

**MODULE VI**

**HAZARDOUS WASTE LANDFILLS**

DRAFT

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### ATTACHMENTS

Attachment VI-1: Landfill Drawings and Specifications

Attachment VI-2: Stormwater Management

Final Closure Plan for Cells 4 and 5

Reserved

Appendix A: Construction Quality Assurance Plan for Landfill Cell Construction and Closure

Appendix B: Closure Drawings for Cells 4 and 5

Appendix C: Closure Construction Design Report Cells 4 and 5

Attachment VI-3: Construction Quality Assurance Plan for Construction of Surface Impoundments, Landfills, and Landfill Closures

~~Design Engineering Report for Cells B/6 and 7~~

Attachment VI-4: Closure Design Engineering Report for Cells B/6 and 7

~~Run-on/Run-off System Requirements~~

~~Attachment VI-5: Design Engineering Report for Cells 8 to 13 Drawings~~

## MODULE VI - HAZARDOUS WASTE LANDFILLS

### VIA APPLICABILITY

1. ~~Clean Harbors Grassy Facility~~ ~~Mountain (CHGM)~~ ~~The Permittee~~ shall only dispose of hazardous wastes in the ~~following~~ landfill cells listed in Module VI, Table 1, and the rated capacities shall not exceed the ~~following~~ nominal volumes shown ~~below in Table 1~~, except as allowed in Condition VI.D.2. In addition, measuring from the top of the berm, the average height of waste will be less than or equal to the maximum allowed height of waste in the cell at closure ~~(Table 1) as shown below~~. The Director of the Division of Waste Management and Radiation Control (Director) has the authority to require ~~CHGM~~ ~~the Permittee~~ to conduct a survey of the cell to verify compliance with this condition.

***Module VI. Table 1. Nominal Volumes of Landfill Cells B/6 and 7 – 13.***

Cell Number	Capacity (Cubic Yards) <sup>1</sup>	Maximum Shoulder Height of Waste above the Berm at Closure (Feet above Average Berm Height)	Maximum Height of Waste above the Berm at Closure (Feet above Average Berm Height)
B/6	1,125,000	27.72	45.97
7	1,106,000	28.87	61.07
8	785,300	20.69	36.16
9	793,800	20.42	36.16
10	793,800	20.42	36.16
11	793,800	20.42	36.16
12	793,800	20.42	36.16
13	793,800	20.42	36.16

<sup>1</sup>Volumes are approximate. The point of compliance is the height above the berm. The berm height is calculated by averaging elevations measured every 50 linear feet around the perimeter (berm) of the cell.

2. ~~CHGM~~ ~~The Permittee~~ shall build and use Cells 8 through 13 in the following sequence: Cell 8, Cell 10, Cell 12, Cell 9, Cell 11, and Cell 13. ~~In so doing, t~~ This will allow monitoring wells MW-83, MW-84, MW-87, MW-88, MW-91, and MW-92 to function as shared points of compliance for the six cells. These wells will eventually be located on a common berm between the north three cells and the south three cells. See Drawing G-3 in ~~the Attachment VI-5 - Landfill Cells 8 through 13 Design Engineering Report; and Conditions Section VII.A.5 and; and Condition VII.D.7.e-d~~ of Module VII - Groundwater Monitoring Protection.
3. Landfill Cells 1, 2, 3, 4 and 5 have been closed and no additional wastes may be placed in these landfill cells.

4. Industrial Waste Cells 1 and 2 (IWC-1 and IWC-2) ~~were closed in 1998 and~~ are included in this permit solely for ~~the purposes of~~ post-closure. These cells were originally designed and permitted for the disposal of non-hazardous waste, but ~~have~~ received small quantities of hazardous waste ~~when they were open~~ and ~~as such~~ are ~~now~~ regulated by this permit ~~as a result~~. ~~These cells were closed in 1998~~

## VI.B WASTE IDENTIFICATION

1. CHGM ~~The Permittee~~ shall dispose of the hazardous wastes listed in ~~Appendix 2 of~~ Attachment II – RCRA-TSCA WAP (WAP) ~~Appendix 2~~ that meet ~~Land Disposal~~ ~~Restrictions~~ (LDR) standards or approved variances in landfill ~~C~~cells 7, B/6 and 8. Cells B/6 and 8 are ~~permitted for both RCRA and TSCA wastes; Cells B/6 and 8 may be used to dispose of hazardous wastes listed in Appendix 2 of the WAP that meet LDR standards, disposal cells that may be used for disposal of the hazardous wastes listed in Attachment II – WAP Appendix 2 that meet LDR standards or approved variances; for RR~~ RCRA/TSCA combined wastes; and/or ~~for~~ TSCA only wastes as approved.
  2. The waste management practices specified in the Supplemental Waste Management Plan in Attachment II-8 shall apply to wastes F020, F021, F022, F023, F026, F027 and F028. ~~CHGM shall also manage o~~On-site generated wastes derived from the handling of these residues ~~shall also be managed~~ according to ~~the~~ Attachment II-8.
  3. ~~CHGM~~ ~~The Permittee~~ may dispose ~~of in Landfill Cells B/6, 7 and 8,~~ the following wastes not specified by ~~Environmental Protection Agency (EPA) hazardous~~ waste codes ~~numbers in landfill Cells B/6, 7, and 8,~~ providing that all free liquids are stabilized or removed and ~~the wastes are~~ documented in the Operating Record:
    - a. Floor drain, wheel wash, and sump residues.
    - b. Non-hazardous waste. ~~In accordance Utah Administrative Code (UAC) R315-268-3, N~~non-hazardous waste shall not be mixed with hazardous waste such that impermissible dilution occurs, ~~as specified under Utah Admin. Code Utah Administrative Code () R315-268-3.~~
- ~~CERCLA Hazardous Wastes. CHGM~~ ~~The Permittee is authorized to receive wastes that arrive without EPA hazardous waste code numbers, provided that these wastes are from remediation sites regulated under CERCLA or are defined as hazardous waste by this permit. These wastes shall be managed as hazardous wastes and are subject to the terms of this permit.~~
4. CHGM shall not dispose of ~~f~~Free liquids ~~shall not be disposed of in any~~ ~~disposed in any~~ of the landfill cells, except as provided by Condition VI.M.
  5. RCRA/TSCA Wastes. ~~CHGM~~ ~~The Permittee~~ may receive wastes that arrive with EPA ~~hazardous~~ waste codes and are also regulated by TSCA. These wastes are subject to the terms of this permit.

6. ~~CHGM~~The Permittee may accept Corrective Action Management Unit (CAMU) CAMU-eligible waste, as defined in ~~Utah Admin. Code~~UAC R315-264-552(a)(1) and (2) pursuant to R315-264-555 provided that:
  - a. ~~CHGM~~The Permittee shall notify the Director and all persons on the public mailing list of ~~CHGM~~the Permittee's intent to receive each CAMU-eligible waste stream pursuant to UAC R315-264-555(e)(1) and (2).
  - b. ~~CHGM~~The Permittee shall not place CAMU-eligible waste in a landfill cell until the Director notifies ~~CHGM~~the Permittee that ~~they/he/she~~ does not object to its placement in a cell at the facility (UAC R315-264-555(e)(4)).
  - c. ~~CHGM~~The Permittee shall follow all additional applicable conditions of UAC R315-264-555.

## VI.C

### GENERAL DESIGN AND CONSTRUCTION OF LANDFILL CELLS

7. ~~CHGM~~The Permittee shall design and construct landfill cells to meet the current (as of the date of the permit) state and federal regulations for hazardous waste landfills.
8. Construction of each landfill cell shall follow the construction quality assurance (CQA) ~~program plan~~ as outlined in R315-264-19 and in Attachment VI-2, ~~Appendix A~~ of this ~~Permit~~permit. The ~~construction quality assurance plan~~CQA Plan shall cover all aspects of design and construction. The Director shall approve the final design with installation procedures ~~shall be approved by the Director~~ prior to commencement of construction.
9. The ~~CQA plan~~CQA Plan shall remain part of the permit throughout closure and post-closure activities. The CQA Plan is Attachment VI-2.
10. Field changes to the design or construction details may require a modification to the CQA Plan. Such modifications will adhere to the "Change Control Procedures" ~~outlined within~~ the CQA Plan ~~shall be adhered to. If the Director determines that a~~ If a modification to the ~~CQA plan~~CQA Plan is necessary, ~~as determined by the Director,~~ construction may only proceed after the Director evaluates the impact of the change and approves the permit modification request. ~~CHGM~~The Permittee shall document this field change, ~~and~~ place a description of this modification in the facility's ~~CQA plan~~CQA Plan, and mail a copy to the Director within seven calendar days of the field change. All field change orders shall become a permanent record and be kept with the CQA document.
11. ~~After construction has started,~~ All Class 1 field modifications, affecting the CQA plan ~~after construction has started,~~ may be submitted to the Director in one Class 1 permit modification after completion of construction. This shall include all "as built" drawings, ~~and~~ any changes of materials used for construction, and any changes to the procedures used to construct the landfill cell.

12. All Class 2 and Class 3 permit modifications affecting the ~~CQA plan~~CQA Plan, as specified in ~~Utah Admin. Code~~UAC R315-270-42, shall require Director approval after the appropriate public comment period.
13. ~~After completion of the initial construction period,~~ Subsequent modifications to the landfill cell, ~~after completion of the initial construction period,~~ shall be considered either a Class 1, 2 or 3 permit modification. CHGM shall document and keep aAll approved modifications to the ~~CQA plan~~CQA Plan ~~shall be documented and kept~~ with the ~~CQA plan~~CQA Plan so future changes, corrective action, or closures can be evaluated with correct information.

## VI.D

### GENERAL OPERATING REQUIREMENTS

1. CHGM ~~The Permittee~~ shall operate all RCRA and TSCA landfill cells as required by ~~Utah Admin. Code~~UAC R315-264-300 through 317, 40 CFR 761.75 and 40 CFR 761.77 as applicable, and as specified in this permit.
2. CHGM~~The Permittee~~ shall not exceed the rated capacity of a landfill cell, except by a margin of five percent, nor shall the average waste elevation exceed the permitted final waste elevation except by a margin of one foot without written approval by the Director. These deviations shall be allowed for periods up to 24 hours and only after notification of closure as required by Condition II.O.4. and only for the purposes of grading with power equipment to gain final contours. In addition, waste elevations are allowed to be exceeded for ~~a period~~ up to 24 hours to facilitate the proper placement of wastes and cover during normal day-to-day operations.
3. CHGM~~The Permittee~~ shall repair any damage to the liner, including damage caused during landfill operations, by repairing the liner according to the liner repair procedures contained in the ~~specific~~CQA Plan ~~for the facility~~ at the time the damage occurs. CHGM shall submit dDocumentation of repairs ~~shall be submitted~~ to the Director. The Director will review the documentation to verify that the repair was done in accordance with the CQA Plan.
4. In accordance with ~~Utah Admin. Code~~UAC R315-264-301(a)(2), CHGM shall operate the leachate collection and removal system ~~shall be operated~~ in such a manner as to assure that the leachate depth over the primary liner does not exceed one foot.
5. On a quarterly basis (no later than 20 days following the end of the quarter), CHGM~~The Permittee~~ shall submit to the Director ~~on a quarterly basis (no later than 20 days following the end of the quarter),~~ daily leachate collection/removal volumes for each applicable collection and detection sump. If CHGM~~the Permittee~~ discovers the presence of liquid in the upper leak detection system (“B” risers) in quantities greater than 15 gallons per acre per day, or if CHGM~~the Permittee~~ discovers the presence of liquid in the lower leak detection system (“C” risers) in quantities greater than ten gallons per acre per day, CHGM~~the Permittee~~ shall notify the Director within 72 hours of discovery.

- a. When an exceedance in the B or C risers occurs, CHGM shall obtain a sample ~~shall be obtained~~ and analyze the sampled for semi-volatile compounds. CHGM shall submit ~~The analysis will be submitted~~ to the Director within ten days following the facility's receipt of the data from the laboratory. CHGM~~The Permittee~~ shall provide other information deemed necessary by the Director. Along with the analysis submittal, CHGM~~the Permittee~~ shall submit a remediation plan to the Director outlining the steps to be taken to correct the problem (i.e., repair of liner, closure of landfill cell). Upon approval, CHGM~~the Permittee~~ shall implement the plan within the time frame specified by the Director.
6. Vehicles (e.g., trucks, backhoes, cranes, etc.) exiting restricted areas shall have their wheels/ tracks washed at the wheel wash facility located at the exit of the restricted area(s). Restricted areas are identified on the site drawing found in Attachment II-1.
7. CHGM shall follow the waste analysis requirements contained in Condition II.E.
8. Treated wastes may be temporarily "put" onto a liner or in a container (put-pile) within a hazardous waste landfill cell while awaiting laboratory (verification) analyses. The liner shall be visible on all sides of the waste ~~so as to~~ prevent commingling with the waste in the landfill and other put-piles. "Temporarily" shall mean six months or less. Such wastes shall be labeled with a tracking number and located in such a manner that allows complete retrieval of the waste should the waste analyses subsequently determine that the waste does not meet the treatment standards of ~~Utah Admin. Code~~UAC R315-268. No more than 250 put-piles may exist at any one time, and CHGM shall dispose of wastes making up a put-pile ~~shall be disposed~~ within one year of receipt at CHGM~~GMF~~.

#### **VI.E MANAGEMENT OF RUN-ON/RUNOFF CONTROL FACILITIES**

CHGM~~The Permittee~~ shall manage all landfill cells with run-on and runoff control systems as required by ~~Utah Admin. Code~~UAC R315-264-301(g), (h), ~~and~~ and (i) in order to not exceed required design capacity specified in Attachment VI-4.

#### **VI.F INSPECTIONS**

CHGM~~The Permittee~~ shall conduct inspections of all active and closed landfill cells in accordance with Condition II.G.

#### **VI.G PROCEDURES TO CONTROL WIND DISPERSAL OF WASTES**

1. CHGM~~The Permittee~~ shall comply with the requirements of ~~Utah Admin. Code~~UAC R315- 264-301(j) by covering material subject to wind dispersal within 24 hours of placement in the cell. CHGM shall maintain ~~The cover shall be maintained~~ until additional wastes are applied to that portion of the cell. The cover shall consist of one of the following:

- a. Heavier bulk material (greater density);
  - b. Mechanically sprayed water;
  - c. Dust-suppressing foam;
  - d. Other suitable material as approved by the Director.
2. Water shall not be sprayed to the extent that ponding occurs in the landfill.
  3. ~~CHGM~~~~The Permittee~~ shall cease operation of the landfill cell(s) (i.e., transporting waste into the cell and heavy vehicle movement within the cell, except for equipment utilized to control wind dispersal) when windy conditions exist that cause dust and any other waste to leave the cell(s).
  4. For purposes of compliance with ~~wind dispersal of wastes~~~~Condition VI.G.~~, all material within the berm of the operational hazardous waste landfill cells is considered to be hazardous waste.
  5. Leachate may be used for dust suppression in controlling wind dispersal, as provided in Section VI.H. of this module.

#### **VI.H LEACHATE FOR DUST SUPPRESSION**

1. Leachate can be used for dust suppression in all open RCRA and RCRA/TSCA cells.~~Cells B/6 and 7.~~
2. Leachate used for dust suppression shall not leave the cell where it is generated.
3. Leachate used for dust suppression shall not be stored and must be distributed the same day it is collected. Should the cell not require dust suppression, or weather conditions prohibit its immediate use, CHGM shall manage the leachate ~~shall be managed~~ as multi-source leachate (F039).
4. A pump and sprinkler system may be used to distribute leachate within the cell provided that an accurate method of measuring the total volume of leachate is used and the volume documented, as required by Condition VI.D.5.
5. Leachate used for dust suppression shall be held in the vehicle or portable tank from which it will be distributed. If a pump is used to distribute the leachate, it must be pumped directly from the vehicle or portable tank in which it was collected.
6. Leachate used for dust suppression shall not be applied to the extent that ponding occurs.
7. Leachate used for dust suppression shall not leave the lined portion of the cell.



8. Leachate used for dust suppression shall be analyzed twice annually for the constituents listed in Module VI, the table below Table 2. Should a maximum concentration as identified in Module VI, the table Table 2 be exceeded, the leachate shall no longer be used for dust suppression, but shall be managed as multi-source leachate (F039) until additional sampling is completed as described in VI.H.8.a through c:

**Module VI. Table 2. Parameters for Leachate Used for Dust Suppression.**

Constituent	Maximum Concentration
Total HOC <sup>1</sup>	100 ppm
Arsenic	5.0 mg/l
Barium	100.0 mg/l
Cadmium	1.0 mg/l
Chromium	5.0 mg/l
Mercury	0.2 mg/l
Lead	5.0 mg/l
Selenium	1.0 mg/l
Silver	5.0 mg/l
<u>Total PCBs</u>	<u>1.0 ug/l</u>
<sup>1</sup> The total of the constituents found in Appendix 4-3 of the <u>Waste Analysis Plan WAP</u> .	

- a. ~~The All~~ Halogenated Organic Compounds (HOCs), identified in Module II Attachment II RCRA TSCA WAP (WAP) Appendix 4 Appendix 3 of the WAP of the Waste Analysis Plan (WAP), shall be analyzed utilizing SW-846 methods 8260 and 8270, as modified. ~~In the event of an exceedance, discreet samples will be obtained and analyzed from each sump of the cell except for 3-Chloropropionitrile, which is not detected with Method 8260 or Method 8270.~~
- b. Prior to using leachate for dust suppression, CHGM shall collect a composite sample ~~shall be collected~~ from each cell where leachate will be used. The sample shall be taken from the collection tank or vehicle the first time the leachate is used in an approved cell. CHGM shall analyze t~~The samples~~ samples shall be analyzed for the HOCs; identified in Appendix 3 of the WAP Module II Attachment II (WAP) Appendix 4 of the WAP and the metals listed in the table above. CHGM shall provide ~~aa~~ a copy of the analytical results ~~shall be provided~~ to the Director within 30 days of receipt by CHGM Grassy Mountain.

- c. After the initial sample, CHGM shall collect and analyze a composite sample of leachate ~~shall be collected and analyzed~~ twice per year from each cell where leachate is used. ~~The first~~One sample shall be taken within five days of March 1 and the other shall be collected within five days of ~~September 1 and the second sample within five days of March 1~~. The samples shall be analyzed for the HOCs, identified in ~~Appendix 3 of the WAP Module II Attachment II (WAP) Appendix 4 of the WAP~~ and the metals listed in ~~Module VI, the table above~~Table 2; CHGM shall provide a~~a~~ copy of the analytical results ~~shall be provided~~ to the Director within 30 days of receipt by CHGM~~Grassy Mountain~~.
- d. ~~If any maximum concentrations given in the table above are exceeded, In the event a maximum concentration, as identified in the table above, is exceeded~~ CHGM~~the Permittee~~ may sample and analyze the individual leachate collection risers of the landfill cell ~~for the~~. ~~The analysis shall consist of the~~ parameters listed in the table. CHGM shall manage ~~leachate~~ from the individual collection risers that exceeds the established limits ~~shall be managed~~ as multisource leachate (F039) and prohibit ~~ited~~ for use as dust suppression.
- e. ~~All constituents listed in Appendix 4 of the of the WAP shall be analyzed for, with the exception of 3-Chloropropionitrile, which is not detected with Method 8260 or Method 8270.~~

## VI.I SURVEYING AND RECORDKEEPING

1. CHGM~~The Permittee~~ shall comply with the surveying and recordkeeping requirements of ~~Utah Admin. Code~~UAC R315-264-309 for all landfill cells.
2. CHGM shall maintain a three-dimensional grid disposal system in the operating record for recording the approximate location of the specific waste disposed of in each cell, as required by ~~Utah Admin. Code~~UAC R315-264-309(b).
3. CHGM~~Clean Harbors~~ maintains the information required by UAC R315-264-309(b) ~~the above citation~~ in the company's web-based data system (currently known as Win Web), in CHGM~~the Grassy Mountain Facility's~~ waste information management system, ~~and in hard copy~~. Within 60 days following notification of transfer of ownership or final closure, CHGM shall provide all data required in ~~Utah Admin. Code~~UAC R315-264-309(b) ~~shall be provided~~ to the Director in a media format determined at that time.

## VI.J LEACHATE SAMPLING AND ANALYSIS

The leachate from active landfill cells that contain both RCRA and TSCA waste streams ~~(currently Cells B/6 and 7)~~ shall have the leachate from the sumps individually sampled and analyzed at a minimum for PCBs, pH, specific conductance, and chlorinated organics (Class 1 volatile and semi-volatile compounds) annually.

Annual reports shall be submitted within 60 days after sampling has been completed.

## VI.K SPECIAL REQUIREMENTS FOR IGNITABLE/REACTIVE WASTE

~~CHGM~~The Permittee shall comply with all management provisions pertaining to ignitable and reactive wastes as required by ~~Utah Admin. Code~~UAC R315-264-312.

## VI.L ENCAPSULATION OF REACTIVE WASTES

~~CHGM~~The Permittee shall not encapsulate and dispose of reactive wastes in landfill cells.

## VI.M RESTRICTIONS ON LIQUIDS IN LANDFILLS

1. ~~CHGM~~The Permittee shall comply with all provisions of ~~UAC~~ R315-264-314 pertaining to free liquid wastes. Containerized, solidified, or treated waste shall not contain free liquids as determined by the Paint Filter Liquids Test (SW-846, Method 9095) before being placed in a landfill cell as required by R315-264-314(a), ~~and~~ (b), and (c).
2. ~~CHGM~~The Permittee shall stabilize all bulk and containerized liquids (except small lab vials) prior to placement into a landfill ~~unit~~cell. Materials used to stabilize waste shall not be biodegradable in accordance with ~~Utah Admin. Code~~UAC R315-264-314(d).

## VI.N SPECIFIC REQUIREMENTS FOR CONTAINERS

1. ~~CHGM~~The Permittee shall comply with ~~Utah Admin. Code~~UAC R315-264-315 concerning the burial of containers in landfill ~~units~~cells.
2. ~~CHGM~~The Permittee shall comply with ~~Utah Admin. Code~~UAC R315-264-316 concerning the disposal of small containers of hazardous waste in overpack drums and lab packs.

## VI.O CLOSURE/POST-CLOSURE

~~CHGM~~The Permittee shall close all landfill cells and provide post-closure care as required by ~~Module II~~ Condition II.O; ~~Utah Admin. Code~~UAC R315-264-110; ~~Utah Admin. Code~~UAC R315-264-310; the applicable portions of ~~Module II~~, Attachment II-7 (Closure Plan); and Attachment VI-2, ~~Appendix A~~ (CQA Plan).