

**MODULE VI  
POST-CLOSURE CONDITIONS AND STANDARDS  
FOR SOLID WASTE MANAGEMENT UNITS (SWMUs)**

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**LIST OF FORMS  
(POST-CLOSURE SITE INSEPTION FORMS)**

- FORM A – General Post-Closure Site Inspection Checklist, Industrial Closure/Industrial Use Sites
- FORM B – Reserved
- FORM C – Reserved
- FORM D – Excavation Permit Coordination

**LIST OF ATTACHMENTS**

<b><u>DESCRIPTION</u></b>	<b><u>ATTACMENT NO.</u></b>
SWMU 9 Post Closure Plan.....	1
SWMU 19 Post Closure Plan.....	2
SWMU 33 Post Closure Plan.....	3
SWMU 28 Post Closure Plan.....	4

**MODULE VI**  
**POST-CLOSURE CONDITIONS AND STANDARDS**  
**FOR SOLID WASTE MANAGEMENT UNITS (SWMUs)**

**VI.A SOLID WASTE MANAGEMENT UNITS (SWMU) and HAZARDOUS WASTE MANAGEMENT UNITS (HWMU)**

- VI.A.1 The Permittee shall comply with post-closure requirements for the SWMUs and HWMUs listed in Module VI, Table 1.
- VI.A.2 The Permittee shall comply with the general requirements applicable to all sites requiring post closure care as found in Module VI. Site-specific requirements for each SWMU/HWMU are provided in each site-specific post closure plan.

**VI.B PERMIT CONDITIONS**

- VI.B.1 Failure to submit the information required by the conditions in Module VI or falsification of any submitted information is grounds for termination of this permit in accordance with Condition I.D.1.
- VI.B.2 All plans, reports, notifications and other submissions to the Director of the Division of Waste Management and Radiation Control (Director) as required by the conditions in Module VI shall be signed and certified in accordance with Condition I.AA.
- VI.B.3 The Permittee shall submit two paper copies and one electronic copy of each plan, report, notification or other submissions, required Module VI to the Director by mail or hand delivery to the address specified in Condition I.DD.
- VI.B.4 All plans and schedules, as required by Module VI, upon written approval from the Director, shall be incorporated into Module VI. Any noncompliance with such approved plans and schedules shall be deemed noncompliance with this Permit.
- VI.B.5 The Permittee can only receive extension(s) of the specified compliance schedule due date(s) for the submittal(s) required by Module VI, upon written approval from the Director in accordance with Condition V.I.
- VI.B.6 All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data and other supporting information gathered or generated during activities undertaken pursuant to Module VI shall be maintained at the Facility during the effective term of this Permit. The Permittee shall provide copies of reports, logs, etc., to the Director upon request.
- VI.B.7 The Permittee shall provide seven day advance notice of field activities associated with approved workplans. This notice may be provided by telephone, but shall be followed-up in writing within 72 hours.
- VI.B.8 The Permittee shall inspect, monitor and maintain any landfill, caps, fences, signs, treatment systems or other items at the SWMUs/HWMUs listed in Table 1 and as specified in the post closure permit attachments in accordance with the conditions of this Permit.
- VI.B.9 The Permittee shall give notice to the Director 60 days prior to a planned alteration to the closed HWMU or SWMU or permitted activity.

## **VI.C MONITORING AND RECORDS**

### **VI.C.1 Monitoring and Records**

VI.C.1.a Samples and measurements taken for the purpose of monitoring shall be accurate and representative of the monitored activity. The method used to obtain representative samples shall be described in an approved Quality Assurance Project Plan (QAPP). The analysis of all samples, except chemical agents shall be conducted by State certified laboratories.

VI.C.1.b The Permittee shall retain as part of the Operating Record all records or reports required by this Permit for the duration of the post-closure period. This period may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action.

## **VI.D RESERVED**

## **VI.E DOCUMENTS TO BE MAINTAINED AT FACILITY SITE**

VI.E.1 The Permittee shall maintain for the duration of the post-closure care period the following documents and amendments, revisions and modifications to these documents:

VI.E.1.a Post-closure Permit and any amendments.

VI.E.1.b Post-closure monitoring records, to include monitoring of environmental media and analytical results, any environmental media treatment system unit records and analytical results and records of the effectiveness of any environmental media treatment systems as required by this Permit.

VI.E.1.c Certification of Closure for each SWMU/HWMU as required by Utah Admin. Code R315-7-14.

VI.E.1.d Inspection forms and schedules as required by Utah Admin. Code R315-8-2.6(b)(2) and this Permit.

VI.E.1.e Operating Records required by Utah Admin. Code R315-8-5.3 and this Permit.

VI.E.1.f Copies of all required submittals.

VI.E.1.g Copies of the Facility's Post-Closure Excavation Permit and any other related land use documents and requirements, including records showing removal of soils or construction at any HWMUs or SWMUs listed in Table 1.

VI.E.2 The Permittee shall follow the Excavation Permit process as described in Form D. The Permittee shall use the Excavation Permit and Form A to verify land use, compliance with institutional controls and management of environmental media at the SWMUs/HWMUs listed in Table-1.

## **VI.F SWMUs and HWMUs SUBJECT TO POST-CLOSURE REQUIREMENTS**

<b>TABLE - 1</b>				
<b>Post Closure Permit SWMUs and HWMUs.</b>				
MODULE VI ATTACHMENT NO.	SITE	TYPE OF CLOSURE	REQUIRED INSPECTION FORM	
			FORM NO.	FORM TYPE
1	SWMU 9	Industrial	A	Industrial Post Closure
2	SWMU 19	Industrial	A	Industrial Post Closure
3	SWMU 33	Industrial	A	Industrial Post Closure
4	SWMU 28	Industrial	A	Industrial Post Closure

VI.F.1 SWMUs where site controls are not required for soils within 0 to 10 feet below ground surface (ft bgs) but other “special restrictions” are required are listed in Table 2. Special restrictions may include prevention of installation of drinking water wells, required groundwater monitoring, and/or notice of industrial levels of contamination in soils greater than 10 ft bgs and/or restricted use due to presence of Munitions of Explosive Concern (MEC).

<b>TABLE – 2</b>		
<b>Special Restrictions for Post Closure SWMUs/HWMUs</b>		
SWMU/HWMU NUMBER	SWMU/HWMU DESCRIPTION	INSPECTIONS/RESTRICTIONS
SWMU 5	Building 600 foundation, drainage pond and ditch	<ul style="list-style-type: none"> <li>• Soil at depths greater than 10 ft bgs may include hexavalent chromium at levels exceeding industrial risk levels.</li> <li>• Groundwater monitoring shall be conducted in accordance with the recommendations outlined in the “Final Hydrogeological Assessment and Recommendations Report” July 2013.</li> </ul>
HWMU 31	Former Open Burn/Open Detonation Area	<ul style="list-style-type: none"> <li>• The Permittee shall ensure that any development or use of the site is tracked through the Excavation Permit Process and controls are in place to ensure protection against potential surface and buried MEC.</li> </ul>
SWMU 8	Kickout area associated with HWMU 31	<ul style="list-style-type: none"> <li>• The Permittee shall ensure that any development or use of the site is tracked through the Excavation Permit Process and controls are in place to ensure protection against potential surface and buried MEC.</li> </ul>
SWMU 23	Kickout area associated with HWMU 31	<ul style="list-style-type: none"> <li>• The Permittee shall ensure that any development or use of the site is tracked through the Excavation Permit Process and controls are in place to ensure protection against potential surface and buried MEC.</li> </ul>
SWMU 29	Immediate areas bordering the former	<ul style="list-style-type: none"> <li>• The area immediately outside the</li> </ul>

<b>TABLE – 2</b>		
<b>Special Restrictions for Post Closure SWMUs/HWMUs</b>		
	SWMU	boundary of the former SWMU may contain buried debris and/or drums. The Permittee shall ensure that any intrusive activities include anomaly avoidance to ensure protection of workers.

**VI.G COMPLIANCE SCHEDULE**

VI.G.1 The Permittee shall submit a post closure plan within 180 days after the Director approves the CMI Completion Report.

**VI.H POST-CLOSURE MAINTENANCE AND MONITORING**

VI.H.1 The Permittee shall inspect, maintain, monitor and track activities at the SWMUs listed in Table 1 throughout the post-closure care period in a manner that will ensure detection of a release of hazardous waste, hazardous waste constituents, leachate, contaminated runoff or hazardous waste decomposition products to the air, soil, groundwater, or surface water from the closed unit, and in a manner that will prevent unauthorized site use or unauthorized use of any excavated soil. The Permittee shall maintain any inspection, monitoring, security, treatment and other necessary equipment throughout the post-closure care period in a manner that will ensure detection of a release from the closed unit and minimize the possibility of fire, explosion, or any sudden or non-sudden release of hazardous waste constituents to air, soil, surface water or groundwater which could threaten human health or the environment.

VI.H.2 The Permittee shall ensure that installation of drinking water wells is prohibited at the SWMUs/HWMUs without prior approval of the Director.

VI.H.3 The Permittee shall follow the existing Facility excavation permit coordination procedures as contained in Form D prior to initiating any intrusive activities at the SWMU/HWMU. Applications for excavation permits shall be documented using Form D, Excavation Permit.

**VI.I SECURITY**

VI.I.1 Specific security requirements for each SWMU/HWMU listed in Table 1 are presented in the post closure permit attachments.

**VI.J GENERAL INSPECTION REQUIREMENTS**

VI.J.1 The Permittee shall follow the inspection schedules as specified in the post closure permit attachments. All records of inspections and remedial actions shall be retained in the Operating Record throughout the post-closure care period.

VI.J.2 Inspections shall be documented on required forms as provided in Module VI and as indicated in the post closure permit attachments and as summarized in Table 3.

Table -3 - General Site Inspection Checklists, TEAD-S Post-Closure Plans:

<b>TABLE - 3</b>		
<b>Required Inspection Form(s)</b>		
<b>SWMU NUMBER</b>	<b>Type of Closure</b>	<b>Form Type</b>
9	Risk-based, Industrial	Form A
19	Risk-based, Industrial	Form A
28	Risk-based, Industrial	Form A
33	Risk-based, Industrial	Form A

- VI.J.3 Upon discovering any deterioration or malfunction, the Permittee shall perform corrective action as required by Utah Admin. Code R315-8-2.6(c). Corrective action shall be conducted as soon as practicable from the time the problem is discovered. If corrective action is extensive or will require more than 30 days to complete, the Permittee shall provide a corrective action schedule for approval by the Director.
- VI.J.4 If either the Director or the Permittee determines that any corrective action could endanger human health or the environment, the Permittee shall cease the activity until the problem has been corrected.
- VI.J.5 Records of inspections shall be kept at the Facility, as required by Utah Admin. Code R315-8-2.6(d).
- VI.J.6 The Permittee shall inspect post-closure groundwater-monitoring wells at the frequency specified in each site-specific post closure plan as specified below:
- VI.J.6.a Inspect for damage to the above ground casing of the well.
  - VI.J.6.b Inspect for damage to cement apron and ensure that the annulus is properly sealed.
  - VI.J.6.c Check for visible damage and any tampering to locks and monitoring well caps.
  - VI.J.6.d Ensure that the wells are accessible and visible.

**VI.K TRAINING REQUIRMENTS**

- VI.K.1 The Permittee shall comply with the personnel qualification, training, and training documentation requirements, where applicable, listed in this Permit. Additionally, inspectors of any post-closure care units shall be trained (documentation required), at a minimum, in the following:
- VI.K.1.a Attachment 4 (Contingency Plan),
  - VI.K.1.b Site-specific Post-Closure Plans,
  - VI.K.1.c General Post-Closure Site Inspection Checklists (Form A)
  - VI.K.1.d Site-specific SWMU/HWMU Post-Closure Inspection Checklists (included in site-specific post-closure permit attachments).

## **VI.L PREPAREDNESS AND PREVENTION**

VI.L.1 Preparedness and Prevention measures, for each site listed in Table 1, shall be specified in the post closure permit attachments, or in Attachment 4(Contingency Plan), where applicable to each site. Any modifications of this provision shall be made in accordance with Condition I.D.3.

## **VI.M SAMPLING, ANALYTICAL AND QA/QC PROCEDURES**

VI.M.1 Analytical data obtained from samples collected for compliance with this Module shall be obtained using procedures specified in an approved QAPP.

## **VI.N RECORDKEEPING AND REPORTING**

VI.N.1 The Permittee shall submit reports and notifications as required by this Module and as specified in the post closure permit attachments for each site to the Director documenting post-closure inspection and monitoring activities and results from analyses of samples. Copies of all Permit-related records will be maintained in the Operating Record.

## **VI.O POST-CLOSURE CARE**

VI.O.1 For each site listed in Table 1, the Permittee shall conduct all post-closure activities in accordance with the post-closure plans as specified in the post closure attachments. Each post-closure plan shall include information and requirements to satisfy the requirements of Utah Admin. Code R315-1 through Utah Admin. Code R315-101 for closure of landfills, surface impoundments, storage areas, tanks and other units. Types of site inspections required for each SWMU are outlined in Table 3 and the corresponding post-closure inspection forms are provided as Form A of Module VI.

VI.O.2 Unless specified in a schedule included in the site-specific post closure attachment, the Permittee shall submit analytical results from all sampling activities required under Module VI within 180 days of receipt of the analytical results from the laboratory. All groundwater elevation data shall be submitted to the Director within 60 days of receipt of the analytical results from the laboratory. A report briefly describing analytical data quality shall be included with the results. If the Permittee cannot meet the 180-day requirement, the Permittee shall contact the Director and propose an alternate schedule for approval. The proposal shall include justification for not submitting the information within 180 days.

## **VI.P GROUNDWATER**

Reserved

## **VI.Q AREAS IMPACTED BY MERCUR OUTWASH**

VI.Q.1 The Permittee shall ensure that areas potentially impacted by the Mercur Outwash, namely the eastern half and southeastern corner of the Facility (refer to Figure 1 of Module V) are evaluated in the excavation permit process prior to development or other intrusive work and to ensure controls are in place to ensure adequate worker protection from potential exposure to metals in soil that have been impacted by the Mercur Outwash.

**FORM A**  
**GENERAL POST-CLOSURE SITE INSPECTION CHECKLIST**  
**Industrial Closure/Industrial Use Sites**

Site: \_\_\_\_\_

Date: \_\_\_\_\_

1. List any site-specific inspection requirements outlined in the Site Post Closure Plan and any special tracking conditions in Module VI Table 2.

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2. Inspect the site and surrounding land use. Does the area remain in industrial use?

Yes

No\*

*\*If no, notify the TEAD-S Environmental Office to determine the appropriate course of action.*

Comments: \_\_\_\_\_

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3. Were any dig permits issued for this site since the last inspection?

Yes\*

No

*\*If yes, notify the TEAD-S Environmental Office to determine the appropriate course of action.*

4. Are posted warning signs, security measures, and/or perimeter fencing and locks in good condition and in place?

Yes

No\*

*\*If no, notify the TEAD-S Environmental Office to determine the appropriate course of action. If the fence is damaged; mark the area of fence needing repair.*

5. Is there any soil disturbance in the vicinity of the site? (This may also include conditions of roads up to site: significant potholes and/or erosion.)

Yes\*

No

*\*If yes, verify any change to the site and describe excavation or other activities.*

*Notify the TEAD-S Environmental Office to determine the appropriate course of action.*

Comments: \_\_\_\_\_

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6. Is there any orphan waste at the site?

Yes\*

No

*\*If yes, notify the TEAD-S Environmental Office to determine the appropriate course of action.*

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Verify the security of Groundwater Monitoring Wells – (are caps intact, securely locked, etc.)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name of Inspector: \_\_\_\_\_

Company: \_\_\_\_\_

Signature of Inspector: \_\_\_\_\_

Time and Date of Inspection: \_\_\_\_\_ Site Location: \_\_\_\_\_

**FORM B – RESERVED**

**FORM C - RESERVED**

**FORM D**  
**EXCAVATION PERMIT COORDINATION**

This Excavation Permit form shall be used by the Facility contractor or Facility personnel prior to beginning any excavations.

**I. Procedures:**

- a. The Excavation Requester shall begin the process for an excavation permit as early in the development of the project as possible to assure the acceptability of the proposed work and site and to avoid complications from approval delay.
- b. The request will indicate any critical time constraints and be accompanied by three items:
  - 1) A detailed map of the area showing where the undertaking will occur.
  - 2) A larger scale small map or sketch showing dimensions and depth of the proposed excavation along with distances and orientations from local landmarks.
  - 3) Name, telephone number and email (if applicable of a point of contact designated by the Excavation Requester).
- c. These documents shall be forwarded to appropriate reviewers with suspense for comments.
- d. The reviewers will be provided two weeks to review the request documents. At the end of that time, a signed approval form or detailed explanation of the problems and issues will be due back to the requester.
- e. After notification of approval of the excavation permit, the excavation requestor will notify the blue stake teams of the projected start dates. A 48-hour advance notice is needed so that the blue staking can be in place prior to start of the excavation. The excavation requestor has the responsibility to mark the extents of the excavation and to protect the markings through blue stake procedures and excavation.
- f. An approved Excavation Permit will be valid for the period of the project as identified.
- g. An excavation permit for a new project within the limits of a previous metal sweep can be granted without an additional metal sweep if a site visit produces no indications of additional hazards having been introduced to the site.

**Exemptions:** The following are the only approved excavations that can be performed without an approved Excavation Permit.

- a. Removal of material from existing gravel or borrow pits, within the marked limits of a previously cleared Excavation Permit.
- b. Excavations within the marked limits of a previously cleared excavation permit are exempt from the requirement to obtain an additional metal sweep.

- c. Repairs to a broken underground utility line where the location is clearly indicated and no additional utilities have been placed over the line and no hazards have been introduced to the area since the construction of the line.

**FORM D – TEAD-S EXCAVATION PERMIT**

**APPENDIX A**

**EXCAVATION PERMIT**

(Proponent Agency is Engineering Services Division)  
 (TEAD-R 420-18)

PERMIT EFFECTIVE DATE FROM  TO

EXCAVATION REQUEST BY \_\_\_\_\_ PHONE \_\_\_\_\_

LOCATION OF EXCAVATION \_\_\_\_\_

PURPOSE OF EXCAVATION \_\_\_\_\_

EXCAVATOR IS RESPONSIBLE TO MAINTAIN UTILITY MARKINGS AND IS LIABLE FOR ANY DAMAGE CAUSED THROUGH THE FAILURE TO MAINTAIN MARKINGS

BASED UPON DRAWINGS AVAILABLE, AND PERSONAL KNOWLEDGE OF THE AREA FOR WHICH I AM RESPONSIBLE, THE SITE IS FREE OF UNDERGROUND FACILITIES OR SYSTEMS EXCEPT AS NOTED. IF YES I CHECKED THE CONTRACTOR IS REQUIRED TO NOTIFY THE UNDERSIGNED 24 HOURS IN ADVANCE OF EXCAVATION.

NOTIFICATION REQUIRED	YES	NO
FACILITY SUPPORT DIVISION BLDG 502 (435) 833-2603 _____	<input type="checkbox"/>	<input type="checkbox"/>
ELECTRICAL BLDG 502 (435) 833-2603 _____	<input type="checkbox"/>	<input type="checkbox"/>
WATER BLDG 502 (435) 833-2603 _____	<input type="checkbox"/>	<input type="checkbox"/>
TELEPHONE CONTRACTOR BLDG 10 (435) 833-3200/2000 _____	<input type="checkbox"/>	<input type="checkbox"/>
ENVIRONMENTAL OFFICE BLDG 8 (435) 833-2761 _____	<input type="checkbox"/>	<input type="checkbox"/>
SAFETY OFFICE BLDG 516 (435) 833-3888 _____	<input type="checkbox"/>	<input type="checkbox"/>
FIRE DEPARTMENT BLDG 8 (435) 833-2015 _____	<input type="checkbox"/>	<input type="checkbox"/>

BLUE STAKES Notification Required  YES  NO Confirmation Number

If "yes" is checked privately owned utilities exist in the excavation area. In addition to notifying the required Government organizations listed above, the excavator is required to notify BLUE STAKES (801) 983-1555, and coordinate marking of utilities by BLUE STAKES, and the Government in the excavation area. this permit is not valid if yes is checked and the confirmation number is missing.

ENGINEERING SERVICES DIVISION CHIEF OR CONTRACTING OFFICERS REPRESENTATIVE (COR)-BLDG 501 OR FOR IN-HOUSE PROJECTS FACILITY SUPPORT DIVISION REPRESENTATIVE.  
 SIGNATURE: \_\_\_\_\_ DATE:

NOTE: THIS PERMIT IS TO BE COMPLETED AND ATTACHED TO THE WORK ORDER PRIOR TO THE WORK ORDER BEING ISSUED. AFTER HOUR EMERGENCIES? CALL (435) 833-2911 OR (435) 833-2015. EXCAVATOR MUST HAVE A VALID PERMIT IN POSSESSION BEFORE/DURING EXCAVATION.

COMMENTS