Naval Base Kitsap Restoration Advisory Board Meeting Minutes January 15, 2026

DATE AND TIME: January 15, 2026; 5:00 p.m. to 7:00 p.m.

LOCATION: Kitsap Regional Library
700 NE Lincoln Road; Poulsbo, Washington 98370
and Via Microsoft Teams

Agenda, Welcome, and Introductions (slides 1-5)[1]

Joy Gryzenia welcomed everyone, reviewed the agenda, and read a land acknowledgment. She clarified that this Restoration Advisory Board (RAB) meeting will focus on environmental restoration activities at Naval Base Kitsap (NBK)-Keyport. Lisa David reviewed Microsoft (MS) Teams tips and protocols for virtual attendees.

Joy provided a general overview of the meeting participants from the Department of the Navy (Navy), U.S. Environmental Protection Agency (EPA), Washington Department of Ecology (Ecology), Jacobs, and RAB members. She noted that Ben Leake from EPA was present in the room and Michael Cronin and Binod Chaudhary, state regulators from Ecology, were online, and they all introduced themselves.

Roll Call (A=absent; I= in person; V= virtual attendance):

RAB Members:

- Cathy Adams-Bomar (V)
- Shayla Bonnett Leer (I)
- Teresa Brooks (I)
- Dennis Byrne (I)
- Joe Campbell (A)
- Chloe Donaldson (I)
- Joy Gryzenia/Navy Co-chair (I)
- Marty Harper (I)
- Myles Hirtreiter (V)
- Jim Hochstein (I)
- Ted Jones/Community Co-chair (I)
- Camden Kolb (I)
- Cindy O'Hare (I)
- Patty Page (I)
- Kathy Railsback (I)
- Daryl Sylvester (A)
- Michael Tucker (V)
- Susan Venard (I)

Other Attendees

- Kaycee Bailey/Naval Facilities Engineering Systems Command (NAVFAC) Northwest (I)
- Shannon Bartow/Jacobs (I)
- Brennan Booker/NAVFAC Northwest (I)
- Rachel Bowen/City of Poulsbo (I)
- Linda Brust/Community member (V)
- Binod Chaudhary/Ecology (V)
- Tom Colby/Kitsap Public Utility District (V)
- Michael Cronin/Ecology (V)
- Scott Cronkrite/International Association of Machinists and Aerospace Workers (IAM&AW) (V)
- Lisa David/Jacobs (I)
- Elmer Diaz/Ecology (V)

1 These minutes are designed to capture major points, decisions, and assigned actions rather than a literal transcript, to provide a concise overview for participants.

Distribution Statement A: Approved for Public Release

- Aric Frohman/NAVFAC NW (I)
- Mindy Graddon/NAVFAC NW (I)
- Stephanie Hahn/State Representative Adison Richards, District 26 (V)
- Halie Hajek/NAVFAC Northwest (V)
- Janice Horton/NAVFAC NW (I)
- Kellie Koenig/Jacobs (I)
- Ben Leake/EPA (I)
- Nancy Lee Hastain Barrett/Community member (V)
- Brendan Lum/Kitsap Conservation District (V)
- Ronald Malec/NAVFAC Northwest (I)
- Amanda McCarthy/NAVFAC Northwest (I)
- Sarah McLellan/Community member (I)
- Wren McNally/Jacobs (I)
- Ruby Nelson/State Senator Krishnadasan, District 26 (V)
- Philip Nenninger/NAVFAC Northwest (V)
- Frank Nichols/NAVFAC Northwest (I)
- Amanda Rohrbaugh/NAVFAC Northwest (I)
- Christine Rolfes/Kitsap County Commission, District 1 (V)
- Clay Schule/Keyport Improvement Club (I)
- Karol Stevens/Keyport Improvement Club (I)
- Anna Whalen/NAVFAC Northwest (I)
- Sandy Zeiner/Northwest Indian Fisheries Commission (V)
- Tom Zwolfer/Community member (V)

Meeting Protocols (slides 7-8)

Joy reviewed the meeting protocols and the question-and-answer guidelines.

RAB Overview and Business (slides 9-12)

Joy reviewed the role and purpose of a RAB and the ratifying of the Operating Procedures as the first order of RAB business. Joy noted she had emailed them to RAB members for review in August 2025 and did not receive any comments. Dennis Byrne made a motion to approve the Operating Procedures, Patty Page seconded and the vote passed unanimously.

Community Co-chair Election (slides 11-12)

Joy reviewed Community Co-chair responsibilities and asked RAB members for nominations.

Ted Jones self-nominated and provided his background:

- Retired from NAVFAC Northwest facilities
- Restoration advisory and environment cleanup work from 1992 to 1999 and 2002 to 2015
- Served as a supervisor of cleanup and a technical contract manager
- Experience working across the community and agencies including the Navy, EPA, and Ecology

Susan Vernard made a motion to elect Ted and Teresa Brooks seconded.

Dennis self-nominated and provided his background:

- Currently a licensed mechanical engineer in Washington
- Worked on the military B-2 program from 1985 to 2014
- Familiar with the tanker program, suppliers and companies working with MilTech, and Federal Aviation Administration specifications, dying and welding equipment processes

Joy noted for the record that Ted and Dennis each self-nominated. RAB members voted via secret ballot. Ted received 11 votes and Dennis received 2 votes. Ted was elected as the RAB Community Co-chair.

Regulatory Guidance and ERP Overview (slides 13-14)

Joy reviewed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Superfund process. CERCLA is a federal environmental cleanup process that begins with a Preliminary Assessment (PA) and Site Inspection (SI), followed by detailed investigations, referred to as a Remedial Investigation (RI), to determine the nature and extent of contamination, and a Feasibility Study (FS) to evaluate cleanup options. A

Proposed Plan (PP) is developed, and the selected remedy is formally documented in a legally binding Record of Decision (ROD), signed with EPA and state regulatory concurrence. The project then moves into Remedial Design (RD) (which often involves additional sampling), followed by Remedial Action (RA) (which can include construction and operation of the cleanup system). Once cleanup work is complete, a site may reach Response Complete (RC), which is achieved if investigation work determines cleanup is not required or when cleanup work is complete. Long-term Management (LTM) means some contamination remains with controls in place. Full Site Closure indicates that all environmental restoration requirements are met, which allows unrestricted use with No Further Action (NFA) required.

Removal actions such as the following can occur at any stage to more quickly address risks without going through the full CERCLA process:

- Emergency
- Time-critical Removal Action (TCRA)
- Non-time-critical Removal Action (NTCRA)

- Q. Dennis: Where does the RAB fit into the CERCLA process and can that be added to the flow chart? If RAB members have comments, will the Navy review and respond?
  - A. Joy: RAB/public comment periods in the CERCLA process occur for an FS. Comments from the RAB will be reviewed and responded to as appropriate.
- Q. Teresa: Who does this work?
  - A. Joy: The work is done by the Navy Remedial Project Managers (RPMs) in the Environmental Restoration Program (ERP), with regulatory oversight from regulatory agencies like Ecology and EPA.
- Q. Susan: Who physically does the remediation?
  - A. Joy: The Navy manages the project, has ultimate say in what happens, and typically hires contractors to do the design and construction work.
- Q. Scott Cronkrite: Was anyone with Commander, Navy Region Northwest (CNRNW) Port Operations invited to be a part of this board? They are first responders when it comes to spills and have a team to help mitigate damage and exposure.
  - A. Joy: Applications to serve on the RAB were publicly announced through public notices in newspapers, social media, and mailers to residents within a 1-mile radius of each of the six NBK installations. All RAB meetings are open to the public.
  - A. Ted: The Port would be informed if a spill or other emergency implicates it.
  - A. Amanda Rohrbaugh: If there is an emergency, such as a train derailing or a spill at a dock, there would be a separate emergency response. CERCLA covers historical releases, and the Navy's RPMs would not be involved in an emergency response. The CERCLA process emergency actions refer to a historical release or issue that needs a more immediate response, such as a removal action.
  - A. Ben: The CERCLA process is not always linear; once it has started, it is common to go back to previous steps as more information is gathered.

ERP Overview (slide 14)

Joy provided an overview of the Navy Defense Environmental Restoration Program, which includes the Installation Restoration Program (IRP) for hazardous contaminants like per- and polyfluoroalkyl substances (PFAS) and volatile organic compounds (VOCs), and the Munitions Response Program for sites with ordnance. Most historical NBK sites are in the Remedial Action Operation (RAO)/LTM phase. PFAS investigations are in their early stages and will require significant work over the next decade.

- Q. Kathy Railsback: Does this RAB cover all contaminants of concern (COCs)?

  - A. Joy: Yes, although this RAB will focus primarily on PFAS investigations.

PFAS Overview (slide 15)

Joy provided an overview of PFAS. PFAS are synthetic chemicals commonly found in products like nonstick cookware, fast-food packaging, and certain paints. At Navy sites, PFAS contamination most often came from aqueous film-forming foam (AFFF), a specialized firefighting foam historically used during training exercises and to suppress vehicle and fuel fires. PFAS chemicals entered the environment primarily through repeated training use and accident response. PFAS are known as "forever chemicals" because their carbon-fluorine bonds are chemically some of the strongest, making them highly persistent and resistant to breaking down in the environment.

- Q. Kathy: Are there currently 14,000 PFAS and how many are the Navy checking for this project?
  - A. Amanda R.: The PFAS the Navy tracks depend on how many compounds can currently be measured using available laboratory methods and how many have formal regulatory or action levels. Current analytical methods can detect roughly 30 to 40 PFAS compounds, though it varies by method. PFAS are a more complex and dynamic set of contaminants to manage than traditional chemicals because the number of PFAS the Navy reports on is constantly changing as a result of the evolution of regulations and analytical methods. PFAS the Navy can measure, and those with regulatory numbers, may differ from one year to the next because of shifting standards.
  - A. Ben: Only two PFAS currently have finalized Clean Water Act regulatory numbers. Four additional compounds are in the rulemaking process but are not yet finalized. Certain PFAS mixtures are also regulated.
- Q. Dennis: Are perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) the two primary chemical groups the RAB will be discussing?
  - A. Ben: Yes, PFOA and PFOS have Maximum Contaminant Levels (MCLs).
- Q. Ted: Is Ecology also setting limits for PFAS that are different from EPA's MCLs?
  - A. Michael C.: Ecology has set limits and is in the process of revising some of them to meet EPA's MCLs. Because PFAS are emerging contaminants, Ecology is adjusting their numbers as the regulatory environment makes updates.
- Q. Dennis: What are EPA requirements and what happens if PFAS limits go down to 0 parts per trillion (ppt)?
  - A. Ben: EPA MCLs for PFOA and PFOS are at 4 ppt. EPA is working with labs to improve detection measurements and working with researchers to continue to understand health impacts.

NBK-Keyport IRP and PFAS Investigations (slides 16-28)

Amanda R. introduced herself as the NBK-Keyport RPM with a Bachelor of Science Geology degree from the University of Washington. She grew up in the area, and her career has focused on environmental and Superfund-related projects. Previously, she served as a contractor supporting EPA on Department of War sites and has been with the Navy for more than 5 years. Her background includes both regulatory and federal project experience.

Brennan Booker introduced himself as a geologist with a Bachelor of Science Geology degree from the University of Michigan, which is the state where he was born. Previously, he worked as an environmental consultant in Missouri and Michigan and has been with the Navy for about one year. He is excited to continue his environmental work and contribute to meaningful improvements.

NBK-Keyport (slide 17)

Amanda R. gave an overview of the NBK-Keyport installation. The installation covers approximately 340 acres on a peninsula, with Navy land acquisition beginning in 1913 and continuing through World War II. Environmental

restoration work began with a 1984 PA/SI that identified several areas needing further investigation, leading to the installation's listing on the National Priorities List in 1989 and a multiyear RI that was completed in 1993. A FS and PP followed in 1993–1994, and Area 1 was separated into its own Operable Unit (OU). The remaining sites were grouped under OU 2. A ROD for OU 2 was signed in 1994, which resulted in the closure of Areas 3, 5, and 9 with NFA. Area 1 underwent an additional study and a Focused Feasibility Study (FFS) process, leading to its own ROD in 1998.

Area 1 (slides 18-19)

Area 1 is an approximate 9-acre former landfill that operated from the 1930s to the 1970s, where the Navy disposed of domestic waste, industrial materials, solvents, pesticides, plating waste, and burned trash. The landfill has no liner or cap and contains a mix of materials, so it presents unique investigative and remedial challenges. The 1998 ROD identified VOCs and polychlorinated biphenyls (PCBs) as COCs and established a remedy that includes land use controls (LUCs), a tide gate to protect the shoreline from erosion, sediment excavation, and LTM with monitored natural attenuation (MNA). Area 1 is the sole site within OU 1, adjacent to a marsh and stream where shallow groundwater flows west toward surface water.

Recent evaluations of Area 1 found that the remedy selected in the 1998 ROD is not performing as intended, as confirmed in the third and fourth Five-Year Reviews (FYRs). Because conditions at the landfill have changed over time and monitoring data showed insufficient risk reduction, the Navy initiated extensive recharacterization work in 2017, resulting in a multivolume Supplemental Remedial Investigation (SRI). Volumes 1 and 2 were completed in 2023 and 2025, updating the site's conceptual model and human and ecological risk assessments, respectively. A third volume evaluating groundwater migration is in progress. Once reporting is complete, the Navy will proceed with an FFS and ultimately a ROD Amendment (ROD-A) to select a new, more effective remedy for Area 1.

- Q. Ted: Was the groundwater migration modeling for Area 1 (shown on slide 19) compared with the U.S. Geological Survey county-level model to ensure they both show groundwater flowing in the same direction?
  - A. Amanda R: Shallow and deep groundwater flow around the landfill is complex. Shallow groundwater flows west through the landfill waste where most of the contamination is found; deep groundwater flow direction is still uncertain and is a key focus of the upcoming SRI Volume 3 report. Several investigative steps taken in response to the concern that deeper groundwater might flow northwest toward Dogfish Bay include the following:
    - Deep and intermediate monitoring wells on the highway causeway did not detect contamination, reducing concerns about impacts to the bay.
    - Additional monitoring of deep wells along the landfill perimeter showed no exceedances of contaminants.
    - Installation of additional deep wells north of the landfill (refer to figure on slide 19); data will help determine whether groundwater flows north.
    - Flow direction for deep groundwater is still being evaluated, with results pending in SRI Volume 3.
- Q. Teresa: How deep are "deep wells"?
  - A. Amanda R.: What is considered deep varies by site. Keyport uses three categories:
    - Shallow (15 to 40 feet below ground surface)
    - Intermediate (depths between shallow and deep)
    - Deep (typically greater than 100 feet below ground surface)

Well depths differ because geology varies across the site. When installing a well, soils are logged and the well screen is placed within a water-bearing layer (layers where groundwater can flow). Tight or dense soils (like clay) do not transmit much water, therefore wells screened in those layers won't yield usable volumes for groundwater

sampling. Because of this variability, "deep" doesn't simply mean a specific number—it reflects the depth of the appropriate water-bearing formation at that location.

- Q. Dennis: Do the points shown on slide 19 represent sample locations? Are the wells shallow wells? I am concerned about deep wells (down to approximately 170 feet) near Virginia Point and the potential for groundwater migration beneath the bay toward residential areas.
  - A. Amanda R.: Yes, the dots on the figure on slide 19 represent sample locations. That figure was taken from the 2025 SRI Volume 2 report. The sample locations are color coded to represent many different media sampled at Area 1—sediment, surface water, plant tissue, shellfish tissue, soil, and groundwater. Regarding groundwater migration concerns:
    - The Navy installed deep monitoring wells along the causeway to intercept any contamination potentially migrating northwest from the landfill. No contamination was detected in these deeper wells, meaning the expected deeper groundwater pathway beneath Dogfish Bay was not confirmed. As a result, contamination does not appear to be migrating at depth beneath Dogfish Bay along the pathway of concern.
    - Shallow wells (approximately 30 to 50 feet) on the causeway showed detections of 1,4-dioxane and vinyl chloride, consistent with shallow groundwater flowing west from the landfill.
- C. Dennis: I'm concerned about people recreating in Dogfish Bay and potential exposure to contaminants in the water.
  - A. Amanda R.: The Human Health Risk Assessment (HHRA) considers different receptors; that is, groups of people or organisms that might come into contact with contamination. For humans, the groups include onsite workers (such as construction workers who may contact soil), hypothetical residents (used as a conservative scenario even though no one lives on the landfill), and recreators, such as kayakers, swimmers, or clam diggers in Dogfish Bay. Each receptor type has different ways they might interact with the environment. The HHRA evaluates their potential exposures, including contact with or ingestion of water, and determines the associated health risks for each scenario.

To stay on schedule, Joy asked RAB members to hold questions to the end of the presentation. RAB members were offered the opportunity to email Joy, and the Navy team will follow up with answers if meeting time runs out.

- Q. Kathy: Can we have more meetings if we need them?
  - A. Lisa: Yes, and future meetings won't have as much RAB business. We would like to get through the presentation and address questions at the end.

Area 2 (slides 20-21)

Amanda R. presented on Area 2, which includes two former drum storage areas (east and west of the road) and the 1976 Van Meter Road spill, where 2,000–5,000 gallons of plating waste were released. The drum areas operated on unpaved ground, allowing leaks and spills to enter soil. Investigations in 1993 and the 1994 OU 2 ROD identified VOCs as COCs. The selected remedy includes LUCs and LTM/MNA, which are reviewed in the recurring FYRs. Shallow groundwater lies 4–8 feet below ground surface and flows northeast. Slide 20 shows the drum areas, spill area, and LUC boundaries.

Area 2's LTM is conducted annually per the 1994 OU 2 ROD (in contrast to Area 1, which re-entered additional CERCLA steps). During the Fifth FYR, one monitoring well showed fluctuating concentrations, raising concern that the groundwater plume might extend beyond the existing three-well network. The Navy installed 11 new monitoring wells in 2022, expanding the network from 3 to 14 wells. At least four sampling events per well need to be collected to determine contaminant trends (stable, increasing, or decreasing). Concentrations at Area 2 remain above remediation goals, meaning the site cannot progress to RC and must remain in active monitoring. Previous FYRs found the remedy to be protective, though the Navy is evaluating whether adjustments may be

needed to improve cleanup effectiveness. The Keyport 2025 Sixth FYR includes all three active sites and is available on the Administrative Record (AR).

Area 8 (slides 22-23)

Amanda R. presented Area 8 background: an approximately 1-acre former plating shop, where past operations released plating solutions, diesel, and oil to soil through spills, utility trench discharges, and leaks from floors, pipes, and underground storage tanks. COCs include VOCs and metals, particularly cadmium and chromium. The 1994 OU 2 ROD selected a remedy of LUCs, excavation of metal hot spots in soil, and LTM/MNA. Excavation targeted the highest metal concentrations with the expectation that groundwater levels would decline. Groundwater is typically about 10 feet deep, heavily influenced by tides, and flows east toward Liberty Bay.

The OU 2 ROD requires implementation of an active RA if groundwater concentrations do not decline as expected at Area 8. A 2018 Risk Assessment evaluating both human and ecological receptors found no unacceptable human health risk but identified unacceptable risk to benthic organisms from cadmium and chromium, which was confirmed in a 2020 Ecological Risk Assessment Addendum. To identify remaining upland sources contributing to contamination, the Navy conducted an SRI (2020–2024). The final SRI report is expected soon and will be posted to the AR.

The Navy, EPA, and Ecology are considering shifting from an FFS toward a NTCRA that would remove contaminated beach sediment. Both the FFS and the NTCRA processes include opportunities for public comment. LTM at Area 8 remains in place while the Navy and regulators plan next steps.

Area 7, Area 22, and Site 23 LUC Only Areas (slides 24-25)

Amanda R. reviewed Areas 7 and 22, and Site 23, which have all completed the CERCLA process and showed no unacceptable risks; the Navy chose to implement LUCs as an extra-conservative measure. These areas are not part of the OUs, because they were identified after the OU structure was already established.

Area 7 is an approximate 9-acre fill area created using 80,000 cubic yards of dredged sediment, prompting evaluation of whether contaminants might be present. Area 22, approximately 20 acres, was investigated to confirm the Area 1 landfill boundary was correctly defined. A 1993 SI for Areas 7 and 22 found isolated detections below-screening-levels and no waste material at Area 22, so no removal actions or further study were required. The 1993 SI concluded NFA for both sites. The Navy conducts annual LUC inspections at both sites to ensure that no soil disturbance or unauthorized digging occurs.

Site 23 was a former storage building that housed lubricating oils and a refiltering system for petroleum-based machining coolants, along with a wash rack and storage tanks for rinse water. Workers provided anecdotal reports of possible buried drums, prompting the Navy to conduct a TCRA in 2000. The building was demolished and petroleum-contaminated soil was excavated. Some metal debris was found and removed, but no buried drums or containers were discovered. Because the contamination was successfully removed and no drums were present, the site was determined to require NFA. As a conservative measure, the Navy placed LUCs on the area to prevent soil disturbance.

Site 24 (slide 26)

Brennan provided an overview of Site 24, which was the location of a 2008 car fire that spread to a second vehicle, prompting firefighters to use about 0.5 gallon of AFFF concentrate mixed with water. No secondary containment was used during the response, so the foam runoff was able to flow freely into surrounding areas. The site was first identified during the 2020 PA, and the 2023 SI confirmed that PFAS contamination is present. Groundwater at this location is typically 22–30 feet deep, and shallow groundwater flows toward Liberty Bay. Because PFAS is an emerging contaminant, Site 24 is not part of an OU and is progressing through the CERCLA process on its own.

Site 25 (slides 27-28)

Brennan presented on Site 25, the Base Fire Station, a newly identified PFAS site where AFFF was stored and used from 1972 until the Navy ended on-base AFFF use in 2018. The RI is in early planning stages, with fieldwork expected in 2026. Groundwater depth and flow direction remain uncertain because of a potential perched water lens; the RI will confirm conditions, define groundwater flow direction, and assess PFAS migration.

The Navy will install additional monitoring wells, delineate PFAS in soil and groundwater, and evaluate on- and off-base migration, including risks to the nearby Keyport community. If PFAS is found off base, the Navy will notify the public and consider a TCRA or NTCRA. Because PFAS is an emerging contaminant, Site 25 is not part of an OU and is progressing through the CERCLA process on its own.

Discussion (slide 29)

Joy asked RAB members to email her Navy-related questions. Michael C. offered to answer RAB member questions for Ecology via email at micr461@ecy.wa.gov.

Scott (via MS Teams chat) acknowledged this was the first meeting and introduced himself as a Senior Chief Union Steward for CNRNW, President of IAM&AW Local 282, and a Port Operations Small Craft Operator. He attended the RAB meeting because he knows the environmental damage the industry causes and would like to try to help.

A discussion about extending the meeting took place. The consensus was to conclude the meeting at 7 p.m. and that Navy and EPA staff would stay until 7:15 p.m. to answer questions one-on-one.

Conclusion (slides 30-34)

Joy announced that the Bremerton site tour and RAB meeting is planned for the May timeframe, pending funding for a new community relations support contract. Joy welcomed presentation topic suggestions from RAB members for upcoming meetings. Members were asked to provide feedback, including about the meeting room and location. Joy noted all CERCLA-related public documents for NBK-Keyport are in the AR listed on slide 31: https://adminstrative-records.navfac.navy.mil/?LR6ZTU3VG42XKK

Ted and Joy let RAB members know that if they have questions for Ted as the Community Co-chair, they can send them to Joy and she will forward to Ted until his NBK RAB Community Co-chair email is established.

- Q. Kathy: Why did the remedies at Area 1 stop working and why have site conditions continued to change?
  - A. Amanda R.: The original remedy used was phytoremediation, which is when plants are used to remediate soil and groundwater by an uptake of contaminants into their root and cell structure—in this case by planting poplar trees to absorb contaminants from soil and groundwater; however, the trees did not take up the pollutants as intended. As water from rainfall and upgradient groundwater continued to flow through the landfill, it mobilized contaminants instead of being contained, which resulted in previously removed contaminants, including PCBs, remigrating from the landfill back into nearby sediments, essentially undoing earlier cleanup work. Because the trees were not absorbing contaminants or preventing their movement, the contamination plume grew. The remedy did not perform as intended.
- Q. Cindy O'Hare: Could the Navy provide a list of documents the RAB should look at before the next meeting?
  - A. Joy: Yes, that was something we discussed doing.
- Q. Ted: Can you include with those documents a note about why the RAB should review them?
  - A. Joy: Yes, we can indicate why we suggest reading the document. We will continue to send meeting materials in advance and will consider how to clarify the purpose of each document.
- C. Ted: Maybe RAB members can arrive 15-20 minutes prior to the next meeting to ask questions one on one.

- Dennis: How did the beach at Area 8 become contaminated and what was the transport mechanism? Do saltwater intrusion and tidal movement carry contaminants back and forth beneath the beach?
  - A. Amanda R.: The primary transport mechanism is groundwater migration, not tidal action. Contaminants originate in upland soils, and as groundwater flows east and rainwater infiltrates through impacted soils, contaminants become mobilized into groundwater that then discharges directly to Liberty Bay or slowly seeps into beach sediments. While saltwater intrusion occurs, it causes tidal "sloshing" of VOCs that keeps them concentrated in the upland. In contrast, metals from past plating operations—such as those associated with acid washing and de-greasing—are more easily mobilized by groundwater and are the primary contaminants reaching the beach. Historical records of chemical use are incomplete, but solvents like trichloroethene and tetrachloroethene were known to be used historically and found at high concentrations, though they have degraded overtime.

Adjournment

Ted made a motion to adjourn and Patty seconded. The motion passed and the meeting was adjourned at 7:11 p.m.

Action Items

- Navy to add RAB/public comment periods to the CERCLA process graphic.
- Navy to send RAB members a list of suggested documents to review and indicate why.

Attachment 1
Slide Presentation

Naval Base Kitsap Restoration Advisory Board Meeting - Keyport

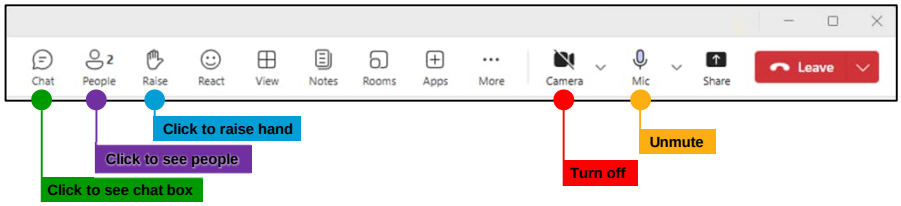
NBK-Bangor
NBK-Bremerton
Jackson Park Housing Complex
NBK-Keyport
NBK-Manchester
Naval Hospital Bremerton

January 15, 2026

1

MS Teams – Computer Tips

- **Camera – turn OFF to save bandwidth – slides will be presented on screen; mute your microphone**
- **Participants – click People to open panel**
- **Ask a question:**
  - **RAB members** – **Raise hand** to be called on to speak, unmute yourself when called on
  - **Public participants** – type your question into the **Chat**; meeting host will address comments in the order received



FOR ONLINE SUPPORT TEXT OR CALL WREN: 1.206.465.5433

2

Agenda

- Land Acknowledgment
- Welcome and Introductions
- Meeting Protocols
- Restoration Advisory Board (RAB) Business
  - Operating Procedures
  - Community Co-Chair Election
- Keyport Installation Overview
- Q&A
- Next Steps

3

Land Acknowledgment

We would like to begin by acknowledging that we are fortunate to be able to gather on the territory of the Coast Salish People, the ancestral homeland of the Port Gamble S'Klallam, Suquamish, Jamestown S'Klallam, Skokomish, and Lower Elwha Klallam Tribes. Indigenous people from other Native Nations also reside in Washington State and have made innumerable contributions to our region.

4

Welcome and Introductions

Navy	
Co-chair	**Joy Gryzenia**
Keyport	Amanda Rohrbaugh, Brennan Booker
Supervisors	Aric Frohman, Ron Malec
Community RAB Members	
Community Co-Chair	TBD
Community RAB Members	Listed on next slide
Federal Regulator U.S Environmental Protection Agency (EPA)	
Remedial Project Manager	Ben Leake
State Regulator Washington Department of Ecology (Ecology)	
Remedial Project Manager	Michael Cronin
PFAS* Subject Matter Expert	Binod Chaudhary
Contractor Jacobs	
Project Manager	Shannon Bartow
Community Relations	Lisa David, Kellie Koenig, Wren McNally

*Per- and polyfluoroalkyl substances

5

5

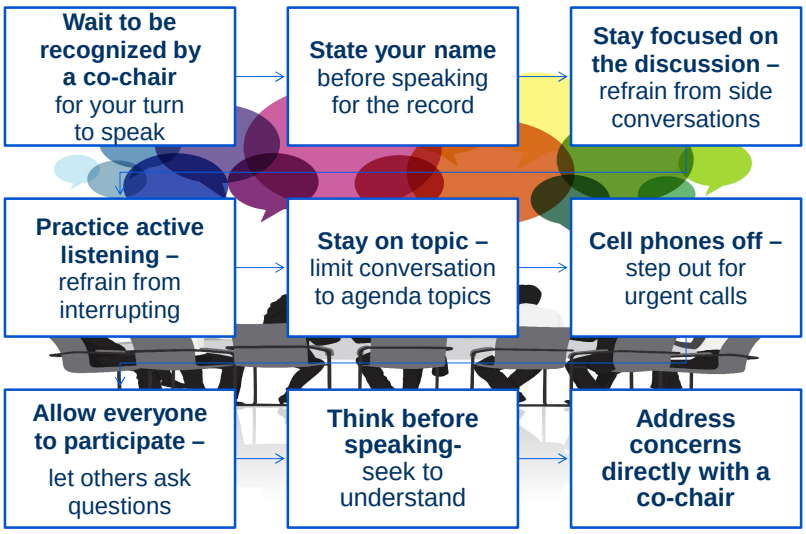
RAB Member Roll Call

- Cathy Adams-Bomar
- Shayla Bonnett Leer
- Teresa Brooks
- Dennis Byrne
- Joe Campbell
- Chloe Donaldson
- Marty Harper
- Myles Hirtreiter
- Jim Hochstein
- Ted Jones
- Camden Kolb
- Cindy O'Hare
- Patty Page
- Kathy Railsback
- Daryl Sylvester
- Michael Tucker
- Susan Venard

6

6

Meeting Guidelines



- **Wait to be recognized by a co-chair** for your turn to speak
- **State your name** before speaking for the record
- **Stay focused on the discussion –** refrain from side conversations
- **Practice active listening –** refrain from interrupting
- **Stay on topic –** limit conversation to agenda topics
- **Cell phones off –** step out for urgent calls
- **Allow everyone to participate –** let others ask questions
- **Think before speaking-** seek to understand
- **Address concerns directly with a co-chair**

7

7

Question and Answer Guidelines

- ***Everyone*** state your name for the record before speaking
- ***RAB Members*** will be invited to ask questions after the presentation. Please raise your hand (online use the “raise” hand option)
- ***Community Members*** will be invited to ask questions or comment after RAB members during the “community” portion of the meeting. Please raise your hand (online use the “raise” hand option)

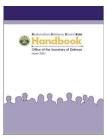
We request that questions and comments focus on the presentation topics and observe a 2-minute time limit to allow everyone to participate in the Q&A

8

8

What is a RAB & its Purpose?

- A RAB is a group of community members who meet on a regular basis to discuss environmental restoration at a specific Department of Defense (DoD) CERCLA property
- A RAB provides community members the opportunity to learn about and become involved in the environmental restoration process at a DoD installation either as a RAB member or through public attendance at RAB meetings
- RAB meetings are open to the public



DoD RAB Rule Handbook
https://www.denix.osd.mil/rab/denix-files/sites/22/2016/03/RAB-Rule-Handbook_Final.pdf

RAB Business
Operating Procedures

Finalize the NBK RAB Operating Procedures

- RAB members have reviewed
- No comments were made
- Joy ask for a motion from a RAB member to vote
- Co-chairs will sign and ratify the Operating Procedures
- Operating Procedures may be revisited as needed

RAB Business
Community Co-Chair Election

Community Co-Chair duties include:

- Facilitate community member participation in an open and constructive manner
- Coordinate with RAB members to request agenda topics
- Communicate with RAB regarding ERP activities
- Serve a minimum of two years
- Serve without compensation

Goal is for the cleanup and management decisions to reflect and address community interests

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RAB Initial Tasks –
Elect Co-Chair

Community Co-chair Election steps

- Obtain the consent of the nominee prior to nomination
- Nominations may be made from the floor
- Members may self-nominate
- Options: vote by secret ballot or by voice vote if the RAB chooses; any RAB member may request a secret ballot vote be taken
- Nominee must obtain majority of the votes
- Only community RAB members may vote

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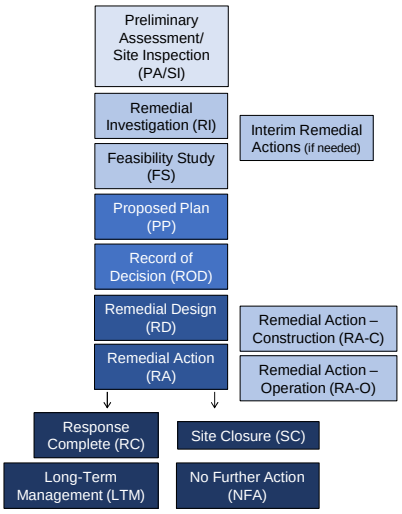
Regulatory Guidance: CERCLA

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Process



Interim Remedial and Removal Actions *may occur at any time during the CERCLA process:*

- *Emergency*
- *Time-critical (TCRA)*
- *Non-time-critical (NTCRA)*

Response Complete (RC) *is achieved if the investigation determines cleanup is not required, or when cleanup work is complete.*

Site Closeout (SC) *indicates that all environmental restoration requirements are complete.*

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ERP Overview

Defense Environmental Restoration Program (DERP)

DoD initiative to identify, investigate and clean up hazardous substances, contaminants and munitions from former military activities

Installation Restoration Program (IRP)

Includes contaminants of concern such as PFAS, volatile organic compounds, metals

Munitions Response Program (MRP)

Includes military munitions on military installations

Navy ERP actions follow CERCLA: Most historical NBK sites are in the Remedial Action Operation/Long-Term Management (RA-O/LTM) phase.

PFAS investigations: Navy is early in PFAS investigations because PFAS are a group of emerging contaminants.

https://www.navfac.navy.mil/Divisions/Environmental/Products-and-Services/Environmental-Restoration/

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What are Per- and Polyfluoroalkyl Substances (PFAS)?

- A group of manufactured chemicals
- Present in firefighting foam (specifically aqueous film-forming foam, or AFFF) used by the DoD since the 1970s

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NBK Keyport IRP and PFAS Investigations

NBK Keyport
Remedial Project Managers
Amanda Rohrbaugh
Brennan Booker

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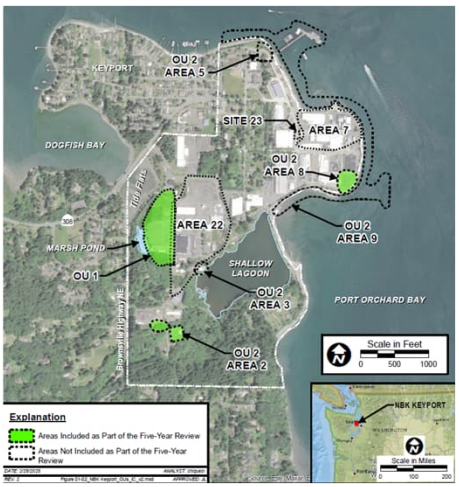
NBK-Keyport: Base Summary

- 340 acres, located on a peninsula
- Property acquisitioned in 1913 through end of WWII
- Historic operations included manufacturing and fabrication (e.g., welding, metal plating, sheet metal work, etc.) w/ operations expanding to undersea weapons and engineering during 1970s

ERP Investigation History

- 1984 Initial Assessment (i.e., Preliminary Assessment [PA]/Site Investigation [SI])
  - Recommended investigation of Areas 1, 2, 3, 5, 8, and 9
- 1988 – 1993 Remedial Investigation (RI) and risk assessments
  - Included all areas recommended from PA/SI
- 1989 listing on National Priorities List (NPL)
- 1993 Feasibility Study (FS)
- 1994 Proposed Plan (PP)
- 1994 Operable Units (OUs) created
  - OU 1: Area 1
  - OU 2: Areas 2, 3, 5, 8, and 9
- 1994 OU 2 Record of Decision (ROD)
  - No further action (NFA) areas: Areas 3, 5, and 9
- 1994-1997 OU 1 risk assessment updates, Focused FS (FFS) and PP
- 1998 OU 1 ROD



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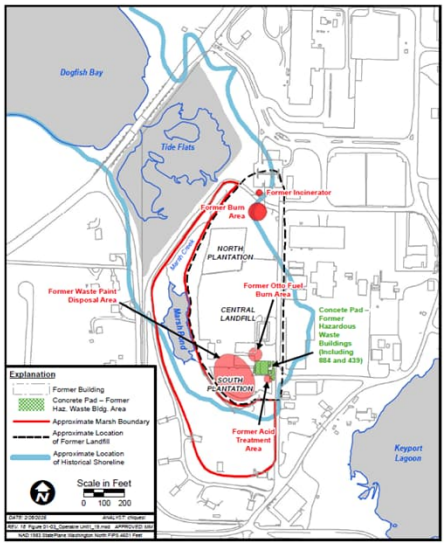
NBK-Keyport Area 1: Background Summary

- Area 1 is ~9 acres
- Former Landfill, operated 1930s to 1970s
- Used for domestic and industrial waste disposal from the base
- Former burn pile and former trash incinerator operated 1930s to 1960s
- Contaminants of Concern (COCs) include:
  - Volatile Organic Compounds (VOCs)
  - Polychlorinated Biphenyls (PCBs)
- OU 1 ROD signed in 1998
- Remedy includes:
  - Land use control (LUCs)
  - Upgrade of tide gate
  - Excavation of sediments from stream
  - Phytoremediation of hot spot areas
  - Long-term monitoring (LTM) / monitored natural attenuation (MNA)
- Area 1 is the only site in OU 1
- Depth to shallow groundwater typically 4 to 8 ft below ground surface (bgs)
- Shallow groundwater flows west to adjacent marsh and stream



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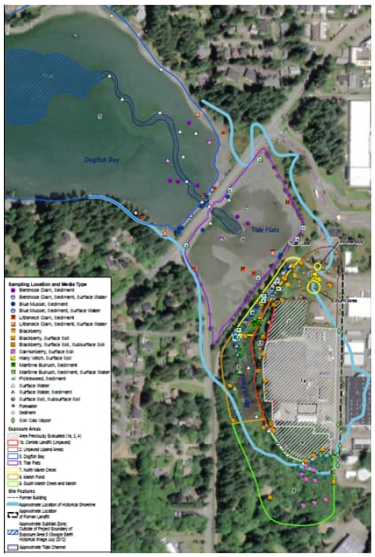
NBK-Keyport Area 1: Current Status

- 3rd and 4th Five-Year Reviews (FYRs) indicated Area 1 remedy not performing as intended
- 2017 – 2025 Supplemental RI (SRI) field work occurred in several phases
  - Various media sampled, including soil, groundwater, sediment, surface water, plant tissue, and shellfish tissue
  - Sampling both on- and off-base
  - Updated risk assessment completed
- SRI findings are reported in three separate volumes:
  - 2023, Volume 1 – Reports recharacterization efforts and conceptual site model (CSM) updates
  - 2025, Volume 2 – Reports updated risk assessments for human and ecological receptors
  - Volume 3 – In-progress, will include updates to groundwater migration assessment
- LTM sampling on hold since 2018 with regulatory agreement due to on-going SRI work
  - Interim LTM sampling instituted since 2019
- Next Steps:
  - Complete Volume 3 reporting
  - Develop inputs for upcoming FFS
  - Initiate FFS and continue steps toward ROD Amendment



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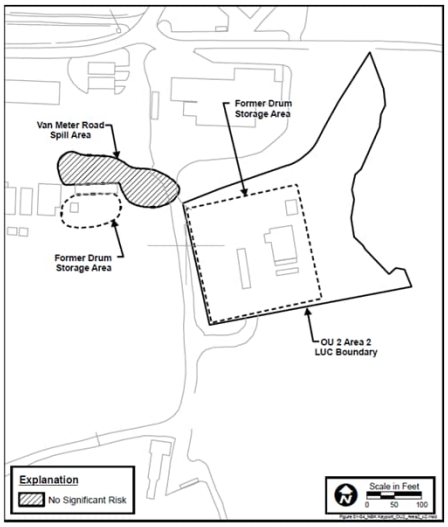
NBK-Keyport Area 2: Background Summary

- Area 2 includes three sources:
  - Former Drum Storage Area (east of road)
  - Former Drum Storage Area (west of road)
  - Van Meter Road Spill Area
- Drum Storage Areas:
  - Operated 1940s to 1960s
  - Stored chemicals used at the base
  - Unpaved areas - leaks and spills to bare ground
- Spill Area:
  - 1976 estimated 2,000 to 5,000 gallons of plating shop wastes spilled from tanker truck onto pavement
- COCs include:
  - VOCs
- 1994 OU 2 ROD signed
- Remedy includes:
  - LUCs
  - LTM / MNA
- Area 2 is part of OU 2 with other active site Area 8 and several closed sites (Area 3, 5, and 9)
- Depth to shallow groundwater typically 4 to 8 ft bgs
- Shallow groundwater flows northeast



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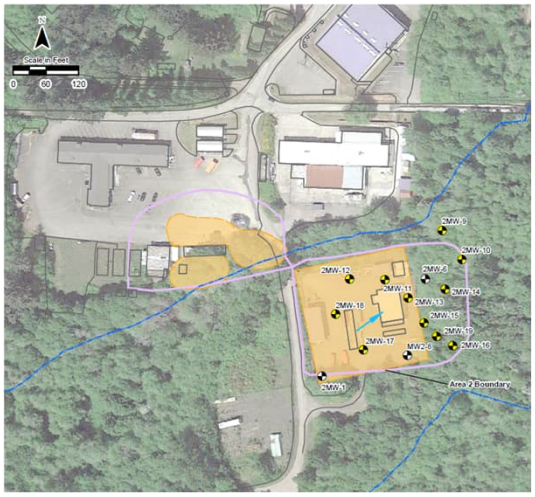
NBK-Keyport Area 2: Current Status

- Area 2 LTM sampling occurs annually
- 2022 installation of 11 new wells expanded LTM well network to 14 wells total
- COCs remain above OU 2 ROD Remediation Goals (RGs)
- FYRs will continue to assess protectiveness of Area 2 remedy until concentrations are below RGs



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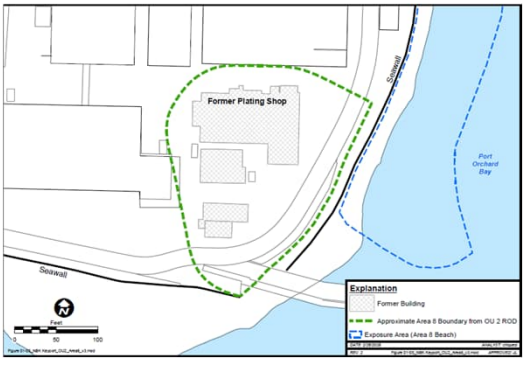
NBK-Keyport Area 8: Background Summary

- Area 8 is ~ 1 acre
- Former plating shop
- Past releases included:
  - Plating solution spills onto ground
  - Plating waste discharges to utility trench
  - Plating solution leakage through cracks in floor, pipes, and sumps
  - Diesel and oil leaking from underground storage tanks (USTs)
- COCs include:
  - VOCs
  - Metals (cadmium and chromium)
- 1994 OU 2 ROD signed
- Remedy includes:
  - LUCs
  - Excavation of soil hot spot areas
  - LTM / MNA
- Area 8 is part of OU 2 with other active site Area 2 and several closed sites (Area 3, 5, and 9)
- Depth to shallow groundwater typically 10 ft bgs
- Shallow groundwater flows east to Port Orchard Bay



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NBK-Keyport Area 8: Current Status

- 2018 risk assessment update for adjacent beach for human and ecological receptors, as required by OU 2 ROD
  - Concluded no unacceptable risk to humans on adjacent beach, but potentially unacceptable risk to benthic organisms
  - Recommend additional risk assessment of ecological receptors
- 2020 Ecological risk assessment addendum for adjacent beach
  - Concluded unacceptable risk to benthic organisms from cadmium and chromium
- 2020-2024 SRI field work occurred in phases
  - Sampled soil and groundwater in upland to understand where to focus future updated remedy options
  - Reporting in progress
  - Inputs for future FFS currently in progress
- LTM sampling on hold since 2018 with regulatory agreement due to on-going SRI work
  - Interim LTM sampling instituted since 2019

- Next Steps:
  - Complete SRI reporting
  - Determine if removal action will be pursued
  - Initiate FFS as needed and continue steps toward ROD Amendment

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NBK-Keyport LUC Only Areas: Background Summary

LUC Only Areas

- Includes Areas 7 and 22 and Site 23, which are not part of an OU

Areas 7 and 22

- Area 7 is ~9 acres of land created by placement of fill starting in 1930s
  - Fill included ~80,000 cubic yards of dredged sediments from Port Orchard Bay
- Area 22 is ~20 acres adjacent to Area 1 due to uncertain nature of landfill boundary
- 1993 SI for Areas 7 and 22
  - Isolated detections below screening levels
  - No waste body found at Area 22
  - No removal action and no further investigation needed
  - Although not required, implemented LUCs

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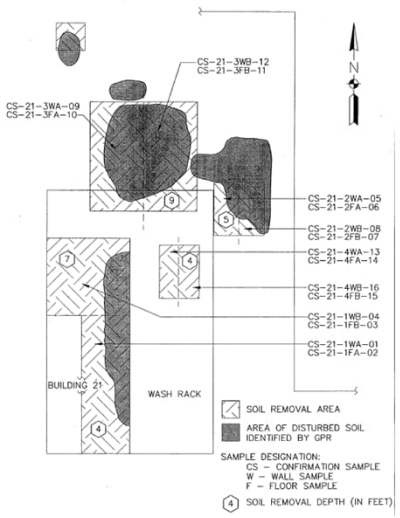
NBK-Keyport LUC Only Areas: Background Summary (cont.)

LUC Only Areas

- Includes Areas 7 and 22 and Site 23, which are not part of an OU

Site 23

- Former storage building
  - Stored lubricating oils and housed re-filtering system for used petroleum-based machining coolants
  - Enclosed wash rack immediately east, including two 2,000-gallon storage tanks for collected rinse water
  - Anecdotal evidence of potential buried drums
- 2000 Time Critical Removal Action (TCRA)
  - Included building demolition and excavation of petroleum-contaminated soils
  - Metal debris encountered and removed during excavation
  - No drums or other buried containers were found during removal action
  - Concluded No Further Action (NFA) needed
  - Although not required, implemented LUCs

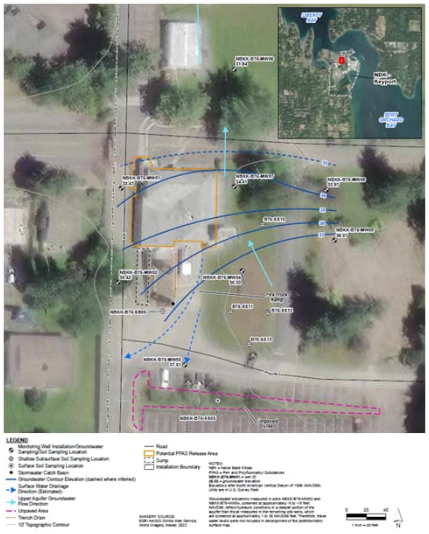


NBK-Keyport Site 24: Background Summary & Current Status

- Site 24 is a newly identified site and not part of an OU
- 2008 Car Fire Area
- Fire started by car wiring and spread to adjacent vehicle
- Emergency response to fire used aqueous film-forming foam (AFFF)
- Approximately 0.5 gallons of AFFF concentrate used with water
- No secondary containment
- Contaminants of Potential Concern (COPCs) are PFAS
- 2020 PA
- 2023 SI
- Recommended for future RI
- Depth to shallow groundwater typically 22 to 30 ft bgs
- Shallow groundwater flows northeast towards Liberty Bay

NBK-Keyport Site 25: Background Summary

- Site 25 is a newly identified site and not part of an OU
- Base Fire Station
- 1937 building constructed, operated as base chapel
- 1972 converted to base fire station
- Transfer, storage, and use of AFFF occurred until 2018
- COPCs are PFAS
- 2020 PA
- 2023 SI
- RI in-progress
- Depth to groundwater is currently uncertain due to the potential presence of isolated water-bearing unit above groundwater table
  - Depth to groundwater to be determined during RI
- Shallow groundwater flow direction is currently uncertain but is inferred to flow north towards Liberty Bay
  - Groundwater flow direction to be refined during RI



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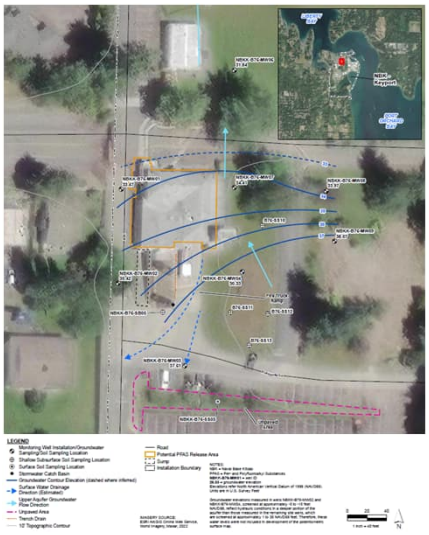
NBK-Keyport Site 25: Current Status

- RI in progress, goals include:
  - Expand monitoring well network
  - Evaluate extent of PFAS in soil and groundwater
  - Investigate migration pathways for PFAS
  - Understand potential off-base impacts
- Next Steps:
  - Begin RI field work
  - Determine nature and extent of PFAS impacts
  - Determine if off-base impacts are present and communicate presence to public if observed
  - Determine if interim actions are needed



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RAB Member and Open Discussion

- **RAB members go first, followed by community members**
- **In-person**
  - Please state your name
- **Virtual**
  - Use “Raise” hand option to be called on to speak
  - If you joined by phone, use *5 to be called on to speak; use *6 to unmute
- **Questions will be answered in the order received**
- **Please keep comments to 2-minutes**

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Next Steps

- **RAB Bremerton Site Tour – 2026**
- **RAB meeting – follows site tour**
- **Meeting presentations/topics - any suggestions from RAB members?**

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Points of Contact and Resources

Joy Gryzenia, L.G., Navy Co-Chair
Senior Remedial Project Manager
joy.t.gryzenia.civ@us.navy.mil
360-564-9478

Public Affair Officers (PAOs)

NAVFAC NW PAOs
Amanda Surmeier – amanda.r.surmeier.civ@us.navy.mil
Sarah Lincoln – sarah.g.lincoln.civ@us.navy.mil
NBK PAO – NBKPAO@us.navy.mil

Administrative Record: https://administrative-records.navfac.navy.mil/?LR6ZTU3VG42XKK

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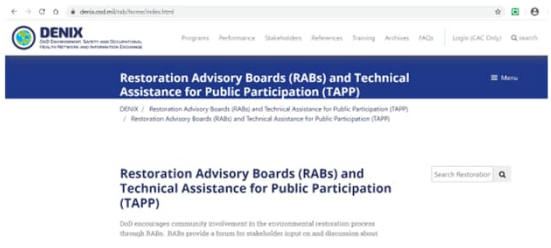
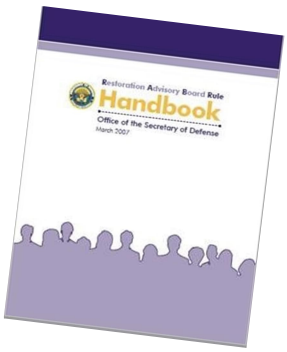
Regulatory Guidance: RAB Rule

- **Final Rule for Restoration Advisory Boards in Title 32 *Code Federal Regulations* Part 202 (2011)**
- **The RAB Rule Handbook, OSD 2007**
- **https://www.denix.osd.mil/rab/**





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NBK Installations RPMs

KEY PERSONNEL			
NBK	**ERP**		
Installation	**IRP**	**PFAS**	**MRP**
Bangor	Brennan Booker / TBD	Kaycee Bailey	Janice Horton
Bremerton	Joy Gryzenia	Joy Gryzenia / Halie Hajek	NA
JPHC / NHB	Mindy Graddon	Mindy Graddon	Scott Elkind
Keyport	Amanda Rohrbaugh / Brennan Booker	Amanda Rohrbaugh/ Brennan Booker	NA
Manchester	Halie Hajek	Halie Hajek	NA

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Robert's Rules of Order – Motions

Purpose: Provide a structured framework for conducting meetings efficiently and fairly

1. **Present a Motion**
   - A motion is a proposal of a specific decision or action
   - A motion must be seconded to go to floor for discussion or consideration or vote
2. **Amend or Substitute a Motion**
   - Add, strike, or substitute words; or replace a motion with a new motion
3. **Other Options**
   - Limit debate time (requires 2/3 vote)
   - Close discussion (requires 2/3 vote) and proceed to vote
   - Table or postpone a motion
   - Refer to committee
   - Other actions: move for short recess; request roll call vote; request clarification; call for order (brings discussion back to agenda)

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Attachment 2

Acronym List/CERCLA Process/Parts per What?

Naval Base Kitsap Restoration Advisory Board Acronym List

AFFF – Aqueous Film-forming Foam

AOC- Area of Concern

AR – Administrative Record

AST-Above Ground Storage Tank

bgs – Below ground surface

BNC - Bremerton Naval Complex

CAP – Cleanup Action Plan

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

CIP – Community Involvement Plan

CO – Commanding Officer

COCs – Contaminants of Concern

COPCs – Chemicals of Potential Concern

CSM – Conceptual Site Model

DERP – Defense Environmental Restoration Program

DoD – Department of Defense

Ecology – Washington State Department of Ecology

EE/CA – Engineering Evaluation/Cost Analysis

EPA – U.S. Environmental Protection Agency

ERP – Environmental Restoration Program

FS – Feasibility Study

FFS – Focused Feasibility Study

FYR – Five-year Review

HFPO-DA (GenX) – Hexafluoropropylene Oxide Dimer Acid

IC- Institutional Control

IMF - Intermediate Maintenance Facility

IR – Information Repository

IRP – Installation Restoration Program

JPHC – Jackson Park Housing Complex

LTM – Long Term Management (sometimes Long-Term Monitoring)

LUC – Land Use Control

MCL – Maximum Contaminant Level

MNA – Monitored Natural Attenuation

MRP – Munitions Response Program

MTCA- Model Toxics Control Act

MW – Monitoring Well

NAD – Naval Ammunition Depot

NAVFAC NW – Naval Facilities Engineering Command Northwest

NBK – Naval Base Kitsap

NFA – No Further Action

NHB – Naval Hospital Bremerton

NPL – National Priorities List

NSC – Naval Supply Center

NTCRA – Non-Time-Critical Removal Action

O&M – Operation and Maintenance

OSD – Office of the Secretary of Defense

OU – Operable Unit

PA – Preliminary Assessment

PAH- Polycyclic aromatic hydrocarbons

PAO – Public Affairs Officer

PCBs – Polychlorinated Biphenyls

Naval Base Kitsap Restoration Advisory Board Acronym List

PCE- Tetrachloroethene

PFAS – Per- and Polyfluoroalkyl Substances

PFBS – Perfluorobutane Sulfonic Acid

PFHxA – Perfluorohexanoic Acid

PFHxS – Perfluorohexane Sulfonate

PFNA – Perfluorononanoic Acid

PFOA – Perfluorooctanoic Acid

PFOS – Perfluorooctanesulfonic Acid

PHCs- Petroleum hydrocarbons

PP – Proposed Plan

ppt – Part(s) per trillion

PSNS- Puget Sound Naval Shipyard

RA – Remedial Action

RAB – Restoration Advisory Board

RA-C – Remedial Action Construction

RA-O – Remedial Action Operation

RC – Response Complete

RCRA - Resource Conservation and Recovery Act

RD – Remedial Design

RG – Remediation Goal

RI – Remedial Investigation

RIP – Remedy in Place

ROD – Record of Decision

ROD-A – Record of Decision Amendment

RPM – Remedial Project Manager

SC – Site Closeout

SI – Site Inspection

SME – Subject Matter Expert

SRI – Supplemental Remedial Investigation

TAPP – Technical Assistance for Public Participation

TCRA – Time-Critical Removal Action

TCE- trichloroethene

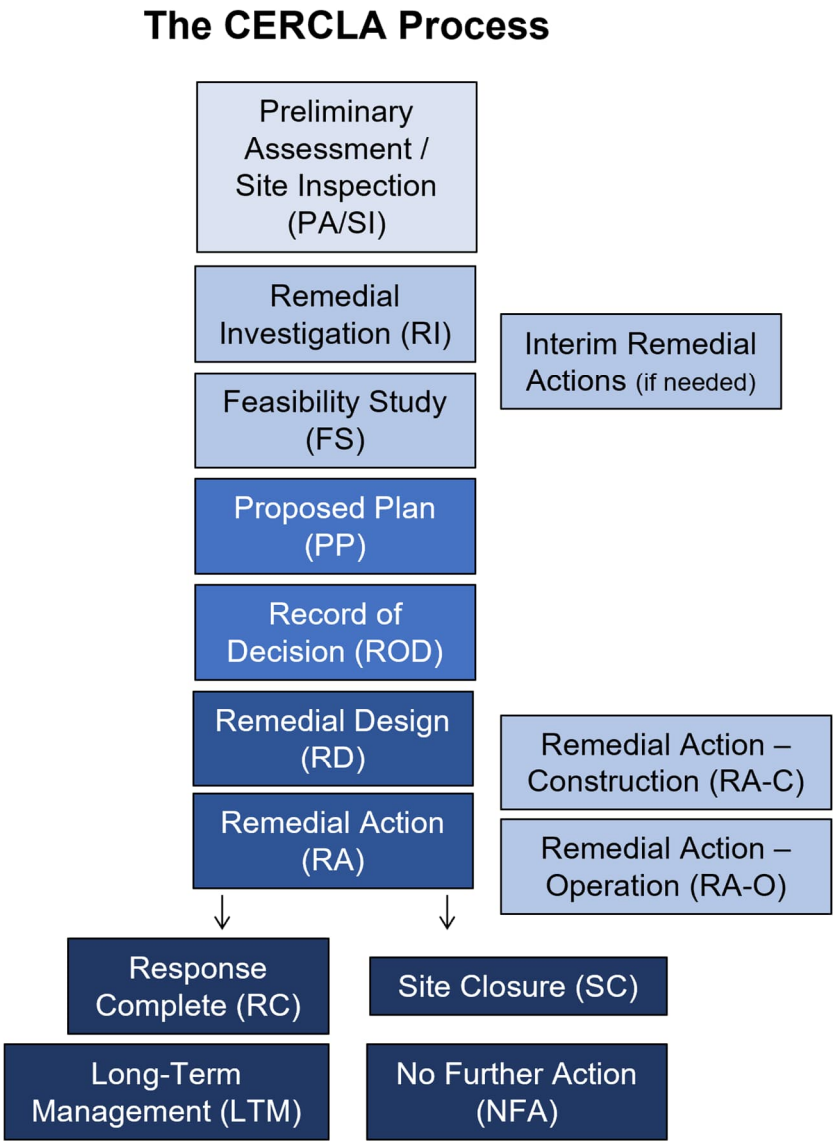
UST – Underground Storage Tank

UXO – Unexploded Ordnance

VOCs – Volatile Organic Compounds

EPA Superfund Glossary: https://www.epa.gov/superfund/superfund-glossary

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)



Parts per What?

In environmental science, measurements are often expressed in very small units. Regulatory agencies set concentration level standards to protect human health and the environment. Concentrations of constituents in soil and groundwater may be expressed in units of parts per million (ppm), parts per billion (ppb), and parts per trillion (ppt). The following information provides comparisons to help illustrate concentration measurements.

Parts per million (ppm) – small

One ppm equates to one particle in a substance with 999,999 other particles.

1 ppm = 1 mg/kg (milligram per kilogram)
1 ppm = 1 mg/L (milligram per liter) of water

One drop in a 10-gallon aquarium

Parts per billion (ppb) – smaller

One ppb equates to one particle in a substance comprising 999,999,999 other particles.
One ppb is equal to 1 x 10^{-9} of the total substance.

1 ppb = 1 µg/kg (microgram per kilogram)
1 ppb = 1 µg/L (microgram per liter) of water

One drop in a 10,000-gallon swimming pool

Parts per trillion (ppt) – smallest

One ppt could be represented by a single drop in 13.2 million gallons of water (about 20 Olympic-sized swimming pools). One ppt is 1,000 times smaller than 1 ppb.

One drop in 20 Olympic-sized swimming pools

Converting "parts per" units

Parts per notation is phrased in powers of ten. Therefore, something expressed in ppt can also be expressed in terms of ppb or ppm.

ppm		ppb		ppt
1	=	1,000	=	1,000,000
0.001	=	1	=	1,000
0.000001	=	0.001	=	1