Hunters Point Naval Shipyard, Parcel G, Field Change Request No. 001

As the Navy conducts Parcel G field work at the former Hunters Point Naval Shipyard (HPNS), occasionally there will be a need to clarify the work plan and make operational adjustments. This is documented through Field Change Requests (FCRs).

The Navy has decided to use temporary Radiological Screen Yard (RSY) pads to evaluate soil for the Parcel G Retesting project, rather than permanent RSY pads or other soil screening equipment. Soil on the RSY pads will be spread in layers between six inches and nine inches thick, an accepted practice used at HPNS and in other projects. The RSY pads will be removed when soil screening is complete.

This process will ensure that scans identify minimum detectable concentrations (MDCs) below the remedial goals and/or background levels for Radium-226 and Thorium-232, the two radiological constituents that are being evaluated in this process.

The attached documents (Attachments 1 and 2) support the technical aspects and describe the process change.

If you have any questions regarding this, please contact Derek Robinson at derek.j.robinson1@navy.mil.

Attachments: Attachment 1, Field Change Request No. 001

Attachment 2, A Priori Minimum Detectable Concentrations for RS-700

ATTACHMENT 1

Field Change Request No. 001

(4 pages)

FIELD CHANGE REQUEST FORM

Contract No.:	CTO No.:	Field Change Request Form No.:
N62473-17-D-0006	N6247318F5065	001
Location: Parcel G, Hunters Point Naval Shipyard		**Date:** August 25, 2020
Document Title: Final Parcel G Removal Site Evaluation Work Plan, Former Hunters Point Naval Shipyard, San Francisco, CA (CH2M Hill, Inc., 2019)		**NIRIS Document #:** N/A

RE: Drawing No.: _____ Title _____

Specification Section _____ Title _____

Other: Work Plan Section 3.6.3.2 Radiological Screening Yard Pad Process

Description (items involved, submit sketch, if applicable)

Work Plan Section 3.6.3.2, Radiological Screening Yard Pad Process, subsection Construction of Radiological Screening Yard Pads, includes radiological screening yard (RSY) pad construction specifications that are designed for permanent RSY pads and include asphalt and pre-cast concrete curbs. This field change request (FCR) revises the RSY pad design to a temporary RSY pad that will be removed at the completion of excavated soil screening.

This FCR also clarifies that multiple 9-inch thick layers will be stacked on the RSY pads, consistent with RSY pad screening operations at Hunters Point Naval Shipyard (HPNS) on other projects.

Reason for Change

Temporary RSY pads are more appropriate because the RSY pads will be deconstructed and not re-used at the end of this project.

Work Plan Section 3.6.3.2 states: “Excavated TU materials will be transported to an RSY pad and spread approximately 6 to 9 inches thick for processing.” The Work Plan also states “each individual 152 cubic meters (m^3) TU stockpile will be loaded into the RSY pad, spread out, and leveled to a maximum depth of 6 inches for investigation.” This FCR clarifies that when using the RS-700, APTIM will process soil with 9-inch thick lifts on the RSY pads. There is no change to maximum batch volume of 152 m^3. At 9 inches, the RS-700 minimum detectable concentrations (MDCs) are below the remedial goals and/or background. In 2015, APTIM received Navy approval to scan 9-inch soil layers when using the RS-700.

Stacking soil layers on RSY pads is an accepted practice at HPNS and the Work Plan does not specify layers may be stacked. This FCR clarifies that soil layers will be stacked on RSY pads.

Recommended Disposition (submit sketch, if applicable)

The WP text is revised as follows:

Construction of Radiological Screening Yard Pads

If no existing RSY pads are available for use, pads will be constructed. RSY pads will be constructed with a size limit of 1,000 m^2. Prior to constructing the pad, a gamma scan and appropriate gamma static survey will be conducted of the underlying ground surface to establish a baseline and to determine if the ambient gamma radiation levels will interfere with the RSY pad operations. If the baseline gamma scan and gamma static survey of the ground surface identifies areas where the count rate exceeds the instrument-specific IL, the area will be flagged. Flagged areas may be further invested by a spectral analysis using the RS-700, or equivalent, or by soil sampling, if the ground surface is soil. If results indicate ROC concentrations above the critical level (for spectral analysis) or release criteria (for soil samples), appropriate remediation or relocation of the RSY pad may be necessary and will be determined in consultation with the Navy. Once the RSY area has been cleared of potential material generating elevated gamma

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scanning measurements (if needed), the RSY pad will be constructed and surveyed as follows:

- Area will be covered with 10-mil plastic sheeting (or equivalent).
- Perimeter of the RSY pads will be bermed with biodegradable straw waddles (or equivalent) to prevent run-on and run-off during precipitation events.
- If the existing surface is uneven and/or consists of materials with different radiological characteristics (e.g., soil and asphalt), a 6-inch-thick layer of clean import fill, and/or rock (or equivalent) will be laid across the plastic. The leveling material will be visually inspected to ensure it is free of debris/organic matter and of sufficient clay content to be readily compactable. If the existing surface is even and consists of similar materials, a leveling layer will not be used.
- If used, the leveling soil layer will be compacted via a minimum of four passes with an excavator or similar tracked machine. This will prevent damage to the plastic sheeting when the excavated soil is added or removed.
- If a leveling layer is used, a baseline radiological survey of the constructed RSY pad will be performed prior to the initial placement of excavated soil and a layer of plastic sheeting will be placed on the leveling soil later to prevent cross-contamination from the placement of excavated soil.
- If no leveling layer is used, excavated material may be placed directly on the plastic liner to build the first layer of the RSY pad.

A post-use gamma scan survey will be performed following removal of the RSY screened soil, and again following removal of the RSY pad itself, to verify that cross-contamination of the leveling soil and the underlying surface did not occur. If the gamma scan survey confirms that no cross-contamination occurred, the leveling soil may be disposed as non-LLRW material or may be reused elsewhere at HPNS with Navy concurrence.

Transfer of Excavated Soil for Processing

Each individual 152 m^3 TU stockpile will be loaded into the RSY pad, spread out, and leveled to a maximum depth of 9 inches for investigation.

Following completion of gamma scan surveys, investigation/remediation of potential radiological anomalies, and collection of radiological soil samples, each surveyed layer on the RSY pad will be covered with plastic (10-mil or equivalent). Additional excavated soil will then be placed on top of the completed layer and the new layer will be surveyed/sampled as described in Section 3.6.3.2. Several layers may be “stacked” in this manner; it is anticipated that approximately 4 to 5 layers will be stacked on average. Should subsequent radiological analysis identify elevated sample results within the RSY stack, the sample location will be remediated by surgically removing the unaffected layers to reach the original sample location. Soil removed from the unaffected layers will be tracked, controlled, and eventually returned to either the approximate original location on the RSY pad or, if radiologically cleared, consolidated with a stockpile containing soil from the same excavation area.

Additional Details

None

Will this change result in a contract cost or time change? ☐ Yes ☒ No

Estimate of contract cost or time charge (if any) _____

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Preparer (signature)	Date	Technical Lead (Signature)	Date
Bercik, Lisa M. Digitally signed by Bercik, Lisa M. Date: 2020.08.25 15:26:40 -07'00'	8/25/2020	Killpack, Randall Digitally signed by Killpack, Randall Date: 2020.08.25 15:34:07 -07'00'	8/25/2020

Disposition

☒ Approved

☐ Not approved (give reason): _____

Engineer (signature) (if engineering related)	Date	Project Manager (signature)	Date
N/A ☐ Comments (attached) ☐ No Comments	N/A	Bercik, Lisa M. Digitally signed by Bercik, Lisa M. Date: 2020.08.25 15:28:48 -07'00' ☐ Comments (attached) ☒ No Comments	8/25/2020
Navy RASO (signature)	**Date**	**QC Manager (signature)**	**Date**
N/A ☐ Comments (attached) ☐ No Comments	N/A	O'Leary, Kevin Digitally signed by: O'Leary, Kevin DN: CN = O'Leary, Kevin email = Kevin.OLeary@aptim.com OU = IT, Migration, Users-CFS Date: 2020.08.26 07:33:57 -07'00' ☐ Comments (attached) ☒ No Comments	8/25/2020
Navy RPM (signature)	**Date**	**NAVFAC SW QAO (signature)**	**Date**
RODDY.ELIZABETH.ANN.1548029712 Digitally signed by RODDY.ELIZABETH.ANN.1548029712 Date: 2020.08.26 16:00:01 -07'00' ☐ Comments (attached) ☐ No Comments		N/A ☐ Comments (attached) ☐ No Comments	N/A

FIELD CHANGE REQUEST FORM

Attachments:

Distribution:

- Project File
- Copy to Site File
- Project Manager

ATTACHMENT 2

A Priori Minimum Detectable Concentrations for RS-700

(1 page)

Table 1 (Updated for 9 inches)
A Priori Scan Minimum Detection Concentrations—Gamma Instrumentation

NaI Detector	RG (pCi/g)	MDC [c] (pCi/g)
RS-700	^{226}Ra, 1.0 [a]	0.91
	^{137}Cs, 0.113 [b]	2.78 [d]
	^{232}Th, 1.69 [b]	0.67

Notes:

[a] The ^{226}Ra RG is 1 pCi/g above background.

[b] Analytical results will be compared to RGs or background values, whichever is higher.

[c] MDCs calculated based on 9 inch depth of soil.

[d] Compliance with the ^{137}Cs RG will be based on analytical data from soil sampling. ^{137}Cs is are treated identical to chemical contaminants in that final release decisions are based on the results of the sampling and analysis and are not based on field detection of elevated activity. At 6 inches, the ^{137}Cs MDC is 1.18, higher than the RG.

^{137}Cs	*cesium-137*
^{226}Ra	*radium-226*
^{232}Th	*thorium-232*
NaI	*sodium iodide*
pCi/g	*picocurie per gram*
MDC	*minimum detectable concentration*
RG	*remedial goal*