HAWAII STATE DEPARTMENT OF HEALTH

The **Hawai'i Department of Health (HDOH), Hazard Evaluation and Emergency Response Office (HEER Office)** is a state environmental health division whose mission is to protect human health and the environment. The HEER Office provides leadership, support, and partnership in preventing, planning for, responding to, and enforcing environmental laws relating to releases or threats of releases of hazardous substances.

HEER Office Clarifications and Responses to Frequently Asked Questions (FAQs) for Consultants and Property Owners

The HEER Office has prepared this Fact Sheet for environmental consultants, property owners, and other interested parties to clarify some of the state's environmental health regulations and guidance. In particular, this Fact Sheet addresses requirements for the Hawaii Revised Statute (HRS) 128D, also referred to as the Hawaii Environmental Response Law (HERL), Hawaii Administrative Rule (HAR) 11-451, also referred to as the State Contingency Plan (SCP), and the HEER Office Technical Guidance Manual (TGM) for the Implementation of the SCP. The following clarifications and responses to FAQs are based on recurring issues that have been identified at environmental restoration sites and redevelopment projects, some in response to the recent increased use of HDOH Environmental Hazard Management Plan (EHMP) and Construction EHMP (C-EHMP) templates.

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Does contamination from a historical release have to be reported?

Yes. Both new releases and "newly discovered" historical releases must be reported to the HEER Office. If a *new release* of a Reportable Quantity occurs at a facility *today*, then it must be reported verbally to the HEER Office Emergency Planning and Response (EP&R) Section ***immediately*** by calling 808-586-4249 or 808-236-8200 (after hours). Release Reporting instructions are at https://health.hawaii.gov/heer/reporting/how-to-report-a-release-spill/#:~:text=The%20owner%20or%20operator%20of,equal%20to%20or%20exceeds%20the. In addition, the release must be reported to the National Response Center (NCR) and Local Emergency Planning Committee (LEPC).

When a *newly discovered historical release* (i.e., a release that occurred in the past but was not previously reported) is identified that resulted in contaminant concentrations in media (e.g., soil, soil gas, water) that exceed Tier 1 Environmental Action Levels (EALs) or where gross contamination, such as a sheen on groundwater or other environmental hazard (e.g., leaking underground storage tank [UST]) are observed, a verbal report to the HEER Office EP&R Section must be made as soon as the Tier 1 EAL exceedance is confirmed or as soon as the gross contamination or other environmental hazards are identified. Historical releases generally are not required to be reported to the NCR or LEPC but please confirm each incident's reporting requirements with these agencies. Following a verbal notification, a written follow-up notification must be provided within 30 days to the HEER Office EP&R Section.

Rationale. HRS 128D authorizes HDOH to act in response to a release, *or to a substantial threat of a release*, into the environment of any pollutant or contaminant that may present a substantial danger to public health, welfare, or the environment. Historic contamination at concentrations greater than Tier 1 EALs poses a substantial threat of a release because any significant disturbance of the impacted media, such as future excavation for site redevelopment, may result in a *new release* that poses an environmental exposure risk to site workers, the public, or the environment. Since both HRS 128D and the SCP require an investigation and a Response Action to address a release or a threat of a release, all such conditions must be reported to the HEER Office so the incident can be evaluated, prioritized, and appropriate actions can be taken. Although historic releases don't generally constitute an "emergency," they are still required to be reported to our EP&R Section to allow our On-Scene Coordinators (OSCs) to make that evaluation and to ensure the incident is properly recorded.

What constitutes a "substantial danger"?

Any Tier 1 EAL exceedance may pose a substantial danger to human health or the environment.

Rationale. Under unrestricted site use conditions where sensitive receptors may be exposed to hazardous conditions for an unlimited time period, media with contaminant concentrations greater than the Tier 1 EALs

can pose substantial danger to those receptors. At sites where conditions or site-use restrictions limit exposure and reduce the hazard, Tier 1 EAL exceedances ***may*** still pose a substantial danger if those site conditions or restrictions change or if the contaminated media is moved to another location where those restrictions are not present. Therefore, any exceedance of a Tier 1 EAL ***may*** pose a substantial danger and requires reporting, evaluation, and a response action to address any existing or potential future hazards associated with the contamination.

What is the Tier 1 EAL?

When evaluating potentially impacted media for re-use, the term "Tier 1" only refer to the most stringent EALs, which are those that apply to the default conceptual site model of a site with unrestricted site use, above a drinking water source, and within 150 meters of a surface body of water.

Although not clearly described in some of the current guidance, since 2017, HDOH has used this definition alone for describing "Tier 1 EALs." This definition was noted in the 2017 revision of the HEER Office Clean Fill Guidance. The reason for this shift away from the model previously defined in the EHE guidance, which includes four different "Tier 1" EALs dependent on groundwater usage and proximity of surface water, was the need to identify a set of baseline EALs that can be used to evaluate whether impacted soil can be defined as "inert" for the purpose of off-site re-use. This definition had to consider the potential re-use of the soil at sites where the most stringent EALs apply. This definition also extends to groundwater where off-site "re-use" via dewatering may occur into a more sensitive aquatic environment.

The purpose of comparing analytical results collected at a site to the Tier 1 (most stringent) EALs in addition to site-specific EALs is specifically to evaluate whether a potential hazard would be present in the event of off-site re-use of the media (i.e., would it qualify as a "waste" under HDOH Solid and Hazardous Waste Brand [SHWB] regulations, requiring special management). This also allows for consideration of potential re-use of the site for unrestricted activities (e.g., if site use should change from C/I to residential at some point in the future).

For many contaminants, the difference is not relevant, but for some, where leaching or aquatic toxicity may be the basis for the final EAL, this can make a difference in determining whether restrictions apply to the site, and specifically to the re-use of the impacted media. As discussed in the EHE Guidance, exceedance of Tier 1 EALs does not automatically mean there is a hazard present at the site, only that further evaluation is required.

Aren't pesticides excluded under the FIFRA exemption?

Not exactly. HRS 128D and the SCP exempts the legal application of pesticide products registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) from being classified as a release, however, the presence of pesticides in media still constitutes a hazardous substance, contaminant or pollutant, and, at concentrations greater than Tier 1 EALs, may still present an environmental hazard. Therefore, such contaminants must still be identified, characterized, and properly addressed as potential environmental hazards, particularly at sites where planned soil disturbance, such as redevelopment, will occur.

Rationale. While the legal application of pesticides is exempted from being classified as a "release," if the pesticide concentrations exceed their Tier 1 EALs, then they may still pose an environmental hazard. As discussed previously, where soil with contaminant concentrations greater than their Tier 1 EALs is significantly disturbed, as during demolition, excavation, or grading, there is a potential for a *new release* of the contaminant that is not covered by the FIFRA exemption. There is also potential for a "new" release to occur where exposed surface soil is contaminated with pesticides at concentrations greater than Tier 1 EALs any time a receptor comes into contact with the bare soil.

Where legally applied pesticides are identified that will be left in place undisturbed, at a minimum, the conditions should be documented to ensure proper characterization is conducted and Response Actions are taken in the event of future activities that could release the contaminants (e.g., demolition or other construction activities). If such pesticides are present in areas where they may present a leaching hazard or a direct exposure hazard, however, then further evaluation may be needed to determine if a Response Action is required to address any immediate threats to human health or the environment.

Can't I just skip straight to the EHMP?

No. In the past, the EHMP itself has been used as a sort of "everything tool" incorporating a site characterization report, EHE, RAR, C-EHMP, and EHMP in a single document, leading, in some instances, to serious misunderstandings and other problems. Skipping the steps of the remedial process in this way is no longer acceptable to the HEER Office. Once a site is characterized and hazards are evaluated, the in-place management of those hazards with engineering and/or institutional controls may still be an acceptable Response Action alternative, but documenting the selection of that remedy and implementation of those controls in a RAWP and/or RAR/RACR, in accordance with HAR 11-451, is required **prior to** preparing the EHMP and 508C HRS environmental covenant for the site/release.

What if I just want to redevelop the site without completing a Response Action? Can't I just use a C-EHMP and manage contamination in place?

No. In the past, this shortcut has been allowed at some sites leading again, in some instances, to serious misunderstandings and other problems. As a result, this practice is no longer acceptable. In most cases, the HEER Office is now requiring that the Response Action process described above be followed when contamination is discovered ***prior to*** proceeding with site redevelopment or construction. Where contamination remains after the completion of the Response Action, engineering and institutional controls, including a Long-Term EHMP are required to complete the process. These controls and the EHMP are part of the remedy for the site and therefore enforceable by HDOH under the authority of state environmental regulations. The EHMP will include the requirement for a C-EHMP in the event of disturbance of the site controls and contaminated media, thereby clearly extending HDOH authority to that document as well. Again, a "manage in place" remedy may still be acceptable for the site, but all steps of the process must be completed. For sites where redevelopment is planned, but where site conditions restrict full site characterization prior to construction, the HEER Office has prepared an alternative process to allow for site characterization and remedy implementation to be conducted concurrently with the redevelopment by "pre-selecting" an acceptable Removal Action for the site. This Removal Action Alternative for Redevelopment process involves preparing a Removal Action Work Plan (RAWP) that incorporates both a C-EHMP and a sampling plan to complete site characterization, so that at the end of the project, the site will be adequately characterized to allow for site closure. A Fact Sheet describing the steps of the Removal Action Alternative for Redevelopment process is available on the HEER Office website.

When can I use an Interim EHMP?

Interim site controls and an Interim EHMP may be acceptable at sites where the following conditions apply:

1. A potential environmental hazard has been identified but not completely characterized, yet based on site conditions, exposure pathways between the potential hazard(s) and potential receptors are incomplete (e.g., the hazard is beneath a structure and vapor intrusion and/or off-site migration via groundwater are not anticipated).

2. Current site conditions make thorough site characterization infeasible or impractical.

3. Current site conditions prevent or limit the ability to implement a preferred final Response Action.

In some cases, a property owner/operator may simply not be prepared or willing to conduct a timely site characterization and under the existing site conditions, interim controls can be readily implemented, and this may be acceptable to the HEER Office as a temporary measure.

The purpose of interim controls and the Interim EHMP is to essentially "press the pause button" on the Response Action process while ensuring site conditions are adequately protective for site users, the public, and the environment. Generally, the limited data collected for the site should be used to conservatively estimate (i.e., develop a "worst-case scenario") the nature and extent of the contamination at the site and develop a Preliminary EHE. A Removal Action can then be taken to implement temporary "interim" engineering controls and ICs as necessary. A Removal Action Report and Interim EHMP can then be prepared for the site. Note, this is not the same as an Interim Remedial Action (as defined in §HAR 11-451-3), as that generally describes the completion of a portion or "incremental step" of a selected remedy. Sites managed with interim controls and an Interim EHMP may not receive an NFA w/ICs status but may receive an acceptance letter from the HEER Office documenting that the environmental hazards are adequately managed and mitigated. Should site conditions change, allowing for further investigation and remediation of the site, for example, in the event of future demolition of existing structures and redevelopment of the site, the HEER Office will likely require full site characterization and implementation of a final Response Action prior to soil disturbance and construction.

Please consult with the HEER Office whether interim controls and an Interim EHMP may be an acceptable temporary remedy for your site.

Do I need to submit my Site Characterization Sampling and Analysis Plan (SAP) for review and approval?

No. Review and approval of an initial site characterization SAP is generally not required. However, it is essential that the person designing the sampling has an in-depth understanding of the sampling procedures required to adequately characterize a site for final decision-making. If a site is not adequately characterized to allow for proper evaluation of environmental hazards at the site, then additional and, in some cases, duplicative sampling will be required before proceeding to the next steps of the Response Action process. Proper and sufficient site characterization is essential in order to ensure data usability for the remaining steps of the Response Action process. Therefore, if you are unsure whether your proposed SAP is adequate, you may consider submitting it to the HEER Office for a curtesy review or, at a minimum, contact the HEER Office to discuss your proposed sampling plan.

Do I need to submit my C-EHMP for review and approval?

Yes. It is part of the EHMP and part of the Response Action, and as such, must be reviewed and approved by HDOH.

However, if you have prepared a C-EHMP for a project at a site that has not already been identified to be contaminated and is not already overseen by HDOH, then HDOH review is not required. In such a case, we recommend that you first develop a sampling plan and characterize the areas of the site that will be impacted by the project to determine if a C-EHMP is warranted. In any event, if contamination is discovered at the site during the course of the project, then it must be reported to the HEER Office and the Response Action process must be initiated, as described above.

My property has no RECs, do I still need to sample prior to redevelopment?

It depends. A Phase 1 Environmental Site Assessment (ESA) is a property transaction document that identifies both documented and potential environmental hazards at a site that are described as Recognized Environmental Conditions (RECs). The Phase 1 ESA evaluates historic records of the property and surrounding area as well as regulatory records and information from key site personnel to identify these RECs. Often Phase 1 ESAs have significant data gaps in the historical review. Additionally, they may not identify potential hazards from historic application of pesticides or lead-containing paint and/or may not adequately address potential hazards from the use of fill material at the property or from general non-specific C/I activities.

1. **Pesticides.** If there are or were historic structures at the site between the 1950s and approximately 1990, it is possible that organochlorine pesticides (e.g., Chlordane) were applied either beneath the building footprints prior to construction or around the building footprint(s) during construction or post-construction. Legal application of these pesticides is not considered a REC under the ASTM standard for conducting Phase 1 ESAs and therefore may not have been called out as such. Prior to the 1950s, arsenic may also have been applied beneath and/or around the structure(s) as a pesticide. Where those structures will not be disturbed, you may not be required to investigate for these hazardous chemicals. However, if the identified structures have already been removed or if you are planning to remove the structures and redevelop the site, the building footprints and perimeters should be sampled and analyzed for these contaminants of potential concern (COPC) even where no other RECs have been identified for the property.

2. **Lead-containing Paint.** Prior to 1980, lead-based paint and lead-containing paints were often used on buildings throughout Hawaii. Over time, the paint can flake off and settle on exposed ground around the building, contaminating the soil. Even if lead-containing paints are identified during a Phase I ESA, the condition usually is not identified as a REC. Nevertheless, if there are structures on your property built before 1980, then prior to excavation, you should collect soil samples around the building perimeters and analyze them for lead. DUs for this sampling should extend to approximately three to five feet from the exterior walls. If the building history differs on different parts of the building, then DU locations should be adjusted to sample those areas separately. If the Phase I ESA identifies pre-1980 structures that are no longer present at the property, then the areas around those former building footprints should also be investigated for lead contamination.

3. **Contaminated Fill.** Several areas of Honolulu where fill material was historically used to bring the land up to grade are known to have subsurface contamination associated with that fill material, particularly in the Kalihi District, Iwilei District, and Kaka'ako. Lead is a common contaminant in the fill material in these areas. If your property is located on fill material in these areas, then contamination may be present that was not identified as a REC. If you are planning to disturb soil in these areas, then the soil should first be sampled. In some areas, contamination may not be present in surface soil but is present in deeper layers of the fill, so sampling should be conducted in DU layers extending from the surface to the native soil. Fill material contamination is less common in other parts of the state but could be present anywhere that fill material was used, so if in doubt about the source of the fill material, then at a minimum, preliminary or exploratory sampling should be conducted to evaluate whether further characterization is warranted.

4. **General C/I Activities.** If a commercial/industrial (C/I) site has had a thorough Phase I ESA conducted and no RECs and no significant data gaps have been identified, building footprints and perimeters have been assessed for pesticides and lead, and fill material has been adequately evaluated, then you must still consider that over the years minor releases may have accumulated in the surface and shallow subsurface. Unless identified by visual observations of "de minimis" releases (e.g., minor oil staining on the ground),

this sort of general contamination is unlikely to be identified in a Phase I ESA report or identified as a REC. The accumulated contamination from these releases and other general C/I activities are unlikely to exceed C/I concentrations, so no specific activity and use restrictions are likely required for the site. But if site use will change to residential or if soil will be moved around the site or exported, then surface and shallow subsurface soil should be characterized and, if necessary, cleaned up or otherwise managed. In general, where the contaminant "release mechanism" is to surface soil and is not expected to extend too deep, surface and shallow subsurface soil sampling (i.e., in the top 6- to 12-inches of soil) should be sufficient. However, if contamination is discovered in the shallow subsurface samples, then the contamination should be "chased" until the vertical extent of the contamination is delineated.

If any of the above contaminants are identified at concentrations above Tier 1 EALs at your property, then they must be reported to the HEER Office and the Response Action process described above must be followed. If it is determined that the contamination may remain in place during proposed construction, then a C-EHMP will be required to protect project workers and ensure proper management and disposal of contaminated media.

Do I have to sample the entire property?

No. Usually, you do not have to sample the entire property, however, if you are planning a major redevelopment or export of soil, then you may need to conduct additional sampling of the areas that will be disturbed, as discussed below.

Generally, sampling should focus on evaluating the nature and extent of known or suspected releases at the property, so sampling only needs to be conducted in that area. If, in the course of that activity, site-wide contamination is detected, then it must also be characterized, but in most cases, the release and the investigation will likely be limited to a portion of the property.

However, as discussed above, at C/I properties, there is a potential for low levels of contamination to be present across the site from historic activities related to the site use. Particularly in areas of exposed soil or where exposed soil was historically present. This contamination may have been from minor unreported releases or from simple accumulation of contaminants deposited; for example, heavy metal particles may have been deposited over years of normal site activities. This sort of contamination would likely be confined to surface and shallow surface soils, since the release mechanism would be direct releases to the surface soil. The concentrations of these contaminants may exceed Tier 1 EALs but are generally not likely to exceed C/I levels so an environmental hazard would not be expected under current C/I site conditions and sampling may not be warranted if there is no change of use or redevelopment planned.

But, if soil will be excavated for re-use off-site or disposal, it will require characterization prior to removal from the site to ensure that it is not contaminated and that it does not require special handling and disposal. Likewise, if a large redevelopment is planned that will move soil around within the property, sampling will likely be required. Remember that this type of "exposure area" sampling is in addition to the targeted "release area" sampling that must be conducted in areas of known or suspected releases identified in a Phase I ESA or other previous investigations. The appropriate analysis will depend on the historic use of the property and COPCs that may have been used at the site. Since the likely release mechanism in this case is surface deposits, soil sampling in these areas should be conducted in situ and focus on sampling surface and shallow surface layers.

If no surface or shallow subsurface contamination is found, then there is likely no need to continue sampling deeper, as deeper soil layers may be considered inert. The exception to this is if there are known or suspected subsurface releases or sources (like pipelines or USTs) or in areas of known fill contamination like Kaka'ako, as discussed above.

My property is C/I, can I sample 400 cubic yard DUs or do I have to sample 100 cubic yard DUs to evaluate soil for re-use?

It depends. Default *maximum* DU volumes are discussed in the Clean Fill Guidance and are determined by how the soil will be re-used, not based on where the material is sourced. Default maximum DU volumes generally only apply to "exposure area" *in-situ* DU sampling and to stockpile sampling. The appropriate volume for a "release area" DU will be determined by the estimated extent of the release and may be quite a bit smaller than 100 cubic yards (cy) but should not exceed the maximum volumes listed in the Clean Fill Guidance.

If you will be excavating soil and it may be going off-site to an unrestricted property, then it must be screened at no more than the maximum 100 cy DU volume. If it will be going off-site to a C/I property, then it may be screened at the larger 400 cy volume. In the latter case, it must be documented that the soil was screened at a DU size larger than the maximum approved for unrestricted use, to ensure that it does not then go from the C/I receiving site to an unrestricted site without further screening at the 100 cy maximum. In all cases, DU-MIS methodology must be used in accordance with HEER Office guidance, including at least 30 increments per sample (minimum 50 increments per sample is recommended) and the collection of one set of replicate samples (triplicates) for at least 10% of the DUs, even for soil that will go to the landfill.

Generally, if samples are collected at the 400 cy DU frequency and results do not exceed Tier 1 EALs, that soil may not be considered acceptable for unrestricted re-use based solely on not exceeding the Tier 1 EALs unless additional sampling at 100 cy DU frequency is conducted. In some instances, for example, if a thorough Phase 1 ESA with few or no data gaps was conducted at the site and no potential sources of contamination were identified, sampling a C/I site at 400 cy for unrestricted re-use may be acceptable on a case-by-case basis, but each situation must be discussed with the HEER Office in advance.

Keep in mind also that DUs must first be properly selected. You should not just carve up your site into 100 cy or 400 cy DUs and start sampling. DUs assume that all the soil in that volume is similarly impacted. DUs for potential release areas must be identified based on the predicted area that may have been impacted by a release, and that may be much less than the maximum DU (e.g., the 5' perimeter around a building, which may be only 2,000 sq ft, should be its own DU for evaluating lead, that area cannot be combined with other areas to reach a total volume of 100 or 400 cy). The maximum DU volumes should only be used for evaluating contiguous exposure areas with similar historical use and similar potential contaminant concentrations. Generally, you would first select DUs for potential "release areas" and then use "exposure area" DUs to sample the remaining areas which are not presumed to be contaminated at all, but still require evaluation for some reason, such as off-site re-use plans. Thought must also be given to DU depth layers based on predicted release mechanisms; in most cases, if the release mechanism is to the surface, it would not be appropriate to collect a single DU sample that extends from 0 to 8-feet bgs, even if it does not exceed the maximum default DU volume, because it may dilute the surface contamination with clean (or "cleaner") sub-surface soil. As previously discussed, "exposure area" DUs should generally investigate the surface layer (0 to 6-inches bgs) and subsurface layer (6-inches to 12-inches bgs) initially, and continue to "chase" deeper contamination only as necessary based on the analytical results.

Can I sample at 400 cy if my site is a school?

It depends. Based on the Clean Fill Guidance, if soil will be re-used at a school, then sampling at a maximum DU volume of 400 cy is acceptable; provided DUs have been properly selected as discusses above. When sampling soil at a school, if soil will be re-used within the school, then it may be sampled at the maximum DU volume of 400 cy, but if the soil may be re-used off-site at an unrestricted use property, then the smaller

maximum DU volume of 100 cy is required. The larger volume is allowed for schools based on the anticipation that the exposure areas at the school are much larger than they would be at a residential property (e.g., a baseball field is much larger than a typical backyard). Although the "C/I" volume of 400 cy is acceptable for re-use of soil at a school, due to the sensitivity of receptors at the schools, unrestricted EALs generally still apply; that is, soil with contaminant concentration that exceed Tier 1 EALs but not C/I EALs should not be re-used at a school without additional engineering and institutional controls. You should also discuss the use of larger DUs and appropriate EALs with the school administration, as they may require smaller maximum DU volumes and more stringent EALs to ensure protectiveness of site users.

What authority does HDOH have to require sampling at redevelopment sites where no previous contamination has been identified?

State environmental regulations give HDOH authority to require site characterization at sites that have been impacted by a release of a hazardous substance, contaminant, or pollutant and at sites otherwise regulated by HDOH under specific use permits. If a site does not have an identified release and is not regulated under a specific use permit (e.g., a permit issued for a regulated UST under the SHWB UST Section) then HDOH does not ***require*** sampling to be conducted. For example, if a Phase I ESA identifies a REC at a property, HDOH is not authorized under state law to require the property owner to further investigate that REC. However, if unidentified contamination is present in soil or groundwater that will be disturbed at that property during planned redevelopment activities, then that action may qualify as a reportable release, and failure to report that release may result in fines up to $10,000.00 per day as described in HRS 128D-3. In addition, if contaminated material is improperly transported off-site for reuse, this may constitute illegal dumping and could result in fines up to $10,000.00 per offense and a Class C felony. Even at a property where no redevelopment is planned, if that contamination is present in a location that poses a direct exposure hazard or any other environmental hazard, the owner may be liable for any impacts from those hazards. Therefore, the property owner may wish to identify and characterize all contamination at the site before disturbing it, in order to avoid being unwittingly subject to fines for failure to report a release. If the owner knowingly releases contamination at a property, further fines and other penalties described in HRS 128D-10 may also be imposed; and if contaminated media is exported off-site, then additional regulations against illegal dumping and associated fines and penalties may also apply.

While these regulations do not specifically require a property owner to sample their property for unknown or suspected contamination, failure to identify and adequately characterize that contamination may result in fines and other penalties under these regulations. This is particularly relevant at a property where planned redevelopment may result in significant disturbance of contaminated media that will constitute a release or threat of release with the potential to endanger human health and the environment. Therefore, the HEER Office recommends that all suspect and potential sources of contamination be adequately investigated and characterized in accordance with HDOH guidance documents. Once a release of hazardous substances, contaminants, or pollutants has been identified at a property, the HEER Office is authorized under HRS 128D to conduct or require adequate characterization and further Response Actions in accordance with HAR 11-451.

My property is ranked "Low priority", do I have to do anything?

Yes. You are required to complete the site investigation and Response Action process outlined above, the same as higher priority sites. Site prioritization ranking is used by the HEER Office internally to assign resources and determine whether the Department must take action at a site where the property owner fails to act, utilizing Department funds. Site prioritizations may also change as new information is made available about a property.

When can I use discrete soil sampling?

Discrete soil sampling is not recommended. Discrete soil sample data is not acceptable to the HEER Office for final decision-making. Discrete soil samples may be helpful for preliminary evaluation of a site but can be misleading and result in additional future expenses if data from the samples is misinterpreted.

Only DU-MIS should be used for site characterization. Discrete soil sampling should be avoided whenever possible. Occasionally, it may be acceptable to use discrete soil sampling for preliminary or exploratory investigations to help identify areas for further evaluation or confirm "presence or absence" of COPCs. In most cases, additional follow-up sampling will still be required. It is also important to remember that analytical results from discrete samples cannot be directly compared to EALs, since the data is not representative of a larger volume of soil or area of the site. Any detection above the method detection limit from a discrete sample, even if well below the Tier 1 EAL, should be considered an indication of the "presence" of the COPC and warrant further evaluation and investigation.

If discrete soil samples are collected, then the "single borehole DU" exploratory sampling methodology described in the TGM should be used to collect a representative "MI" sample of the soil core and then that sample should be processed and subsampled in the laboratory the same way as a proper DU-MI sample would be. This at least helps ensure that the data is representative of the entire soil core rather than a single point within that core; however, it is still not considered representative of the larger area or volume.

Can I just "presume" my site is contaminated instead of doing all this sampling?

No. Per HRS 128D and HAR 11-451, the property must be adequately characterized in order to evaluate site hazards and select an appropriate Response Action. "Adequate" site characterization requires proper sampling in accordance with HEER Office guidance as described above. In some cases, where site conditions or other factors limit full site characterization, then it may be acceptable to conservatively "presume" contamination is present in some areas of the property, or across the whole property, in order to allow for the implementation of "interim" site controls to manage exposure to the potential hazard temporarily. In this case, HDOH must approve the interim remedy, and the property owner must acknowledge that full site characterization and needed remediation will be conducted in the future when site conditions allow.

Do I need to submit Solid and Hazardous Waste Branch (SHWB) documents through the HEER Office e-permitting portal?

No. If the site is managed by SHWB (e.g., a regulated landfill or gas station), then documents should be submitted to SHWB, not to the HEER Office. A few sites are managed by both agencies; if that is the case for your property, then copies of the document should be submitted to both the HEER Office and SHWB. The HEER Office e-permitting portal is only for HEER Office submittals and all documents must be submitted through that portal. Documents submitted through the HEER Office portal and addressed to SHWB will not be received by SHWB.

Can I send the HEER Office reports via e-mail?

No. Documents must be sent to the HEER Office through the e-permitting portal. This will ensure documents are properly processed and do not get "lost" in an RPM's email inbox.

Do I have to fill out a Notice of Construction form and submit it to the HEER Office?

Notice of Construction forms are currently only required to be completed for projects that are seeking

National Pollutant Discharge Elimination System (NPDES) permit coverage from the HDOH Clean Water Branch (CWB). You are welcome to submit the Notice of Construction form even if you are not seeking NPDES permit coverage. The notice informs the HEER Office of upcoming construction projects that may require HEER Office oversight so that we can help you ensure you are prepared with all required environmental investigations and work plans.

When do I need a Soil Agreement? Is a Soil Agreement required if the soil is clean?

Soil Agreements are generally required as part of an EHMP or C-EHMP for contaminated soil or soil that was sampled at the "C/I" default maximum DU volume of 400 cy that will be transported off-site for re-use. Soil Agreements are signed between the property owner of the "generating site" and the property owner of the "receiving site" to acknowledge that soil has been characterized but may not qualify as "inert fill material" in accordance with the Clean Fill Guidance. This is generally the case when soil is sampled at 400 cy DU frequency and does not exceed Tier 1 EALs but cannot be confirmed as "inert fill material" because the sampling frequency exceeded one MI sample for 100 cy. In some instances, with approval from the HEER Office and SHWB, soil that exceeds Tier 1 EALs but not C/I EALs may be re-used at an off-site C/I location, provided the site is managed by the HEER Office. In both of these cases, a Soil Agreement is generally required by the EHMP and/or C-EHMP if the soil will be transported off-site for re-use, so a Soil Agreement must be prepared for the activity, signed by both parties, and a copy must be provided to HDOH for our records. Soil Agreements are not required if soil is sampled at the appropriate frequency and determined to be "inert," however, HDOH recommends keeping records of all soil that is imported to or exported from your property, so you may consider using a soil agreement even for "clean" soil.

How do I place a UECA covenant on my property?

Following a Response Action, if contamination remains on the property, then an environmental covenant in accordance with the Uniform Environmental Covenant Act (UECA) [HRS 508C] must be recorded on the property title before receiving a final No Further Action with Institutional Controls (NFA w/ICs) status. It is recommended, but not required, that the covenant be prepared by a qualified attorney. The HEER Office can provide a UECA covenant template on request. The steps of the process are listed below:

- The covenant must describe the environmental hazards remaining at the site and the restrictions and engineering and institutional controls that must be maintained at the site.
- Attached to the covenant must be a description of the property and a copy of the approved Long-Term EHMP.
- After the covenant is prepared, a draft must be submitted to the HEER Office for review.
- On approval from the HEER Office, the covenant must be signed by the property owner and notarized.
- It will then be signed by the Deputy Director of Environmental Health, notarized, and returned to you.
- You must then record the covenant and attachments on the property title at the Bureau of Conveyances and provide a copy of the receipt to the HDOH.
- Once HDOH receives the receipt of recordation, the NFA w/ICs may be issued.

Do I need to use a Qualified Environmental Professional (QEP)?

Yes. The HEER Office recommends contracting a QEP with appropriate experience for all aspects of your environmental investigations and Response Actions. For Response Actions, including soil disturbing activities

conducted under an Interim, Long-Term, or Construction EHMP, the HEER Office will generally require the use of a QEP with at least 5 years of experience in the construction and environmental hazard management field. This will ensure that important oversight is properly conducted during these activities.

Do I need HAZWOPER training?

It depends. Project activities associated with an environmental Response Action, including sampling of soil, groundwater, and soil vapor, and activities that will disturb known or suspected contaminated media, including during activities covered by an Interim, Long-Term, or Construction EHMP will require workers to have Hazardous Waste Operations (HAZWOPER) training in accordance with 29 CFR 1910.120 OSHA regulations. The HEER Office interprets this to include all workers whose project activities will involve handling or direct contact with contaminated media (e.g., a worker digging in the dirt). Those workers must have initial 40-hour HAZWOPER training certification and current annual 8-hour "refresher" certification. Training requirements for other site workers are outlined in 29 CFR 1910.120 (e).

TPH-Oil exceeds the Tier 1 EAL, but I don't see any contamination, can I ignore it?

Yes, provided concentrations do not exceed leaching or direct exposure EALs. As described in the HEER Office Petroleum Guidance, the Tier 1 EAL for Total Petroleum Hydrocarbon (TPH) "residual fuels" is based on potential "nuisance" concentrations, also referred to as "gross contamination." If the Tier 1 EAL is exceeded for TPH residual range organics (RRO), commonly referred to as "TPH-Oil," but there is no observable gross contamination (e.g., staining or "nuisance" odors), then the analytical results should be further screened against leaching and direct exposure EALs. If only the gross contamination EAL is exceeded and no gross contamination is observed by the QEP, then it can be interpreted that there is no hazard from TPH-Oil at the site. This exception only applies to TPH-Oil (RRO) EAL exceedances.

Do I have to add together the TPH results?

Yes (for groundwater). In accordance with the updated (2024) TPH sampling guidance, analytical results, which are generally divided into three separate categories based on the number of carbons in the hydrocarbon chain, usually described as TPH-Gas, TPH-Diesel, and TPH-Oil, or similar, must be added together to calculate the Total TPH concentration in groundwater samples. The total result must then be compared to the EAL for the type of fuel that was released. If the fuel type that was released is unknown, then conservatively the total should be compared to the EAL for TPH-gasoline. This is not required for evaluating TPH concentrations in soil samples.

Do I have to calculate Total PFAS concentrations?

Yes. The updated PFAS guidance requires you to process samples to determine Total Oxidizable Precursors (TOPs) and Total Organic Fluoride (TOF) concentrations. Pre- and Post-TOPs concentrations must be analyzed along with TOF concentrations and these must be used together to calculate "Total PFAS." This data is used to calculate the Total PFAS Risk Hazard Index to evaluate if there is a PFAS hazard at the site. Pre-TOPs PFAS concentrations may also be compared to individual PFAS EALs, but the Total PFAS Risk Hazard Index is used to make a final decision regarding site conditions.

Do I have to analyze for TCLP?

It depends. For some contaminants, if present, the landfills require Toxicity Characteristic Leaching Procedure (TCLP) analysis to evaluate if the material being disposed of is a Hazardous Waste. If you have soil

contaminants such as lead or chlordane and you plan to dispose of the soil at a landfill, TCLP analysis will likely be required when making a waste determination. If this is the case, you may want to instruct the laboratory to re-analyze all samples using TCLP in which the contaminants are detected at a concentration 20 times or greater than the corresponding TCLP limit. This may avoid having to re-sample the soil at a later date for landfill acceptance.

Do I have to analyze for bioaccessible arsenic?

It depends. Arsenic tends to bind strongly to many of the soil types in Hawaii, making it less available to be taken into the body and pose a potential long-term chronic health hazard. If the concentration of arsenic in your soil sample exceeds the Tier 1 EAL of 24 milligrams per kilogram (mg/kg), it is advisable to have the sample re-analyzed for bioaccessible arsenic. The bioaccessible arsenic concentration should then be compared to the Direct Exposure EAL to evaluate if there is an actual hazard. To avoid having to collect samples twice, you may consider asking the laboratory to analyze any samples with total arsenic concentrations above 24 mg/kg for bioaccessible arsenic, as well.

Do I have to do batch testing to evaluate leaching?

It depends. If leaching is a potential concern (e.g., above a drinking water source, near a surface water body, shallow depth to groundwater, etc.) and soil contaminant concentrations indicate a potential leaching hazard (based on exceedance of the Leaching EALs from EAL Lookup Table E-1), then you may want to test for leaching to determine if there really is a potential hazard. Some contaminants, particularly metals and pesticides (e.g., Chlordane), tend to bind strongly to soils in Hawaii (depending on the type of soil). Since the leaching potential for metals is specific to the soil type, there are no pre-calculated leaching EALs for most metals, rather batch testing is recommended. Batch testing for leaching should be conducted using the Synthetic Precipitation Leaching Procedure (SPLP) or a soil column test as described in the EHE guidance.

Batch test results supersede the calculated EALs for leaching, so if your initial test results indicate a potential leaching hazard but batch testing indicates no leaching, then the leaching hazard may be removed from the conceptual site model and the EHE. Note that batch test results are site-specific, so may not apply to other locations with different soil conditions. If leaching is a potential concern, then it is advisable to request the laboratory to hold initial samples for possible SPLP testing, to avoid the need to recollect samples for this purpose in the future. In general, all samples with leaching EAL exceedances should be submitted for SPLP testing. At a minimum, testing should be conducted on samples with the highest concentrations of the target COPC. This approach is based on the rationale that if the samples with the highest COPC levels do not pose a leaching hazard, it can reasonably be assumed that samples with lower concentrations will not pose a leaching hazard either. If there are multiple soil types at your site with EAL exceedances, however, then samples from all soil types with Leaching EAL exceedances must be tested separately.

Are "Grab" groundwater samples acceptable?

No. Groundwater samples collected from so-called "temporary" monitoring wells (usually wells that are installed and sampled on the same day and then removed) that are often used for "Phase II" site investigations, are sometimes referred to as "grab" samples. These types of groundwater wells are not properly developed and are not provided the two weeks necessary to properly equilibrate and are often poorly constructed. Sample data collected from these "grab" samples may help with preliminary evaluations to estimate "presence or absence" of contaminants in groundwater, but as with discrete soil samples, the data may be unreliable and

should not be used for final decision-making or compared directly to EALs for site characterization. In most instances, proper monitoring wells, or micro-wells, as described in the TGM should be installed. Generally, new monitoring wells should be sampled on a quarterly basis for a year or more to allow for the collection of consistent data about a site in order to adequately characterize the groundwater conditions.

Additional Resources

HEER Office website	https://health.hawaii.gov/heer/
TGM	https://health.hawaii.gov/heer/tgm/
Clean fill Guidance	https://health.hawaii.gov/heer/files/2019/11/Clean-Fill-Guidance-HDOH-Oct-2017.pdf
Petroleum Guidance	https://health.hawaii.gov/heer/files/2019/12/LTM-of-Petroleum-Contamination-June-2007.pdf
PFAS guidance	https://health.hawaii.gov/heer/files/2025/04/Hawaii-PFAS-Guidance-April-2024-Rev-022125.pdf
TPH Sampling	https://health.hawaii.gov/heer/files/2024/06/Use-of-TPH-Action-Levels-HIDOH-June-2024.pdf
E-permitting	https://health.hawaii.gov/heer/submit-documents-to-heer/submit-documents/
Release reporting	https://health.hawaii.gov/heer/reporting/how-to-report-a-release-spill/

Hawai'i Department of Health
Hazard Evaluation and Emergency Response Office
2385 Waimano Home Road #100
Pearl City, Hawai'i 96782

Telephone: (808) 586-4249
Website: http://hawaii.gov/doh/heer