Naval Weapons Station Yorktown Environmental Restoration Program and Five-Year Review Update

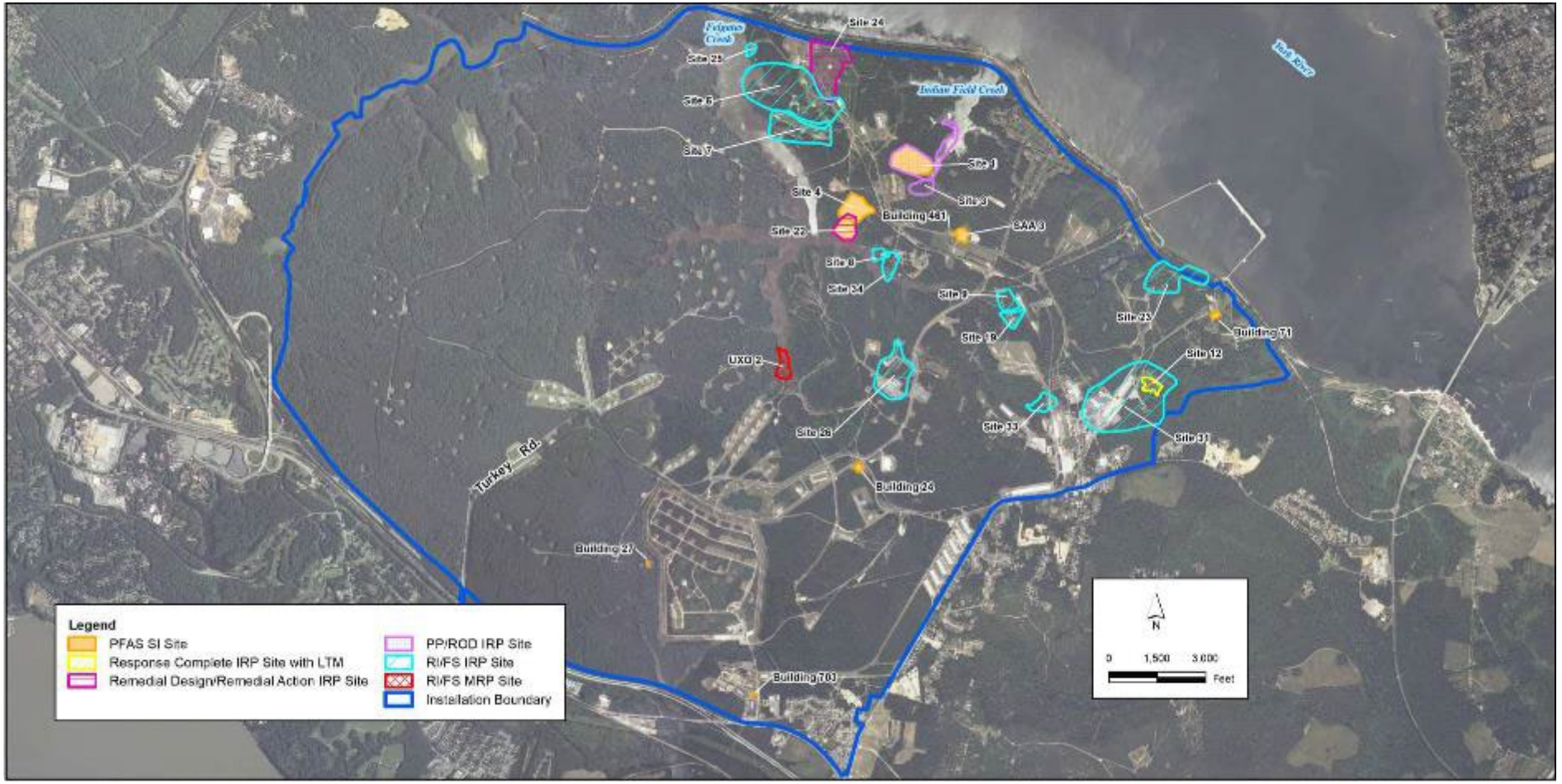
Naval Weapons Station Yorktown
Restoration Advisory Board Meeting

June 28, 2023

Agenda

- Environmental Restoration Program (ERP) Overview
- Update on select sites:
  - Site 3 – Group 16 Magazine Landfill
  - Site 24 – Aviation Field
  - Site 25 – Building 373 Rocket Plant
  - Site 33 – Sand Blasting Grit Area
- Discuss the Five-Year Review (FYR) Approach
  - Purpose
  - Content
  - Process
- Provide 2023 FYR Overview
- Provide 2023 FYR Sites Status
  - Site 1 – Dudley Road Landfill
  - Site 6 – Explosives-Contaminated Wastewater Impoundment, Flume Area, and Excavated Area
  - Site 7 – Plant 3 Explosives-Contaminated Wastewater Discharge Area
  - Site 12 – Barracks Road Landfill
  - Site 19 – Conveyor Belt Soils at Building 10
  - Site 22 – Burn Pad

ERP Overview



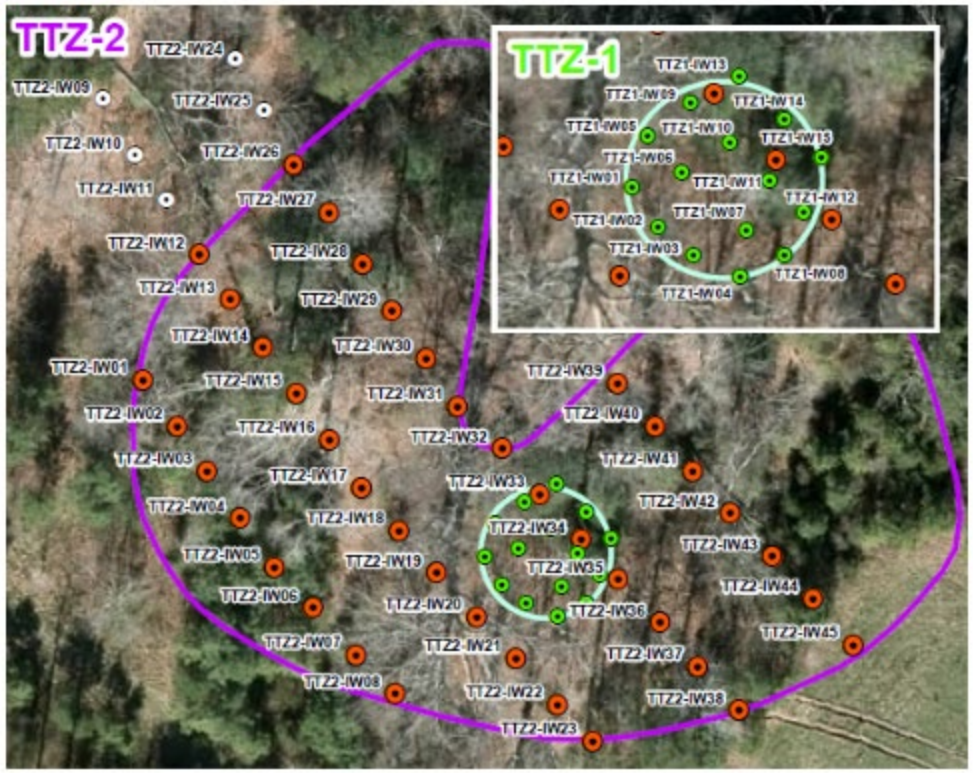
- PFAS SI Sites: 9
- RI/FS IRP Sites: 10
- PP/ROD IRP Sites: 2
- RD/RA IRP Sites: 2
- RC/LTM IRP Sites: 1
- RI/FS MRP Sites: 1
- Total Active IRP/MRP Sites: 25

- PFAS – Per- and polyfluoroalkyl substances
- SI – Site Inspection
- RI – Remedial Investigation
- FS – Feasibility Study
- IRP – Installation Restoration Program
- MRP – Munitions Response Program
- PP – Proposed Plan
- ROD – Record of Decision
- RD – Remedial Design
- RA – Remedial Action
- RC – Response Complete
- LTM – Long-Term Monitoring

Site Status

Site 3 – Group 16 Magazine Landfill

- **6-acre landfill**
- **Soil: No further action (NFA) ROD following soil removal action**
- **Groundwater Pre-RD investigation completed in 2021**
- **Groundwater, surface water, sediment: ROD being finalized**
  - Active remedy for groundwater
  - NFA for surface water and sediment
  - ROD signature anticipated in late Spring 2023
- **Land Use Control (LUC) RD developed in 2023**
- **RD developed in 2023 for GW remediation**
  - Enhanced In-Situ Bioremediation (EISB)
  - Groundwater Monitoring
  - LUCs



Site Status

Site 24 – Aviation Field

- **34-acre site**
- **Groundwater: evaluated in RI**
- **Soil: Non-time critical removal action (NTCRA) initiated in 2016 and ongoing**
  - Delays encountered due to discovery of munitions and radiological materials
  - In 2023 worked with Joint Munitions Command to dispose of radiologically impacted munitions documented as safe (MDAS)

Site 25 – Building 373 Rocket Plant

- **2-acre site associated with Building 373 explosives loading plant**
- **Soil, groundwater, surface water, sediment**
  - RI completed in fiscal year (FY) 2021; only soil requiring additional action
- **Pre-FS lead soil sampling investigation completed in FY 2022**
- **FS for soil excavation and offsite disposal finalized in FY 2023; Proposed Plan and ROD being developed**

Site 24 Excavation

Site 24 Mine Components

Site Status

Site 33 – Sand Blasting Grit Area

- **6-acre site**
- **RI fieldwork performed in four (4) phases from October 2021 through January 2023**
  - Groundwater (80 direct push technology [DPT] and monitoring well [MW])
  - Soil (120 locations, 240 samples; shallow and subsurface)
  - Surface water (50)
  - Sediment (50)
  - Seep sampling (15)
  - Toxicity testing (20)
  - MW installation (30)
  - Biological survey
- **RI Report being developed**

FYR – Purpose and Content

Purpose

- **Evaluate performance of remedies in place**
- **Determine protection of human health and the environment**
- **Required when:**
  - Remedial action resulting in hazardous substances, pollutants, or contaminants remaining at levels that do not allow for unlimited use/unrestricted exposure
- **Triggered by:**
  - On-site mobilization date for sites requiring remedial action construction
  - ROD/Decision Document signature date for sites without remedial action construction (e.g. monitored natural attenuation [MNA] or LUCs)
- **FYRs should be completed and signed within five years of the trigger date**

Content

- **Prepared in accordance with Environmental Protection Agency (EPA) FYR Guidance and Navy Policy**
- **Report Includes:**
  - Appropriate site history/background
  - Review of progress since the last FYR
  - Technical Assessment of the remedy, evaluation of previous assumptions and new information
  - Identification of issues, recommendations, and follow-up actions
  - Protectiveness statements
    - *Protective*
    - *Short-Term Protective*
    - *Will be Protective*
    - *Protectiveness Deferred*
    - *Not Protective*

FYR – Process

Community Involvement

- Advertisement in local newspapers initiating and closing the FYR
- Final FYR posted in the information repository
- Fact Sheet provided to members of the community via public website
- Community Involvement Plan feedback considered

Document Review

- Review all relevant documents and data (i.e., RODs, Remedial Action Construction, Operation & Maintenance, LUC RDs, LTM data, LUC inspection reports, etc.)
- Review current state and federal regulations

Emerging Contaminant Review

- Identify sites with potential PFAS releases identified in the PFAS Preliminary Assessment (PA)

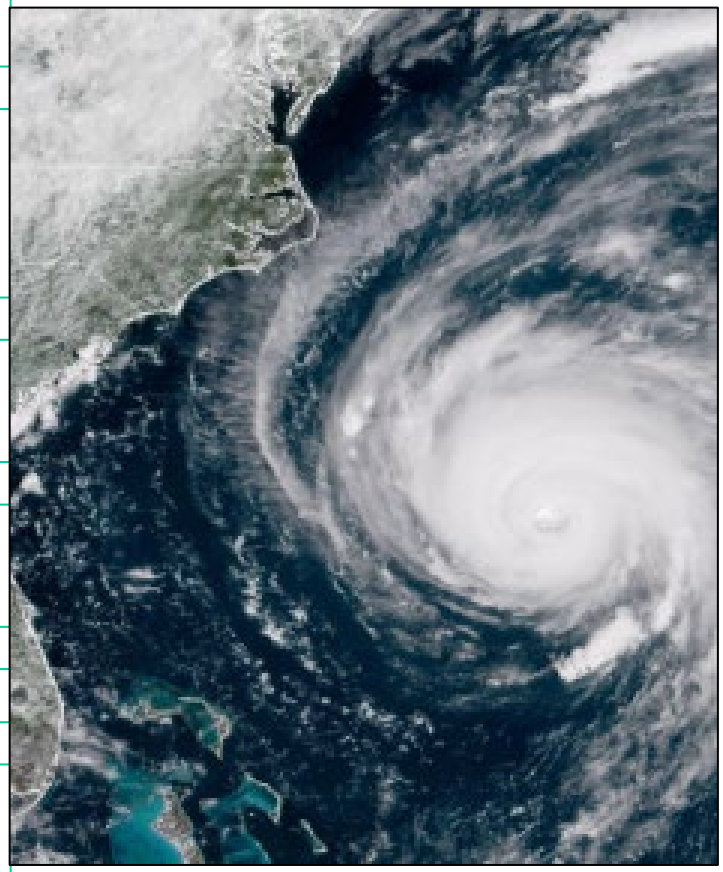
Resilience Review

- Qualitative review of each remedy with respect to extreme weather events, primarily hurricanes

Site Inspections

Interviews

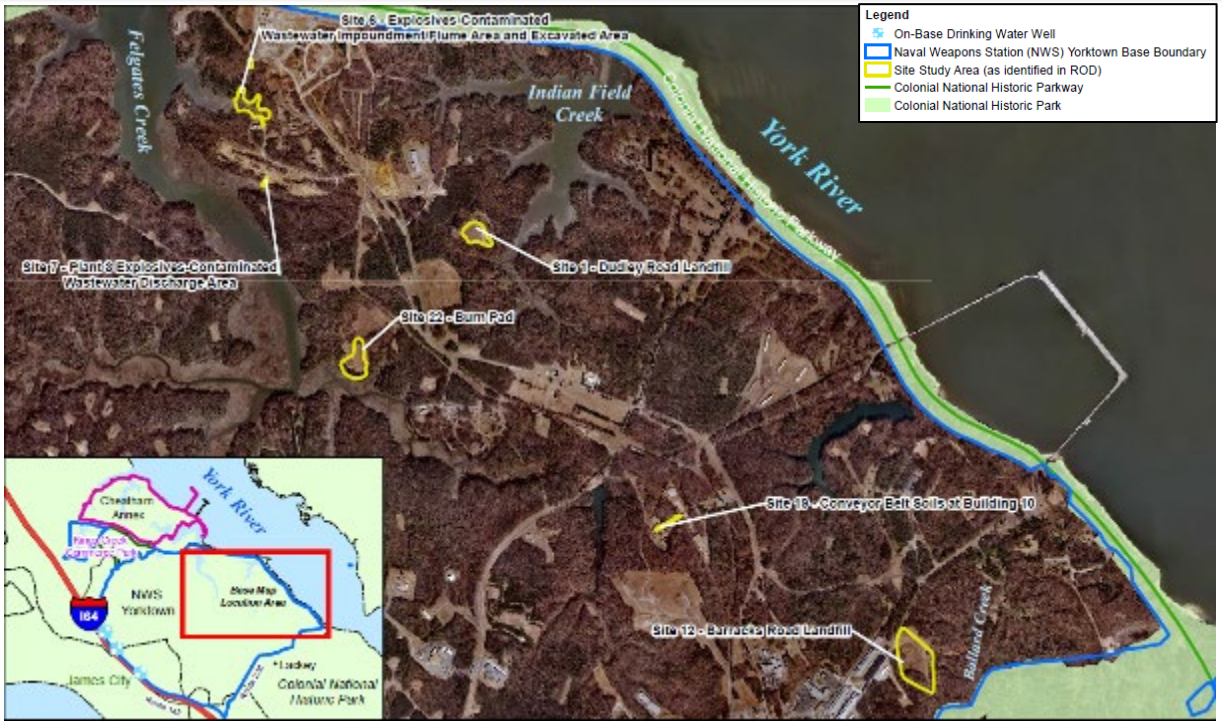
- Conduct interviews with Base personnel with knowledge of the sites and operations
  - i.e., Environmental Program Manager, Facilities Management Director, Lead Environmental Protection Specialist, Natural Resources Specialist, and Engineering Technician



2023 FYR Overview

Overview:

- **2023 is the Fifth FYR for NWS Yorktown**
  - Original FYR Trigger: Remedial Action Construction at Site 12 Area A
  - Signature date of the last FYR: March 16, 2018
  - Navy Signature due date 2023 FYR: March 16, 2023
- **Sites Included in FYR: Sites 1, 6, 7, 12, 19, and 22**
  - Protective: Sites 6 (Impoundment and Flume Areas), 7, 12, and 19
  - Short-Term Protective: Sites 1 and 22
  - Not Protective: Site 6 (Excavated Area)



FYR Site Status

Site 1 – Dudley Road Landfill

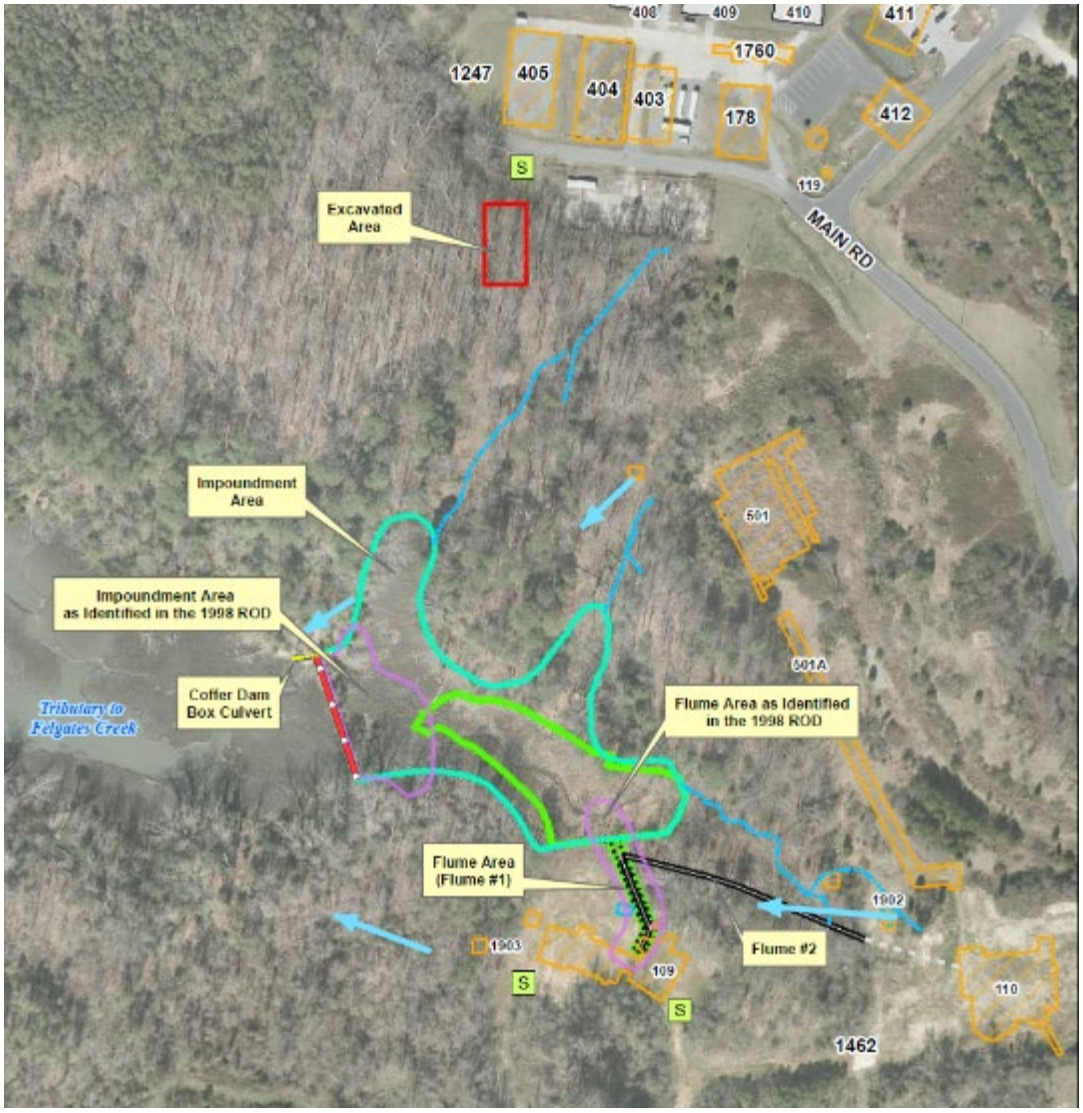
- **29-acre landfill**
- **Soil: ROD in place for soil cover and LUCs**
- **Groundwater, Surface Water, Sediment: Proposed Plan being developed**
  - Active remedy for groundwater utilizing EPA's Adaptive Management strategy
  - NFA for surface water and sediment
  - Public comment period anticipated in Summer 2023
  - Groundwater Pre-RD investigation being planned for late Summer 2023
  - PFAS: based on PFAS PA evaluation carried forward to PFAS SI
- **Sampling results provided in PFAS SI Report (expected to be finalized in 4Q FY 2023) and will be discussed in next FYR**
- **Protectiveness Statement: remedy is short-term protective of human health and the environment**
  - LUCs in place to prevent ground-disturbing activities and changes in land use
  - Ongoing PFAS investigations will determine if changes needed to ensure long-term protectiveness

FYR Site Status

Site 6 – Explosives-Contaminated Wastewater Impoundment, Flume Area, and Excavated Area

- **85-acre site encompassing Plant 2 complex and consisting of three operational units (OUs):**
  - Impoundment Area; Flume Area; Excavated Area
- **ROD in place for soil, groundwater, surface water, and sediment within the three operational units consisting of the following:**
  - Impoundment Area: LTM of surface water, sediment, and groundwater (interim action)
  - Flume Area: excavation and ex-situ bioremediation of soil and sediment; pressure washing of the flume; LUCs
  - Excavated Area: soil cover and LUCs
- **Following demolition of Plant 2 buildings (explosives loading plant) the site was expanded to include the previously uninvestigated Plant 2 area**
  - Soil, groundwater, surface water, sediment: being evaluated as part of ongoing RI
- **PFAS: based on PFAS PA evaluation not carried forward to PFAS SI**
- **Protectiveness Statements:**
  - Impoundment Area: remedy is protective of human health and the environment
  - Flume Area: protective; remedial action objectives (RAOs) for unlimited use/unrestricted exposure (UU/UE) achieved; therefore, OU is response complete for site closeout
  - Excavated Area: The remedy is not protective because soil has not been covered or excavated, which is explained in detail in the FYR. To ensure long-term protectiveness, action is necessary to mitigate potential ecological exposures to zinc in surface soil over a 0.17-acre area (60- by 120-foot area). Milestone date for this issue is in FY 2026.

FYR Site Status



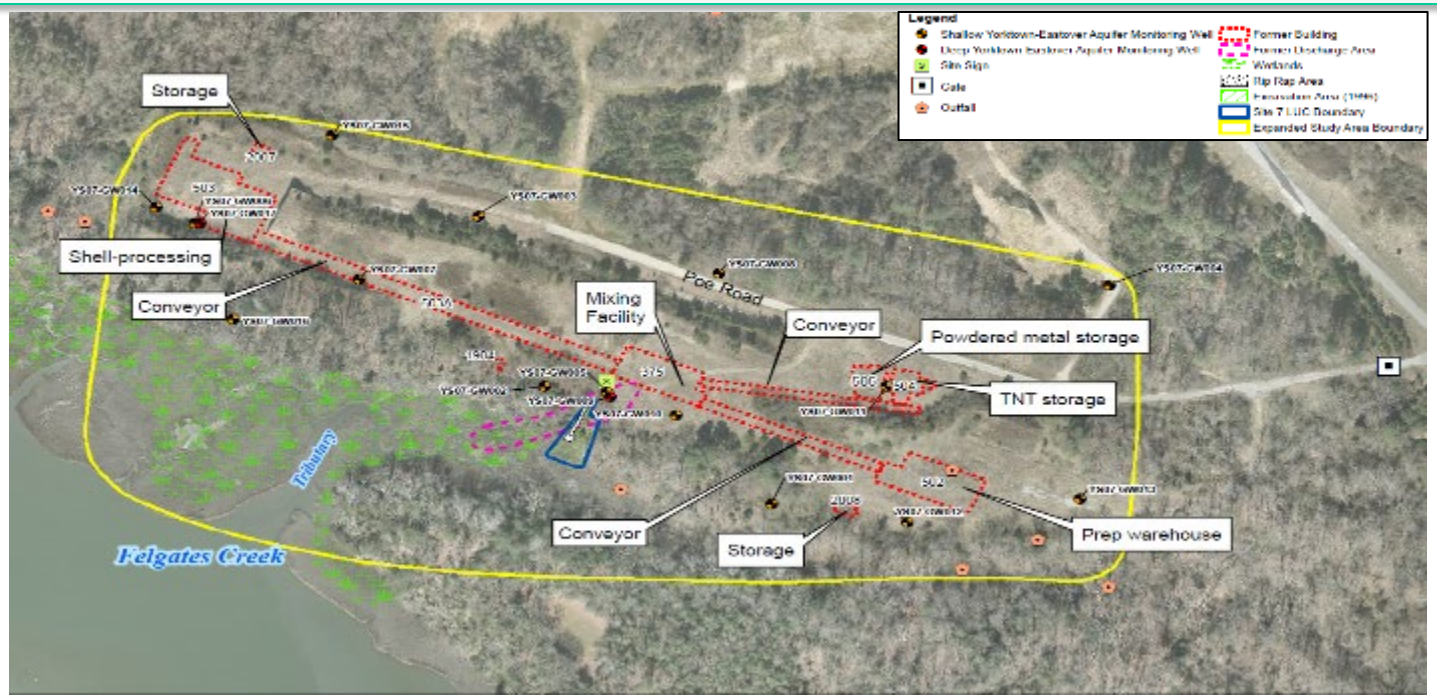
Legend

- S Site Sign
- Concrete Flumes
- Concrete Flumes (Underground)
- Approximate Drainage
- Impoundment Area LUC Boundary *(as revised by the 2012 Memorandum to File)*
- Groundwater Flow Direction
- Flume Area *(as revised by the 2012 Memorandum to File)*
- Coffer Dam
- Demolished Area
- Oil/Water Treatment Unit (OWTU)
- Carbon Adsorption Tower
- 1998 & 2006 Removal Area
- Excavated Area LUC Boundary

FYR Site Status

Site 7 – Plant 3 Explosives-Contaminated Wastewater Discharge Area

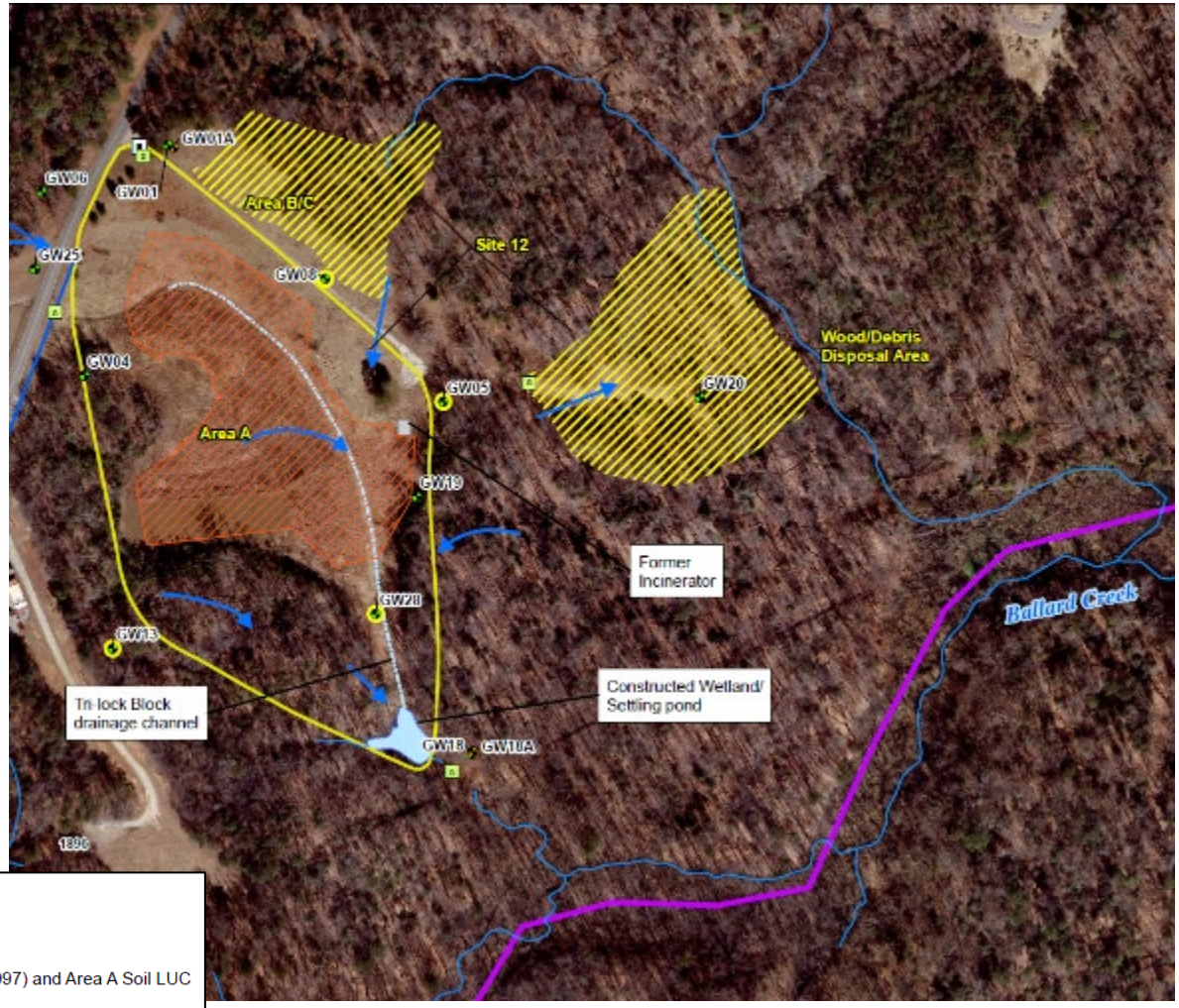
- 33-acre site encompassing Plant 3 buildings
- ROD in place for soil, groundwater, surface water, and sediment within Explosives-Contaminated Wastewater Discharge Area: LUCs for soil and sediment; groundwater LTM (interim remedy)
- Groundwater, surface water, soil and sediment outside of the ROD site boundary are currently being investigated under a Supplemental Pre-FS Investigation of Plant 3.
- PFAS: based on PFAS PA evaluation not carried forward to PFAS SI
- Protectiveness Statement: remedy is protective of human health and the environment



FYR Site Status

Site 12 – Barracks Road Landfill

- **Consists of three areas:**
  - Area A: 4-acre soil cover
  - Area B/C: 2-acre open field with some wooded areas
  - Wood Debris Disposal Area (WDDA): 3-acre area consisting of a ravine near Ballard Creek where debris was disposed
- **Area A: ROD in place for soil cover, groundwater LTM, and LUCs**
  - Groundwater LTM and LUC inspections ongoing
- **Area B/C and WDDA previously closed with NFA in ROD**
  - WDDA reopened based on 2019 partnering team consensus regarding surface debris encountered during site visit
  - WDDA investigation fieldwork conducted July 2022 through March 2023
- **PFAS: based on PFAS PA evaluation not carried forward to PFAS SI**
- **Protectiveness Statement: remedy is protective of human health and the environment**



FYR Site Status

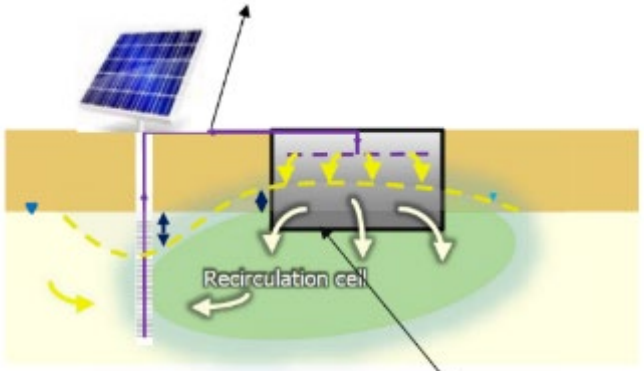
Site 19 – Conveyor Belt Soils at Building 10

- **Consisted of soils in a 500-foot-long trench beneath a conveyor belt and surrounding the conveyor belt**
- **ROD in place for soil consisting of:**
  - Dismantling/disposing of conveyor belt; soil excavation; LUCs
- **Following demolition of all Plant 1 buildings, investigation expanded to include Sites 9 and 19**
- **Soil, groundwater, surface water, sediment: being evaluated as part of ongoing RI**
- **PFAS: based on PFAS PA evaluation not carried forward to PFAS SI**
- **Protectiveness Statement: remedy is protective of human health and the environment**

FYR Site Status

Site 22 – Burn Pad

- **10-acre area previously containing a 150-foot-diameter circular array of 11 steel burning pans**
- **Soil, surface water, sediment: NFA ROD in place**
- **Groundwater: ROD in place; remedy optimization ongoing; fieldwork began in Spring 2022 and is ongoing**
  - Groundwater sampling (May 2022)
  - Monitoring well installation and pore water sampling (February 2023)
  - Groundwater and porewater sampling (May 2023)
  - Subgrade biogeochemical reactor (SBGR) installation and operation (begin in July 2023)
- **PFAS: based on PFAS PA evaluation carried forward to PFAS SI**
  - PFAS results from Pre-RD investigation included in 2023 FYR
  - Sampling results provided in PFAS SI Report (expected to be finalized in 4Q FY 2023) and will be discussed in next FYR
- **Protectiveness Statement: remedy is short-term protective of human health and the environment**
- **LUCs are enforced**
- **Remedy optimization activities are ongoing to refine the extent of COCs and PFAS as well as evaluate effectiveness of SBGR as bioremediation technology**



SBGR is filled with gravel and amendments (site-specific and based on contaminant)

Questions or Comments?

For additional information regarding the ERP at Naval Weapons Station (NWS) Yorktown, please contact:

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NWS Yorktown Publics Affair Officer
(757) 887-4939

Visit NWS Yorktown's ERP Public Web Page at:
https://www.navfac.navy.mil/Business-Lines/Environmental/Products-and-Services/Environmental-Restoration/Mid-Atlantic/Yorktown-NWS/

Have questions after the meeting?

If so, you can submit your questions for up to 10 calendar days after the meeting to the NAVFAC PAO officer at NAVFAC_ML_PAO@navy.mil or leave a message at 757-341-1410/11