

**MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT  
PART I  
PERMIT NUMBER: MOD043935048**

**PERMITTEE**

Owner: City of Kansas City, Missouri  
414 East 12th Street  
Kansas City, MO 64106

Operator: American Airlines, Incorporated  
9200 Northwest 112th Street  
Kansas City, MO 64153

**FACILITY LOCATION**

9200 Northwest 112th Street  
Kansas City, MO 64153  
Platte County  
T52N, R34W, S22, 23, 26, and 27  
North Latitude – 39°17'15"  
West Longitude – 94°41'21"

**FACILITY DESCRIPTION**

The Kansas City International Airport (MCI) Maintenance Base is used for maintenance and overhauling activities performed on aircraft frames and engines. The facility has two closed hazardous waste surface impoundments, which were used as a final step in treating wastewater produced during the maintenance activities. The facility also has one closed hazardous waste landfill, which was used historically to dispose of a combination of soil, debris, and various industrial waste materials. The final remedy for the contaminated soil and a groundwater-monitoring program have already been put in place at the facility. A hazardous waste permit is needed for continued post-closure care and clean-up activities.

**PERMITTED ACTIVITIES**

This Permit requires post-closure care, including groundwater monitoring and corrective action for the closed hazardous waste surface impoundments and landfill. This Permit also requires implementation of a sitewide corrective action program to address releases from other Solid Waste Management Units and Areas of Concern. The Permit also contains provisions for contingent Corrective Action Conditions to address any potential newly-identified releases to the environment from previously- or newly-identified Solid Waste Management Units and Areas of Concern, as necessary and appropriate.

EFFECTIVE DATES OF PERMIT: August 11, 2010 to August 11, 2020

8-8-10

[Original signed by Jim Belcher]

\_\_\_\_\_  
Date

\_\_\_\_\_  
Jim Belcher, Interim Director  
HAZARDOUS WASTE PROGRAM

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## **INTRODUCTION**

After public notice, according to Code of State Regulations 10 CSR 25-8.124, and review of American Airlines, Incorporated's Resource Conservation and Recovery Act (RCRA) Part B Permit Application, (hereafter referred to as the application), the Missouri Department of Natural Resources (hereafter referred to as the Department) has determined that the application conforms to the provisions of the Solid Waste Disposal Act, as amended by RCRA and regulations promulgated thereunder by the U.S. Environmental Protection Agency (hereafter referred to as EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations) and the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo. Pursuant to Section 260.375.13, RSMo, and the Solid Waste Disposal Act, the Department hereby approves the application and issues Permit Number MOD043935048 to American Airlines, Incorporated, as the facility operator and the City of Kansas City, Missouri, as the facility owner (hereafter both entities are referred to as the Permittee) for the continued post-closure care and corrective action activities at the hazardous waste management facility as described in the application and this Permit. This Permit also addresses corrective action requirements for Solid Waste Management Units and the requirements of the Hazardous and Solid Waste Amendments of 1984 (HSWA) as administered and enforced by the Department. Applicable regulations are found in 40 CFR Parts 260 through 264, 266, 268, and 270, incorporated by reference and modified in 10 CSR 25-7, as specified in this Permit. The Department is issuing this Missouri Hazardous Waste Management Facility (MHWMF) Part I Permit (hereafter referred to as the Permit) under state authority. EPA is issuing the HSWA Part II Permit under federal authority to address regulatory requirements of HSWA for which the state is not yet authorized. The MHWMF Part I Permit shall remain in effect even if the HSWA Part II Permit is terminated or has expired.

All citations to federal regulations throughout this Permit are for the sake of convenient reference. The federal regulations are adopted by reference in 10 CSR 25. In instances where state regulations are more stringent, the appropriate state reference is given and shall apply.

The provisions of this Permit are severable. If any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

All permit application information shall be available to the public unless the Permittee requests nondisclosure in writing and meet the requirements found in 10 CSR 25-7.270(2)(B)2. and Section 260.430, RSMo. This Permit and accompanying permit application material shall be available for review by the public at the Mid-Continent Public Library, Boardwalk Branch, in Kansas City, Missouri; the Department's central office in Jefferson City, Missouri; and the EPA Region VII office in Kansas City, Kansas.

Any appeals of this Permit based on state authority shall be filed in accordance with 10 CSR 25-2.020 and Sections 260.395.11 and 621.250, RSMo. If you are adversely affected by this decision, you may be entitled to pursue an appeal before the Administrative Hearing Commission (AHC). To appeal, you shall file a petition with the AHC within 30 days after the date this Permit was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, then it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Contact information for the AHC is as follows: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 West High Street, P.O. Box 1557, Jefferson City, MO 65102, telephone: 573-751-2422, fax: 573-751-5018, website: [www.ao.mo.gov/ahc](http://www.ao.mo.gov/ahc). The Department further requests that a copy of any appeal request be provided to the Director of the Department's Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102-0176.

The following shall hereafter be referred to as the "approved permit application":

- The application submitted by the Permittee January 11, 2008;
- The additional completeness information and replacement pages received March 4, 2009;
- The additional technical information received May 22, 2009.

The "consolidated permit application" is defined as the approved permit application and all additional documents to be submitted under Schedule of Compliance, Item I.A., of this Permit. The Permittee shall maintain a copy of all documents associated with the consolidated permit application on site at the facility.

Any inaccuracies found in information submitted by the Permittee may be grounds for the termination, revocation and reissuance, or modification, of this Permit according to 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1) and modified in 10 CSR 25-7.270(2)(D), and for potential enforcement action. The Permittee shall inform the Department of any deviation from, or changes in, the information in the application, which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

When the Department receives any information, such as inspection results, information from the Permittee, or requests from the Permittee, it may decide whether cause exists to modify, revoke and reissue, or terminate this Permit. All such changes to this Permit shall be in accordance with 10 CSR 25-7.270(2)(D), 10 CSR 25-8.124, and 40 CFR Part 270 Subpart D, as incorporated by reference in 10 CSR 25-7.270(1).

Post-closure operation of this hazardous waste management facility shall be according to the provisions of this Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 through 260.434, RSMo), the rules and regulations promulgated thereunder [Code of State Regulations, Title 10, Division 25 (10 CSR 25)] as effective on the date of this Permit, the approved permit application, which is incorporated into the conditions of this Permit, and any other conditions, changes, or additions to the engineering plans, specifications, and operating procedures as specified in this Permit. The conditions specified in this Permit supersede any conflicting information in the approved permit application. Where conflicts arise between permit applications, the latest revision shall control.

This Permit for post-closure and corrective action activities is issued only to the Permittee named above. This Permit is issued for a period of ten years and expires at midnight on August 11, 2020. This Permit is subject to review and modification by the Department according to Section 260.395.12, RSMo.

On July 6, 1999, Missouri received final authorization for revisions to its hazardous waste management program, including the corrective action portion of the HSWA Codification Rule (July 15, 1985, 50 FR 28702), which had been previously adopted by the state. Thus, the corrective action requirements implemented by the state in lieu of EPA are incorporated into this MHWMF Part I Permit and are under state authority. Federal administrative authority for other HSWA requirements for which the state has not adopted the applicable federal regulation or for which the state is not authorized is retained by EPA in the HSWA Part II Permit.

40 CFR 264.101(a), as incorporated by reference in 10 CSR 25-7.264(1), requires all owners or operators of facilities seeking a Permit for the treatment, storage, or disposal of hazardous waste to institute corrective action as necessary to protect human health and the environment from all releases of hazardous waste or hazardous constituents from any Solid Waste Management Unit, regardless of the time at which waste was placed in such unit.

40 CFR 264.101(b), as incorporated by reference in 10 CSR 25-7.264(1), requires that permits issued under the Hazardous Waste Management Law contain a schedule of compliance for corrective action (where corrective action cannot be completed prior to permit issuance) and assurances of financial responsibility for completing such corrective action.

40 CFR 264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), requires that corrective action be taken by the facility owner or operator beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates that, despite the owner or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. 40 CFR 264.101(c) further stipulates that the owner or operator is not relieved of any responsibility to cleanup a release that

has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. In addition, assurances of financial responsibility for completing such corrective action shall be provided.

40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), and Section 260.395.12, RSMo, requires that each permit issued under that section contain terms and conditions as the Department determines necessary to protect human health and the environment.

The Permittee is required to comply with all applicable environmental laws and regulations enforced by the Department. These environmental laws and regulations are administered by the Air Pollution Control Program, Hazardous Waste Program, Land Reclamation Program, Solid Waste Management Program, and Water Protection Program. Failure to comply with these environmental laws and regulations may, in certain circumstances, result in the suspension or revocation of this Permit and may subject the Permit holder to civil and criminal liability.

## DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in the Hazardous Waste Management Law and 10 CSR 25, unless this Permit specifically provides otherwise. Where terms are not defined in the Law, the regulations, this Permit, or EPA guidance or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

“Approved Permit Application” means the original permit application submittal and any subsequent completeness and/or technical information submittals as referenced in the Introduction of this Permit.

“Area of Concern (AOC)” means any area where an actual or potential release of hazardous wastes or hazardous constituents that is not from a Solid Waste Management Unit has occurred or is occurring and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of AOCs may be required pursuant to Section 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

“Consolidated Permit Application” means the approved permit application and all additional documents required to be submitted under Schedule of Compliance, Item I.A., of this Permit.

“Director” means the Director of the Missouri Department of Natural Resources or his/her designee.

“Facility” means:

- (1) All contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing hazardous waste; and
- (2) All contiguous property under the control of the owner or operator, for the purpose of implementing corrective action under 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1), and as specified in Corrective Action Conditions I. through XXIV. of this Permit.

“Hazardous constituent” means any chemical compound listed in 40 CFR Part 261 Appendix VIII, as incorporated by reference in 10 CSR 25-4.261.

“Hazardous waste” means any waste, or combination of wastes as defined by or listed in 10 CSR 25-4, which, because of its quantity, concentration, physical, chemical, or infectious

characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness or which may pose a threat to the health of humans or other living organisms.

“Release” means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes or hazardous constituents into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

“Solid Waste Management Unit (SWMU)” means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

“Stabilization” means actions to control or abate threats to human health and/or the environment from releases at RCRA facilities and/or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

## SCHEDULE OF COMPLIANCE

- I. Within 60 calendar days after the effective date of this Permit, the Permittee shall:
- A. Submit to the Department two copies of the consolidated permit application as required by 10 CSR 25-7.270(2)(B)7. This consolidated permit application shall include the following:
    - 1. The approved permit application, as identified in the Introduction of this Permit; and
    - 2. All changes made to the Application as a result of the public comment period.
  - B. Submit to the Department a certification by the Permittee that the Permittee has read this Permit in its entirety and understands all permit conditions contained herein.
  - C. Submit to the Department a check or money order payable to "State of Missouri" for any outstanding engineering review costs.
  - D. Submit to the Department a check or money order payable to "State of Missouri" for \$1000 for each year the Permit is to be in effect beyond the first year. This Permit is effective for ten years. Since the Permittee has submitted a \$1000 deposit with the permit application and paid a \$1000 permit continuation fee for the current year, the remaining balance to be submitted by the Permittee is calculated as:

$$\text{remaining balance} = \$9000.00 - \left( \left( \frac{\$1000.00}{365 \cdot \text{days}} \right) \times N_d \right)$$

where  $N_d$  equals the number of calendar days from the expiration date of the continued Permit (which coincides with the anniversary date of the original permit issuance) to the date of Permit reissuance. An invoice is included with this Permit based on the foregoing formula. The check shall be directed to the Hazardous Waste Program, Permits Section.

- E. Submit to the Department for approval, a revised Sampling and Analysis Plan (SAP), which shall incorporate all groundwater monitoring conditions outlined in this Permit, as required by Corrective Action Condition III.D.6., of this Permit.
  - F. Submit to the Department for approval, a revised surface water monitoring program to incorporate any changes in the surface water monitoring program outlined in this Permit, as required by Corrective Action Condition IV.A., of this Permit.
- II. Within 60 calendar days after the effective date of this Permit, the Permittee shall submit, for the Department's approval, an updated post-closure care and corrective action cost estimate according to 40 CFR 264.144.
- III. Within 30 calendar days after the Department's approval of the updated post-closure care and corrective action cost estimate, the Permittee shall submit all documentation necessary to demonstrate that the Permittee satisfies the financial assurance criteria, in accordance with 40 CFR 264.145, based on the updated post-closure care and corrective action cost estimates approved by the Department.
- IV. If not previously submitted before the effective date of this Permit, the Permittee shall:
  - A. Within 60 calendar days after the effective date of this Permit, the Permittee shall submit, for the Department's approval, a draft Environmental Covenant to be filed in the property chain-of-title, identifying portions of the permitted property where residual concentrations of hazardous waste or hazardous constituents are present in soil and groundwater that exceed background concentrations.
  - B. Within 15 calendar days after receiving the Department's approval of the draft Environmental Covenant, the Permittee shall record with the county recorder of deeds, the local zoning authority, or the authority with jurisdiction over local land use, according to state law, the approved Environmental Covenant in the chain of title for the facility property or on some other instrument that is normally examined during a title search that will, in perpetuity, notify any potential purchaser of the environmental conditions of the property.
  - C. Within 30 calendar days after recording the approved Environmental Covenant in the chain of title for the facility property or other instrument normally examined during a title search, the Permittee shall submit to the Department a notarized statement certifying that the approved Environmental Covenant has been

recorded. Copies of the recorded pages which show that the approved Environmental Covenant has been recorded and become part of the property record shall be included with the notarized statement.

- D. Within 30 calendar days after recording the approved Environmental Covenant, the Permittee shall submit to the Department and the EPA a written certification stating that the final remedy has been constructed according to the approved Corrective Measures Study (CMS), all corrective action measures conducted following CMS approval, and this Permit.
- V. The Permittee shall comply with all planned and contingent corrective action requirements of this Permit as specified in the planned and contingent Corrective Action Conditions and as summarized in Table(s) VII, VIII, and IX.
- VI. Within 30 calendar days after the effective date of this Permit, the Permittee shall submit to the Department, an updated EPA RCRA Hazardous Waste Part A Permit Application and a new Missouri Notification of Regulated Waste Activity form (MO 780-1164) reflecting the new site name for this facility.

## **SUBMITTAL OF REQUIRED INFORMATION**

- I. The Permittee shall submit three copies of all reports, documents, plans/specifications, and consolidated permit application required under the terms of this Permit to:

Chief, Permits Section  
Missouri Department of Natural Resources  
Hazardous Waste Program  
P.O. Box 176  
Jefferson City, MO 65102-0176

- II. The Permittee shall submit one copy of all reports, documents, and plans/specifications required under the terms of this Permit to:

Chief, RCRA Corrective Action & Permits Branch  
U.S. Environmental Protection Agency Region VII  
Air and Waste Management Division  
901 North Fifth Street  
Kansas City, KS 66101

**STANDARD PERMIT CONDITION**

- I. The Permittee shall comply with the requirements described in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this Law), Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 40 CFR §§270.30, 270.40, 270.42, and 270.51, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

## **GENERAL PERMIT CONDITIONS**

- I. The Permittee shall comply with the requirements described in 40 CFR Part 264 Subparts B, C, D, E, and H, 40 CFR Part 268, and 40 CFR Part 270, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

- II. Notification of an Emergency Situation [Section 260.505.4, RSMo]

The Permittee shall, at the earliest practical moment upon discovery of an emergency involving the hazardous waste under the Permittee's control, notify the Department's emergency response hotline at (573) 634-2436 and the National Response Center at 1-800-424-8802.

Within 15 days of the incident occurrence, the Permittee shall submit a written report to the Department providing details. The content of the written report shall conform to 40 CFR 264.56(j), as incorporated in 10 CSR 25-7.264, and be provided to the addressees listed in "Submittal of Required Information" provision.

## **SPECIAL PERMIT CONDITIONS**

The Department has established the following additional permit conditions for the Permittee's hazardous waste facility.

I. Seismic Evaluation Requirements [10 CSR 25-7.270(2)(B)4.]

The Permittee has demonstrated compliance with the seismic requirements, as certified by a professional engineer registered in Missouri. The Permittee shall maintain the seismic evaluation in the operating record.

II. 100-Year Floodplain Requirements [40 CFR 264.18(b)]

The Permittee has submitted information, as required in 40 CFR 270.14(b)(iii), that identifies the facility as not being located in a 100-year floodplain. The Permittee shall maintain the submitted information in the operating record.

## **CORRECTIVE ACTION CONDITIONS**

### **I. Introduction**

The Permittee shall comply with all applicable post-closure care, groundwater monitoring, surface water monitoring, and corrective action requirements contained in 40 CFR Part 264 Subparts F and G, as incorporated by reference in 10 CSR 25-7.264(1), 10 CSR 25-7.264(2)(F) and (G), and this Permit, for the Ravine Area Landfill, two former surface impoundments, all identified SWMUs, and any newly-identified SWMUs and AOCs or releases identified pursuant to the provisions of this Permit.

The Permittee submitted a Class 3 Permit Modification request June 13, 2006, to reflect a change from a compliance monitoring program to a corrective action monitoring program. This modification request also proposed changes to the existing groundwater monitoring program. These proposed changes included, but were not limited to, reducing the sampling frequency from a semi-annual to an annual basis, revising the indicator parameters being analyzed, and changing the number of wells included in the groundwater monitoring program. A public meeting was held July 19, 2006, to discuss the Class 3 Permit Modification request and provide an opportunity for the public to comment. The issues raised in the Class 3 Permit Modification request were held pending Permit reissuance and are now incorporated into this Permit.

### **II. Post-Closure [40 CFR Part 264 Subpart G]**

The Permittee shall comply with all applicable requirements of 40 CFR Part 264 Subpart G, as incorporated by reference in 10 CSR 25-7.264(1), and all provisions of this Permit.

#### **A. Post-Closure Care (40 CFR 264.117).**

1. Post-closure care begins after the acceptance of the closure certification of the hazardous waste management units and continues for 30 years after that date, unless otherwise specified by the Department. The certifications of closure for the Surface Impoundment Area and the Ravine Area Landfill were accepted September 27, 1990, and March 2, 1995, respectively. At the end of the 30 year post-closure care period for each unit, post-closure care shall be extended, at a minimum, until such time as the groundwater protection standard maximum concentration limits or alternate concentration limits, as applicable, are met for a period of three

consecutive years under the groundwater monitoring and corrective action program described in Corrective Action Condition III.C. of this Permit. Care during this period shall consist of maintenance, monitoring, and reporting according to 40 CFR Part 264 Subparts F, G, and N, as incorporated by reference in 10 CSR 25-7.264.

2. The Permittee may submit a request to the Department to shorten the post-closure care period. Justification for shortening the post-closure care period shall accompany any such request. If the Department finds that a shortened post-closure care period is sufficient to protect human health and the environment, shortening of the post-closure care period will be handled according to the applicable permit modification procedures in 40 CFR Part 270 and 10 CSR 25-8.
3. The Permittee shall continue to provide for the proper operation and maintenance of any engineering controls implemented as part of the final remedy. These actions are necessary to prevent human exposure to soils and/or groundwater contaminated with hazardous wastes or hazardous constituents in concentrations exceeding applicable regulatory risk-based thresholds/standards. The engineering controls shall not be disturbed and shall remain in place and be effective unless or until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation/maintenance of such controls.
4. Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of the integrity of the final cover on the Ravine Area Landfill and the Surface Impoundment Area and to prevent damage to the monitoring systems. The Department may approve a use of the property that disturbs the integrity of the final cover if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment.

B. Post-Closure Plan and Amendments [40 CFR 264.118].

Post-closure care shall be according to the plan contained in the approved permit application and all conditions of this Permit. The post-closure care plan may be amended at any time during the post-closure care period. The Permittee shall submit a written request to the Department for a permit modification to authorize a change in the approved post-closure care plan. Amendments are subject to the

applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8. Written requests for amendments shall be submitted at least 60 calendar days before the proposed change in site operations, or not later than 60 calendar days after the occurrence of an unexpected event which has affected the post-closure care plan. The Department may request modifications to the post-closure care plan if changes in site operations affect the approved post-closure care plan. The Permittee shall submit the modified post-closure care plan no later than 60 calendar days after a Departmental request for modification of the post-closure care plan. Any modifications requested by the Department shall be approved, disapproved, or modified according to the procedures in 40 CFR Part 270 and 10 CSR 25-8.

C. Existing Deed Notices

The Permittee filed two deed notices in the chain-of-title for portions of the leased property associated with the Surface Impoundment Area and the Ravine Area, as described below.

1. The deed notice for the Surface Impoundment Area was filed April 6, 1990, in the Office of Recorder of Deeds of Platte County, Missouri. The deed notice restricts the owner or operator of the property from disturbing the hazardous waste disposal unit described in a survey plat attached with the executed instrument. A copy of the deed notice can be found in Page 950 of Book 0740 in the Recorder of Deeds in Platte County.
2. The deed notice for the Ravine Area was filed January 4, 1995, in the Office of Recorder of Deeds of Platte County, Missouri. The deed notice restricts the owner or operator of the property from disturbing the hazardous waste disposal unit described in a survey plat attached with the executed instrument. A copy of the deed notice can be found in Page 410 of Book 0823 in the Recorder of Deeds in Platte County.

D. Future Removal of Hazardous Wastes [40 CFR 264.119(c)].

If the Permittee wishes to remove hazardous wastes, hazardous waste residues, contaminated soils, or contaminated sludges within the boundaries of the Ravine Area Landfill or surface impoundments, the Permittee shall request a modification of this Permit, according to the applicable requirements in 40 CFR Part 270 and 10 CSR 25-8. The request for a modification shall include a demonstration that

the action will not increase the potential hazard to human health or the environment, or the action is necessary to reduce the threat to human health or the environment. In addition, a demonstration shall be made that the action will satisfy 40 CFR 264.117(c). By removing contaminants, the Permittee may become a generator of hazardous waste and shall manage any removed material according to all applicable laws, regulations, and ordinances.

E. Post-Closure Cost Estimate [40 CFR 264.144].

The Permittee shall maintain a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility. The post-closure cost estimate shall be based on the costs of hiring a third party to conduct these activities. The post-closure cost estimate is calculated by multiplying the annual cost estimate by the thirty years of post-closure care.

Following preparation of the initial cost estimate for post-closure care, the Permittee shall adjust the post-closure cost estimate annually to account for inflation. This adjustment shall be made according to the schedule specified in Corrective Action Condition XX1.A.2. of this Permit, for the type of financial assurance instrument(s) used to comply with 40 CFR 264.15. The Permittee may make such adjustment by recalculating the post-closure care cost-estimate, in current dollars, or by multiplying the then current post-closure care cost estimate by an inflation factor derived from the most recent Implicit Price Deflators for Gross Domestic Product published by the U.S. Department of Commerce.

The Permittee's annual cost estimate adjustments for inflation shall also take into account any modifications to the permitted post-closure activities. The Permittee shall maintain the updated post-closure care cost estimates in the operating record.

F. Post-Closure Financial Assurance [40 CFR 264.145].

The Permittee shall demonstrate continuous compliance with 40 CFR 264.145 and 10 CSR 25-7.264(2)(H) and the documentation requirements of 40 CFR 264.151 in at least the amount of the post-closure cost estimate required in Corrective Action Condition II.E. of this Permit. Changes in financial assurance mechanisms shall be approved by the Department according to 40 CFR 264.145, 10 CSR 25-7.264(2)(H), and this Permit. The Permittee has 60 calendar days after a change in the post-closure care cost estimate to adjust their financial assurance instrument to an amount that is at least equal to the amount of the

adjusted post-closure cost estimate. The Permittee shall comply with 40 CFR 264.148.

G. Certification of Completion of Post-Closure Care [40 CFR 264.120].

No later than 60 calendar days after completion of the post-closure care period (including any necessary extensions), the Permittee shall submit to the Department, by certified mail, a certification that the post-closure care period was completed according to the approved post-closure care plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri. Documentation supporting the certification shall be furnished to the Department before the Permittee is released from the financial assurance requirements for post-closure care specified in 40 CFR 264.145(i).

III. Groundwater Monitoring and Corrective Action Program - Former Surface Impoundments and Ravine Area Landfill [40 CFR 264.90 - 264.100]

A. Groundwater Protection Standard (GPS), Hazardous Constituents, and Concentration Limits [40 CFR 264.92, 264.93, and 264.94].

The GPS establishes the maximum concentration limits for hazardous constituents in the groundwater at and beyond the point of compliance during the compliance period. The hazardous constituents, maximum concentration limits, and maximum analytical detection limits specified in Tables I and II of this Permit constitute the GPS for the Permittee's Former Surface Impoundment Area and Ravine Area Landfill land disposal units. The listed GPS hazardous constituents either have been detected in the groundwater beneath and beyond the subject units and/or are reasonably expected to be in or derived from wastes managed at the respective land disposal units.

1. The maximum concentration limits for the GPS hazardous constituents listed in Tables I and II are based on protection of human health and the environment and were derived from several different sources as explained by the footnotes to the tables.
2. The health- and/or environmental-based GPS maximum concentration limit for some hazardous constituents is below the lowest, reasonably achievable detection limit (due to limitations in current analytical technology) for particular hazardous constituents. In these cases, the GPS

maximum concentration limit has been set at the corresponding GPS maximum detection limit.

3. The allowable GPS maximum detection limit shall never be greater than the GPS maximum concentration limit. If the GPS maximum detection limit for specific GPS parameters cannot be achieved due to matrix interferences or other reasonable analytical limitations (provided that appropriate supporting documentation is provided), the affected sample and associated chemical analysis shall be exempted from this requirement. However, such an exemption does not in any way relieve the Permittee from complying with the GPS maximum concentration limits.
4. The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents covered by Corrective Action Condition III.A.2., which allows for adequate comparison with appropriate health- or environmental protection-based concentration limit(s).
5. The Permittee may make a demonstration to the Department, at any time during the term of this Permit, for establishment of Alternate Concentration Limits (ACLs) in lieu of the GPS maximum concentration limits contained in this Permit. Any such demonstration shall ensure that any and all ACLs proposed in lieu of the GPS maximum concentration limits are protective of human health and the environment in accordance with the requirements of 40 CFR 264.94(b). In proposing an ACL(s), the Permittee shall consider and formally address the factors listed in 40 CFR 264.94(b)(1) and (2). Any ACLs approved by the Department shall require a permit modification in accordance with 40 CFR 270.42.
6. The Permittee shall propose modifications of the GPS to include any additional hazardous constituent(s) (40 CFR Part 261, Appendix VIII) in the groundwater that is identified during future sampling and analysis, if such constituents may be attributed to past operation of the regulated unit(s) and/or the degradation of hazardous constituents known to be present in the groundwater. The Appendix IX (40 CFR Part 264) groundwater sampling and analysis requirements contained in Corrective Action Conditions III.E.7. and F.7. of this Permit shall be used as the basis for determining if the addition of hazardous constituents to the GPS is necessary. Any addition of hazardous constituents to the GPS as a result

of the above determination shall require a Class 1 Permit Modification with prior Director's approval, according to 40 CFR 270.42. Any other changes to the GPS list of hazardous constituents shall require a permit modification, according to 40 CFR 270.42.

**Table I - Groundwater Protection Standards  
Surface Impoundments**

<b>Hazardous Constituent</b>	<b>Chemical Abstract Number</b>	<b>Maximum Concentration Limit (µg/L)</b>	<b>Maximum Detection Limit (µg/L)*</b>
1,1-Dichloroethane	75-34-3	2.4 (c)	1.0
1,1-Dichloroethene	75-35-4	7.0 (a)	1.0
1,1,1-Trichloroethane	71-55-6	200.0 (a)	1.0
1,1,2-Trichloroethane	79-00-5	5.0 (a)	1.0
1,1,2,2-Tetrachloroethane	79-34-5	1.0 (d)	1.0
1,2-Dichlorobenzene	95-50-1	600.0 (a)	1.0
1,2-Dichloroethene - cis	156-59-2	70.0 (a)	1.0
1,2-Dichloroethene - trans	156-60-5	100.0 (a)	1.0
1,2-Dichloroethane	107-06-2	5.0 (a)	1.0
1,3-Dichlorobenzene	541-73-1	600.0 (b)	1.0
1,4-Dichlorobenzene	106-46-7	75.0 (a)	1.0
2-Butanone	78-93-3	7,100.0 (c)	10.0
2-Hexanone	591-78-6	10.0 (d)	10.0
Acetone	67-64-1	22,000.0 (c)	10.0
Benzene	71-43-2	5.0 (a)	1.0
Carbon Disulfide	75-15-0	1,000.0 (c)	10.0
Chlorobenzene	108-90-7	100.0 (a)	1.0
Chloroethane	75-00-3	21,000.0 (c)	1.0
Chloroform	67-66-3	5.7 (b)	1.0
Ethylbenzene	100-41-4	700.0 (a)	1.0
Hexachlorobutadiene	87-68-3	1.0 (d)	1.0
Methylene Chloride	75-09-2	5.0 (a)	1.0
Styrene	100-42-5	100.0 (a)	1.0
Tetrachloroethylene	127-18-4	5.0 (a)	1.0
Toluene	108-88-3	1,000.0 (a)	1.0
Trichloroethylene	79-01-6	5.0 (a)	1.0
Vinyl Chloride	75-01-4	2.0 (a)	1.0
Xylenes, total	1330-20-7	10,000.0 (a)	1.0

**Table II - Groundwater Protection Standards  
Ravine Area Landfill**

<b>Hazardous Constituent</b>	<b>Chemical Abstract Number</b>	<b>Maximum Concentration Limit (µg/L)</b>	<b>Maximum Detection Limit (µg/L)*</b>
1,1-Dichloroethane	75-34-3	2.4 (c)	1.0
1,1-Dichloroethene	75-35-4	7.0 (a)	1.0
1,1,1-Trichloroethane	71-55-6	200.0 (a)	1.0
1,1,2-Trichloroethane	79-00-5	5.0 (a)	1.0
1,2-Dichlorobenzene	95-50-1	600.0 (a)	1.0
1,2-Dichloroethene - cis	156-59-2	70.0 (a)	1.0
1,2-Dichloroethene - trans	156-60-5	100.0 (a)	1.0
1,2-Dichloroethane	107-06-2	5.0 (a)	1.0
1,3-Dichlorobenzene	541-73-1	600.0 (b)	1.0
1,4-Dichlorobenzene	106-46-7	75.0 (a)	1.0
Acetone	67-64-1	22,000.0 (c)	10.0
Benzene	71-43-2	5.0 (a)	1.0
Carbon Disulfide	75-15-0	1,000.0 (c)	10.0
Chlorobenzene	108-90-7	100.0 (a)	1.0
Chloroethane	75-00-3	21,000.0 (c)	1.0
Chloroform	67-66-3	5.7 (b)	1.0
Ethyl benzene	100-41-4	700.0 (a)	1.0
Hexachlorobutadiene	87-68-3	1.0 (d)	1.0
Methylene Chloride	75-09-2	5.0 (a)	1.0
Tetrachloroethylene	127-18-4	5.0 (a)	1.0
Toluene	108-88-3	1,000.0 (a)	1.0
Trichloroethylene	79-01-6	5.0 (a)	1.0
Vinyl Chloride	75-01-4	2.0 (a)	1.0
Xylenes, total	1330-20-7	10,000.0 (a)	1.0
Arsenic, total	7440-38-2	10.0 (a)	5.0
Beryllium, total	7440-41-7	4.0 (a)	1.0
Cadmium, total	7440-43-9	5.0 (a)	3.0
Chromium, total	7440-47-3	100.0 (a)	10.0
Copper, total	7440-50-8	1,300.0 (a)	10.0
Nickel, total	7440-02-0	100.0 (b)	30.0

**Table II - Groundwater Protection Standards  
 Ravine Area Landfill (Continued)**

Hazardous Constituent	Chemical Abstract Number	Maximum Concentration Limit (µg/L)	Maximum Detection Limit (µg/L)*
Lead, total	7439-92-1	15.0 (a)	5.0
Mercury, total	7487-94-7	2.0 (a)	0.2
Selenium, total	7782-49-2	50.0 (a)	5.0
Thallium, total	7440-28-0	2.0 (a)	2.0
Zinc, total	7440-66-6	5,000.0 (a)	2.0

\* Detection Limit based upon the lowest achievable practical quantitation limit available from the Permittee's current contract laboratory.

- (a) Denotes limits derived from state (10 CSR 60-4) and federal public drinking water regulations (40 CFR Part 141 and 40 CFR Part 143), dated December 31, 2003 and June 22, 2009, respectively.
- (b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031) for protection of groundwater, dated July 31, 2008.
- (c) Denotes limits derived from risk-based concentration values for Tap Water as contained in the U.S. EPA, Region VI. Human Health Medium-Specific Screening Levels, dated September 12, 2008.
- (d) Health- and/or environmental-based levels are lower than the ability of current analytical technology to detect at or below such levels. These hazardous constituents and their health-based criteria are listed below.

<u>Hazardous Constituent</u>	<u>Maximum Concentration Limit (µg/l)</u>
1,1,2,2-Tetrachloroethane	0.17 (b)
2-Hexanone	4.75 (e)
Hexachlorobutadiene	0.45 (b)

- (e) Denotes limits derived from Lowest Default Target Levels (Table B-1) from Appendix B of the draft Departmental Missouri Risk-Based Corrective Action technical guidance document, dated April 2006 and including updates published in June 2006 and June 2008.

**B. Point of Compliance [40 CFR 264.95].**

At the ground surface, the point of compliance is defined by the survey boundary as shown on Figure 1 for the surface impoundments, which circumscribes the former land disposal units. In the subsurface, the point of compliance is defined as a vertical surface that extends perpendicularly downward from the survey boundary into the uppermost aquifer underlying the land disposal unit. Groundwater contamination at and beyond the point of compliance that exceeds the GPS maximum concentration limits shall be subject to corrective action pursuant to 40 CFR 264.100.

Based on current knowledge of the hydrogeologic conditions at the Ravine Area Landfill, the point of compliance for this unit shall be a polygon constructed by connecting, via straight line segments, monitoring wells: M-214, A-2, T-1A, E-2, and M-238, as shown on Figure 2. In the subsurface, the point of compliance is defined as a vertical surface that extends perpendicularly downward from the boundary into the uppermost aquifer underlying the land disposal unit. Should the Permittee's ongoing site investigation indicate that the above wells do not adequately monitor groundwater flowing past the Point of Compliance, the Permittee shall propose a permit modification to install additional point of compliance wells and/or exclude existing point of compliance wells, in accordance with 40 CFR 270.42.

C. Compliance Period [40 CFR 264.96]

The compliance period for the former surface impoundments shall be 18 years. The compliance period for the Ravine Area Landfill shall be 35 years. Each compliance period began on the effective date of the original MHWMF Part I Permit (August 7, 1998).

If the GPS maximum concentration limits are being exceeded at the end of the compliance period at or beyond the point of compliance, the Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that these limits have not been exceeded at and beyond the point of compliance for a period of three consecutive years.

D. General Groundwater Monitoring Requirements [40 CFR 264.97].

The Permittee shall comply with the portion of 40 CFR 264.97 applicable to monitoring programs conducted according to 40 CFR 264.99, 40 CFR 264.100, and the following additional requirements.

1. The Permittee's groundwater monitoring systems shall be designed, installed, operated, and maintained during the compliance period in a manner that ensures:
  - a. Detection and/or delineation of the horizontal and vertical extent of groundwater contamination at and beyond the Point of Compliance, including beyond the facility property boundary;

- b. Determination of representative concentrations of hazardous constituents and contaminant plume indicator parameters in the groundwater; and
  - c. The Permittee's ability to determine the effectiveness of any groundwater corrective action activities in terms of contaminant removal, destruction, and/or containment (plume stability).
2. The number, location, and depth of the Permittee's monitoring wells shall be sufficient to define the horizontal and vertical extent of groundwater contamination beneath the Permittee's property and beyond the facility property boundary. If, at any time during the compliance period, including any necessary extensions, the Permittee or the Department determines that the existing monitoring system fails to define the horizontal and vertical extent of groundwater contamination, the Permittee shall submit, within 30 calendar days of such determination by the Permittee or written notification by the Department, a proposal for the installation of additional monitoring wells to define such extent.

At such time as the Department determines that the Permittee has adequately redefined the horizontal and/or vertical extent of groundwater contamination, the wells defining such extent shall be incorporated into and designated for continued monitoring in the Permittee's Groundwater Sampling and Analysis Plan (SAP). The Department shall notify the Permittee in writing regarding this determination. Within 30 calendar days of receipt of this notification, the Permittee shall submit appropriate SAP revisions to the Department's Hazardous Waste Program.

3. Any new groundwater monitoring well(s) installed by the Permittee to meet the requirements of this Permit shall be designed and constructed according to the requirements of 40 CFR 264.97, 10 CSR 23-4, Monitoring Well Construction Code of the Missouri Well Construction Rules, and/or well-specific plans and specifications approved by the Department.
- a. The Permittee shall submit to the Department's Hazardous Waste Program, a copy of the well certification report form and the resulting certification acceptance required by 10 CSR 23-4.020 for any new monitoring wells installed pursuant to this Permit. This

information shall be reported in the Annual Groundwater Corrective Action Reports required by Corrective Action Condition XIX. of this Permit.

- b. Any change in the number of monitoring wells at each regulated unit shall require a Class 2 Permit Modification, in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual modification request to incorporate changes in the number of wells in lieu of a modification request submittal for each individual change.
4. Plugging and abandonment of any groundwater monitoring well(s) operated by the Permittee pursuant to the requirements of this Permit shall meet the requirements of 10 CSR 23-4.080.
  - a. The Permittee shall submit to the Department's Hazardous Waste Program, a copy of the well registration report form and resulting registration acceptance required by 10 CSR 23-4.080, for any monitoring wells abandoned and plugged pursuant to this Permit. This information shall be reported in the Annual Groundwater Corrective Action Report required by Corrective Action Condition XIX. of this Permit.
  - b. At such time as the Permittee's well registration has been accepted by the Department's Division of Geology and Land Survey (DGLS), the plugged wells shall be removed from the Permittee's Groundwater SAP. Within 30 calendar days of DGLS' registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department's Hazardous Waste Program.
5. The Permittee shall contact the Department at least seven calendar days before conducting any field work associated with the construction or modification of the groundwater monitoring system required by this Permit. The Department shall then have the option of observing any portion of the system's construction or modification.
6. The Permittee shall revise and resubmit the facility SAP for Department approval within 60 calendar days of the effective date of this Permit to reflect the requirements contained in this Permit. All SAP procedures and techniques used in groundwater sampling, analysis, and measurement of

groundwater-related parameters shall be designed to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. The Permittee's sampling, analysis, and measurement protocols shall ensure the representative nature of all analysis and measurement results. The SAP will be reviewed according to the procedures set forth in Corrective Action Condition XXII. of this Permit.

7. A monitoring well inspection and maintenance program shall be implemented for the duration of the compliance period including any necessary extensions. This program shall be designed to ensure the structural integrity of all monitoring well installations during the compliance period. The Permittee's revised SAP shall address the details of this program according to the following requirements.
  - a. Surface well integrity inspections shall be performed at the time of each sampling event and shall be documented on a well inspection log sheet. Surface integrity evaluations for each monitoring well shall include a visual inspection of the outer protective casing, inner casing riser, surface well seal, well cap, and locking mechanism, to document any damage or deterioration. The ground surface in the immediate vicinity of each monitoring well and the annular space between the outer protective casing and casing riser shall be inspected for visible anomalies (e.g., collection or ponding of water, ground subsidence, etc.).
  - b. Subsurface well integrity inspections shall be performed annually in all wells, according to the provisions contained in the Permittee's SAP, and shall be documented on a well inspection log sheet. Subsurface well integrity inspections may consist of a combination of elements, including total well depth measurements, groundwater turbidity measurements, in-situ hydraulic conductivity tests, casing caliper logs, down-hole television camera surveys, and/or other methods capable of verifying the subsurface integrity of the well casing and screen.
  - c. The Permittee's SAP shall specify performance of an annual wellbore siltation evaluation to assess downwell siltation and well screen occlusion in all monitoring wells. This evaluation shall be designed to ensure the representative nature of the Permittee's

groundwater sample analysis and field measurement results through minimization of sampling and measurement interferences (e.g., turbidity, excessive well screen occlusion, etc.).

The Permittee's SAP shall specify a well redevelopment trigger criterion based on a percentage of well screen occlusion and the potential of such occlusion to compromise the representative nature of the Permittee's groundwater sample analysis and field measurement results. Wells demonstrating well screen occlusion equal to or in excess of the selected criterion shall be redeveloped before the next required sampling event.

- d. The Permittee shall perform well-specific surface and subsurface integrity inspections within seven calendar days following any contact of wells by flood waters.
- e. Monitoring well repairs shall be undertaken within 30 calendar days of identifying any surface or subsurface well integrity problem(s). If adverse weather or site conditions preclude the Permittee from gaining access to and/or repairing flood-impacted monitoring wells within 30 calendar days, then the Permittee shall take appropriate action as soon as practicable. Written justification for any delay, completed well inspection log sheets, a narrative description of any well repairs and before and after repair photographic, documentation (in the case of visible surface well repairs) shall be provided to the Department in the Annual Groundwater Corrective Action Report required by Corrective Action Condition XIX. of this Permit.

E. Corrective Action Program - Surface Impoundments [40 CFR 264.100].

The former surface impoundments (land disposal unit) is subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit, until such time as the corrective action requirements contained in 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264, and this Permit have been satisfied.

- 1. The Permittee's corrective action program for the former surface impoundments (land disposal unit) shall consist of groundwater and surface water monitoring according to Corrective Action Conditions III.

and IV. of this Permit. The corrective action program shall address any groundwater contamination that has migrated off site. A groundwater interceptor trench at the down-gradient edge of the contaminant plume emanating from the surface impoundment regulated unit was installed in 1999. The interceptor trench continually removes groundwater from the down-gradient edge of the contaminant plume.

2. The Permittee shall perform groundwater sampling/analysis and field measurement of groundwater-related parameters to monitor releases from the Surface Impoundment Area according to the schedule presented in Table III.
  - a. Sampling and analysis according to this schedule shall begin during the next regularly scheduled sampling event, following approval of the revised SAP required by Corrective Action Condition III.D.6. of this Permit. Given the potential lag time between the effective date of this Permit and approval of the revised SAP required by Corrective Action Condition III.D.6. of this Permit, the Permittee shall continue sampling and analysis according to the latest Department-approved version of the Permittee's Groundwater SAP until such time as the revised SAP is approved.
  - b. Sampling and analysis of groundwater from any new wells required by 40 CFR Part 264 Subpart F and/or this Permit shall be performed no later than the next regularly scheduled sampling event following their installation.
  - c. Wells monitored to ensure adequate delineation of the horizontal and vertical extent of groundwater contamination (hereafter referred to as perimeter wells) shall be sampled and the samples analyzed annually, according to Table III, following approval of the revised SAP as required by Corrective Action Condition III.D.6. of this Permit. The following wells shall be classified as perimeter wells at the Surface Impoundment Area: M-1, M-2, TW-26, TW-27, TW-28, TW-29, and L-1A.
  - d. Specific perimeter wells to be monitored shall also be specified in the Permittee's revised SAP required by Corrective Action Condition III.D.6. of this Permit.

- e. Installation of additional perimeter wells during the compliance period, including any extensions, may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table III. Addition of monitoring wells shall be subject to the permit modifications procedures outlined in Corrective Action Condition III.D.3.b. of this Permit.
  - f. Any future changes to the list of perimeter wells established in the Permittee's revised SAP shall be approved, in writing, by the Department. Within 30 calendar days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.
3. Wells monitored to assess the effectiveness of the Permittee's corrective action program (hereafter referred to as effectiveness wells) shall be sampled and the samples analyzed annually, according to Table III. Effectiveness wells at the Surface Impoundment Area shall be: TW-4, TW-23, TW-27A, and samples obtained from the interceptor trench sump.
- a. Specific effectiveness wells and the trench sump to be monitored shall also be specified in the Permittee's revised SAP required by Corrective Action Condition III.D.6. of this Permit.
  - b. Installation of additional effectiveness wells during the compliance period, including any extensions, may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they shall be subject to the monitoring requirements contained in Table III. The addition of monitoring wells shall also be subject to the permit modification procedures outlined in Corrective Action Condition III.D.3.b. of this Permit.
  - c. Any future changes to the list of effectiveness wells established in the Permittee's revised SAP shall be approved, in writing, by the Department. Within 30 calendar days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.

4. Wells monitored to assess general groundwater quality in the vicinity of the surface impoundments shall be sampled annually according to Table III. Specific wells monitoring general groundwater quality in the vicinity of the surface impoundments shall include wells: N-1, N-2, TW-6, TW-13, and TW-21. These wells shall be so specified in the Permittee's revised SAP.
5. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table III, with the exception of duplicate samples taken for Quality Assurance/Quality Control (QA/QC) purposes.
6. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
  - a. Downwell measurement of static water level and total well depth shall be taken before well purging.
  - b. Specific conductance, pH, and temperature measurements reported to the Department shall be those taken immediately following well purging as per the approved SAP. Additional field parameter measurements, such as those taken to verify the adequacy of well purging, shall be recorded in the field logbook.
7. Within five years of the effective date of this Permit and every five years thereafter, the Permittee shall sample and analyze groundwater from two historically contaminated wells at the Surface Impoundment Area for all parameters contained in Appendix IX of 40 CFR Part 264, as specified in Table III.
  - a. The selection of the wells sampled to meet this requirement is left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of dissolved phase contamination and one well containing moderate to high levels of dissolved phase contaminants.
  - b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR Part 261, Appendix VIII.) or contamination indicator parameters are present in the groundwater

that may be attributable to a release(s) from the surface impoundments (land disposal unit) or degradation of currently known hazardous constituents.

- c. If hazardous constituents or contamination indicator parameters are identified in the groundwater which are not currently specified in the GPS, the Permittee may resample the groundwater, according to 40 CFR 264.99(g). If the Permittee's subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose a Class 1 permit modification with prior Director's approval, according to 40 CFR 270.42, to add the confirmed hazardous constituent(s) or contamination indicator parameter(s) to the GPS specified in Table I and the monitoring program specified in Table III.

F. Corrective Action Program - Ravine Area Landfill (40 CFR 264.100).

The former Ravine Area Landfill (land disposal unit) is subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit, until such time as the corrective action requirements contained in 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264, and this Permit have been satisfied.

1. The Permittee's corrective action monitoring program for the Ravine Area Landfill (land disposal unit) shall consist of groundwater monitoring according to Corrective Action Condition III.D. of this Permit. While subject to the corrective action program requirements of 40 CFR 264.100, the Permittee shall conduct groundwater monitoring according to Table IV. Subsequent to each sampling event, the Permittee shall compare all detections of hazardous constituents from samples from the point of compliance wells with the corresponding GPS in Table II. If the GPS has been exceeded for any hazardous constituent, the Permittee shall perform a statistical analysis(es) on each exceedance. (The point of compliance wells are specified in Corrective Action Condition III.B. of this Permit.) This statistical analysis(es) shall be performed according to the requirements of 40 CFR 264.97, shall utilize a statistical method which is appropriate for the distribution of the data undergoing analysis, and shall ensure, to the greatest degree possible, protection of human health and the environment.

The corrective action program is premised on the Permittee installing and incorporating into the facility SAP, any additional monitoring wells, as necessary, at the downgradient edge of the contaminant plume emanating from the ravine area regulated unit. The Permittee shall monitor the new wells annually during the corrective action period. Any statistical exceedance of the GPS at the downgradient wells shall initiate an evaluation of further corrective action in the Ravine Area Landfill.

2. The Permittee shall perform groundwater sampling and analysis and field measurement of groundwater-related parameters to monitor releases from the Ravine Area Landfill according to the schedule presented in Table IV.
  - a. Sampling and analysis according to this schedule shall begin during the next regularly scheduled sampling event following approval of the revised SAP required by Corrective Action Condition III.D.6. of this Permit. Given the potential lag time between the effective date of this Permit and approval of the revised SAP required by Corrective Action Condition III.D.6. of this Permit, the Permittee shall continue sampling and analysis according to the latest version of the Department-approved Groundwater SAP until such time as the revised SAP is approved.
  - b. Sampling and analysis of groundwater from any newly installed monitoring wells required by 40 CFR Part 264 Subpart F and this Permit shall be performed no later than the next regularly scheduled sampling event following their installation. Any new wells shall be sampled and the samples analyzed annually according to Table IV.
  - c. Any future changes to the list of wells associated with the Ravine Area Landfill, as established in the Permittee's revised SAP and as required by Corrective Action Condition III.D.6. of this Permit, shall be approved, in writing, by the Department. Within 30 calendar days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes. The addition of new monitoring wells shall also be subject to the permit modification procedures outlined in Corrective Action Condition III.D.3.b. of this Permit.

3. Wells monitored to assess groundwater quality at the point of compliance shall be sampled and the samples analyzed annually according to Table IV, following approval of the revised SAP, as required by Corrective Action Condition III.D.6. of this Permit.
4. Wells monitored to assess general groundwater quality in the vicinity of the Ravine Area Landfill regulated unit shall also be sampled annually according to Table IV. General groundwater quality wells at the Ravine Area Landfill shall be Wells F-2, F-3, M-224, M230, M239, and Ravine Sump, and shall be so specified in the revised SAP required by Corrective Action Condition III.D.6 of this Permit. Any future changes to the above list of general groundwater quality wells established in the Permittee's revised SAP shall be approved, in writing, by the Department. Within 30 calendar days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.
5. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table IV, with the exception of duplicate samples taken for QA/QC purposes.
6. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
  - a. Downwell measurement of static water level and total well depth shall be taken before well purging.
  - b. Specific conductance, pH, and temperature measurements reported to the Department shall be those taken immediately following well purging. Additional field parameter measurements, such as those taken to verify the adequacy of well purging, shall be recorded in the field logbook.
7. Within five years of the effective date of this Permit and every five years thereafter, the Permittee shall sample and analyze groundwater from two historically contaminated wells at the Ravine Area Landfill for all parameters contained in Appendix IX of 40 CFR Part 264, as specified in Table IV.

- a. The selection of the wells sampled to meet this requirement is left to the discretion of the Permittee; however, the choice shall include one well containing low levels of dissolved phase contamination and one well containing moderate to high levels of dissolved phase contaminants.
- b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR Part 261, Appendix VIII.) or contamination indicator parameters are present in the groundwater which may be attributable to a release(s) from the Ravine Area Landfill (land disposal unit) or degradation of currently known hazardous constituents.
- c. If hazardous constituents or contamination indicator parameters are identified in the groundwater which are not currently specified in the GPS, the Permittee may resample the groundwater, according to 40 CFR 264.99(g). If the Permittee's subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose a Class 1 permit modification with prior Director's approval, according to 40 CFR 270.42, to add the confirmed hazardous constituent(s) or contamination indicator parameter(s) to the GPS specified in Table II and the monitoring program specified in Table IV.

**Table III - Groundwater Monitoring, Sampling, Analysis, and  
 Parameter Measurement Schedule  
 Surface Impoundments**

<b>Parameters</b>	<b>Type*</b>	<b>Maximum Detection Limit (µg/l)</b>	<b>Frequency</b>
Appendix IX (1)	HC	PQLs per SW-846 **	Every 5 years
Volatiles (2)	HC	Per Table I	Annual
pH	FM	Not Applicable	Annual
Specific Conductance	FM	Not Applicable	Annual
Static GW Elevation (3)	FM	Not Applicable	Annual
Temperature	FM	Not Applicable	Annual
Total Well Depth	FM	Not Applicable	Annual

\* HC = Hazardous Constituent FM = Field Measurement PQL = Practical Quantification Limit GW = Groundwater

\*\* The SW-846 version, which is current at the time of sampling.

- (1) Appendix IX (40 CFR Part 264) scan on two wells only. The wells to be sampled are left to the discretion of the Permittee, but shall include one well containing low levels of dissolved phase contamination and one well containing moderate to high levels of dissolved phase contaminants.
- (2) EPA SW-846 Method 8260 or equivalent.
- (3) Potentiometric measurements shall be obtained at the time of each regularly scheduled sampling event from all monitoring wells at the facility, including those which are not being sampled regularly.

**Table IV - Groundwater Monitoring, Sampling, Analysis, and  
 Parameter Measurement Schedule  
 Ravine Area Landfill**

<b>Parameters</b>	<b>Type*</b>	<b>Maximum Detection Limit (µg/l)</b>	<b>Frequency</b>
Appendix IX (1)	HC	PQLs per SW-846 **	Every 5 years
Volatiles (2)	HC	Per Table II	Annual
Metals (total)	HC	Per Table II	Annual
pH	FM	Not Applicable	Annual
Specific Conductance	FM	Not Applicable	Annual
Static GW Elevation (3)	FM	Not Applicable	Annual
Temperature	FM	Not Applicable	Annual
Total Well Depth	FM	Not Applicable	Annual

\* HC = Hazardous Constituent FM = Field Measurement PQL = Practical Quantification Limit  
 GW = Groundwater

\*\* The SW-846 version, which is current at the time of sampling.

- (1) Appendix IX (40 CFR Part 264) scan on two wells only. The wells to be sampled are left to the discretion of the Permittee, but shall include one well containing low levels of dissolved phase contamination and one well containing moderate to high levels of dissolved phase contaminants.
- (2) EPA SW-846 Method 8260 or equivalent.
- (3) Potentiometric measurements shall be obtained at the time of each regularly scheduled sampling event from all monitoring wells at the facility, including those which are not being sampled regularly.

**IV. Surface Water Monitoring Program [10 CSR 25-7.264(2)(F)4.]**

- A. Within 60 calendar days of the effective date of this Permit, the Permittee shall submit for Department approval, revisions to the surface water monitoring program to incorporate any modifications outlined in this Permit or according to the requirements of 10 CSR 25-7.264(2)(F)4. Surface water monitoring shall continue throughout the post-closure care period, including any extensions, or until such time as the Permittee makes a successful demonstration for exemption from these requirements.

1. The Permittee's surface water monitoring program shall be incorporated directly into, and be submitted as part of, the revised SAP required by Corrective Action Condition III.D.6. of this Permit.
  2. The Permittee's surface water sampling and analysis methods for chemical indicator parameters and hazardous constituents shall be consistent with those specified in Table I for groundwater monitoring in the Surface Impoundment Area.
  3. After Department approval of the surface water monitoring program, the Permittee shall initiate the surface water sampling concurrently with the first groundwater sampling event performed under this Permit.
  4. Reporting and analysis of data and information collected as part of the surface water monitoring program shall be sufficient to ensure that the requirements of 10 CSR 25-7.264(2)(F)4. are met, and shall be included in the Annual Groundwater Report required by Corrective Action Condition XIX. of this Permit.
- B. The Permittee may, at any time during the post-closure care period, including any extensions, make a demonstration to the Department for a surface water monitoring exemption. A successful demonstration for such an exemption shall, at a minimum, address the elements of 40 CFR 264.94(b), as applied to potentially affected surface water bodies. This demonstration shall be certified by a geologist or professional engineer registered in Missouri. Departmental approval of the Permittee's surface water monitoring exemption shall necessitate a permit modification, according to 40 CFR 270.42. In addition, any exemption shall not affect any obligation on the part of the Permittee to apply for and obtain a State Operating Permit from the Department's Water Protection Program for discharges to waters of the State.
- V. Identification of SWMUs and AOCs [40 CFR 264.101]
- A. EPA conducted a RCRA Facility Assessment (RFA) in March 1989, to identify and gather information on releases and potential releases from SWMUs at the facility. Following completion of the RFA, the Trans World Airlines Incorporated, Ground Operations Center (TWA) and EPA entered into an Administrative Order on Consent, Docket No. VII-89-H-0043, on September 29, 1989. Under the conditions of the Administrative Order on Consent, TWA was required to complete a RCRA Facility Investigation (RFI) and Corrective

Measures Study (CMS). The RFA and Administrative Order on Consent identified 14 SWMUs to be addressed during the RFI. In addition to the original SWMUs identified in the RFA, 13 SWMUs (Units 15a through 15m) were subsequently identified as a result of on-site RFI field investigation activities. One SWMU identified in the Administrative Order on Consent (Unit 6) has been divided into two distinct areas (Units 6a and 6b). In addition, during construction activities at the facility, one additional SWMU (Unit 15n) was identified by TWA. The general location of the individual SWMUs at the facility are illustrated in Figure 3. The Administrative Order on Consent governed corrective action activities at the site until the original MHWMF Part I Permit was issued August 7, 1998. EPA terminated the Administrative Order on Consent March 31, 2006. This MHWMF Part I Permit and the HWSA Part II Permit are now the sole instruments governing the corrective action activities at the facility.

- B. Several SWMUs identified during and subsequent to the RFI have had corrective measures completed. Results of the RFI and CMS indicate the levels of residual contamination remaining at these and other SWMUs pose no threat to human health and the environment, irrespective of site usage conditions. Based on EPA and Departmental approval of the CMS, inclusion in the Statement of Basis, and issuance of the original MHWMF Part I Permit, no further corrective action was required at the following SWMUs:

SWMU 4:	SPCC Pond (Cooper Road)
SWMU 15c:	Removed Waste Oil Underground Storage Tank (not including Groundwater)
SWMU 15e:	Delta Building Waste Storage Area
SWMU 15f:	New Chemical Wastewater Treatment Plant
SWMU 15h:	New Scrap Metal Storage Area in Wetdock/FIMCO Area
SWMU 15k:	Distressed Vegetation South of Building No. 2
SWMU 15m:	Scrap Metal Collection Area
SWMU 15n:	Oleum Collection Systems Line

This determination is based on information currently available for these SWMUs. In the event any additional information becomes available indicating that the SWMU or groundwater conditions previously identified during the RFI underestimate the amount of contamination present, additional evaluation may be required.

- C. Soil and groundwater contamination discovered during the RFI at SWMUs having no interim corrective measures previously completed were evaluated

during the CMS to determine if this contamination posed any threat to human health and the environment. Based on EPA and Departmental approval of the CMS, inclusion in the Statement of Basis, and issuance of the original MHWMF Part I Permit, remediation was not required to protect human health and the environment at the following SWMUs:

SWMU 9:	Conveyance Sewers and Storage Basins for Chrome and Cyanide Wastewater Streams
SWMU 10:	Fuel Farm and Adjacent Area and Fuel Farm Groundwater
SWMU 15a <sub>1</sub> :	Area Adjacent to Ravine (not covered by RCRA cap)
SWMU 15b:	Subfloor Wetdock/Hangar Bay 10
SWMU 15i:	Area East of Fire Pump Station No. 1

In the event any new information becomes available indicating that human health or the environment may be adversely impacted, the Permittee will be required to re-evaluate the risk assessment and fate and transport modeling conducted as part of the approved CMS to determine the need for further corrective actions for the aforementioned SWMUs and AOCs, any newly-identified SWMUs and AOCs, and/or any release(s) from previously-identified SWMUs and AOCs, including off-site release(s), as specified in Corrective Action Conditions VI. and VII. of this Permit.

- D. Based on EPA and Departmental approval of the CMS, inclusion in the Statement of Basis, and issuance of the original MHWMF Part I Permit, further corrective action was required to protect human health and the environment for the following SWMUs. Results of the CMS Report submitted in February 1996, indicated long-term groundwater monitoring, in conjunction with other remedial measures, was necessary in the following areas, which effectively includes monitoring of the noted SWMU groups:

Surface Impoundment Area:

SWMU 1:	Surface Impoundments (RCRA Regulated Unit)
SWMU 5:	Sludge Drying Basins
SWMU 7:	Waste Oil Loading Area
SWMU 14:	Wastewater Treatment Plant

Ravine Area:

SWMU 2:	Ravine Landfill (RCRA Regulated Unit)
SWMU 3:	SPCC Pond (South)
SWMU 12:	Incinerator

SWMU 15a<sub>2</sub>: Area Adjacent to the Ravine (covered by RCRA cap)

Barrel House/Oleum Still Area:

SWMU 11: Waste Solvent (Oleum) Recycling Unit

SWMU 13: Barrel House Complex

SWMU 15g: Old Scrap Metal Storage Area

Superhangar Area/Wetdock Area:

SWMU 6a: Old Fuel Farm near Superhangars

SWMU 6b: Wastewater Treatment Plant Sludge Staging Area

SWMU 15d: Solvent Reclamation Area in Wetdock

SWMU 15j: North Drainage Ditch

SWMU 15l: Subfloor Hangar Bay 9

Dumpsite Area:

SWMU 8: Dumpsite East of the Runway

VI. Notification Requirements for, and Assessment of, Newly-Identified SWMUs and AOCs

- A. The Permittee shall notify the Department and EPA, in writing, no later than 15 calendar days after discovery or after discovery should have been made, of any SWMU(s) or AOC(s) identified after the issuance of this Permit.
- B. The Department may require a SWMU/AOC Assessment Work Plan for conducting an investigation of any existing or newly-identified SWMU(s) or AOC(s). Within 30 calendar days after receipt of notice that the Department requires a SWMU/AOC Assessment Work Plan, the Permittee shall submit a SWMU/AOC Assessment Work Plan that shall include a discussion of past waste management practices at the unit; as well as a sampling and analysis program for groundwater, land surface and subsurface soils, surface water and/or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents, from such unit(s) has occurred, or is occurring. The sampling and analysis program shall be capable of yielding representative samples and shall include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents from the newly-identified SWMU(s) or AOC(s) to the environment. The SWMU/AOC Assessment Work Plan shall specify any data to be collected to provide for a complete SWMU/AOC Assessment Report, as specified below. The SWMU/AOC Assessment Work Plan shall contain a schedule for implementation of the work plan that is predicated on the date of Departmental approval of the plan.

- C. The Department shall review the SWMU/AOC Assessment Work Plan according to the procedures described in Corrective Action Condition XXII. of this Permit. The Permittee shall implement the plan according to the schedule contained in the plan, after it is approved by the Department.
  
- D. The Permittee shall submit a Newly-Identified SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained from implementation of the approved SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly-identified SWMU or AOC:
  - 1. The location of the newly-identified SWMU or AOC in relation to other SWMUs or AOCs;
  - 2. The type and function of the unit;
  - 3. The general dimensions, capacities, and structural description of the unit;
  - 4. The period during which the unit was operated;
  - 5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU or AOC, to the extent available;
  - 6. The results of any sampling and analysis conducted;
  - 7. Past and present operating practices;
  - 8. Previous uses of the area occupied by the SWMU or AOC;
  - 9. Amounts of waste handled; and
  - 10. Drainage areas and/or drainage patterns near the SWMU(s) or AOC(s).
  
- E. The Department shall review the SWMU/AOC Assessment Report according to the procedures described in Corrective Action Condition XXII. of this Permit. Based on the findings of the report and any other available information,

the Department shall determine the need for further investigations, including stabilization, an RFI, and/or a CMS, at specific unit(s) identified in the SWMU/AOC Assessment Report.

- F. If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval a work plan for such investigations. The Department shall review this work plan for additional investigations according to the procedures described in Corrective Action Condition XXII. of this Permit. The Permittee shall complete implementation according to the schedule contained in the approved plan.

VII. Notification Requirements for, and Assessment of, Newly-Identified Releases from Previously-Identified SWMUs and AOCs

- A. The Permittee shall notify the Department and EPA, in writing, no later than 15 calendar days after discovery or after discovery should have been made, of any newly-identified release(s) of hazardous waste, including hazardous constituents, from previously-identified SWMUs and/or AOCs, discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit. Facility inspection records shall be examined to determine if the Permittee should have known a release occurred.
- B. The Department may require a Newly-Identified Release Work Plan for conducting an investigation of the newly-identified release(s) from previously-identified SWMUs and/or AOCs. Within 30 calendar days after receipt of notice that the Department requires a Newly-Identified Release Work Plan, the Permittee shall submit a Newly-Identified Release Work Plan which shall include a discussion of the waste/chemical management practices related to the release and a sampling and analysis program for groundwater, land surface and subsurface strata, surface water, or air, as necessary to determine whether the release poses a threat to human health or the environment. The sampling and analysis program shall be capable of yielding representative samples and shall include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents to the environment. The Newly-Identified Release Work Plan shall identify any data to be collected to provide for a complete Newly-Identified Release Report, as specified below. The Newly-Identified Release Work Plan shall contain a schedule for implementation of the work plan that is predicated on the date of Departmental approval of the plan.

- C. The Department shall review the Newly-Identified Release Work Plan according to the procedures described in Corrective Action Condition XXII. of this Permit. The Permittee shall implement the plan according to the schedule contained in the plan, after approved by the Department.
  
- D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The Newly-Identified Release Report shall present and discuss the information obtained during implementation of the approved Newly-Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly-identified release:
  - 1. The location of the newly-identified release in relation to any other SWMU(s) or AOC(s);
  - 2. The general dimensions of the release;
  - 3. The period during which the release is suspected to have occurred;
  - 4. The physical and chemical properties of all wastes that have been determined to comprise the release;
  - 5. The results of any sampling and analysis conducted;
  - 6. Past and present operating practices near and at the location of the release;
  - 7. Previous uses of the area(s) occupied near and at the location of the release;
  - 8. Amounts of waste handled near and at the location of the release; and
  - 9. Drainage areas and/or drainage patterns near and at the location of the release.
  
- E. The Department shall review the Newly-Identified Release Report according to the procedures described in Corrective Action Condition XXII. of this Permit. Based on the findings of the report and any other available information, the Department shall determine the need for further investigation, including stabilization, an RFI, and/or a CMS.

VIII. Interim/Stabilization Measures

- A. The Permittee shall notify the Department and EPA within 24 hours of becoming aware or it should have become aware of a situation that may require interim/stabilization measures to protect human health or the environment. Facility inspection records will be examined to determine if the Permittee should have known interim/stabilization measures and notification should have occurred.
- B. If, during the course of any activity initiated under this Permit, the Permittee or the Department determines that a release or potential release of hazardous waste, including hazardous constituents, poses a threat to human health or the environment, the Department may require interim/stabilization measures to slow or stop the further spread of contamination until final corrective action measures can be implemented. The Department shall determine the specific action(s) that shall be taken to implement interim/stabilization measures, including potential Permit modifications and the schedule for implementing the interim/stabilization requirements. The Department shall inform the Permittee, in writing, of decisions regarding the action(s). This requirement shall not preclude the Permittee from responding to an emergency situation without direction from the Department.
- C. The Permittee shall notify the Department and EPA, in writing, no later than ten calendar days after determining, or after a determination should have been made, that the interim/stabilization measures program is not effectively limiting or stopping the further spread of contamination. The Department may require that the interim/stabilization measures program be revised to make it effective in limiting or stopping the spread of contamination; or that final corrective action measures are required to remediate the contaminated media.
- D. In cases where releases or potential releases present minimal human health and environmental exposure concerns and/or the proposed remedial solution is relatively uncomplicated, the Permittee may propose interim/stabilization measures for review and approval by the Department according to the procedures described in Corrective Action Condition XXII. of this Permit. These interim/stabilization measures shall be consistent with and may supplement and/or satisfy the requirements for a final remedy(s) in specific areas. Proposed interim/stabilization measures that are determined by the Department to be significant (e.g., those which are anticipated to make up a substantial portion of the final remedy) may be subject to public review and comment before final approval by the Department.

IX. Current and Contingent RCRA Facility Investigation (RFI) Work Plan

- A. Under the requirements of Task III of the Administrative Order on Consent, Docket No. VII-89-H-0043, the initial draft of the RFI Work Plan was submitted to EPA in February 1990. Following receipt of EPA comments, the document was resubmitted and approved by EPA on October 8, 1990. The approved RFI Work Plan outlined the scope of work for field investigation activities at 14 SWMUs. Additional field work activities were outlined in several addenda to the Work Plan. The scope of work described in the Work Plan and its addenda was based on a phased approach to the field investigations.
- B. An RFI Work Plan addendum, dated December 1996, addressing the installation of new monitoring wells for further groundwater investigations north of the Superhangar Area and the Wet Dock Area was approved by EPA and the Department on May 30, 1997. All current data generated from the monitoring wells installed as part of this investigation shall be provided in the Annual Groundwater Corrective Action Report submitted according to Corrective Action Condition XIX. of this Permit.
- C. If the Department determines that additional investigations are needed for newly- and/or previously-identified SWMUs and AOCs according to Corrective Action Conditions VI.E. or VII.E. of this Permit, the Department may require the Permittee to prepare and submit for approval an RFI Work Plan. Within 60 calendar days after receipt of notice that the Department requires an RFI Work Plan, the Permittee shall submit an RFI Work Plan to the Department and EPA. The RFI Work Plan shall be designed to investigate releases of hazardous waste, including hazardous constituents, to all appropriate media of concern including soil, sediment, bedrock, groundwater, surface water, and/or air. In order to substantiate future corrective action decisions, the RFI Work Plan shall contain provisions that are sufficient to meet the following objectives and schedule for implementation of the work plan that is predicated on the date of Departmental approval of the plan:
  - 1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous waste and/or hazardous constituents from newly-identified SWMUs and AOCs, or groups of SWMUs, or newly-identified release(s) at the facility and the actual or potential receptors of such releases; and

2. Collection of any other pertinent data that may be utilized to substantiate future corrective action decisions.
- D. The RFI Work Plan shall be appropriate for site-specific conditions and shall be consistent with and address all applicable investigation elements described in the EPA document entitled, RCRA Facility Investigation (RFI) Guidance, EPA 530/SW-89-031, May 1989, or the most recent version. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility; a description of current conditions; the schedule for implementing and completing such investigations and for submission of reports (including the RFI Report); the qualifications of personnel performing or directing the investigations, including contractor personnel; and the overall management of the RFI.
  - E. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include the RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures, and data review, validation, and reporting procedures.
  - F. The Permittee shall prepare and maintain a Health and Safety Plan during the project that assures the RFI activities are conducted in a manner that is protective of human health and the environment.
  - G. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach that requires the submittal of supplemental RFI Work Plans.
  - H. The Department shall review the RFI Work Plan(s) according to the procedures described in Corrective Action Condition XXII. of this Permit. The Permittee shall implement the plan(s) according to the schedule contained in the plan(s), after it is approved by the Department.
- X. Current and Contingent RCRA Facility Investigation (RFI) Report
- A. Under the requirements of Tasks IV. and V. of the Administrative Order on Consent, Docket No. VII-89-H-0043, RFI field investigation activities were completed by TWA at 18 of the 27 SWMUs to evaluate the nature and

horizontal/vertical extent of releases of hazardous waste and/or hazardous constituents from these SWMUs. Investigations were not completed at the remaining nine SWMUs because those units were either previously investigated or were determined to have no associated contaminant releases. TWA submitted the RFI in March 1994, concluding five phases of RFI field work with final revisions in January 1996 and December 1996. The nature and extent of groundwater and soil contamination at the facility was defined during the RFI field investigation activities. The RFI was conditionally approved by EPA May 8, 1995. Final RFI approval was granted by EPA May 9, 1996.

- B. If the Department determines that further investigations are needed for newly- and/or previously-identified SWMUs and AOCs under Corrective Action Conditions VI.E. or VII.E. of this Permit, the Permittee shall submit an RFI Report to the Department and EPA according to the schedule contained in the approved RFI Work Plan described in Corrective Action Condition IX. of this Permit. The RFI Report shall present all information gathered under the approved RFI Work Plan along with a brief facility description and map showing the property boundary and all SWMUs and AOCs. The RFI Report shall contain adequate information to support further corrective action decisions at the facility. Information contained in the RFI Report shall be presented in a format that is consistent with Section 5 of the most recent version (currently May 1989) of EPA Publication entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031.
- C. The RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine whether additional interim/stabilization and/or corrective measures may be necessary. The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs and AOCs and associated releases, including, but not limited to, the following, as appropriate:
1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of movement of releases from SWMUs and AOCs at the facility;
  2. Characterization of the environmental setting of the facility, including:
    - a. Hydrogeological conditions;
    - b. Climatological conditions;

- c. Soil and bedrock characteristics;
  - d. Surface water and sediment quality; and
  - e. Air quality and meteorological conditions.
3. Characterization of SWMUs and AOCs from which releases have been or may be occurring, including unit and waste characteristics;
  4. Descriptions of human and environmental receptors and associated risks to the receptors which are, may have been, or, based on site-specific circumstances, could be exposed to release(s) from SWMUs and AOCs;
  5. Assessment of potential risks to the human and environmental receptors exposed to release(s) from SWMUs and AOCs;
  6. Extrapolations of future contaminant movement including description of contaminant fate and transport mechanisms, and pathways for human and environmental exposure;
  7. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies, or other technologies that may be appropriate in implementing remedies at the facility;
  8. Statistical analyses to aid in the interpretation of data;
  9. Results of any interim/stabilization measures previously implemented; and
  10. Evaluation of data quality which may affect the nature and scope of a corrective measures study as well as the evaluation of corrective measures alternatives thereunder (e.g., identification of any potential bias in the RFI data, and documentation of its precision, accuracy, representativeness, completeness, comparability, validation, etc.)
- D. The Department shall review the RFI Report according to the procedures described in Corrective Action Condition XXII. of this Permit. After review of the RFI Report, if the Department determines that the objectives of the RFI have not been met, the Department may require additional investigation. Upon approval of the RFI Report by the Department, the Department shall advise the

Permittee as to the next step in the corrective action process, which may include submittal of a Corrective Measure Study Work Plan under Corrective Action Condition XI. of this Permit.

XI. Contingent Corrective Measures Study (CMS) Work Plan

- A. The requirements of the Administrative Order on Consent, Docket No. VII-89-H-0043, did not specifically require a CMS Work Plan to be prepared and approved by EPA. The information usually included in a CMS Work Plan was addressed in the RFI Work Plan approved by EPA October 8, 1990.
- B. If the Department determines that there has been a release of hazardous waste or hazardous constituents from a SWMU or AOC that may present a threat to human health or the environment, the Department may require the Permittee to prepare and submit for approval a CMS Work Plan. The Department shall notify the Permittee in writing of this decision. This notice will identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee during the CMS.
- C. As part of the CMS, the Department may require the Permittee to identify and evaluate one or more specific potential remedies for removal, containment, and treatment of hazardous waste, including hazardous constituents in contaminated media based on the objectives established for the corrective action. These remedies may include a specific technology or combination of technologies that, in the Department's judgment, may be capable of achieving standards for protection of human health and the environment.
- D. Within 45 calendar days after receipt of notice that the Department requires the Permittee to conduct a CMS, the Permittee shall submit a CMS Work Plan to the Department and EPA. The CMS Work Plan shall be consistent with guidance contained in the EPA document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A. At a minimum, the CMS Work Plan shall provide the following information, as appropriate, and a schedule for implementation of the work plan that is predicated on the date of Departmental approval of the plan:
  - 1. A description of the general approach to investigating and evaluating potential remedies;
  - 2. A definition of the specific objectives of the study;

3. A description of the remedies which will be studied;
  4. A description of those potential remedies that were preliminarily considered, but were dropped from further consideration including the rationale for elimination;
  5. The specific plans for evaluating remedies to ensure compliance with remedy standards;
  6. The schedules for conducting the study and submitting a CMS Report;
  7. The proposed format for the presentation of information; and
  8. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies, or other technologies that may be appropriate in implementing remedies at the facility.
- E. The Department shall review the CMS Work Plan according to the procedures described in Corrective Action Condition XXII. of this Permit. The Permittee shall implement the plan according to the schedule contained in the plan, after it is approved by the Department.

XII. Current and Contingent Corrective Measures Study (CMS) Report

- A. Under the requirements of Task VII. through Task IX. of the Administrative Order on Consent, Docket No. VII-89-H-0043, TWA prepared and submitted to the Department and EPA a CMS Report, dated February 1996, with modifications dated November 25, 1996, and May 1997. The CMS Report and modifications were approved by EPA and the Department in August 1997. The CMS Report identified and evaluated potential remedial alternatives for contaminated soil and groundwater at the facility that have the potential to adversely impact human health or the environment. Remedial actions determined to be protective of human health and the environment, based on evaluation criteria outlined in the Administrative Order on Consent, were implemented according to Special Permit Condition XV. of the original MHWMF Part I Permit at SWMUs requiring corrective action as identified in Special Permit Condition V.D. of the original MHWMF Part I Permit.

- B. If the Department determines that a CMS Work Plan is necessary to address a release(s) of hazardous waste and/or hazardous constituents from newly- and/or previously-identified SWMUs and AOCs according to Corrective Action Conditions VI.E. or VII.E. of this Permit, the Permittee shall submit a CMS Report to the Department and EPA according to the schedule contained in the approved CMS Work Plan, described in Corrective Action Condition XV. of this Permit. The CMS Report shall present all information gathered under the approved CMS Work Plan and shall be consistent with guidance contained in the EPA document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A.
- C. The CMS Report shall describe the results of the investigations for each remedy studied and of any bench-scale or pilot tests conducted. The CMS Report shall include, but not be limited to, the following information:
1. Evaluation of performance, reliability, ease of implementation, and potential impacts of each remedy studied, including safety impacts, cross media impacts, and control of exposure to any residual contamination;
  2. Assessment of the effectiveness of each remedy in achieving adequate control of sources and cleanup of the hazardous waste or hazardous constituents released from the SWMU(s) and AOC(s);
  3. Assessment of the time required to begin and complete each remedy;
  4. Estimation of the costs of implementing each remedy;
  5. Recommendation of remedy and rationale for selection; and
  6. Assessment of institutional requirements, such as state or local permits that may be needed, discussion of other environmental or public health requirements or institutional controls (e.g., local ordinances) that may substantially affect implementation of the final remedy and/or a draft of any site-specific institutional controls (e.g., an environmental covenant prepared under the Missouri Environmental Covenants Act) that are proposed as part of a final remedy.
- D. The CMS Report shall contain adequate information to support the Department in the remedy approval decision-making process.

- E. The Department shall review the CMS Report according to the procedures described in Corrective Action Condition XXII. of this Permit. Upon approval of the CMS Report by the Department, the Department shall approve a final remedy as specified in Corrective Action Condition XII. of this Permit.

XIII. Groundwater Monitoring for SWMUs

- A. Long-term groundwater monitoring shall be conducted for the SWMUs specified in Corrective Action Condition V.D. of this Permit. Procedures and techniques used in groundwater sampling, analysis, and measurement of groundwater-related parameters at each of the individual SWMUs shall be outlined in the revised SAP to be submitted according to Corrective Action Condition III.D.6. of this Permit. In addition, the Permittee shall outline, in the revised SAP, a schedule for monitoring, indicate the list of specific constituents to be analyzed, and identify monitoring wells to be used for long-term monitoring of these SWMUs.

The SAP will be reviewed according to the procedures set forth in Corrective Action Condition XXII., of this Permit. Upon Departmental approval, the Permittee shall implement the long-term groundwater monitoring program to address the individual SWMUs according to the approved SAP.

- B. Analytical groundwater sampling data for the SWMUs shall be included in the Annual Groundwater Monitoring Report submitted according to Corrective Action Condition XIX. of this Permit. The Annual Groundwater Monitoring Report shall include a summary and analysis of the groundwater analytical data results for the SWMUs; identify and discuss any obvious trends or increasing levels of contamination and/or any abnormalities in the data for the SWMUs, and justify the need for continued and/or termination of monitoring at the SWMUs. Any increasing trends in levels of contamination compared to applicable regulatory thresholds at that time associated with the Groundwater Protection Standards identified in Tables I and II of Corrective Action Condition III. of this Permit may trigger the need for further corrective action according to this Permit.

XIV. Current and Contingent Final Remedy Approval

- A. Following approval of the CMS Report by EPA and the Department in August 1997, a Statement of Basis was prepared summarizing the corrective measures alternatives that were evaluated by the Permittee, including the justification for the proposed final remedy. The proposed final remedy was designed to: 1) be protective of human health and the environment; 2) control and/or eliminate the

source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that might pose a threat to human health and the environment; and 3) meet all applicable federal, state, and local laws and regulations. Following preparation of the Statement of Basis, a public notice for the proposed final remedy was held concurrently with the public notice for the original draft MHWMF Part I Permit. The Department issued the original MHWMF Part I Permit to TWA, including the approved final remedy, effective August 7, 1998.

- B. This Corrective Action Condition may apply to additional activities undertaken in response to newly-identified SWMUs and AOCs, additional activities undertaken in response to newly-identified releases from previously-identified SWMUs and AOCs, and additional activities undertaken in response to any increasing trends in levels of contamination identified by long-term groundwater monitoring results under Corrective Action Conditions III and/or XIII. of this Permit.
1. If a CMS Report is determined to be necessary to address any of the activities identified above, following the approval of the CMS Report or equivalent, the Department shall prepare a Statement of Basis summarizing the corrective measures alternatives that were evaluated by the Permittee, including the Department's basis of support for the proposed final remedy.
  2. Following the Department's preparation of the Statement of Basis, a permit modification will be initiated under 40 CFR 270.41 or 270.42(c), as applicable, to facilitate public review and comment on the Statement of Basis and proposed final remedy and, thereafter, final remedy approval by the Department and implementation of the approved final remedy by the Permittee.
  3. Upon completion of the public participation activities associated with the permit modification to implement the proposed final remedy, the Department shall approve a final remedy that will: 1) be protective of human health and the environment; 2) control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that might pose a threat to human health and the environment; and 3) meet all applicable federal, state, and local laws and regulations.

XV. Current Corrective Measures Implementation (CMI) Work Plan

A. According to the requirements of Special Permit Condition XV. of the original MHWMF Part I Permit issued August 7, 1998, TWA prepared and submitted to the Department and EPA a CMI Work Plan on January 4, 1999, with revisions dated July 9, 1999. The Department approved the CMI Work Plan with revisions on July 22, 1999. The CMI Work Plan provided detailed plans for the implementation of corrective measures at the SWMUs requiring corrective action identified in Special Permit Condition V.D. of the original MHWMF Part I Permit that were consistent with the objectives specified in the approved CMS Report:

1. Surface Impoundment Area - SWMUs 1, 5, 7, 9, and 14

The Corrective Measures approved by the Department for the Surface Impoundment Area involved the installation of a passive interceptor trench according to Special Permit Condition XV.1. of the original MHWMF Part I Permit, to collect contaminated groundwater migrating toward Todd Creek. All applicable phased design and operating parameters including, but not limited to, size, location, materials of construction, and preliminary operational parameters for the interceptor trench were outlined in the CMI Work Plan. All design parameters were certified by a professional engineer registered in Missouri. Construction of the interceptor trench was completed and accepted by the Department in February 2000. The interceptor trench continues to operate as designed.

A Vacuum Enhanced Groundwater Extraction (VEGE) system was installed in conjunction with the interceptor trench, to accelerate the remediation process at the Surface Impoundment Area. This VEGE system began operating November 12, 1999, and was eventually shut down January 1, 2004, after receiving Department approval. Groundwater extracted by the VEGE system was treated, stored, and/or disposed of according to all applicable federal, state, and local laws and regulations.

Groundwater monitoring wells and the interceptor trench sump associated with the Surface Impoundment Area shall continue to be monitored according to Corrective Action Condition III. of this Permit. Surface water monitoring shall also be conducted according to Corrective Action Condition IV. of this Permit. The ongoing operation and maintenance of

the interceptor trench shall be conducted according to the specifications in the Operation and Maintenance Manual (Appendix D) of the approved CMI Work Plan.

2. Ravine Area - SWMU 2, 3, 12, 15a<sub>2</sub>

The Corrective Measures approved by the Department for the Ravine Area Landfill involved the installation of an engineered RCRA cap and a leachate collection system. The engineered RCRA cap was constructed in 1994 with a flexible membrane liner under the surface to prohibit precipitation from contacting the waste material in the ravine area.

The Permittee shall continue long-term groundwater monitoring according to the revised SAP required by Corrective Action Condition III.D.6. of this Permit. Any groundwater extracted shall be treated, stored, and/or disposed of according to all applicable federal, state, and local laws and regulations. The Permittee shall maintain the previously-installed system to transfer groundwater from the Ravine Area Sump to a local sanitary sewer manhole for direct discharge to the publicly owned treatment works.

3. Barrel House/Oleum Still Area - SWMUs 11, 13, 15g, 15i, and 15m

a. The Permittee shall continue its long-term monitoring program of the groundwater hydraulically upgradient and downgradient of these SWMUs to track the direction, rate of movement, and contaminant concentrations in the groundwater. This groundwater monitoring shall be conducted according to Corrective Action Condition XIII. of this Permit. and the revised SAP required by Corrective Action Condition III.D.6. of this Permit.

b. The Permittee conducted a pilot study to assess operation of a VEGE system at SWMU 11 in October 2005. The Permittee subsequently submitted a VEGE Pilot Study Report in July 2006 that recommended the implementation of a full-scale VEGE system at SWMU 11. The Department approved this request with conditions September 11, 2006. The idle VEGE system at the Surface Impoundment Area was relocated to this area in October 2006, and began operating March 29, 2007. The VEGE system continues to operate as designed.

c. The Permittee shall continue to maintain and operate the VEGE system at SWMU 11 until the Department and Permittee mutually agree on the decreasing beneficial effectiveness of the system and agree to suspend or discontinue the operation of the system. The Permittee shall submit a report to document the operation and effectiveness of the VEGE system on an annual basis. This report shall assess the long-term operation of the VEGE and its success, or lack thereof, in stabilizing, controlling and/or reducing contaminant migration/concentrations in the area of SWMU 11. This report shall be submitted by March 1 of each calendar year for the preceding calendar year for as long as the VEGE system is operated. The VEGE performance report may be included in the Annual Groundwater Monitoring Report submitted according to Corrective Action Condition XIX., of this Permit.

4. Superhangar Area/Wetdock Area - SWMU 6a, 6b, 15b, 15d, 15h, 15j, and 15l

The Permittee shall continue its long-term monitoring program of the groundwater hydraulically upgradient and downgradient of these SWMUs to track the direction, rate of movement, and contaminant concentrations in the groundwater. This groundwater monitoring shall be conducted according to Corrective Action Condition XIII. of this Permit and the revised SAP required by Corrective Action Condition III.D.6. of this Permit. The Permittee shall continue to conduct surface water monitoring in the west tributary of Todd Creek near the outfall and approximately 200 feet downstream of the outfall. Surface water monitoring shall be conducted according to Corrective Action Condition IV. of this Permit.

5. Dumpsite East of the Runway - SWMU 8

The Corrective Measures approved by the Department for SWMU 8 were the installation of a cap and slurry barrier wall to contain the migration of Volatile Organic Compounds and metals contamination. A groundwater collection system was integrated into the design to collect groundwater from beneath the cap. The SWMU 8 cap and slurry wall were completed and certified in September 2000 by a professional engineer registered in Missouri.

All groundwater extracted from the SWMU 8 collection system shall be treated, stored, and/or disposed according to all applicable federal, state, and local laws and regulations. The Permittee shall also continue its long-term monitoring program of the groundwater hydraulically upgradient and downgradient of this SWMU to track the direction, rate of movement, and contaminant concentrations in the groundwater. This groundwater monitoring shall be conducted according to Corrective Action Condition XIII. of this Permit and the revised SAP required by Corrective Action Condition III.D.6. of this Permit. The ongoing operation and maintenance of the cap and slurry barrier wall shall be conducted according to the specifications in the Operation and Maintenance Manual (Appendix D) of the approved CMI Work Plan.

XVI. Current Corrective Measures Implementation (CMI) Report and Certification of Completion of Corrective Measures

- A. TWA submitted a CMI Report to the Department and EPA March 14, 2001. The Department approved the CMI Report with modifications on May 18, 2001. The CMI Report contained a summary of corrective measures activities conducted at the facility and provided detailed descriptions of the long-term operation, maintenance and monitoring program associated with the corrective measures. For SWMUs requiring extended time periods for operation of the remedy, TWA and later the Permittee has summarized the progress of the remedy and continued to provide data obtained during remedy operation in the Annual Groundwater Monitoring Report required in Special Permit Condition XIX. of the original MHWMF Part I Permit. Any short-term completion of additional corrective action activities at individual SWMUs shall be included in the Annual Groundwater Monitoring Report required in Corrective Action Condition XIX. of this Permit.
  
- B. At such time as the Permittee decides to verify completion of corrective measures at a SWMU or group of SWMUs, the Permittee shall submit documentation to demonstrate that groundwater contaminant levels do not exceed the applicable GPS maximum concentration limits as specified in Corrective Action Conditions III.A. and XIII. of this Permit, the revised SAP required by Corrective Action Condition III.D.6. of this Permit, and as specified in Tables I and II. The Permittee's groundwater corrective action program shall continue until the Permittee demonstrates, individually or collectively, that these limits have not been exceeded for a period of three consecutive years at each SWMU or group of SWMUs. Groundwater corrective action may cease for any individual SWMU or

group of SWMUs once this three year criterion has been met. Modifications of this Permit under 40 CFR 270.42 or 270.41, as appropriate, will be required to address changes in the groundwater corrective action status of individual SWMU or groups of SWMUs. The subject documentation shall be included in the Annual Groundwater Monitoring Report submitted according to Corrective Action Condition XIX. of this Permit.

- C. Documentation verifying completion of all corrective action at each SWMU or group of SWMUs will be reviewed and approved according to the procedures described in Corrective Action Condition XXII., of this Permit.
- D. Within 60 calendar days of receipt of Departmental approval of the documentation verifying completion of all corrective action under Corrective Action Condition XVI.B. of this Permit, the Permittee shall submit to the Department and EPA, by certified mail, a written certification stating that the remedy has been completed according to the approved CMS Report, CMI Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

XVII. Activity and Use Limitations (AULs)

A. Existing Deed Notices

The Permittee filed two deed notices in the chain-of-title for portions of the leased property associated with the Surface Impoundment Area and the Ravine Area. Details on the deed notices and the specific locations can be found in the Office of Recorder of Deeds of Platte County, Missouri, as discussed in Corrective Action Condition II.C. of this Permit.

B. Environmental Covenant Provisions

In the Class 3 permit modification request submitted June 13, 2006, the Permittee proposed to file, in the chain-of-title, deed notations and restrictive covenants for portions of the site that have areas of contaminated soil and/or groundwater exceeding background concentrations. After further discussions with the Department, the Permittee submitted a draft environmental covenant on April 1, 2009, for Department review. The Department is currently reviewing and commenting on the draft environmental covenant and has included the following requirements in the Permit as a part of this ongoing process.

1. Within 60 calendar days of the effective date of this Permit, the Permittee shall submit to the Department for approval, a revised draft environmental covenant that complies with §§ 260.1000 through 260.1039, RSMo to be filed in the property chain-of-title. The Permittee shall assure that use, occupancy, and activities on the permitted property are restricted as follows:
  - a. Residual levels of soil contamination remaining at the SWMUs identified in the following table may pose a threat to human health and the environment if site conditions change:

**Table V - SWMUs with Residual Levels of Soil Contamination**

SWMU	Description of SWMU
1	Surface Impoundments (RCRA Regulated Unit)
2	Ravine Landfill (RCRA Regulated Unit)
3	SPCC Pond (South)
5	Sludge Drying Basins
6a	Old Fuel Farm Near Superhangars
6b	Wastewater Treatment Plant Sludge Staging Area
7	Waste Oil Loading Area
8	Dumpsite East of the Runway
9	Conveyance Sewers and Storage Basins for Chrome and Cyanide Wastewater Streams
10	Fuel Farm and Adjacent Area
11	Waste Solvent (Oleum) Recycling Unit
12	Incinerator
13	Barrel House Complex
14	Wastewater Treatment Plant
15a	Area Adjacent to Ravine
15b	Subfloor Wetdock/Hangar Bay 10
15d	Solvent Reclamation Area in Wetdock
15g	Old Scrap Metal Storage Area
15i	Area East of Fire Pump Station No. 1

SWMU	Description of SWMU
15j	North Drainage Ditch
15l	Subfloor Hangar Bay 9

SWMU areas on the facility property identified in Table V shall not be excavated or otherwise disturbed in any manner without the prior written approval of the Department. The Permittee will notify the Department at least 30 calendar days before any planned future construction, excavation, or maintenance and repair activities to be conducted at the SWMU areas. This requirement will help ensure that necessary precautions are taken when disturbing and/or exposing any contaminated environmental media at the facility.

Future construction, excavation activities, or land use changes may also necessitate further evaluation of site conditions at SWMUs with residual levels of contamination above applicable regulatory thresholds at that time. Based on the potential hazards associated with the construction activities, the Department may require specific protective or remedial actions before allowing such construction activities to occur. In situations where advance notice is not feasible (i.e., utility service or repair) notice shall occur as soon as practical.

The Permittee may, at its discretion, request development of an Excavated Soil Management Plan for approval by the Department. Any such plan would be designed to facilitate/expedite future subsurface utility and construction activities in potentially contaminated subsurface areas at the facility.

- b. Residual levels of contamination in the groundwater at the permitted site may pose a threat to human health and the environment. The Permittee will prohibit the use of and exposure to contaminated groundwater and prohibit any artificial penetration of the groundwater-bearing unit(s) containing contaminants, which could result in cross-contamination of clean groundwater bearing units. Such penetrations are allowable if necessary for corrective action purposes and approved, in writing, by the Department in advance. The Permittee shall also prohibit the installation of any

groundwater wells on the facility property, except those used for investigation, monitoring, and/or remediation purposes. Groundwater beneath the permitted site in zones that are known to be contaminated shall not be used as a water supply for any purpose.

- c. The engineered controls implemented as part of the final remedy at the facility shall not be disturbed and shall be properly maintained to prevent human exposure to soils and/or groundwater contaminated with hazardous wastes and/or hazardous constituents in concentrations exceeding the levels established in the approved CMS Report. The physical or engineering controls shall remain in place and be effective unless or until the Department approves a permit modification according to 40 CFR 270.42, to alter, modify or eliminate such controls.
2. The draft environmental covenant required by Corrective Action Condition XVII.B.1. of this Permit shall include the following:
    - a. A record of the type, location, and concentrations of hazardous wastes and/or hazardous constituents remaining in the subsurface soils and/or groundwater exceeding applicable regulatory risk-based thresholds/standards;
    - b. Two figures illustrating the approximate boundaries of each SWMU for which the levels of contamination in the subsurface soils and/or groundwater exceed the applicable regulatory risk-based thresholds/standards at that time. One figure shall illustrate soil contamination in relation to individual SWMUs or groups of SWMUs. The second figure shall illustrate groundwater contamination in relation to individual SWMUs or groups of SWMUs. The figures shall be to scale and indicate the location and dimensions of each SWMU with respect to key landmarks, such as major buildings, the facility property line, etc. These figures shall also illustrate the location of any engineered controls implemented as part of the final remedy, which are to be restricted from disturbance;
    - c. Soil disturbance and groundwater use restrictions based on current land use; and

- d. A provision to provide for proper operation and maintenance of any engineering controls implemented as part of the final remedy to prevent human exposure to soils and/or groundwater contaminated with hazardous wastes and/or hazardous constituents in concentrations exceeding applicable regulatory risk-based thresholds/standards at the time of permit termination. The engineering controls shall not be disturbed and shall remain in place and be effective unless or until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation/maintenance of such controls.
3. The Department shall review and approve the draft environmental covenant according to Corrective Action Condition XXII. of this Permit.
4. Within 15 calendar days of execution (signature by all parties) of the approved environmental covenant required in Corrective Action Condition XVII.B.3. of this Permit, the Permittee shall record, according to state law, the approved environmental covenant in the chain-of-title for the facility property that will in perpetuity notify any potential purchaser of the environmental conditions of the property.
5. Within 30 calendar days of recording the approved environmental covenant, the Permittee shall provide to the Department, a notarized statement certifying that the approved environmental covenant required in Corrective Action Condition XVII.B.3. of this Permit has been recorded, including a copy of the environmental covenant.
6. Before conveyance of any property at the facility, or transfer of custody or control of any real property, that is currently under control of the Permittee, the Department may require modification or revocation and reissuance of this Permit to change the name of the Permittee and/or incorporate such other requirements as necessary to continue the applicable engineering and institutional controls, as well as any ongoing remediation or corrective action activities.
7. The environmental covenant conditions required in Corrective Action Condition XVII.B.1. of this Permit shall run with the land and shall be binding upon any future owners, operators, heirs, successors, lessees, or assigns and their authorized agents, employees, or persons acting under their direction or control. In the event of permit termination, the Permittee

and/or facility owner shall cause any lease, grant, or other transfer of any interest in the facility property to include a provision expressly requiring the lessee or transferee to comply with the environmental covenant filed in the chain-of-title for the facility property according to Corrective Action Condition XVII.D. of this Permit.

8. In the event that future additional remediation at the property, before or subsequent to permit termination, reduces contaminant levels to below applicable risk-based threshold/standards based on use of the property, the environmental covenant, or portions thereof, may be amended or terminated as provided for in § 260.1027, RSMo.

C. Construction Completion Certification of Final Remedy

Within 30 calendar days of recording the approved environmental covenant required by Corrective Action Condition XVII.B.4. of this Permit, the Permittee shall submit to the Department and EPA, by certified mail, a written certification stating that the final remedy has been constructed according to the approved CMS Report and CMI Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

D. Environmental Covenant Provision Requirements Before Permit Termination

1. If the Permittee wants to terminate or amend the approved environmental covenant prior to Permit termination, the Permittee shall submit to the Department a certification within 180 calendar days before the effective date of any proposed permit termination. The certification shall be signed by the Permittee and shall evaluate the residual levels of contamination in comparison with then-current risk-based thresholds/standards. The Permittee shall demonstrate that contaminant levels have decreased to less than applicable risk-based thresholds/standards based on use of the property for any SWMUs identified in Corrective Action Condition XVIII.B.1. of this Permit. The demonstration shall include, at a minimum, a summary of analytical data collected during any monitoring and/or confirmation sampling of contaminated media, a summary of all relevant historical data, accompanying narrative discussion, and any other relevant information ensuring that residual contaminant levels are protective of human health and the environment.

2. If the Department determines, based on the demonstration required in Corrective Action Condition XVII.D.1. of this Permit, that the residual levels of contamination present may still pose a threat to human health or the environment based on use of the property, the Department shall notify the Permittee, in writing, that the terms of the existing environmental covenant are still appropriate or that the Permittee shall prepare and submit for approval, a revised draft environmental covenant that complies with §§ 260.1000 through 260.1039, RSMo to address the changed conditions at the facility, which will be filed in the property chain-of-title with the county recorder of deeds, the local zoning authority, or the authority with jurisdiction over local land use. The revised draft environmental covenant shall be submitted within 60 calendar days of receiving written notification from the Department. The revised environmental covenant shall include the following:
  - a. A record of the type, location, and concentrations of hazardous wastes and/or hazardous constituents expected to remain in the subsurface soils and/or groundwater at the proposed time of the permit termination and that will exceed the currently applicable regulatory risk-based thresholds/standards at that time;
  - b. Two figures illustrating the approximate boundaries of each SWMU for which the levels of contamination in the subsurface soils and/or groundwater exceed the applicable regulatory risk-based thresholds/standards at that time. One figure shall illustrate soil contamination in relation to individual SWMUs or groups of SWMUs at the time of the permit termination. The second figure shall illustrate groundwater contamination in relation to individual SWMUs or groups of SWMUs at the time of the permit termination. The figures shall be to scale and indicate the location and dimensions of each SWMU with respect to key landmarks, such as major buildings, the facility property line, etc. These figures shall also illustrate the location of any engineered controls implemented as part of the final remedy, which are to be restricted from disturbance;
  - c. Groundwater use restrictions applicable at the time of permit termination; and

- d. A provision to provide for proper operation and maintenance of any engineering controls implemented as part of the final remedy to prevent human exposure to soils and/or groundwater contaminated with hazardous wastes and/or hazardous constituents in concentrations exceeding applicable regulatory risk-based thresholds/standards at the time of permit termination. The engineering controls shall not be disturbed and shall remain in place and be effective unless or until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation/maintenance of such controls.
3. The Department shall review and approve the revised draft environmental covenant according to Corrective Action Condition XXII. of this Permit.
4. The Permittee shall record the approved revised environmental covenant required in Corrective Action Condition XVII.D.3. of this Permit and submit any documentation according to the schedule outlined in Corrective Action Conditions XVII.B.4 and B.5. of this Permit. The Permittee shall also comply with any additional environmental covenant conditions as outlined in Corrective Action Conditions XVII.B.6 through B.8. of this Permit, as appropriate.

#### XVIII. Semi-Annual Progress Reports

- A. The Permittee shall submit signed Semi-Annual Progress Reports to the Department and EPA, summarizing all permitted corrective action activities undertaken during each preceding calendar half-year (i.e., January through June and July through December). Semi-Annual Progress Reports are due March 1 and September 1 of each calendar year (within 60 calendar days following the last day of the reporting period ending on June 30 and December 31). The Semi-Annual Progress Reports due on March 1 may be combined with the Annual Groundwater Corrective Action Report required by Corrective Action Condition XIX. of this Permit.

The first Semi-Annual Progress Report shall be due within 60 calendar days following the end of the six-month period in which this Permit becomes effective. The Semi-Annual Progress Reports shall continue to be submitted until the Permittee's corrective action activities (including any long-term operation,

maintenance, and monitoring activities) are complete. The Semi-Annual Progress Reports shall include the following information for the time period being reported:

1. A description of the work completed;
  2. Summaries of all findings, including summaries of laboratory data;
  3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;
  4. Projected work for the next reporting period; and
  5. Any instances of noncompliance with the corrective action requirements of this Permit not required to be reported elsewhere in this Permit.
- B. Detailed technical information shall be submitted as part of the Annual Groundwater Corrective Action Report outlined below and/or other reports (i.e., interim stabilization measures, RFI, CMS, etc.) required by this Permit. If provided in other reports, this detailed information need not be reproduced as part of the Permittee's Semi-Annual Progress Reports.
- C. If the Department determines that further "active" corrective action is required under Corrective Action Conditions VI. through XIV. of this Permit, the frequency of submittal of progress reports may increase. If an increase in reporting frequency is necessary, the Department shall provide written notification of the new reporting frequency to the Permittee.
- D. Copies of other reports (e.g., inspection reports), information, or data shall be made available to the Department and EPA upon request.

XIX. Annual Groundwater Corrective Action Report

- A. The Permittee shall submit an Annual Groundwater Corrective Action Report to the Department, including all uninterpreted analytical data from the Permittee's annual groundwater sampling event for the preceding calendar year. Each Annual Groundwater Corrective Action Report shall be due March 1 of each calendar year.

Each Annual Report shall include groundwater analysis results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, QA/QC data, statistical analysis of groundwater data, field investigation results, volume of groundwater extracted, and other relevant groundwater-related information for the preceding calendar year, as appropriate. These reports shall also include a discussion of any exceedances of the GPS.

As part of the Annual Groundwater Corrective Action Report, the Permittee shall prepare and submit a comprehensive evaluation of the facility-wide groundwater monitoring program for the preceding calendar year. These reports shall:

1. Narratively discuss the nature and evolution of the Permittee's facility-wide groundwater monitoring program as well as conclusions concerning the overall adequacy of the program as related to its intended purpose, including any interim measures/stabilization actions/remedial action plans. Any conclusions concerning inadequacies in the Permittee's groundwater monitoring program shall be accompanied by a discussion of proposed remedies. Specific details concerning any proposed remedies should be further developed outside of the scope of these reports or as otherwise specified in this Permit.
2. Comprehensively address all of the technical requirements of 40 CFR Part 264 Subpart F and this Permit. The Permittee shall summarize relevant groundwater monitoring information and shall present this information in the form of narrative discussions, groundwater flow calculations, and/or diagrammatic illustrations (e.g., tabular groundwater and statistical data summaries, hydrogeologic and potentiometric contour maps/cross-sections, chemical parameter trend graphs, calculated rate(s) of contaminant migration, contaminant isoconcentration maps/cross-sections, fence/isometric diagrams, groundwater flow nets, etc.), as appropriate.
3. Evaluate the effectiveness of the groundwater corrective action program, including, but not limited to, the following:
  - a. The rate and direction of groundwater movement in underlying aquifers and potential effects on any corrective action measures being designed or implemented at the facility for removal, containment or control of the groundwater contaminant plume(s);

- b. The horizontal and vertical extent and concentrations of hazardous constituents in groundwater throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee's groundwater monitoring program;
- c. Any surface and/or subsurface well integrity problems and their potential or actual influence on the groundwater data or efficiency of the groundwater corrective action program;
- d. The quantity of free Non-Aqueous Phase Liquids if present and groundwater extracted from the subsurface during either stabilization activities, remedial action plans, or as part of the groundwater corrective action program. This information should be reported both as a total amount and per well or extraction location, and shall be used in conjunction with dissolved phase contaminant concentration information to estimate quantities of contaminants removed;
- e. The quantity of groundwater extracted from the subsurface during either stabilization activities or as part of the groundwater monitoring program. This information shall be reported both as a total amount and per well or extraction location;
- f. The conclusions and summary, including statistical evaluation, of analytical results from surface water monitoring conducted during the report period; and
- g. For groundwater corrective action program that includes the extraction of groundwater, the Permittee shall provide the following information on the system for the preceding calendar year:
  - (1) Volumes of groundwater extracted and mass contaminant removal rates by the system;
  - (2) Concentrations of the contaminants detected in the extracted groundwater, the treated effluent, and any off-gas samples;

- (3) Results of any inspection, maintenance activities performed, system downtime, and any problems or unusual conditions noted with the system that could have potentially have an influence on pumping and discharge of the system; and
    - (4) Any conclusion or recommendations on the effectiveness and need for continued operation of the system.
  4. Contain detailed boring logs for new exploratory borings and/or detailed as-built monitoring well diagrams for any new monitoring wells installed during the corresponding reporting period, as appropriate, and the monitoring well-related information specified in Corrective Action Conditions III.D.3. and 4. of this Permit.

XX. Supplemental Data

All uninterpreted data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken because of this Permit shall be maintained by the Permittee during the term of this Permit, including the term of any reissued permits.

XXI. Post-Closure Care and Corrective Action Cost Estimates and Financial Assurance

The Permittee shall comply with the requirements described in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Sections 260.350 through 260.434, RSMo, 40 CFR Part 264 Subpart H, 40 CFR 270.30, 40 CFR 270.40, 40 CFR 270.42, and 40 CFR 270.51, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

A. Cost Estimates

1. Post-Closure Care and Corrective Action Cost Estimate

Within 60 calendar days of the effective date of this Permit, according to Corrective Action Condition II.E. of this Permit, the Permittee shall submit a detailed written cost estimate, in current dollars, of the cost of hiring a third party to perform the post-closure care and corrective action activities required by this Permit.

- a. The cost estimate shall account for the total costs of the work activities including any necessary long-term costs, such as operation, maintenance and monitoring costs.
- b. A third party is a party who:
  - (1) Is neither a parent nor a subsidiary of the Permittee; and
  - (2) Does not share a common parent or subsidiary with the Permittee.
- c. The cost estimates shall not include any salvage value that may be realized from the sale of wastes, facility structures or equipment, land, or other assets associated with the facility.
- d. Discounting is not allowed.

The Permittee shall submit each post-closure care and corrective action cost estimate for review and approval by the Department. The Department shall review each cost estimate and notify the Permittee, in writing, of the Department's approval, rejection, or modification of the cost estimate according to Corrective Action Condition XXII. of this Permit. If the Department does not approve the cost estimate, the Department shall notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submittal of a revised cost estimate.

2. Revisions to the Post-Closure Care and Corrective Action Cost Estimate

a. Annual Adjustment for Inflation

The Permittee shall adjust annually the post-closure care and corrective action cost estimate for inflation until all corrective action activities required by this Permit are complete. The inflation adjustment shall be determined by using the procedures described in 40 CFR 264.142(b) except that the inflation factor should be derived from the most recent annual Implicit Price Deflator for the Gross Domestic Product instead of the Gross National Product. The cost estimate is due within 60 calendar days before the anniversary date of the establishment of the financial

assurance instrument(s) used to comply with this section. If the Permittee uses a financial test or corporate guarantee to demonstrate financial assurance, the cost estimate is due within 30 calendar days of the end of the provider's fiscal year.

b. Additional Corrective Action Activities

The Permittee shall increase the corrective action cost estimate if:

- (1) The Permittee or the Department determines that any additional corrective action activities are required; or
- (2) If any other conditions increase the estimated cost of the corrective action activities to be performed under this Permit.

If the Department determines that a new cost estimate is required, the Department shall notify the Permittee of this requirement.

The Permittee shall submit each revised corrective action cost estimate for review and approval by the Department within 60 calendar days of Department notification that a new cost estimate is required. The Department shall review each revised cost estimate and notify the Permittee, in writing, of the Department's approval, rejection, or modification of the cost estimate according to Corrective Action Condition XXII. of this Permit. If the Department does not approve the revised cost estimate, the Department shall notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submittal of a new revised cost estimate.

B. Financial Assurance

In order to provide for the full and final completion of the corrective action activities required by this Permit, the Permittee shall establish and maintain financial assurance for the benefit of the Department in the amount at least equal to the most recent Department-approved corrective action cost estimate. The Permittee may use one or more of the financial assurance forms generally described in Corrective Action Condition XXI.B.11. of this Permit. All financial assurance instruments provided because of this Permit shall be satisfactory in

form and substance as determined by the Department. The Department reserves the right to limit the choices of the Permittee to one or more of the instruments described in Corrective Action Condition XXI.B.11. of this Permit, on a case-by-case basis, in order to ensure the full and final completion of the corrective action activities required by this Permit.

1. Timeframes for Financial Assurance Instruments (other than Financial Test or Corporate Guarantee)
  - a. Within 30 calendar days after Department approval of the Permittee's corrective action cost estimate(s) pursuant to this Permit, the Permittee shall submit draft financial assurance instruments and related documents to the Department for review and approval. This applies to all financial assurance instruments except the financial test or corporate guarantee. See Corrective Action Condition XXI.B.2. of this Permit for timeframes for financial tests and corporate guarantees.
  - b. Within ten calendar days after Department approval of the draft financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents shall be in a form identical to the financial assurance documents reviewed and approved by the Department.
  - c. Within 30 calendar days after receiving Department approval of the draft financial assurance instrument(s), the Permittee shall submit all original executed and/or otherwise finalized instruments or other documents to the Department. The Permittee shall submit original executed or otherwise finalized instruments or documents. Facsimiles or photocopies are not acceptable.
2. Timeframes for Financial Tests and Corporate Guarantees
  - a. Within 30 calendar days after the Department's approval of the Permittee's post-closure care and corrective action cost estimate(s) pursuant to this Permit, the Permittee shall submit to the Department all documentation necessary to demonstrate that the

Permittee satisfies the financial test criteria pursuant to Corrective Action Condition XXI.B.11.e. of this Permit.

- b. The Permittee's financial assurance shall be effective immediately upon the Department's approval of the Permittee's corrective action cost estimate or the Permittee's demonstration that the Permittee satisfies the financial test criteria under Corrective Action Condition XXI.B.11.e. of this Permit, whichever date is later.
- c. The Permittee agrees that if the Permittee provides financial assurance by means of a corporate guarantee or financial test, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time. The Permittee shall promptly provide the requested information to the Department.

3. Certified Mail

The Permittee shall submit all financial assurance instruments and related required documents by certified mail to the Department.

4. Multiple Instruments

The Permittee may combine more than one mechanism to demonstrate financial assurance for the corrective action activities required by this Permit. However, mechanisms guaranteeing performance rather than payment may not be combined with other instruments.

5. Inadequate Financial Assurance Instrument

- a. If at any time the Department determines that a financial assurance instrument provided pursuant to this Permit is inadequate, or no longer satisfies the requirements, the Department shall notify the Permittee in writing. This applies whether there is an increase in the estimated cost of the corrective action activities required by this Permit or for any other reason.

- (1) Within 30 calendar days of receipt of such notice, the Permittee shall submit draft financial assurance instruments

and related documents to the Department for review and approval. The draft financial assurance instruments and related documents shall address the inadequacies outlined in the Department's notice.

- (2) Within ten calendar days after Department approval or approval with modifications of the draft financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents shall be in a form identical to the financial assurance documents reviewed and approved by the Department.
  - (3) Within 30 calendar days after receiving Department approval of the draft financial assurance instrument(s), the Permittee shall submit all original executed and/or otherwise finalized instruments or other documents to the Department. The Permittee shall submit original executed or otherwise finalized instruments or documents. Facsimiles or photocopies are not acceptable.
- b. Within ten calendar days, the Permittee shall notify the Department, in writing, if at any time the Permittee becomes aware of information indicating that any financial assurance instrument provided pursuant to this Permit is inadequate or no longer satisfies the requirements described or incorporated by reference herein. This applies whether due to an increase in the estimated cost of the corrective action activities required by this Permit or for any other reason. The Permittee shall follow the procedures in Corrective Action Condition XXI.B.5.a. of this Permit to replace the financial assurance instrument.
6. **Obligation to Complete Corrective Action Activities**

The Permittee's inability or failure to establish or maintain financial assurance for completion of the corrective action activities required by this Permit shall in no way excuse performance of any other requirements of

this Permit, including, without limitation, the obligation of the Permittee to complete all necessary corrective action activities in strict accordance with the terms of this Permit.

7. Automatic Renewal

All financial assurance instruments shall automatically renew at the time of their expiration unless the financial assurance provider notifies both the Permittee and the Department by certified mail of a decision to cancel, terminate, or not renew a financial assurance instrument. The Permittee and the Department shall receive such notification at least 120 calendar days before expiration, cancellation, or termination of the instrument. Under the terms of the financial assurance instrument, the 120 calendar days will begin on the date of receipt of the notice by certified mail by both the Permittee and the Department.

Within 90 calendar days following receipt of such notice by both the Permittee and the Department, the Permittee shall provide alternate financial assurance and obtain written approval from the Department for such alternate financial assurance.

If the Permittee fails to provide alternate financial assurance within 90 calendar days, the Department shall notify the financial assurance provider, in writing, before the expiration of the instrument. The notification to the financial assurance provider shall instruct the financial assurance provider to immediately deposit the remaining funds obligated under the financial assurance into the standby trust fund or a newly created trust fund approved by the Department.

8. Modification of Amount and/or Form of Financial Assurance

a. Reduction of Amount of Financial Assurance

If the Permittee believes that the estimated cost to complete the corrective action activities required by this Permit has diminished below the amount covered by the existing financial assurance provided under this Permit, the Permittee may submit a written proposal to the Department to reduce the amount of the financial assurance provided under this Permit. The amount of the financial assurance proposed shall be at least equal to the estimated cost of

the remaining corrective action activities required by this Permit. The written proposal shall specify, at a minimum, the cost of the remaining corrective action activities to be performed and the basis upon which such cost was calculated. In seeking approval of a revised financial assurance amount, the Permittee shall follow the procedures described in Corrective Action Condition XXI.B.8.b.(2) of this Permit. The Department shall notify the Permittee of its decision in writing. The Permittee may reduce the amount of the financial assurance after receiving the Department's written approval, but only according to and to the extent permitted by such written approval. No change to the form or terms of any financial assurance provided under this Section, other than a reduction in amount, is authorized except as provided in Corrective Action Condition XXI.B.8.b. of this Permit.

b. Change of Form of Financial Assurance

- (1) If the Permittee wishes to change the form or terms of financial assurance, the Permittee may submit a written proposal to the Department to change the form of financial assurance. The submission of such a proposal shall be as provided in Corrective Action Condition XXI.B.8.b.(2) of this Permit. The approval of a proposal submitted under this Corrective Action Condition XXI.B.8. of this Permit shall be made at the Department's sole discretion.
- (2) A written proposal for a revised or alternative form of financial assurance shall specify, at a minimum:
  - (a) The cost of the remaining corrective action activities to be performed;
  - (b) The basis upon which such cost was calculated; and
  - (c) The proposed revised form of financial assurance, including all proposed instruments or other documents required in order to make the proposed financial assurance legally binding.

The proposed revised or alternative form of financial assurance shall satisfy all requirements described or incorporated by reference in this Permit. The Department shall notify the Permittee, in writing, of its decision to accept or reject a revised or alternative form of financial assurance submitted pursuant to this paragraph.

Within ten calendar days after receiving written approval of the proposed revised or alternative financial assurance, the Permittee shall execute and/or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding and effective in a form identical to the documents submitted to the Department.

Within 30 calendar days of receiving written approval of the proposed revised or alternative financial assurance, the Permittee shall submit to the Department all original executed and/or otherwise finalized instruments or other documents required in order to make the selected financial assurance legally binding.

The Department shall release, cancel, or terminate the prior existing financial assurance instruments only after the Permittee has submitted all executed and/or otherwise finalized new financial assurance instruments or other required documents to the Department.

9. Performance Failure

- a. In the event that the Department determines that the Permittee:
- (1) Has ceased implementation of any of the corrective action activities required by this Permit;
  - (2) Is significantly or repeatedly deficient or late in its performance of the corrective action activities required by this Permit; or
  - (3) Is implementing the corrective action activities required by this Permit in a manner that may cause an endangerment to human health or the environment;

the Department may issue a written notice (“Performance Failure Notice”) of the Permittee’s failure to perform to both the Permittee and the financial assurance provider. The notice will specify the grounds upon which it was issued and will provide the Permittee a period of ten calendar days to remedy the circumstances.

- b. If the Permittee fails to remedy the relevant Performance Failure to the Department’s satisfaction before the expiration of the ten calendar day notice period specified in Corrective Action Condition XXI.B.9.a. of this Permit, the Department shall have immediate access to and benefit of the financial assurance provided. The Department may, at any time thereafter, direct the financial assurance provider to immediately:
  - (1) Deposit into the standby trust fund, or a newly created trust fund approved by the Department, the remaining funds obligated under the financial assurance instrument; or
  - (2) Arrange for performance of the corrective action activities required by this Permit.
- c. The Department shall give the Permittee written notice if:
  - (1) The Department determines that any of the circumstances described in Corrective Action Conditions XXI.B.9.a.(1), (2), or (3) of this Permit have occurred; and
  - (2) The Department is nevertheless unable, after reasonable efforts, to secure the payment of funds or performance of the corrective action activities required by this Permit from the financial assurance provider.
- d. Within ten calendar days of receiving such written notice, the Permittee shall provide cash to fund the standby trust fund, or a newly created trust fund approved by the Department. The funds shall at least equal the cost of the remaining corrective action activities required by this Permit. The deposit shall be made in immediately available funds and without setoff, counterclaim, or condition of any kind.

10. Release of Financial Assurance

The Permittee may submit a written request to the Department to release the Permittee from the requirement to maintain financial assurance after the Department and the Permittee have mutually agreed in writing that all corrective action activities required by this Permit are complete. The Department shall notify in writing both the Permittee and the provider(s) of the financial assurance if and when the Permittee is released from all financial assurance obligations under this Permit. The Permittee shall not release, cancel, or terminate any financial assurance provided pursuant to this Permit except as provided in this paragraph or Corrective Action Condition XXI.B.8.b. of this Permit.

11. Financial Assurance Instruments

To the extent possible, the wording of the financial assurance documents shall meet the requirements of 40 CFR 264.143 and 40 CFR 264.151, as incorporated and modified in 10 CSR 25-7. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department.

a. Trust Fund

The trust fund shall be:

- (1) Established for the benefit of the Department;
- (2) Administered by a trustee who has the authority to act as a trustee under federal or state law and whose trust operations are regulated and examined by a federal or state agency; and
- (3) Acceptable in all respects to the Department.

The trust agreement shall provide that the trustee shall make payments from the fund as the Department shall direct in writing:

- (4) To reimburse the Permittee for expenditures made by the Permittee for corrective action activities performed according to this Permit; or

- (5) To pay any other person whom the Department determines has performed or will perform the corrective action activities required by this Permit.

The trust agreement shall further state that the trustee shall not refund to the grantor any amounts from the fund until the Department has advised the trustee in writing that the corrective action activities performed according to this Permit have been completed to the satisfaction of the Department.

b. Surety Bond

A surety bond shall unconditionally guarantee either:

- (1) Payment at the direction of the Department into a standby trust fund that meets the requirements of the trust fund in Corrective Action Condition XXI.B.11.a. of this Permit; or
- (2) Performance of the corrective action activities required by this Permit. The Surety Company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal Bonds as described in Circular 570 of the U.S. Department of the Treasury.

If the Permittee seeks to establish financial assurance by using a surety bond, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund shall meet the requirements of Corrective Action Condition XXI.B.11.a. of this Permit. Funds from the surety bond shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Corrective Action Condition XXI.B.9. of this Permit.

c. Irrevocable Letter of Credit

An irrevocable letter of credit shall be payable at the direction of the Department into a standby trust fund that meets the requirements of Corrective Action Condition XXI.B.11.a. of this Permit. The letter of credit shall be issued by a financial institution:

- (1) That has the authority to issue letters of credit; and
- (2) Whose letter-of-credit operations are regulated and examined by a federal or state agency.

If the Permittee seeks to establish financial assurance by using a letter of credit, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund shall meet the requirements of Corrective Action Condition XXI.B.11.a. of this Permit. Funds from the letter of credit shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Corrective Action Condition XXI.B.9. of this Permit.

d. Policy of Insurance

A policy of insurance shall:

- (1) Provide the Department with rights as a beneficiary which are acceptable to the Department; and
- (2) Be issued by an insurance carrier that:
  - (a) Has the authority to issue insurance policies in Missouri; and
  - (b) Whose insurance operations are regulated and examined by a federal or state agency.
- (3) The insurance policy shall be issued for a face amount at least equal to the current approved corrective action cost estimate for the corrective action activities to be performed under this Permit, except where costs not covered by the insurance policy are covered by another financial assurance instrument, as permitted in Corrective Action Condition XXI.B.4. of this Permit.
- (4) The insurance policy shall state that the insurer shall make payments up to an amount equal to the face amount of the policy as directed by the Department in writing:

- (a) To reimburse the Permittee for expenditures made by the Permittee for corrective action activities performed according to this Permit; or
  - (b) To pay any other person whom the Department determines has performed or will perform the corrective action activities required by this Permit.
- (5) The insurance policy shall also state that it may not be canceled, terminated or non-renewed and the policy shall remain in full force and effect in the event that:
- (a) The Permittee is named as a debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
  - (b) The Department notifies the insurer of the Permittee's failure to perform, under Corrective Action Condition XXI.B.9. of this Permit.

e. Financial Test

A Permittee may provide financial assurance through a demonstration by the Permittee that the Permittee meets the financial test criteria of 40 CFR.264.143(f) provided that all other requirements of 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7, and that the requirements in Corrective Action Condition XXI.B.11.g. of this Permit are satisfied. A commercial facility may not satisfy financial assurance requirements for corrective action by use of a financial test.

f. Corporate Guarantee

A direct or indirect parent company of a Permittee may provide a corporate guarantee executed in favor of the Department. Such guarantee shall state that the company providing the guarantee shall perform the corrective action activities required by this Permit or that the company shall establish a trust fund as permitted by Corrective Action Condition XXI.B.11.a. of this Permit. Any company providing such a guarantee shall demonstrate to the

satisfaction of the Department that it meets the financial test requirements of 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7 and Corrective Action Condition XXI.B.11.g. of this Permit.

g. Additional Requirements for Financial Test/Corporate Guarantee

If at any time during the term of this Permit the Permittee demonstrates financial assurance for the corrective action activities required by this Permit by providing a financial test or corporate guarantee pursuant to Corrective Action Conditions XXI.B.11.e. or XXI.B.11.f. of this Permit, the Permittee shall also comply with the other relevant requirements of 40 CFR 264.143(f), 40 CFR 264.151(f), and 40 CFR 264.151(h)(1), as incorporated and modified in 10 CSR 25-7, relating to these methods, unless otherwise provided in this Permit. This includes, but is not limited to:

- (1) Initial submission of required financial reports and statements from the guarantors' chief financial officer and independent certified public accountant;
- (2) Annual re-submission of such reports and statements within 90 calendar days after the close of each of the guarantor's fiscal year; and
- (3) Notification to the Department by certified mail within 90 calendar days after the close of any of the guarantor's fiscal year in which any such guarantor no longer satisfies the financial test requirements described at 40 CFR Part 264.143(f)(1), as incorporated and modified in 10 CSR 25-7.

If the Permittee provides financial assurance by means of a financial test or corporate guarantee, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time. The Permittee shall promptly provide the requested information to the Department.

For purposes of the financial test or corporate guarantee described in Corrective Action Conditions XXI.B.11.e. and XXI.B.11.f. of this Permit, references in 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7, to “the sum of current closure and post closure costs and the current plugging and abandonment cost estimates” and references in 40 CFR 264.101(c), as incorporated and modified in 10 CSR 25-7, to “Assurances of financial responsibility for such corrective action shall be provided” shall mean “the sum of all environmental remediation obligations” guaranteed by such company or for which such company is otherwise financially obligated in addition to the cost of the corrective action activities required by this Permit. This includes obligations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RCRA, the Underground Injection Control (UIC) Program, the Toxic Substances Control Act (TSCA) and any other federal, state or tribal environmental obligation.

## XXII. Review and Approval Procedures

- A. Financial assurance cost estimates and draft financial assurance mechanisms for corrective action shall be reviewed and approved by the Department according to this section and Corrective Action Condition XXI.
- B. Following submission of any plan or report pertaining to corrective action activities (excluding Semi-Annual Progress Reports and Annual Groundwater Corrective Action Reports), the Department shall review and either approve or disapprove the plan or report in writing. If the Department does not approve the plan or report, the Department shall notify the Permittee, in writing, of the plan or report’s deficiencies and specify a due date for submittal of a revised plan or report.
- C. If the Department does not approve the revised plan or report, the Department may modify the plan or report and notify the Permittee of the modifications. The plan or report, as modified by the Department, shall be the approved plan or report.
- D. If the Permittee disagrees with any Department-initiated plan or report modifications, and a mutually acceptable resolution of such modifications cannot

be informally reached, the Permittee may file any appeal of the Department-initiated modifications according to 10 CSR 25-8 and Sections 260.395.11 and 621.250, RSMo, as applicable.

- E. Requests for extensions to the compliance dates associated with this Permit will be considered, and may be granted, on a case-by-case basis. Any extension request(s) shall specify the proposed new compliance date and shall be accompanied by the Permittee's justification for the extension. The Department shall receive extension requests at least 15 calendar days before the scheduled due date of the document or activity.

#### XXIII. Planned Activities

The Permittee shall comply with the schedule for planned corrective action activities as specified in this Permit and summarized on Table VII.

#### XXIV. Contingent Activities

The Permittee shall comply, as necessary, with the schedule(s) for contingent activities as specified in the Corrective Action Conditions of this Permit and summarized in Table VIII.

**FACILITY SUBMISSION SUMMARY**

**Table VI - Summary of the Submittal Requirements Under this Permit**

<b>Item No.</b>	<b>Submittal Requirements</b>	<b>Due Date</b>	<b>Schedule of Compliance Item</b>
<b>Submittals Due Within 30 days of Permit Issuance</b>			
1.	An updated RCRA Hazardous Waste Part A application form and new Missouri notification of regulated waste activity form reflecting the new site name.	Within 30 calendar days after effective date of this Permit.	VI.
<b>Submittals Due Within 60 days of Permit Issuance</b>			
2.	Consolidated Permit Application.	Within 60 calendar days after effective date of this Permit.	I.A.
3.	Certification that Permittee has read and understands this Permit.	Within 60 calendar days after effective date of this Permit.	I.B.
4.	Check or money order for remaining permit fees and all outstanding engineering review costs.	Within 60 calendar days after effective date of this Permit.	I.C. & I.D.
5.	Revised SAP to incorporate all groundwater monitoring modifications outlined in this Permit.	Within 60 calendar days after effective date of this Permit.	I.E. and Corrective Action Condition III.D.6
6.	Revised SAP to incorporate any surface water monitoring program modifications outlined in this Permit.	Within 60 calendar days after effective date of this Permit.	I.F. and Corrective Action Condition IV.A.
7.	Updated post-closure care and corrective action cost estimate for the existing sitewide corrective action program.  <i>(Also listed as Item No. 1 on Table IX)</i>	Within 60 calendar days after effective date of this Permit.	II. and Corrective Action Condition XXI.A.1.

Item No.	Submittal Requirements	Due Date	Schedule of Compliance Item
8.	Revised draft environmental covenant for Department approval.	Within 60 calendar days after effective date of this Permit.	IV.A. and Corrective Action Conditions XVII.A.1. and XVII.B.1.
<b>Submittal Due Date is Contingent</b>			
9.	Documentation to demonstrate the Permittee satisfies the financial assurance criteria to reflect the cost estimate approved by the Department.	Within 30 calendar days after Department approval of the updated post-closure care and corrective action cost estimate.	III. and Corrective Action Condition XXI.B.2.a.
10.	A notarized statement certifying that the environmental covenant has been recorded in the property chain-of-title.	Within 30 calendar days of recording the approved environmental covenant.	IV.C. and Corrective Action Conditions XVII.A.4. and XVII.B.5.
11.	Written certification stating that the final remedy has been constructed according to the approved CMS.	Within 30 calendar days of recording the approved environmental covenant.	IV.D. and Corrective Action Condition XVII.C.

**Table VII - Summary of the Planned Post-Closure and  
Corrective Action Submittal Requirements**

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
<b>Quarterly Submittals</b>			
1.	Quarterly Reports with Summary Manifest Report information required by 10 CSR 25-5.262(2)(D) and 10 CSR 25-7.264(2)(E).	Within 45 calendar days after end of each quarter.	Standard Permit Condition I.
<b>Semi-Annual Submittals</b>			
2.	Semi-Annual Progress Reports.	By March 1 and September 1 of each calendar year.	XVIII.A.
<b>Annual Submittals</b>			
3.	Update Post-Closure Care and Corrective Action Cost Estimate for Inflation.  <i>(Also listed as Item No. 3 on Table IX)</i>	Annually, at least 60 calendar days prior to anniversary date of the establishment of the initial financial assurance instrument(s).  Or  Within 30 calendar days of the end of the provider's fiscal year if a financial test or corporate guarantee is used.	II.E. and XXI.A.2.a.

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
4.	Adjust Financial Assurance Instrument Coverage to Reflect Approved Inflation Updates to Post-Closure Care and Corrective Action Cost Estimates.  <i>(Also listed as Item No. 4 on Table IX)</i>	Within 60 calendar days of Department approval of inflation updates to the Post-Closure Care and Corrective Action cost estimate(s).  Or  If the Permittee uses a financial test or corporate guarantee to demonstrate financial assurance, the update is due within 90 calendar days of the end of the provider's fiscal year.	II.F, XXI.B.1., Or XXI.B.11.g.(2)
5.	Annual Groundwater Corrective Action Reports.	By March 1 of each calendar year for the preceding calendar year.	XIX.A.
6.	Analytical groundwater sampling data for SWMUs specified in Corrective Action Condition V.D.	Included in Annual Groundwater Monitoring Report to be submitted by March 1 of each calendar year.	XIII.B.
7.	Annual report on operation and effectiveness of the VEGE system at SWMU 11.	By March 1 of following year for each calendar year the VEGE system is operated.	XV.A.3.b.
<b>Every Even Numbered Calendar Year Submittal</b>			
8.	Biennial Report with information required by 40 CFR 264.75.	March 1 of each even numbered calendar year.	General Permit Condition I.

**Table VIII - Summary of the Contingent Post-Closure and  
Corrective Action Submittal Requirements**

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
1.	Proposed Modifications or Amendments to Post-Closure Care Plan by Permittee.	At least 60 calendar days prior to a proposed change and no later than 60 calendar days after the occurrence of an unexpected event which has affected the plan.	II.B.
2.	Modifications or Amendments to Post-Closure Care Plan by Department.	No later than 60 calendar days after a Department request for modification of the plan.	II.B.
3.	Certification of Completion of Post-Closure Care Period.	Within 60 calendar days after completion of the post-closure care period.	II.G.
4.	Proposal for new monitoring wells to further define extent of the contamination once a determination is made existing system is inadequate.	Within 30 calendar days of such a determination by the Permittee or a notification of such by the Department.	III.D.2.
5.	Revisions to SAP to incorporate newly installed monitoring wells.	Within 30 calendar days of receipt of notification that a modified groundwater monitoring system adequately defines extent of contamination.	III.D.2.
6.	Well certification report forms and certification/registration acceptance for new wells or plugged/abandoned wells.	By March 1 of each calendar year in Annual Groundwater Corrective Action Report.	III.D.3.a. and III.D.4.a.
7.	Revisions to SAP to remove any plugged and abandoned monitoring wells.	Within 30 calendar days of DGLS's registration acceptance of plugged/abandoned wells.	III.D.4.b.

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
8.	Notification of any field work associated with the construction or modification of the groundwater monitoring system.	At least seven calendar days prior to conducting the field work.	III.D.5.
9.	Well-specific surface and subsurface integrity inspections.	Within seven calendar days following any contact of wells by flood waters.	III.D.7.d.
10.	Monitoring well repairs for integrity problem(s) identified by flood water contact.	Within 30 calendar days of identification of integrity problem or as soon as practicable given conditions.	III.D.7.d.
11.	Revisions to SAP for changes to the listed perimeter/ effectiveness monitoring wells for the Surface Impoundments.	Within 30 calendar days of receipt of Department approval.	III.E.2.f., and III.E.3.c.
12.	Revisions to SAP for changes to the list of monitoring wells associated with the Ravine Area Landfill.	Within 30 calendar days of receipt of Department approval.	III.F.2.c. and III.F.4.
13.	Written Notification of Newly-Identified SWMU(s) and AOC(s).	No later than 15 calendar days after discovery.	VI.A.
14.	SWMU/AOC Assessment Work Plan.	Within 30 calendar days of notice by the Department that a work plan is required.	VI.B.
15.	SWMU/AOC Assessment Report.	According to the schedule in the approved SWMU/AOC Assessment Work Plan.	VI.D.
16.	Written Notification of Newly-Identified Releases from Previously-Identified SWMU(s) and AOC(s).	No later than 15 calendar days after discovery.	VII.A.

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
17.	Newly-Identified Release Work Plan for Previously-Identified SWMU(s) and AOC(s).	Within 30 calendar days of notice by the Department that a work plan is required.	VII.B.
18.	Newly-Identified Release Report from Previously-Identified SWMU(s) and AOC(s).	According to the schedule in the approved Newly-Identified Release Work Plan.	VII.D.
19.	Written Notification of Interim/Stabilization Measures.	Within 24 hours of discovery of need for stabilization measures.	VIII.A.
20.	Written Notification of Interim/Stabilization Measures Not Effective.	Within ten calendar days of determination by Permittee.	VIII.C.
21.	RCRA Facility Investigation (RFI) Work Plan for newly-identified releases from newly and/or previously-identified SWMUs/AOCs.	Within 60 calendar days of notice by the Department that a RFI work plan is required.	IX.C.
22.	RCRA Facility Investigation (RFI) Report for newly-identified releases from newly and/or previously-identified SWMUs/AOCs.	According to the schedule in the approved RFI Work Plan.	X.B.
23.	Corrective Measures Study (CMS) Work Plan.	Within 45 calendar days of notice by the Department that a work plan is required.	XI.D.
24.	Corrective Measures Study (CMS) Report.	According to the schedule in the approved CMS Work Plan.	XII.B.
25.	Written Certification of Completion of Corrective Measures.	Within 60 calendar days of Department approval of remedy completion.	XVI.D.

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
26.	Environmental Covenant Disturbance Notification for any SWMUs Identified in Table V.	At least 30 calendar days prior to any planned construction, excavation, or maintenance and repair activities at identified SWMUs.	XVII.B.1.a.
27.	Certification Evaluating the Residual Levels of On-Site Contamination in Comparison with then-Current Risk-Based Thresholds or Standards.	One hundred eighty (180) calendar days prior to the effective date of any proposed permit termination.	XVII.D.1.
28.	Revised Draft Environmental Covenant after a proposed Permit Termination.	Within 60 calendar days of receiving notice the Department requires submittal of a revised draft environmental covenant.	XVII.D.2.
29.	A notarized statement certifying that a revised environmental covenant after a proposed Permit Termination has been recorded.	Within 30 calendar days of recording the approved revised environmental covenant.	XVII.D.4.
30.	Financial Assurance for Corrective Action (new remedy).	Within 120 calendar days after final remedy Permit modification.	XXI.A.

**Table IX - Summary of Cost Estimate/Financial Assurance Submittals**

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
<b>Initial Cost Estimate/Financial Assurance Submittals for Permit Renewal</b>			
1.	Updated post-closure care and corrective action cost estimate for the existing sitewide corrective action program.  <i>(Also listed as Item No. 6 on Table VI)</i>	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item II. and XXI.A.1.
2.	Documentation to demonstrate the Permittee updated the financial assurance instrument to reflect the cost estimate approved by the Department.	Within 30 calendar days after Department approval of the updated post-closure care and corrective action cost estimate.	Schedule of Compliance Item III.
<b>Annual Cost Estimate/Financial Assurance Submittals</b>			
3.	Update Post-Closure Care and Corrective Action Cost Estimate for Inflation.  <i>(Also listed as Item No. 3 on Table VII)</i>	Annually, at least 60 calendar days prior to anniversary date of the establishment of the initial financial assurance instrument(s).  Or  Within 30 calendar days of the end of the provider's fiscal year if a financial test or corporate guarantee is used.	II.E. and XXI.A.2.a.

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
4.	Adjust Financial Assurance Instrument Coverage to Reflect Approved Inflation Updates to Post-Closure Care and Corrective Action Cost Estimates.  <i>(Also listed as Item No. 4 on Table VII)</i>	Within 60 calendar days of Department approval of inflation updates to the Post-Closure Care and Corrective Action cost estimate(s).  Or  If the Permittee uses a financial test or corporate guarantee to demonstrate financial assurance, the update is due within 90 calendar days of the end of the provider's fiscal year.	II.F.,  XXI.B.1., Or XXI.B.11.g.(2)
<b>Contingent Cost Estimate/Financial Assurance Submissions</b>			
5.	Change in Cost Estimate for Modified Post-Closure Activities.	Annually, at least 60 calendar days prior to anniversary date of the establishment of the initial financial assurance instrument(s).	II.E.
6.	Updated Post-Closure Care Financial Assurance Instrument for Change in Cost Estimate for Additional Post-Closure Activities.	Within 60 calendar days of Department approval of inflation updates to the Post-Closure Care and Corrective Action cost estimate(s).  Or  If the Permittee uses a financial test or corporate guarantee to demonstrate financial assurance, the update is due within 90 calendar days of the end of the provider's fiscal year.	II.F.

Item No.	Submittal Requirements	Due Date	Corrective Action Condition
7.	Increase in Cost Estimate for Additional Corrective Action Activities.	Within 60 calendar days of Department notification that a new estimate is required.	XXI.A.2.b.
8.	Revised Draft Financial Assurance Instruments Upon Department Notification of Inadequate Financial Assurance Instrument.	Within 30 calendar days of receipt of such notice by the Department.	XXI.B.5.a.(1)
9.	Inadequate Financial Assurance Instrument Notification by Permittee.	Within ten calendar days of Permittee becoming aware of inadequate financial assurance instrument(s).	XXI.B.5.b.
10.	Modification of Amount and/or Form of Financial Assurance.	Within 30 calendar days of approval of revised cost estimate(s) or alternative financial assurance.	XXI.B.5.a.(3). and XXI.B.8.b.(2).

**FIGURES**

**Figure 1 - Former Surface Impoundment Area/Point of Compliance**

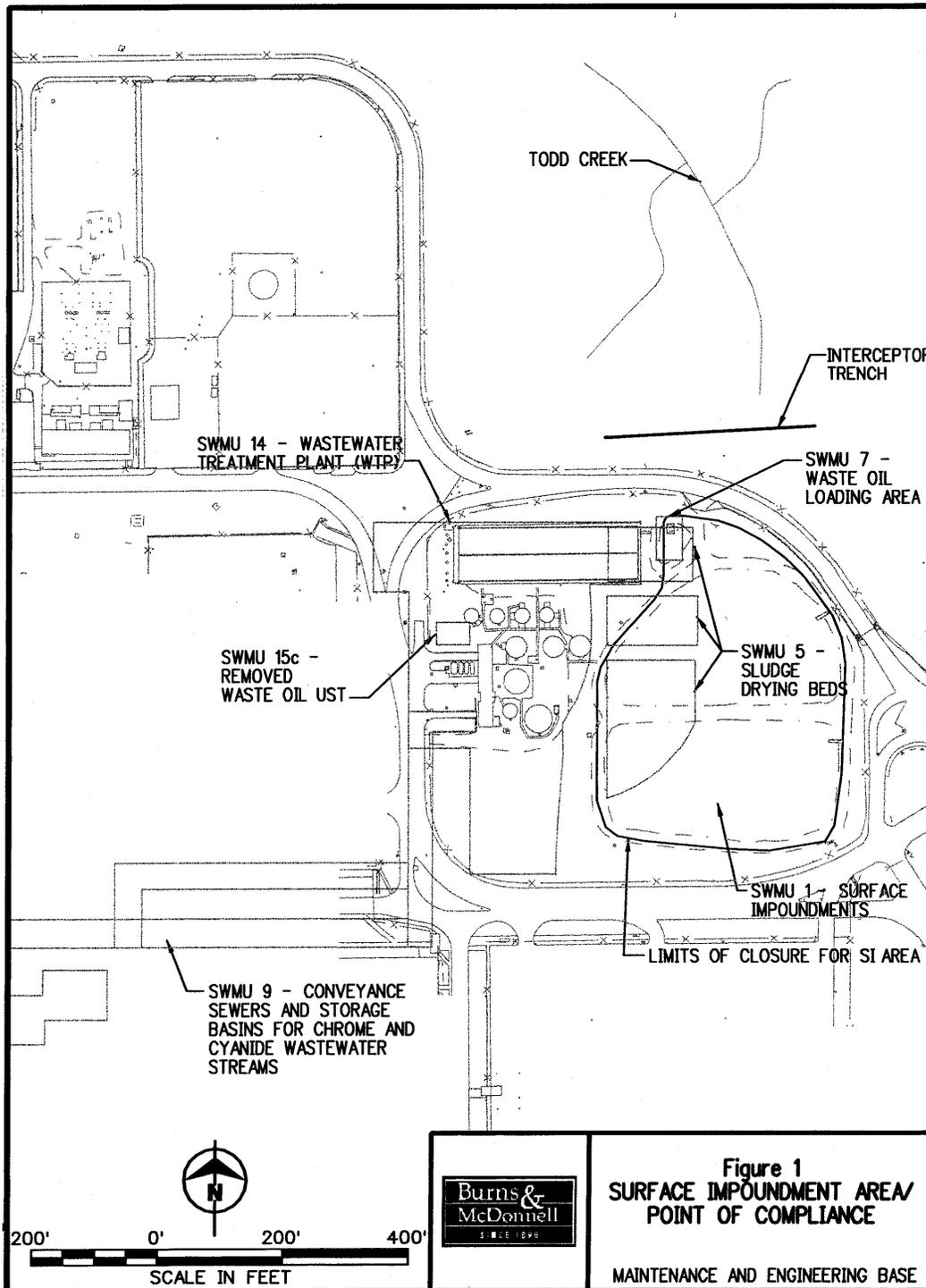


Figure 2 - Former Ravine Area Landfill/Point of Compliance

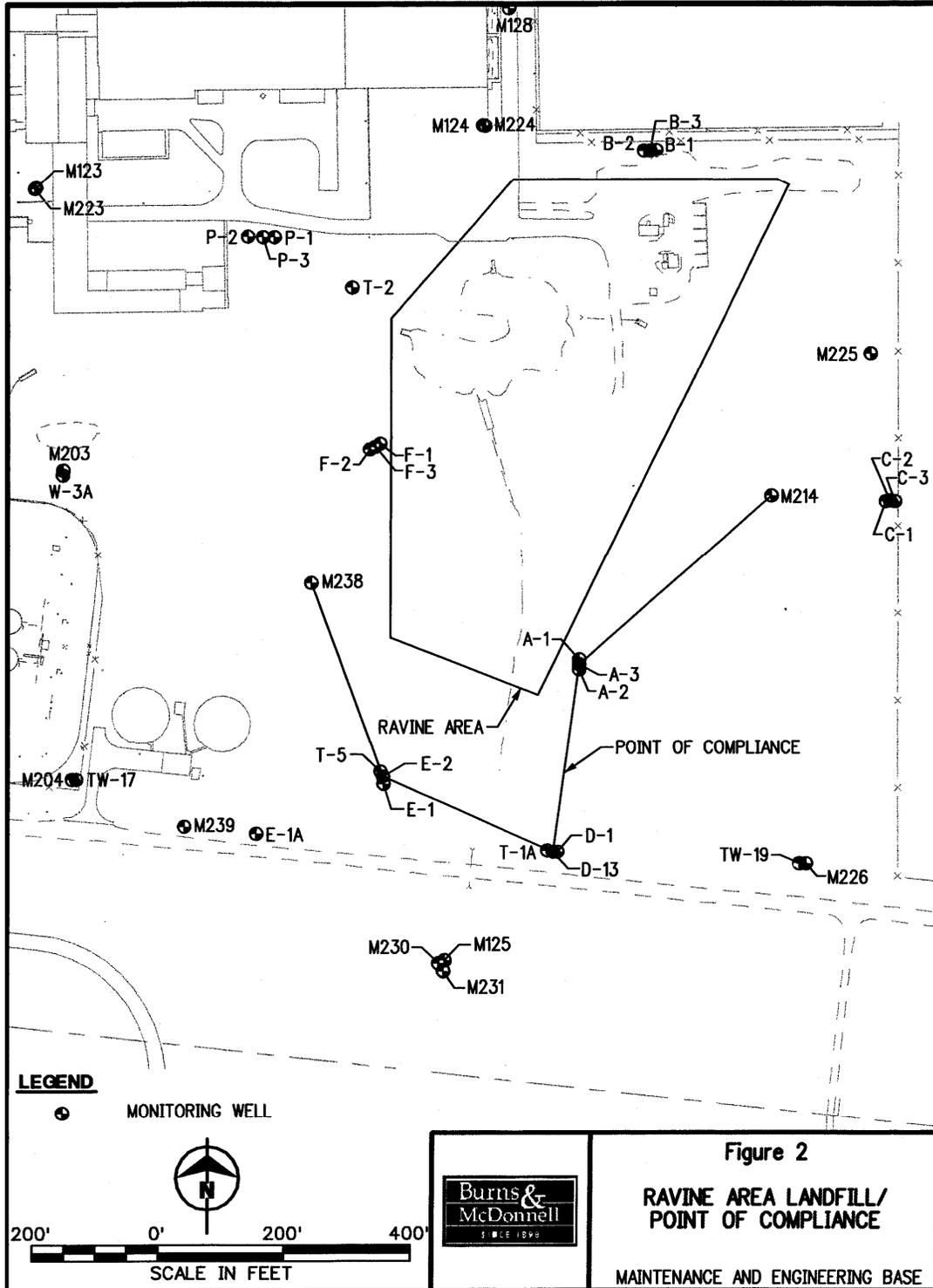


Figure 3 - Solid Waste Management Units and Central Area Locations

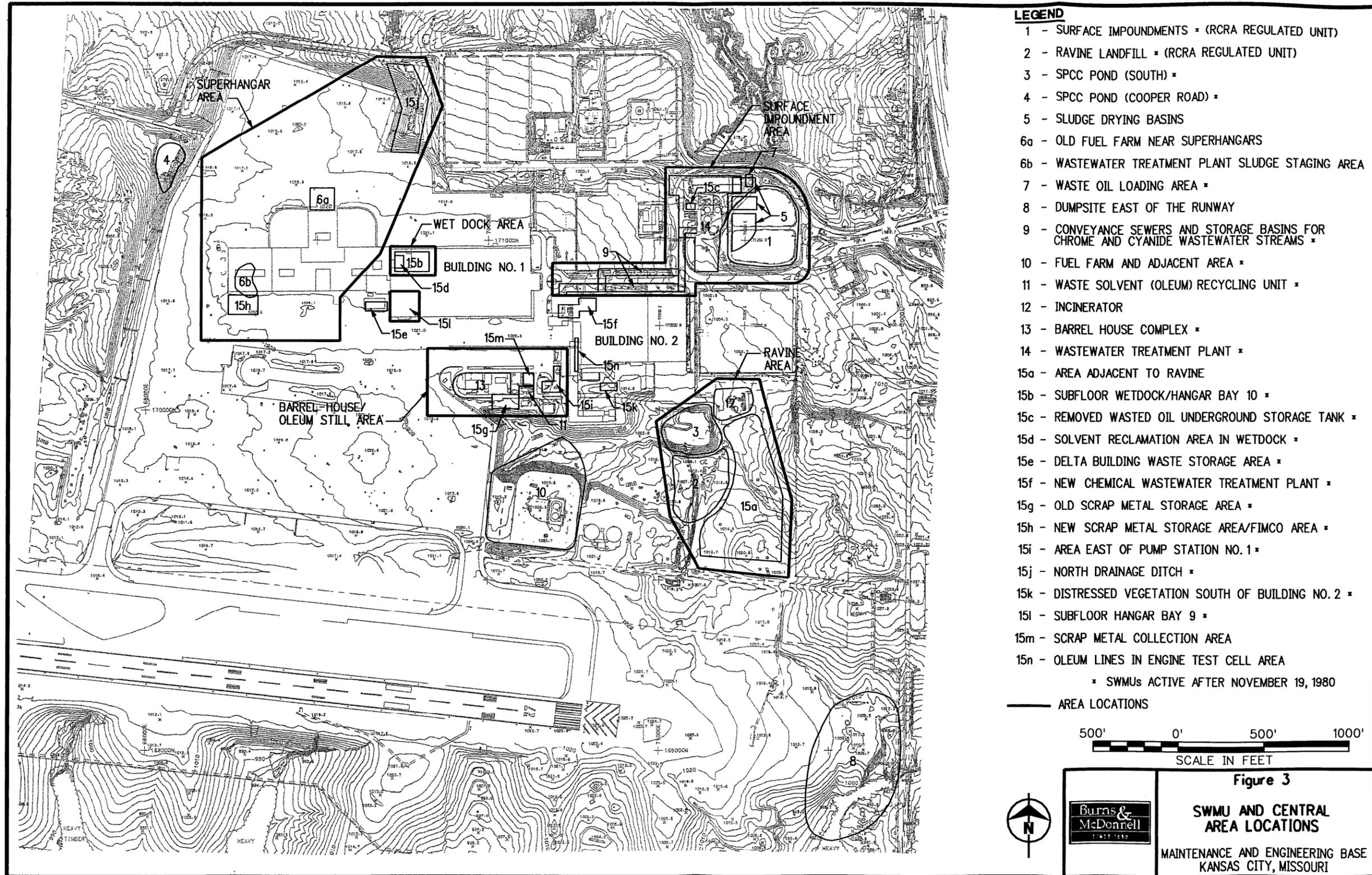
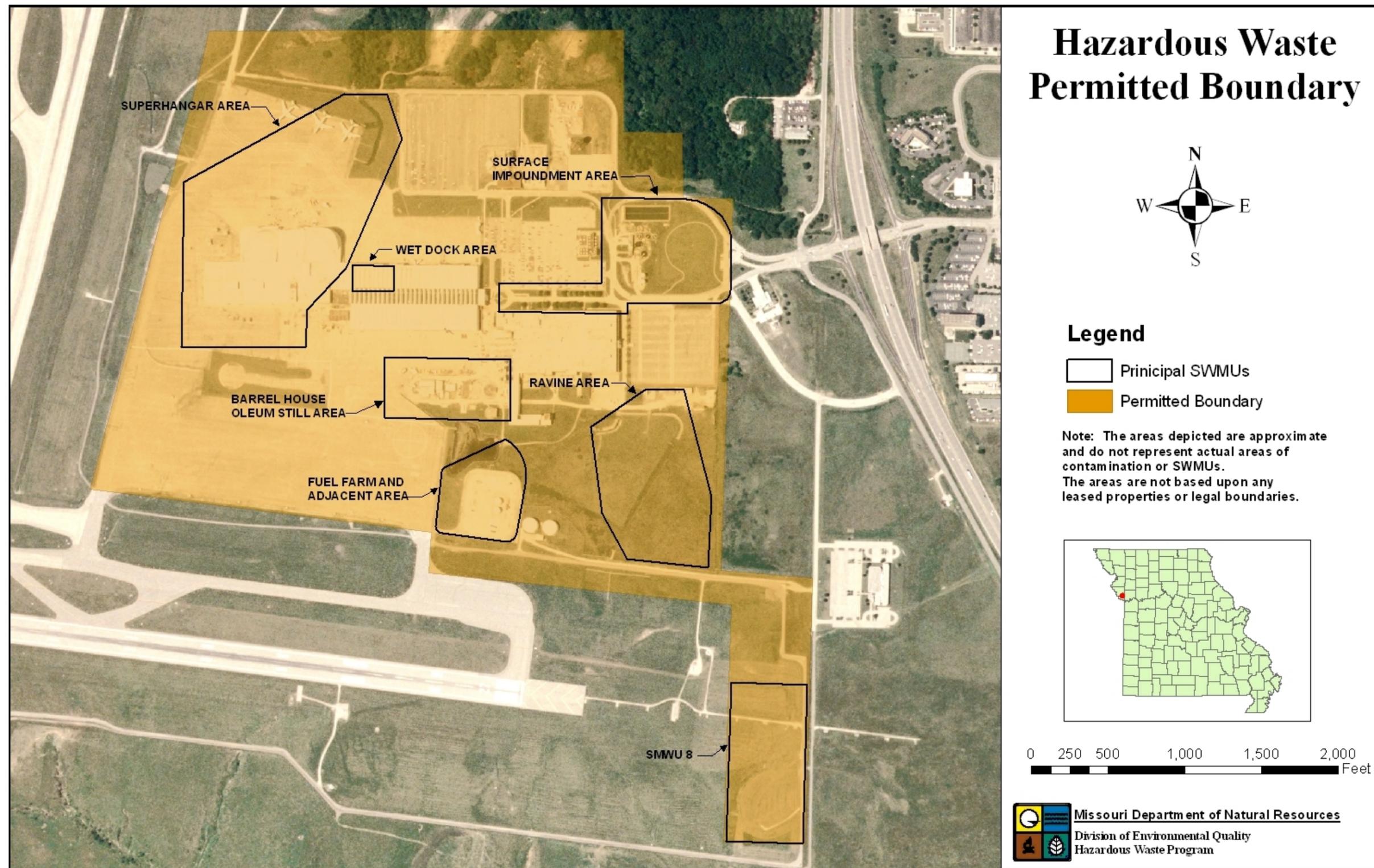


Figure 4 – Hazardous Waste Permitted Boundaries



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