

PERMITTEE:
OWNER/OPERATOR:
PVT Land Company Ltd
87-2020 Farrington Highway
Waianae, Hawaii 96792

PERMIT NUMBER:
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DRAFT SOLID WASTE MANAGEMENT PERMIT

This solid waste management permit modification and renewal is issued under the provisions of Chapters 342H, "Solid Waste Pollution" Hawaii Revised Statutes (HRS), and Title 11, Chapter 58.1, "Solid Waste Management Control" Hawaii Administrative Rules (HAR). The above-named permittee is hereby authorized to construct and to operate the Facility (hereinafter "Facility" or "PVT Landfill") shown on the application received November 2, 2015, additional submittals received on April 10, 2016, June 1, 2016, June 26, 2016, August 10, 2016, September 2, 2016, September 28, 2016, November 29, 2016, July 17, 18, 21, 27, 28 and 31, 2017 and other documents on file with the Department of Health.

To Construct and Operate: The PVT Integrated Solid Waste Management (ISWM) Facility. The Facility is comprised of a construction and demolition landfill with asbestos disposal area, recycling and materials recovery operations, and solidification operations.

Also permitted is the construction and operation of a gasification unit. However, due to the uncertainty regarding the gasification unit to be purchased, unit specifications shall be provided prior to installation. PVT intends to operate the gasification unit to generate a synthetic gas from recycled material for use onsite. This process involves taking recycled material consisting of solid wastes properly accepted into the Facility for recycling or disposal (hereinafter "feedstock") and heating that material in a gasification unit. Gasification generates both synthetic gas for power generation and ash (hereinafter "feedstock ash"). Prior to the commencement of any such operation, written approval must be obtained from the Department.

Landfill

The Facility may dispose of construction and demolition (C&D) waste and contaminated, soil in the landfill. The landfill can accept a maximum of 3,000 tons per day of C&D waste, and 500 pounds per week of asbestos contaminated waste. The Facility does not accept municipal solid waste, industrial waste (excluding C&D waste from commercial/industrial generators), regulated hazardous waste, and Toxic Substances Control Act (TSCA) - regulated polychlorinated biphenal (PCB) contaminated materials. The maximum final grade of the landfill is 255 feet above mean sea level.

The C&D landfill is comprised of Phase I, Phase II, and the asbestos disposal area. Phase I received waste prior to October 9, 1993, and consists of 49 acres within the historical landfill area. Soil under this site consists of layers of clay, silt, dense coral, silty-sand, and silty-clayey gravel. Phase I was built under HAR 11-58, Solid Waste Management Control, which was in effect from November 27, 1981 to January 12, 1994.

Phase II consists of 104 acres of lined landfill Cells 1 thru 9. The bottom liner consists of a 60-mil HDPE underlain by geosynthetic clay liner of 5×10^{-9} cm/s permeability, provided it is constructed as described in the *Design Report, Phase II, Cell 1* by A-Mehr, Inc., dated January 2003. Phase II includes a leachate collection system designed to maintain less than a thirty-centimeter leachate depth over the liner, and a minimum 36-inch protective

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layer measured from the top surface of the liner, and includes a one-foot gravel drainage layer to protect the liner system. The protective layer is overlain with a minimum 6-foot select waste layer.

Solidification Operations

The Facility may accept liquid waste for solidification. Since liquid wastes may not be disposed of in landfills, this operation solidifies liquid waste with soil, coal combustion residue ("CCR") and feedstock ash. Liquids may be solidified with CCR and feedstock ash, provided the CCR and feedstock ash is beneficially used at the landfill. Depending on the source of liquid waste and soil, as well as the contaminant concentrations, the resultant solidified waste may also be beneficially reused at the landfill or disposed at PVT Landfill or Waimanalo Gulch Sanitary Landfill.

Material Recovery and Recycling Operations

The Facility may accept and recycle C&D for recycling and material recovery. The Facility may segregate scrap metal for recycling, process inert waste (non-lead based painted concrete, cured asphalt, and other clean aggregate) into inert fill, and process combustible C&D into feedstock. The feedstock shall be transported to a Facility allowed and willing to accept such feedstock, or may be used in a gasification unit (or "gasifier") located in the recycling and materials recovery area. The resulting ash produced by the gasification unit may be beneficially used, but not disposed, at PVT.

Source separated tires, plastics, wood, mattresses, and furniture may also be accepted for recycling and material recovery only. However, since those items are not considered to be C&D waste and cannot be disposed in the C&D landfill, their acceptance is conditional upon the existence of a Facility willing to take the feedstock.

The Facility may recover previously disposed of C&D waste by mining Phase I of the landfill. The mined material shall be sorted for recycling, disposal, or production into feedstock.

The gasification unit will be located adjacent to the materials recovery Facility, and is fueled with feedstock from the materials recovery and recycling Facility. The unit gasifies approximately 8 tons of feedstock per 12-hour batch into a syngas capable of producing 500 kilowatt-hours (kWh) of energy. The process generates approximately 320 pounds of ash per batch. The feedstock ash is approved to be beneficially used in phase II of the landfill.

IN ACCORDANCE WITH: The permit modification/renewal application and approved subsequent submissions. Should there be any discrepancies in the aforementioned documents, HRS 342H, HAR 11-58.1 and the conditions of this permit shall take precedence.

LOCATED AT: 87-2020 Farrington Highway, Waianae, Oahu, Hawaii.
TMK Nos. 8-7-021:026, 8-7-009:025

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SUBJECT TO: HRS 342H; HAR 11-58.1; and Part I - Standard Conditions and Part II - Special Conditions of this permit.

Acceptance of this permit constitutes an acknowledgement and agreement that the holder will comply with all rules, regulations, and orders of the Department and the conditions precedent to the granting of this permit.

This permit supersedes the Solid Waste Management Permit Number LF-0152-09 issued May 5, 2011 in its entirety.

DIRECTOR OF HEALTH
State of Hawaii

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The Solid Waste Management Facility is subject to HRS Chapter 342H, *Solid Waste Pollution*, HRS Chapter 342I, *Special Wastes Recycling*, and HAR Chapter 11-58.1, *Solid Waste Management Control*, and the following conditions:

PART I - STANDARD CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable, pursuant to the authority of HRS §342H. The Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants, representatives, contractors, or subcontractors. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall not be affected and shall remain valid.
2. This permit:
 - a. shall not in any manner affect the title of the premises upon which the Facility is or will be located;
 - b. does not release the permittee from any liability for any loss due to personal injury or property damage caused by, resulting from, or arising out of the design, installation, construction, operation, maintenance, closure, or post-closure of the Facility;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the State of Hawaii or with applicable federal or local laws, regulations, or ordinances;
 - d. in no way implies or suggests that the State of Hawaii, or its officers, agents, or employees assumes any liability, directly or indirectly, for any losses due to personal injury or property damage caused by, resulting from, or arising out of the design, construction, operation or maintenance of the Facility; and
 - e. shall not constitute nor be construed to be an approval of the design, construction, operation, maintenance, closure and post-closure of the Facility beyond the regulatory requirements mandated by HRS §342H and HAR §11-58.1.
3. Issuance of this permit does not preclude the responsibility of the permittee to obtain any and all necessary approvals and permits from the appropriate federal, state, and local agencies, including zoning clearances, prior to the start of operations. If there are any discrepancies between these permit conditions and other federal, state, or local laws, regulations, ordinances, or requirements, the permittee shall notify the Department in writing.
4. Unless the submitted documents and other information secured by the Department from the permittee contain confidential information, such as secret processes or methods of manufacture, they shall be made available for inspection by the public

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(HRS §342H-14). The permittee shall be responsible for identifying, in writing, the specific information asserted to be confidential. The Department shall review the assertion made by the permittee and determine if confidentiality is indeed warranted.

5. This permit is valid only for the specific processes and operations applied for and indicated in the submitted application and additional submissions approved by the Department. Any unauthorized deviation that affects the Facility's design, operations or procedures, or which could threaten human health and the environment, from the submitted application, approved drawings, operations manual, and additional submissions or conditions of this permit may constitute grounds for modification, suspension, or revocation of this permit, and/or enforcement action by the Department. Should there be any discrepancies between the submitted documents and the permit conditions, the permit conditions shall take precedence. A copy of the submitted application and additional submissions shall be maintained at the Facility.
6. This permit is non-transferable whether by operation of law or otherwise, either from one location to another, from one solid waste disposal operation to another, or from one person to another without the written approval of the director [HAR §11-58.1-04(e)(2)].
7. This permit shall be kept at or near the construction and operation site for which the permit is issued and shall be available upon request [HAR §11-58.1-04(f)]. A request for a duplicate permit shall be made in writing to the director within ten (10) days after the destruction, loss, or defacement of this permit. A fee of \$50 shall be charged and submitted with the request [HAR §11-58.1-04(h)(3)].
8. The permittee shall at all times properly operate and maintain the Facility and systems of treatment, process, and control (and related appurtenances), as applicable to the Facility, that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. The Facility shall be designed, constructed, and equipped in accordance with best practicable technology so as to operate without causing a violation of applicable rules and regulations.
9. Incident Notification Requirements. The permittee shall notify the Department, in writing, facsimile or electronic mail (email), whenever there are incidents such as fire, explosion, or release of regulated material/waste, which could threaten human health or the environment (i.e., air, soil, or surface and subsurface waters). Initial notification may be by phone (586-4226 during regular hours or such numbers as the Department may provide), fax (586-7509) or email and reported within eight (8) hours, whenever possible, and no more than twenty-four (24) hours. The notification report shall be completed and submitted by a responsible official within seven (7) calendar days and shall include:

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- a. name, address, and telephone number of the owner and operator;
- b. name, address, and telephone number of the Facility at which the incident occurred;
- c. date, time, and type of incident (i.e., fire, explosion, release, etc.);
- d. name and quantity of material(s) involved;
- e. the extent of injuries, if any;
- f. an assessment of actual or potential hazards to human health or the environment, where this is applicable;
- g. estimated quantity and disposition of recovered and unrecovered material that resulted from the incident;
- h. evaluation of the circumstances that led to the incident;
- i. steps being taken to reduce, eliminate, and prevent recurrence, including an implementation schedule; and
- j. other information or monitoring of the incident as required by the Department

Notification requirements for releases only apply to releases of a quantity equal or exceeding the reportable quantity (RQ) listed in HAR §11-451.

10. Noncompliance Notification Requirements. If, for any reason, the permittee does not comply with, or will be unable to comply with, any condition or limitation specified in the permit, the permittee shall notify the Department orally within twenty-four (24) hours followed by a written report within seven (7) calendar days of the verbal notification. The written report shall be completed and submitted by a responsible official and contain the following information:
 - a. description and cause of noncompliance;
 - b. period of noncompliance, including exact dates and times; and, if not corrected, the anticipated duration that the noncompliance is expected to continue;
 - c. steps that will be taken to correct the area of noncompliance;
 - d. steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance, including an implementation schedule; and
 - e. other information as required by the Department.

The permittee may be subject to enforcement action by the Department, penalties, or revocation of this permit.

The use of an electronic facsimile device (FAX) or email for notifications is acceptable. Any data transmission or detailed explanations transmitted shall be accompanied by regular mail submittals. Failure to notify in accordance with this requirement may initiate enforcement action.

11. Monitoring and Recordkeeping Requirements. The permittee shall comply with the following monitoring and recordkeeping requirements:

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- a. Upon request, the permittee shall furnish all records (e.g., transaction reports, disposal receipts, sampling, and testing results) and plans required by the Department. The retention period for all records shall be a minimum of five (5) years unless otherwise specified in Standard Conditions, Item 11.c; however, there shall be an indefinite retention period for all records associated with any unresolved enforcement action as determined by the Department.
 - b. The permittee(s) shall retain at the Facility or other location designated by this permit, records of all monitoring information (including all calibration and maintenance records and all original recordings of monitoring instrumentation) required by this permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. The retention period shall be a period of five (5) years.
 - c. The permittee(s) shall retain construction reports, information regarding the content within the landfill, and leachate/groundwater monitoring reports for the life of the Facility, through closure and post-closure periods.
12. Should the permittee decide to modify the permit or continue operation of the solid waste Facility beyond the expiration date of the permit, the permittee shall submit a complete permit modification or renewal application at least one hundred eighty (180) days (one year for municipal solid waste landfills) prior to the modification or the date of permit expiration. Any submission for permit modification does not affect these permit conditions until such modification becomes final in accordance with HAR §11-58.1-04, or as approved by the Department.
13. The director may, in accordance with HRS §342H-6, enter and inspect the Facility for the purpose of
- a. investigating an actual or suspected source of solid waste or other pollution;
 - b. ascertaining compliance or noncompliance with any rule, regulation, permit condition, or standard promulgated by the Department; and
 - c. conducting tests in connection therewith (including collecting soil, water, air, ash, and any other material or samples).
- The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises. The permittee may conduct testing (including collecting soil, water, air, ash, and any other material or samples) simultaneously.
14. The Department may require the permittee to provide such facilities as are necessary for sampling and testing to determine the degree of pollution from the solid waste Facility in accordance with HAR 11-58.1-04(c)(6)(B).
15. When requested by the Department, the permittee shall within a reasonable time, as

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specified by the Department, furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly. Upon the written request of the permittee, the deadline for submission of information may be extended, if the Department determines that reasonable justification exists for the extension.

16. If the Department determines that the permittee has violated or is violating any provision of HRS §342H, HAR §11-58.1, or these permit conditions, the Department may pursue enforcement action in accordance with HRS §342H-7, *Enforcement*; §342H-9, *Penalties*; §342H-10, *Administrative Penalties*; §342H-11, *Injunctive and other relief*, or any other pertinent rules.
17. The Department may, on its own motion, modify, suspend, or revoke a permit if, after affording the applicant a hearing in accordance with HRS 91, the Department determines that any permit condition, rule, or provision of HRS §342H has been violated or that such is in the public interest [HAR §11-58.1-04(d)].
18. If the governor or the director determines that an imminent peril to the public health and safety is, or will be, caused by the disposal of solid waste or any combination of discharges of other waste that requires immediate action, the governor or the director, without a public hearing, may order the permittee to immediately reduce or stop the disposal, discharge, or process, and may take any and all other actions as may be necessary (HRS §342H-8).

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PART II - SPECIAL CONDITIONS

Section A: General Facility Conditions

1. The permittee shall construct and operate the Facility in accordance with HRS 342H; HRS 342I; HAR §11-58.1; the application received November 2, 2015, additional submittals received on April 10, 2016, June 1, 2016, June 26, 2016, August 10, 2016, September 2, 2016, September 28, 2016, November 29, 2016, July 17, 18, 21, 27, 28 and 31, 2017, approved subsequent submissions; and the conditions of this permit. Should there be any discrepancies among the aforementioned documents, HRS, HAR and permit conditions shall take precedence.
2. The permittee may accept waste at the Facility during the normal operating hours of 7:00 am to 3:30 pm, Monday through Friday, and 7:00 am to 1:00 pm on Saturday, or as otherwise submitted to the Department. Asbestos waste may be accepted on Tuesdays and Thursdays from 7:00 am to 3:00 pm, or as otherwise submitted to the Department. In the event that the Facility proposes any waste acceptance and disposal outside normal operating hours, the permittee shall notify the Department, in writing, of this event. The notification shall be provided at least twenty-four (24) hours in advance of the event. If the event is unanticipated, the permittee shall provide verbal notice of the event within four (4) hours and written notification within eight (8) hours of commencement of the event. An electronic submission of the notification is acceptable. The written notification shall specify the dates and times affected, the nature and reason for the extended operations, identification of any considerations associated with the extended operations, and controls/procedures that will be implemented to mitigate any adverse impacts of the extended operations.
3. Signage and notification to invitees and guests.
 - a. A permanent sign shall be posted at the Facility entrance identifying the Facility, the hours and days of operation, and the name and address of the operator, a telephone number, and other pertinent information.
 - b. The permittee shall provide adequate signage at the entrance/exit of the Facility notifying any person or vehicle operator who accepts feedstock material from the permittee to utilize adequate cover for loads of feedstock leaving the materials recovery area for the purpose of transporting that material off-site. The permittee shall not, however, be held responsible under this permit for the failure of any person or vehicle operator to maintain adequate cover for feedstock once that load of feedstock has been taken off-site unless that person or vehicle operator is an employee of the permittee or acting under the permittee's direction.
 - c. The permittee shall provide instructions on appropriate documents and forms to drivers/operators of non-household vehicles to cover their loads.

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4. Access to the Facility.

- a. An all-weather access road shall be maintained into and out of the Facility site, through the entrance Facility and to and from the working area of the landfill, recycling and materials recovery operations, and solidification area. Access lanes shall be provided and maintained for fire response, vector control, or dust suppression.
- b. The permittee is responsible for providing measures to control public access. The permittee shall provide and maintain controlled access to the Facility in the form of fences and gates along the site perimeter where natural barriers do not provide a means of controlling access. When natural barriers no longer control access effectively, fences and gates shall be provided to meet the requirements of controlled access. All gates shall be kept locked when an attendant is not on duty.
- c. Scavenging at the Facility by the general public shall be strictly prohibited.

5. The Facility shall have an Environmental Officer, who shall be knowledgeable of state solid waste laws, regulations, these permit conditions, and the permit application components, including the Operations Plan dated July 2017 ("Operations Plan"), and approved subsequent submissions.

6. Emergency procedures.

- a. The permittee shall implement the Emergency Procedures and Emergency Fire Plan for the recycling and materials recovery area and the C&D solid waste landfill as provided in the Operations Plan, and approved subsequent submissions.
- b. The permittee shall submit the post-earthquake Engineer's report, as described in Section 5.4.3 of the Operations Plan, to the Department within thirty (30) days of completion of the report.

7. Prohibited wastes.

- a. No regulated hazardous waste, in accordance with state hazardous waste laws and regulations, or substances regulated by the Toxics Substance Control Act (TSCA), shall be accepted at this Facility.
- b. No radioactive materials licensed by the U.S. Nuclear Regulatory Commission, or chapter 11-45, HAR, or any radioactive material above background level, shall be accepted at this Facility.
- c. No polychlorinated biphenyls (PCB) wastes as defined in 40 CFR part 761 shall be accepted at this Facility.
- d. No infectious waste, in accordance with chapter 11-104.1, HAR, shall be accepted at this Facility.
- e. Should unacceptable waste be identified at the Facility, the permittee shall separate the waste, manage, transport, and recycle/dispose of it in accordance

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with the Operations Plan, approved subsequent submissions, and applicable laws and rules. Unacceptable waste identified at the landfill shall not be disposed of at the landfill. Unacceptable waste shall be transported from the Facility as soon as practicable and prior to becoming a health and safety risk.

8. Nuisance and vector control.

- a. Suitable methods and procedures shall be used at the Facility to reduce and control the generation and release of litter, odors, vector, or other nuisances. The Facility shall maintain a neat and orderly appearance and shall be screened and buffered to minimize nuisances to neighboring properties in accordance with the scope of §11-58.1-19, HAR.
- b. The permittee shall minimize the generation of dust onsite. Dust control measures shall include, but are not limited to, applying water sprays or other methods as described in the Operations Plan. If measures do not adequately minimize the generation of dust, the permittee shall apply additional dust control measures, such as dust screens, shrouds, covers, or other means, or implement operational changes or restrictions as necessary.
- c. The permittee shall maintain a phone number to receive calls from the neighboring community.

9. The permittee shall implement the Operations Plan, and approved subsequent submissions. If the Department does not respond to the proposed plan revisions within thirty (30) days of plan submission, the request is considered to be approved. The Department may require revisions to the Operations Plan pursuant to law.

10. The permittee may conduct the following activities subject to the following restrictions on the total amount of surface area open and uncovered at any one time, unless otherwise approved by the Department:

- a. Use of no greater than one (1) acre of open and uncovered surface area in Phase I for waste disposal and the mining and reclamation of material as described in Special Condition C.9.
- b. Use of no greater than one (1) acre of open and uncovered surface area in Phase II for waste disposal and partially processed feedstock storage activities and an additional one-half (1/2) acre of open and uncovered surface area in Phase II for the recovery of partially processed feedstock as described in Special Conditions C.9 and C.10.

11. Surface water management.

- a. The permittee shall construct and maintain the stormwater containment structures, in accordance with the PVT Land Company LTD., Design Report, Phase II, Cell 1 by A-Mehr, Inc., dated January 2003, which incorporates stormwater controls for both Phase I and Phase II. Stormwater containment

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- structures shall be designed for a minimum 25-year, 24-hour storm. Stormwater shall be managed in accordance with the NPDES permit.
- b. The permittee shall comply with the Operations Plan and approved subsequent submissions for stormwater management and erosion control.
 - c. The permittee shall manage leachate to prevent any entry into the stormwater collection system.
 - d. Adequate drainage to prevent standing water and to control “run-on” and “run-off” of rainwater shall be provided for the recycling and materials recovery area. Any stormwater discharges from the Facility shall be in accordance with applicable federal, state, and local laws and regulations.

12. Financial assurance.

- a. The permittee shall comply with the financial assurance requirements in §11-58.1-18, HAR (per §11-58.1-19(g), HAR) for closure of the C&D landfill, post-closure care, and corrective action, if required.
- b. The permittee shall maintain a copy of the detailed written estimates and documentation of financial assurance for Department review.
- c. The permittee shall provide affirmation of financial assurance and make adjustment for inflation on an annual basis.

Section B: Construction and Demolition Landfill
Subsection 1: Landfill Design and Construction

1. The landfill site plan shall remain consistent with Figures 2 and 2A of the Operations Plan and approved subsequent submissions. The permitted C&D landfill includes approximately 49 acres for Phase I, 104 acres for Phase II, and 12.8 acres for asbestos disposal.
2. The dimensions of the landfill shall be limited by those designated for landfill use under the Conditional Use Permit (CUP) - Major No. 2015/CUP-69, and any subsequent amendments or permits, issued by the City and County of Honolulu, Department of Planning and Permitting. The landfill, including final cover shall be limited to a height of approximately 255 feet above mean sea level, or as approved by the City and County of Honolulu, Department of Planning and Permitting.
3. No construction of additional disposal cells or modification of the lateral or vertical extent of disposal cells beyond the limits referenced in Special Conditions B.1.1 and B.1.2 shall occur without written approval by the Department. Any modification requests shall be submitted in accordance with Standard Condition 12, at least one hundred eighty (180) days prior to commencement of the proposed construction or modification. The construction and design plans shall be prepared and certified by a professional engineer, with at least five (5) years experience in designing landfills, and registered in the State of Hawaii.

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4. A buffer area consisting of that space 750 linear feet along the makai property line, in which there shall be no disposal, shall be maintained at all times. Provisions for dust, litter, and nuisance controls shall include the installation and maintenance of a dust screen and green belt along the makai boundary.
5. The permittee shall maintain the integrity of the liner system and leachate collection and control system as designed and constructed, or implement equivalent or better alternative environmental controls, as approved by the Department.
6. The permittee shall construct and maintain all cells in accordance with the Operations Plan and *Design Report, Phase II, Cell 1* by A-Mehr, Inc., dated January 2003, except the base grades and refuse limits shall be in accordance with Figures 4 and 5 of the *Closure and Post-Closure Plan* by A-Mehr, Inc., dated June 2017. The permittee shall submit *Contract Documents and Construction Quality Assurance Plans* at least thirty (30) days prior to the anticipated date of construction.
7. A leachate collection system and manhole, designed to maintain less than a thirty-centimeter depth of leachate over the liner, shall be installed and maintained in the Phase II area in accordance with the *Design Report, Phase II, Cell 1* by A-Mehr, Inc., dated January 2003 and *Report of Construction Quality Assurance (CQA) for Phase II, Cell 1*, dated September 2004.
8. The permittee shall submit proposed changes affecting the design or structural integrity of the installed liner system or leachate collection system in writing, at least thirty (30) days prior to commencement of the proposed change. At a minimum, the written proposal shall include:
 - a. Identification of affected cells;
 - b. Reason for the proposed change;
 - c. Engineering design;
 - d. Implementation schedule; and
 - e. Other pertinent information.

The Department may also require additional information. If the proposed change is to install an alternative liner system or leachate collection and control systems, a modification application shall be submitted pursuant to Standard Condition 12.

9. The installation or repair of any geosynthetic liner shall be performed by an experienced installer who has installed a minimum of 500,000 square feet of similar type liners or shall be performed under the supervision of the manufacturer. An experienced quality assurance/quality control (QA/QC) landfill inspector with at least five (5) years of experience in landfill construction quality assurance (CQA) responsible to a professional engineer shall observe liner installation and grade

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- elevations. The permittee shall notify the Department, in writing, five (5) days prior to any liner installation work.
10. The permittee is responsible for obtaining the services of a registered land surveyor or an approved alternate method to provide a minimum second order of accuracy on: triangulation, traverse, leveling and baseline measurements of the base grade as shown on the approved drawings. The liner contractor and installer shall certify the base grade in writing. This written certification shall be included in the CQA report described in Special Condition B.1.11.
 11. The permittee shall retain a professional engineer registered in the State of Hawaii for the supervision of the construction or repair of any landfill liner or leachate collection system and upon the completion, the engineer shall submit a CQA report to the Department as to the complete conformity of the construction to the plans and specifications as approved. The CQA Report shall:
 - a. Be submitted to the Department prior to placement of select waste in the cell.
 - b. Be prepared by a professional engineer with at least five (5) years experience in designing landfills, and registered in the State of Hawaii
 - c. At a minimum, include the same content as the *Report of Construction Quality Assurance for PVT Landfill, Phase II, Cell 5*, prepared by A-Mehr, Inc., dated August 2009.
 - d. Include written certification by the professional engineer that the liner system, leachate collection system, and any other associated items were installed in accordance with the approved documents.
 12. The permittee shall afford the opportunity for an inspection of each new cell or sector by the Department prior to select waste placement, with the presence of the CQA engineer and on-site Facility operator.
 13. Upon Department request, the permittee shall utilize their GPS system to determine the boundaries and elevations of waste disposal at the site, and to demonstrate compliance with permitted grades and boundaries.

Subsection 2: Waste Acceptance

1. The permittee is authorized to accept C&D wastes, as defined in HAR 11-58.1-03 and HAR 11-58.1-19, and contaminated soil, in accordance with the Operations Plan, approved subsequent submissions, and the conditions of this permit
2. The permittee shall implement the Unacceptable Waste Exclusion Program, as provided in Appendix E of the Operations Plan, and approved subsequent submissions.

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3. Asbestos. The permittee is authorized to accept asbestos waste for disposal, in accordance with the Operations Plan, approved subsequent submissions, and the following:
- a. The approved limits of the asbestos landfill is defined by the survey reference in Special Conditions B.1.1 and B.1.2.
 - b. The asbestos landfill may accept a maximum of 500-tons per week of asbestos-containing waste for final disposal.
 - c. Other types of special waste may be disposed of at the asbestos landfill site, provided the waste type is specified in the Operations Plan and approved by the Department.
 - d. Asbestos waste shall not be compacted or otherwise disturbed by equipment after it is unloaded.
 - e. Cover material shall be placed over asbestos-containing waste on a daily basis. Cover shall consist of 6 inches of earthen materials with contaminant levels below DOH EALs for unrestricted use. Care shall be taken not to damage the double wrapped film while placing cover material.
 - f. The disposal of asbestos waste and associated recordkeeping shall be in accordance with 40 CFR Part 61, Subpart M, National Emissions Standards for Asbestos, and other applicable rules and regulations.
 - g. The asbestos landfill disposal work area shall be clearly delineated by the use of signs and flags.
 - h. The permittee shall document the quantity, type, and location of asbestos and other solid wastes disposed of in the asbestos landfill.
 - i. The permittee shall comply with the Operations Plan and approved subsequent submissions for asbestos material spills and mismanaged asbestos deliveries. Records of such events shall be maintained.
4. Coal Combustion Residue (CCR) and feedstock ash. The permittee is authorized to utilize feedstock ash generated at the Facility for beneficial use at the Facility and to accept, exclusively for beneficial use at the Facility, CCR from off-site and feedstock ash from off-site generators (where the ash is generated from the gasification of PVT feedstock), in accordance with the Operations Plan, approved subsequent submissions, and Special Condition B.3.9. Under no circumstances shall either CCR or feedstock ash be accepted for disposal.
- a. CCR from off-site and feedstock ash from the material recovery and recycling area and off-site generators must meet the following limits prior to acceptance into, or beneficial use, at the Facility:

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i. For feedstock ash:

Constituent	Limit (mg/kg)
Arsenic	144
Barium	8151
Cadmium	99
Total Chromium	1145
Lead	400
Mercury, divalent	69
Selenium	1165
Silver	1168

ii. For CCR

Constituent	Limit (mg/kg)
Antimony	11
Arsenic	75
Barium	4300
Beryllium	150
Boron	12,000
Cadmium	37
Chromium VI ^a	58
Copper	3100
Iron	n/a
Lead	400
Mercury, Divalent	13
Molybdenum	390
Nickel	870
Selenium	390
Silver	390
Thallium	5.2
Zinc	23,000
^a Chromium VI:III ratio of 6:1 assumed	

b. The permittee shall implement the screening procedures provided in the Operations Plan and approved subsequent submissions. A copy of the feedstock ash profile sheet shall be kept on file at the Facility and made available to the Department upon request. For onsite generated feedstock ash, the permittee may utilize the sampling plan referenced under condition B.2.4.c and test the representative multi-increment samples collected for the analytes listed in B.2.4.a. The Department may require the permittee to obtain

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additional sampling and analysis of any CCR or feedstock ash before its acceptance for good cause shown.

- c. The permittee shall make a hazardous waste determination per 40 C.F.R. §262.11, as incorporated by §11-262.1-1, HAR, of the feedstock ash that is generated onsite. In order to develop generator knowledge of the feedstock ash generated onsite, the permittee shall develop and implement a sampling and analysis plan ("SAAP") which, at a minimum, adheres to the following provisions:
- i. Prior to beneficial use or disposal, feedstock ash shall be sampled and analyzed in order to make a hazardous waste determination.
 - ii. Sampling shall be conducted using a multi-incremental sampling methodology to obtain representative ash samples.
 - iii. Samples shall be analyzed for, the constituents in the table below in accordance with the United States Environmental Protection Agency's SW-846 Test Method 1311: Toxicity Characteristic Leaching Procedure ("TCLP method").
 - iv. The Department shall be notified no fewer than seven (7) days prior to any sampling event and shall be given the opportunity to observe the collection of samples and obtain its own samples.
 - v. Samples shall be taken and analyzed in accordance with the SAAP at least quarterly over the first two (2) years from the date at which gasification commences or until at least eight (8) separate samples have been collected and analyzed. If after two years, or eight (8) samples have been collected and analyzed, whichever comes first:
 - None of the sampling results for any of the feedstock ash exceeded the hazardous waste regulatory limits in the following table, and provided that the source of feedstock remains consistent (e.g., no new addition of different materials types, such as tires, mattresses, or furniture), the permittee may move to a single annual sample and analysis.
 - There have been one (1) or more results which exceed the hazardous waste regulatory limits in the table below, thereby indicating that the feedstock ash is hazardous waste, the permittee shall continue to sample and analyze the feedstock ash at least quarterly and manage it accordingly.
 - vi. All feedstock ash determined via the TCLP method or otherwise known to be hazardous waste shall be managed as hazardous waste and shall not be disposed of or beneficially used at the Facility.

Contaminants of Concern in the Feedstock Ash

Constituent	TCLP Limit (mg/l)
Arsenic	5.0
Barium	100.0
Cadmium	1.0
Chromium	5.0

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Constituent	TCLP Limit (mg/l)
Mercury	0.2
Selenium	1.0
Silver	5.0

5. Contaminated soil

- a. The permittee shall implement the Contaminated Soil Acceptance Program, as provided in the Operations Plan and approved subsequent submissions. Disposal shall be in accordance with Special Condition B.2.5.b and B.3.10. A copy of the soil profile sheet and the following information shall be kept on file at the Facility and made available to the Department upon request.
 - i. Acceptance date(s);
 - ii. Quantity and description of the contaminated soil; and
 - iii. Any special management and handling procedures
- b. Soil with contaminant concentrations that meet the following criteria, or other criteria approved by the Department, may be accepted into the Facility and used for void space fill within the landfill working face and interim cover.
 - i. TPH gasoline below 2,400 ppm,
 - ii. TPH, middle distillates below 500 ppm,
 - iii. TPH residual fuels below 5,000 ppm,
 - iv. TEQ dioxins below 1,500 ng/kg and cumulative risk less than 10^{-4} ,
 - v. Technical chlordane below 77 ppm and passes TCLP, and
 - vi. Other contaminant levels below DOH EALs for commercial/industrial use.
- c. All soil not certified as meeting residential EALs by the generator, shall be tested prior to acceptance at the Facility. Testing may be performed by the generator and shall be based on the origin and contaminants anticipated in the soil.
- d. Incoming soil shall be tested for the following contaminants, or as determined by conditions at the site of generation: arsenic, cadmium, chromium, lead, total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), halogenated volatile organic compounds, and polychlorinated Biphenyls (PCBs), and technical chlordane.
- e. Records of testing results, origin, and quantity of associated soil shall be maintained by permittee for review by the Department upon request.

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Subsection 3: Landfill Operations

1. The permittee shall provide adequate equipment and personnel to operate the landfill Facility, including provisions for back-up personnel and equipment. The equipment and personnel requirements shall be met at the active workforce as set forth in the Operations Plan, or approved subsequent submissions.
2. The nominal operating rate of the landfill 1,200 tons per day. The disposal rate shall not exceed 3,000 tons per day, except as may be designated during a state-declared emergency.
3. Climatic Information. Climate information shall be collected on a daily basis and shall include rainfall, solar radiation, wind speed and direction, humidity, temperature, and other meteorological data, as applicable, for use in annual modeling of evapotranspiration and leachate generation with the HELP Model at the landfill. The permittee shall minimize any weather equipment downtimes. Data shall be provided to the Department upon request.
4. Program for Regular Training. The permittee shall provide training to landfill operators annually, or more frequently, as needed, to ensure that the operators are familiar with the Operations Plan, approved subsequent submissions, and these permit conditions. Training presentations shall be performed in accordance with the Operations Plan and approved subsequent submissions.
5. Mud and Dust Prevention Program. The permittee shall provide adequate measures for minimizing the tracking of mud onto public roads, and the generation of dust on site.
 - a. The mud tracking prevention measures shall include the installation and maintenance of wet weather pads and access routes constructed of material (such as cold plane material or asphalt/concrete rubble) that will minimize the exposure of vehicles to excessive muddy conditions. The permittee shall maintain the drive-through tire wash on the exit lane of the Facility.
 - b. A paved wet weather deck within the limits of the paved recycling/materials recovery area shall be present to allow for safe and temporary disposal of C&D during wet weather or muddy conditions
 - c. Recycled aggregate, asphalt and/or concrete used outside the limits of the waste footprint or used to control or direct stormwater shall be uncontaminated and meet the definition of inert fill in §342H-1, HRS.
 - d. No asbestos waste or contaminated soil slated for disposal shall be placed on the wet weather deck.
 - e. The permittee shall cease acceptance and disposal of waste in high wind conditions in accordance with the Operations Plan, and as determined by the

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foreman and Site Manager. The permittee shall maintain a log of such events, including the date, time of shutdown, and associated wind speed.

6. Odor Control. The permittee shall prevent or control odors from the Facility. If odor control measures are not adequate, the permittee shall implement additional odor controls measures. The permittee shall maintain records of odor complaints in accordance with the Operations Plan and approved subsequent submissions.
7. Disease Vector Control. The permittee shall minimize or control on-site populations of disease vectors, including but not limited to rodents and flies. The permittee shall comply with, and maintain records in accordance with the Operations Plan and approved subsequent submissions. If vector control measures are not adequate, the permittee shall implement additional vector controls measures.
8. Fire Control.
 - a. The permittee shall take measures to minimize surface and subsurface fires. Such measures shall include fire barriers. A fire barrier shall be maintained between Phases I and II. The barrier shall be of sufficient thickness to minimize the movement of fire conditions from one phase to the other.
 - b. Fire barriers shall be installed and maintained to minimize the movement of fire conditions within the landfill.
 - i. Vertical barriers or sectoring of the waste cells may be provided to minimize fire movement between cells in the Phase II area.
 - ii. Fire barriers shall be comprised of soil or approved alternate material.
 - iii. Fire barriers may be two (2) to five (5) feet thick, in accordance with the Operations Plan, and approved subsequent submissions.
 - iv. The fire barrier shall consist of a soil or alternate material of appropriate physical and chemical properties.
 - c. In the event of a subsurface fire, the permittee shall implement the Gas Monitoring Procedures in the Emergency Fire Plan, dated June 2016, and approved subsequent submissions. The permittee shall also include H₂S in the gas monitoring events
9. Beneficial use of CCR and feedstock ash
 - a. CCR and feedstock ash may be used in accordance with the Operations Plan, and approved subsequent submissions, for the following beneficial use purposes:
 - i. Solidification of liquid wastes;
 - ii. Void space filling for fire prevention;
 - iii. Creation and maintenance of a fire barrier in accordance with the Operations Plan and approved subsequent submissions;
 - iv. Creation of an operations layer consistent with a design for construction approved by the Department; and

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- v. Other beneficial uses as approved in writing by the Department.
 - b. The total volume of CCR and feedstock ash shall not exceed 20% of the total volume of waste disposed of in the properly lined area of the Facility on an annual basis, when the CCR and feedstock ash is used as void space filling and fire barriers.
 - c. CCR and feedstock ash may only be beneficially used in a properly lined area of the Facility as approved by the Department and shall not be used in areas where feedstock intended for recovery is placed.
 - d. The total area of exposed CCR, (excluding the amount used for an operations layer and temporarily stockpiled) and exposed Feedstock ash shall not exceed 0.5 acres.
 - e. CCR may be temporarily stockpiled at the Facility, but shall be beneficially used within sixty (60) days from the date the CCR was first accepted into the Facility.
 - f. Feedstock ash may be temporarily stockpiled at the Facility, but shall be beneficially used within seven (7) days of either its removal from any closed container onsite or its acceptance into the Facility from offsite.
 - g. CCR and feedstock ash, as well as solidified waste, shall be properly managed so as to prevent the discharge of CCR, feedstock ash, or associated leachate into the storm water system.
 - h. The permittee shall not commence the use of CCR and feedstock ash for any other purpose, without first receiving written approval from the Department. The Department may request information as necessary to make such a determination. If such uses are considered acceptable, the Department will issue written approval for other specific uses.
10. Contaminated wastes. The following controls shall apply to the disposal of contaminated C&D waste, including, but not limited to, contaminated soil with contaminant concentrations exceeding levels in Special Condition B.2.5.b for disposal.
- a. The permittee shall ensure that contaminated waste are disposed directly into the active workforce, and excess amounts of contaminated waste are not remaining in the truck and transported from the site.
 - b. The permittee shall only allow the disposal of contaminated waste when the wind speed is below 30 mph.
 - c. The permittee shall implement dust control measures, such as water sprays and barriers, to adequately control dust during placement and covering of contaminated waste.
 - d. By the end of the working day, the contaminated C&D waste and contaminated soil shall be covered with C&D waste and/or interim cover.
 - e. GPS coordinates shall be provided for such materials.
11. Landfill cover.

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- a. The permittee shall place at least six (6) inches of earthen material (interim cover) on the active workface whenever the surface area of the working face is approximately one acre in size, or once a week, whichever comes first. The earthen material shall control disease vectors, fires, odors, blowing litter, nuisance conditions, and scavenging. The active workface shall be covered with interim cover on any non-workday.
- b. Intermediate cover shall be a minimum of 12 inches of earthen material (may include 6 inches of interim cover), with contaminant levels below DOH EALs for unrestricted use in Appendix 1, Table I-1 of *Screening for Environmental Hazards at Site with Contaminated Soil and Groundwater* (Table I-1). Intermediate cover shall be maintained to minimize erosion and cracking, and shall be a material that minimizes stormwater contact with covered waste and directs stormwater to collection systems. Intermediate cover shall also control disease vectors, fires, odors, blowing litter, nuisance conditions, and scavenging.
- c. The permittee shall cover all inactive waste areas with intermediate cover. Inactive waste areas are areas that are not part of the one-acre maximum, active work area.

12. Solidification.

- a. Operations at the solidification area shall be in accordance with the permit application and Operations Plan and approved subsequent submissions, unless otherwise specified in the permit conditions.
- b. The permittee may utilize contaminated soil, CCR and Feedstock ash for solidification.
- c. Soil not meeting the requirements of Special Condition B.2.5.b shall not be used for solidification.
- d. The permittee may utilize liquid wastes containing only known sources of petroleum products for solidification, hereinafter referred to as "petroleum-based liquids" as follows:
 - i. All incoming petroleum-based liquids shall be tested prior to acceptance at the Facility. Testing may be performed by the generator and shall be based on the origin and contaminants anticipated in the petroleum-based liquids.
 - ii. Incoming petroleum-based liquids shall be tested for the following contaminants, or as determined by the site of generation: heavy metals (minimum of RCRA 8 total metals), volatile organic compounds, semi-volatile organic compounds, PCBs, pesticides, herbicides, and TPH.
 - iii. Generator knowledge of the incoming petroleum-based liquids may be used as appropriate.
 - iv. Records of testing results, origin, and quantity of petroleum-based liquids shall be maintained by the permittee for review by the Department upon request.

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- e. The permittee may request the acceptance of liquid waste that does not meet the description for petroleum-based liquids set forth in this section. The request shall be submitted a minimum of thirty (30) calendar days prior to the proposed acceptance date. The Department may require additional information as deemed necessary to evaluate the request. If the Department does not respond within thirty (30) days, the request shall be deemed approved. The permittee shall operate in accordance with the acceptance request, maintain records to show compliance with the acceptance request, and implement other conditions that may be required by the Department. Records of testing results, origin, and quantity of liquids shall be maintained. Any such request shall include, at a minimum, the following information:
 - i. Description of liquid waste proposed for acceptance;
 - ii. Generator knowledge and description of environmental contaminants that may be present in the liquid waste, and any analytical data for contaminants of concern;
 - iii. Documentation of the generator's hazardous waste determination;
 - iv. Description of operational procedures and controls, if necessary;
 - v. Identification of solidification area and methods to isolate the liquid waste, if necessary;
 - vi. Back-end testing procedures for the solidified waste, if necessary; and;
 - vii. Identification of presumed recycling or disposal method, if necessary.
- f. The solidification cells shall be located and maintained in accordance with the site plan and Operations Plan. The soil cement wearing layer shall be renewed periodically, to maintain a 12-inch thickness and durable surface.
- g. The permittee shall place liquid waste atop soil/ash within the solidification cells and start incorporating the liquid waste by the end of the workday. The permittee shall process petroleum-based liquids/other liquid wastes by mixing it with soil or ash until solidification is complete and the solidified waste does not contain free liquids as defined by EPA method 9095 (Paint Filter Liquids test). Liquid waste that does not pass EPA method 9095 (Paint Filter Liquids Test) shall be further solidified. No liquid waste shall be left in the solidification cell upon removal of the solidified waste
- h. The permittee shall minimize the accumulation of standing water in the solidification cells.
- i. Solidified waste shall be used/disposed of as follows:
 - i. No solidified waste shall be used as intermediate or final cover.
 - ii. Solidified waste that consists of the combination of either CCR or feedstock ash (in accordance with Special Condition B.3.9) and fire foam, liquid waste from car wash operations, liquid waste from utility vaults from streets and similar liquid wastes, may be beneficially used in accordance

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- with Special Condition B.3.9, provided it meets the concentration requirements of Special Condition B.2.4.
- iii. Solidified waste (not including CCR or Feedstock ash) that consists of the combination of soil meeting the requirements of Special Condition B.2.5.b and fire foam, liquid waste from car wash operations, liquid waste from utility vaults from streets, and similar liquid wastes may be used as interim cover or disposed of as void space fill at the C&D landfill.
 - iv. Other solidified waste that does not contain CCR or Feedstock ash shall be disposed of at the C&D landfill within seven (7) days.
- j. The permittee shall maintain liquid waste transaction invoices, profile sheets, and any generator test analysis and make them available to the Department for its use upon request.

Subsection 4: Groundwater and Leachate Monitoring

1. The permittee shall follow the Leachate Management Practices as provided in the Operations Plan and approved subsequent submissions and the following special conditions:
 - a. The permittee shall remove leachate from the landfill via the leachate sump, in a manner that maintains a maximum depth of 30 centimeters (12 inches) of leachate above any part of the liner in the cell, outside the sump area. The leachate sump compliance depth is five (5) feet.
 - b. The permittee shall manually inspect and measure leachate in the leachate sump weekly and after any major rain event (more than one inch in 24 hours). The permittee shall inspect the sump more frequently whenever significant leachate volumes are generated.
 - c. The permittee shall transport leachate to a truck-mounted tank or stationary holding tank.
 - d. The permittee shall maintain records of the leachate sump levels measured in this section.
2. The permittee may only use leachate for dust control at the Phase II active working face. Leachate shall be sprayed in a manner that does not expose landfill customers or personnel to leachate. Leachate may be sprayed as needed to control dust, shall not promote leachate infiltration, and shall not be applied in a manner that would be considered bulk disposal.
3. The permittee shall maintain an elevation control point at the top of casing or other monument in the immediate vicinity of the sump, for the measurement of leachate in the sump. The elevation control point shall be surveyed every two years, unless there is damage to the sump, and clearly marked. The permittee shall also maintain a monument, showing benchmark elevation, located in a position off the landfill.

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4. The permittee shall maintain usable access to all groundwater monitoring wells and the leachate sump shown in the Groundwater and Leachate Monitoring Plan dated October 2015, and approved subsequent submissions. The permittee shall maintain the integrity of the monitoring wells and sump, and protect them from damage, destruction, or vandalism. If repair or replacement is necessary to ensure proper management and monitoring, then the permittee shall notify the Department, in writing, within seven (7) calendar days and design and construct the necessary repairs and/or replacements in accordance with the Groundwater and Leachate Monitoring Plan and approved subsequent submissions. The permittee shall submit a well/sump completion report within thirty (30) days after construction. As applicable, the report shall include geological logs, surveyed location and elevation of well, and as-built drawings.
5. Groundwater and leachate monitoring shall be conducted in accordance with the State of Hawaii Landfill Groundwater Monitoring Guidance Document Version 1.8 dated September 2002, or subsequent version, and the conditions of this permit.
6. The permittee shall implement the Groundwater and Leachate Monitoring Plan dated October 2015, approved subsequent submissions, and conditions of this permit. The Department may periodically require revisions to the plan pursuant to law.
7. All sample collection, handling, management, and analysis shall be conducted in accordance with EPA SW-846, *Test Methods for Evaluating Solid Waste*.
8. Groundwater samples shall be collected and analyzed on a semiannual basis, or as otherwise approved by the Department. Groundwater samples shall be analyzed for, constituents listed in the approved Groundwater and Leachate Monitoring Plan, or as otherwise approved by the Department. Groundwater samples shall also be analyzed for the constituents listed in §11-58.1-19(e)(2), HAR, on an annual basis, or as approved by the Department. The Department may reduce the frequency of testing for the-constituents listed in §11-58.1-19(e)(2), HAR.
9. Leachate samples shall be collected and analyzed on an annual basis, or otherwise approved by the Department. Leachate samples shall be analyzed for constituents listed in §11-58.1-19(e)(2), HAR, Table 2 of the October 2015 Groundwater and Leachate Monitoring Plan, or otherwise approved by the Department.
10. The permittee shall prepare and submit a Groundwater/Leachate Monitoring Report within ninety (90) days of sampling. The monitoring reports shall include:
 - a. Identification of wells/manholes sampled during the event;
 - b. Sample collection dates and methodology;
 - c. Identification of third party entity that performed the sample analysis;
 - d. Field measurements and analytical data, including copies of laboratory reports;
 - e. Statistical evaluation of all analytical data (except field measurements);

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- f. Identification of any deviations from the plan, reason for the deviation, and affect on the sampling results; and
 - g. Statement of whether any statistically significant increases were identified.
11. In the event of a detection above the practical quantitation limit or a statistically significant exceedence, the permittee shall comply with the requirements of the Groundwater Monitoring Plan.

Subsection 5: Closure and Post-Closure Requirements

1. The permittee shall perform closure and post-closure activities in accordance with the June 2017 *Closure and Postclosure Care Plan*, prepared by A-Mehr, Inc., approved subsequent documents §11-58.1-19(f), HAR, and these permit conditions. Should there be discrepancies between these documents, the HAR and these permit conditions take precedence.
2. The permittee shall provide written notice of intent to close each landfill stage, as defined in the Closure and Postclosure Care Plan, at least ninety (90) days prior to initiating closure activities. The notice of intent shall include a schedule and shall also be placed in the operating record.
3. Soil with contaminant concentrations above DOH EALs for unrestricted use shall not be used in the final cover system. Final cover shall be constructed in accordance with the June 2017 *Closure and Postclosure Care Plan*, prepared by A-Mehr, Inc. Modifications to the final cover plan are subject to approval from the Department.
4. The permittee shall complete closure activities for each stage in accordance with HAR 11-58.1-19(f). and the June 2017 Closure and Postclosure Plan. The permittee shall retain a professional engineer registered in the State of Hawaii for the supervision of the closure construction quality assurance requirements, and upon the completion, the engineer shall submit a summary report to the Department as to the complete conformity to the plans and specifications as approved. The summary report shall be submitted within sixty (60) days after closure activities are completed. The summary report shall include certification that the cover is constructed in accordance with the approved in the June 2017 *Closure and Postclosure Care Plan*, prepared by A-Mehr, Inc., or an approved alternative. The summary report shall also include a description of closure activities, as-built drawings, surveys of the final cover system, a documented control program of the final cover system construction, quality assurance/quality control testing procedures, laboratory analyses, and engineer's certification of construction conformity.
5. Following closure, the permittee shall submit a copy of the notation on the deed to the landfill property in accordance with §11-58.1-19(d)(3), HAR.

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6. The permittee shall maintain the final cover system and postclosure care requirements in accordance with §11-58.1-19(f), HAR, and the June 2017 Closure and Postclosure Care Plan and approved subsequent submissions. During the postclosure care period, the permittee shall submit an annual report or documentation of changes and maintenance efforts, including any repairs to the final cover system.

Section C: Material Recovery and Recycling

1. The permittee may shred C&D waste for disposal and operate a recycling and materials recovery operation with a site plan consistent with that depicted in Figures 2 and 2A of the Operations Plan; approved subsequent submissions, and the conditions of this permit. Should there be discrepancies between the Operations Plan and these conditions, these conditions shall take precedence.
2. The permittee is authorized to accept source-separated loads of mattresses, waste tires, plastics, wood, and furniture for recycling, and other waste as approved by the Department
 - a. The source-separated loads of mattresses, tires, plastics, wood and furniture shall not be placed in the C&D landfill. If the user Facility becomes unable to accept the waste, the waste shall be disposed of or recycled at a permitted solid waste management Facility allowed to accept such waste. Whole tires shall not be disposed of in landfills.
 - b. Source-separated loads shall be delivered to the feedstock process area, as described in Special Condition C.4.
 - c. The permittee shall provide written notification to the Department at least seven (7) days prior to the initial acceptance of these additional waste streams.
3. The permittee shall not shred asbestos-contaminated waste at the recycling/materials recovery area. If asbestos-contaminated waste is identified, it shall be separated and disposed of in accordance with Special Condition B.2.3, the Operations Plan, and approved subsequent submissions.
4. Waste delivered to the recycling and materials recovery area shall be managed as follows.
 - a. Incoming waste shall be unloaded directly onto the paved recycling/materials area, screened for unacceptable materials, and segregated for recyclables.
 - b. Sorting shall be performed in accordance with the Operations Plan, and approved subsequent submissions.
 - c. Stockpiles shall not exceed a height of 15 feet with a minimum of 20-foot lanes between piles.

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5. The aggregate processing/storage area shall be maintained in a designated recycling area, the description of which shall be updated yearly in the Annual Operating Report.
6. Scrap metal recycling.
 - a. The scrap metal storage area shall be maintained in a designated recycling area, which shall be updated yearly in the Annual Operating Report.
 - b. The scrap metal shall be recycled at least once a year. The scrap metal shall be transported to a permitted solid waste management Facility allowed and willing to accept scrap metal or out-of-state markets.
7. Processing at Recycling and Materials Recovery Area.
 - a. Processing may include the use of a primary shredder (10-inch minus, 4-inch nominal), a trommel screen, one additional screener, and other equipment described in the Operations Plan and approved subsequent submissions.
 - b. The permittee shall submit a written update to the Operations Plan if additional processing equipment (such as additional conveyors, shredders, or screeners) is proposed for use at the Facility. The update shall be provided at least thirty (30) days prior to proposed operation.
8. Storage of processed feedstock.
 - a. The aboveground open storage capacity of processed feedstock is limited to 5,000 tons. In addition, feedstock may be stored in covered bins or other closed containers.
 - b. Open stockpile storage shall be limited to a 15-foot height with a minimum 20-foot access lanes between piles.
 - c. The stockpiles shall be turned as necessary to minimize spontaneous combustion. Watersprays, or other dust control measures, shall be used when stockpiles are being turned.
 - d. Feedstock shall be transported to a user allowed and willing to accept such feedstock, to a gasifier at the recycling and materials recovery area, or feedstock may be disposed of or managed in accordance with Special Conditions, Section B, Subsection 3 or Special Condition C.9 prior to posing a fire, nuisance, dust, or public health/environmental concern.
9. The permittee may place C&D feedstock in Phase II of the C&D landfill for future recovery. If the permittee intends to recover the feedstock, the following disposal conditions shall apply:
 - a. Placement in the landfill shall be in accordance with the Operations Plan, Special Conditions, Section B, Subsection.3, and approved subsequent submissions.
 - b. The permittee shall use GPS or other tracking system to document the placement of feedstock intended for recovery.

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10. Landfill Mining in Phase I and Recovery of Partially Processed Feedstock from Phase II. The permittee may remove previously buried waste from Phase I of the landfill or feedstock from Phase II, subject to the following conditions:
 - a. The mining of Phase I shall not exceed the limits of the Proposed Landfill Reclamation Area depicted on Figure 2, Site Plan, prepared by A-Mehr, Inc., dated May 27, 2010. Landfill mining for recycling shall not occur within 1,320 feet from the residences. (Excavation for fire control or other emergency purposes is allowed.)
 - b. No feedstock shall be stored at the active workface at the end of each workweek.
 - c. No processing (such as material separation or screening) shall occur away from the active workface, except at the recycling and materials recovery areas described in Special Conditions C.7.a and C.7.b.
 - d. Replacement of waste into Phase I of the landfill shall be in accordance with Special Conditions, Section B, Subsection.3
 - e. If Phase I is excavated to native ground, and the permittee proposes to refill Phase I, the permittee shall submit a modification request to install a liner system in Phase I. The permittee shall not dispose of waste in Phase I until the design is approved by the Department and a permit modification is issued. If Phase I is not excavated to native ground, the permittee shall survey and document the elevation as well as the northernmost and easternmost of the limits of Phase I area prior to refilling.

11. Gasification. Once the specifications of any gasification unit proposed to be used at the Facility have been provided to the Department, and upon written approval of its use by the Department, the following conditions for its operation shall apply:
 - a. The gasification unit may receive and process feedstock from the Materials Recovery portion of the Facility for gasification. The permittee shall construct and operate the Facility in accordance with chapter 342H, HRS, and §11-58.1, HAR, the Operations Plan, approved subsequent submissions, and the conditions of this permit. Should there be any discrepancies among the aforementioned documents, the HRS, HAR and permit conditions shall take precedence.
 - b. The gasification unit shall be located within the existing materials recovery and recycling area.
 - c. Feedstock ash shall be stored within the gasification unit or other closed container prior to disposal or beneficial use.

12. Should the permittee decide to terminate operation of the Material Recovery and Recycling Facility, the permittee shall perform necessary closure activities including, but not limited to, the removal of all remaining solid waste in the Material Recovery and Recycling area, and performing appropriate site assessments and remedial activities. Prior to the termination of the operation, the permittee shall also notify the

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DOH in writing at least within ninety (90) calendar days of the Facility's closure [HAR §11-58.1-04(e)(3)]. The written notification shall include an updated closure plan, which should accomplish the following objectives:

- a. Provide an assessment of the site's present and future threat to public health and the environment due to contaminants possibly left on-site from the Facility's operation.
- b. Provide a plan of action to minimize or mitigate any threats to public health and the environment due to contaminants possibly left on-site by the Facility's operation.
- c. Provide a schedule to implement the plan of action. Upon DOH approval of the closure plan, the permittee shall implement the plan in accordance with the approved implementation schedule.

Section D: Recordkeeping and Reporting

1. The permittee shall maintain records in accordance with HAR 11-58.1, Standard Condition 11, and the conditions of this permit. The permittee shall comply with the reporting requirements of HAR 11-58.1, and any other reporting requirements set forth in this permit. Copies shall be made available to the Department for its use upon request.
2. Records shall include the following list and any other recordkeeping requirements set forth in this permit.
 - a. Written log of incidents outside of normal operations, including date, time, description of incident, cause of incident, and resolution;
 - b. Source and type of waste received and the date and quantity received;
 - c. Screening documentation;
 - d. Tonnage of concrete accepted for recycling;
 - e. Disposition and tonnage of scrap metal transported from the Facility;
 - f. Disposition and tonnage of feedstock transported from the Facility;
 - g. Disposition and tonnage of residual waste and unacceptable materials;
 - h. Copies of receipts of sale, recycling, disposal of material; and associated test analysis, if applicable;
 - i. Total quantity (volume and tonnage) of feedstock processed by the Gasifier; and
 - j. Total quantity (volume and tonnage) of Feedstock ash generated by the Gasifier.
 - k. The permittee shall maintain annual records, documenting the:
 - i. Volume of C&D disposed, and
 - ii. Volume and weight of the CCR and feedstock ash used for beneficial use.
3. The permittee shall submit an Annual Operating Report (AOR), for the reporting period July 1 to June 30. The AOR shall be submitted by July 31 of each year to:

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4. The Annual Operating Report shall be submitted in hardcopy and electronic format, and shall include the following information:
- a. Types and weight of solid waste received (concrete, asphalt, mixed waste (building materials/wood/metal), and asbestos waste).
 - b. Total tonnage, type and destination of separated materials (scrap metal, concrete/asphalt/aggregate, feedstock and residual waste for disposal)
 - c. Information as required by HRS 342I-26, if used tires are accepted under Special Condition C.2.
 - d. Total quantity (volume and tonnage) of feedstock processed by Gasifier.
 - e. Quantities of leachate (gallons) generated and managed. Water balance estimates of leachate generation by the use of the most recent EPA HELP model using climatic information collected in accordance with Special Condition B.3.3.
 - f. The permittee shall submit an annual topographic survey of the site as prepared by a land surveyor or civil engineer registered in the state of Hawaii, aerial surveys, or an approved alternate method. The survey shall clearly show the horizontal and vertical dimensions of the landfill. The AOR shall also include written affirmation by the permittee that the waste fill areas of the landfill are in compliance with approved final grades. The permittee shall also submit biennial surveys of the leachate sump elevation control point, as required by Special Condition B.4.3.
 - g. A Sequencing Plan, including a drawing, identifying the cell areas to be filled in the coming year and identification of the wet weather areas. The cell areas and wet weather area shall be provided to scale. The Sequencing Plan drawing shall also identify the locations of processing areas to be used in the coming year, in accordance with Special Conditions C.5 and C.6.
 - h. A Sequencing Plan including a drawing, to scale, identifying the areas to be mined from Phase I in the coming year.
 - i. Final fill areas, intermediate fill areas, and future unused fill areas shall be identified for the coming year.
 - j. Volume of waste disposed on an annual basis, and associated volume and source of ash (CCR ash and Feedstock ash) beneficially used for void space fill and fire barriers on an annual basis.
 - k. Weight and location of ash (CCR ash and Feedstock ash) beneficially used for operations layer construction.
 - l. Written affirmation of financial assurance.

