

PROPOSED PLAN / DRAFT REMEDIAL ACTION PLAN FORMER MARE ISLAND NAVAL SHIPYARD Paint Waste Area / Unexploded Ordnance Site 13

Vallejo, California

April 2024



NAVY ANNOUNCES PROPOSED PLAN/DRAFT REMEDIAL ACTION PLAN

The Department of the Navy encourages the public to provide comments on its proposed plan for the Paint Waste Area at the former Mare Island Naval Shipyard. The Navy has worked with the California Department of Toxic Substances Control and the San Francisco Bay Regional Water Quality Control Board to evaluate the environmental cleanup options for the Paint Waste Area presented in this proposed plan.

Contents

| Pa | <u>age</u> |
|--|------------|
| Introduction | .1 |
| The CERCLA Process | .2 |
| Site Background | .2 |
| Investigations and Removal Actions | .2 |
| Current and Future Use | .4 |
| Nature and Extent of Contamination | .4 |
| Site Risk Details | .4 |
| Human Health Risk Assessment | .5 |
| Ecological Risk Assessment | .5 |
| MEC Hazard Assessment | .5 |
| Feasibility Study | .6 |
| Summary of Remedial Alternatives | .6 |
| Preliminary Remediation Goals | .6 |
| Evaluation of Remedial Alternatives | .6 |
| Summary and Rationale of the Preferred | |
| Alternative | .9 |
| State of California Laws | .10 |
| Community Participation – The Next Steps | .10 |
| Restoration Advisory Board | .10 |
| Information Repositories | .10 |
| Other Site Documents | .10 |
| Project Representatives | .11 |
| Glossary of Technical Terms* | .12 |
| Comment Form | .13 |
| * Words in bold type are defined in the Glossary page 12. | on |

Public Comment Period

April 22 through May 22, 2024

You are invited to review and comment on this Proposed Plan during the 30-day public comment period.

In-Person / Virtual Public Meeting

Mare Island Conference Center, 375 G Street, Vallejo, CA April 25, 2024 7:00 pm

Attend by computer or mobile app at https://tinyurl.com/MINSRAB-Apr24

Attend by telephone at 1-833-258-6146, code 960 285 525# See instructions on pages 11 and 13.

INTRODUCTION

The Department of the Navy (Navy) is responsible for investigating and remediating contamination that resulted from historical Navy operations at the Paint Waste Area (PWA), also known as the Unexploded Ordnance (UXO) Site 13, at the former Mare Island Naval Shipyard (MINS) (Figure 1). The investigations were completed according to the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Navy, in consultation with the regulatory agencies, will select a final remedy for the site in the Record of Decision/Final Remedial Action Plan (ROD/Final RAP) after all information submitted during the public comment period has been reviewed and considered. The Navy may modify the Proposed Plan/Draft Remedial Action Plan (PP/Draft RAP) based on new information or comments from regulatory agencies and the public. The public is encouraged to review and comment on all of the cleanup alternatives. Refer to the instructions on how to comment on page 11.

The Navy evaluated six remedial alternatives. This PP/Draft RAP summarizes the remedial alternatives on pages 6 and 7 and explains the basis for selecting the preferred alternative for the PWA on page 9. The Navy proposes to select Alternative 4, Excavation, Offsite Disposal, and **Institutional Controls (ICs)** to address residual hazards associated with soil contaminated with paint and potential **munitions and explosives of concern (MEC)** remaining on site. Alternative 4 includes:

- Excavation and off-site disposal of contaminated soil from select areas; the excavations would be backfilled with clean imported soil and revegetated.
- ICs that restrict specific land uses and activities because of potential MEC.

Public comments on this PP/Draft RAP will be accepted from April 22 through May 22, 2024. Public comments can be submitted via mail or e-mail throughout the comment period. Please see page 11 for more information on how to submit comments.

An in-person and virtual public meeting will be held at 7:00 pm on April 25, 2024. Members of the public may submit written and/or verbal comments on this PP/Draft RAP at the public meeting.



Figure 1. Site Location

THE CERCLA PROCESS

The Navy is addressing PWA/UXO Site 13 pursuant to CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Navy is issuing this PP/Draft RAP as part of its public participation responsibilities under CERCLA and the NCP. This PP/Draft RAP has been prepared to highlight key information and conclusions from the Navy's investigations of residual paint waste and potentially buried MEC at the PWA and the evaluation of potential remedial cleanup alternatives as presented in the Final Remedial Investigation (RI) and Feasibility Study (FS) reports, approved by the regulatory agencies in 2019 and 2023, respectively. The flowchart (shown on Figure 2) illustrates the current status of the PWA in the CERCLA process. This PP/Draft RAP also satisfies the requirements of California law as described on page 9.

The ROD/Final RAP will identify the selected remedy and the **remedial action objectives (RAOs)** that must be met to protect human health and the environment. After the ROD/Final RAP is approved, the **remedial design (RD)** and **remedial action (RA)** are the next steps in the CERCLA process and involve planning and implementing the selected remedial alternative.

PWA BACKGROUND

The former Mare Island Naval Shipyard (MINS), located in Vallejo, California (**Figure 1**), was established by the Navy in 1854 and served as a shipyard until 1996. More than 500 vessels, including modern submarines, were built at the MINS. The former MINS was closed on April 1, 1996 because Navy needs and shipyard activities had decreased in the postwar environment.

The PWA is comprised of an area of approximately 5.5 acres, located west of the intersection of Azuar Drive and G Street. This area was formerly a tidal marsh until the 1930s when sediment dredged from Mare Island Strait was discharged into the general area, raising the site elevation several feet. In 2002, a field survey discovered paint waste and debris at the site. Further investigation led to the discovery of MEC and radiological items.



Figure 2. The CERCLA and California Health and Safety Code Process

INVESTIGATIONS AND REMOVAL ACTIONS

A list of key investigations, removal actions, and reports related to the PWA are as follows:

- Field Survey, 2002
- Initial Aerial Survey, 2003
- Removal Action, October 2003
- Preliminary Assessment and Site Inspection, 2004
- Time-Critical Removal Action and Amendments (TCRA), 2007-2013
- MEC PA/SI Report, June 2012

- TCRA Completion Report, December 2013
- Radiological Final Status Survey Report, 2013
- Remedial Investigation (RI), Radiological Scoping Survey and Data Gap Sampling, 2013-2018
- Remedial Investigation (RI) and Radiological Scoping Survey Report, November 2017
- Data Gap Sampling for the FS, 2018
- FS Report, May 2023

These documents and other reports completed during the investigations are available for review at the locations listed on page 9. A short description of the key investigations and reports are provided below.

Field Survey, Initial Aerial Survey, and Removal Action (2002-2003). Paint cans and paint waste debris were discovered during a field survey by the U.S. Fish and Wildlife Service in 2002. In 2003, an aerial survey of the site was completed to delineate the extent of the paint waste debris. In October 2003, a removal action was performed that included excavation and removal of soil and debris, and the discovery of additional buried paint cans and paint waste. Excavated material was characterized as hazardous waste and was shipped offsite to a permitted disposal facility. The excavation area was backfilled with clean soil and re-graded.

Preliminary Assessment/Site Inspection (PA/SI) (2004). A PA/SI was performed and completed in 2004 to assess the nature and extent of any remaining contamination in soil and groundwater. Samples were analyzed for metals, organotin, polychlorinated biphenyls, pesticides, volatile organics, semivolatile organics, and petroleum hydrocarbons. Based on results of the PA/SI, a Time Critical Removal Action (TCRA) workplan was developed to remove contaminated soils.

TCRA and TCRA Amendments (2007-2013). During the TCRA in 2007, a routine check of the surface for background radiation levels identified elevated levels of radiation. These radiation levels were determined to be associated with several discrete low-level radiological items. A subsequent walkover radiological scan survey (radiological survey) identified 133 discrete low-level radiological items that were removed from the upper 1 foot (ft) of soil. These items were determined to contain radium—226. During this process, a single anti-aircraft munition item classified as MEC was recovered near the ground surface, and further soil disturbance activities were suspended. A follow-on digital geophysical mapping (DGM) survey was completed in 2008 further identifying widespread metal debris beneath the surface at the PWA.

The TCRA work was amended in 2009, 2010, and 2012 to include excavation and removal of all metallic debris within the lateral extent of the PWA identified by various radiological and DGM surveys for radiological items and MEC. Using the U.S. Nuclear Regulatory Commission guidelines for investigating radiological sites, the PWA was sub-divided into 0.5-acre survey units (SUs) (SU-1 through

SU-6 shown on **Figure 3**) consistent with classification as an impacted Class 1 outdoor radiological site.

The PWA was first surveyed with radiation detectors to locate and remove discrete radiological items in shallow soils. This was followed by excavation of the soil in 1-ft depth increments. The excavated soil was mechanically sifted to remove debris and MEC. This process was repeated for each 1-ft layer of soil until there was no visible debris or radiological or MEC items. A 100% final radiological survey and a 100% final geophysical survey were then performed at the bottom of the excavation to confirm the absence of any subsurface debris/MEC or elevated radiological readings.

The site boundary was expanded to the north, east, and south (SU-7, SU-8 and SU-9A) because debris was found near the outer edge of the original excavation, The depths of excavation for SUs 1 through 8 and 9A ranged from 4 ft to 8 ft below ground surface (bgs). Radiological and DGM surveys were also performed in SU-9 and SU-10 along the northern perimeter of the PWA. Excavation depths for identified survey anomalies within SU-9 and SU-10 were generally 1 ft bgs or less, with a maximum depth of 3 ft bgs. No MEC or radiological items were encountered in SU-9 and SU-10 outside of SU-9A.

One thousand two hundred one (1,201) radiological items, 52 items classified as MEC, 237 munitions-related materials documented as safe (MDAS) items, and 291 small arms ammunition items were recovered during the TCRA from SU-1 through SU-8 and SU-9A (**Figure 3**). After all debris was removed and no additional radiological or MEC were encountered, soil samples were collected and analyzed. Concentrations of chemical contaminants in soils were less than the established site cleanup goals. In 2014, the California Department of Public Heath issued a Recommendation for Radiological Unrestricted Release (RURR) for SUs 1 through 9A, indicating no further action was needed related to radiological concerns.

RI, Radiological Scoping Survey and Data Gap Sampling (2013-2018). Following the TCRA, an RI was performed to further evaluate the site outside of the perimeter of the TCRA excavation area, SUs 10, 11, and 12 (PWA Vicinity Area), shown in blue on **Figure 3**. The RI field activities consisted of soil and groundwater sampling, radiological and DGM surveys, and excavation of eight exploratory trenches, T-1 through T-8 (**Figure 3**), each 3 ft wide by 4 ft deep.

No radiological items were found during the radiological scoping survey of the PWA Vicinity Area surface. Also, no MEC or munitions-related debris items were recovered from excavation of DGM survey anomalies or from the eight trenches. Four groundwater monitoring wells were installed, developed, and sampled. None of the groundwater samples had concentrations of metals above the site-specific MINS ambient groundwater concentrations.



Figure 3. PWA Survey Area Locations

During the RI residual paint waste was encountered in two potholes (within SU-12) and in two trenches (T-1 in SU-11 and T-8 in SU12). In 2018, eight soil samples were collected and analyzed from four locations to delineate the vertical and lateral extent of the residual paint waste. The paint waste encountered consists of discontinuous and varying amounts of reddish paint waste mixed with soil and debris such as glass, porcelain, ash, metal, wood, and tile. Lead was identified as the primary contaminant of concern. These investigations and historical removals have produced significant quantities of data characterizing the residual paint waste and debris at the PWA.

CURRENT AND FUTURE USE

The PWA is currently vacant and topographically flat. The planned future use of the PWA is nontidal wetlands, open space, and conservation area. The nontidal wetlands and surrounding area provide potential habitat for the Federal and State-protected endangered salt marsh harvest mouse (SMHM) and possibly, although much less likely, a nesting area for the California Ridgway's rail and/or California black rail. The PWA will be designated as a conservation area when the property is transferred, which will not allow the PWA to be developed.

NATURE AND EXTENT OF CONTAMINATION

No MEC or radiological items are likely to be present within the TCRA excavation area based on results from the postexcavation radiological and DGM surveys. Based on the subsequent field investigations, no radiological or MEC items were discovered in the PWA Vicinity Area. However, limited paint waste mixed with debris remains in the subsurface of the PWA Vicinity Area between approximately 1 ft bgs to 4 ft bgs at four (4) locations as shown on **Figure 3**. The paint waste material is most likely the result of dumping by shipyard personnel associated with the former paint manufacturing facility (Building 503) located a short distance northeast of the PWA. The paint waste material is believed to be unrelated to the radiological and MEC contamination encountered at the PWA.

SITE RISK DETAILS

The Navy evaluated risk to human and ecological receptors from chemicals present in soil and groundwater at the PWA in the 2017 RI Report and 2023 FS Report. The soil data evaluated in the risk assessment included samples from the paint waste that was encountered during the RI. Inhalation of chemical vapors in outdoor air from soil was not evaluated for either human or ecological receptors because inhalation is considered a relatively insignificant route of exposure and dispersion of vapors in air is likely to reduce exposure. Direct exposure to groundwater is not considered a complete exposure pathway for ecological receptors.

Human Health Risk Assessment (HHRA)

The Navy conducted an HHRA in accordance with Federal and State guidelines. An HHRA estimates the likelihood of health problems occurring if no action were taken at a site to prevent exposure. **Table 1** presents risk ranges for cancer and non-cancer health impacts which were established to protect human health and to assist with risk management decisions.

The current and likely future exposure pathways for humans to come in contact with soil and groundwater are very limited; however, future management of the PWA might include visits from wildlife managers or potential opportunities for wildlife viewing/trail use. A commercial/industrial exposure scenario was evaluated in the HHRA to represent a very conservative estimate of the risk to wildlife managers. An adolescent using a sports field was evaluated as a conservative estimate of a hypothetical recreational use exposure, although this use is not anticipated. The HHRA also evaluated the possibility of construction work being performed and residential land use occurring, although these are also not anticipated future uses. The HHRA evaluated exposure to surface soil (0-0.5 ft bgs) and to subsurface soil (0-10 ft bgs) through incidental ingestion, dermal contact, and inhalation of dust in ambient air by all receptor groups. These evaluations concluded that exposures to surface soil did not exceed the acceptable cancer and non-cancer risk thresholds listed in **Table 1** and are consistent with exposures to ambient soil. However, the HHRA found that concentrations of lead and nickel in subsurface soil (including the paint waste debris samples) pose a potential risk to all receptors evaluated. Risk associated with potential exposure to groundwater from incidental ingestion and dermal contract by an excavation worker and from potable use were also evaluated and are consistent with risk from exposure to ambient groundwater concentrations on the former MINS.

With the exception of lead and nickel in subsurface soil, the site-related risk (that excludes ambient levels of contaminants of potential concern) for the recreational, commercial/industrial or hypothetical residential land use scenarios do not exceed the acceptable cancer and non-cancer risk thresholds listed in **Table 1**. While nickel posed a risk to construction workers via inhalation, it was not retained as a chemical of concern (COC) because the typically wet soils would limit dust entrainment, and also the maximum concentration is below residential the screening level for the inhalation exposure route.

| TABLE 1. RISK RANGES TO PROTECT HUMAN HEALTH | | | | |
|---|---|---|--|--|
| Unacceptable Risks | Risk Management Range | Acceptable Risks | | |
| More than one additional cancer case in a population of 10,000 | Greater than one additional cancer case in a population of 1,000,000 but less than one additional cancer case in a population of 10,000 | Less than or equal to one additional cancer case in a population of 1,000,000 | | |
| A non-cancer health impact hazard index (HI) greater than 1 | — | An HI less than or equal to 1 | | |
| Greater than Receptor-specific preliminary remediation goals (PRG) | — | Less than Receptor-specific PRG | | |

Ecological Risk Assessment

The screening-level ecological risk assessment (SLERA) for the PWA was performed to evaluate the exposure of chemicals of potential ecological concern (COPEC) resulting in unacceptable risk to plants, invertebrates, birds, and mammals native to upland and non-tidal wetland habitats. The receptors used to evaluate risk to birds and small mammals included the mallard, killdeer, great blue heron, the endangered SMHM, and the Suisun ornate shrew. Potential exposure pathways evaluated included direct contact with COPECs in soil and incidental ingestion and dietary ingestion of bioaccumulative chemicals. Based on the SLERA evaluation, no COPECs were identified for surface soil (0 to 0.5 ft bgs).

The PWA is expected to remain open space/nontidal wetlands in the future, and a significant portion of the site has clean, imported fill; therefore exposure of ecological receptors to COPECs that may pose a potential risk in shallow subsurface soil (0 to 2 ft bgs) is unlikely.

The SLERA concluded that exposure to chemicals in surface soil (0-0.5 ft bgs) and shallow soil (0-2 ft bgs) did not pose unacceptable risk to ecological receptors (plants, invertebrates, birds, and mammals).

MEC Hazard Assessment

DGM surveys, soil excavation and sifting, and exploratory trenching were used during the TCRA and RI phases to detect and remove MEC and munitions-related items from the PWA. SUs 1 through 8 and 9A were excavated to a depth ranging between 4-8 ft below the surface and the excavated soil mechanically sifted to remove all metallic debris and associated MEC items. A 100% DGM confirmation survey and investigation of anomalies was also performed at the bottom of the excavated area was recommended in the After Action Report and accepted by the Department of Defense Explosives Safety Board in 2011.

Exploratory trenches to a depth of 4 ft were later excavated within the PWA Vicinity (SUs 9 through 12), followed by DGM surveys of the surface and excavation of geophysical anomalies. No MEC items were encountered within the trenches or surface excavations of the PWA Vicinity.

A **MEC hazard assessment (MEC HA)** using guidance developed by EPA was performed as part of the 2017 RI to

establish the potential for injury from an encounter with MEC (munitions items and munitions constituents) potentially remaining at the PWA Vicinity. The MEC HA framework provides for four unique hazard levels, with a hazard level score of 1 as the highest potential for an explosive hazard at a site and a hazard level score of 4 as the lowest potential for an explosive hazard at a site and a hazard at a site. The MEC HA results for the PWA Vicinity indicated a hazard level score of 4 for a no further action with LUCs scenario compared with a hazard level score of 3 for a no further action without LUCs scenario.

FEASIBILITY STUDY

Due to risk to human health from lead in paint waste remaining at the PWA and the hazards associated with potential presence of MEC, a FS was prepared by the Navy to develop and evaluate potential remedial actions at the PWA to address these risks.

The Navy developed the following RAOs for use in developing remedial alternatives based on the future land use, exposure pathways present at the PWA, and potential **applicable or relevant and appropriate requirements** (ARARs):

- Prevent exposure to human receptors to residual paint waste debris, which was previously characterized as hazardous waste.
- Control direct exposure and protect future human receptors from the low residual risk posed by potential buried MEC items.
- Protect hypothetical future construction workers, hypothetical future commercial/industrial workers, and hypothetical future residential receptors from exposure to unacceptable concentrations of lead in subsurface soil.

Preliminary Remediation Goals

Preliminary remediation goals (PRGs) for residual concentrations of lead in soil were developed to satisfy the RAOs consistent with scenarios of future or hypothetical land use activities at the PWA. These PRGs are presented in **Table 2**. The most stringent, or lowest PRG for lead in subsurface soil was calculated as 107 milligrams per kilogram (mg/kg) for a construction worker. However, PWA will be designated as a conservation area when the

property is transferred, which will not allow the PWA to be developed; therefore, the most likely future human receptor is a recreational user with a PRG for lead of 335 mg/kg.

SUMMARY OF REMEDIAL ALTERNATIVES

As a result of the HHRA and ERAs and the MEC HA, the PWA was broken into two target treatment zones (TTZs), TTZ A and TTZ B, respectively (**Figure 4**). TTZ A incorporates locations of the residual paint waste debris. TTZ B incorporates the entire footprint of the PWA Vicinity.

Six remedial alternatives were developed and evaluated to achieve the RAOs:

- Alternative 1: No Action
- Alternative 2: Land Use Controls (LUCs)/Institutional Controls (ICs) for TTZ A and TTZ B
- Alternative 3: Excavation and Offsite Disposal of TTZ A and no LUCs/ICs
- Alternative 4: Excavation and Offsite Disposal of TTZ A and ICs for TTZ A and TTZ B
- Alternative 5: Thin-Layer Cover on TTZ A, Long-Term Monitoring, and ICs for TTZ A and TTZ B
- Alternative 6: Excavation and mechanical screening of TTZ B and Excavation and Offsite Disposal of TTZ A

Table 3 describes remedial alternatives evaluated in the FS and presents the Navy's current costs estimated to implement each alternative. The Navy has identified Alternative 4, shown in the blue shaded row, as the preferred remedial alternative.

EVALUATION OF REMEDIAL ALTERNATIVES

The Navy evaluated each alternative against the first seven of the nine NCP cleanup action evaluation criteria (shown on **Figure 5**). Alternatives were given a rating based on the capability of each alternative to meet the NCP criteria. A rating of poor indicates the alternative is unlikely to or will not meet the criteria, while a rating of fair or good indicates the alterative will meet the criteria. The results of the evaluation are summarized in **Table 4**. The last two NCP criteria (state acceptance and community acceptance) will be addressed through public comment and regulatory agency review of this PP/Draft RAP and are not evaluated here.

| TABLE 2. PRELIMINARY REMEDIATION GOALS | | | |
|--|------------------|--|--|
| Receptor | Lead PRG (mg/kg) | | |
| Construction Worker | 107 | | |
| Commercial/Industrial Worker – Outdoor (e.g. maintenance worker) | 218 | | |
| Commercial/Industrial Worker – Indoor based on CHHSL | 379 | | |
| Recreational User | 335 | | |
| Child/Resident based on CHHSL | 136 | | |
| Notes: CHHSL California Human Health Screening Levels (Office of Environmental Health Hazard Assessment [OEHHA], 2009) mg/kg milligram per kilogram PRG preliminary remediation goal The lead PRG of 335 mg/kg for Recreational Users is the proposed soil cleanup goal for alternatives involving removal of paint waste and lead-impacted soil. | | | |

| TABLE 3 SUMMARY OF REMEDIAL ALTERNATIVES | | | |
|--|---|-------------|--|
| Remedial Alternative | Remedial Alternative Components of Remedial Alternatives | | |
| Alternative 1: No Action | No remedial actions would be implemented to clean up contamination at the PWA; there would be no restrictions on land use or monitoring/reporting. | \$0 | |
| Alternative 2: Land Use/ Institutional Controls for TTZ A and TTZ B | Access to and use of TTZ A and TTZ B would be restricted to open space and a conservation area, controlled through ICs (sensitive land use restrictions). The residual paint waste, lead in subsurface soil, or potential buried MEC would not be remediated. | \$807,001 | |
| Alternative 3: Excavation and Offsite Disposal of TTZ A | The soil at TTZ A contaminated by paint waste and lead would be excavated, mechanically screened to remove MEC, and transported to a permitted offsite waste disposal facility. The excavations would be backfilled with clean soil, revegetated with pickleweed cuttings and saltgrass to promote non-tidal wetland habitat, and maintained/monitored to confirm that wetland revegetation criteria are met. No ICs for MEC would be implemented. | \$1,159,185 | |
| Alternative 4: Excavation and Offsite Disposal of TTZ A and Institutional Controls for TTZ A and TTZ B | The soil at TTZ A contaminated by paint waste and lead would be excavated, mechanically screened to remove MEC, and transported to a permitted offsite waste disposal facility. The excavations would be backfilled with clean soil, revegetated with pickleweed cuttings and saltgrass to promote non-tidal wetland habitat and maintained/monitored to confirm that wetland revegetation criteria are met. ICs would be implemented for TTZ A and TTZ B to restrict certain sensitive uses of the property and prohibit excavation and disturbance of the soil because of the potential presence of MEC. | \$1,966,186 | |
| Alternative 5: Thin-layer cover on TTZ A, Long-term Monitoring, and Institutional Controls for TTZ A and TTZ B | A thin-layer cover would be placed over four areas where paint waste was observed (TTZ A) to contain the waste in place. The cover would be vegetated to match non-tidal wetland habitat. ICs would also be used to require protection of the thin-layer cover, restrict certain sensitive uses of the property, and prohibit excavation in TTZA and TTZ B because of the potential presence of MEC. | \$5,338,896 | |
| Alternative 6: Excavation of TTZ B and Offsite Disposal of TTZ A | Under Alternative 6, TTZ B (which includes TTZ A) would be excavated down to 10 ft below ground surface, and the excavated soil would be mechanically screened for MEC. Any recovered items would be evaluated and properly disposed offsite. Excavated soil from TTZ A would be stockpiled separately for disposal at a permitted offsite waste disposal facility. The remainder of the soil from TTZ B would be reused to backfill the excavation. Revegetation, wetland restoration, and monitoring would be required for disturbed wetlands. This alternative was intended to evaluate unrestricted reuse of the area. However, the area would remain a conservation area which prohibits development of the PWA. | \$2,448,286 | |
| Notes:Preferred alternative indicICInstitutional controlLUCLand Use ControlMECMunitions and explosivesPWAPaint Waste Area at the forTTZTarget Treatment Zone | ated in table by blue shading. of concern ormer Mare Island Naval Shipyard | | |
| | | | |



Figure 4. PWA Target Treatment Zones

| TABLE 4. Ranking PWA Remedial Alternatives for NCP Criteria | | | | | | |
|---|------------------------------|---|---|--|---|---|
| NCP Criteria | Alternative 1 – No Action | Alternative 2 – Land Use/Institutional Controls for TTZ A and TTZ B | Alternative 3 – Excavation and Offsite Disposal of TTZ A | Alternative 4 – Excavation and Offsite Disposal of TTZ A and Institutional Controls for TTZ A and TTZ B | Alternative 5 – Thin- Layer Cover on TTZ A, Long-Term Monitoring, and Institutional Controls for TTZ A and TTZ B | Alternative 6 – Excavation/Screening of TTZ B and Excavation and Offsite Disposal of TTZ A |
| Overall Protection of Human Health and the Environment ¹ | No | Yes, based on current site use or if future site use and activities are controlled. | Yes, if the current site use remains unchanged. | Yes | Yes | Yes |
| Compliance with ARARs ¹ | NA | Yes | Yes | Yes | Yes | Yes |
| Long-Term Effectiveness and Permanence | Poor | Fair | Poor to Fair | Fair to Good | Fair to Good | Good |
| Reduction of Toxicity, Mobility, or Volume Through Treatment | Poor | Poor | Poor | Poor | Poor | Poor |
| Short-Term Effectiveness | Poor | Good | Good | Good | Fair to Good | Poor to Fair |
| Implementability | Good | Good | Good | Good | Fair to Good | Fair to Good |
| Cost | NA | Low | Low to Moderate | Low to Moderate | High | Moderate |
| Preliminary Ranking | 6 | 3 | 2 | 1 | 5 | 4 |
| Table 4 Notes: | | | | | | |

¹Overall protection of human health and the environment and compliance with ARARs are threshold criteria that must meet to be selected as the remedy for a site. Both criteria are rated "yes" or "no" on its ability to meet the threshold criteria. ²Not Applicable. ARARs do not apply to the No Action alternative. ARARs Applicable or relevant and appropriate requirements

Not applicable NA

SUMMARY AND RATIONALE OF THE PREFERRED ALTERNATIVE

The preferred remedy for the PWA is Alternative 4: Excavation and Offsite Disposal of TTZ A; and Institutional Controls for both TTZ A and TTZ B. This alternative is preferred for the reasons summarized below:

- It provides overall protection to human health and the environment by excavating the contaminated paint waste and soil. ICs restricting land use and future activities, and informing site users how to avoid contact with potential residual MEC would also be implemented.
- It meets federal and state ARARs.
- It would allow reuse of the site in a manner consistent with the City of Vallejo's Mare Island Specific Plan as amended in 2013.
- The potential impact of predicted future sea level rise on remedial alternatives was evaluated during the FS. The preferred remedial alternative includes removal and offsite disposal of paint waste debris and backfilled with clean fill which eliminates the potential for mobilization of contamination in the event the site is flooded as sea levels rise.

A final decision will not be made until all community and agency comments are considered as submitted during the public comment period. Community acceptance will be evaluated after the public comment period for this PP/Draft RAP. The Navy will document and address comments in a Responsiveness Summary presented in the ROD/Final RAP.



Figure 5. NCP Cleanup Action Evaluation Criteria

STATE OF CALIFORNIA LAWS

California Health and Safety Code

This PP meets applicable requirements for RAPs contained in California Health and Safety Code (HSC) section (§) 79205 for hazardous substance release sites listed by the Department of Toxic Substances Control (DTSC) pursuant to California HSC § 78760. This PP serves as a Draft RAP to fulfill the public notice and comment requirements of the California HSC, and the CERCLA ROD for the PWA will serve as the Final RAP.

California Environmental Quality Act (CEQA)

At the conclusion of the public comment period for the PP/Draft RAP, DTSC will prepare a CEQA Initial Study to evaluate potential impacts of the proposed project on public health and the environment. This will allow DTSC to ensure that the CEQA document incorporates any changes to the project resulting from public review and comment. The Initial Study will then be made available for public review and comment during a future public comment period.

Nonbinding Allocation of Responsibility

Pursuant to California HSC § 79210 for remedial action plans prepared for DTSC-listed sites, DTSC is to prepare a nonbinding allocation of responsibility among all identifiable potentially responsible parties. Based on the available information regarding the former MINS, DTSC has determined that the Navy is the only identifiable responsible party.

INFORMATION REPOSITORIES

COMMUNITY PARTICIPATION – THE NEXT STEPS

An in-person/virtual public meeting will be held on April 25, 2024 at 7:00 pm. Additional information on this meeting related to the PP/Draft RAP can be found on page 11. Public comments on this PP/Draft RAP received during the period from April 22 through May 22, 2024 will be considered by the Navy, in consultation with the regulatory agencies, prior to selecting a final remedy for the PWA. The final remedy will be documented in a Record of Decision (ROD)/Final RAP, which will include a responsiveness summary for all comments received on this PP/Draft RAP. The ROD/Final RAP will formally document the selected remedy for the PWA. Additional information on opportunities to comment on this PP/Draft RAP can be found on page 11.

A Public Notice will be posted in the local newspaper announcing when the PWA ROD/Final RAP is available to the public in the information repositories listed below.

The PP/Draft RAP may also be viewed online at the Navy website: <u>https://www.bracpmo.navy.mil/brac</u>bases/california/former_shipvard_mare_island.html.

Restoration Advisory Board

The Navy provides information on the PWA to the public through public meetings, the **administrative record (AR)** file for the site, the local library, and notices published in the local newspaper. Restoration Advisory Board (RAB) meetings are held quarterly on the fourth Thursday of the month and are open to the public. Please visit the Navy's website for more information and RAB meeting dates and times: <u>https://www.bracpmo.navy.mil/brac_bases/california/former_shipyard_mare_island/meeting_mate rial.html</u>.

The John F. Kennedy Library provides public access to technical reports and other information that support this PP/Draft RAP. The Navy AR file is a collection of reports and historical documents used to select remedial alternatives.

John F. Kennedy Library

505 Santa Clara Street Vallejo, California 94590 Library Hours (by appointment only): Monday-Thursday: 9 a.m.– 8 p.m. Friday-Saturday: 9 a.m.– 5 p.m. Sunday: 12 p.m.– 5 p.m. Phone: (866) 572-7587 The official Administrative Record file is maintained at the Naval Facilities Engineering Systems Command (NAVFAC) Southwest, 750 Pacific Highway, Code EV33, Naval Base San Diego, Building 3519, San Diego, CA 92132-5190. The Administrative Record documents are available on-line at: <u>https://administrative-records.navfac.navy.mil/</u> ?OP736GMWQ74JG4WZN

Please contact Ms. Diane Silva, NAVFAC Southwest Command Records manager, for questions related to AR documents or the public website at diane.c.silva.civ@us.navy.mil or (619) 556-1280. *The Navy AR file hours are Monday through Friday*, 8:00 am to 5:00 pm.

OTHER SITE DOCUMENTS

The Navy is issuing this PP/Draft RAP as part of its public participation responsibilities under CERCLA § 117(a) and § 300.430(f)(2) and (3) of the NCP to ensure that the public has the opportunity to comment. This PP/Draft RAP summarizes information detailed in previous documents, including the RI and FS reports in the AR file for the PWA. The Navy encourages the public to review these documents to gain an understanding of the environmental investigations, removal actions, and risk assessments that have been conducted. Documents generated for the PWA that are listed on pages 2 and 3 are available for public review at the information repositories listed on this page.

Some documents may also be available online at the Navy website,

https://www.bracpmo.navy.mil/brac_bases/california/former_shipyard_mare_island.html,

and at the DTSC website:

http://www.envirostor.dtsc.ca.gov/public.

MULTI-AGENCY ENVIRONMENTAL TEAM CONCURS WITH THE PWA REMEDY

The Base Realignment and Closure (BRAC) Cleanup Team (BCT), composed of representatives from the Navy, DTSC, and Regional Water Board was established with the primary goals of protecting human health and the environment, expediting the environmental cleanup, and coordinating the environmental investigations and cleanup at the installation.

The BCT obtains a consensus on issues regarding the installation's environmental activities and makes a concerted effort to integrate current and potential future uses into the cleanup decisions. The BCT has been involved in the review of all major documents and activities associated with the PWA. This review included the recent RI and FS Reports for the PWA, which included risk assessments, an evaluation of the effectiveness of the remedial alternatives for the site, and documentation that these alternatives meet the NCP evaluation criteria.

Based on reviews and discussions of key documents and activities, the BCT recommends Alternative 4: Excavation and Offsite Disposal of TTZ A, and Institutional Controls for TTZ A and TTZ B.

HOW DO YOU PROVIDE INPUT TO THE NAVY?

There are two ways to provide comments during the public comment period from April 22 through May 22, 2024:

- 1. Offer oral or written comments during the public meeting.
- 2. Provide written comments by mail or email to the Navy no later than May 22, 2024 (see contact information below). A mail-in comment form is provided as pages 13 and 14.

In-Person and Virtual Public Meeting

April 25, 2024 — 7:00 pm Mare Island Conference Center, 375 G Street, Vallejo, California

Attend by computer or mobile app at: https://tinyurl.com/MINSRAB-Apr24

Attend by telephone at: 1 (833) 258-6146; Conference Number: 960 285 525#

Additionally, written comments can be sent or emailed to:

BRAC Program Management Office West Attn: Mr. Scott Anderson **BRAC Environmental Coordinator** 33000 Nixie Way Building 50, Suite 207 San Diego, California 92147 scott.d.anderson11.civ@us.navy.mil

PROJECT REPRESENTATIVES

For further information on the environmental program at former Mare Island Naval Shipyard or the PP/Draft RAP, please contact one of the following representatives:

Mr. Scott Anderson

BRAC Environmental Coordinator BRAC PMO West 33000 Nixie Way Building 50, Suite 207 San Diego, California 92147 Phone (760) 583-1438 scott.d.anderson11.civ@us.navy. mil

Mr. Franklin Mark

Project Manager 8800 Cal Center Drive Sacramento, CA 95826 Phone (916) 255-3584 franklin.mark@dtsc.ca.gov

Ms. Asha Setty

Public Participation Specialist Department of Toxic Substances Control Department of Toxic Substances Control 700 Heinz Avenue, Suite 200 Berkeley, California 94710 Phone (510) 540-3910 asha.setty@dtsc.ca.gov

GLOSSARY OF TECHNICAL TERMS

Administrative Record (AR) file is a collection of reports and historical documents used in the selection of remedial alternatives or environmental management activities.

Applicable or relevant and appropriate requirements (ARARs) are the Federal and State environmental laws and regulations that must be followed for the selected remedial alternative. These requirements may vary among sites and alternatives.

ComprehensiveEnvironmentalResponse,Compensation, and Liability Act (CERCLA), also knownas Superfund, is a federal law that regulates environmentalinvestigation and cleanup of sites identified as potentiallyposing a risk to human health and/or the environment.

Feasibility Study (FS) is an evaluation of different actions to prevent exposure by humans or ecological receptors to contamination at a site.

Hazard Index (HI) is a calculated value used to represent potential non cancer health effects. An HI value of 1 or less is considered protective of human health.

Human health risk assessment (HHRA) is an evaluation of the likelihood that humans exposed to contaminants at a site would suffer harm.

Institutional controls (ICs) are non-engineering mechanisms established to limit human exposure to contamination. These mechanisms may include deed restrictions, covenants, easements, laws, and regulations.

Land use controls (LUCs) include engineering controls (e.g., caps, fencing) and/or ICs and help to minimize the potential for exposure to contamination and are typically designed to limit land or resource use by modifying or guiding human behavior at a site.

Munitions and explosives of concern (MEC) MEC includes: (1) unexploded ordnance; (2) discarded military munitions; or (3) munitions constituents present in high enough concentrations to pose an explosive hazard.

MEC Hazard Assessment (HA) is a method for establishing the probability for injury from an encounter with MEC and is intended to support site management decisions specifically related to explosive hazards. Sitespecific information on MEC is used to assign a hazard level score on the potential for an explosive hazard at the site ranging from 1 to 4. A hazard level score of 1 is the highest potential for an explosive hazard at a site and a hazard level score of 4 is the lowest potential for an explosive hazard at a site.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) are the federal regulations that guide investigation and cleanup of CERCLA sites.

Preliminary Assessment/Site Investigation (PA/SI) combines Superfund remedial phases into a streamlined evaluation approach (e.g. PA and SI combined). A PA/SI is typically the information gathering phase, and the SI activities are typically review of data, development of field work plans, sampling, and data gaps.

Proposed Plan (PP)/Draft Remedial Action Plan (RAP)

is a document that reviews the remedial alternatives presented in the FS, summarizes the recommended remedy, explains the reasons for recommending the action and solicits comments from the community. The RAP is required under California HSC Section (§) 79195 for hazardous substance release sites that are not listed on the Superfund National Priorities List, such as the former Mare Island Naval Shipyard. A Draft RAP is the California HSC equivalent of the Navy's Proposed Plan.

Record of Decision (ROD)/Final Remedial Action Plan (RAP) is a decision document that identifies the selected remedy to be implemented at a specific site. The ROD/Final RAP is based on information and technical analysis generated during the RI and FS, and consideration of public comments received throughout the process and in response to the PP/Draft RAP. A Final RAP is the California HSC equivalent of the Navy's ROD.

Remedial Design (RD) / Remedial Action (RA) is a general term used to describe the actual construction or implementation phase of the site cleanup.

Remedial action objective (RAO) is the goal to be achieved by the RA for the protection of human health and the environment.

Remedial investigation (RI) is an in-depth study to gather data needed to determine the nature and extent of the contamination at a site and to evaluate risks to human health and the environment posed by the contamination.

Removal action is an action taken to clean up or prevent exposure to contamination before final cleanup. Removal actions can occur during any phase of the cleanup process.

Screening-level ecological risk assessment (SLERA) is an assessment of ecological risk based on published screening criteria. SLERA is used to determine if it is necessary to conduct a detailed "baseline" ecological risk assessment to evaluate if ecological receptors (plants and animals) exposed to contaminants at a site may suffer harm.

Time Critical Removal Action (TCRA) is a removal action implemented in an expedited manner (planning period less than 6 months) to address contamination that poses a threat to human health and the environment.

Unexploded Ordnance (UXO) are munitions that have been primed, fuzed, armed and fired but remain unexploded due to malfunction or other cause and constitute a hazard.



FORMER MARE ISLAND NAVAL SHIPYARD Paint Waste Area IN-PERSON AND VIRTUAL PUBLIC MEETING April 25, 2024 7:00 pm



Proposed Plan / Draft Remedial Action Plan – Comment Form

An in-person/virtual public meeting to present the PP/Draft RAP will be held on April 25, 2024 at 7:00 pm, Mare Island Conference Center, 375 G Street, Vallejo, CA. There are 2 ways to join the public meeting virtually:

- 1. Join by computer or mobile app: type this link into your browser: <u>https://tinyurl.com/MINSRAB-Apr24</u>. Click "Join Meeting" in the upper right corner.
- 2. Join by telephone: call Toll Free: 1-(833) 258-6146 and enter access code 960 285 525# when instructed.

The public comment period for the PP/Draft RAP for the PWA is from April 22 through May 22, 2024. You may provide your comments verbally at the public meeting where your comments will be recorded by a court reporter. Alternatively, you may provide written comments in the space provided below or on your own stationery. All written comments must be postmarked no later than May 22, 2024. After completing your comments and your contact information, please mail this form to the address provided on the reverse side. Comments are also beina accepted bv e-mail: please e-mail messages to Mr. Scott Anderson at scott.d.anderson11.civ@us.navy.mil.

| Name: | |
|---|--|
| Representing (optional): | |
| Phone Number (optional): | |
| Address (optional): | |
| Please check the appropriate box if you would like to be added to or removed from the Navy's Environmental Mailing List for Mare Island: Add me Remove me | |
| Comments | |
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FOLD ALONG DASHED LINE

Your Return Address:

Place Postage Here

Navy BRAC Program Management Office West

Attn: Mr. Scott Anderson BRAC Environmental Coordinator 33000 Nixie Way Building 50, Suite 207 San Diego, California 92147 Navy BRAC Program Management Office West

33000 Nixie Way Building 50, Suite 207 San Diego, California 92147

INVITATION TO COMMENT

On the Proposed Plan / Draft Remedial Action Plan for the Paint Waste Area, Former Mare Island Naval Shipyard

See details inside.

IMPORTANT DATES TO REMEMBER

PUBLIC COMMENT PERIOD: April 22 through May 22, 2024 IN-PERSON/VIRTUAL PUBLIC MEETING: April 25, 2024 at 7:00 PM