Former NAS Brunswick

Restoration Advisory Board Meeting

November 18, 2020

Introductions

- **RAB Co-Chairs:**
  - Ms. Suzanne L. Johnson, Esq.
  - Mr. David Barney, BRAC Environmental Coordinator, Navy BRAC Program Management Office
- **RAB Members:**
  - Mr. Todd Bober, P.E., Remedial Project Manager, Navy
  - Mr. Michael Daly, Remedial Project Manager, United States Environmental Protection Agency (EPA)
  - Mr. Iver McLeod, Remedial Project Manager, Maine Department of Environmental Protection (MEDEP)

Introductions

- **RAB Members (continued):**
  - Mr. Steve Levesque, Midcoast Regional Redevelopment Authority (MRRA)
  - Mr. Paul Ciesielski, Town of Harpswell, Maine
  - Mr. Scott Libby, Town of Topsham, Maine
  - Ms. Carol A. White, C.A. White & Associates, Brunswick Area Citizens for a Safe Environment (BACSE)
  - Mr. David Page, PhD, Town of Brunswick, Maine

Virtual Meeting Protocols

- Attendee cameras are not being used; no attendees will be viewed by others.
- Attendee microphones will remain muted except when recognized for questions.
- Webinar sign-in names will be used for the record.
- Meeting minutes will be prepared by Stenographer consistent with previous meetings
- Please hold questions or comments or enter them in Q&A box as they arise; they will be addressed after each presentations.

Meeting Agenda

Welcome

- **Introductions**
  - New Business
  - Old Business
- **Recent Activities Update**
  - Picnic Pond
  - Five-Year Review
  - GWETS Operation
  - Quarry June 2020 Groundwater Sampling
  - Site 7 Munitions and Radiological Clearance
  - LUCIP
  - FOSTs – 2020/2021

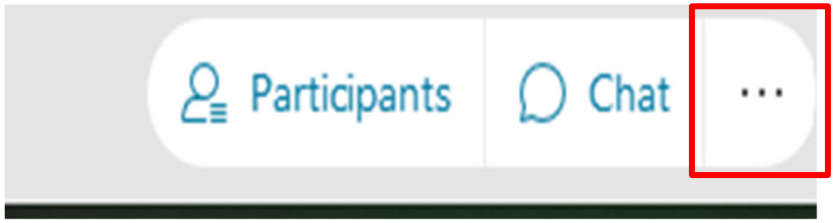
Meeting Agenda (cont'd)

- **Upcoming Work**
  - Basewide PFAS RI/Airfield Stormwater Drain System Study
  - Extraction Well Evaluation – Eastern Plume
  - LTM Optimization
  - Recurring Activities (LTM, GWETS PFAS Sampling, Annual LUC Inspections)
- **Questions/Wrap-Up**

Q&A Options

1) Raise your hand to be recognized and have your microphone unmuted. Click "**Participants**" button to view panel and the hand icon.

2) Enter a comment or question by typing it in the Q&A box. Click the three white dots in the bottom right of the screen to view and open the Q&A box.



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Picnic Pond

Site Summary

- **Picnic Pond ROD signed in September 2020:**
  - Expanded remedy includes removal of sediments that result in elevated risk in Pond A, Pond B, and Picnic Pond.
- **Developing Scope for Remedial Actions:**
  - Bathymetric survey conducted to evaluate water depths and sediment profile.
  - Post-ROD sediment core sampling conducted.
- **Sediment excavation activities planned for summer/fall 2021:**
  - May be split across 2 years pending funding/cost.

Picnic Pond

Sediment Core Sampling

- In October 2020, sediment was cored and sampled from Picnic Pond and Western Branch.
- Analysis was performed for total petroleum hydrocarbons (TPH) and polycyclic aromatic hydrocarbons (PAH). Results are pending.
- Bathymetric survey was conducted to evaluate water depths and sediment profile.
- Data will be used to better delineate pond sediments, including those near the dam, for remedy design and bid documentation.

Picnic Pond

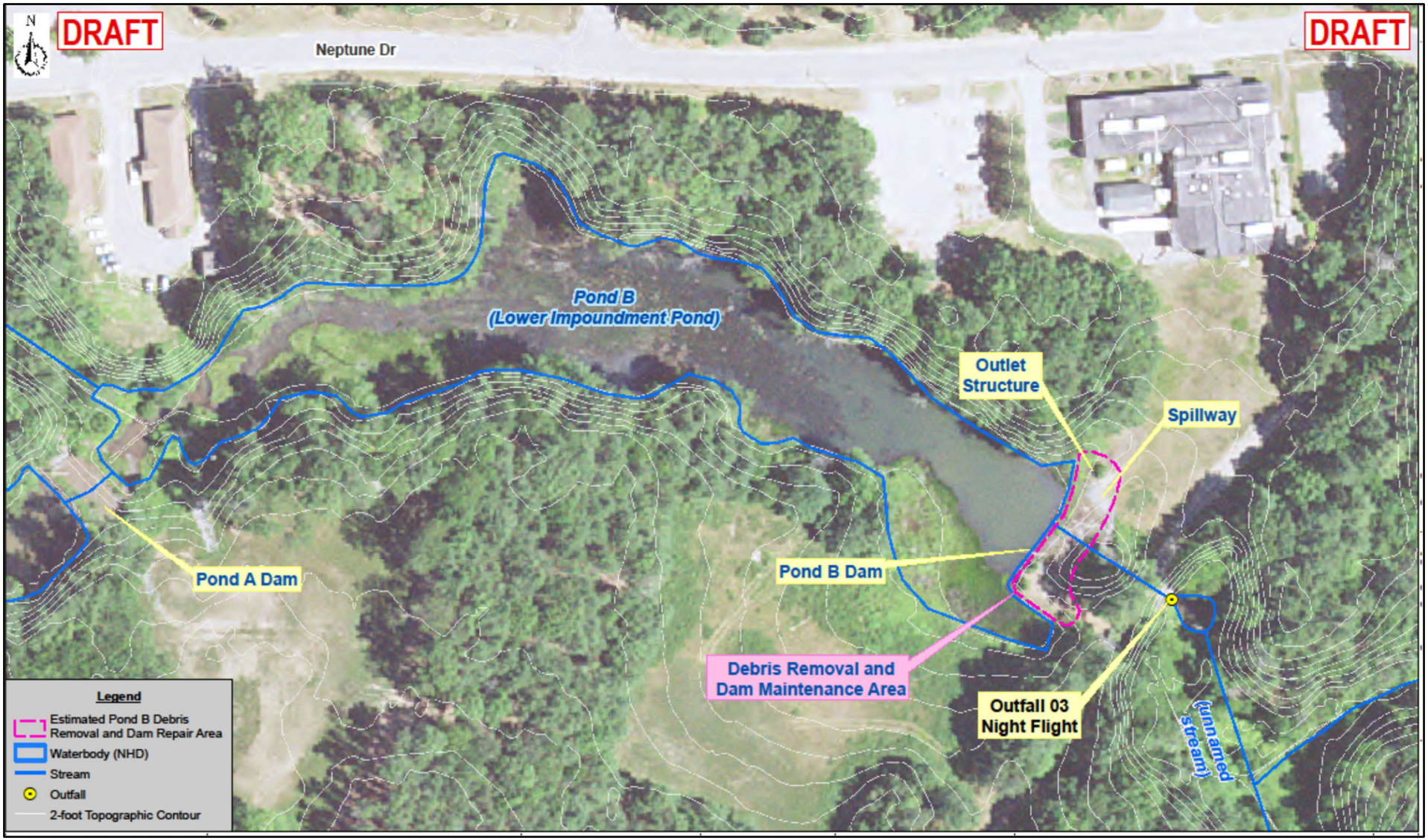
Pond B Dam Maintenance:

- Pond B dam is located at the downstream terminus of Pond B near to Neptune Road.
- The dam requires periodic minor debris removal and surface maintenance to provide continued stability of the dam.

Scheduled for week of November 16:

- Removal of debris such as logs.
- Addition of 12-18” stone to cover exposed liner to prevent puncture and keep new surface equal to or higher than existing surface.

Pond B Dam Location



Fifth Five-Year Review

- **Objective - Ensure that implemented remedies remain protective of human health and the environment.**
- **Navy solicited comments and concerns about the remedies though questionnaires sent to site stakeholders.**
- **Sites evaluated included Sites 1 and 3, 2, 7, 9, 12, Quarry, and Eastern Plume.**
- **For all sites except the Eastern Plume, the results of the five-year review were that the remedies are protective currently and in the future.**

Fifth Five-Year Review

- For the Eastern Plume, the five-year review concluded that the remedy is currently protective, but because human exposure to PFOS/PFOA was not anticipated at the time of the ROD, further evaluation is required to determine if any additional action is required to address these emerging chemicals of environmental concern.
- Although this conclusion was included for the Eastern Plume in this five-year review, evaluation will be on a base-wide basis as part of the PFAS Remedial Investigation currently being planned.
- Fifth Five-Year Review Report available at: https://isg.applications.tetratech.com/BrunswickDocs

GWETS Operation

- Eastern Plume groundwater has been treated for VOC removal with granular activated carbon (GAC) since 2000 and for 1,4-dioxane removal with HiPOx since 2009.
  - GAC also treats PFAS
- Pumping rates typically in the 40 to 60 gpm range – enough to fill a 60 ft x 40 ft x 4 ft deep pool each day.
- GWETS shutdown in October 2020 for maintenance and carbon changeout.
- HiPOx unit O&M has been problematic, requiring system shutdown.

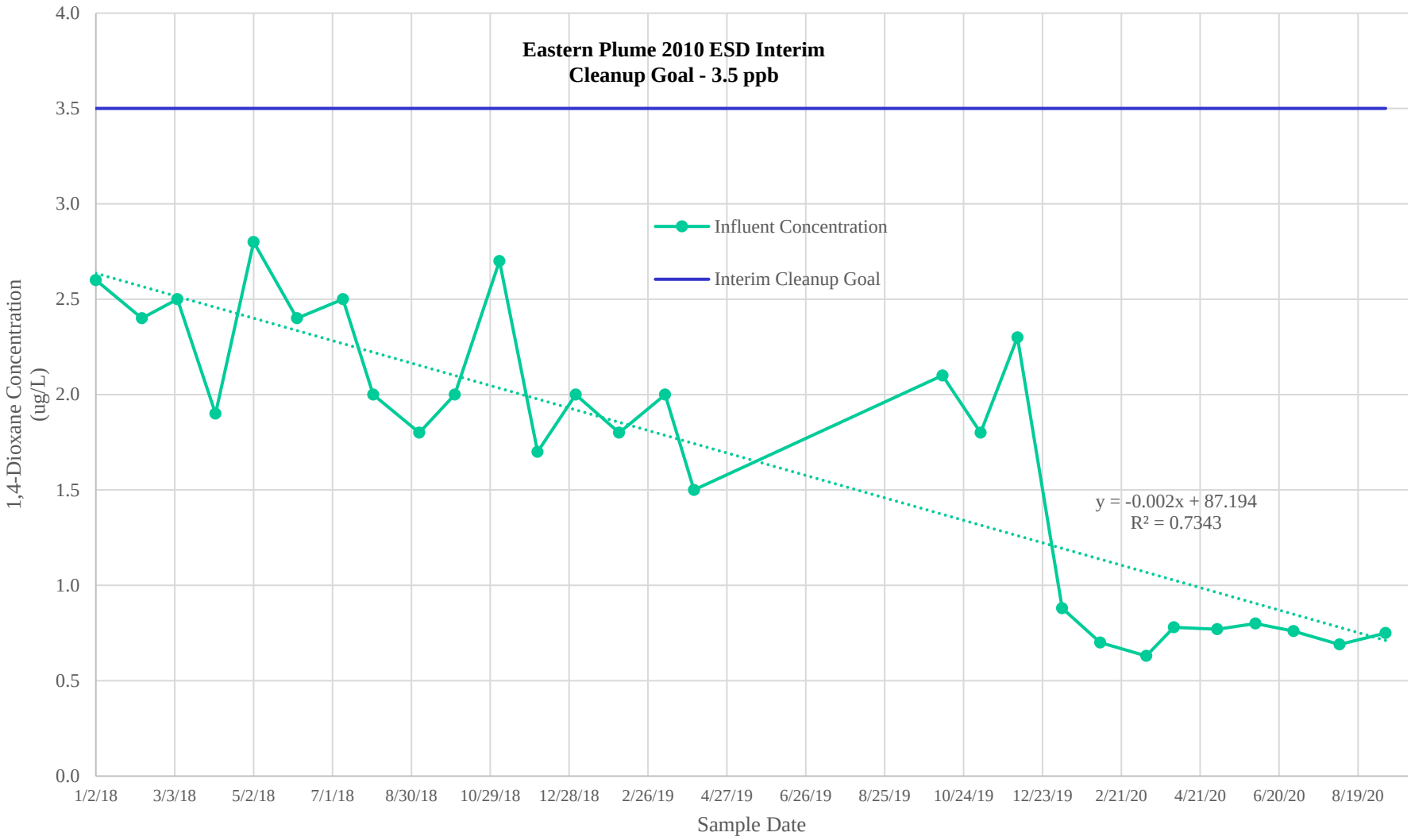
GWETS Operation

- Recent evaluation recommended HiPOx system use be suspended – influent 1,4-dioxane levels have been less than the discharge criteria for at least 2 years and are further decreasing. Extraction well concentrations are less than the interim cleanup goal in all but one well (EW-5B; 5.6 ug/L with a steady downward trend)
- With MEDEP and EPA concurrence, HiPOx system has been temporarily bypassed during groundwater treatment, allowing the treatment system to go back online.

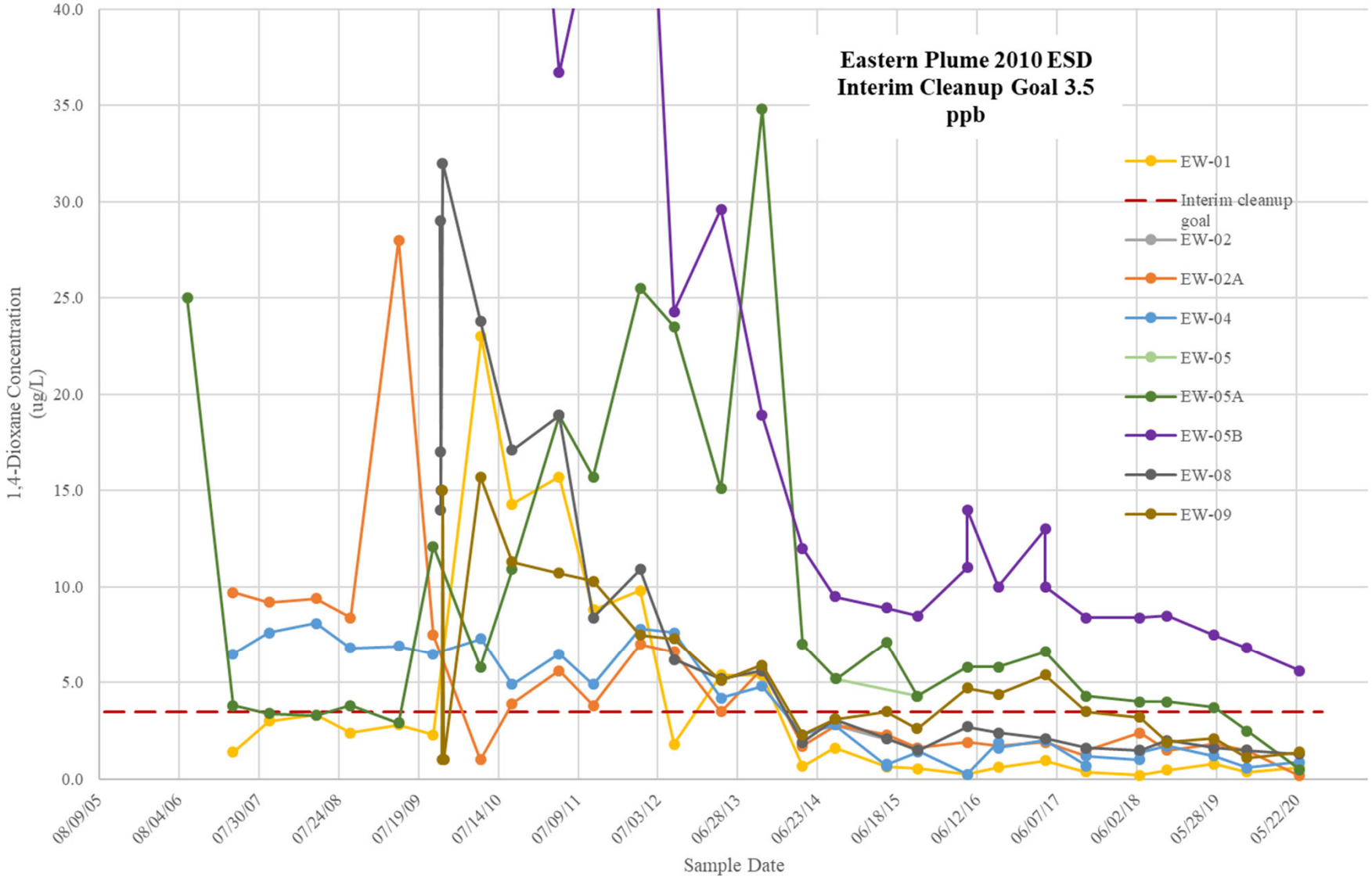
GWETS Operation

- **1,4-dioxane will continue to be monitored while upcoming LTM optimization and Eastern Plume extraction system evaluations are performed.**
- **GWETS influent, midpoint, and effluent water sampling and analysis is performed and evaluated monthly.**

2018 - 2020 1,4-Dioxane Influent Concentrations
Groundwater Extraction and Treatment System (Building 50)



1,4-Dioxane Influent Concentrations
Groundwater Extraction System

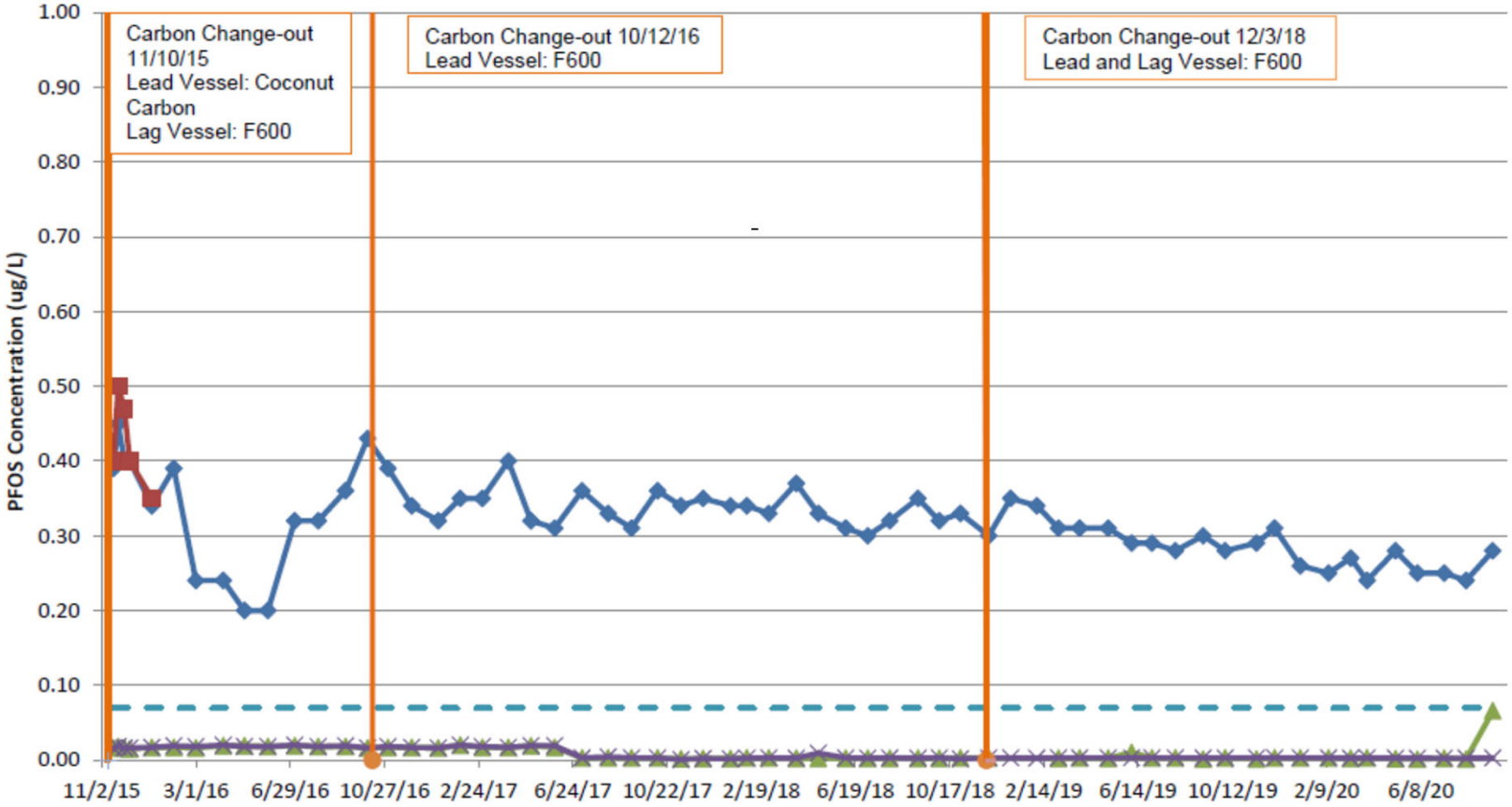


GWETS Carbon Replacement

- **Monthly sampling at the GWETS is being performed for PFAS compounds**
- **PFAS treatment consists of passing water through two granular activated carbon (GAC) tanks, hooked up in series, for PFAS removal via adsorption**
- **Monthly samples are collected from the following locations:**
  - Treatment plant influent (Avg PFOA ~ 1.5 ug/L, PFOS ~ 0.3 ug/L)
  - Between lead (1st) and lag (2nd) GAC carbon tanks
  - After lag carbon tank
- **Recent sampling results show lead GAC unit is experiencing breakthrough of PFAS compounds**
- **Lag GAC tank is still effectively treating PFAS compounds prior to discharge to the infiltration gallery (September 2020 results are non-detect for both PFOA and PFOS).**

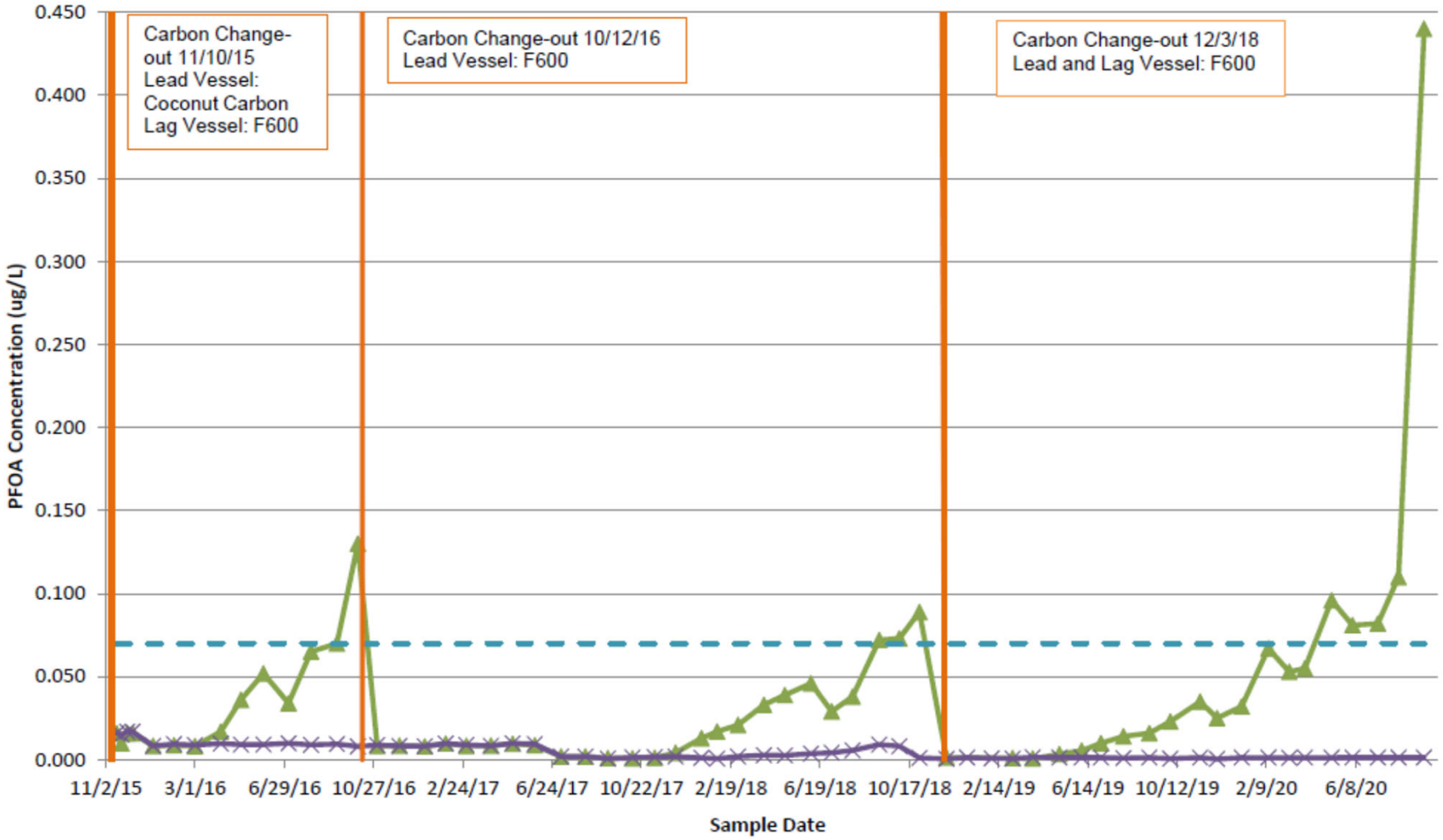
GWETS Carbon Replacement

PFOS Results (blue – influent; green – between carbon vessels; purple – plant effluent)



GWETS Carbon Replacement

PFOA Results [blue – influent (off-scale, ~ 1.5 ug/L); green – between vessels; purple – plant effluent]



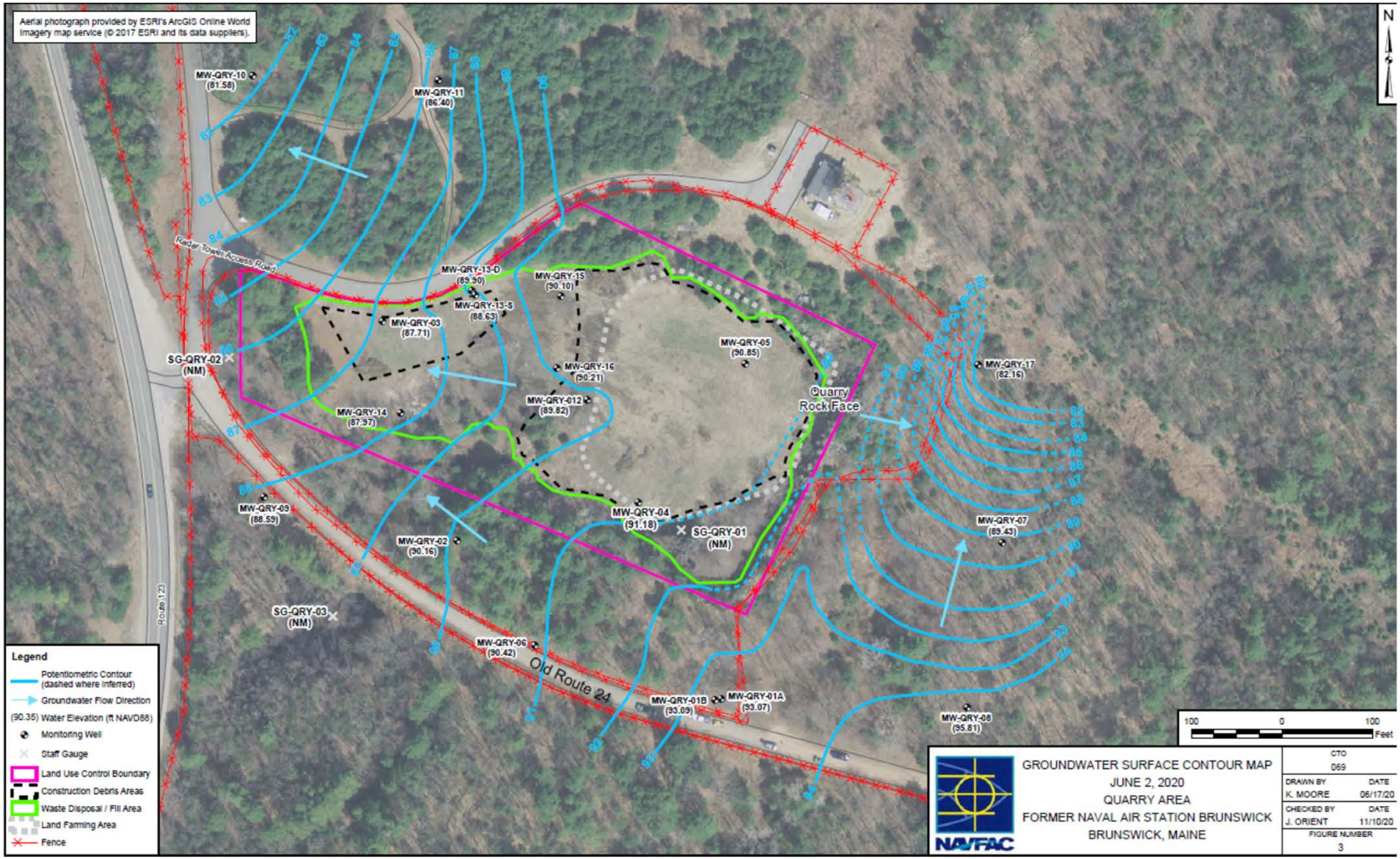
Path Forward

- **The Navy tasked the O&M Contractor to perform a carbon changeout on the lead GAC vessel**
  - Carbon replacement performed on November 13, 2020
- **The treatment system piping has been modified to allow for bypass of the HiPOx unit**
- **Monthly monitoring for VOCs, 1,4-dioxane, and PFAS will continue**

June 2020 Sampling Event

- **Post-Remedial Action baseline sampling event to assess future monitoring needs**
- **Collected water levels and samples from 19 wells, including 13 RI wells and 6 additional wells installed as part of the remedial action**
  - Samples analyzed for explosives, PAHs, metals
  - Draft report is currently in Navy review

Quarry Groundwater Monitoring



June 2020 Sampling Results Summary

- **Groundwater flow across the site is to the west-northwest, consistent with past groundwater flow determinations**
- **Trace-level detections of explosives in 4 wells (RDX, HMX), concentrations were below RAGs residential criteria**
- **Low-level PAH detections (1-methylnaphthalene, 2-methylnaphthalene, and naphthalene) in 2 shallow wells located along the northern edge of the waste disposal area**
  - Exceedances of residential RAGs, construction worker RAGs (naphthalene only); no exceedances of MCLs

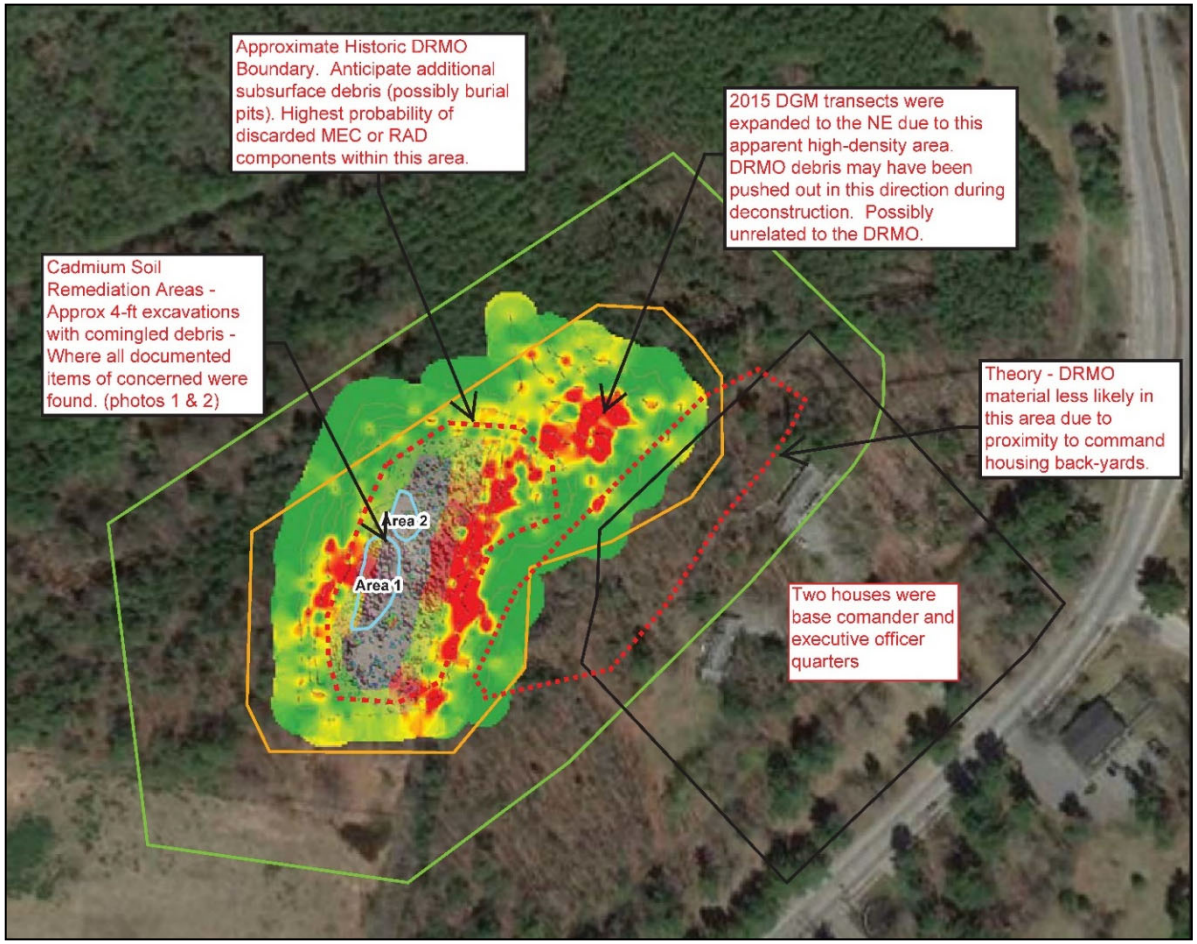
June 2020 Sampling Results Summary

- Wide range of metals detections – arsenic, cobalt, iron, and manganese exceeded residential RAGs (arsenic and cobalt are within background). No exceedances of MCLs.
- There were no exceedances of PALs in wells located both downgradient and upgradient of the Quarry
- Sampling results are consistent with RI sampling data and conclusions, which indicate minimal impacts to groundwater.

Site 7 MEC and Rad Investigation

Discussion Items:

- Background
- Prior Investigations /Remedial Actions
- Objectives
- Investigation Methods
- Findings



Site 7 MEC and Rad Investigation

Background and Prior Investigations/Remedial Actions

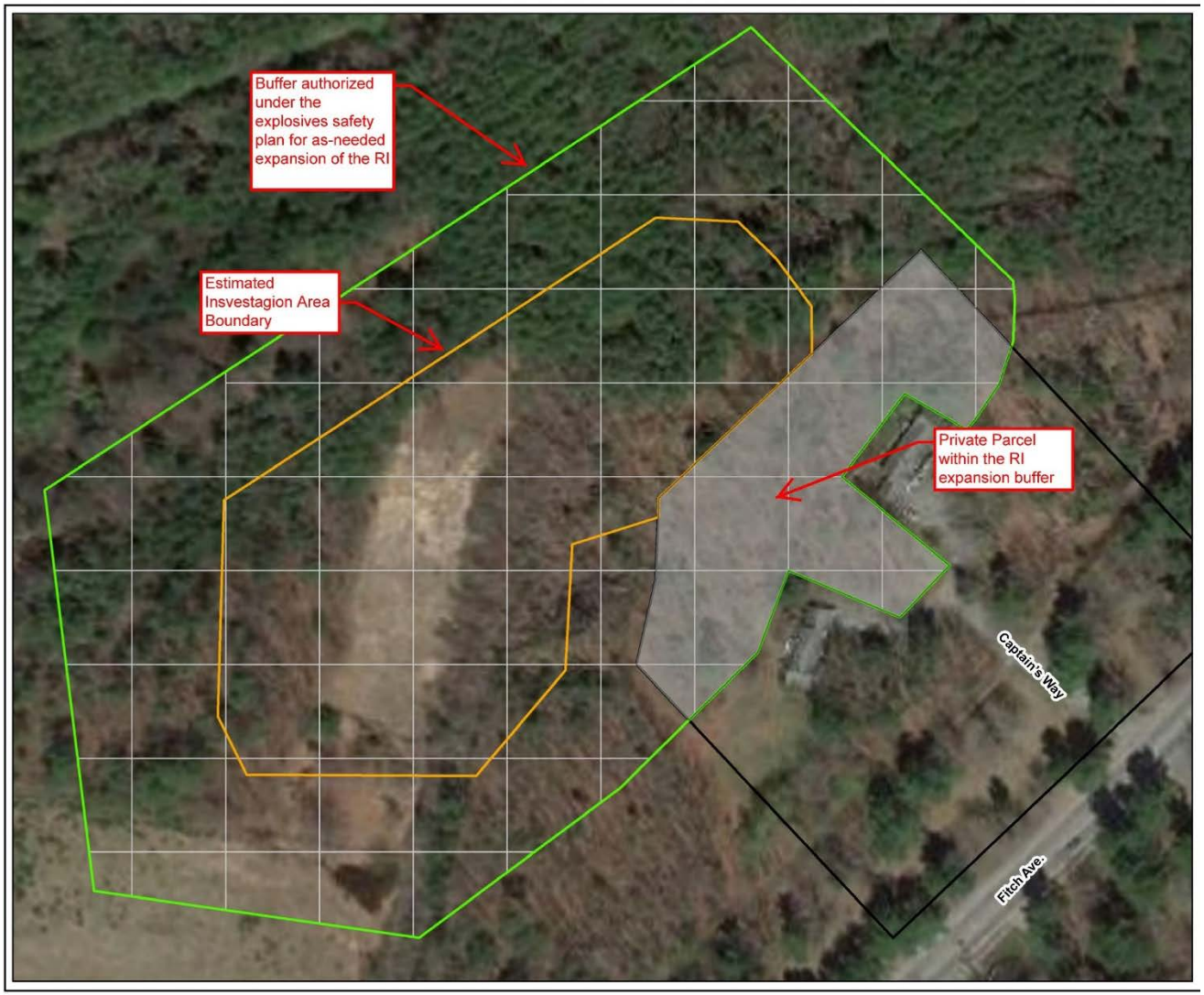
- Site 7 - Old Acid/Caustic Pit.
- Prior investigations and remedial work primarily related to cadmium-impacted soil.
- 2015 Cadmium-Impacted Soil Remediation – three Mk 23 Practice Bombs discovered among other buried debris. Fieldwork temporarily suspended.
- 2016 Limited DGM survey to identify subsurface metallic anomaly density and distribution outward from soil remediation areas.
- 2017 Resumed and completed soil remediation and radiological survey of Areas 1 & 2 – Found 27 more practice bombs, three flares, and nine radium dials classified as general radioactive material (G-RAM). No fragmenting explosive hazards discovered.

Site 7 MEC and Rad Investigation

Objectives

- Determine nature and extent of potential MEC and/or RAD commodities or contaminated soil and update MRS boundary and site conceptual model.
- Provide preliminary recommendations for further LUCs or remedial actions.
- Verify private property east of Site 7, currently being developed with apartment complex, does not lie within the footprint of potential future LUCs or other remedial actions associated with Site 7.

Site 7 - 2020 Investigation Areas



Site 7 – Methods

Private Parcel:

- MEC Team Detect/Dig to remove all metallic anomalies.
- Radiation health and safety support (Gamma walkover and scan all items removed as well as the holes).
- Limited DGM after detect/dig for QC purposes.

Site 7:

- Full DGM of initial investigation area.
- Test trenching of larger saturated areas.
- Investigation/resolution of select smaller high-density areas.
- Statistically based sampling of single DGM anomalies.
- Detect/Dig Transect Investigation for step-out areas.
- Gamma walkover survey (Class I & Class III Areas) with soil sampling.
- RAD scan of all excavations and excavated items.

Private Parcel – Detect/Dig Clearance

Flagged Analog Detections (Grid E-9 and D-9)

Trash pit excavated Grid G-8

RAD survey of excavation holes

Private Parcel – Detect/Dig Clearance

Example Seed item recovered. 41 seed items were placed and recovered.

The one munitions related item found (Grid C-7).

Typical bucket of Other Debris (Grid D-8). Approximately 475 lbs recovered in total (Wire, cans, nails, fencing, pipe, car parts, etc.).

Site 7 – Activities

Vegetation Clearing

DGM

Test Trenching

Site 7 – Example Findings

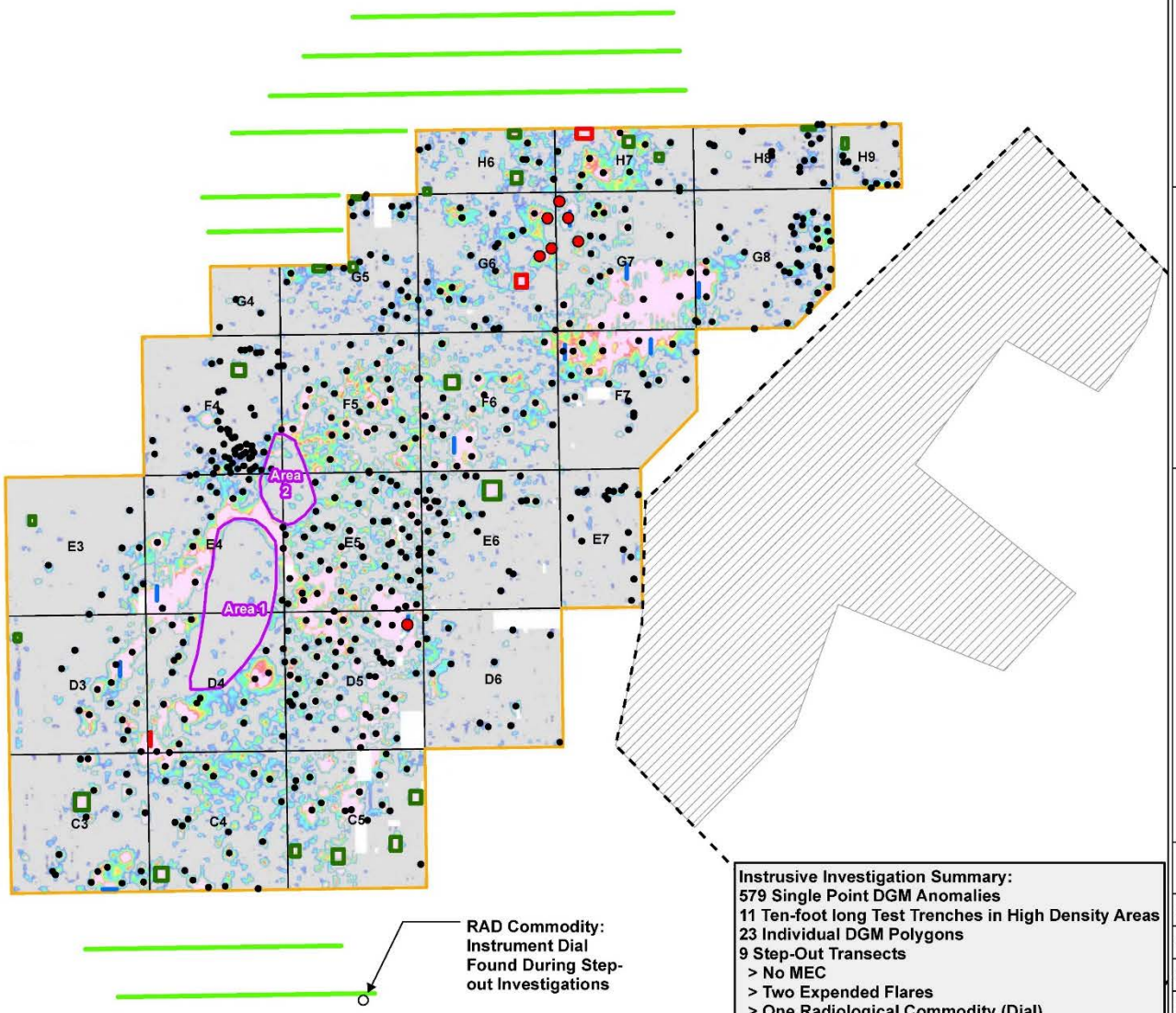
Scrap metal debris from surface clearance.

Flattened front half of practice bomb body; several found in the north.

No hazard associated with these.

Railroad spikes from a north polygon investigation

Site 7 – Completed Field Investigation



Instrusive Investigation Summary:
579 Single Point DGM Anomalies
11 Ten-foot long Test Trenches in High Density Areas
23 Individual DGM Polygons
9 Step-Out Transects
> No MEC
> Two Expended Flares
> One Radiological Commodity (Dial)

N

0 11 22 44 m
0 37.5 75 150 ft

Data is projected to the State Plane Coordinate System: NAD 1983 StatePlane Maine West FIPS 1802 Feet

Former NAS Brunswick

Site 7
Status Map

10-29-2020

Brunswick, Maine

Legend

- Previous Soil Remediation Areas
- Private Parcel Boundary

DGM Investigations

- Completed DGM Dig (579)
- Munitions-Related Item Found

Analog Investigations

- Completed Analog Polygons (23)
- Completed Analog Trench (11)
- Completed Stepout Transect (9)
- Munitions-Related Item Found in Analog Trench/Polygon/Transect
- Analog Detect/Dig Clearance Completed

Drawn By:	CLH	Scale:	1 inch = 22 meters
Checked By:		Date Drawn:	10/29/2020
Submitted By:		Revision Date:	Rev No.

Path: S:\Brunswick NAS\Site 7\MXD\Site 7 RI Status Map 10-22-20.mxd

Site 7 – Status Summary

Private Parcel:

- Random scrap metal across the site.
- No RAD detections or items of concern.
- Found one expended flare body and no actual munitions items.
- This area is outside of the Site 7 areas of concern.

Site 7:

- Field investigation is complete.
- Report to be generated.
- Looks like any areas of concern are within the central portion of the site < 2 acres.
- Trenches and other excavated targets indicate buried debris is mostly within the top 12 to 18 inches below grade.
- No apparent significant hazards – Navy to assess findings with the safety offices (RASO and NOSSA).

LUCIP Update

- **Base-Wide LUCIP provides detail of LUCs and LUC implementation actions required to ensure continued protectiveness**
- **LUCIP includes a LUC RD for each CERCLA site where LUCs were required as part of the remedial action**
- **LUC RDs for the following sites were included in the original LUCIP finalized in 2016:**
  - Sites 1 and 3
  - Site 2
  - Site 4
  - Site 7
  - Site 9
  - Site 12
  - Eastern Plume
  - LUC Implementation Document also included for Site 17 groundwater until the ROD is finalized

LUCIP Update

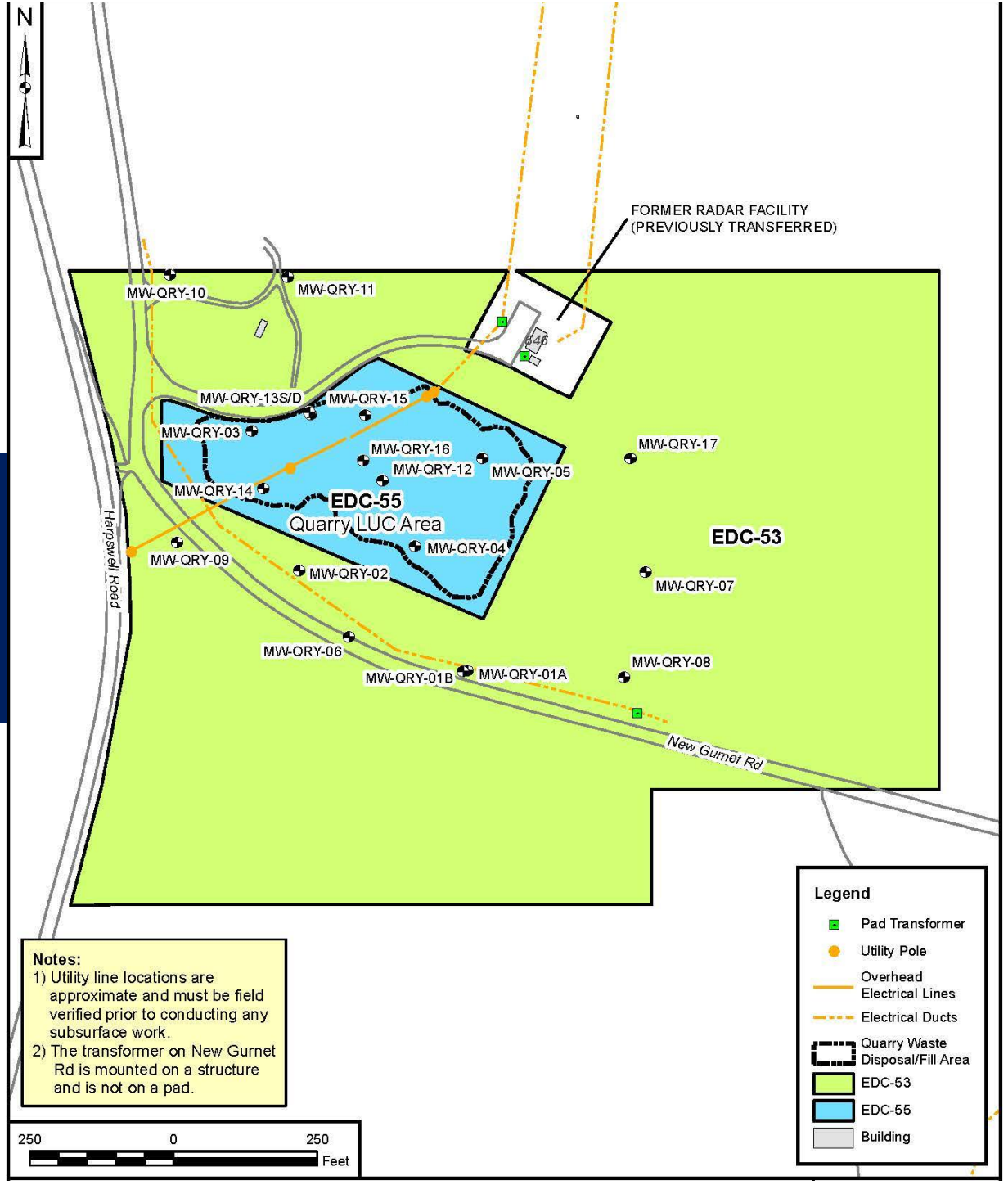
- **Base-Wide LUCIP is being updated to:**
  - Include Quarry Area LUC RD as required by ROD signed in 2017
  - Incorporate new construction review process using Brunswick Landing Construction Permission Request Form
- **Construction review process:**
  - Per 2017 Zoning Ordinance Update, development projects at Brunswick Landing are subject to property development review or require building permit
  - As part of review or permit request process, property owners will be required to submit Brunswick Landing Construction Permission Request Form for Navy approval, in consultation with EPA and MEDEP before town approves the project
- **Responses to regulator comments on the LUCIP Update are being generated**

FOST Status Update

FOST 2021-1 Transfer Parcels

- Parcel EDC-55; 4.02 acres of the Quarry Area
- Parcel EDC-53; 29.57 acres for Kick-Out Area and buffer area around the Quarry
- Estimated to sign Final FOST in summer 2021 after DDESB and NOSSA review and approval

FOST 2021-1 Transfer Parcels

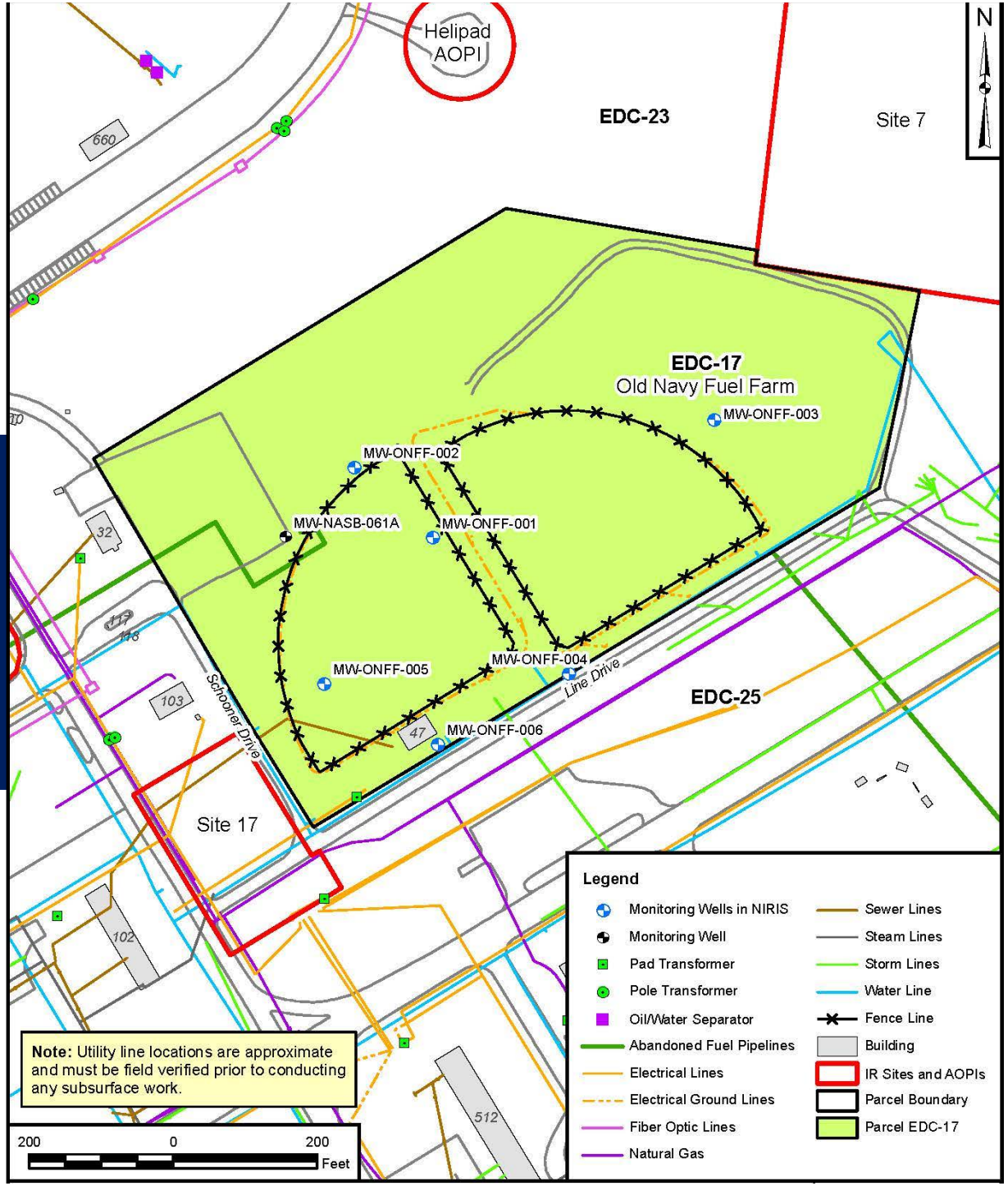


FOST Status Update

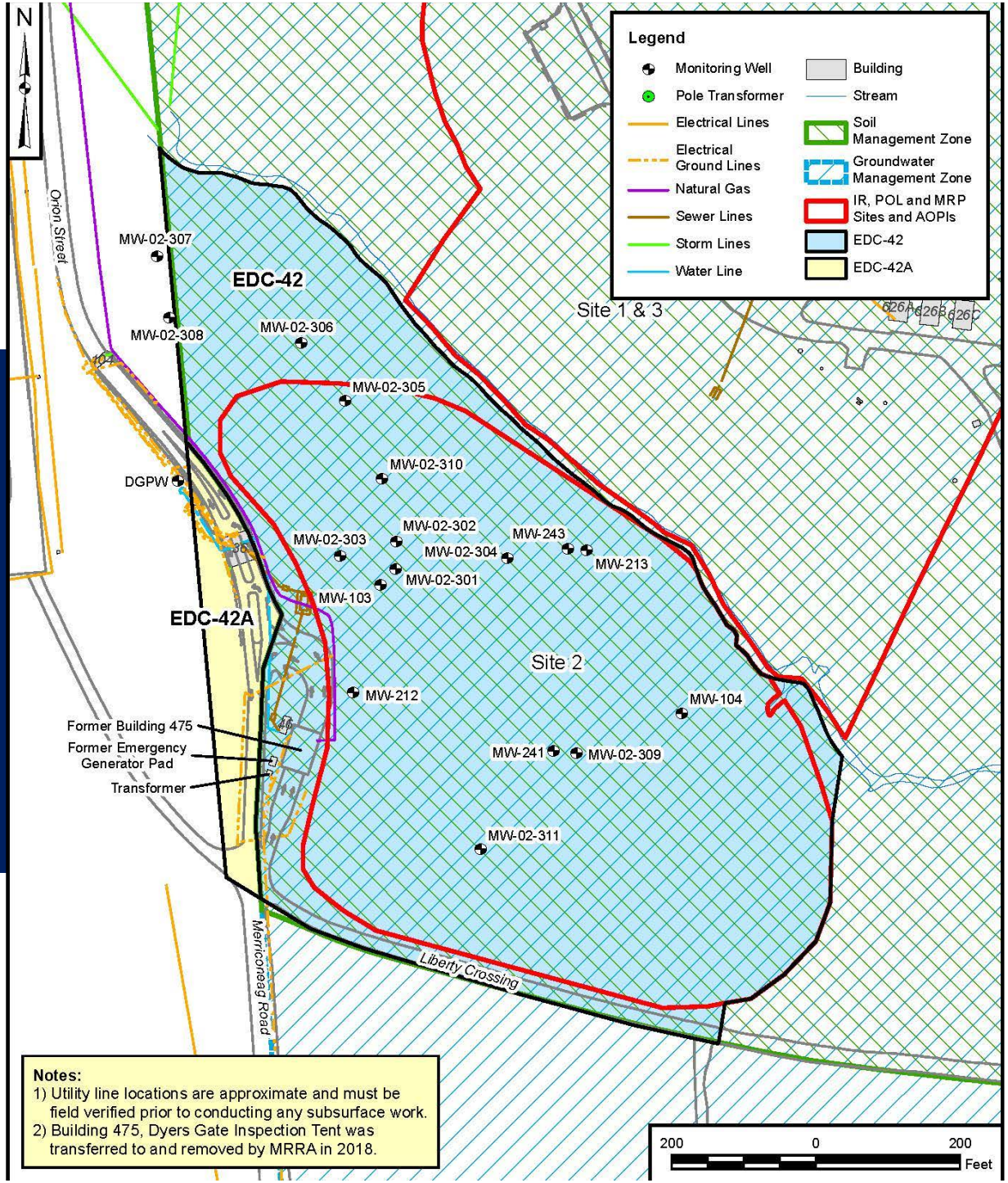
FOST 2021-2 Transfer Parcels

- Parcel EDC-17; 12.78 acres of former Old Navy Fuel Farm
- Parcel EDC-42; 14.69 acres of Site 2
- Parcel EDC-42A; Dyers Gate Area, 0.93 Acre
- Delayed until supporting documents are reviewed and finalized
- Estimated to sign Final FOST by end of Calendar Year 2021

FOST 2021-2 Transfer Parcels: ONFF



FOST 2021-2 Transfer Parcels: Site 2 and Dyers Gate Area



Upcoming Work

Basewide PFAS and low-level VOC RI scoping, planning documents, and RI fieldwork:

- **Multi-media characterization**
- **Airfield storm drain system will be included in overall scope**
- **Potentially multi-phase investigation**
- **Schedule:**
  - Scoping/planning – late 2020 to spring 2021
  - Field work – summer/fall 2021
  - RI Report – 2022

Upcoming Work

Extraction well evaluation – Eastern Plume:

- **May include changes in operation of current wells, possible addition of extraction wells to improve overall system effectiveness**
- **Schedule:**
  - Evaluation late 2020 to spring 2021
  - System modifications (if/as warranted) – late 2021 to early 2022

Upcoming Work

LTM Optimization:

- **Review current LTM program to identify appropriate modifications:**
- **Will include evaluation of the well network, frequency of sampling, analytes**
- **Schedule:**
  - Optimization evaluation/report – winter through mid 2021
  - Implementation – tentatively fall 2021
- **Continued GWETS operation / monitoring, LTM program, annual LUC inspections**

Questions?

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Q&A Options

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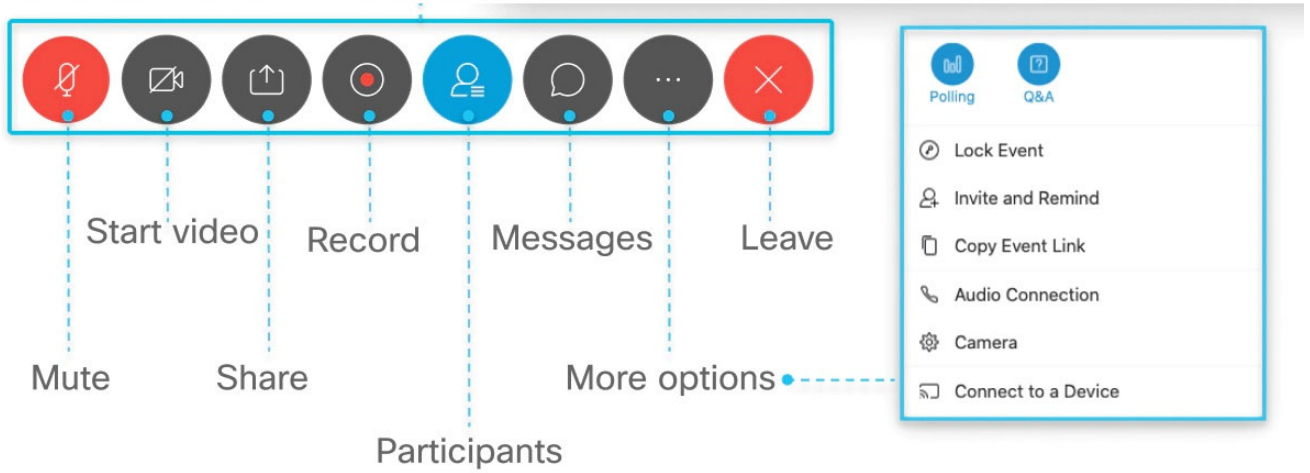

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Thank You!

Thank you for attending today's meeting!

Next RAB Meeting: Tentatively planned for Wednesday, February 17, 2021, at 2:00 pm

Base Map with CERCLA Sites