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In reply, please refer to:
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Transmitted via e-mail to: *jocelyn.tamashiro.civ@us.navy.mil*

Facility/Site: Red Hill Bulk Fuel Storage Facility (iHEER Site 3365)

Subject: HDOH Second Comments on *Revised Draft Remedial Investigation Work Plan, Per- and Polyfluoroalkyl Substances Release, Red Hill Bulk Fuel Storage Facility*; Dated February 2026

Dear Ms. Tamashiro:

The Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office has reviewed the Revised Draft Remedial Investigation Work Plan (RI WP) and has the following comments.

General Comments

1. Please conduct multi-incremental (MI) sampling for soil sampling in accordance with the HDOH Technical Guidance Manual (TGM). HDOH does not consider discrete soil sampling adequate for final decision-making purposes but considers use of discrete samples sufficient for determination of contaminant presence/absence. For example, if concentrations of chemicals of potential concern (COPCs) were detected in discrete samples, even if below the Environmental Action Levels (EALs), then additional sampling to adequately characterize the nature and extent utilizing MI sampling must be conducted. This should include the collection of triplicate soil samples to test for accuracy, reliability, and reproducibility of the results and calculation of the relative standard deviation.

2. In addition to analysis via U.S. Environmental Protection Agency (EPA) Method 1633, HDOH highly recommends that soil and groundwater samples are processed for Total Oxidizable Precursors (TOPs) and analyzed for Total Organic Fluorine

(TOF) to calculate a cumulative Hazard Index for PFAS and determine the Total PFAS Risk per HDOH HEER Office's updated *Interim Soil and Water Environmental Action Levels (EALs) for Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs)* (https://health.hawaii.gov/heer/files/2026/02/PFAS-EALs-Update-HIDOH-January-2026.pdf). Furthermore, please require that the laboratory take an MI subsample size of 10 grams for soil analysis. Revise all areas of the RI WP that discuss laboratory analysis of soil and groundwater samples to include TOPs and TOF analysis in addition to EPA Method 1633, and a laboratory subsample size of 10 grams.

Specific Comments

3. Section 10.2.1.2, Page 45 (PDF p. 51), 3rd paragraph, last sentence: It does not appear that the conveyance piping from Building 313 to Adit 6 is shown. Please revise this sentence for accuracy or include piping in Figure 4.

4. Section 10.2.1.3, Page 47 (PDF p. 53): Please discuss the 2021 fuel release in Area B outside of Adit 3.

5. Section 14.4, Page 85 (PDF p. 91), 3rd paragraph, 5th sentence: Please collect the discrete samples for the entire depth interval, not just 3-6 inches. If the sample is only collected from 3-6 inches, then indicate the sampling depth as those 3 to 6 inches, not the entire 1-ft interval.

6. Section 14.7.1, Page 95 (PDF p. 101):

    a. Refer to Comment #1 regarding MI soil sampling.

    b. Recommend including a boring for collection of surface and subsurface soil samples adjacent to the Collection, Holding and Transfer (CHT) tank where contents from the 2021 fuel release were stored and later spilled. It is possible that CHT tank stored PFAS-containing fluids either from the 2021 fuel release product or in the sanitary waste discussed in Section 10.2.8.5.

    c. 1st paragraph, 3rd sentence: Refer to Comment #5.

7. Section 14.7.2, Page 95 (PDF p. 101): HDOH strongly recommends collecting swale surface soil samples as MI samples to increase accuracy and reproducibility in accordance with the HDOH TGM. This includes collection of at least 30 increments per bulk MI sample, collection of quality control/quality assurance triplicate samples for at least 10% of the primary samples, and MI processing by the analytical laboratory. Refer to Comment #1. If no MI samples will be collected, please collect at least 30 discrete surface samples from the swale to account for any spatial heterogeneity of PFAS in the swale.

8. Table 15-5, Pages 125 (PDF pp. 131): Please reference and follow the November 2024 Memorandum for *Comparison of HDOH Total Petroleum Hydrocarbon (TPH) Action Levels to Data for Water Samples* to calculate the total concentration of TPH in water for comparison to the EALs, available at

https://health.hawaii.gov/heer/files/2025/11/25-085-WL-Use-of-THP-EALs-HIDOH-Nov2025.pdf.

9. Worksheet (WS) #16, Page 129 (PDF p. 135): Recommend updating the schedule as appropriate.

10. Section 17.2, Page 131 (PDF p. 137): The collection of discrete samples is acceptable, however, please note that while results can be used for determination of presence/absence, HDOH will not accept use of the analytical results for any final decision-making purposes. Refer to Comment #1.

11. Section 17.2.3, Page 132 (PDF p. 138), 4th paragraph: Collection of groundwater samples from a temporary well is acceptable, however, please ensure that the well is properly developed, purged, and sampled in accordance with Section 6 of the HDOH TGM (e.g., developed after 48 hours of well installation; low-flow purging; and sampling, gauging and sampling no sooner than 72 hour after well development).

12. Section 17.4, Page 135 (PDF p. 141), 4th paragraph: Ensure that the well is properly developed, purged, and sampled in accordance with Section 6 of the HDOH TGM. Refer to Comment #10.

13. WS #20, Pages 151-152 (PDF p. 157-158):

    a. Please indicate how field duplicate soil samples will be collected. Will they be collected from the same borehole or from a nearby boring? If collected from the same boring, these co-located samples would be expected to have similar concentrations and should not be used to measure soil heterogeneity in the area, only within that borehole. Refer to Section 10.6.1.1 of the HDOH TGM for information on discrete sampling replicates.

    b. Page 151, Area A: If the surface soil will be collected using a different manner than the swale surface soil samples, recommend collecting a separate duplicate for the surface soil.

14. Appendix A, Figure 3, PDF p. 227:

    a. Recommend using a different color for the “GAC System Piping” for visibility, as it is currently difficult to see.

    b. Please label the CHT tank that is discussed in Section 10.2.8.5.

15. Appendix A, Figure 4, PDF Page 229: Include a callout for the aqueous film-forming foam (AFFF) conveyance piping from Building 313 to Adit 6 that is mentioned in Section 10.2.1.2.

16. Appendix A, Figure 28, PDF p. 281:

    a. Please provide rational on why direct contact and air transport is “incomplete” for current onsite construction worker, but “potentially complete” for onsite

occupational worker. It seems that onsite construction workers would be potentially exposed to similar levels of AFFF and TPH as onsite occupational workers. Please revise onsite construction worker to "potentially complete" for direct contact and air transport as appropriate.

b. Please provide rationale on why ingestion and dermal contact is "incomplete" for future onsite construction worker, but "potentially complete" for onsite occupational worker. Please revise future onsite construction worker to "potentially complete" for groundwater ingestion and dermal contact as appropriate.

17. Appendix A, Figure 31, PDF p. 287:

    a. Please revise onsite construction worker to "potentially complete" for direct contact and air transport as appropriate. Refer to Comment #16.a.

    b. Please revise future onsite construction worker to "potentially complete" for groundwater ingestion and dermal contact as appropriate. Refer to Comment #16.b.

18. Appendix A, Figure 44, PDF p. 313: Please include the symbol for RHSB-13 in the legend.

19. Appendix C, Attachment I-C-1-1, PDF p. 493-496: Recommend removing the Guam Well Abandonment Procedure.

20. Appendix C, Attachment I-C-2 PDF p. 502, Section 5.1, last sentence: Revise that well development shall not occur until at least 48 hours after the completion of well installation, in accordance with Section 6.6.3.1 of the HDOH TGM.

21. Appendix C, Attachment I-C-3, PDF p. 516, Section 5.3, last sentence: Revise that at least 72 hours should separate well development and well sampling events in accordance with Section 6.6.4.1 of the HDOH TGM.

Should you have any questions, please contact Jennah Oshiro at (808) 586-4249 or via email at jennah.oshiro@doh.hawaii.gov.

Sincerely,

Gracelda Simmons

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