87th Air Base Wing

JB MDL
RESTORATION ADVISORY BOARD MEETING

MARCH 14, 2019

JB MDL PBR CONTRACT UPDATE

Mr. Tom Crone, Deputy Project Manager

Arcadis

SUMMARY OF PROGRESS

- **Continued development and submittal of National Priorities List (NPL) documents for the McGuire Area Operable Units (OUs)**
  - Continued good progress overall although the volume of documents is challenging for the entire team
  - OU1 Record of Decision (ROD) on track for 2019
  - OU3 ROD scheduled for 2019, 1 site in this group will be delayed pending munition removal action

- **State led sites at McGuire and Dix**
  - Remedies in place operating well (TU003 will need additional action)
  - Several (more) sites moving toward completion

- **Active remedies (air sparge [AS]/soil vapor extraction [SVE] systems)**
  - All in place and operating at Lakehurst (Area A/B/C)
  - McGuire (TU023 being optimized/TU013—in rebound study)
  - Dix (NW044/TU019a being optimized,TU970—in rebound study)

- **Continued progress closing out sites (2 more since last RAB)**

"WIN AS ONE"

MCGUIRE NPL SITES

McGuire Update
Operable Unit 1 (OU1) Summary

Work started on next document

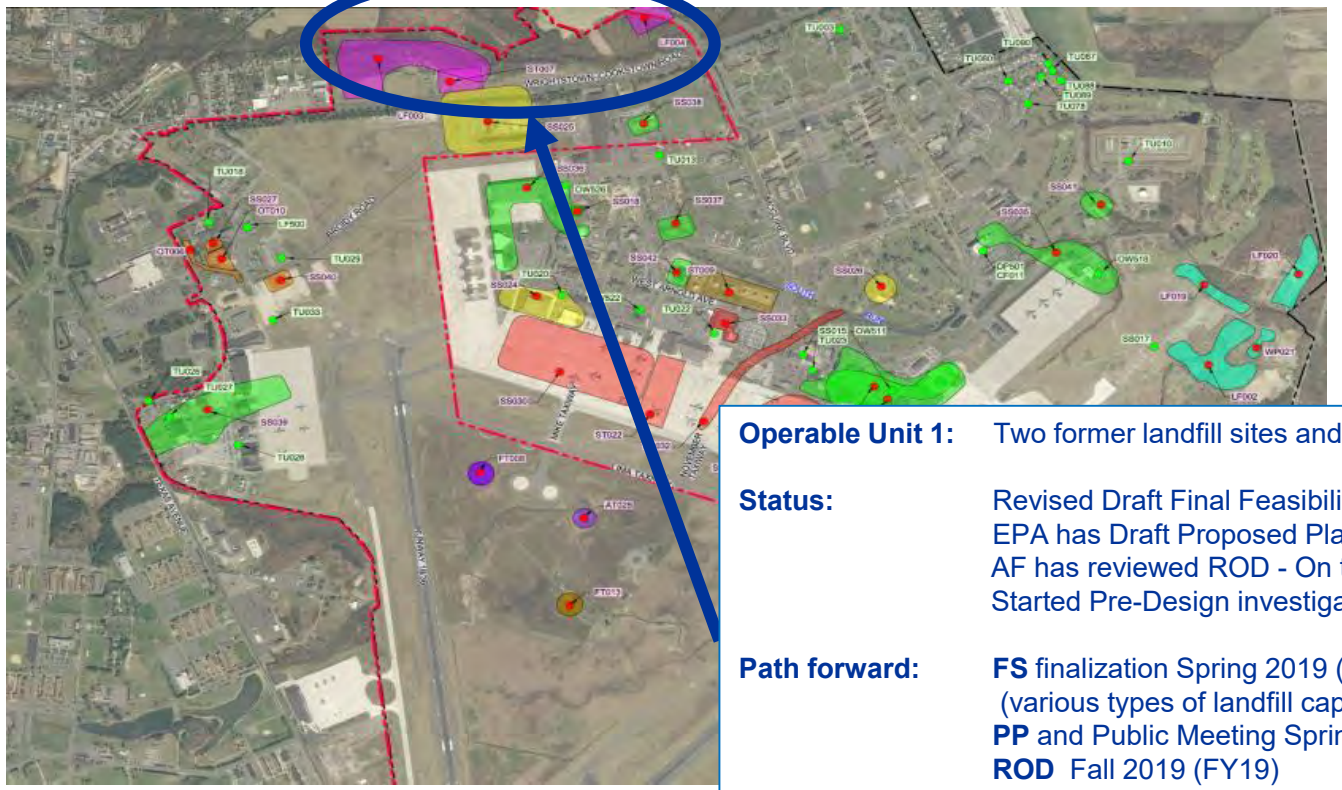
Work pending

FS FY19

PP FY19

ROD FY19

REMEDY FY20



Operable Unit 1: Two former landfill sites and one former recycling yard

Status:
Revised Draft Final Feasibility Study (FS) under AF review
EPA has Draft Proposed Plan (PP)
AF has reviewed ROD - On track for a ROD FY19
Started Pre-Design investigation of LF003 landfill cover

Path forward:
FS finalization Spring 2019 (evaluates containment remedies (various types of landfill caps)
PP and Public Meeting Spring/Summer 2019
ROD Fall 2019 (FY19)
Remedial Action will be implemented 2020

McGuire Update
OU2 Status Summary

Work started on next document

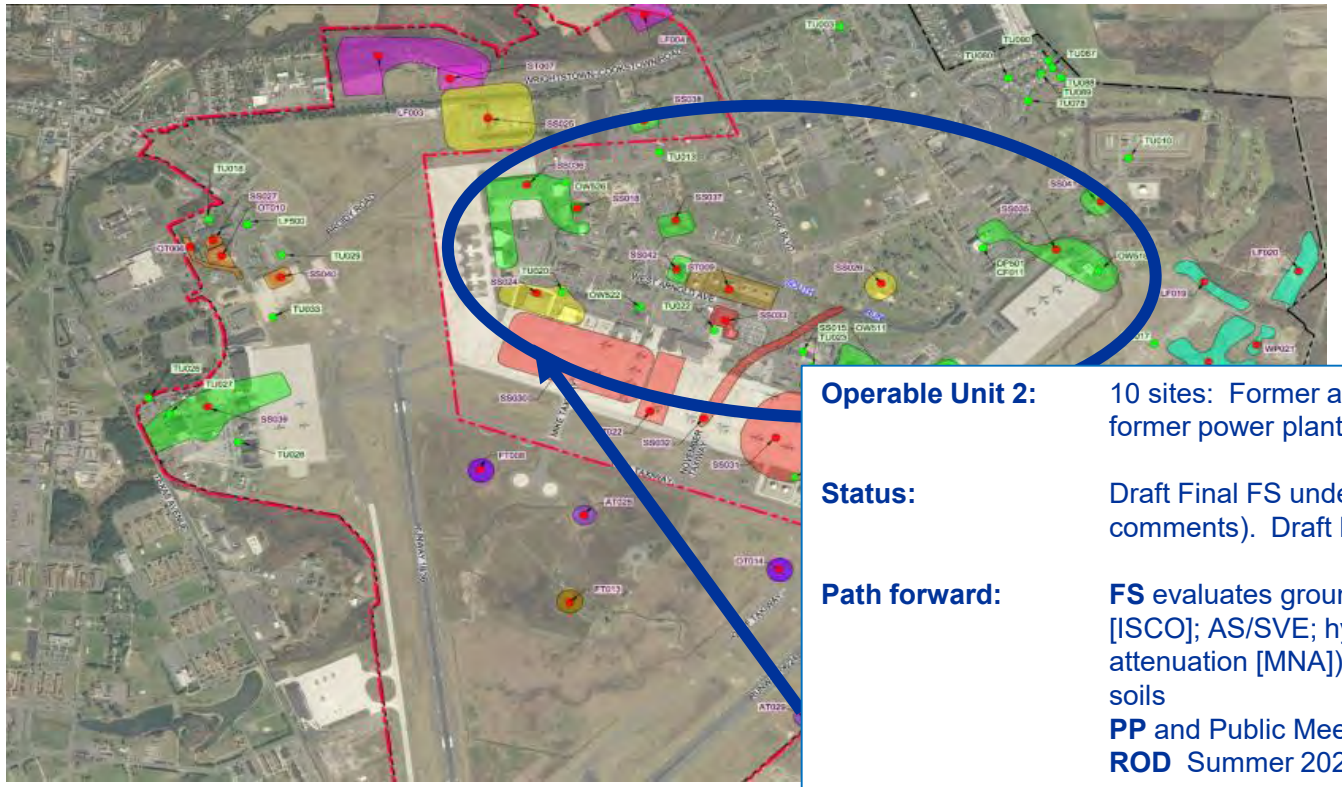
Work pending

FS FY19

PP FY20

ROD FY20

REMEDY FY21/22



Operable Unit 2:	10 sites: Former aircraft maintenance; oil water separators; former power plant; etc.
Status:	Draft Final FS under preparation (responding to regulator comments). Draft Final FS planned to EPA/DEP early next year
Path forward:	**FS** evaluates groundwater remedies (in-situ chemical oxidation [ISCO]; AS/SVE; hydraulic containment; monitored natural attenuation [MNA]) and excavation or land-use restrictions for soils **PP** and Public Meeting Winter 2019 **ROD** Summer 2020 (FY20) **Remedial Action** to be implemented 2021/2022

McGuire Update
Operable Unit 3 (OU3) Summary

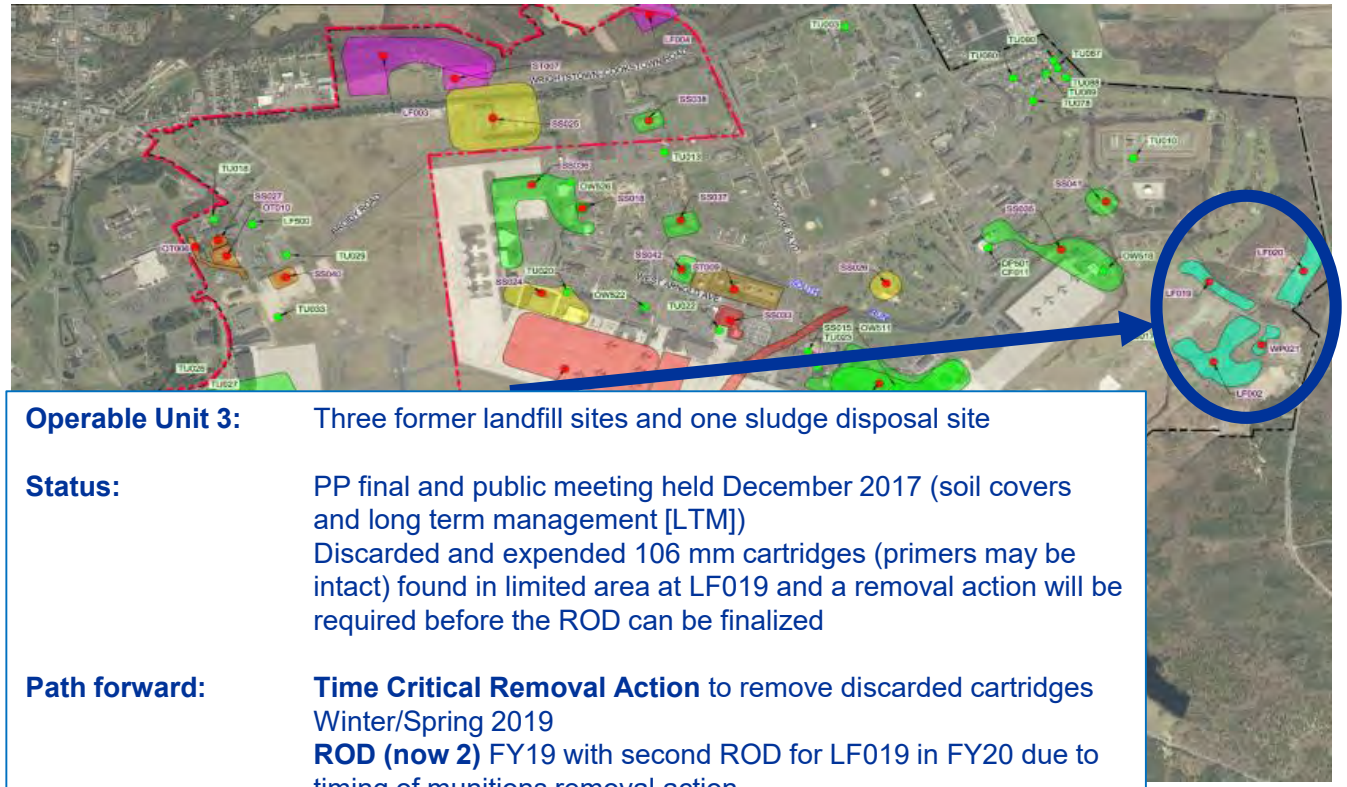
Work started on next document

Work pending

FS Complete
PP Complete

ROD FY19

REMEDY FY20



Operable Unit 3:	Three former landfill sites and one sludge disposal site
Status:	PP final and public meeting held December 2017 (soil covers and long term management [LTM]) Discarded and expended 106 mm cartridges (primers may be intact) found in limited area at LF019 and a removal action will be required before the ROD can be finalized
Path forward:	**Time Critical Removal Action** to remove discarded cartridges Winter/Spring 2019 **ROD (now 2)** FY19 with second ROD for LF019 in FY20 due to timing of munitions removal action **Pre-design work** for landfill covers to be conducted 2019 **Remedial Action** will be implemented 2020 unless delayed by removal action timing

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McGuire Update
Operable Unit 4 (OU4) Summary

Work started on next document

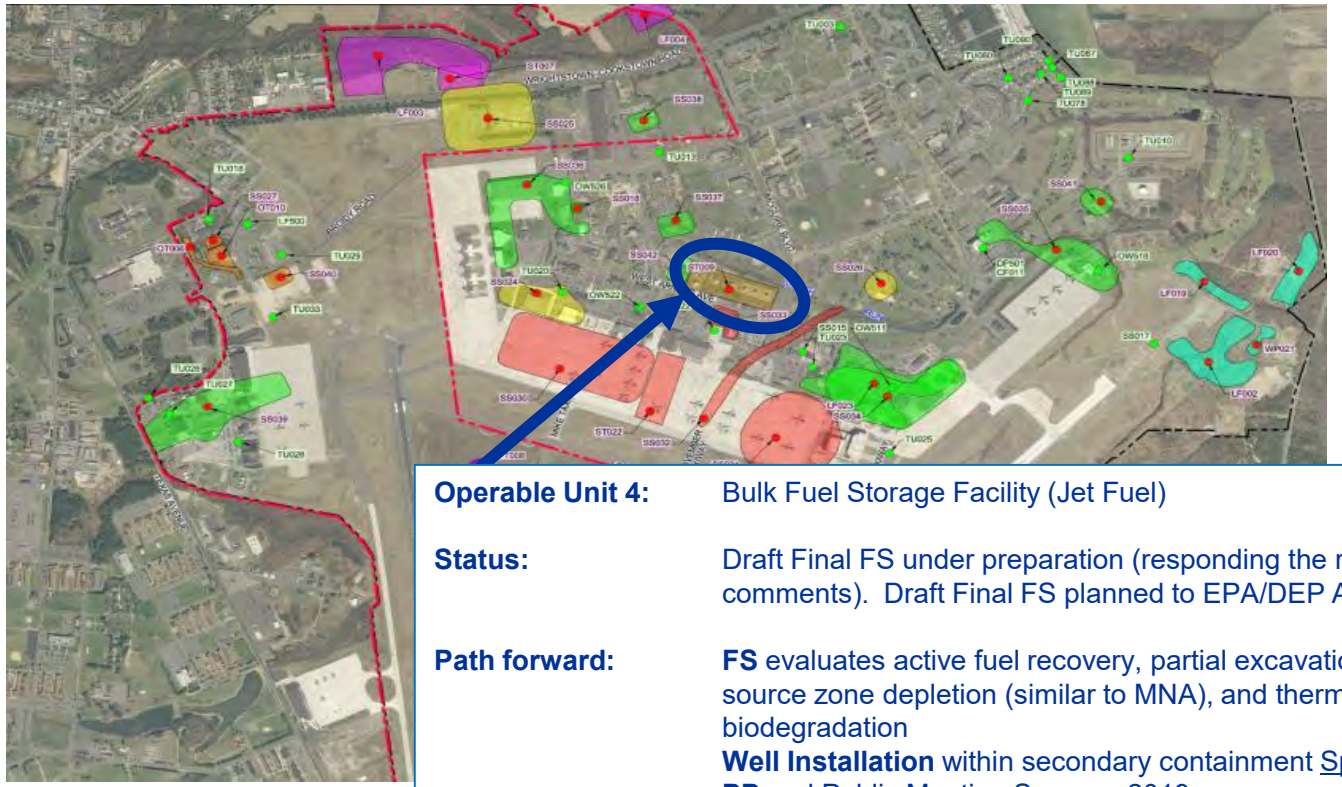
Work pending

FS FY19

PP FY19

ROD FY20

REMEDY FY21



Operable Unit 4:	Bulk Fuel Storage Facility (Jet Fuel)
Status:	Draft Final FS under preparation (responding the regulator comments). Draft Final FS planned to EPA/DEP April 2019
Path forward:	**FS** evaluates active fuel recovery, partial excavation, natural source zone depletion (similar to MNA), and thermally enhanced biodegradation **Well Installation** within secondary containment Spring 2019 **PP** and Public Meeting Summer 2019 **ROD** FY20 **Remedial Action** to be implemented 2021

"WIN AS ONE"

McGuire Update
OU5 Status Summary

Work started on next document

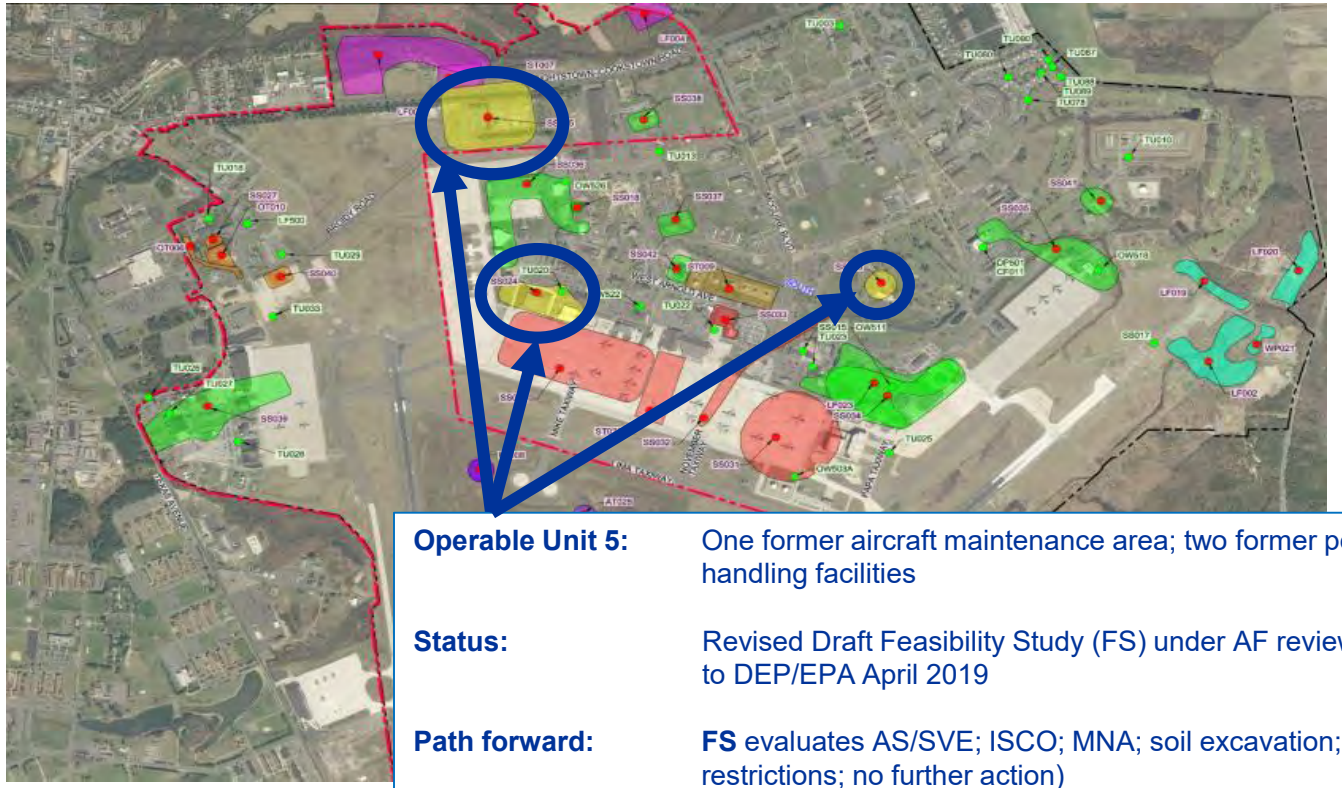
Work pending

FS FY19

PP FY20

ROD FY20

REMEDY FY21



Operable Unit 5:	One former aircraft maintenance area; two former pesticide handling facilities
Status:	Revised Draft Feasibility Study (FS) under AF review. Submitted to DEP/EPA April 2019
Path forward:	**FS** evaluates AS/SVE; ISCO; MNA; soil excavation; land-use restrictions; no further action) **PP** and Public Meeting Winter 2019/2020 **ROD** FY20 **Remedial Actions** to be implemented 2021

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McGuire Update
OU6 Status Summary

Work started on next document

Work pending

FS FY19

PP FY20

ROD FY21

REMEDY FY21/22

Operable Unit 6:	Historical ruptures of the refueling system beneath the aircraft apron
Status:	Final Remedial Investigation Report Addendum under EPA review AF comments on FS addressed and under AF review
Path forward:	**FS** evaluates active groundwater remedies (AS/SVE; ISCO; pump-and-treat) and MNA **PP** and Public Meeting in Winter 2020 **ROD** FY21 **Remedial Action** to be implemented 2021/2022

McGuire Update
Operable Unit 7 (OU7) Summary

Work started on next document

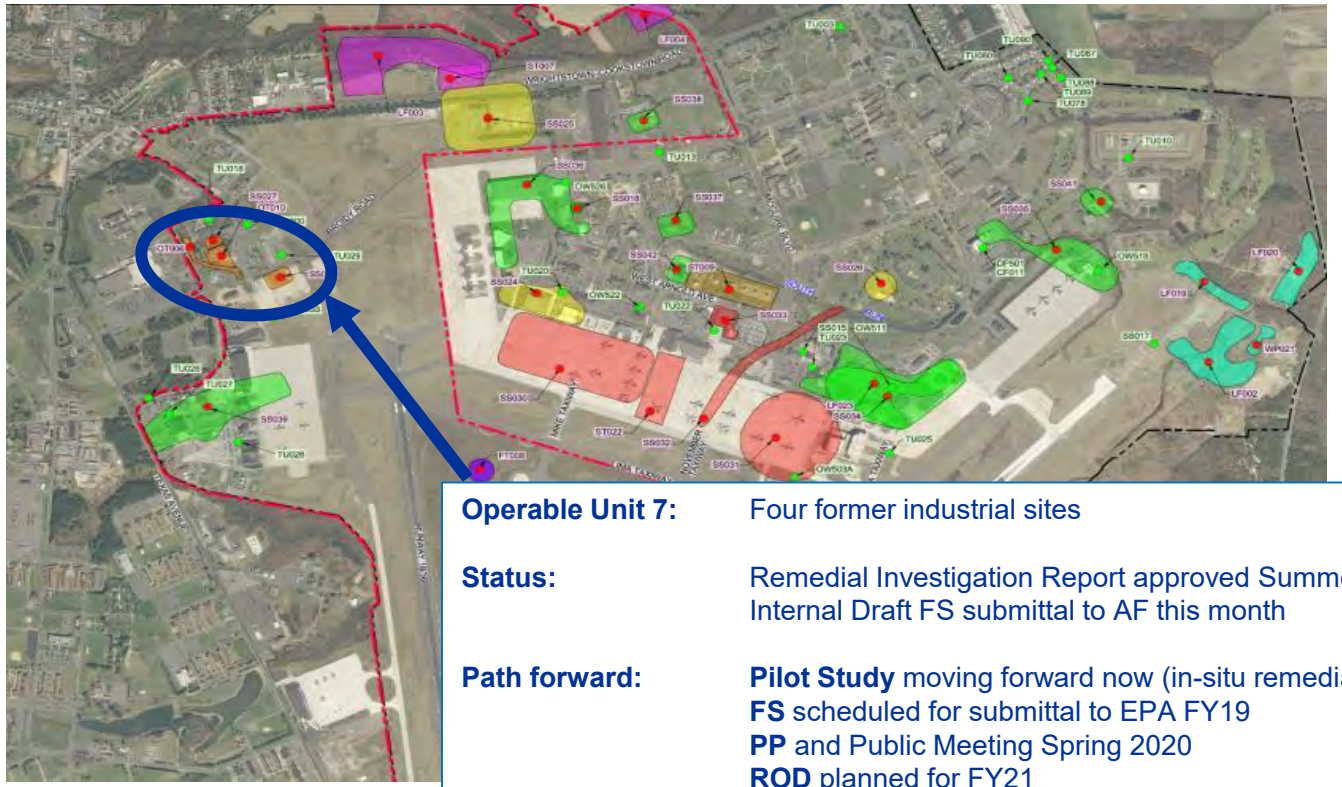
Work pending

FS FY19

PP FY20

ROD FY21

REMEDY FY22



Operable Unit 7:	Four former industrial sites
Status:	Remedial Investigation Report approved Summer 2018 Internal Draft FS submittal to AF this month
Path forward:	**Pilot Study** moving forward now (in-situ remediation) **FS** scheduled for submittal to EPA FY19 **PP** and Public Meeting Spring 2020 **ROD** planned for FY21 **Remedial Action** to be implemented Winter 2022

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McGuire Update
Operable Unit 8 (OU8) Summary

Work started on next document

Work pending

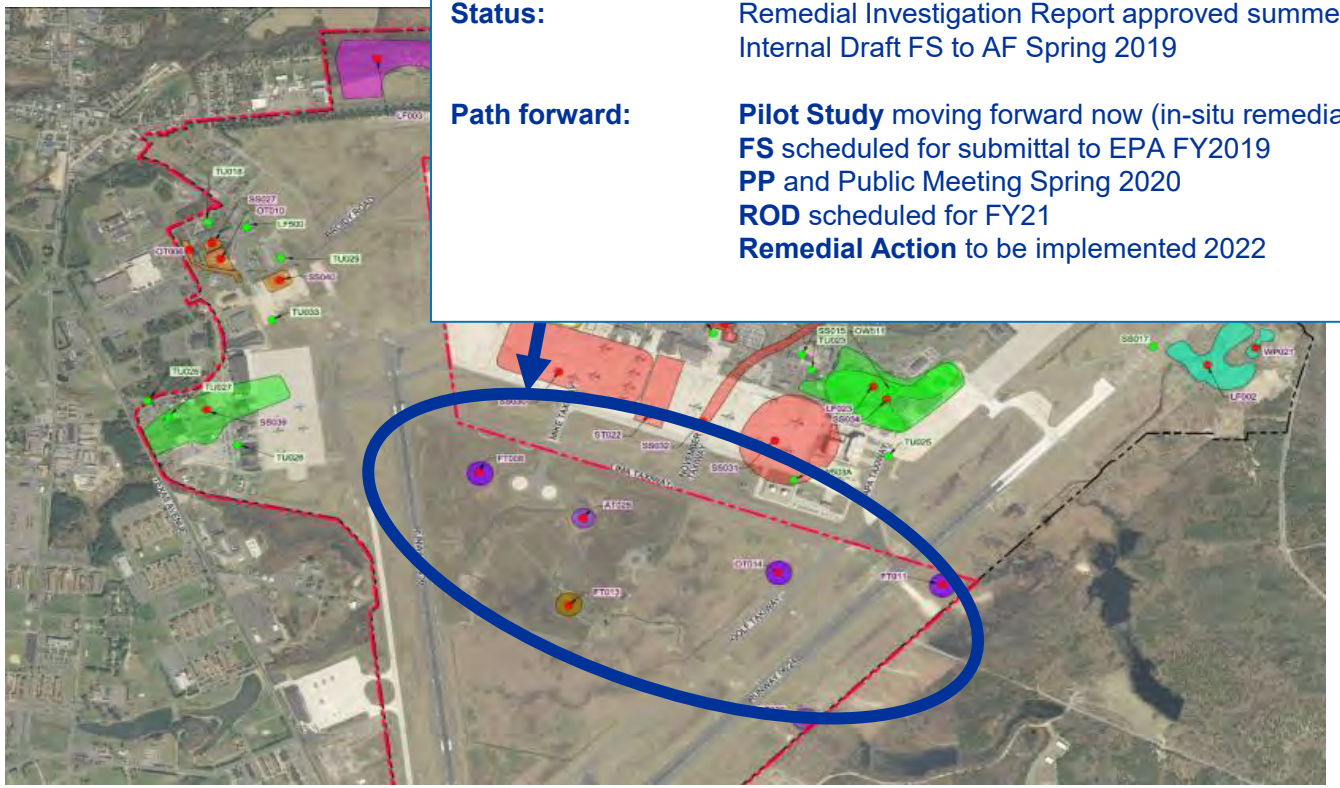
FS FY19

PP FY20

ROD FY21

REMEDY FY22

Operable Unit 8:	Five sites in the Triangle Area: Former Fire Training Areas/Aircraft Loading Areas
Status:	Remedial Investigation Report approved summer 2018 Internal Draft FS to AF Spring 2019
Path forward:	**Pilot Study** moving forward now (in-situ remediation) **FS** scheduled for submittal to EPA FY2019 **PP** and Public Meeting Spring 2020 **ROD** scheduled for FY21 **Remedial Action** to be implemented 2022



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MCGUIRE STATE LED SITES

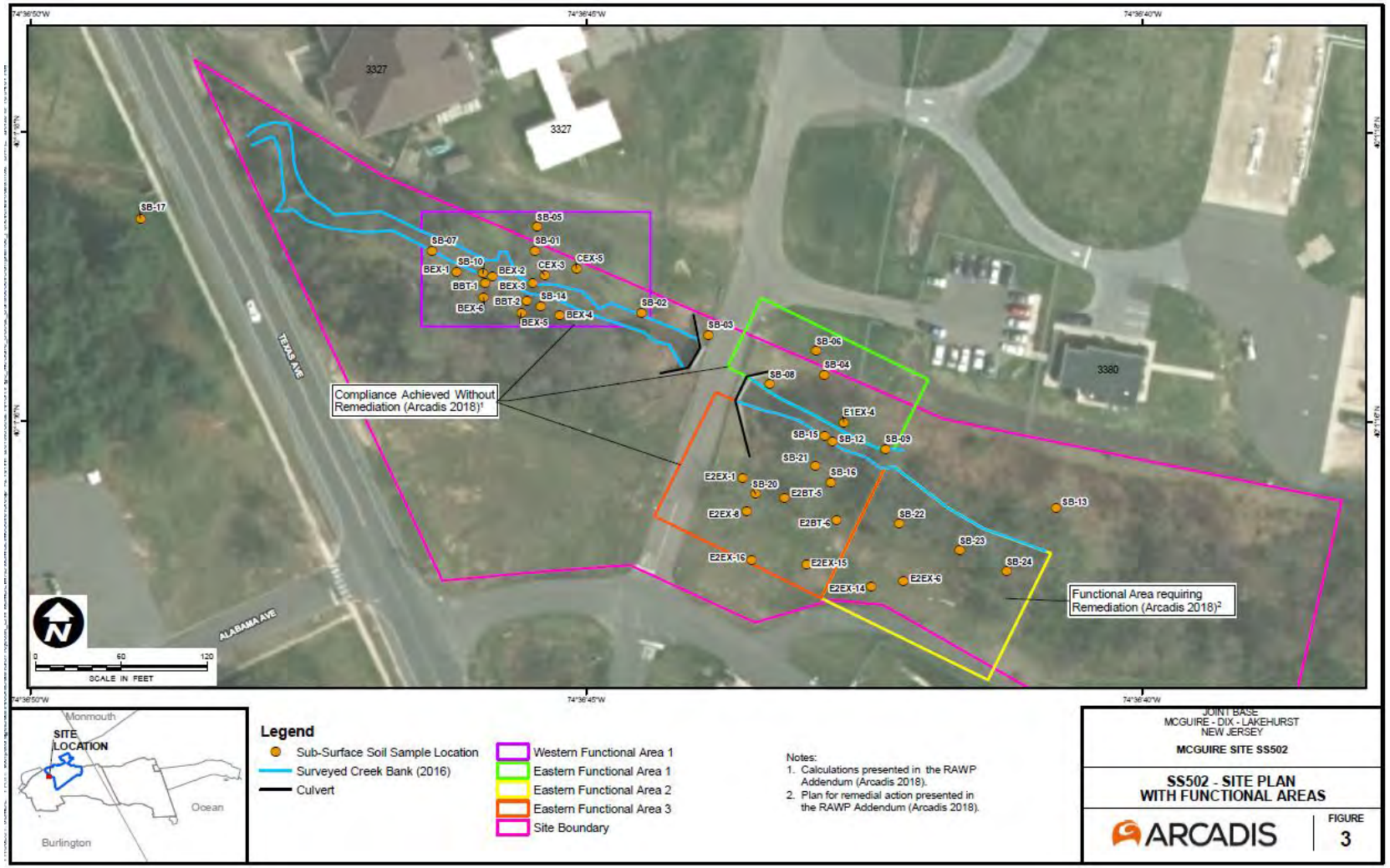
McGuire State Led Sites Status Snapshot

Completed Sites (15)			
Oil Water Seperators	OW511; OW518; OW522; OW526	SC	NFA SC Achieved
UST Sites/petroleum spill sites	TU010	SC	NFA SC Achieved
	SS017	SC	NFA SC Achieved
	AT030	SC	NFA SC Achieved
	DP501	SC	NFA SC Achieved
	TU022	SC	NFA SC Achieved
Falcon Court East	TU078; TU080; TU087; TU088; TU089; TU090	SC	NFA SC Achieved

Active Sites (15)			
Category	**Site Number**	**Status/Phase**	**Comments**
Oil Water Seperators	OW503a; OU549	Remedial Investigation	Advanced to RI. OW503a ready for NFA/SC. Additional RI work at OW549
	LF500	RAWP	RAWP under development for action later in 2019/2020
	SS502	Remedial Action	**Removal action completed January 2019 then SC in 2019**
	CF011	Remedial Action	RAWP approved. MNA ongoing
	TU020	Remedial Action	RAWP approved. MNA ongoing
	TU027	Remedial Action	RAWP approved. MNA ongoing
	TU003	Remedial Action	**RAWP approved. Initial removal action complete but additional action planned**
	TU023	Remedial Action	**RAWP approved. Biosparge system in place. Optimization ongoing**
	TU025	Remedial Action	**RAWP approved. MNA ongoing. Pipeline inspection complete.**
	TU013	Remedial Action	RAWP approved. AS/SVE system shut down and rebound study on-going. SC next
	SS015	RACR (Action Complete)	Transferring groundwater to OU7 then RC (Transfer document under EPA/DEP review)
	TU029	RACR (Action Complete)	Transferring groundwater to OU7 then SC (Transfer document under EPA/DEP review)
	TU018	RACR (Action Complete)	Remedy succesful. Working on closure documentation
	TU033	RACR (Action Complete)	Site closure approved by DEP. Closure once wells are removed

SC: Remediated to residential standards and no use restrictions
RC: Remediated to industrial use standards. Use is restricted.

SS502 Soil Removal – January 2019



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SS502 Soil Removal – January 2019

- Polyaromatic hydrocarbon (PAH) contaminated soil
- 202 cubic yards (303 tons) of soil excavated and trucked to Soil Safe in Logan, New Jersey
- Areas backfilled with clean material and seeded

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BOMARC
(separate agenda topic)

DIX SITES

Dix State Led Sites
Status Snapshot

Completed Sites (3)			
Oil Water Seperators	OW576	SC	NFA SC Achieved
UST Sites/petroleum spill sites	TU968	SC	NFA SC Achieved
Non NPL Site	SA018	SC	NFA SC Achieved

Active Sites (17)			
Category	**Site Number**	**Status/Phase**	**Comments**
UST Sites/petroleum spill sites	**NW044**	**Remedial Action**	**RAWP approved. AS/SVE ongoing. Optimization ongoing**
	TU019a	**Remedial Action**	**RAWP approved. AS/SVE shut down and in rebound study. Optimization ongoing**
	TU970	Remedial Action	RAWP approved. AS/SVE shut down and in rebound study
	TU011	Remedial Action	RAWP approved. MNA with additional removal action required
	TU578	Remedial Action	RAWP approved. MNA ongoing
	TU969	Remedial Action	RAWP approved. MNA on-going
	TU579	RACR (Action Complete)	DEP approved NFA. Wells to be abandoned then SC
	NW045	RACR (Action Complete)	DEP approved NFA. Wells to be abandoned then SC
	TU924	RACR (Action Complete)	DEP approved NFA. Wells to be abandoned then SC
CERCLA Non NPL	**NW042**	**FS**	**Public Meeting for Proposed Plan (Soil Mixing) held tonight**
	SS007	**Remedial Action**	**GW treatment and recirculation pilot test complete**
	LF010	LTM	Sanitary landfill in LTM
	LF017	LTM	Landfill in LTM
	LF016	ROD	ROD and RACR approved by DEP. Groundwater monitoring selected
	SS005B	Remedial Action	MNA on-going
	SS025	Remedial Action	Monitoring on-going SW only
	LF033	RACR	DEP approved NFA. Wells to be abandoned then SC

SC: Remediated to residential standards and no use restrictions
RC: Remediated to industrial use standards. Use is restricted.

NW042 Proposed Plan

- The PP will be available for public review from March 3, 2019 to April 2, 2019 in the Administrative Record located:

Burlington County Library
5 Pioneer Boulevard
Westampton, NJ 08060

NJDEP Records Custodian
401 East State St.
P.O. Box 420
Trenton, NJ 08625

- A copy of the PP also available online at: http://afcec.publicadmin-record.us.af.mil/ or at www.envirorestorejbmdl.com (click on the Community Involvement tab)
- Public comments will be reviewed and considered before remedy selection is finalized and documented in the Record of Decision

NW042 Public Comments

- **Comments from the public will be accepted tonight (verbal or written)**
- **Comments will be accepted until April 2nd, 2019**
- **Send comments to the following:**

  - **Mail:** Mr. Curtis Frye; Chief Environmental Restoration Program
    787 CES/CEIE
    2403 Vandenberg Avenue
    JB MDL, NJ 08641

  - **E-mail:** **curtis.frye@us.af.mil**

LAKEHURST SITES

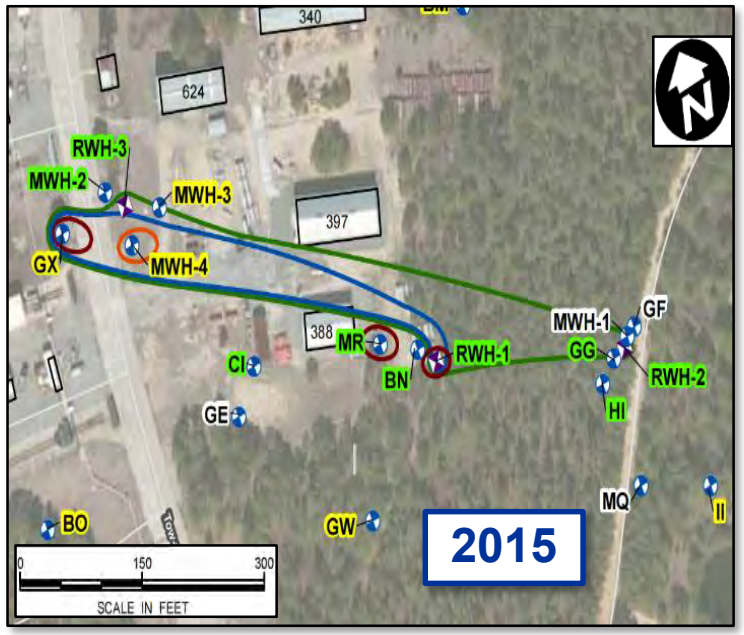
Sites AT016, LF042, TT013, TT017

- Three new AS/SVE and biosparge systems were installed in 2017/2018 and are now all operating to address remaining contamination in groundwater and soil.
  - These systems are now fully operational and monitoring/maintenance is ongoing.
  - Reduce contaminant concentrations in groundwater and soil to meet Remedial Goals in 2 to 3 years time (2021/2022).

- Pump and treat system at Area H was shut down this month for a 2-year plume stability study to determine the next remediation phase.

- Semi-Annual or Annual groundwater sampling is on-going at remaining Lakehurst sites each April and November.

Area H (DP032) Plume Stability Study

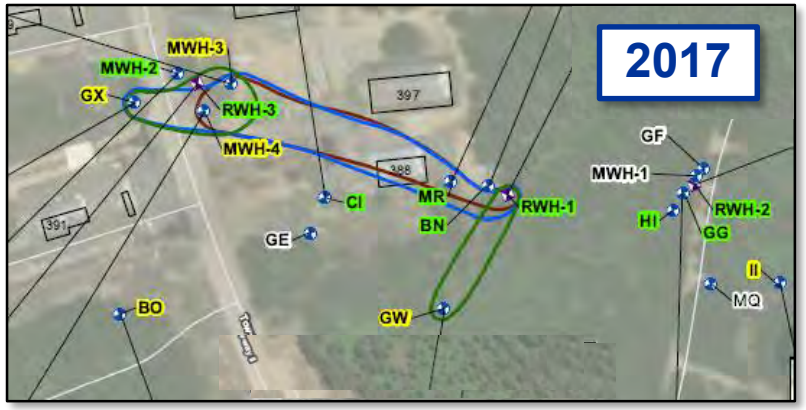


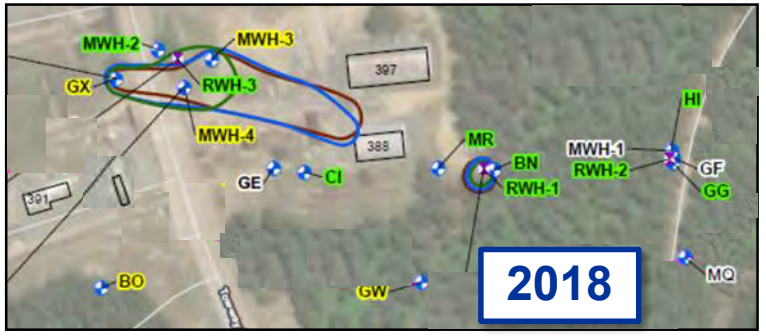
Extent of Exceedance of RG for Benzene (1 ppm)

Extent of Exceedance of RG for Ethylbenzene (5 ppm)

Extent of Exceedance of RG for Total Xylenes (2 ppm)

Extent of Exceedance of RG for Napthalene (2 ppm)





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SITE CLOSEOUT UPDATE

Site Closures under the PBR

- Moving numerous sites to closeout status

- Closeout means:
  - Remedial Goals have been achieved
  - Site restoration infrastructure removed
  - Site is released for unrestricted use

Sites Closures Achieved to Date (18)

- OW522 - Oil Water Separator
- OW526 - Oil Water Separator
- OW511 - Oil Water Separator
- OU518 - Oil Water Separator
- OW576 - Oil Water Separator
- TU968 - Building 5348 (UST)
- TU022 - Underground Storage Tank E187
- SS017- Contaminated Soil along Conduit
- AT030 - BOMARC Above Ground Storage Tank
- TU010 - UST E051
- DP501 - Dry well at B1907
- TU078 - Underground Storage Tank E078 at Falcon Court East
- TU080 - Underground Storage Tank E080 at Falcon Court East
- TU087 - Underground Storage Tank E087 at Falcon Court East
- TU088 - Underground Storage Tank E088 at Falcon Court East
- TU089 - Underground Storage Tank E089 at Falcon Court East
- TU090 - Underground Storage Tank E090 at Falcon Court East
- SA018 - ANC-2 Disposal Area
- TU026 - Spill Site 26/UST E123
- TU028 - Underground Storage Tank E237

Fiscal Year 2019 SC Projections

- **FY 2019 (13 Sites)**
  - **TU026, TU028, ST015, NW045, TU579, TU924, LF033, TU029, TU033, TU018, OW503A, OW549, and SS502**

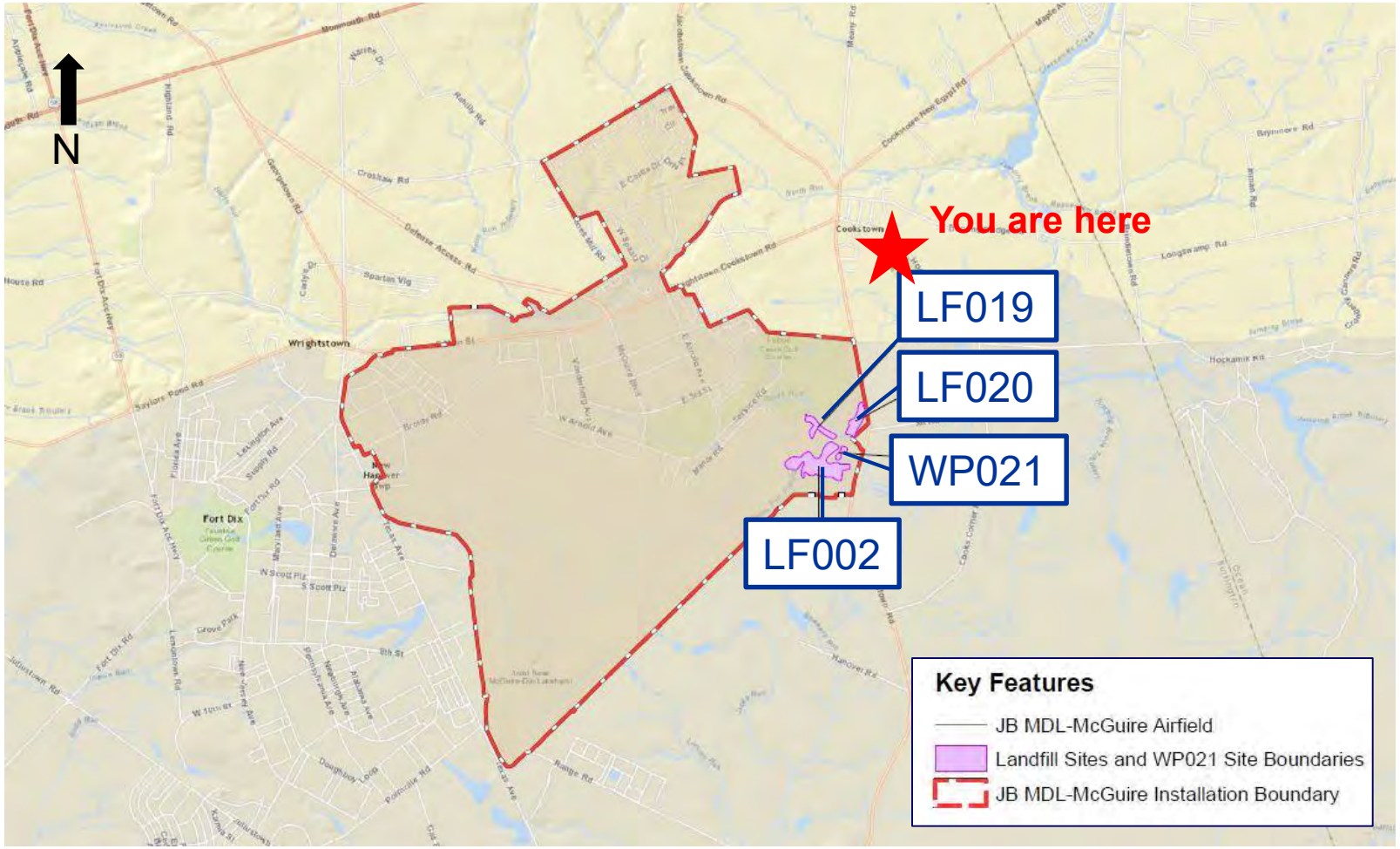
- **Total of 31 sites projected to be completed by end of FY19**

LF019 (OU3) Time Critical Removal Action

Mr. Tom Crone, Deputy Project Manager

Arcadis

OU3 SITE LOCATION



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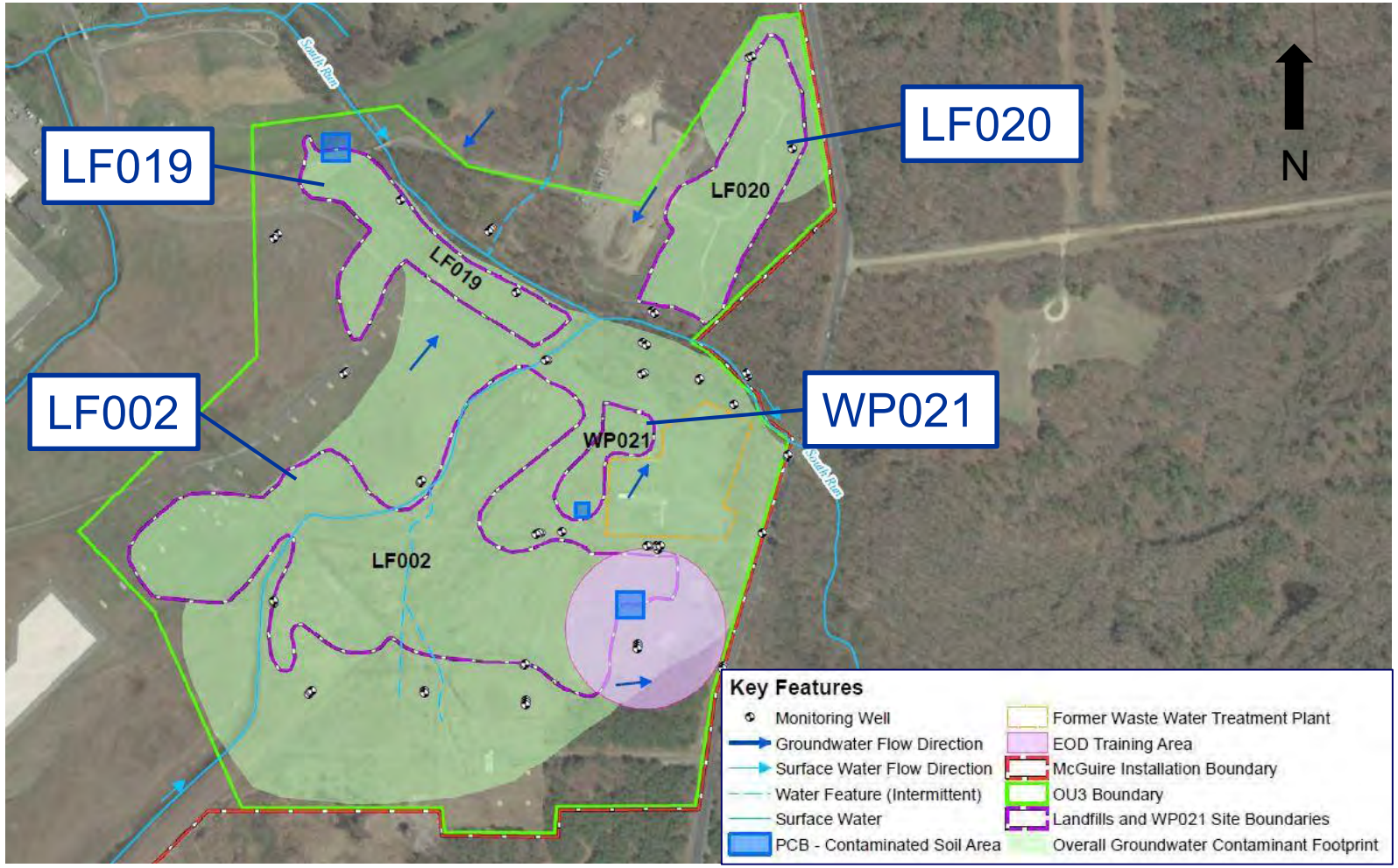
OU-3 LAYOUT



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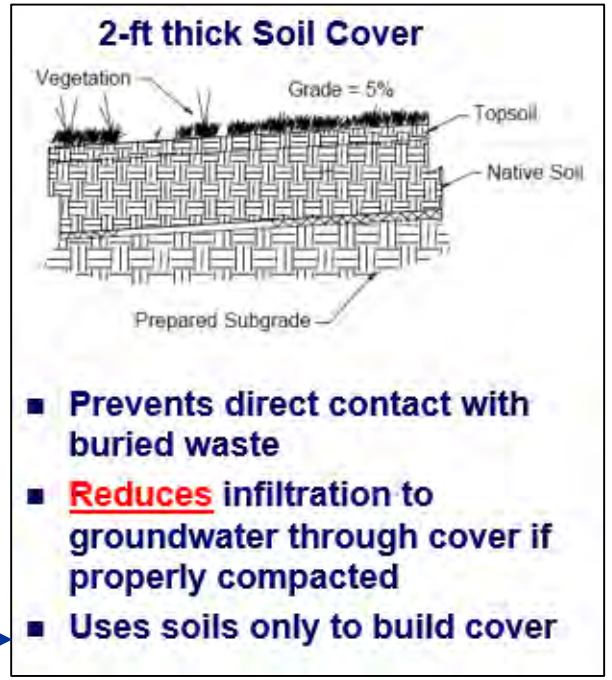
SUMMARY OF PROGRESS AT OU3

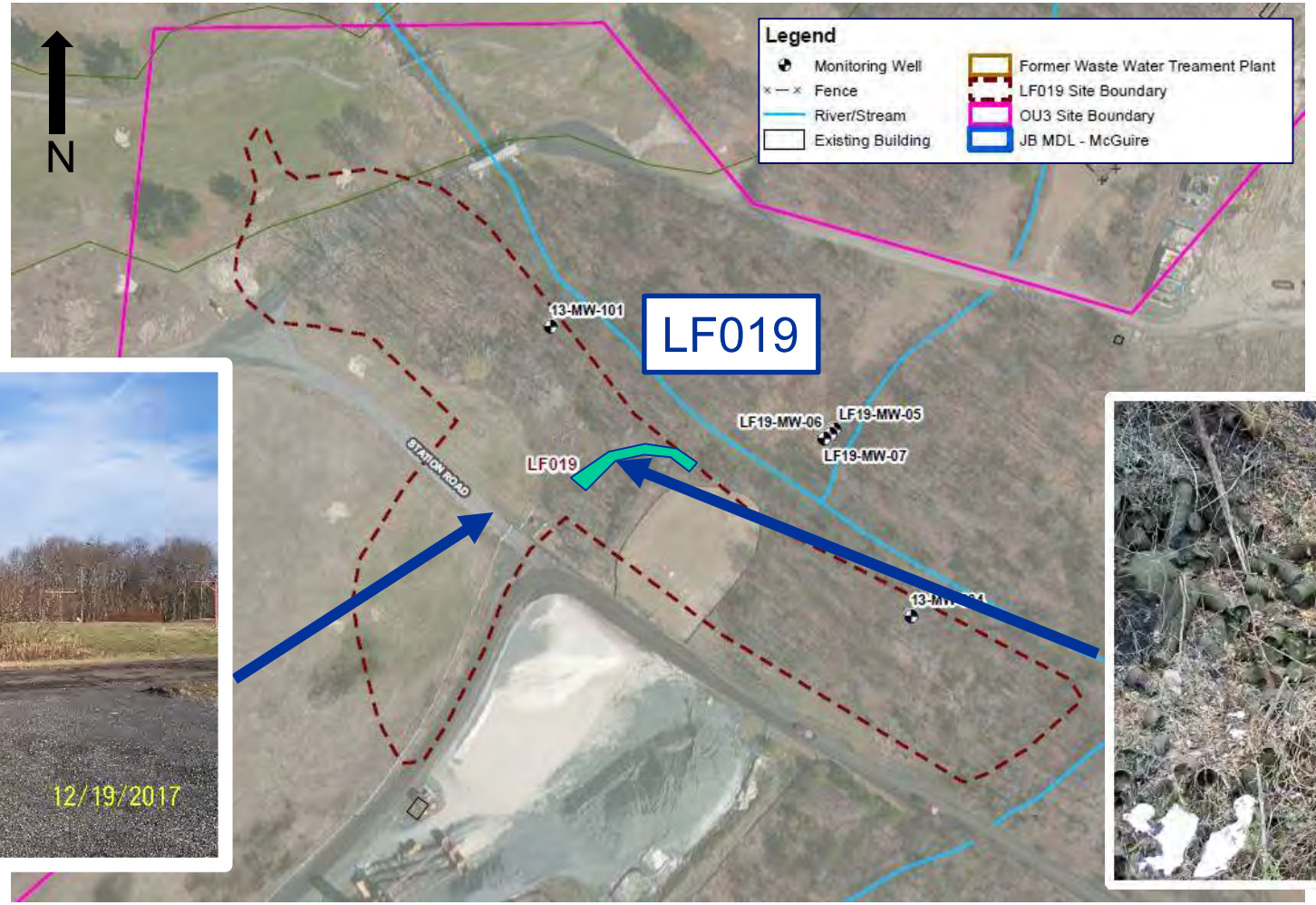
- **Feasibility Study Complete**
  - Evaluated various remedial/closure alternatives for landfills
- **Proposed Plan Complete**
  - Public Meeting held December 13, 2017 and comment from December 10, 2017 to January 23, 2018
- **Draft Record of Decision Prepared**
  - Recommended Alterative 3
- **Material Potentially Presenting and Explosive Hazard (MPPEH) discovered at LF019**
  - Work at LF019 is on hold until MPPEH is removed. Other OU3 sites progressing.



Background:
OU3 - LF019 (Landfill No. 5)

- LF019 was used for disposal of mixed waste between 1970 and 1973
- Waste disposal occurred by burning bulk waste in-place and applying a clean soil cover
- Disposed materials may have included construction debris, domestic waste, coal ash, wood, waste metal, spent artillery casings, and drummed liquid waste
- There is no evidence of high-hazard military-specific waste (e.g., chemical warfare agents or munitions)
- The amount of waste disposed at the landfill is estimated at 82,000 cubic yards

SITE LAYOUT:
OU3 - LF019 (Landfill No. 5)



TCRA:

- **Approximately 0.25 acres**
- **Approximately 200 items**

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OU3 – LF019 MPPEH

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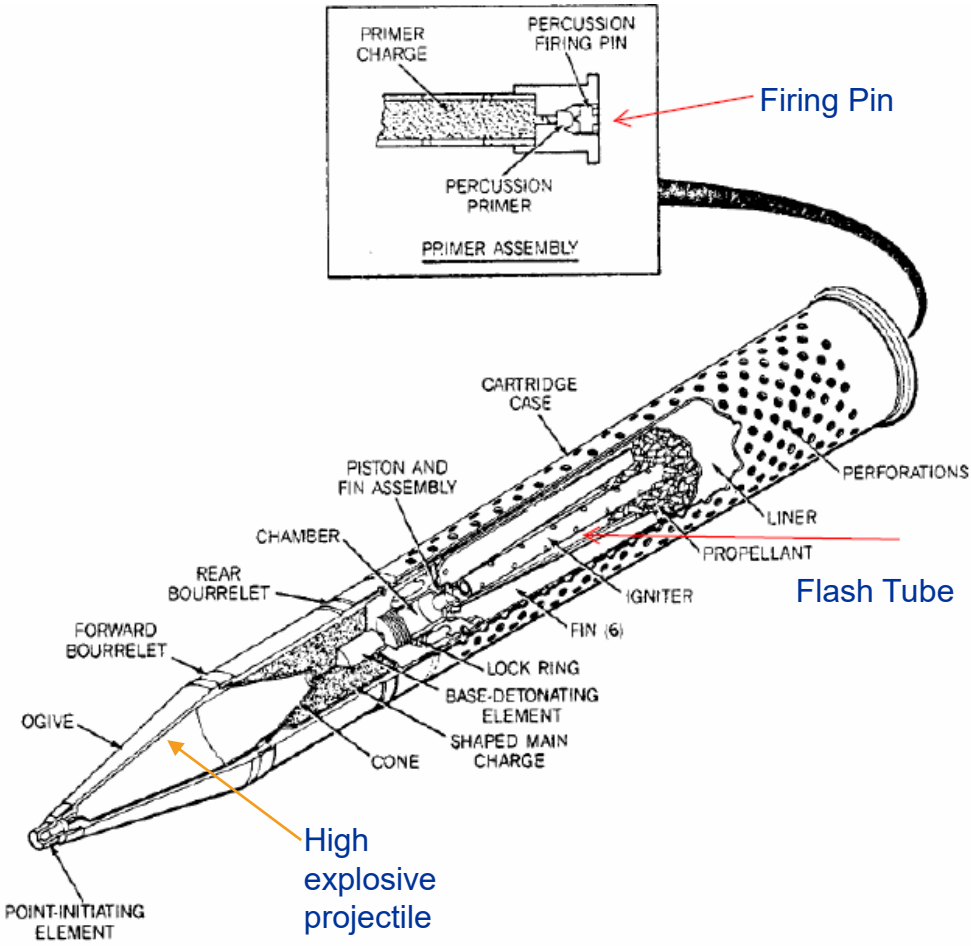
OU3 – LF019 MPPEH

OU3 – LF019 MPPEH

- 106 mm recoilless rifle round cartridges
- Appeared to have been dumped into drainage swale
- Items presented as empty propellant cartridges with percussion primers and ignition tubes of unknown condition.
- No projectiles (high explosive or otherwise) were visible or affixed to the cartridges.



WHAT'S NEXT?

- **Perform a Time Critical Removal Action – Summer/Fall 2019**

  1. Work Plans and Planning Documents
  2. Removal Action
     - Inspect, remove if safe, demo approximately 200 items
     - Confirm conceptual site model of surficial dumping
  3. Document in Final Action Report

- **Submit Second Record of Decision (ROD) for LF019 only. Resume OU3 wide remedial design and installation of 2-ft soil cover.**

87th Air Base Wing

BOMARC PRESENTATION

Mr. Bob White, Phase Manager, Arcadis

BOMARC Presentation Objectives

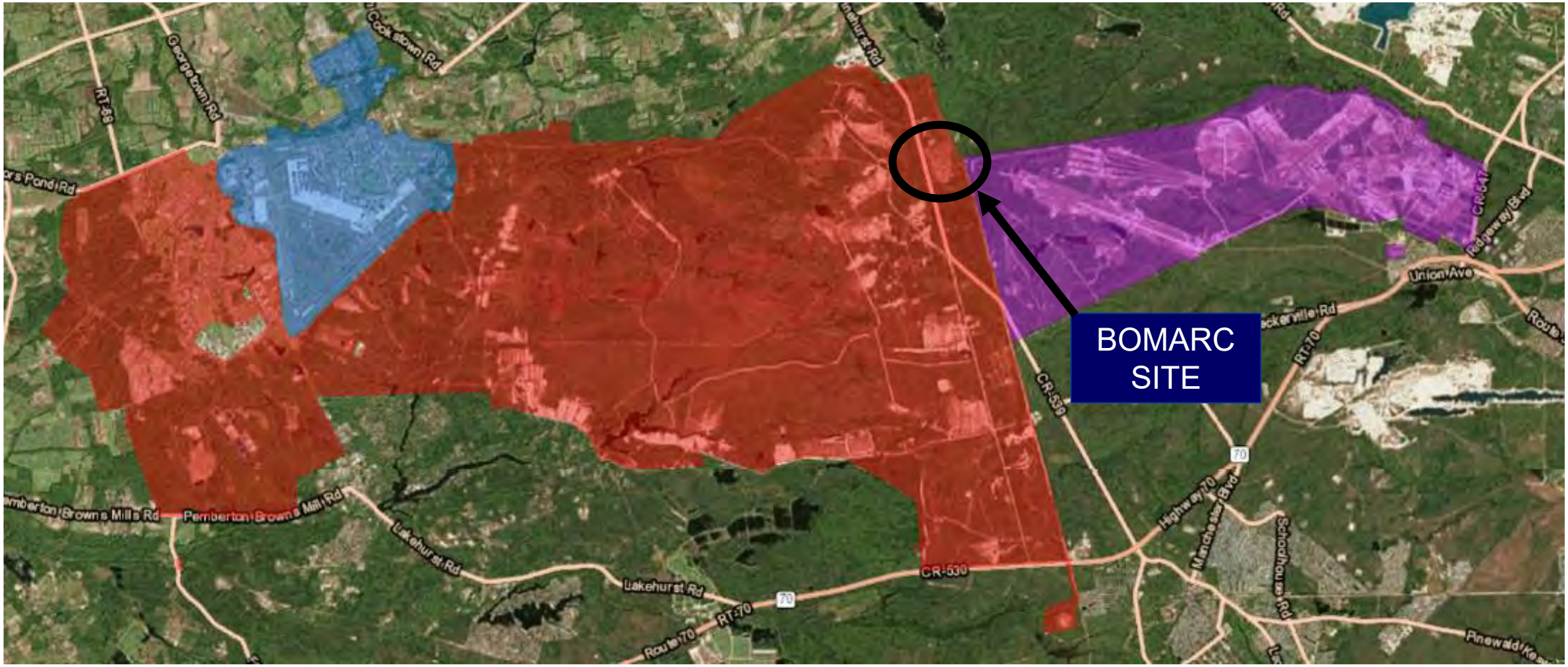
- Document Status and Schedule Update
- Discussion of Remedy Enhancements

CERCLA Document Status

- Proposed Plan finalized February 12, 2018
- Public Meeting conducted February 22, 2018
- Draft ROD Submittal on 3/13/2019
- Preparation of the Remedial Design Ongoing
  - Discussion of notable changes to the design

Conceptual Site Model

BOMARC Site Location



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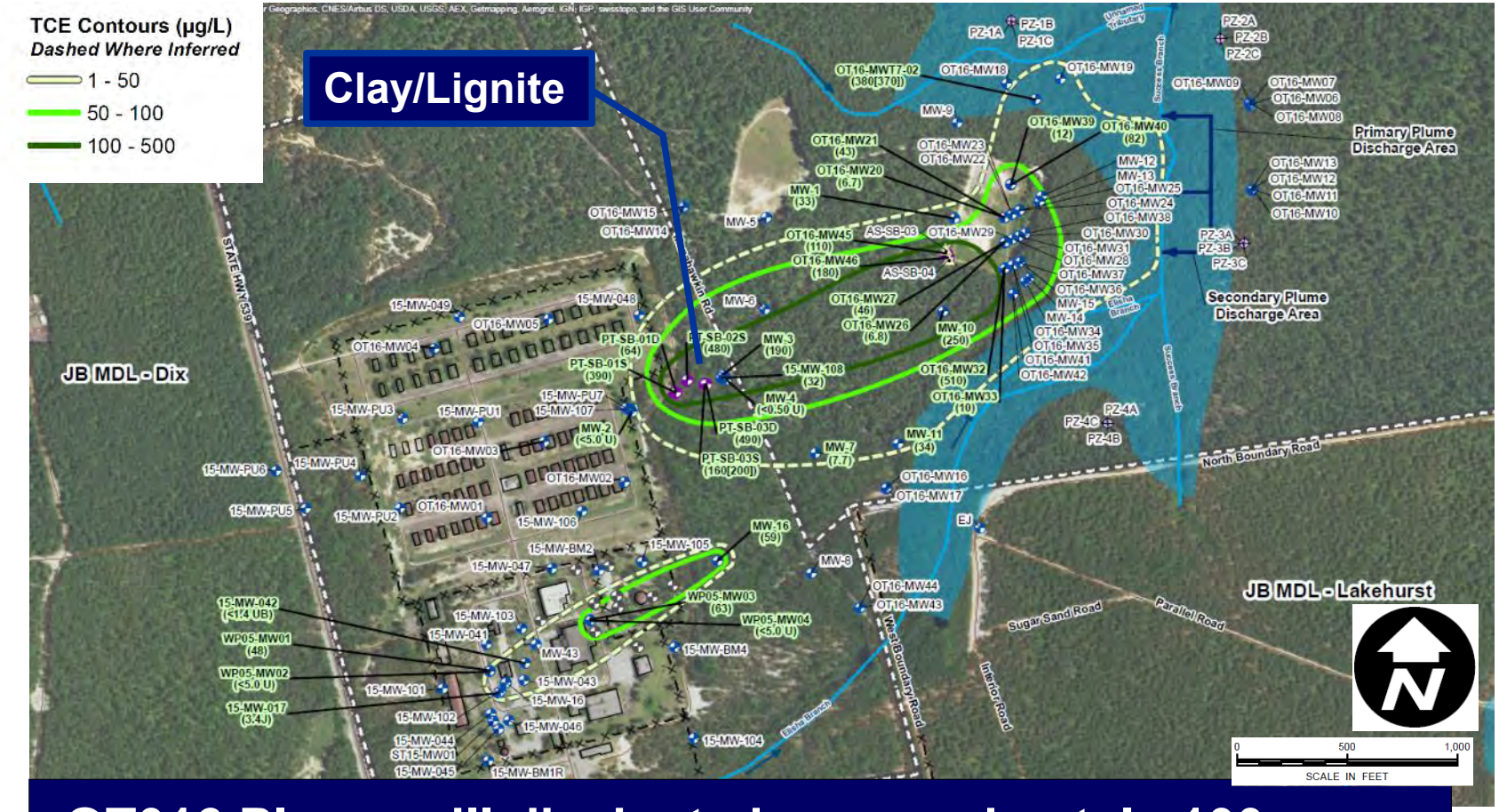
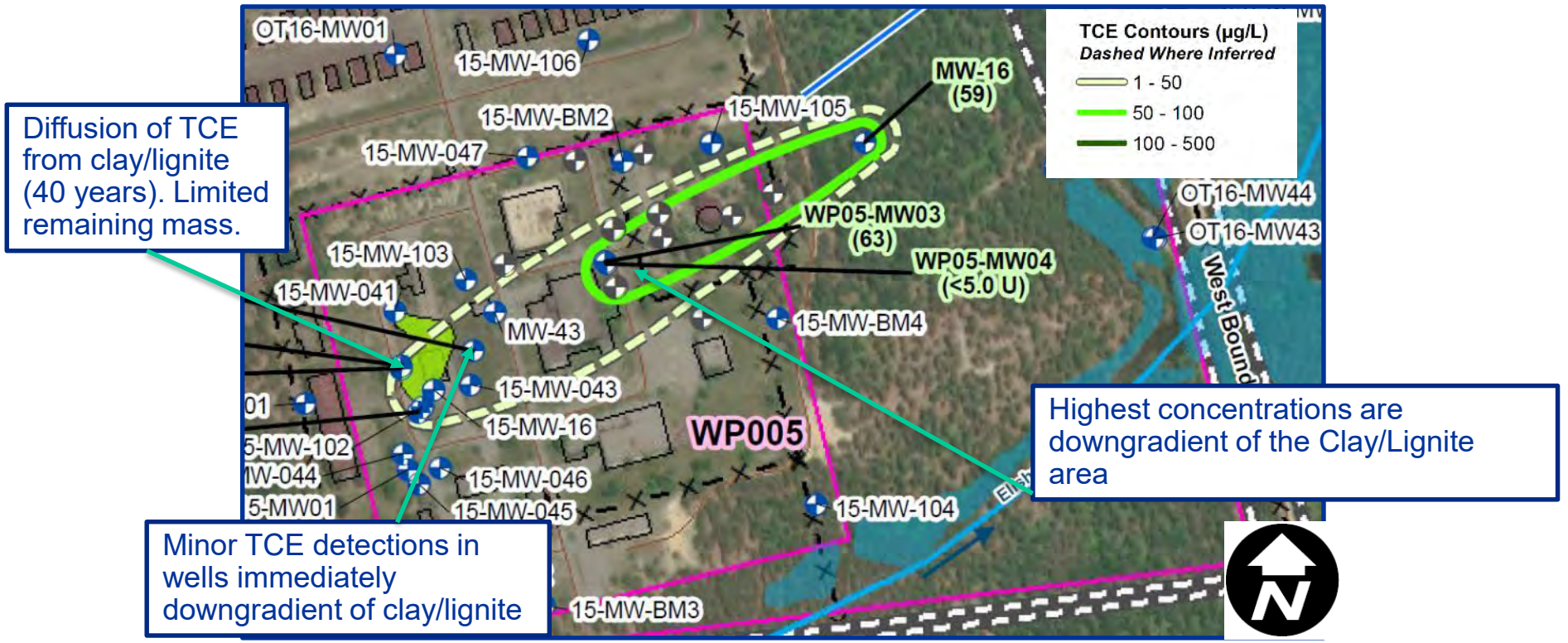
Plume Extents (2015)



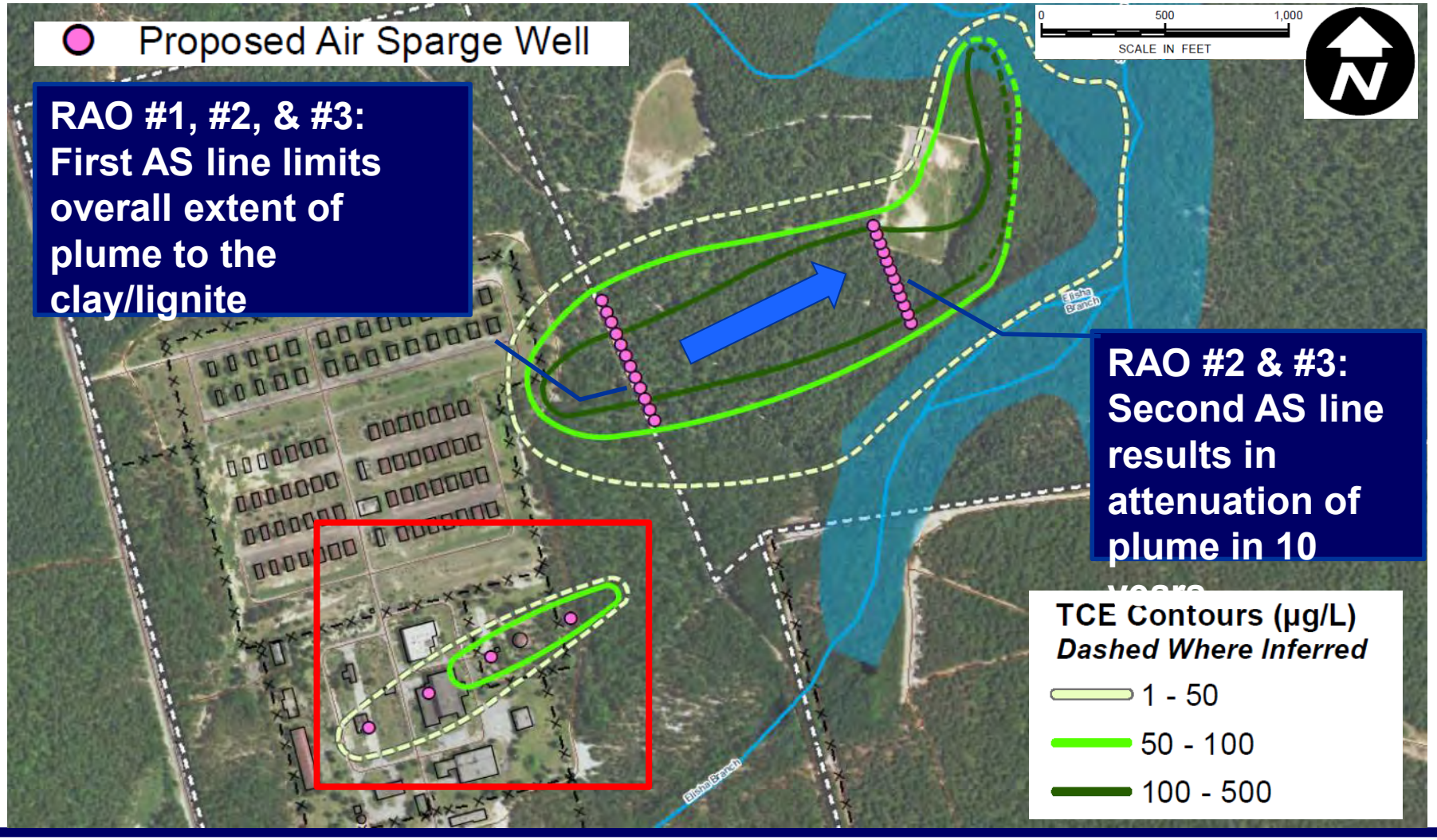
OT016 Plume will dissipate in approximately 100 years

WP005 CSM Overview



WP005 Plume will dissipate in 40 years

Remedy as Depicted in the Proposed Plan



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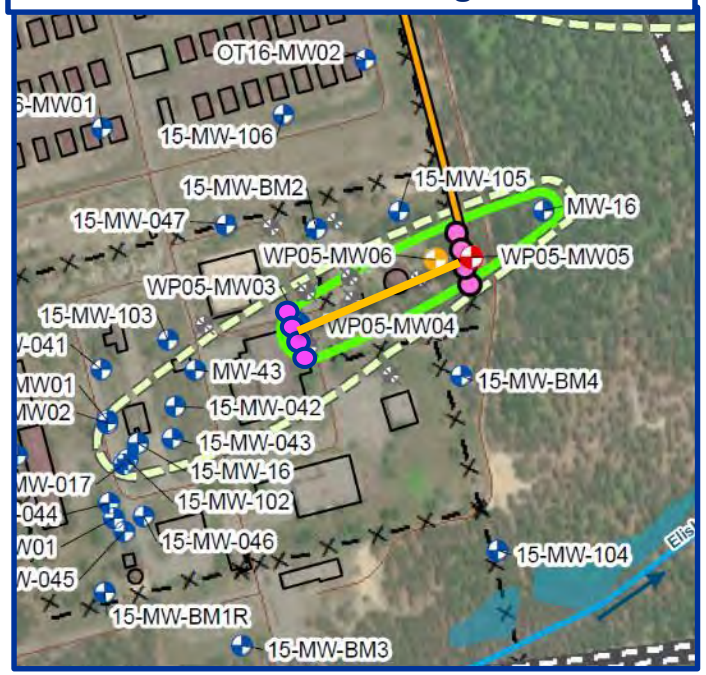
Revised WP005 Air Sparge Network

- **RAO #1:** Remediate Clay/Lignite Zone and Groundwater Overlying the Clay/Lignite Zone - *MNA*
- **RAO #2:** Remediate Downgradient dissolved phase – *primary transport pathways and greatest mass*
- **RAO #3:** Surface Water **–** *No Receptors*
- **RAO** #4: Human Health – *Land Use Controls*
- MNA for localized impacts in clay/lignite (40 years)

Remedial Design



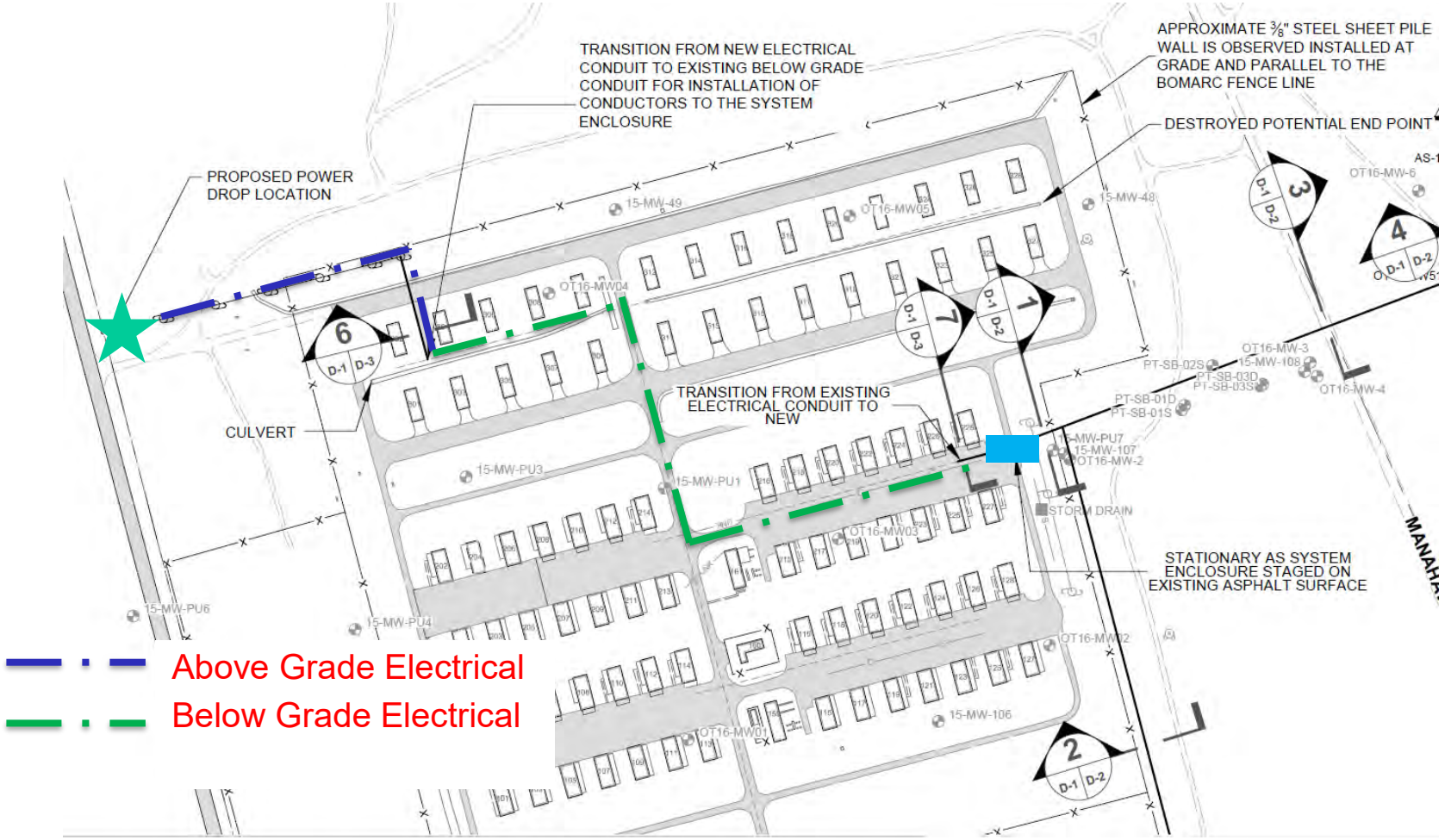
Proposed Air Sparge Well

Remedy Implementation

Major Components of the Remedy

- Air Sparge
- Monitored Natural Attenuation
- Compliance and Performance Monitoring
- Land Use Controls

Site Layout



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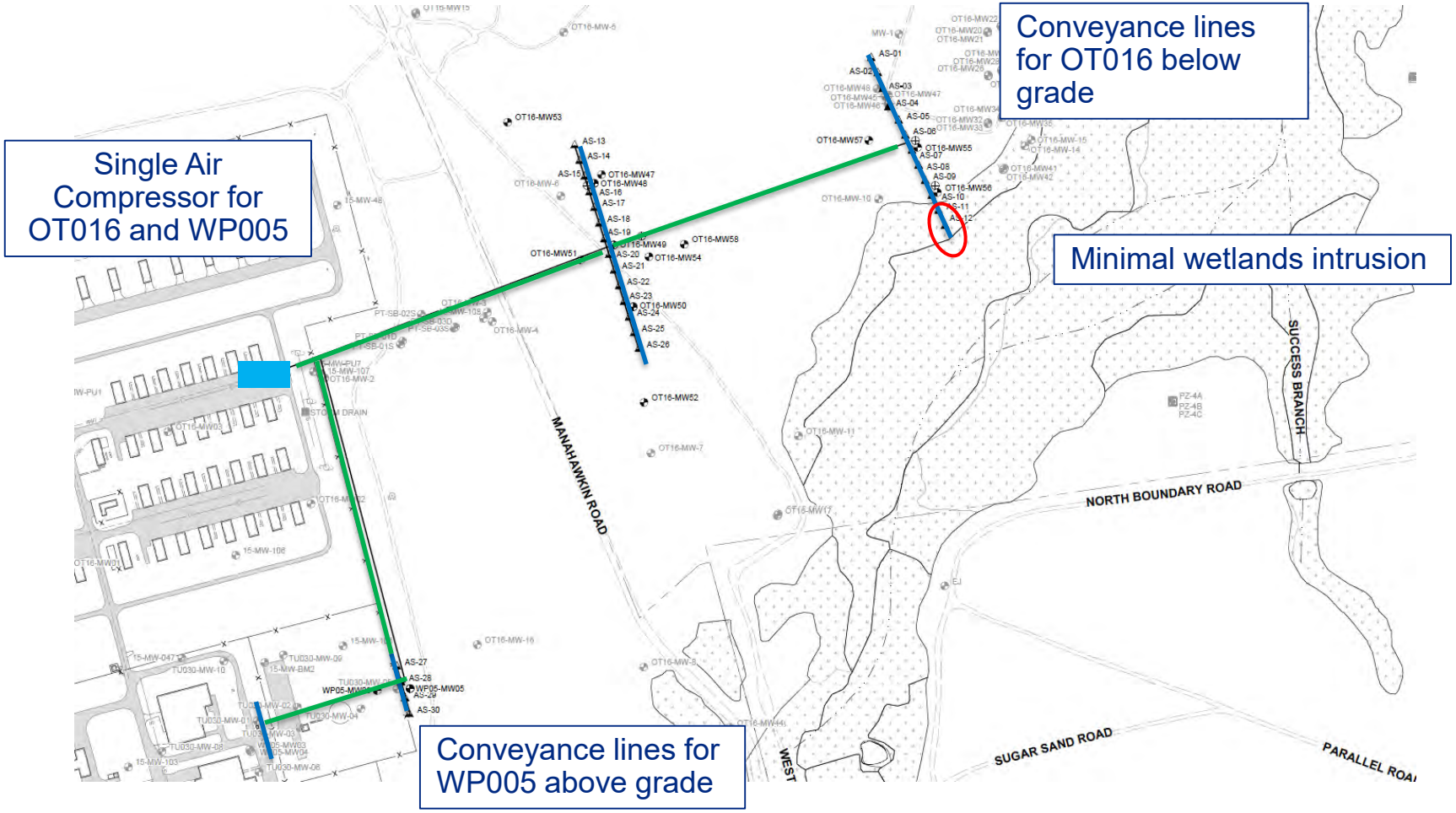
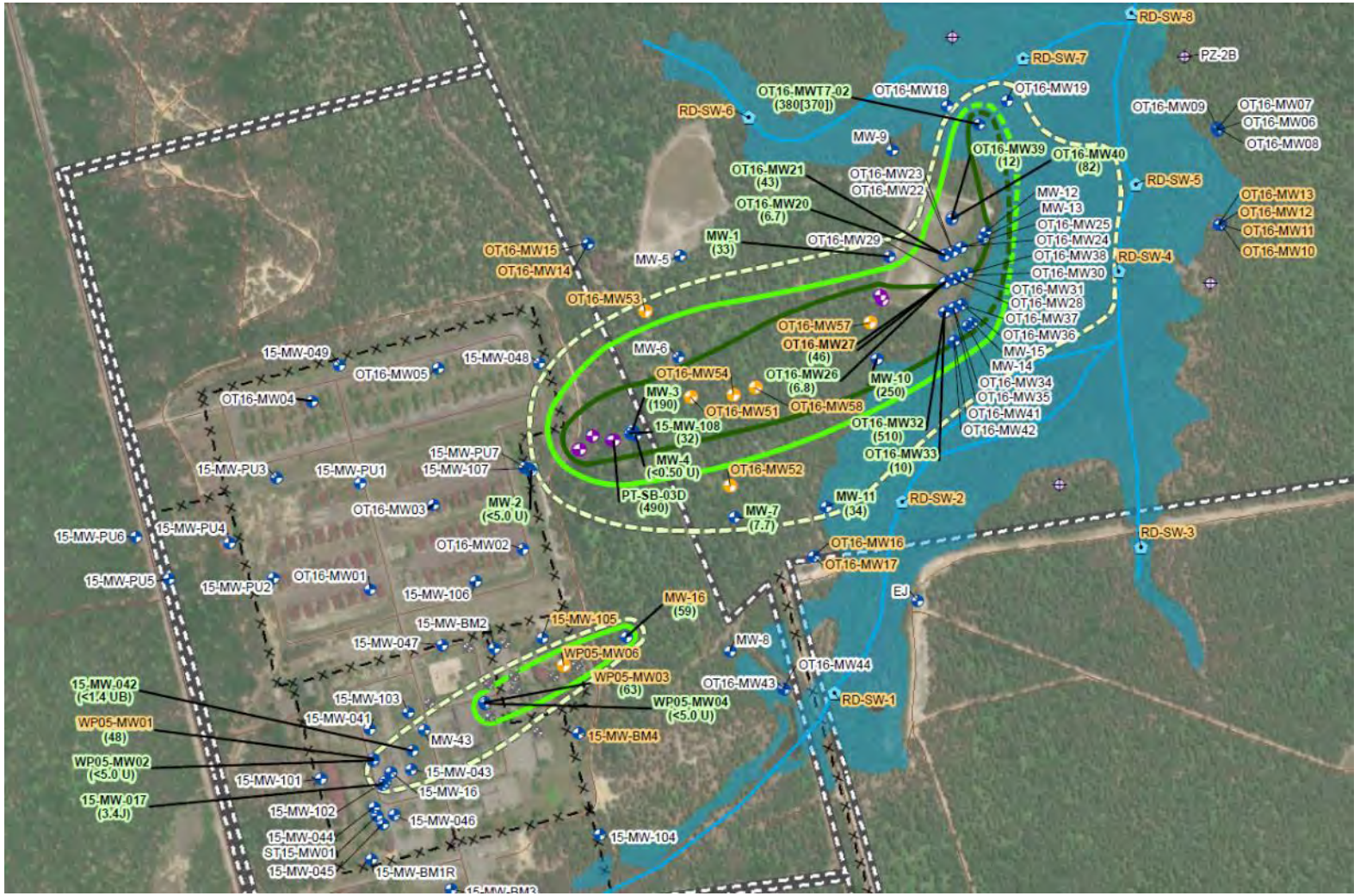
Air Sparge System Layout



Compliance Monitoring Network



Examples of Land Use Controls

- Groundwater Institutional Controls
  - Classification Exception Area (CEA) and Well Restriction Area (WRA) prohibit unauthorized use of groundwater
- Land Use Controls
  - Restrictions preventing the construction of occupied buildings
  - Signage will be placed describing restrictions

An example of signage and barriers used at Fort George G. Meade, Maryland – similar to implementation at JBMDL

87th Air Base Wing

Former McGuire Skeet Range (Site TS875) Removal Action Update

Mike Figura, Project Manager

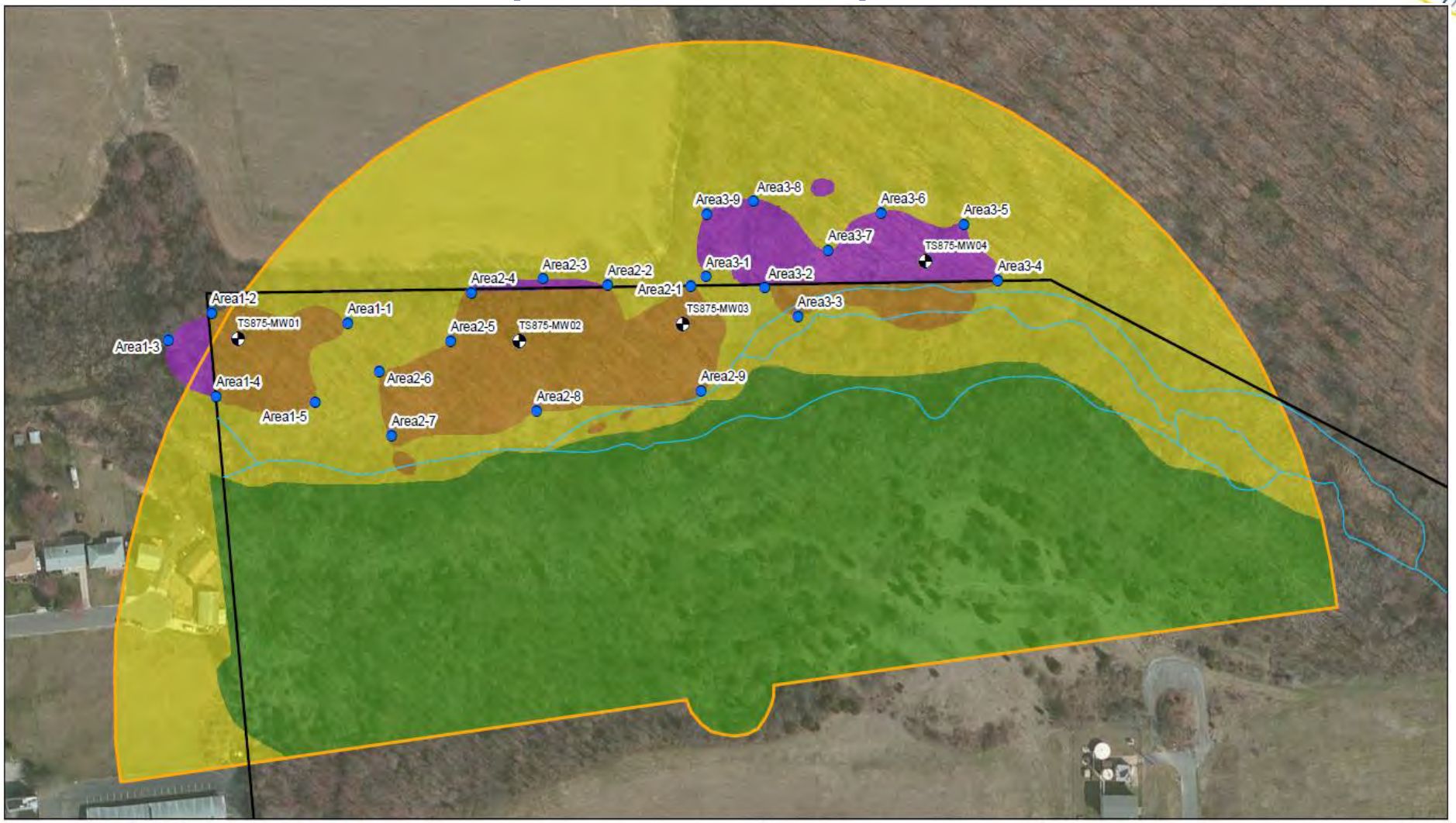
JB MDL

JB MDL MMRP Site Locations

Former McGuire Skeet Range Site Background

- 55 acre former recreational skeet range subdivided into four Munition Response Sites (TS875, TS875a, TS875b, TS875c)
- Site History:
  - 12 and 20 gauge shot gun firing activities from 1943-1959
  - TS875b at northern edge of skeet range fan
- Off-base property currently used for hunting, farming crops
- 2015–2016 Soil Delineation Effort
  - X-ray fluorescence (XRF) and laboratory sampling for lead, antimony, arsenic, and polycyclic aromatic hydrocarbon (PAHs)
  - Lead was above the residential cleanup level of 400 milligrams per kilogram (mg/kg) on JB MDL property and the privately owned property near the installation boundary
  - Only privately owned property included in this removal action
    - JB MDL will continue to assess remedial requirements for on-site contaminated soils through the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process

McGuire Former Skeet Range (Site TS875)



Former McGuire Skeet Range Removal Action

- Action Memorandum
- Work Plans
  - Uniform Federal Policy – Quality Assurance Project Plan (UFP-QAPP)
    - Storm Water Pollution Prevention Plan (SWPPP)
    - Soil Erosion and Sediment Control Plan (SESCP)
    - Community Involvement Plan (CIP)
- TCRA for Lead at Munitions Response Site (MRS) TS875b
  - Vegetation Clearance
  - Contamination Delineation and Characterization
  - Soil Excavation and Off-Site Disposal
  - Site Restoration
- Site-Specific Final Report

Removal Action Approach

- **TCRA Goal: Achieve unrestricted use and unlimited exposure (UU/UE)**
- **TCRA Field Effort**
  - **Vegetation clearance (need to complete prior to 1 April 2019 due to bird/bat nesting restrictions)**
  - **Soil delineation and soil characterization**

    Sampling to meet NJDEP confirmation soil sampling requirements
    - **Waste characterization for profile acceptance by landfill**
  - **Excavate contaminated soil**
    - **Excavator loads treated soils into trucks for off-site transport**
    - **Ensure proper depth is reached (determined during the confirmation sampling) to remove all soils above cleanup levels**
    - **Use water for dust suppression as necessary**
    - **Stream protection, wetlands restoration**
  - **Waste Disposal**
    - **Nonhazardous soil: Pure Soil Technologies, Inc. located in Jackson Township, Ocean County, NJ, or at the Middlesex County Landfill located in East Brunswick, NJ**

Tree Clearing Area

- Surface Water
- Palustrine Forested Wetland
  0.146 Acres
- NJDEP State Open Water
  0.178 Acres
- TS875b MRS, Former Skeet Range
  Private Property, 1 Acre
- Tree Clearning Area
  0.962 Acres around Private Property
  0.583 Acres within Installation Boundary
- MRS Boundary
- Installation Boundary

Soil Delineation

- Surface Water
- XRF Sampling Locations
- Grid (50x50ft)
- TS875 MRS, Former Skeet Range, 2.6 acres
- TS875a MRS, Former Skeet Range Non-Impacted Area, 38.65 acres
- TS875b MRS, Former Skeet Range Private Property, 1 acre
- TS875c MRS, Former Skeet Range Landfill Area, 13.2 acres
- MRS Boundary
- Installation Boundary

Excavation Details

- Surface Water
- Silt Fence
- Alternate Truck Loadout/Soil Staging and Turn Around Area
- Laydown Area and Site Trailer
- Truck Loadout/Soil Staging,Turn Around Area and Decon Area
- Truck Staging Area
- Construction Entrance
- Preliminary Excavation Footprint
- MRS Boundary
- Installation Boundary

Site Restoration

- Remove project-related materials and equipment
- Repair any damage, if occurs
- Bring in fill to make excavated areas match original grade
- Replant area as follows:
  - Wetlands area restored according to Mitigation and Monitoring Plan (Appendix H to the UFP-QAPP)
    - One year maintenance period followed by 5 years of monitoring
  - Native warm-season grass (i.e., *Panicum virgatum*, or switchgrass) in remainder of site

Schedule

- **UFP-QAPP: Request interim approval of soil delineation and vegetation clearance tasks to support soil delineation.**
  - **Anticipate April 2019**

- **Soil removal and site restoration: To commence after UFP-QAPP is approved and Action Memorandum is signed**
  - **Anticipate May-June 2019**

- **Site-Specific Final Report: Internal draft within 60 days after field work complete**