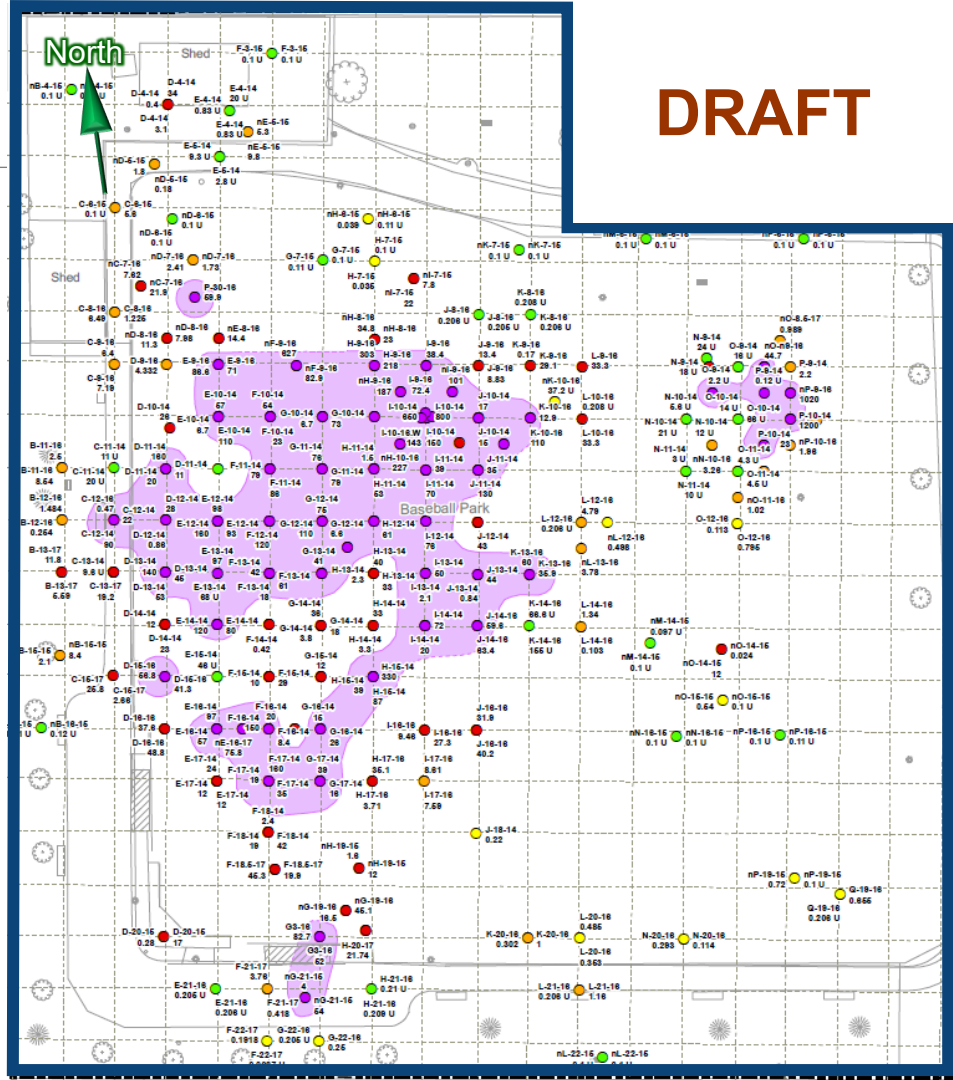
DRAFT

5-ft vertical intervals

Isocontour is 50 mg/kg:

- Soils with PCBs <50 mg/kg
- Soils with PCBs >50 mg/kg

Data shown represents highest concentration in each 5-ft interval



PCBs in Ballfield Soil below 10 feet

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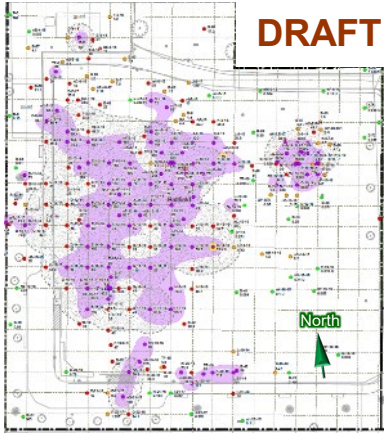
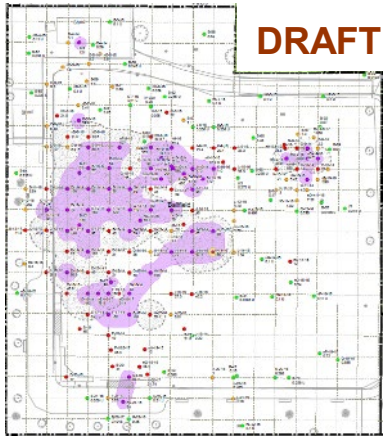
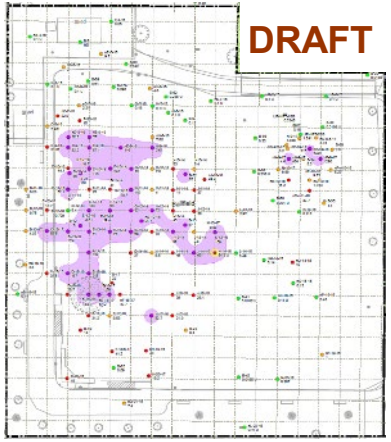
10-15 ft bls



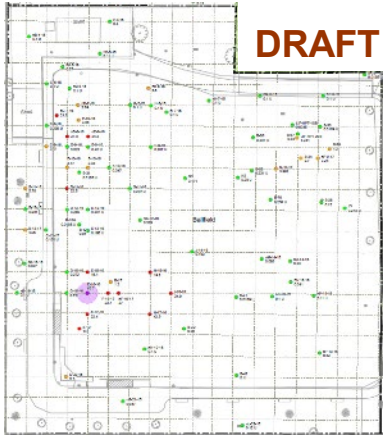
15-20 ft bls



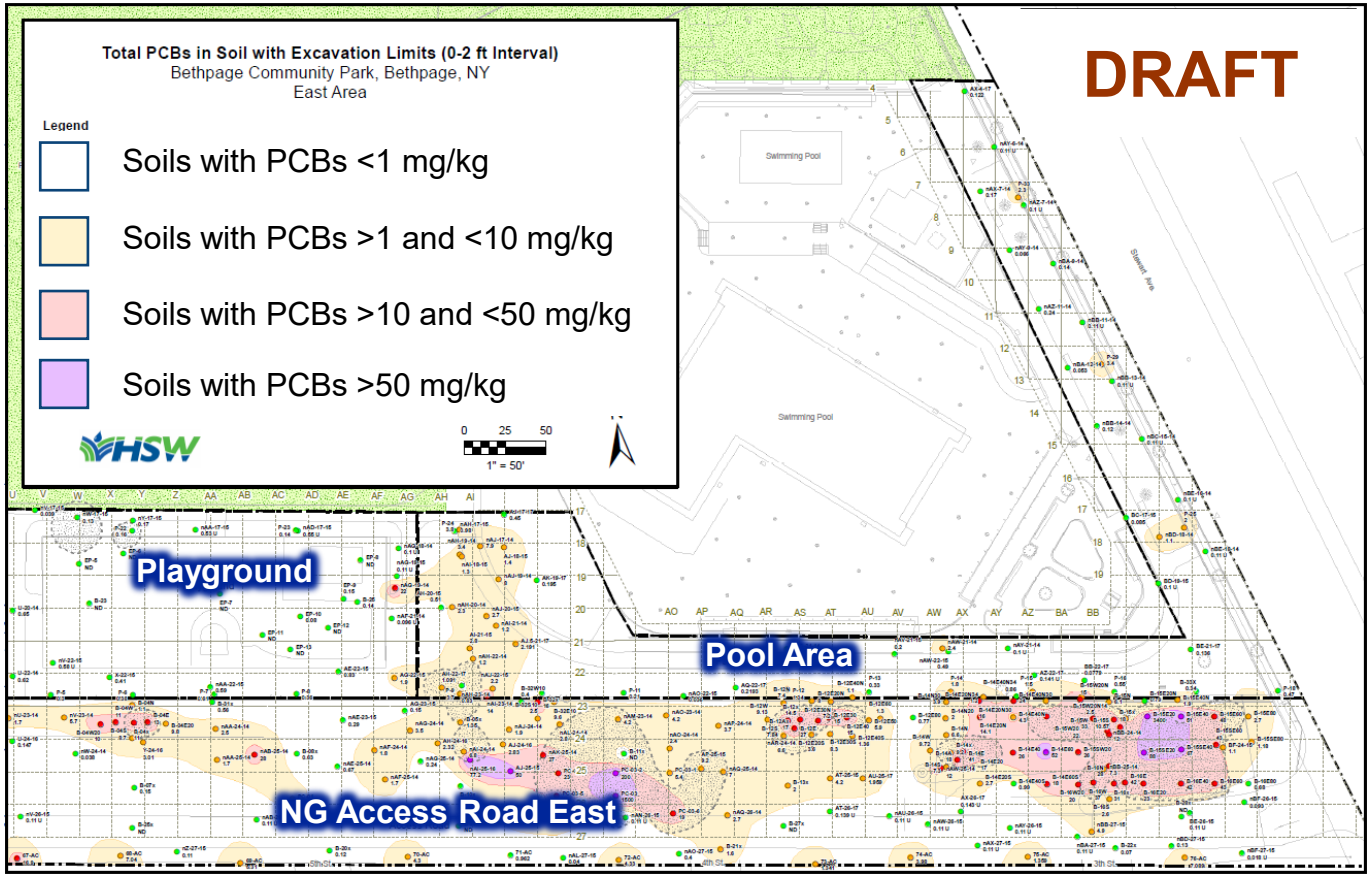
20-25 ft bls



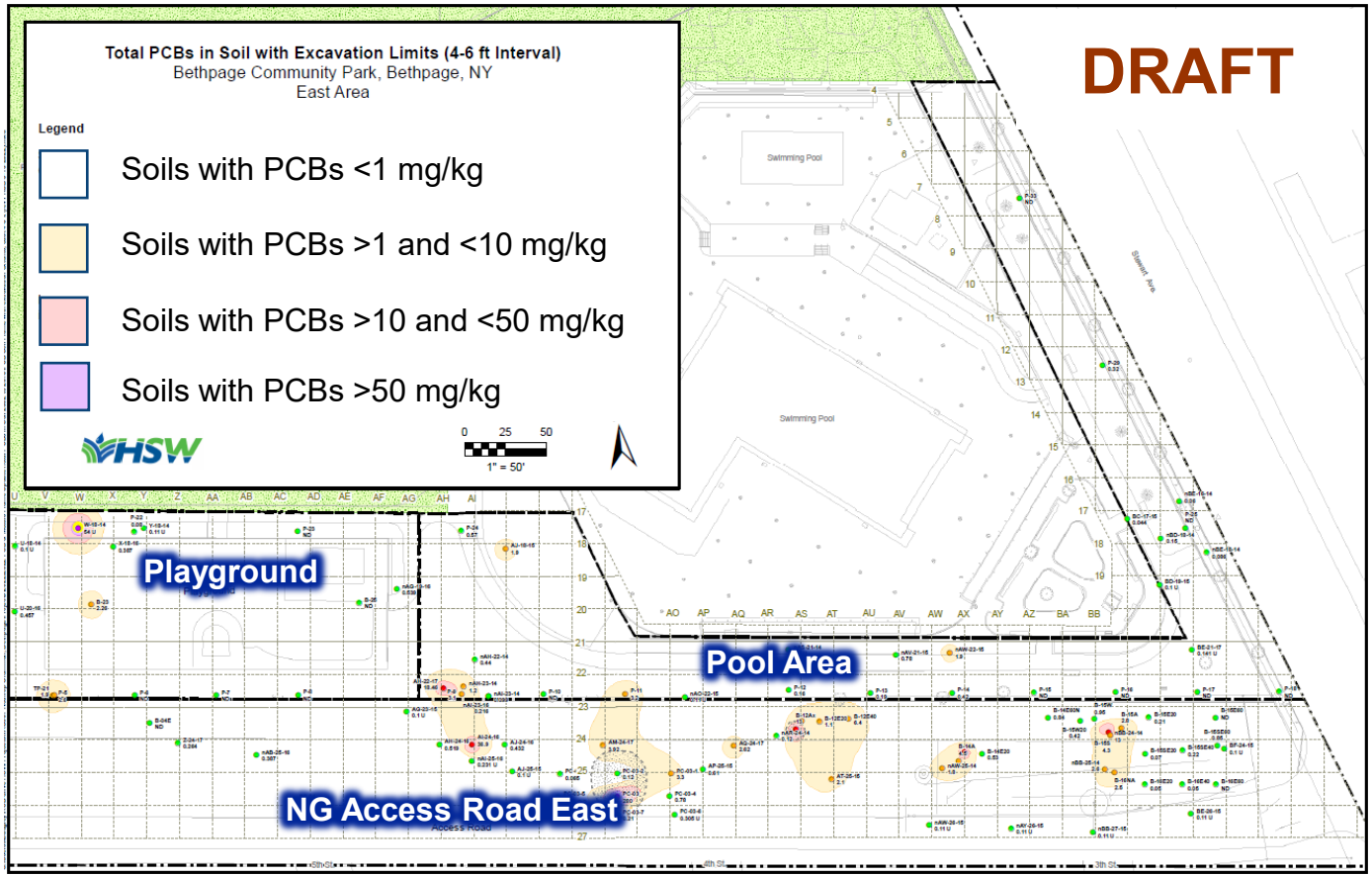
25-30 ft bls



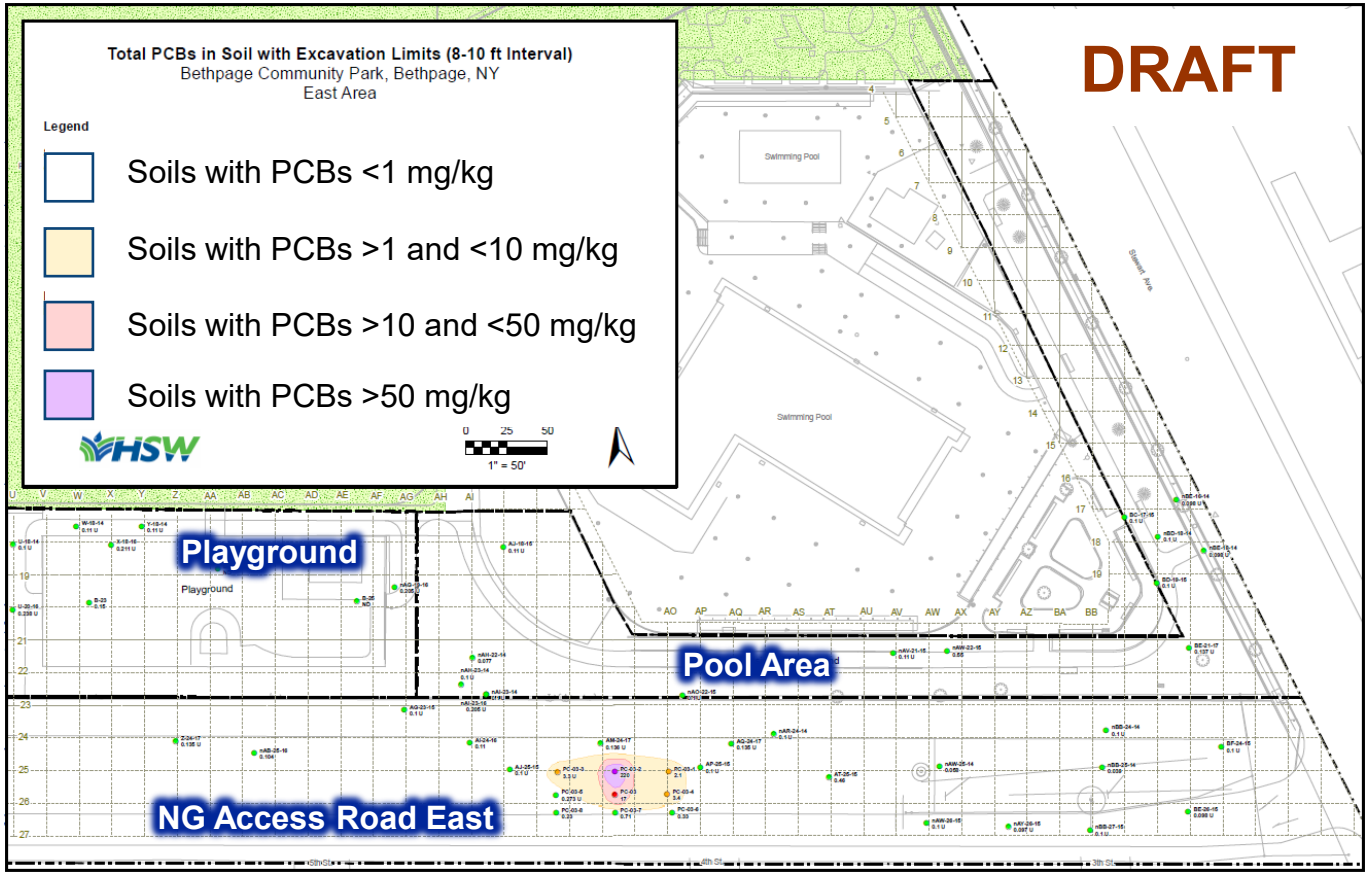
PCBs in Soils (0-2 ft interval), East Side



PCBs in Soils (4-6 ft interval), East Side



PCBs in Soils (8-10 ft interval), East Side



Human Health Risk Evaluation

Overview

PCB HHRE

- Supports Risk-Based Disposal Approval (RBDA) Application
- Standard EPA soil exposure inputs and site-specific recreational duration

Goal – demonstrate risk will be appropriate for recreational use after implementing remedy

- Required for approval of site-specific remedy
- Not an assessment of existing conditions (e.g., Superfund)

Executive Summary

Remedy consistent with “no unreasonable risk determination”

Soil 0 to 10 ft bgs – all risk estimates below EPA targets (10^{-4} to 10^{-6}, HQ < 1)

Soil > 10 ft bgs – no reasonably foreseeable sustained exposure

Potential Exposure Areas

ROD RAOs and Conceptual Site Model

Surface to 2 feet below ground surface (bgs)

- Excavate Total PCBs > 1 ppm
- Excavate all soil 0-2 feet at Ballfield *(more stringent than needed to meet RAO)*
- Potential future exposures: park users and visitors, groundskeepers, utility and construction workers

2–10 ft bgs

- Excavate Total PCBs > 10 ppm
- Potential future exposures: utility and construction workers

Below 10 ft bgs

- Excavate Total PCBs > 50 ppm
- No completed exposure pathway: no risk

Child Recreational Scenarios
Surface Soil Site-Specific Duration Inputs

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Playground (8-yr duration, ages 2-10)
- Playground use as toddler and small child
- 200 days/yr (5 days per week, 40 weeks per yr); 2 hrs/visit

Park Visitor (10-yr duration, ages 6-16)
- **Excludes ballfield** - as a small child through young teen
- 200 days/yr (5 days per week, 40 weeks per yr); 2 hrs/visit

Park User (10-yr duration, ages 6-16)
- **Includes ballfield** – as a small child through young teen
- 200 days/yr (5 days per week, 40 weeks per yr); 4 hrs/visit

NG Access Road
- 80 days/yr (2 days per week, 40 weeks per yr); 1 hr/visit

Adult Recreational Scenarios
Surface Soil Site-Specific Duration Inputs

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Park Visitor (20-yr duration)

- **Excludes ballfield** - accompanies children to the Park
- 200 days/yr (5 days per week, 40 weeks per yr); 2 hrs/visit

Park User (20-yr duration)

- **Includes ballfield** – plays with or coaches children in all areas of the Park
- 200 days/yr (5 days per week, 40 weeks per yr); 4 hrs/visit

NG Access Road (20-yr duration)

- Uses the NG access road to access the church or the Park
- 80 days/yr (2 days per week, 40 weeks per yr); 1 hr/visit

Occupational Scenarios
Site-Specific and EPA Standard Duration Inputs

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Groundskeeper (25-yr duration [USEPA, 2002])

- Conducts outdoor maintenance activities, soil contact 0-2’ interval
- 80 days/yr (2 days per week, 40 weeks per yr); 8-hr workday

Utility Worker (25-yr duration [infrequent, long-term])

- Excavates/repairs buried utilities, soil contact 0-10’ interval
- 3 days/yr, 8-hr workday

Construction Worker (6-month duration [intensive, short-term])

- Excavating building foundation or similar, soil contact 0-10’ interval
- 5 days/week, 8-hr workday

Risk Estimates – Recreators

Exposed Population	Child (2-10)	Child (6-16)	Adult	Child (6-16)	Adult
Exposure Area	Playground User Only	Park Visitor Excludes Ballfield	Park Visitor Excludes Ballfield	Park User Includes Ballfield	Park User Includes Ballfield
	Cancer Risk				
Total Risk	3E-07	7E-08	4E-08	3E-08	2E-08
	Non-Cancer Hazard Quotient				
Hazard Index	0.059	0.012	0.003	0.005	0.001

Risk Estimates – Site Workers

Exposed Population	Groundskeeper	Utility Worker	Construction Worker	Construction Worker	Construction Worker
Exposure Area	All Areas	All Areas	All Areas	Playground Only	Ballfield Only
	Cancer Risk				
Total Risk	2.E-08	3.E-08	2.E-08	1.E-08	3.E-08
	Non-Cancer Hazard Quotient				
Hazard Index	0.001	0.002	0.076	0.042	0.107

Risk Estimates – NG Access Road

Exposed Population	Child (6-16)	Adult	Groundskeeper	Utility Worker	Construction Worker
	Cancer Risk				
Total Risk	1E-08	5E-09	2E-08	2E-08	1E-08
	Non-Cancer Hazard Quotient				
Hazard Index	0.002	0.000	0.002	0.001	0.046

Conceptual Design

Ballfield Conceptual PCB Excavation Plan 0-2 ft bls
ROD RAO is 1mg/kg PCBs

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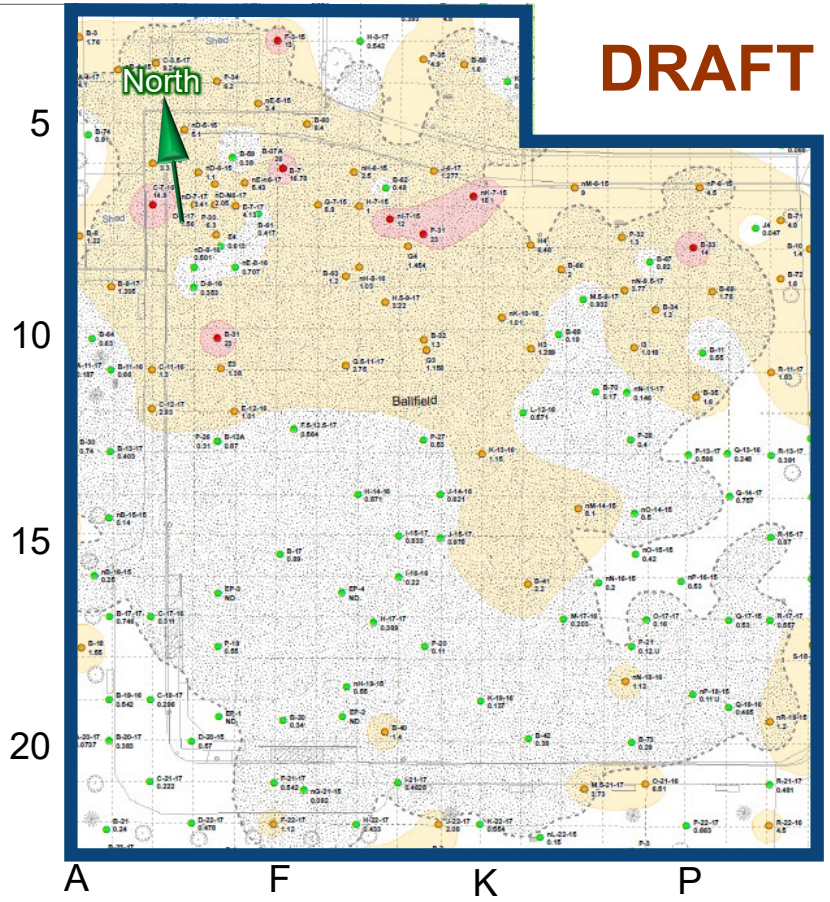
- Soils with PCBs <1 mg/kg
- Soils with PCBs >1 mg/kg to be excavated
- Soils with PCBs >10 mg/kg to be excavated
- Soils with PCBs >50 mg/kg to be excavated*
- Stippling shows where excavation will extend to access a deeper interval

* PCBs >50 mg/kg not found in 0-2 ft bls samples in ballfield



Ballfield Conceptual PCB Excavation Plan 0-2 ft bls ROD RAO is 1mg/kg PCBs

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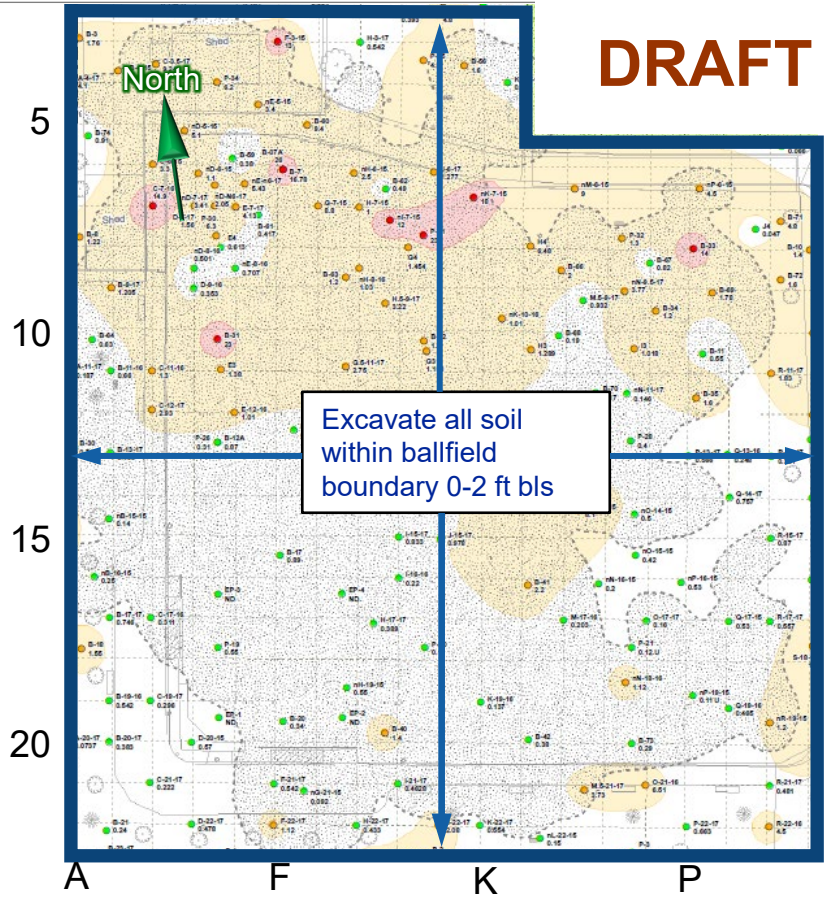
1. Excavate all soil 0-2 ft bls within the ballfield boundary & stockpile
2. Characterize stockpiled soil for potential reuse and for disposal:
   - Soil <10 can be reused as backfill at 2-10 ft bls
   - Soil <50 can be reused as backfill below 10 ft bls, or disposed off-site as non-TSCA waste*
3. After deeper intervals excavated, backfill the 0-2 ft excavation with certified clean imported fill, creating a clean soil cap

Constraint: stockpiles must be *off-site* at McKay Field

* Reuse and disposal decisions also require RCRA hazardous waste determinations



Ballfield Conceptual PCB Excavation Plan 2-10 ft bls
ROD RAO is 10 mg/kg (4-6 ft interval shown)

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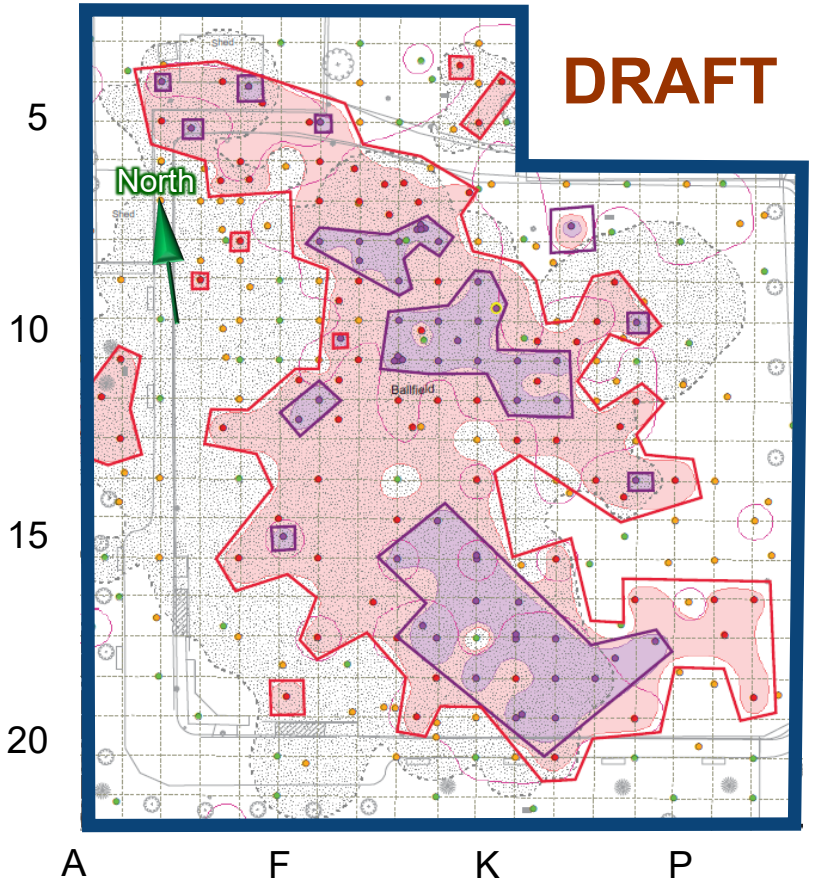
- Soils with PCBs >10 mg/kg to be excavated
- Soils with PCBs >50 mg/kg to be excavated
- Stippling shows where excavation will extend to access a deeper interval



Ballfield Conceptual PCB Excavation Plan 2-10 ft bls
ROD RAO is 10 mg/kg (4-6 ft interval shown)

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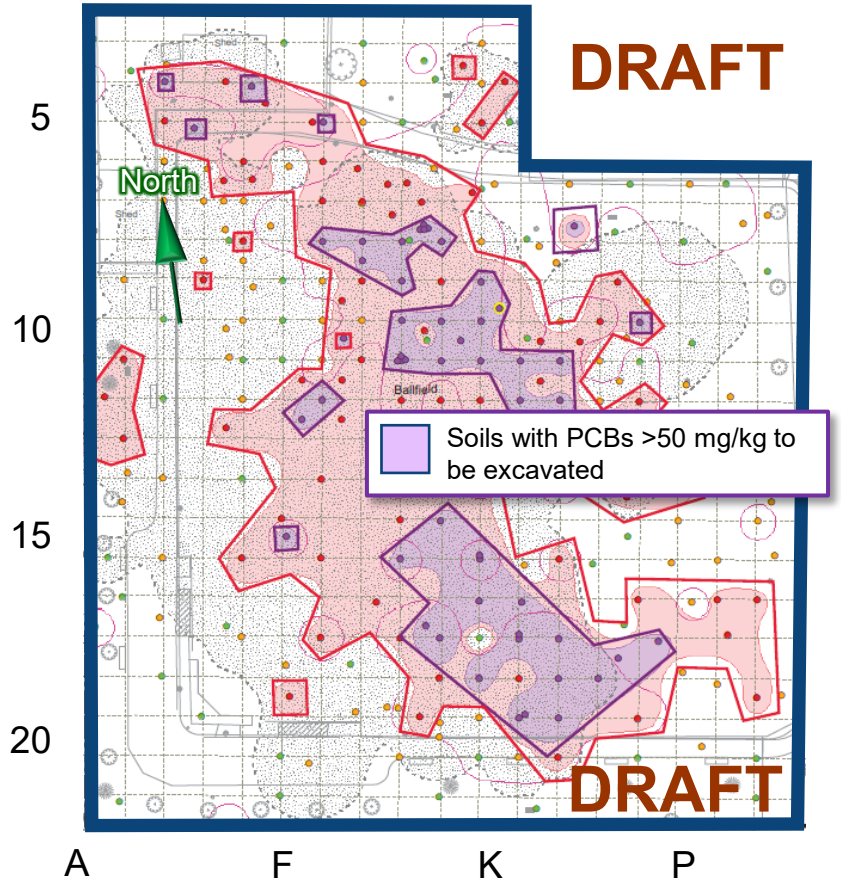
PCBs >50 mg/kg:

1. Excavate soil >50 based on as-found concentrations and segregate in designated TSCA waste stockpiles
2. Characterize stockpiled soil to profile for disposal*
3. Dispose soil off-site as TSCA waste

Constraints:

1. Space limitations for stockpiling
2. Sloping/benching space requirements

* Disposal decision requires RCRA hazardous waste determination



Ballfield Conceptual PCB Excavation Plan 2-10 ft bls
ROD RAO is 10 mg/kg (4-6 ft interval shown)

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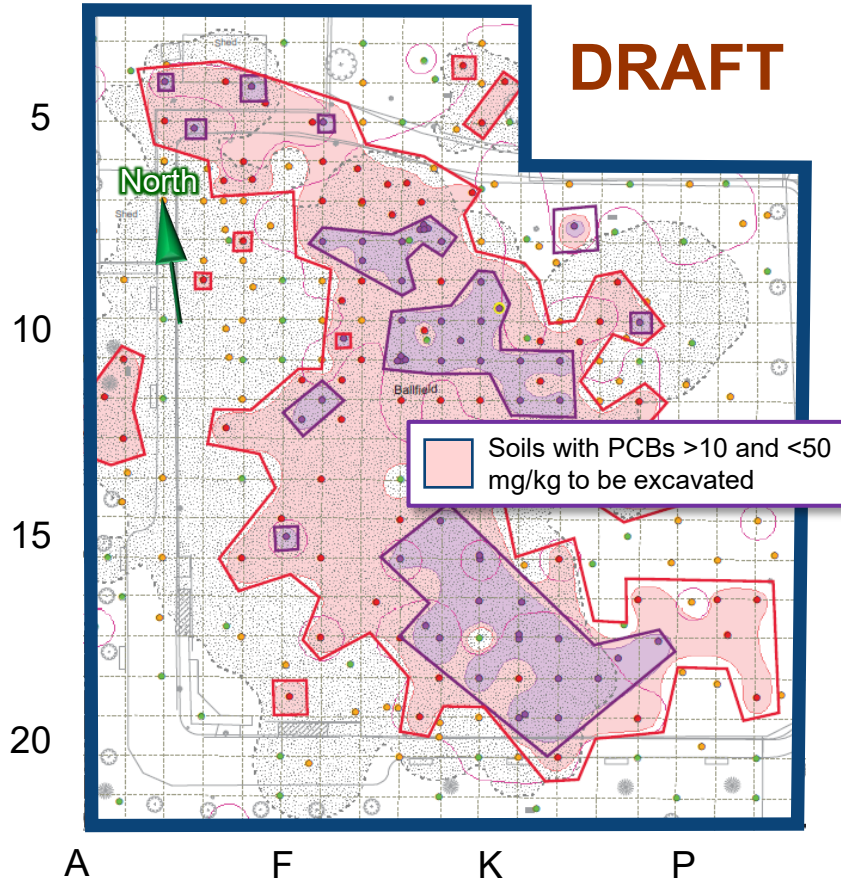
PCBs >10 mg/kg < 50 mg/kg:

1. Excavate soil >10 based on pre-remedial delineation and stockpile as non-TSCA
2. Characterize stockpiled soil for potential reuse* and profile for disposal:
   - Soil ≤10 can be reused as backfill at 2-10 ft bls, OR
   - Soil <50 can be reused as backfill below 10 ft bls, OR
   - Soil <50 can be disposed off-site as non-TSCA waste
3. Excavate additional soil ≤10 mg/kg as needed to excavate soil in deeper intervals

Constraints *magnified* because of larger volume of material to manage

* Reuse/disposal decisions require RCRA hazardous waste determination



Ballfield Conceptual PCB Excavation Plan below 10 ft bls
ROD RAO is 50 mg/kg (15-20 ft interval shown)

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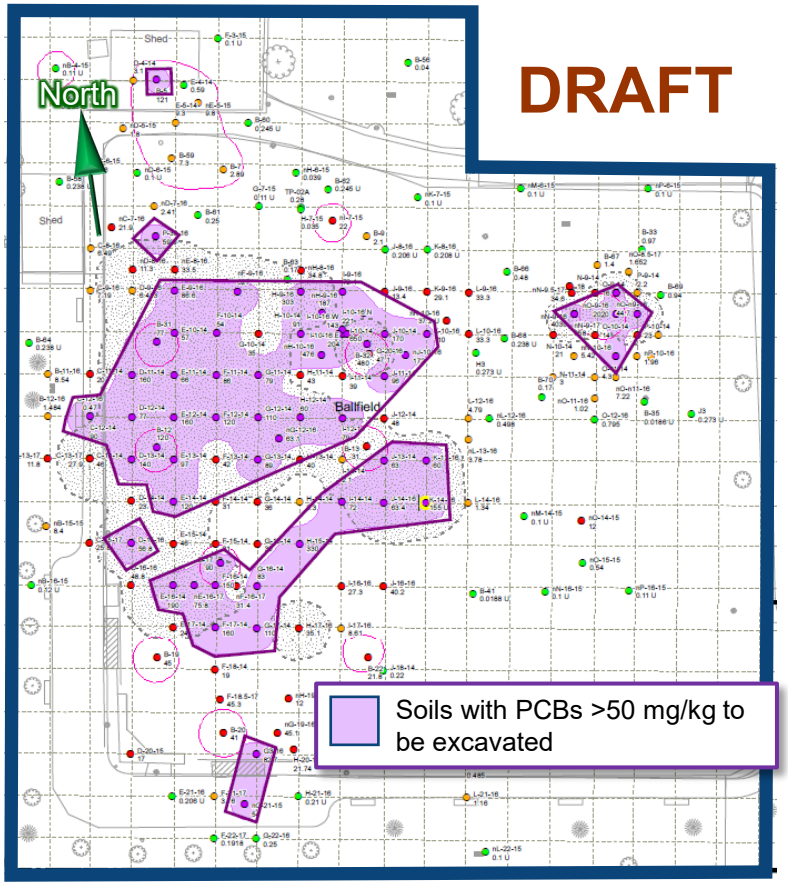
1. Excavate soil >50 and stockpile as TSCA waste
2. Dispose soil from >50 excavation off-site as TSCA waste
3. Excavate additional soil ≤50 as needed to stabilize the excavation and access deeper intervals
4. After excavation completed below 10 ft, install demarcation layer at 10 ft bls



Pool Area Conceptual Excavation Plan 0-6 ft bls
ROD RAOs are 1 mg/kg at 0-2 ft bls and 10 mg/kg at 2-6 ft bls
(0-2 ft interval shown)

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Max depths of PCB impacts >RAOs is 6 feet

Excavation from 0 to 6 feet bls

Maximum concentration 55 mg/kg

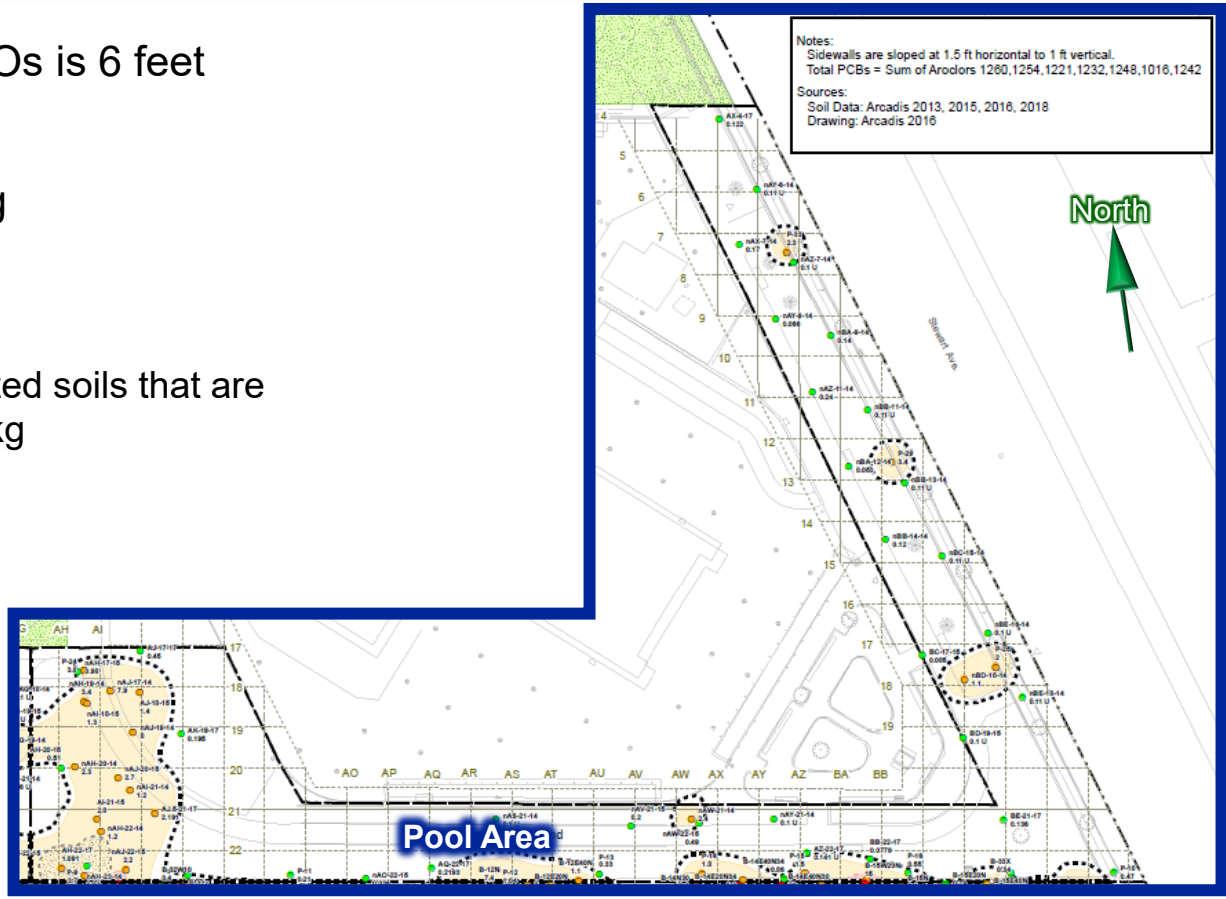
Backfill:

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

Soils with PCBs <1 mg/kg

Soils with PCBs >1 and <10 mg/kg to be excavated

Stippling shows where excavation will extend to access a deeper interval



Playground Area Conceptual Excavation Plan 0-6 ft bls
ROD RAOs are 1 mg/kg at 0-2 ft bls and 10 mg/kg at 2-6 ft bls
(0-2 ft interval shown)

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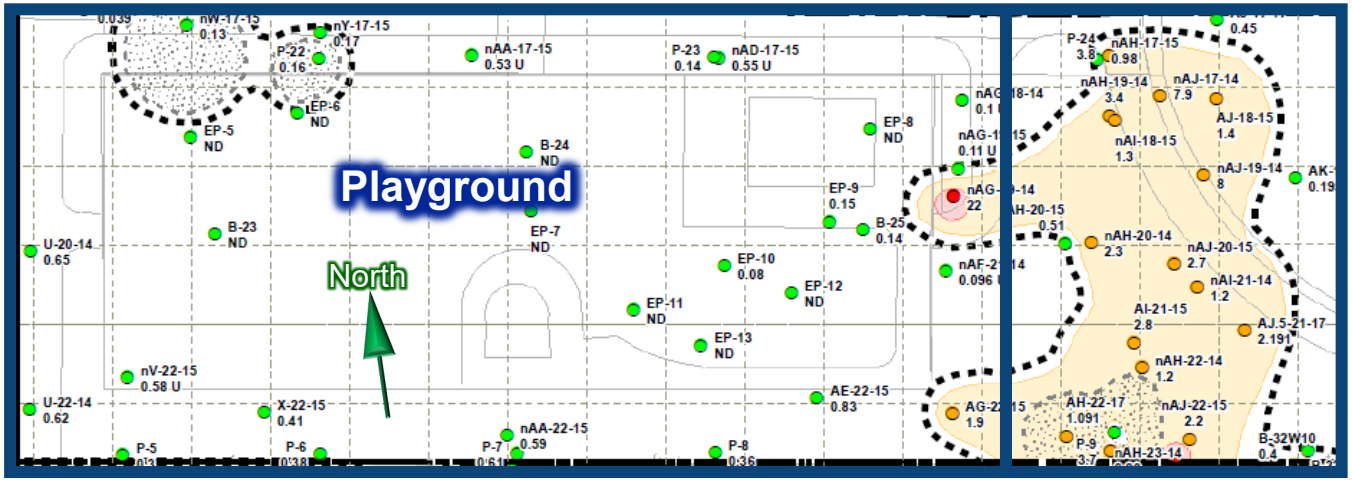
Max depths of PCB impacts >RAOs is 6 feet

Excavation from 0 to 6 feet bls

Maximum concentration 54U mg/kg

Backfill with certified clean fill at all depths



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

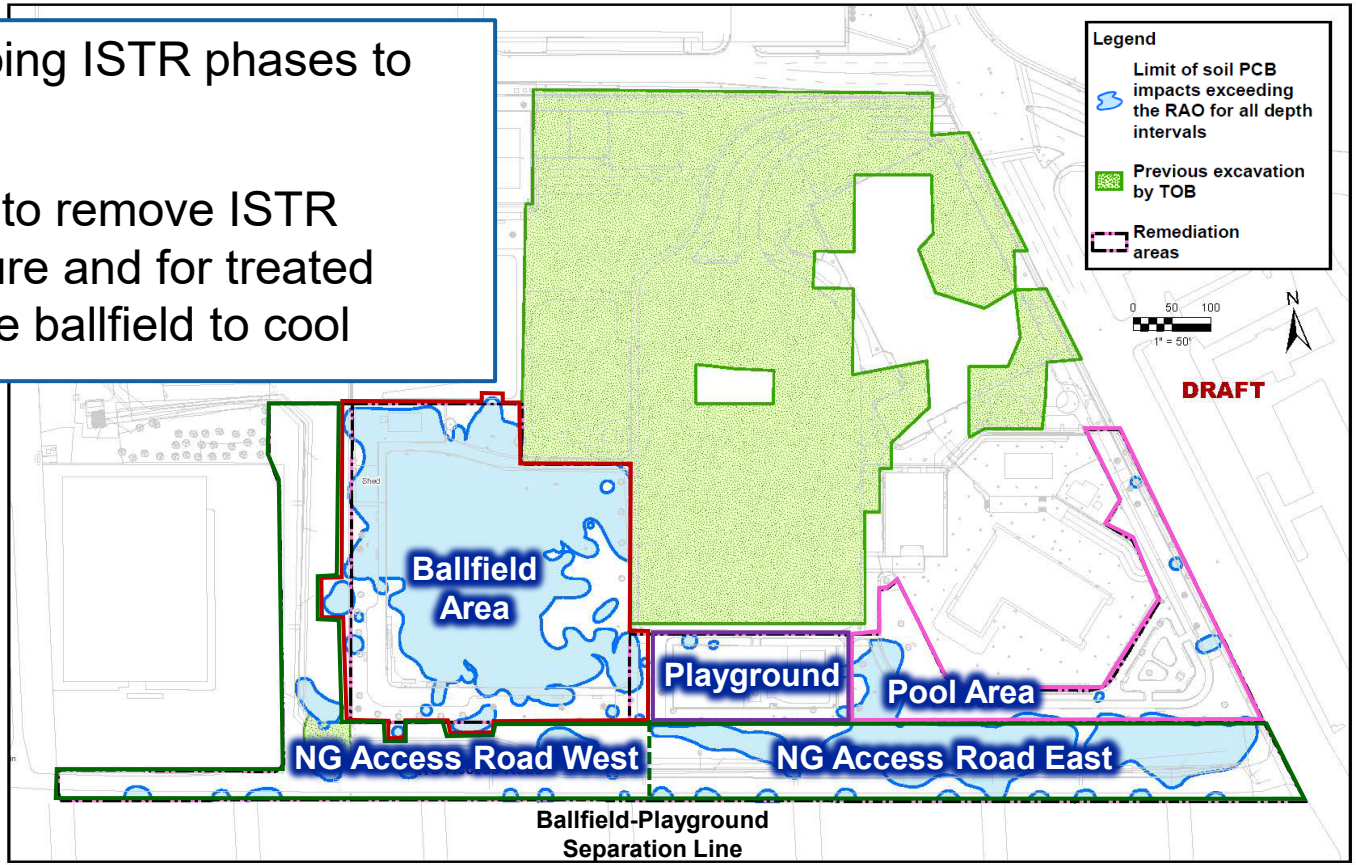
Stockpile soil and characterize for disposal or reuse

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

PCB Excavation Phases

Allow ongoing ISTR phases to continue

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

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