

OHIO E.P.A.
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OHIO ENVIRONMENTAL PROTECTION AGENCY

OHIO HAZARDOUS WASTE FACILITY
INSTALLATION AND OPERATION PERMIT RENEWAL/MODIFICATION

ENTERED DIRECTOR'S JOURNAL

Permittee: Envirosafe Services of Ohio, Inc.

Mailing Address: Envirosafe Services of Ohio, Inc.
876 Otter Creek Road
Oregon, Ohio 43616

Owner: Envirosafe Services of Ohio, Inc.
876 Otter Creek Road
Oregon, Ohio 43616

Operator: Envirosafe Services of Ohio, Inc.
876 Otter Creek Road
Oregon, Ohio 43616

Location: 876 Otter Creek Road
Oregon, Ohio 43616

Ohio Permit No. 03-48-0092
US EPA ID: OHD 045 243 706
Issue Date: December 29, 2005
Effective Date: December 29, 2005
Expiration Date: December 29, 2015

AUTHORIZED ACTIVITIES

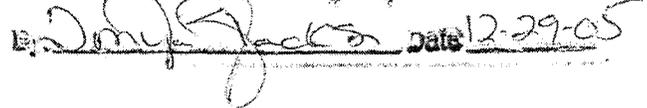
In reference to the application of Envirosafe Services of Ohio, Inc. for an Ohio Hazardous Waste Facility Installation and Operation Renewal/Modification Permit under Ohio Revised Code (ORC) Chapter 3734 and the record in this matter, you are authorized to conduct at the above-named facility the following hazardous waste management activities:

- ◆ Storage, Treatment and Disposal of Hazardous Waste
- ◆ Corrective action activities

PERMIT APPROVAL


Joseph P. Koncelik, Director
Ohio Environmental Protection Agency

certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency


Date 12-29-05

This permit approval is based upon the record in this matter which is maintained at the offices of the Ohio Environmental Protection Agency. The Director has considered the application, accompanying information, inspection reports of the facility, a report regarding the facility's compliance or noncompliance with the terms and conditions of its permit and rules adopted by the Director under this chapter, and such other information as is relevant to the operation of the facility. The Director has determined that the facility under the existing permit has a history of compliance with ORC Chapter 3734, rules adopted under it, the existing permit, or orders entered to enforce such requirements that demonstrate sufficient reliability, expertise, and competency to operate the facility henceforth under this chapter, rules adopted under it, and the renewal permit. In addition, for the Class 3 modification governed under division (I)(3) of section 3734.05 of the Revised Code, the Director has made the findings required by division (D)(2) of that same section.

Entered into the Journal of the Director this 29 day of Dec, 2005.

By  of the Ohio Environmental Protection Agency.

MODULE A - GENERAL PERMIT CONDITIONS**A. GENERAL PERMIT CONDITIONS****A.1 Effect of Permit**

ORC Sections 3734.02 (E) and (F) and 3734.05
OAC Rule 3745-50-58(G)

- (a) The Permittee is authorized to treat, store, and/or dispose on-site hazardous waste in containers, tanks, a containment building, and landfill Cell M in accordance with the terms and conditions of this Ohio hazardous waste permit (hereinafter "permit"), ORC Chapter 3734, all applicable Ohio hazardous waste rules, all applicable regulations promulgated under the Resource Conservation and Recovery Act (RCRA), as amended, and the permit application. The renewal of the closed landfill Cells F, G, H and I is for the purpose of accomplishing post-closure activities. These units have been closed and are in post-closure. These units shall not be reactivated for management of hazardous waste. The renewal permit application and the subsequent modification application (received on January 22, 2004 and last updated on February 11, 2005) are hereby incorporated into this permit. In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision must govern.
- (b) Any management of hazardous waste not authorized by this permit is prohibited, unless otherwise expressly authorized or specifically exempted by law. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, or invasion of other private rights. Compliance with the terms and conditions of this permit does not obviate Permittee's obligation to comply with other applicable provisions of law governing protection of public health or the environment including but not limited to the Community Right to Know law under ORC Chapter 3750.

A.2 Permit Actions

OAC Rule 3745-50-58(F)

This permit may be modified or revoked as specified by Ohio law. The filing of a request by the Permittee for a permit modification, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay any permit term or condition.

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A.3 Permit Effective/Expiration Date
OAC Rule 3745-50-54

The effective date of this permit is the date the permit is entered into the Director's Journal. The permit expiration date is ten years after the date of journalization of this permit.

A.4 Severability

The provisions of this permit are severable, and 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.

A.5 Duty to Comply
OAC Rule 3745-50-58(A)

The Permittee must comply with all applicable provisions of ORC Chapter 3734, all applicable Ohio hazardous waste rules, and all terms and conditions of this permit, except to the extent and for the duration such noncompliance is authorized by the laws of the State of Ohio. Any permit noncompliance, other than noncompliance authorized by the laws of the State of Ohio, constitutes a violation of ORC Chapter 3734 and is grounds for enforcement action, revocation, modification, denial of a permit renewal application or other appropriate action.

A.6 Duty to Reapply and Permit Expiration
OAC Rules 3745-50-40(D), 3745-50-58(B), 3745-50-56 and ORC Section 3734.05(H)

- (a) If the owner or operator wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must submit a completed permit application for a hazardous waste facility installation and operation permit renewal and any necessary accompanying general plans, detailed plans, specifications, and such information as the director may require, to the director no later than 180 days prior to the expiration date of this permit, unless a later submittal date has been authorized by the director upon a showing of good cause.
- (b) The owner or operator may continue to operate in accordance with the terms and conditions of the expired permit until a renewal permit is issued or denied if:

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- (i) the Permittee has submitted a timely and complete permit application for a renewal permit under OAC Rule 3745-50-40; and
 - (ii) through no fault of the Permittee, a new permit has not been issued pursuant to OAC Rule 3745-50-40 on or before the expiration date of this permit.
- (c) The Corrective Action obligations contained in this permit will continue regardless of whether the facility continues to operate or ceases operation and closes. The Permittee is obligated to complete facility-wide Corrective Action under the conditions of this permit regardless of the operational status of the facility. The Permittee must submit an application for permit renewal at least 180 days before the expiration date of this permit pursuant to OAC Rule 3745-50-40(D) unless a) the permit has been modified to terminate the Corrective Action schedule of compliance and the Permittee has been released from the requirements for financial assurance for Corrective Action; or b) a later submittal date has been authorized by the director.

A.7 Need to Halt or Reduce Activity Not a Defense
OAC Rule 3745-50-58(C)

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce a permitted activity in order to maintain compliance with the conditions of this permit.

A.8 Duty to Mitigate
OAC Rule 3745-50-58(D)

The Permittee must take all reasonable steps to minimize releases to the environment and must carry out such measures as are reasonable to prevent significant adverse impact on human health or the environment resulting from noncompliance with this permit.

A.9 Proper Operation and Maintenance
OAC Rule 3745-50-58(E)

The Permittee must at all times properly operate and maintain the facility (and related appurtenances) to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective management practices, adequate funding, adequate operator staffing and training, and where appropriate, adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of

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back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and conditions of this permit.

A.10 Duty to Provide Information
OAC Rule 3745-50-58(H)

The Permittee must furnish to the director, within a reasonable time, any relevant information which the director may request to determine whether cause exists for modifying or revoking, or to determine compliance with, this permit. The Permittee must also furnish to the director, upon request, copies of records required to be kept by this permit.

A.11 Inspection and Entry
OAC Rules 3745-50-58(i) and 3745-50-30, and ORC Section 3734.07

- (a) The Permittee must allow the director, or an authorized representative, upon stating the purpose and necessity of the inspection and upon proper identification, to:
- (i) enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the terms and conditions of this permit;
 - (ii) have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;
 - (iii) inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the terms and conditions of this permit; and,
 - (iv) sample, document, or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by ORC Chapter 3734 and the rules adopted thereunder, any substances or parameter at any location.
- (b) Any record, report or other information obtained under the hazardous waste rules or Chapter 3734 of the Revised Code shall not be available to the public upon the Permittee's satisfactory showing to Ohio EPA that all or part of the information would divulge methods or processes entitled to protection as trade secrets pursuant to Ohio Trade Secret Law and OAC Rule 3745-50-30.

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A.12 Monitoring and Records
OAC Rule 3745-50-58(J)

- (a) Any sample and measurement taken for the purpose of monitoring must be representative of the monitored activity. Further, a sample must be a representative sample, as such term is defined and used in the Ohio hazardous waste rules. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of OAC Rule 3745-51-20, Laboratory Methods. Laboratory methods must be those specified in Test Methods for the Evaluation of Solid Waste: Physical /Chemical Methods: SW-846:Third Edition, November 1992; and additional supplements or editions thereof; Standard Methods for the Examination of Water and Wastewater: Twentieth Edition, 1999; or an equivalent method as specified in the approved waste analysis plan, or as this term is defined and used in the Ohio hazardous waste rules.

The Permittee must formally review at least once during each calendar year the on-site laboratory Quality Assurance Plan (QAP).

- (b) Records of monitoring information must specify the:
- (i) date(s), exact place(s), and time(s) of sampling or measurements;
 - (ii) individual(s) who performed the sampling or measurements;
 - (iii) date(s) analyses were performed;
 - (iv) individual(s) who performed the analyses;
 - (v) analytical technique(s) or method(s) used; and,
 - (vi) results of such analyses, including detection limits.

A.13 Signatory Requirement and Certification of Records
OAC Rules 3745-50-58(K) and 3745-50-42

All applications, reports or information must be properly signed and certified in accordance with OAC Rule 3745-50-58(K).

A.14 Retention of Records
OAC Rules 3745-50-40(G), 3745-50-58(J), 3745-50-58(M) and 3745-50-58(N)

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- (a) The Permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, the certification required by OAC Rule 3745-54-73 (B)(9), and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, certification, or application.
 - (b) The record retention period may be extended by request of the director at any time and is automatically extended during the course of any unresolved enforcement action regarding the facility.
 - (c) The Permittee must maintain, in accordance with the Ohio hazardous waste rules, records of all data used to complete the permit application and any amendments, supplements or modifications of such application and must retain a complete copy of the application for a period of at least five years from the effective date of the permit.
 - (d) The Permittee must maintain a document repository in compliance with OAC Rule 3745-50-58(M).
 - (e) The Permittee must maintain records from all ground water monitoring wells and associated ground water surface elevations for the active life of the facility, and for disposal facilities for the post-closure care period as well.
 - (f) Corrective Action records must be maintained at least three years after all Corrective Action activities have been completed.

A.15 Planned Changes

OAC Rules 3745-50-51 and 3745-50-58(L)(1)

The Permittee must give notice to the director as soon as possible of any planned physical alterations or additions to the facility. All such changes must be made in accordance with OAC Rule 3745-50-51.

A.16 Waste Shipments

OAC Rule 3745-52-12, ORC Section 3734.15(C)

The Permittee must only use properly registered transporters of hazardous waste to remove hazardous waste from the facility, in accordance with all applicable laws and rules.

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A.17 Anticipated Noncompliance
OAC Rule 3745-50-58(L)(2)

The Permittee must give advance notice to the director of any planned changes in the permitted facility or operations which may result in noncompliance with the terms and conditions of this permit. Such notification does not waive the Permittee's duty to comply with this permit pursuant to Permit Condition A.5.

A.18 Transfer of Permits
OAC Rules 3745-50-52, 3745-50-58(L)(3) and 3745-54-12

- (a) The permit may be transferred to a new owner or operator only if such transfer is conducted in accordance with ORC Chapter 3734 and the rules adopted thereunder. This permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified under OAC Rule 3745-50-51. Before transferring ownership or operation of the facility, the Permittee must notify the new owner or operator in writing of the requirements of ORC Chapter 3734 and the rules adopted thereunder (including all applicable Corrective Action requirements).
- (b) The Permittee's failure to notify the new owner or operator of the requirements of the applicable Ohio law or hazardous waste rules does not relieve the new owner or operator of its obligation to comply with all applicable requirements.

A.19 Compliance Reports
OAC Rules 3745-50-58(L)(5) and 3745-50-50

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule (developed in accordance with OAC Rule 3745-50-50) of this permit must be submitted to the director no later than 14 days following each scheduled date.

A.20 Immediate Reporting of Noncompliance
OAC Rule 3745-50-58(L)(6)

- (a) The Permittee must report orally to Ohio EPA's Division of Emergency and Remedial Response within 24 hours from the time the Permittee becomes aware of any noncompliance with this permit, ORC Chapter 3734 or the rules adopted thereunder, which may endanger human health or the environment, including:

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- (i) information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies; and,
 - (ii) any information of a release or discharge of hazardous waste or a fire or explosion from the hazardous waste facility, which could threaten the environment or human health outside the facility.
- (b) The report must consist of the following information (if such information is available at the time of the oral report):
- (i) name, address, and telephone number of the owner or operator;
 - (ii) name, address, and telephone number of the facility;
 - (iii) date, time, and type of incident;
 - (iv) name and quantity of material(s) involved;
 - (v) the extent of injuries, if any;
 - (vi) an assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and,
 - (vii) estimated quantity and disposition of recovered material that resulted from the incident.

A.21 Follow-Up Written Report of Noncompliance
OAC Rule 3745-50-58(L)(6)(c)

- (a) A written report must also be provided to Ohio EPA's Division of Emergency and Remedial Response and the Division of Hazardous Waste Management Northwest District Office within five days of the time the Permittee becomes aware of the circumstances reported in Permit Condition A.20.
- (b) The written report must address the items in Permit Condition A.20 and must contain a description of such noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and, if not, the anticipated time it is expected to continue; and steps taken or planned to minimize the impact on human health and the environment and to reduce, eliminate, and prevent recurrence of the noncompliance.

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- (c) The Permittee need not comply with the five-day written report requirement if the director, upon good cause shown by the Permittee, waives that requirement and the Permittee submits a written report within 15 days of the time the Permittee becomes aware of the circumstances.

A.22 Other Noncompliance

OAC Rules 3745-50-58(L)(10) and 3745-50-58(L)(4)

The Permittee must report to the director all other instances of noncompliance not provided for in Permit Conditions A.19 and A.20. These reports must be submitted within 30 days of the time at which the Permittee is aware of such noncompliance. Such reports must contain all information set forth within Permit Condition A.20.

A.23 Certification of Construction or Modification

OAC Rule 3745-50-58(L)(2)

Except as provided in OAC Rule 3745-50-51, the Permittee may not commence treatment, storage, or disposal of hazardous waste in the modified portion of the facility until the Permittee has submitted to the director, by certified mail or hand delivery, a letter signed by the Permittee and a registered professional engineer stating that the facility has been constructed, or modified in compliance with the permit; and,

- (a) the director has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or,
- (b) the director has either waived the inspection or has not within 15 days of the date of the submittal of the letter, notified the Permittee of his intent to inspect.

A.24 Other Information

OAC Rule 3745-50-58(L)(11)

If at any time the Permittee becomes aware that it failed to submit any relevant facts, or submitted incorrect information to the director, the Permittee must promptly submit such facts, information or corrected information to the director.

A.25 Confidential Information

OAC Rule 3745-50-30

In accordance with ORC Chapter 3734 and the rules adopted thereunder, the Permittee may request confidentiality for any information required to be submitted

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by the terms and conditions of this permit, or any information obtained by the director, or an authorized representative, pursuant to the authority provided under Permit Condition A.11.

A.26 Ohio Annual Permit Fee
OAC Rule 3745-50-36

The annual permit fee, calculated pursuant to OAC Rule 3745-50-36 and payable to the Treasurer of the State, must be submitted to the director on or before the anniversary of the date of issuance during the term of the permit. For the purpose of the payment of the Ohio Annual Permit Fee, the date of issuance is the date the permit was entered into the Journal of the Director of Ohio EPA.

A.27 Compliance Schedule - Documents
OAC Rule 3745-50-50, OAC Rule 3745-50-51

- (a) Unless specified otherwise, the Permittee must submit the documents listed below to:

Ohio EPA, Director
P.O. Box 1049
Columbus, Ohio 43216-1049

Ohio EPA, DHWM
Attn: Regulatory and Information Services Section
P.O. Box 1049
Columbus, Ohio 43216-1049

Ohio EPA, Northwest District
347 North Dunbridge Road
Bowling Green, Ohio 43402

- (b) The Permittee must submit to the Ohio EPA within 90 days after permit journalization, in accordance with Ohio's hazardous waste rules, the following information to be incorporated in the permit application:

- (i) Updated Closure/Post-Closure Cost Estimate
OAC Rules 3745-55-42 and 3745-55-44

Section I of the permit application containing the financial assurance mechanism for closure must be updated to include a copy of the

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current closure/post-closure cost estimate as set forth in OAC Rules 3745-55-42 and 3745-55-44.

(ii) Updated Financial Assurance Mechanism for Closure
OAC Rules 3745-55-43 and 3745-55-45

Section I of the permit application containing the financial assurance mechanism for closure must be updated to include a copy of the current financial assurance mechanism, as set forth in OAC Rules 3745-55-43 and 3745-55-45, and as specified by the wording requirements of OAC Rule 3745-55-51. The value of the financial assurance mechanism must reflect at least the current amount of the closure/post-closure cost estimate.

During the life of the permit the facility may change the financial assurance mechanism as stated in OAC Rules 3745-55-43 and 3745-55-45. The facility must submit the financial assurance mechanism documentation to the director of Ohio EPA in accordance with the parameters set forth in OAC Rules 3745-55-43 and 3745-55-45.

(iii) Updated Liability Requirements
OAC Rule 3745-55-47

Section I of the permit application containing the mechanism used to demonstrate third party liability coverage must be updated to include a copy of the current liability mechanism as set forth in OAC Rule 3745-55-47 and as specified by the wording requirements of OAC Rule 3745-55-51.

During the life of the permit the facility may change the mechanism used to demonstrate liability coverage as stated in OAC Rule 3745-55-47. The facility must submit the liability mechanism documentation to the director of Ohio EPA in accordance with the parameters set forth in OAC Rule 3745-55-47.

This information must be submitted in accordance with OAC Rule 3745-50-51.

- (c) The Permittee must submit to Ohio EPA within ninety (90) days after permit journalization, a new, complete version of the permit application which

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removes all existing stricken language and converts any specialized font (e.g., redline, all caps, etc.) text into standard font (unless otherwise noted in this permit). This "clean" version of the permit application should also include a complete and updated table of contents and ensure all tables, sections and associated references/citations are accurate. In addition, this updated permit application must incorporate information required by Permit Conditions B.27, K.9, J.2 and G.2. This permit application must be submitted as a Class 1A permit modification pursuant to OAC Rule 3745-50-51. Any changes to the permit application submitted with this updated version that are inconsistent with or not authorized by this final renewal permit must be clearly identified and follow the appropriate process outlined in OAC Rule 3745-50-51.

A.28 Information to be Maintained at the Facility
OAC Rule 3745-54-74

- (a) Unless otherwise specified by the hazardous waste rules, the Permittee must maintain at the facility, until closure is completed and certified by an independent, registered professional engineer, pursuant to OAC Rule 3745-55-15, and until the director releases the Permittee from financial assurance requirements pursuant to OAC Rule 3745-55-47, the following documents (including amendments, revisions and modifications):
 - (i) waste analysis plan, developed and maintained in accordance with OAC Rule 3745-54-13 and the terms and conditions of this permit;
 - (ii) contingency plan, developed and maintained in accordance with OAC Rule 3745-54-53 and the terms and conditions of this permit;
 - (iii) closure plan, developed and maintained in accordance with OAC Rule 3745-55-12 and the terms and conditions of this permit;
 - (iv) cost estimate for facility closure, developed and maintained in accordance with OAC Rule 3745-55-42 and the terms and conditions of this permit;
 - (v) personnel training plan and the training records, developed and maintained in accordance with OAC Rule 3745-54-16 and the terms and conditions of this permit;
 - (vi) operating record, required by OAC Rule 3745-54-73 and the terms and conditions of this permit;

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- (vii) inspection schedules, developed in accordance with OAC Rules 3745-54-15, 3745-55-74 and 3745-55-95 and the terms and conditions of this permit;
 - (viii) post-closure plan, as required by OAC Rule 3745-55-18(A) and the terms and conditions of this permit;
 - (ix) annually-adjusted cost estimate for facility closure and post-closure, as required by OAC Rules 3745-55-42 and 3745-55-44 and the terms and conditions of this permit; and,
 - (x) all other documents required by Permit Conditions A.12 and Permit Condition F.5.
- (b) The Permittee must maintain copies of all inspection logs at the facility for a period not less than three years from the date of inspection.

A.29 Waste Minimization Report
OAC Rules 3745-54-73 and 3745-54-75

- (a) The Permittee must submit a Waste Minimization Report describing the waste minimization program required by OAC Rules 3745-54-75(H), (I), and (J); 3745-54-73(B)(9); and 3745-52-20(B) at least once every two years. The provisions of OAC Rules 3745-54-75(H), (I) and (J); and 3745-54-73(B)(9) must be satisfied annually.
- (b) The Permittee must submit the Waste Minimization Report to Ohio EPA's Office of Compliance Assistance and Pollution Prevention within 180 days of the effective date of this permit, and must submit updates to this report biennially thereafter.

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MODULE B - GENERAL FACILITY CONDITIONS

B. GENERAL FACILITY CONDITIONS

B.1 Design and Operation of Facility

OAC Rule 3745-54-31

- (a) The Permittee must design, construct, maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, ground water or surface waters which could threaten human health or the environment.
- (b) The Permittee must only accept for storage, treatment, and/or disposal the hazardous waste codes specified in the Part A of the permit application. Prior to disposal, wastes must meet all applicable land disposal restriction standards in accordance with OAC Chapter 3745-270.
 - (i) For waste codes listed in Table B -1 below, and as found in the Part A of the permit application, the Permittee may only accept these wastes as residues from treatment by incineration, carbon regeneration (by thermal incineration), and wastewater treatment; as well as, any secondary residues such as soils and debris derived from the primary residues.

Table B -1 Restricted Waste Codes								
F025	F032	K107	K108	K109	K110	K131	K132	K169
K170	K171	K172	P001	P002	P003	P004	P005	P006
P007	P008	P009	P010	P011	P012	P013	P014	P015
P016	P017	P018	P020	P021	P022	P023	P024	P026
P027	P028	P029	P030	P031	P033	P034	P036	P037
P038	P039	P040	P041	P042	P043	P044	P045	P046
P047	P048	P049	P050	P051	P054	P056	P057	P058
P059	P060	P062	P063	P064	P065	P066	P067	P068

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Table B-1: Restricted Waste Codes								
P069	P070	P071	P072	P073	P074	P075	P076	P077
P078	P081	P082	P084	P085	P087	P088	P089	P092
P093	P094	P095	P096	P097	P098	P099	P101	P102
P103	P104	P105	P106	P108	P109	P110	P111	P112
P113	P114	P115	P116	P118	P119	P120	P121	P122
P123	P127	P128	P185	P188	P189	P190	P191	P192
P194	P196	P197	P198	P199	P201	P202	P203	P204
P205	U023	U033	U075	U096	U115	U133	U135	U160
U189	U234	U237						

- (ii) For waste identified as F027, the Permittee may only accept this waste as incineration residue. F027 waste must meet all applicable land disposal treatment standards for F027 as found in OAC Rule 3745-270-40 prior to acceptance by the Permittee.
- (c) The Permittee must not accept more than 235,000 tons of hazardous waste in any one calendar year from off-site sources during the life of the permit, until such time as this permit condition is modified or renewed. This is a facility wide limitation and includes all units.
- (d) The Permittee must not solicit liquid hazardous or non-hazardous wastes generated off-site for treatment, storage or disposal. However, in the event that the Permittee inadvertently receives liquid hazardous or non-hazardous wastes that it is not permitted to treat or dispose, the Permittee may store such wastes until proper off-site treatment, storage or disposal can be accomplished. The Permittee must make a good faith effort to expeditiously accomplish such off-site treatment, storage or disposal. At the request of Ohio EPA, the Permittee must demonstrate to the satisfaction of Ohio EPA that such a good faith effort was made. The Permittee is permitted to treat, store and dispose incidental or extraneous free liquids that may be inadvertently received with solid phase hazardous or non-hazardous wastes that the Permittee is permitted to treat, store or dispose.

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B.2 Required Notices
OAC Rule 3745-54-12

- (a) The Permittee must notify the director in writing at least four weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source, as required by OAC Rule 3745-54-12(A). Notice of subsequent shipments of the same waste from the same foreign source is not required.

(b) **Hazardous Waste from Off-Site Sources**

When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), he must inform the generator in writing that he has the appropriate permits, and will accept the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the operating record.

B.3 General Waste Analysis Plan
OAC Rule 3745-54-13

- (a) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under OAC Rule 3745-55-13(D), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of Chapters 3745-54 to 3745-57, 3745-205, and 3745-270 of the Administrative Code.
- (b) The Permittee must follow the procedures described in the waste analysis plan found in Section C of the permit application, Waste Product Review (WPR) procedures as described in Section C of the permit application, and the terms and conditions of this permit.

All WPR approvals expire on the last day of the thirteenth month from the date of approval by Ohio EPA or the date of certification in accordance with the WPR requirements by the generator of that waste, as described herein, unless the Permittee obtains a letter from the waste generator certifying that either the waste analysis has remained unchanged since the last approval or that a new analysis provided by the generator or conducted by an independent laboratory show no significant changes in the waste composition or its characteristics. This letter or the new analysis then becomes part of that specific WPR package. In the absence of such

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certification, all WPR's must be resubmitted to Ohio EPA for re-approval and must include a new analysis provided by the waste generator or conducted by an independent laboratory.

- (c) The Permittee must verify the analysis of each waste stream annually or within 60 days following the anniversary of the acceptance of the first shipment of the waste from the same generator as part of its quality assurance program, in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846, or equivalent methods approved by the director. At a minimum, the Permittee must maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations. If the Permittee uses a contract laboratory to perform analyses, then the Permittee must inform the laboratory in writing that it must operate under the waste analysis conditions set forth in this permit.
- (d) For each hazardous waste stream, the Permittee must obtain from the generator a Waste Product Questionnaire (WPQ) as found in Appendix C.1 of the permit application before accepting waste for treatment, storage and/or disposal.
- (e) The Permittee must perform a fingerprint analysis on representative waste samples as specified in Section C of the permit application.

The Permittee must compare the results of the fingerprint sampling program to the pre-acceptance analysis for the waste stream. The Permittee must notify the generator upon discovering a significant discrepancy. If the discrepancy is not resolved within 15 days, in accordance with OAC Rule 3745-54-72(B), the Permittee must immediately submit to the director a letter describing the discrepancy, attempts to reconcile the discrepancy, and a copy of the manifest or shipping paper at issue.

- (i) Significant discrepancies in wastes types are obvious differences which can be discovered by inspection or waste analysis such as a waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.
- (ii) Significant discrepancies in quantity are: for bulk waste, variations greater than ten percent in weight, and for batch waste, any variation in piece count, such as a discrepancy of one drum in a truck load.

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- (iii) The Permittee must analyze for the presence of free liquid when the presence or absence of free liquid is not obvious. The Permittee must use the Paint Filter Liquid Test, Method 9095 in Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, U.S. EPA Publication No. SW-846. Waste that fails the paint filter test must not be landfilled unless or until the waste has been treated so that it passes the paint filter test.

(f) Bulk wastes

The Permittee must randomly sample and conduct a fingerprinting analysis of at least ten percent of bulk waste loads regardless of their origin, waste type, and/or Waste Stream Identification (WSID). Accordingly, at least every 10th bulk load received by the facility will be fingerprinted. Fingerprinting must also occur after a visual inspection whenever warranted or when there has been any reported change in the process generating that particular waste. This Condition is applicable to all incoming wastes, regardless of which treatment, storage or disposal option is selected. The Permittee must collect samples for fingerprint analysis as follows:

- (i) Five samples must be collected from each Gondola railroad car. The Permittee must collect two samples from the front, one from the middle and two samples from the end of the rail car, these five samples must be composited into one sample which must be tested for fingerprint analysis;
- (ii) One sample per 25 tons of waste must be collected and composited together from each Hopper railroad car. For waste defined as K061 EAF Dust in Permit Condition B.3(j)(i), one additional sample per every seven tons (approximate) of waste off-loaded as a "batch" must be collected and composited together. The samples may be collected from either the conveyor belt (or other mechanism) as it is used to off-load the waste, or from separate locations within the container used to hold, store or treat the off-loaded waste;
- (iii) One sample per 25 tons of waste must be collected and composited together from each intermodal container; and,
- (iv) For bulk waste received by truck and defined as K061 EAF Dust in Permit Condition B.3(j)(i), a minimum of three samples must be collected and composited together from locations within the container at least six inches below the as-received surface of the waste

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material. The fingerprint samples may also be collected from separate locations within the container used to hold, store or treat the off-loaded waste.

(g) Containerized Wastes

The Permittee must sample and conduct a fingerprinting analysis on a composite sample prepared from material taken from the greater of the cube root of the number of drums in a shipment or ten percent of drums by WSID, which are part of a single truck load. A minimum of ten percent of the drums in every truck load received by the facility regardless of their origin and/or waste type must be sampled. A composite sample shall be acceptable only if it is composed of sub-samples of the same WSID. Shipments containing multiple WSID's may require multiple composite samples. One hundred percent of the drums must be opened and inspected for free liquids prior to disposal.

(h) Treated Wastes by Chemical Stabilization

- (i)** Prior to accepting a waste for stabilization and submitting the WPR form to Ohio EPA for approval, the Permittee must conduct or obtain a pre-acceptance analysis for each such waste and submit an analytical report with the WPR package. This report must contain raw data and, at the request of Ohio EPA, any other necessary information which would substantiate the appropriateness of the chemical stabilization reagents and assist Ohio EPA in determining the suitability of the selected reagents and disposal of the waste in an environmentally safe manner.
- (ii)** Except as provided in (iii) below, the Permittee must test and document the results of each waste stream processed through the containment building to determine if the treated waste(s) meets applicable treatment standards, except if: a) the waste is to be further treated or disposed of off-site; or b) the same waste code, having the same WSID from the same generator, is processed through the same treatment units and under the same operating conditions. If b) is true, it must be so documented in the facility's operating records and only ten percent of the subsequently treated loads are to be tested for the parameters specified in the WAP and the manner they would otherwise be required to be tested by applicable rules and regulations.

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(iii) The sampling frequency defined in (ii) above, must be followed until statistically valid test results have been obtained indicating that the Permittee's stabilization procedures are effective to comply with land-ban regulations. At such time and after notification to Ohio EPA, the Permittee must comply with the following:

(a) In accordance with OAC Rule 3745-270-07(c)(2), for each generator, the Permittee must test the waste or an extract of the waste or treatment residue developed using the Toxic Characteristic Leaching Procedure (TCLP) or using any methods required by generators under 40 CFR 268.32 according to the frequency specified below:

Shipments Per Restricted Waste Stream Per Generator Per Year

<u>Number Received</u>	<u>Number Tested</u>
1-20	1
above 20	2

(b) In accordance with OAC Rule 3745-270-07(B)(1), (2), and (3), for all wastes subject to this requirement not defined as K061 EAF Dust in Permit Condition B.3(j)(i), the Permittee must test a representative sample of the treated waste from the mixing container used in the full scale treatment process or TCLP extract of the full scale treated waste container according to the frequency specified below:

Shipments Treated Per Restricted Waste Stream Per Generator Per Year

<u>Number Treated</u>	<u>Number Tested</u>
1-20	1
21-40	2
above 40	3

(i) Prior to landfilling of the acid subcategory of D002 wastes, the pH of a 10% slurry of the deactivated waste in water must be between 9 and 12.5. Adjustments to the pH of deactivated waste can be made by blending alkaline materials with the waste in the chemical stabilization process.

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- (j) In accordance with OAC Rules 3745-270-07(B)(1),(2) and (3), for all wastes subject to this requirement defined as K061 EAF Dust in Permit Condition B.3(j)(i), the Permittee must test a representative sample of the treated waste from the mixing container used in the full scale treatment process or TCLP extract of the full scale treated waste container according to the frequency specified in Permit Condition B.3(k). The Permittee must follow the testing frequency and procedures in Permit Condition B.3(k).
- (i) "K061 EAF Dust" waste is defined as any waste requiring stabilization treatment prior to disposal, meeting the listing description of K061 in OAC Rule 3745-51-32 and characterized by the generator as the single EPA HW number K061. Waste "mixtures" or "derived-from" waste as defined in OAC Rule 3745-51-03(A)(2)(e)(iv) characterized by the generator as the single EPA HW number K061 are subject to the requirements of Permit Condition B.3(h)(iii). Waste shipments characterized as EPA HW Number(s) other than K061, but which also include K061, are subject to the requirements of Permit Condition B.3(h)(iii).
- (ii) "Batch" is defined as an accumulation of waste that is treated by adding reagents at a specific ratio to the weight of the waste material as defined by a specific mix design. A "batch" can, for example, be comprised of a single 15-ton load of waste delivered by truck, a 25-ton portion of waste off-loaded from a railcar, a mixture of several different waste streams treated simultaneously by the same mix design, a 150-ton accumulation of waste treated simultaneously in the Campaign Bin or an 8-ton accumulation of waste aggregated from individual containers such as bags, boxes or drums.
- (iii) "On-specification" is defined as a "batch" of waste for which no abnormalities have been identified by the fingerprint screening process, including a visual inspection and an evaluation of the amount of material present (i.e., single batch accumulations less than seven tons of otherwise "on-specification" waste may be ruled "off-specification" because of low mass or volume). A batch comprised of multiple shipments of "on-specification" waste from the same WSID treated by the same mix design is an on-specification batch.
- (iv) "Off-specification" is defined as a "batch" of waste which has been determined by fingerprint testing or visual inspection to be outside the normal range of any fingerprint screening parameter or is outside the

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range of variation for which the mix design has been field-proven to be effective, as determined below:

- (a) A waste is "off-specification" for metal content if the constituents being treated exceed the upper limit of the current baseline metal concentration range for a WSID-mix design by ten percent (for a metal present at three percent or greater by weight) or by 3,000 mg/kg (for a metal present at less than three percent by weight).
- (b) A waste is "off-specification" for free lime content if the concentration of free lime is outside the range of variation for which the mix design has been field-proven to be effective.

Experimental work performed by treating an "on-specification batch" with a new or experimental mix design (i.e., prior to initial qualification of that mix design) must be counted as "off-specification" work. Experimental work must be designated as such, in writing, prior to treatment of the batch.

Note: The Permittee's on-site laboratory retains records for each mix-design specifying a concentration range for free lime and metal constituents within which the mix design is approved to be used for treatment of "on-specification" waste batches. The acceptable range of concentration for a mix-design can be extended by field testing "off-specification" waste batches and obtaining passing results. The laboratory manager reviews and approves range increases for mix designs and may set limits for any mix design based on experience with the waste being treated or experience with similar waste materials.

- (v) "Initial Qualification" of a mix design refers to the sequence of events used to initially qualify a new or existing mix design for periodic testing as specified in Permit Condition B.3(k)(iii). The process involves collection and evaluation of baseline analytical information about the waste followed by field testing of the mix design to ensure that it is capable of meeting the Land Disposal Restriction (LDR) treatment standards required for land disposal. Batches treated in the Campaign Bin will not be used as part of the sequence to

demonstrate initial qualification unless the Campaign Bin is the only treatment container used for treatment of a particular waste material.

- (vi) "Requalification" of a mix design refers to the sequence of events that allows a previously qualified or requalified mix design to return to a testing frequency specified in Permit Condition B.3.(k)(iii) after periodic testing of an on-specification batch results in a failure of one or more of the regulated constituents to meet the LDR standards required for land disposal. Batches treated in the Campaign Bin will not be used as part of the sequence to demonstrate requalification unless the Campaign Bin is the only treatment container used for treatment of a particular waste material.

(k) Variable Frequency Sampling and Testing Procedure

- (i) In order to develop an effective mix design, the Permittee performs both bench and field experimental testing of waste batches. Any waste batch treated experimentally must be treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40, prior to land disposal of that waste batch.
- (ii) Each mix design for which qualification is sought must first undergo "initial qualification" by testing a sequence of either 5, 10 or 20 consecutive batches. Each batch must be treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste. In the event that a sequence of at least five passing results cannot be achieved, testing of every batch will continue until such time as a sequence of at least five consecutive passing results is achieved.
 - (a) After a mix design is qualified for Category C in Permit Condition B.3(k)(iii), and in the event that the Permittee elects to continue initial qualification for Category B and a failure occurs, the mix design must be re-qualified under Permit Condition B.3(k)(iv), Category C.
 - (b) In the event that the Permittee elects to continue initial qualification for Category A after qualification for Category B and a failure occurs, the mix design must be requalified under Permit Condition B.3(k)(iv), Category C and/or Permit Condition B.3(k)(v), Category B.

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- (iii) Once "initial qualification" for a mix design has been achieved, a testing frequency category will be assigned to a mix design based on the number of batches successfully tested in accordance with Permit Condition B.3(k)(ii). Initial qualification (or requalification) batches may be added to the testing sequence to qualify for Category B (after qualification for Category C) or Category A (after qualification for Category B) after initial qualification (or requalification) has been completed, including subsequent successful testing performed in accordance with Permit Conditions B.3(k)(iii)(a), B.3(k)(iii)(b), or B.3(k)(iii)(c), as long as they are sequential (i.e., not separated by intermittent failures of one or more batches of "on-specification" waste):
- (a) Category A - A sequence of 20 qualification batches is successfully treated; thereafter, test one batch in every 20 batches treated.
 - (b) Category B - A sequence of ten qualification batches is successfully treated; thereafter, test one batch in every ten batches treated.
 - (c) Category C - A sequence of five qualification batches is successfully treated; thereafter, test one batch in every five batches treated.

For each sequence of 5, 10 or 20 "on-specification" batches treated, it shall be acceptable to collect a sample from the "on-specification" batch immediately preceding or immediately following the numerical batch in the sequential count specified to be tested.

- (iv) In the event that the testing required by Permit Condition B.3(k)(iii) reveals that a batch does not meet the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste, that batch will be deemed a failure and will be so recorded. The testing frequency specified in Permit Condition B.3(k)(iii) for waste treated by that mix design is suspended and the mix design must undergo "requalification".

All waste batches treated by that mix design that have not already been disposed must be tested until a sequence of at least three consecutive "on-specification" batches are treated successfully, as

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demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste. Once "requalification" for Category C has been achieved, the testing frequency requirements of Permit Condition B.3(k)(iii)(c) become effective again.

- (v) Requalification testing may be continued for waste batches that were previously qualified in accordance with Permit Condition B.3(k)(iii) for either Category B or Category A at the time of the failure.
 - (a) To return to Category B, a sequence of at least five consecutive "on-specification" batches must be treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste. Once "requalification" for Category B has been achieved, the testing frequency requirements of Permit Condition B.3(k)(iii)(b) become effective again.
 - (b) To return to Category A, a sequence of at least ten consecutive "on-specification" batches must be treated successfully, as demonstrated by analysis results meeting the LDR standards in OAC Rule 3745-270-40 required for land disposal of that waste. Once "requalification" for Category A has been achieved, the testing frequency requirements of Permit Condition B.3(k)(iii)(a) become effective again.
- (vi) The following is a flowchart representation of Permit Condition B.3.(k), Variable Frequency Sampling and Testing Procedure:

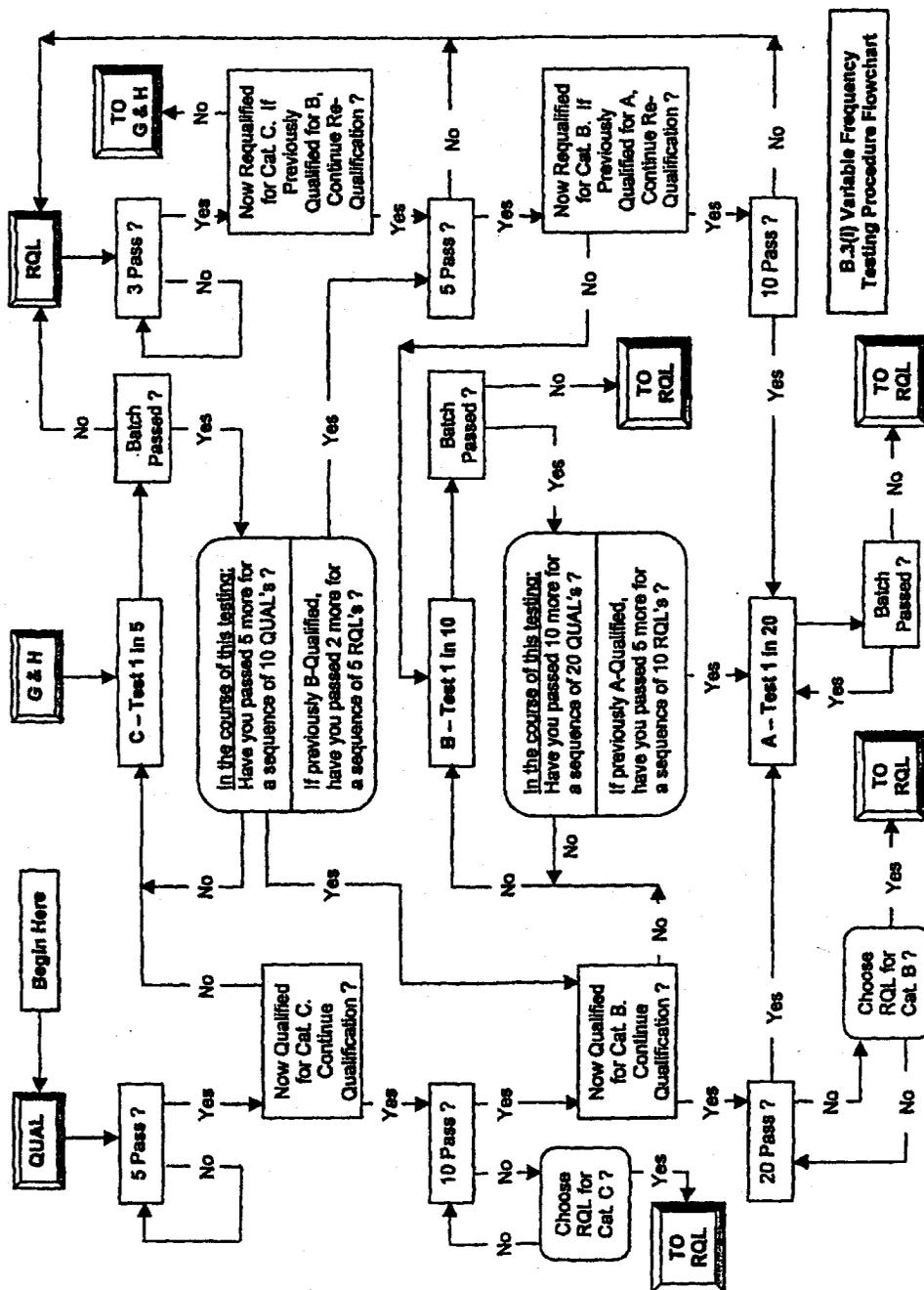
Abbreviations used in flowchart:

QUAL – "Qualification" or "Initial Qualification". Refer to Permit Condition B.3(j)(v).

G & H – "Grab and Hold", denoting normal periodic treated waste testing activities. Refer to Permit Condition B.3(k)(iii).

RQL – "Requalification". Refer to Permit Condition B.3(j)(vi).

Cat. A – Category A testing frequency. Refer to Permit Condition B.3(k)(iii)(a).



Cat. B – Category B testing frequency. Refer to Permit Condition B.3(k)(iii)(b).

Cat. C – Category C testing frequency. Refer to Permit Condition B.3(k)(iii)(c).

B.4 Security

OAC Rule 3745-54-14

- (a) The Permittee must comply with the security provisions of OAC Rule 3745-54-14(B)(2), and (c) and Section F of the permit application.
- (b) The Permittee must provide a twenty-four hour surveillance system, which monitors and controls entry onto the active portion of the facility.
- (c) The Permittee must provide a fence which surrounds the facility. New or replacement fence installed from the effective date of this permit must be at least a six foot chain link fence topped with three strands of barbed wire. Internal security to the active disposal cell(s) must be maintained within fences and/or gates.
- (d) The Permittee must post warning signs with the legend, "Danger–Unauthorized Personnel Keep Out" at each entry gate and at approximately 200 foot intervals along the perimeter fence.
- (e) The Permittee must document all known attempts of unauthorized entry by persons or livestock onto the active portion of the facility.

B.5 General Inspection Requirements

OAC Rules 3745-54-15 and 3745-54-73

The Permittee must follow the inspection schedule set forth in Section F of the permit application. The Permittee must remedy any deterioration or malfunction discovered by an inspection, as required by OAC Rule 3745-54-15(C). Records of inspection must be kept for a minimum of three years from the date of inspection. These records must be a part of the facility's operating record as required by OAC Rule 3745-54-73.

- (a) The Permittee must require inspectors to sign and print their names on inspection checklists after indicating the status of the items inspected. Items not inspected must be marked "NI" on the checklist.

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- (b) Records of inspections must be kept as required by OAC Rule 3745-54-15(D), the terms and conditions of this permit, and the permit application.
- (c) In-bound/Out-bound Scales and Stabilization/Containment Building Internal/External Scales A, B, and C.
- (i) The Permittee must inspect each scale and the surrounding area on a weekly basis.
 - (ii) The Permittee must monitor and inspect each scale and surrounding area for structural integrity, cleanliness, and to assure that there are no obstacles or other blockages. Any structural damage or obstacles identified during the inspection that would affect the accuracy of scale readings must be repaired or removed prior to the next use of the affected scale(s).
 - (iii) The Permittee's inspection must include a review of service records for all scale equipment. Any routine testing and verification of the scales required by the equipment manufacturer must be scheduled. Routine testing and verification of the scales must be performed, at a minimum, on a semi-annual basis.
- (d) Gates/Fences/Surveillance/Radio
- (i) The Permittee must inspect on a weekly basis the facility's gates, fences, surveillance and radio equipment.
 - (ii) All secondary gates must be closed and locked unless attended or actively monitored by facility personnel. All main gates must be monitored during regular business hours by persons trained in security procedures. During non-operating hours, proper surveillance must be provided to monitor and control entry onto the active portion of the facility, as required by OAC Rule 3745-54-14(B).
 - (iii) The Permittee must inspect the facility's two-way radio communications system for proper operation and required maintenance, at a minimum, on a weekly basis. External communication checks must be performed as part of the inspection schedule. Service records for the radio and video surveillance equipment, if such equipment is being used, must be checked as part of the inspection.

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(e) Container Storage Areas

The Permittee must inspect the container storage areas on a weekly basis and after rainfall events (2 or more inches of rainfall in 8 hours) for the presence of spilled materials, leaking containers, and for deterioration of containers and the containment system caused by corrosion and other factors. The integrity of the pad and the curbing of this area must also be inspected.

(f) Tank Storage Areas.

- (i)** The Permittee must inspect all tank storage areas on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours).
- (ii)** The Permittee must inspect overfilling control equipment, monitoring equipment (e.g., gauges), drainage system and tank level indicators once each operating day.
- (iii)** The Permittee must inspect the above ground portions of each tank system to detect corrosion or releases of waste at least once each operating day.
- (iv)** The Permittee must inspect storage records and filling logs on each tank for completeness and accuracy, and all data gathered from monitoring equipment and leak detection equipment to ensure that all tanks are being operated according to their designated specifications at least once each operating day.
- (v)** The Permittee must inspect all tank construction materials, including piping, valves, seams, and connections for signs of leakage, corrosion, or structural deterioration at least once each operating day.
- (vi)** The Permittee must inspect all of the areas immediately surrounding the externally accessible portions of each tank (i.e., the tank secondary containment structures) for obvious signs of leakage, corrosion, indications of releases of hazardous waste, or any other problems at least once each operating day.

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(g) Stabilization/Containment Building

- (i) The Permittee must inspect all processing and waste handling equipment for proper operation and structural integrity on a weekly basis.**
- (ii) The Permittee must inspect the Stabilization/Containment Building for spillage and for potentially unsafe conditions including the lack of safety guards and shields in key work locations on a weekly basis .**
- (iii) Reserved.**
- (iv) The Permittee must inspect the containment building and associated outside unloading pads/aprons (i.e., Debris Sort Floor, Truck Unloading Stations No. 1, 2 and 3 Aprons; Campaign Bin, Truck Unloading Stations No. 1 and 2 Aprons; Doors 125 and 126, Truck Unloading Stations No. 1 and 2 Aprons; and, Door 127, Drum Unloading Station Apron as depicted on Drawings No. D-2000L-G01 and D-2000L-G02, D-2000 L-S01 and D-2000 L-S02) on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours).**
- (v) The Permittee must inspect for deterioration, malfunction, or improper operation of run-on and run-off control systems on a weekly basis.**
- (vi) The Permittee must inspect the liquid collection and removal systems and leak detection systems for the presence of liquid and proper function on a weekly basis.**
- (vii) The Permittee must inspect all sumps located within the Stabilization/ Containment Building on a daily basis for the presence of waste and/or liquid accumulation.**
- (viii) The Permittee must inspect all concrete slab surfaces for cracks, deterioration of chemical resistance and water tightness at a minimum of twice per year.**
- (ix) The Permittee must inspect the steel wearing surfaces of the Campaign Bin for significant damage or deterioration at a minimum of twice per year.**

(h) Landfill Area

- (i) During construction of a landfill cell and installation of the liners and cover systems (e.g., membranes, sheets, or coatings), the Permittee**

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must inspect the liners and cover systems for uniformity, damage, and imperfections such as holes, cracks, thin spots, or foreign materials.

- (ii) During construction, the Permittee must inspect and test earthen material liner components for compaction density, moisture content, and nominal permeability after placement. Manufactured synthetic liner materials must be inspected to ensure tight seams and joints and the absence of tears or blisters. All aspects of liner construction must be inspected for conformance with construction specifications.
- (iii) During construction of a landfill cell, the side slopes and the base of the landfill cell must be inspected for imperfections including lenses, cracks, channels, root holes, all visible stones of one inch in diameter or greater, or other structural non-uniformities that may cause an increase in the permeability of the recompacted clay or damage to the liner material.
- (iv) The Permittee must monitor and inspect construction of each segregated subcell, if applicable, to ensure that each subcell meets specifications prior to using that landfill subcell for disposal of waste.
- (v) The Permittee must inspect the overall appearance of the active portion of the landfill on a weekly basis and after a rainfall event (2 or more of inches of rainfall in 8 hours). Pockets of run-on water or exposed containers must be noted on the inspection checklist. The landfill operations must be observed for compliance with the site safety requirements.
- (vi) The Permittee must inspect the active portion of the landfill to detect evidence of deterioration, malfunction, or improper operation of run-on diversion and run-off control systems on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours).
- (vii) The Permittee must inspect proper functioning of the wind dispersal control systems, intermediate cover procedures, dust, conditions and controls on a daily basis and after a rainfall event (2 or more inches of rainfall in 8 hours).
- (viii) The Permittee must inspect the leachate collection and removal systems for proper function and the presence of leachate on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours).

(i) **Safety Equipment**

- (i) The Permittee must inspect all safety equipment, spill control, and emergency communications equipment as needed.
- (ii) The Permittee must inspect all fire fighting equipment including foam-water monitors, fire extinguishers, the fire truck, portable foam-water unit, and the alarm horn as needed to assure that each piece of equipment is in place, unobstructed, and operational in the event of an emergency.
- (iii) The Permittee must inspect emergency safety gear (e.g., ropes, harnesses, etc.), respirators, personal protective equipment and first aid supplies as needed to assure that each piece of equipment is in place, unobstructed, that all contents are readily available, and that each piece of equipment is operational in the event of an emergency.
- (iv) The Permittee must ensure that all expendable safety equipment is replaced after use in a timely manner.

(j) **Miscellaneous Inspections**

The Permittee must inspect the following key areas of the facility not covered under the inspection program for a specific process on a weekly basis and after a rainfall event (2 or more inches of rainfall in 8 hours):

- (i) The decontamination units and areas where they are used must be inspected for spillage, physical obstruction, integrity of temporary containment devices, cleanliness, and general operating condition of valves, hoses, motor, and safety valves.
- (ii) The run-on water diversion or collection facilities must be inspected for overfill (i.e., level), the integrity of containment devices, the general condition of valves, pipes, and joints, and the presence of leaks.
- (iii) The facility roads must be inspected for presence of physical obstructions to ensure that directional signs are clearly visible, presence of hazardous waste spills, and general roadway integrity which must assure the safe movement of materials through the facility.

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- (iv) The facility's run-on/run-off control drainage system for the entire site, including specific units, must be assessed as to their operational integrity, including the presence of deterioration, damage from animal burrows, and physical obstructions. The systems must be checked to verify that they are functioning adequately.
- (v) The facility's groundwater monitoring well system must be inspected for damage and degradation, presence of physical obstruction, and overall integrity. All monitoring wells must be inspected to verify that they are locked while not in use.

B.6 Personnel Training
OAC Rule 3745-54-16

- (a) The Permittee must conduct personnel training, as required by OAC Rule 3745-54-16. This training program must contain at least the elements set forth in Section H of the permit application. The Permittee must maintain training documents and records as required by OAC Rules 3745-54-16(D) and (E).
- (b) The facility's personnel training program must be directed by a person trained in hazardous waste management procedures, and must include instructions which teaches facility personnel hazardous waste management procedures, including contingency plan implementation, relevant to the positions in which they are employed.
 - (i) The Permittee must require all facility personnel to complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way designed to ensure the facility's compliance with the requirements of the Ohio hazardous waste rules. The Permittee must ensure that this program includes all the elements described in the facility's training program.
 - (ii) The Permittee's employee training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:
 - (a) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

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- (b) Key parameters for automatic waste feed cutoff systems;
 - (c) Communications or alarm systems;
 - (d) Response to fire or explosions;
 - (e) Response to ground water contamination incidents; and
 - (f) Shutdown of operations.
- (iii) Facility personnel must successfully complete the appropriate program(s) as specified in the Permit Condition B.6.(b)(i) and (ii) within six months after the date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. Employees must not work in unsupervised positions involving management of hazardous waste until they have successfully completed the training program specified in the approved application.
 - (iv) The Permittee must conduct an annual training review for all facility personnel of the initial training as specified in the approved application. This program may be revised and updated by the Permittee, as appropriate.
 - (v) The Permittee must maintain a written job description for each position and a record of the individuals employed in each of those positions. These descriptions must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position.
 - (vi) The Permittee must maintain, as part of the operating record, training records of current personnel until closure of the facility. The Permittee must maintain training records for former employees for three years from the date the employee last worked at the facility.

B.7. General Requirements for Ignitable, Reactive, or Incompatible Wastes
OAC Rule 3745-54-17

- (a) The Permittee must comply with the requirements of OAC Rule 3745-54-17 and must follow the procedures for handling ignitable, reactive, and incompatible wastes set forth in Section F of the permit application.

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- (b) The Permittee must provide electrical grounding for all containers and tanks, and transport vehicles during all operations involving the handling of ignitable or reactive wastes that could be ignited by static discharge.
- (c) The Permittee must provide, and require the use of, spark proof tools during all operations involving the handling of all ignitable or reactive wastes that could be ignited by tool sparks.
- (d) The Permittee must take precautions to prevent accidental ignition, or reaction of, ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including, but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electric or mechanical), spontaneous ignition (e.g., from heat producing chemical reactions) and radiant heat. The Permittee must prohibit smoking and open flames in each area where ignitable, reactive or incompatible hazardous wastes are managed and must post appropriate signs.
- (e) All wiring and electrical equipment for units to be constructed at the facility must meet the National Fire Protection Association's standards for hazardous locations (See National Fire Protection Association, "National Electric Code" National Fire Codes, 2002 Edition, Chapter 5, Special Occupancies, Articles 500-503, and any subsequent updates).
- (f) The Permittee must take precautions to prevent reactions which:
- (i) Generate extreme heat or pressure, fire or explosions, or violent reactions.
 - (ii) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment.
 - (iii) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.
 - (iv) Damage the structural integrity of the device or the facility.
 - (v) Through other like means, threaten human health or the environment.
 - (vi) When required to comply with the Permit Condition B.7.(a), the Permittee must document that compliance. This documentation may be based on references to published scientific or engineering

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literature, trial tests (e.g., bench scale or pilot scale test), waste analysis (as specified in OAC Rule 3745-54-13), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions. The Permittee must submit this documentation to Ohio EPA as part of the WPR package, as appropriate.

B.8 RESERVED

**B.9 Required Equipment
OAC Rule 3745-54-32**

- (a) At a minimum, the Permittee must maintain at the facility all the equipment required by OAC Rule 3745-54-32 and the equipment set forth in the contingency plan contained in Section G of the permit application.
- (i) Each permanent building at the facility (lab trailers, offices, storage buildings, process plant) must be equipped with a minimum of one or more of the following communication devices: telephone, two-way radio, paging system and/or alarm system.
 - (ii) The Permittee must maintain in each building an accessible manual audible alarm warning system capable of providing immediate emergency verbal or signal instruction, and for initiating the facility-wide evacuation plan, fire response procedures, and any other emergency action(s). Personnel involved in treatment, storage, and disposal operations must have, immediately accessible, a hand-held or vehicle mounted two-way radio which can be used to contact the area supervisor and/or Emergency Coordinator.
 - (iii) A vehicle with a two-way radio must be located on-site and dedicated for emergencies, fires, and spill response. This vehicle must be adequately equipped with spill control and first aid materials.
 - (iv) Fire extinguishers and fire control equipment must be installed and located in appropriate work areas as detailed in the permit application. Portable fire extinguishers must be located in areas of fire hazards within the facility buildings, and on each piece of heavy equipment used in the disposal areas according to NFPA codes.
 - (v) An emergency coordinator must have a two-way radio, mobile phone, or pager at his/her disposal at all times while on site and/or on call.

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- (vi) The Permittee must maintain three fire hydrants connected to a public water main at adequate volumes and pressures. Or, the Permittee must construct and maintain a fire protection system (with the associated pumping/piping network) and a standard fire hydrant with appropriate volumes and pressures as dictated by NFPA guidelines to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.
 - (vii) The Permittee must provide and maintain a power backup to the emergency communication and alarm systems in the event of electric power failure.
- (b) Facility Decontamination Station and Equipment.
- (i) The Permittee must maintain and operate at least two portable truck wash units for washing and/or decontaminating the surfaces of trucks delivering waste on-site, on-site waste handling equipment, and personnel safety equipment, as needed.
 - (ii) All such waters used in decontamination of trucks and/or waste handling equipment must be collected by the Permittee. The Permittee must determine if such water is a hazardous waste according to the requirements of OAC Rule 3745-51-11 and manage this water as appropriate.

B.10 Testing and Maintenance of Equipment
OAC Rule 3745-54-33

The Permittee must inspect, test and maintain the equipment required by Permit Condition B.9 as necessary to assure its proper operation in time of emergency, as specified in OAC Rule 3745-54-33, Section F of the permit application and the terms and conditions of this permit.

B.11 Access to Communications or Alarm System
OAC Rule 3745-54-34

- (a) The Permittee must maintain access to the communications and alarm systems, as required by OAC Rule 3745-54-34, Section G of the permit application and the terms and conditions of this permit.

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- (b) The Permittee must make available internal communication and alarm systems at or within 70 feet of each active storage, process, or disposal unit to provide immediate emergency instructions to facility personnel. The Permittee must insure that whenever hazardous waste is being managed, all personnel involved in the operation must have access to an internal alarm or emergency communication device, either directly (such as a telephone or a handheld two-way radio capable of summoning external emergency assistance), or through visual or voice contact with another employee. The Permittee must also maintain devices capable of summoning emergency assistance from off-site sources such as local fire or police departments. At a minimum, two such devices must be located on the facility property, one north of York Street and the other south of York Street.

B.12 Required Aisle Space
OAC Rule 3745-54-35

- (a) At a minimum, the Permittee must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, as required by OAC Rule 3745-54-35.
- (b) The Permittee must construct and maintain an access road of a sufficient width to accommodate a fire truck between Cell M and the tank farms/container storage areas (as shown in Drawings D2000L-G01 and D2000L-G05 of the approved application) to be located west of Cell M.

B.13 Arrangements with Local Authorities
OAC Rule 3745-54-37

- (a) The Permittee must comply with the requirements of OAC Rule 3745-54-37 (A) by making a diligent effort to:
- (i) make arrangements and familiarize all emergency response agencies which are likely to respond in an emergency with the location and layout of the facility, properties of hazardous waste managed at the facility and associated hazards, places where facility personnel will normally be working, entrances to and roads inside the facility, and possible evacuation routes as depicted and explained in Section G of the permit application;

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- (ii) make arrangements with Ohio EPA emergency response teams, emergency response contractors, and equipment suppliers;
 - (iii) make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and types of injuries or illnesses which could result from fires, explosions, or releases at the facility; and,
 - (iv) make agreements designating primary emergency authority to a specific police and a specific fire department and make agreements with any others to provide support to the primary emergency authority, where more than one police and fire department may respond to an emergency.
- (b) Where authorities decline to enter into such agreements or arrangements set forth in OAC Rule 3745-54-37(A), the Permittee must document the refusal in the operating record as required by OAC Rule 3745-54-37(B).

B.14 Implementation of Contingency Plan
OAC Rules 3745-54-51 and 3745-54-56

The Permittee must immediately carry out the provisions of the contingency plan and follow the emergency procedures described in OAC Rule 3745-54-56, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment.

In regard to spills and related toxic gas releases, the plan must describe the criteria to be used by the emergency coordinator to determine when the plan will be implemented. At a minimum, the plan must be implemented in the following situations:

- (a) any fire involving hazardous waste;
- (b) any explosion involving hazardous waste;
- (c) any uncontrolled hazardous waste reaction that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions;

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- (d) any hazardous waste spill or release, outside of a secondary containment system, that causes or has the potential to cause off-site soil, surface water and/or ground water contamination; or,
- (e) any hazardous waste spill or release that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or, explosive conditions.

B.15 Content of the Contingency Plan
OAC Rule 3745-54-52

The Permittee must comply with OAC Rule 3745-54-52 and the contingency plan, as set forth in Section G of the permit application.

B.16 Contingency Plan - Released Material and Emergency Response Material and By-products
OAC Rule 3745-54-56(G)

- (a) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.
- (b) All liquid or solid material resulting from fire, explosion, released material or emergency response material and by-products that the Permittee is required to evaluate to determine whether such material is hazardous waste in accordance with OAC Rule 3745-52-11, must be collected and managed as a hazardous waste unless the Permittee can demonstrate that such waste is not hazardous in accordance with OAC Rule 3745-51-03(c) and (D).

B.17 Amendments to Plan
OAC Rule 3745-54-54

The Permittee must review the contingency plan at least annually and upon the occurrence of any event listed in OAC Rule 3745-54-54. If necessary or appropriate, the Permittee must amend the contingency plan as required by OAC Rule 3745-54-54, in accordance with OAC Rule 3745-50-51.

B.18 Copies of Plan
OAC Rule 3745-54-53

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- (a) The Permittee must comply with the requirements set forth in OAC Rule 3745-54-53 regarding contingency plan distribution. The Permittee must maintain at the facility a copy of the contingency plan and all revisions to the plan.
 - (b) The Permittee must, in accordance with OAC Rule 3745-54-53, submit a copy of the contingency plan to all local police departments, fire departments, hospitals and local emergency response teams that may be called upon to provide emergency services. The Permittee must notify such agencies and the local authorities, in writing, within ten days of the effective date of any amendments of, revisions to, or modifications to the contingency plan.
 - (c) The Permittee must, in accordance with OAC Rule 3745-54-53, submit a copy of the contingency plan to the Ohio Environmental Protection Agency's Division of Emergency and Remedial Response.

B.19 Emergency Coordinator
OAC Rule 3745-54-55

The Permittee must comply with the requirements set forth in OAC Rule 3745-54-55 regarding the emergency coordinator.

B.20 Emergency Procedures
OAC Rule 3745-54-56

The Permittee must comply with the requirements regarding emergency procedures set forth in OAC Rule 3745-54-56, Section G of the permit application and the terms and conditions of this permit.

B.21 Availability, Retention and Disposition of Records
OAC Rule 3745-54-74

All records must be furnished by the Permittee upon request to, and made available at all reasonable times for inspection by, Ohio EPA, in accordance with OAC Rule 3745-54-74.

B.22 Operating Record
OAC Rule 3745-54-73

The Permittee must comply with the requirements set forth in OAC Rule 3745-54-73 regarding an operating record, including information to be recorded and the

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maintenance thereof. At a minimum, the following items must be recorded and maintained as part of the operating record:

- (a) Copies of all required waste analysis results as part of the operating record per OAC Rule 3745-54-73(B)(3).

For waste defined as K061 EAF Dust in Permit Condition B.3(j)(i), the Permittee must keep a record, in a working document or database, by manual and/or electronic means, of the key parameters that influence the treatment process as this information becomes available. The Permittee must review the current working document or database monthly and correct any errors or omissions discovered. Such records must include, but are not limited to, the following:

- (i) the identification of the batch being treated and/or tested and the date samples are collected for the purpose of testing;
- (ii) the identification name of the mix design used;
- (iii) the percent available free lime in the raw waste;
- (iv) whether the batch treated was "on-specification" or "off-specification" as defined in Permit Condition B.3(j);
- (v) pH of the TCLP extract fluid of the treated waste after completion of the extraction process; and,
- (vi) whether the batch met, or did not meet, LDR treatment standards in OAC Rule 3745-54-270 after completion of the treatment process.

- (b) Copies of all required laboratory analyses of samples and all required measurements taken for the purpose of monitoring such as drainage ditch samples, background soil samples, and ground water and surface water samples, as part of the operating record, including the following:

- (i) Samples and measurements required for the purpose of monitoring must be representative of the monitored activity.
- (ii) Records of monitoring information that must include the following:
 - (a) dates, exact place, and time of sampling or measurement;
 - (b) individual(s) who performed the sampling measurements;

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- (c) analytical techniques or methods used;
 - (d) results of such analysis; and,
 - (e) description of waste analysis discrepancies.
 - (c) Copies of all required monitoring and measurements which are taken during the closure period including monitoring to determine the level of decontamination. The Permittee must maintain copies of all closure notices, certifications, and documents required during the post-closure care period.
 - (d) A written post-closure operating record, which includes the following:
 - (i) post-closure sampling and analytical data for ground water and leachate samples, and the amount of leachate or liquids removed from leachate collection/ leak detection system(s);
 - (ii) survey plot indicating landfill location and record of hazardous waste in each cell;
 - (iii) inspection reports and inspection log forms including any necessary remedial action;
 - (iv) detailed reports of incidents which required implementation of the Contingency Plan;
 - (v) documentation of the required post-closure personnel training of employees or contractors; and,
 - (vi) certification of post-closure and notice in deed of post-closure.
 - (e) Financial reports including:
 - (i) report on ability to maintain financial assurance for closure and post-closure care; and,
 - (ii) certificate of insurance.
 - (f) Records of landfill and Stabilization/Containment Building leak detection/leak collection systems. The Permittee must notify the director if the response action plan requires implementation.

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- (g) The volume of liquids removed from each sump.
- (h) The location and quantity of each hazardous waste disposed of in the active landfill cell, on a map or diagram in accordance with OAC Rule 3745-54-73(B)(2).
- (i) The following documentation for inclusion in each tank certification report: remedial investigation or corrective action, engineering feasibility reports, or other reports as needed through the facility closure period in accordance with OAC Rule 3745-55-92:
- (i) Certification of structural integrity.
 - (ii) Tank and containment coating certification.
 - (iii) Proper installation.
 - (iv) As-built drawings for tank foundations and containment areas.
- (j) The following documentation for each new secure landfill cell construction report:
- (i) exploratory boring logs and any sample test results;
 - (ii) construction inspection reports, logs, soils and water sample analyses, moisture content, compaction, and permeability test results, and corrective or remedial work reports, including sand zone replacement;
 - (iii) manufacturer's weak seam evaluation reports;
 - (iv) as-built drawings, with the exact location and dimensions (including depth) of each cell with respect to permanently surveyed benchmarks, of all constructed secure landfill cells, with all changes in details of original design clearly marked;
 - (v) geologic maps of cell excavations, and associated soil gradation analyses; and,
 - (vi) record of compliance with ignitable, reactive, or incompatible waste restrictions for each secure cell.

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- (k) Required records from the facility groundwater monitoring and inspection programs through the post-closure period, including but not limited to, the following:
- (i) well boring and/or core logs;
 - (ii) soil sample gradation analyses and permeability test results;
 - (iii) well completion reports;
 - (iv) sampling logbook;
 - (v) various groundwater flow and direction reports;
 - (vi) compliance monitoring soil vapor survey data;
 - (vii) interim information reports and final source determination reports;
 - (viii) corrective action feasibility plans;
 - (ix) variance applications;
 - (x) sample custody forms;
 - (xi) groundwater analysis and QA/QC reports;
 - (xii) background concentration calculations; and,
 - (xiii) statistical test calculations done in accordance with the OAC Rules 3745-54-97, 98 and 99.

B.23 Contingency Plan Records
OAC Rule 3745-54-56(J)

The Permittee must note in the operating record the time, date, and details of any incident that requires the implementation of the contingency plan. Within 15 days after any such incident the Permittee must submit to the director a written report of the incident containing the elements set forth in OAC Rule 3745-54-56(J).

B.24 Manifest System
OAC Rules 3745-54-70, 3745-54-71, 3745-54-72 and 3745-54-76

- (a) In managing waste at the facility the Permittee must comply with OAC Chapter 3745-52 and OAC Rules 3745-54-71, 3745-54-72 and 3745-54-76 with regard to the manifest system.
- (b) Manifest discrepancy report.

If a significant discrepancy in a manifest is discovered, the Permittee must attempt to reconcile the discrepancy. If not resolved within fifteen (15) days after receiving the waste, the Permittee must submit a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest, to the director in accordance with OAC Rule 3745-54-72.

- (c) Unmanifested waste report

If the Permittee receives unmanifested waste, which is not excluded from the manifest requirements of OAC Rule 3745-51-05, then the Permittee must submit an unmanifested waste report to the director within 15 days after receipt of the waste. The report must include the information required under OAC Rule 3745-54-76.

B.25 Biennial Reports and Additional Reports
OAC Rules 3745-54-75 and 3745-54-77

The Permittee must comply with the report requirements set forth in OAC Rule 3745-54-75 and the additional report requirements set forth in OAC Rule 3745-54-77.

B.26 Closure Performance Standard
OAC Rule 3745-55-11

During facility closure, the Permittee must implement the provisions of the closure plan found in Section I of the permit application in such a manner as to achieve compliance with OAC Rule 3745-55-11.

B.27 Closure Plan
OAC Rules 3745-55-10, 3745-55-11 and 3745-55-13

The Permittee must implement those procedures detailed within Section I of the permit application, in accordance with OAC Rules 3745-55-10 through 3745-55-20.

In addition, the Permittee must submit to Ohio EPA within ninety (90) days after permit journalization, an updated Section I of the permit application which

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addresses all the comments outlined in Attachment B of this permit, including the "Comments Related to Drawings" section.

B.28 Amendment of Closure Plan
OAC Rules 3745-55-12 and 3745-50-51

Should a change in the facility closure plan become necessary, the Permittee must amend the closure plan in accordance with OAC Rule 3745-55-12(C).

B.29 Content of Closure Plan
OAC Rule 3745-55-12

The Permittee must maintain the closure plan at the facility which contains the elements set forth in OAC Rule 3745-55-12 and all elements required by the terms and conditions of this permit.

B.30 Notification of Closure
OAC Rule 3745-55-12

The Permittee must notify the director in writing at least 60 days prior to the date on which he expects to begin closure of landfill Cell M or final closure of the facility, as required by OAC Rule 3745-55-12(D).

B.31 Time Allowed For Closure
OAC Rule 3745-55-13

Within 90 days after receiving the final volume of hazardous waste, the Permittee must remove from the facility or treat or dispose of on-site all hazardous waste in accordance with the closure plan. The director may approve a longer closure period if the Permittee complies with all applicable requirements for requesting a modification to the permit as set forth in OAC Rule 3745-55-13(A). The Permittee must complete all closure activities within 180 days after receiving the final volume of hazardous waste in accordance with OAC Rule 3745-55-13. The director may approve a longer closure period if the Permittee complies with all applicable requirements for requesting a modification to the permit as set forth in OAC Rule 3745-55-13 (B).

B.32 Disposal or Decontamination of Equipment, Structures, and Soils
OAC Rule 3745-55-14

(a) The Permittee must decontaminate or dispose of all contaminated facility

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equipment, structures, and soils, as required by OAC Rule 3745-55-14, the closure plan and the terms and conditions of this permit.

- (b) The Permittee must notify the Ohio EPA Northwest District Office within 5 business days prior to all rinseate and soil sampling.

B.33 Certification of Closure
OAC Rule 3745-55-15

The Permittee and an independent, registered professional engineer must certify that each hazardous waste management unit or the facility has been closed in accordance with the specifications in the closure plan and the terms and conditions of this permit, as required by OAC Rule 3745-55-15. The Permittee must furnish to the director, upon request, documentation supporting the certification.

B.34 Survey Plat
OAC Rule 3745-55-16

The Permittee must submit a survey plat to the director and the local zoning authority no later than the submittal of certification of closure of each hazardous waste disposal unit, in accordance with OAC Rule 3745-55-16.

B.35 General Post-Closure Requirements
OAC Rules 3745-55-17, 3745-55-18, 3745-55-19 and 3745-55-20

(a) Post-Closure Care Period

The Permittee must begin post-closure care for each tank system, landfill, or containment building after completion of closure of the unit and continue for 30 years after that date. Post-closure care must be in accordance with OAC Rule 3745-55-17 and the post-closure plan.

(b) Post-Closure Security

The Permittee must maintain security at the facility during the post-closure care period, in accordance with the post-closure plan and OAC Rule 3745-55-17(B).

(c) Amendment to Post-Closure Plan

The Permittee must amend the post-closure plan, when necessary, in accordance with OAC Rule 3745-55-18(D).

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(d) Post-Closure Notices

- (i) No later than 60 days after certification of closure of each hazardous waste disposal unit, the Permittee must submit to the director and the local zoning authority records of the type, location, and quantity of hazardous waste disposed of within each cell or disposal unit, in accordance with OAC Rule 3745-55-19(A).
- (ii) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the Permittee must do the following:
 - (a) Record a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, which contains the information required by OAC Rule 3745-55-19(B)(1).
 - (b) Submit to the director a certification that the Permittee has recorded the notation and submit a copy of the document in which the Permittee placed the notation.
 - (c) The Permittee must request and obtain a permit modification prior to post-closure removal of hazardous wastes, hazardous waste residues, liners, or contaminated soils, in accordance with OAC Rule 3745-55-19(c).

(e) Certification of Completion of Post-Closure Care

No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee must certify that the post-closure care period was performed in accordance with the specifications in the post-closure plan and the terms and conditions of this permit, as required by OAC Rule 3745-55-20. The Permittee must furnish to the director, upon request, documentation supporting the certification.

B.36 Cost Estimate for Facility Closure and Post-Closure
OAC Rule 3745-55-42 and 3745-55-44

- (a) The Permittee's most recent closure and post-closure cost estimate, prepared in accordance with OAC Rule 3745-55-42 and 3745-55-44 is specified in Section I of the permit application.

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- (b) The Permittee must adjust the closure and post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with OAC Rule 3745-55-43 and 3745-55-45.
- (c) The Permittee must revise the closure cost estimate and post-closure cost estimate whenever there is a change in the facility's closure plan and post-closure plan that increases the cost of closure and post-closure care, as required by OAC Rule 3745-55-42(c) and 3745-55-44(c).
- (d) The Permittee must submit to the Ohio EPA and keep at the facility the latest closure cost estimate and post-closure cost estimate as required by OAC Rule 3745-55-42(D) and (E) and 3745-55-44(D) and (E).

B.37 Financial Assurance for Facility Closure and Post-Closure and Perpetual Care

With initial permit journalization in July 1991, additional monies were set aside within the post closure trust account for perpetual care and, as a result, \$11.5 million were added to the post-closure trust account. This amount, in 1991 dollars, was derived from the estimated cost of replacing the caps on Cells "G" and "M", including the synthetic liner to the surface. The perpetual care amount, in association with the post-closure cost estimate, is adjusted annually for inflation or deflation. The Permittee is required to maintain, at a minimum, a level of funding in this account equal to the sum of the amount required by the OAC Rule 3745-55-45, and the perpetual care amount.

- (a) The Permittee must maintain continuous compliance with OAC Rule 3745-55-43, 55-45, 55-46 and provide documentation of financial assurance, which meets the requirements of OAC Rule 3745-55-51, in at least the amount of the cost estimates required by Permit Condition B.36.
- (b) Whenever the closure and/or post-closure cost estimates change, the Permittee must compare the new estimates with the Trustee's most recent statement of the trust funds. If the value of the funds is less than the amount of the new estimates, the Permittee must, within 60 days after the change in the cost estimates, either deposit an amount into the funds so that its value at least equals the amount of the current closure and post-closure cost estimates, or the Permittee must obtain other financial assurance, as specified in OAC Rule 3745-55-43, to cover the difference.
- (c) The Permittee must retain the perpetual care amount of 11.5 million dollars (in July 1991 dollars) in the post-closure trust fund. This perpetual care amount must be reviewed annually and updated for inflation.

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- (d) Upon approval of Ohio EPA, the Permittee and/or a third party contractor who performed all or part of the work for final closure, post-closure, or perpetual care will be reimbursed for the cost of the services performed.
- (e) Excess monies from the closure and post-closure trust funds may be used for corrective and/or remedial actions relating to the facility or its operations, upon approval of the director. As used in this section, "excess monies" are defined as amounts in excess of the current cost estimates for closure and post-closure, and perpetual care.
- (f) The closure and post-closure trust funds must be irrevocable and said agreements must be worded in such a manner as to cause said funds to be tax exempt. The Permittee must relinquish its rights to any excess monies in the aforementioned funds.
- (g) Any excess monies remaining in the closure trust fund after the entire facility has been closed and certified in compliance with the applicable Ohio hazardous waste rules, must be transferred to the post-closure trust fund with the approval of Ohio EPA.
- (h) The Permittee must direct the Trustee(s) of the closure and post-closure trust funds to invest the funds monies only in the investments listed in Attachment C of this permit.

B.38 Liability Requirements

The Permittee must maintain continuous compliance with the requirements of OAC Rule 3745-55-47 and the documentation of liability by providing liability coverage which meets the requirements of OAC Rule 3745-55-51 for sudden accidental occurrences in the amount of at least \$1million per occurrence, with an annual aggregate of at least \$2 million, exclusive of legal defense costs.

The Permittee also must demonstrate compliance with OAC Rule 3745-55-47(B) by maintaining liability coverage for nonsudden accidental occurrences in the amount of at least \$3 million per occurrence, with an annual aggregate of at least \$6 million, exclusive of legal defense costs.

B.39 Incapacity of Owners or Operators, Guarantors, or Financial Institutions
OAC Rule 3745-55-48

The Permittee must comply with requirements set forth in OAC Rule 3745-55-48 regarding the incapacity of owners, operators, guarantors or financial institutions.

B.40 General Requirements for Land Disposal Restrictions
OAC Chapter 3745-270

The Permittee must comply with all applicable regulations regarding land disposal prohibitions and restrictions as required by OAC Chapter 3745-270.

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MODULE C - CONTAINER STORAGE & TREATMENT

C. MODULE HIGHLIGHTS

The Permittee maintains a total of 12 container storage areas. These container storage areas are located inside and outside of a containment building (referred to here as the "Stabilization/Containment Building"), and are identified on Drawing D2000L-G01 and Drawing D2000L-G05 of the permit application. Drawing D2000L-G01 provides tables that detail the storage capacity, the description/location, maximum container storage size/quantity, surface area, and aisle space minimum/maximum surface areas for each permitted container storage area. The aisle space surface areas are provided to demonstrate compliance with OAC Rule 3745-54-35. In addition, Drawing D2000L-G01 depicts Area O located within the active landfill cell, which is to be used only for placement of grab and hold containers while the waste is undergoing treatment and for the storage of site generated waste that does not contain free liquids. Area O is not a permitted container storage area; and, containers containing hazardous waste can only be stored in this area for a period of 90 days or less.

Container storage areas G, H, I, K, and L are designed to divert storm water run-on and contain precipitation from a 25-year/24-hour storm event. In addition, the containment system is designed to collect the volume from the largest container or 10% of the total stored volume within the area, whichever is greater. Calculation of the containment system capacities are provided in Appendix D.45 of the permit application. The storage areas G, H, I, K, and L are depicted on Drawings D2000L-G09, D2000L-G12, D2000L-G13, D2000L-G14, D2000L-G15, and D2000L-G16 of the permit application.

Container storage areas M and N are connected through a HDPE lined covered concrete trench; therefore, the combined volume serves to comply with containment volumes for either area M and/or N. The containment system for areas M and N includes a geosynthetic clay liner (GCL) and an 80 mil HDPE liner with geonet and geotextile. These components are depicted on Drawings D2000L-G03, D2000L-G09, D2000L-G17 and D2000L-G18 of the permit application. The GCL consists of an inner layer of bentonite sandwiched between layers of geotextile.

Lastly, Table D-1 in Section D of the permit application details the storage capacity, location, surface area, and the types of containers to be stored for outside container storage areas G, H, I, K, L, M, and N. Section D-1a of the permit application details specific container storage information for areas within the Stabilization/Containment Building.

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C.1 Container Storage / Quantity Limitation

(a) The Permittee is authorized to store 4,385 cubic yards of hazardous waste at any given time in seven permitted outside storage areas and five storage areas located inside of the Stabilization/Containment building.

(i) The storage capacity for the seven outside storage areas are described in Table C-1 below and on Drawing D-2000L-G01 of the permit application:

Table C-1: Outside Container Storage Areas

Storage Area	Location/Description	Capacity (Cubic Yards)	Surface Area (Square Feet)	Secondary Containment Type	Description of Waste
G	Storage Area South of Leachate Storage Tank Building - this area is permitted, but has not yet been constructed.	1,050	9,073	HDPE Liner	All Permitted Waste Codes
H	Storage Area Adjacent to Northeast Corner of Stabilization/Containment Building	300	3,108	HDPE Liner	All Permitted Waste Codes
I	Storage Area East of Stabilization/Containment Building - this area is permitted, but has not yet been constructed.	450	4,551	HDPE Liner	All Permitted Waste Codes
K	Storage Area Adjacent to West Side of Leachate Storage Tank Building	600	5,376	HDPE Liner	All Permitted Waste Codes
L	Storage Area North of Leachate Storage Tank Building - this area is permitted, but has not yet been constructed.	200	2,146	HDPE Liner	All Permitted Waste Codes
M	Rail Storage Area Adjacent to Southeast Corner of Stabilization/Containment Building	300	3,570	HDPE Liner and Trench	All Permitted Waste Codes
N	Rail Storage Area Adjacent to Southwest Corner of Stabilization/Containment Building	300	3,276	HDPE Liner and Trench	All Permitted Waste Codes

- (ii) The storage capacity for the five storage areas located inside of the Stabilization/Containment building are described in Table C-2 below and on Drawing D-2000L-G01 of the permit application:

Table C-2: Stabilization/Containment Building Storage and/or Treatment Areas

Storage Area	Description/Location	Priority/Code Yards	Surface Area Square Feet	Type of Containment	Description of Waste
B	2 Storage and Treatment Areas North and South of Excavator Bridge	250	5,000	Stabilization/Containment Building	All Permitted Waste Codes
C	8 Storage Areas East and West of Crusher	635	12,330	Stabilization/Containment Building	All Permitted Waste Codes
D	Storage and Treatment Area North of Crusher	50	2,500	Stabilization/Containment Building	All Permitted Waste Codes
E	Storage Area West of Campaign Bin	50	2,200	Stabilization/Containment Building	All Permitted Waste Codes
T	Rail Car and Storage and Treatment Area	200	3,100	Stabilization/Containment Building	All Permitted Waste Codes

- (b) The Permittee must store hazardous waste in the types of containers (size and type) described in Section D of the permit application.
- (c) For the purpose of compliance with the capacity limitation of this permit, each container will be considered to be storing an amount of hazardous waste equal to its capacity, regardless of the actual quantity stored in the container.
- (d) Permit Conditions C.1(a) and C.2 shall not apply to the Permittee's activities as a generator accumulating hazardous waste on-site in compliance with OAC Rule 3745-52-34.

However, when accumulating waste within the permitted container storage area, in accordance with OAC Rule 3745-52-34, the Permittee must not, for the total amount of hazardous waste stored and accumulated, exceed the maximum container storage inventory established under this permit condition.

C.2 Limitations on Treatment of Hazardous Waste in Containers

- (a) The Permittee is authorized to treat hazardous waste in the container treatment areas B, D, and T located in the Stabilization/Containment Building, which are described above in Table C-2. The Permittee must treat hazardous waste in containers in the manner described in Section D of the permit application.
- (b) Permit Condition C.2(a) must not apply to the Permittee's activities as a generator treating hazardous waste in containers on-site in compliance with OAC Rule 3745-52-34.

However, when treating waste within the permitted treatment area, in accordance with OAC Rule 3745-52-34, the Permittee must not, for the total amount of hazardous waste treated, exceed the maximum throughput capacity established under this condition.

C.3 Waste Identification

The Permittee must store or treat in containers only the hazardous waste codes specified in Part A of the permit application.

**C.4 Condition of Containers
OAC Rule 3745-55-71**

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee must transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit and the hazardous waste facility chapters of the OAC.

**C.5 Compatibility of Waste with Containers
OAC Rule 3745-55-72**

The Permittee must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

**C.6 Management of Containers
OAC Rule 3745-55-73**

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- (a) The Permittee must keep all containers closed during storage, except when it is necessary to add or remove waste, and must not open, handle, or store containers in a manner which may rupture the container or cause it to leak. This condition does not apply to mixing bins and encapsulation boxes within the Stabilization/Containment Building.
 - (b) In the event lab-pack wastes are generated they must be handled in compliance with applicable storage requirements.
 - (c) In the event lab-pack wastes are generated they must be packaged in drums containing absorbent material that is compatible with the waste.
 - (d) As described in Section D of the permit application, loading and unloading of containers or drums must be conducted at locations where secondary containment capable of minimizing the release of spilled material to the environment is provided.
 - (e) As described in Section D of the permit application, when handling containers, the Permittee must take all reasonable steps to prevent damage to or rupture of containers. Container movement must be accomplished by trained personnel using a forklift, two wheel drum cart, or other specialized container handling unit.
 - (f) Containers that can be placed on pallets must be stored on pallets in rows no more than two pallets wide and no more than two layers high.
 - (g) Deheading of drums and/or transfer of drum or container contents must occur only within areas provided with secondary containment.
 - (h) After each shipment of hazardous waste is received and has been placed into storage, the Permittee must label containers storing hazardous waste, with the following information:
 - (i) waste type and description;
 - (ii) date waste was received into the storage area;
 - (iii) Permittee load number and/or container sequence number (for on-site generated waste);
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- (iv) generator name; and,
- (v) Waste Stream Identification Number (WSID).

C.7 Containment Systems
OAC Rule 3745-55-75

- (a) The Permittee must construct and maintain the containment systems in accordance with the plans and specifications contained in Section D of the permit application.
- (b) The Permittee must maintain the containment systems as described in the permit application, designed with sufficient capacity to contain ten percent of the total volume of the containers or the volume of the largest container, whichever is greater. The containment systems must be free of cracks and gaps and sufficiently impervious to contain leaks and spills and accumulated precipitation until the collected material is detected and removed.
- (c) The base of the containment systems must be sloped to a collection sump or the containment systems must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids.
- (d) Run-on into the containment systems must be prevented unless the collection systems have sufficient excess capacity in addition to that required in Permit Condition C.7(b) above.
- (e) Spilled or leaked waste, accumulated precipitation and other spilled liquid must be removed from the spill containment areas, storage areas, unloading areas, sumps and collection areas within 24 hours from the time discovered or, if this is not possible, in as timely a manner as necessary to prevent overflow of the containment system.
- (f) The Permittee must maintain and operate the railroad car storage and loading/unloading area liquid collection and removal system to collect and remove contaminated liquids created by waste, wash water, or rain water. The liquid collection system must be maintained and operated as to allow the system to function without clogging through the scheduled closure of the railroad car storage and loading/unloading area.

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C.8 Railroad Spur Track – Areas M, N and T

- (a) Railroad locomotives are not permitted to enter the Stabilization/Containment Building.
- (b) Rail car movements into and away from the Permittee's facility will occur at speeds less than 10 mph.
- (c) The Permittee must, at all times, maintain access to the paved road adjacent to Storage Areas M and N.
- (d) The Permittee must advise the generator to line the gondola railcars and intermodal freight containers with a polyethylene liner (or equivalent) prior to shipment of waste to the facility.
- (e) The Permittee must label all railroad cars arriving at the facility in accordance with OAC Rule 3745-270-50(A)(2)(a).

C.9 Inspection Schedules and Procedures

OAC Rules 3745-54-15, 3745-54-73 and 3745-55-74

- (a) The Permittee must inspect the container storage area in accordance with the inspection schedule contained in Section F of the permit application and in accordance with OAC Rule 3745-54-15. The inspection schedule must be designed to detect for leaking containers, deteriorating containers and/or containment systems. The Permittee must note the results of these inspections in the inspection log along with any remedial action taken.
- (b) Areas subject to spills, such as loading or unloading areas, must be inspected daily when in use pursuant to the inspection procedure described in Section F of the permit application. The Permittee must maintain these inspection results in the facility operating record.
- (c) In accordance with OAC Rule 3745-55-71, the Permittee must transfer the contents of any drums or containers found to be leaking, corroded, deteriorated or incompatible with its contents to a compatible container or storage tank, or into an over pack drum, or stabilization treatment operation as soon as possible after the inspection in which the deteriorated drums are found.

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- (d) All railroad cars must be inspected by trained personnel prior to entering and/or exiting the facility, and in accordance with OAC Rule 3745-55-74.

C.10 Recordkeeping
OAC Rule 3745-54-73

- (a) The Permittee must comply with all recordkeeping requirements of OAC Rule 3745-54-73 as part of the facility operating record.
- (b) The Permittee must provide an information sheet explaining the proper loading procedures to prevent waste from leaking during transportation to generators who transport waste to the facility by rail car. The Permittee must document in the operating record that the information sheet was provided to the generator prior to receiving the generator's first rail shipment.
- (c) After each shipment of hazardous waste is received and has been placed into storage, the Permittee must log into a container storage area daily report the following information:
- (i) number of containers in the storage area;
 - (ii) waste type and description;
 - (iii) date waste was received into the storage area;
 - (iv) waste location (by storage area);
 - (v) date waste was removed from the storage area;
 - (vi) Permittee load number and/or container sequence number;
 - (vii) generator name; and,
 - (viii) Waste Stream Identification Number (WSID).

C.11 Special Container Provisions for Ignitable or Reactive Waste
OAC Rules 3745-54-17 and 3745-55-76

- (a) The Permittee must not store ignitable or reactive waste except in accordance with OAC Rules 3745-54-17 and 3745-55-76.

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- (b) The Permittee must not locate containers holding ignitable or reactive waste within 100 feet from the center of any public road or within 50 feet of the facility's property line.
- (c) The Permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and must follow the storage procedures specified in Section D of the permit application.
- (d) In the event that the Permittee inadvertently receives ignitable, flammable or combustible liquid wastes (e.g., from phase separation that occurred as a result of transportation), the Permittee must store such wastes as follows:
 - (i) The Permittee must store Class I flammable liquids (i.e., flashpoint less than 100 °F) only in metal containers. The Permittee must store Class II and Class III combustible liquids only in metal or polyethylene containers. Note that Class II combustible liquids have a flashpoint between 100°F and 140°F, while Class III combustible liquids have a flashpoint greater than 140°F. The ignitable waste class of a contaminated waste must be identified based on the flash point of the waste and the ignitability class must be recorded on the Waste Characterization Data Sheet.
 - (ii) All containers for storage of ignitable wastes must meet Department of Transportation (DOT) specifications (49 CFR 178 Subpart D). Ignitable wastes which are not received in DOT specified metal or polyethylene containers must be immediately transferred to a DOT specified metal or polyethylene container.

C.12 Special Container Provisions for Incompatible Waste
OAC Rules 3745-54-17(B) and 3745-55-77

- (a) The Permittee must not store incompatible waste except in accordance with OAC Rules 3745-54-17(B) and 3745-55-77.
- (b) The Permittee must not place hazardous waste in an unwashed container that previously held an incompatible waste or material.
- (c) The Permittee must separate or protect (by means of a dike, berm, wall, or other device) a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments.

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- (d) The Permittee must store containers of incompatible waste in separate areas of the container storage areas located inside and outside of the Stabilization/Containment Building as classified by the following compatibility groups:
- (i) Ignitable waste and/or non-ignitable wastes;
 - (ii) Oxidizers;
 - (iii) Reducers;
 - (iv) Acids;
 - (v) Bases;
 - (vi) Acid Sensitive (i.e., potential consequence of generating toxic hydrogen cyanide or hydrogen sulfide gas);
 - (vii) Alkaline Sensitive; and,
 - (viii) Water-Reactive.

C.13 RESERVED

C.14 Closure and Post-Closure

OAC Rules 3745-55-10 through 3745-55-20, and 3745-55-78

At closure of the container storage areas, the Permittee must remove all hazardous waste and hazardous waste residues from the containment systems, in accordance with the procedures in the closure plan set forth in Section I of the permit application.

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MODULE D - TANK STORAGE AND MANAGEMENT

D. MODULE HIGHLIGHTS

The Permittee has constructed and operates four 25,000 gallon aboveground tanks (S-100, S-200, S-300, and S-400) for the storage of hazardous waste from the container storage areas, laboratory and stabilization/containment building and multi-source leachate from closed and operating landfills. These tanks are located within a building with secondary containment for each tank designed to be capable of containing greater than 100 percent of the total volume of each tank. Four additional aboveground tanks (as yet to be constructed: S-4, S-5, S-6, and S-7) are designed to manage oily waste that may be generated from on-site remedial or corrective measures activities. These tanks will be located outside. Secondary containment for these tanks is designed to be capable of containing greater than 100 percent of the total volume of the largest tank plus additional volume for the accumulation from a 25-year/24-hour storm event. All tanks are or will be placed within secondary containment areas and will be separated into various waste categories (i.e., leachate/aqueous waste and oily waste).

Waste transfer into tanks occurs via two methods: the tanker method by which waste is pumped into the tanks from tanker trucks that collect waste from various points throughout the facility; and, via an automatic pump and double walled auxiliary piping system. This latter method is particular to F039 leachate that is pumped from the primary and secondary collection systems of the active Cell M into tanks S-100, S-200, S-300, and S-400. This pump system is equipped with an automatic high level shutdown override as presented in Drawings D2000-F01 and D8102-101 of the permit application.

D.1 Tank Storage Quantity Limitation/Waste Identification

- (a) The Permittee may store a total volume of 160,000 gallons of hazardous waste in 8 tanks, subject to the terms of this permit and as detailed in the table below.

The Permittee is authorized to store in tanks only the EPA hazardous waste numbers specified in the permit application and summarized below:

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Tank No.	Capacity (gallons)	Dimension of Tank (feet)	Secondary containment	Location	Hazardous Waste No. & Description
S-100	25,000	10 x 42.5	Pre-fabricated Steel	Indoor	F039/D002 Leachate
S-200	25,000	10 x 42.5	Pre-fabricated Steel	Indoor	F039/D002 Leachate
S-300	25,000	10 x 42.5	Pre-fabricated Steel	Indoor	F039/D002 Leachate
S-400	25,000	10 x 42.5	Pre-fabricated Steel	Indoor	F039/D002 Leachate
S-4 (as yet to be constructed)	15,000	12 x 20	HDPE 80 Mil Liner	Outdoor	D018 Oily Waste
S-5 (as yet to be constructed)	15,000	12 x 20	HDPE 80 Mil Liner	Outdoor	D018 Oily Waste
S-6 (as yet to be constructed)	15,000	12 x 20	HDPE 80 Mil Liner	Outdoor	D018 Oily Waste
S-7 (as yet to be constructed)	15,000	12 x 20	HDPE 80 Mil Liner	Outdoor	D018 Oily Waste

- (b) The provision of Permit Condition D.1(a) shall not apply to the Permittee's activities as a generator storing hazardous waste in tanks on-site in compliance with the provisions of OAC Rule 3745-52-34.

However, when storing waste in tanks in accordance with OAC Rule 3745-52-34, the Permittee must not, for the total amount of hazardous waste stored, exceed the maximum volume established under this permit condition.

D.2 Limitations on Treatment of Hazardous Waste in Tanks

- (a) The Permittee is not authorized to treat hazardous waste in tanks.
- (b) The provision of Permit Condition D.2(a) shall not apply to the Permittee's activities as a generator treating hazardous waste in tanks on-site in compliance with the provisions of OAC Rule 3745-52-34.

D.3 Design and Installation of New Tank Systems or Components
 OAC Rule 3745-55-92

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- (a) The Permittee shall construct tanks S-4, S-5, S-6, and S-7 in accordance with Section D of the permit application.
- (i) The Permittee must locate all tanks at least 100 feet from the center line of the nearest City of Toledo raw water lines, and at least 100 feet from the center line of any public road; or
- (ii) the protective distances set forth in section 2-2 of the National Fire Protection Association 30, *Flammable and Combustible Liquids Code 2003 Edition*, whichever is greater.
- (b) Prior to operation of the newly constructed tank system, the Permittee must submit the certification of installation of the tank system in accordance with OAC Rule 3745-55-92(B) to ensure that proper handling procedures were adhered to in order to prevent damage to the system during installation. See also Permit Condition A.23.
- (i) The Permittee must install on each tank a sonic liquid level or capacitance type detector, a conservation breather vent, man-way, a separate fill/drain line, and a plug or ball valve with a resistant seal, or equivalent. Prior to any waste being stored in tanks, the Permittee must install a vapor balancing system in all tanks containing organic compounds. The tanks handling ignitable wastes must be grounded and must be equipped with flame arresters and explosion-proof controls. The tanks in each waste category must have a separate loading/unloading station and the tanks, pumps, and connecting pipe work must be color-coded as an added safeguard against possible mixing of incompatible wastes.
- (ii) Tanks in each incompatible waste category must have a separate loading/unloading station. Tanks, pumps and connecting ancillary pipe work must be color coded to provide an additional safeguard against possible mixing of incompatible wastes.

D.4 Containment and Detection of Releases.
OAC Rule 3745-55-93

(a) New Tank Systems

The Permittee must construct and operate the secondary containment system in accordance with requirements of OAC Rule 3745-55-93(B) through (F), and Section D of the permit application.

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New tanks at the facility are: S-100, S-200, S-300, and S-400.
New tanks as yet to be constructed are: S-4, S-5, S-6, and S-7.

- (b) Reserved
- (c) Reserved
- (d) All collection sumps must be provided with an HDPE liner and equipped with an HDPE collection pipe. The HDPE liner within the diked surfaces must be sloped such that all liquids must drain to a collection sump.
- (e) The Permittee must design and operate all secondary containment system barriers to contain 100 percent of the total volume of the largest tank within a given area and the precipitation from a 25 year/24 hour storm event.
- (f) The Permittee must design and install all external liner systems so as to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (i.e., the liner must be capable of preventing lateral as well as vertical migration of the waste).
- (g) The Permittee must ensure that all external liner systems designed for secondary containment are free of cracks or gaps. The Permittee must check for visible damage including small scratches, indentation, tears or punctures to the liner as it is installed. All such damage must be inspected by the liner installation contract inspector and repaired.
- (h) The Permittee must remove liquids or sludge from the secondary containment systems within twenty-four (24) hours, or in as timely a manner as is possible, after the inspection during which the materials were found in these areas.

D.5 Operating Requirements
OAC Rule 3745-55-94

- (a) The Permittee must not place hazardous wastes or treatment reagents in the tank system if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.
- (b) The Permittee must prevent spills and overflows from the tank or containment systems using the methods described in the permit application. The Permittee must comply with the requirements of OAC Rule 3745-55-96

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if a leak or spill occurs in the tank system. The Permittee must, at a minimum, use the following controls and practices to prevent spills and overflows from tank or containment systems:

- (i) The storage tanks and wastes must be compatible. Tanks must not be used for mixing non-compatible waste. Prior to adding to the contents of any tank, the tank inventory control logs must be reviewed to ensure that the tank is operated according to design specifications. Incompatible waste must be stored as specified in Permit Condition B.7(a).
- (ii) Loading and unloading of transportation vehicles to or from tanks must be conducted at locations where secondary containment is capable of minimizing the release of spilled material to the environment.
- (iii) Upon completion of the waste transfer, the valves must be closed and all hoses must be disconnected over a portable container to collect drippings. The storage tank must be gauged and the tank's valve locked.
- (c) Organic emissions from the storage tanks must be controlled by utilizing carbon adsorption or other equivalent systems.
- (d) Smoking must be prohibited and "No Smoking" signs must be placed in clear view in the storage tank areas. Open flames and heat sources must be prohibited in the storage tank areas, unless these areas are cleared of all ignitable wastes, residues, and vapors.

D.6 Inspection Schedules and Procedures
OAC Rule 3745-55-95

- (a) The Permittee must inspect the tank systems in accordance with the Inspection Schedule found in Section F of the permit application and must complete the items in Permit Conditions D.6(b) and D.6(c) as part of those inspections.
- (b) The Permittee must inspect the overfill controls in accordance with the procedure and schedule in the permit application.
- (c) The Permittee must inspect the following components of the tank system once each operating day:

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- (i) aboveground portions of the tank system, if any, to detect corrosion or releases of waste;
 - (ii) data gathered from monitoring and leak detection equipment (e.g., volume, pressure or temperature gauges) to ensure that the tank system is being operated according to its design; and,
 - (iii) construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).
- (d) The Permittee must document compliance with Permit Condition D.6 in the operating record of the facility.
- (e) For each storage tank in use, the Permittee must document in the Tank Inventory Control Log the following information on a daily basis:
- (i) the quantity of each waste that was added or removed;
 - (ii) the EPA hazardous waste number of the waste material transferred;
 - (iii) any additional information or comments concerning waste compatibility and/or the processing of the waste necessary for safe operation of the tank;
 - (iv) the tank volume after the waste transfer, how it was gauged, and a verification that overfilling control equipment is properly working; and,
 - (v) proper operation of the level control devices/equipment.
- (f) On an annual basis, all storage tanks must be emptied and inspected for signs of erosion and corrosion.

D.7 Response to Leaks or Spills
OAC Rule 3745-55-96

- (a) In the event of a leak or a spill from the tank system, from a secondary containment system, or if a system becomes unfit for continued use, the Permittee must remove the system from service immediately and complete the following actions:

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- (i) Immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.
 - (ii) If the release was from the tank system, the owner/operator must, within twenty-four hours after detection of the leak, or, if the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

If the material released was to a secondary containment system, all released materials must be removed within twenty-four hours or in as timely a manner as possible to prevent harm to human health and the environment.

- (iii) The Permittee must immediately conduct a visual inspection of all releases to the environment and based on that inspection: (1) prevent further migration of the leak or spill to soils or surface water and (2) remove and properly dispose of any visible contamination of the soil or surface water. The area of the spill must be rinsed along with the collection sump, if impacted by the release. The rinseate must be analyzed and managed using the universal treatment standards, if applicable, or in accordance with the requirements of Chapter 3745-52. The completed remediation must obtain Ohio EPA approval before the affected tank system is placed back into service.
- (b) Unless the requirements of Permit Conditions D.7(b)(i) through D.7(b)(vi) are satisfied, the Permittee must close its tank system in accordance with OAC Rule 3745-55-97 and its closure plan if there has been a leak or spill from the tank system, from a secondary containment system, or if a system becomes unfit for use.
 - (i) For a release caused by a spill that has not damaged the integrity of the system, the Permittee must remove the released waste and make any necessary repairs to fully restore the integrity of the system before returning the tank system to service.
 - (ii) For a release caused by a leak from the primary tank system to the secondary containment system, the Permittee must repair the primary system prior to returning it to service.

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- (iii) For a release to the environment caused by a leak from the portion of the tank system component that is not readily available for visual inspection, the Permittee must provide secondary containment for the entire component that meets the requirements of OAC Rule 3745-55-93 before the component can be returned to service.
 - (iv) If the Permittee replaces a component of the tank system to eliminate the leak, that component must satisfy the requirements for new tank systems or components in OAC Rules 3745-55-92 and 3745-55-93.
- (c) For all major repairs (e.g., installation of an internal liner, repair of a ruptured tank, or repair or replacement of a secondary containment vault) to eliminate leaks or restore the integrity of the tank system, the Permittee must obtain a certification by an independent, qualified, registered professional engineer in accordance with OAC Rule 3745-50-42(D)(1) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system before returning the system to service. This certification must be submitted to the Director within seven days after returning the tank system to use.

D.8 Recordkeeping and Reporting

OAC Rules 3745-55-96, 3745-55-91(A), and 3745-55-92(G)

- (a) The Permittee must report to the director, within 24 hours of detection, when a leak or spill occurs from the tank system or secondary containment system to the environment. A leak or spill of one pound or less of hazardous waste, that is immediately contained and cleaned up, need not be reported. Releases that are contained within a secondary containment system need not be reported.
- (b) Within 30 days of detecting a release to the environment from the tank system or secondary containment system, the Permittee must report the following information to the Director:
 - (i) Likely route of migration of the release;
 - (ii) characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate);
 - (iii) results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee should provide the Director with a schedule

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of when the results will be available. This schedule must be provided before the required 30-day submittal period expires;

- (iv) proximity of downgradient drinking water, surface water, and populated areas; and
- (v) description of response actions taken or planned.
- (c) The Permittee must obtain, and keep on file at the facility, the written statements by those persons required to certify the design and installation of the tank system.
- (d) The Permittee must keep on file at the facility the written assessment of the tank system's integrity.
- (e) Reserved
- (f) All reports summarizing the inspection and assessment of tank condition and shell thickness/comparability must be kept as part of the facility's operating record.

D.9 Closure and Post-Closure Care
OAC Rule 3745-55-97

- (a) At closure of the tank system(s), the Permittee must follow the procedures in the closure plan in Section I of the permit application.
- (b) If the Permittee demonstrates that not all contaminated soils can be practically removed or decontaminated, in accordance with the closure plan, then the Permittee must close the tank system(s) and perform post-closure care following the contingent procedures in the closure plan and in the post-closure plan.

D.10 Special Tank Provisions for Ignitable or Reactive Wastes
OAC Rule 3745-55-98

- (a) The Permittee must not place ignitable or reactive waste in the tank system or in the secondary containment system, unless the following procedures are followed:
 - (i) the waste is stored in such a way that it is excluded from any material or from those conditions which may cause the waste to ignite or react;

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- (ii) the tank is solely used for emergencies in accordance with OAC Rule 3745-55-98(A)(3); or,
 - (iii) the tank was designed and constructed for the purpose of storing ignitable or reactive waste and meets applicable fire codes; and,
 - (iv) the Permittee must document compliance with this condition and place it in the operating record.
- (b) The Permittee must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon, as required in Tables 2-1 to 2-6 of the National Fire Protection Association's *Flammable and Combustible Liquids Code, 2003 Edition*, incorporated by reference in OAC Rule 3745-50-11.

D.11 Special Tank Provisions for Incompatible Wastes
OAC Rule 3745-55-99

- (a) The Permittee must not place incompatible wastes, or incompatible wastes and materials, in the same tank system or the same secondary containment system, unless the procedures specified in OAC Rule 3745-55-99(A) are followed. The Permittee must document compliance with this condition and place that documentation into the operating record.
- (b) The Permittee must not place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless the requirements of Permit Condition D.11(a) and OAC Rule 3745-54-17(B) are met.

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MODULE E - CORRECTIVE ACTION REQUIREMENTS

E. MODULE HIGHLIGHTS

In 1987, a RCRA Facility Assessment (RFA) of the Permittee's facility was conducted by a U.S. EPA contractor. The RFA consisted of a preliminary review of existing facility information and a visual site inspection. The RFA report was received by U.S. EPA on September 8, 1987. In October of 1991, the Permittee submitted a RCRA Facility Investigation (RFI) Work Plan. The RFI Work Plan was approved by U.S. EPA on March 6, 1995. This RFI Work Plan, and a Supplemental RFI Work Plan issued by U.S. EPA in September of 1996, focused on an environmental investigation of the Northern Sanitary Landfill (Waste Management Unit 6) only. The Permittee submitted a draft final RFI report to U.S. EPA on June 20, 1997. The Permittee also submitted a draft Corrective Measure Study (CMS) Work Plan for Waste Management Unit 6.

On September 30, 1998, U.S. EPA modified the Permittee's federal permit to include more specific corrective action requirements and include a specific list of Waste Management Units (WMU) and Areas of Concern (AOC). On June 23, 2000 the Permittee submitted a Description of Current Conditions (DOCC) to U.S. EPA. The Permittee submitted a revised DOCC on November 28, 2000 to U.S. EPA and on February 21, 2001, U.S. EPA issued a conditional approval of the DOCC. The Permittee submitted a second revision to the DOCC on March 23, 2001 to address the conditions of approval.

On April 23, 2001, the Permittee submitted a RFI Work Plan that provided details of the formal site investigation. On December 20, 2001, U.S. EPA issued a conditional approval of the RFI Work Plan. The Permittee submitted a revised RFI Work Plan dated February 28, 2002 to address the conditions of approval. On April 10, 2002, U.S. EPA granted final approval of the DOCC and the RFI Work Plan. Per the requirements of the Permittee's federal permit, implementation of the RFI Work Plan began on March 18, 2002.

On July 18, 2003, the Permittee submitted an RFI Phase I Report and Phase II Work Plan. This report presents the findings from the data collected during field work and sampling events beginning in mid 2002. Limited field work and sampling was completed at SWMU 5 during 2004. The Phase II Work Plan represents additional sampling that the Permittee has proposed.

On January 27, 2004, Ohio EPA became the lead agency with RCRA Corrective Action document approval and oversight responsibilities at the facility. All

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documents submitted by the Permittee, which have been approved by U.S. EPA, are included by reference into this permit. The Permittee is required to continue implementation of the RFI Work Plan in accordance with Permit Condition E.5.

E.1 Corrective Action at the Facility
OAC Rules 3745-50-10 & 3745-54-101

In accordance with OAC Rule 3745-50-10, "waste management unit" means any discernible unit at which solid waste, hazardous waste, infectious waste (as those terms are defined in ORC Chapter 3734), construction and demolition debris (as defined in ORC Chapter 3714), industrial waste or other waste (as those terms are defined in ORC Chapter 6111) has been placed at any time, irrespective of whether the unit was intended for the management of waste or hazardous waste. Such units include any area at a facility at which wastes have been routinely and systematically managed or released. As used in this permit, the term "waste management unit" shall be consistent with and equivalent to the term "solid waste management unit" as that term is used in the federal Corrective Action program. As Corrective Action was initiated under U.S. EPA, the Permittee may continue to use the terms interchangeably throughout the process. For the purpose of Corrective Action, facility is defined as all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA. The terms Interim Measure (IM), RCRA Facility Investigation (RFI), Corrective Measures Study (CMS) and Corrective Measure Implementation (CMI) are defined in U.S. EPA's Corrective Action Plan (CAP)(OSWER Directive 9902.3-2A, May 1994).

The Permittee must institute Corrective Action as necessary to protect human health and the environment for all releases of hazardous waste(s) or hazardous constituent(s) from any WMUs at the Facility, regardless of the time at which waste was placed in such units.

E.2 Corrective Action Beyond the Facility Boundary
OAC Rules 3745-54-101

The Permittee must implement Corrective Action beyond the Facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of Ohio EPA that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the Facility boundary where off-site access is denied. On-site measures to address such releases will be addressed under the RFI, CMS, and CMI phases, as determined to be necessary on a case-by-case basis.

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E.3 Identification of WMUs
 OAC Rules 3745-50-44(D) & 3745-54-101

- (a) The WMUs listed below must be addressed in the RFI. The RFI must address ground water, surface water, soils, waste, and air media associated with each of the WMUs, unless otherwise noted in the list below:

WMU Number	Unit
WMU 1	Landfill Cell F
WMU 2*	Landfill Cell G
WMU 3*	Landfill Cell H
WMU 4*	Landfill Cell I
WMU 5	Millard Road Landfill
WMU 6	Northern Sanitary Landfill
WMU 7	Central Sanitary Landfill
WMU 8	Old Oil Pond #1 (South Pond)
WMU 9	New Oil Pond #2 (North Pond)
WMU 10	Ash Disposal Areas
WMU 11	Former Teepee Burner
WMU 12	Former Bill's Road Oil Operation

*WMU 2, WMU 3, WMU 4 were not retained for further investigation.

- (b) In addition to the WMUs identified in Section E.3(a), the following AOCs must be addressed in the RFI:

Area of Concern Number	Area
AOC 1	Toledo Water Lines
AOC 2	Truck Scale
AOC 3	Building "C" Equipment Maintenance Area

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Area of Concern Number	Area
AOC 4	Building "C" Septic Tank and Leach Field
AOC 5	Decontamination Building
AOC 6	Oily Waste Above Ground Storage Tanks
AOC 7	Butz Crock- Concrete Utility Vault
AOC 8	Staging Area
AOC 9	Cell M Water Retention Basin
AOC 10	Rail Spur
AOC 11*	Former Truck Scale

*AOC 11 was not retained for further investigation.

- (c) The following WMUs are currently in operation and are subject to closure, post-closure, and perpetual care requirements as applicable and therefore will not be included in the RFI at this time:

WMU Number	Unit
WMU 13	Landfill Cell M
WMU 14	Leachate Storage Building
WMU 15	Containment Building
WMU 16	Area H Storage
WMU 17	Area K Storage
WMU 18	Rail Storage Areas M and N

E.4 Reserved

E.5 RCRA Facility Investigation (RFI)
 OAC Rule 3745-54-101

The Permittee must continue with implementation of the RFI Work Plan that was approved by U.S. EPA on April 10, 2002. In the event of newly discovered units,

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the Permittee must conduct an RFI to thoroughly evaluate the nature and extent of the release of hazardous waste(s) and hazardous constituent(s) from WMUs and AOCs identified in Permit Condition E.10. The major tasks and required submission dates are shown below. The scope of work for each of the tasks is found in U.S. EPA's CAP.

(a) RFI Implementation

Within 60 days of Ohio EPA written approval of the RFI Work Plan, the Permittee must implement the RFI Work Plan according to the terms and schedule in the approved RFI Work Plan.

(b) RFI Final Report(s)

Within 60 days after the completion* of each phase of the RFI, the Permittee must submit an RFI Final Report to Ohio EPA. Each RFI Final Report must describe the procedures, methods, and results of the RFI phase completed. Each Final Report must contain adequate information to support further decisions concerning corrective action at the facility.

- (i) If necessary, Ohio EPA must provide written comments on each Final RFI Report to the Permittee.
- (ii) Within 60 days of receipt of Ohio EPA's comments, the Permittee must submit either an amended or new RFI Final Report that incorporates Ohio EPA's comments.
- (iii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Final Report. Each RFI Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Final Report(s) must be authorized by Ohio EPA.

* Completion occurs when all activities approved in the RFI Work Plan are completed with the exception of report preparation.

E.6 Interim Measure (IM)

Based on the RFI Final Report or other information documenting a release of hazardous waste or constituents to the environment, Ohio EPA may require (or the Permittee may propose) the development and implementation of an interim

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measure (this may include an IM Work Plan) at any time during the life of the permit to mitigate or eliminate a threat to human health or the environment. The Permittee must implement the IM upon a time frame established by Ohio EPA.

E.7 Determination of No Further Action

(a) Permit Modification

Based on the results of the completed RFI and other relevant information, the Permittee may submit an application to Ohio EPA for a permit modification under OAC Rule 3745-50-51 to terminate the Corrective Action tasks of the Schedule of Compliance. Other tasks identified in the Schedule of Compliance must remain in effect. This permit modification application must conclusively demonstrate that there are no releases of hazardous waste or constituents from WMUs at the Facility that pose an unacceptable risk to human health and the environment.

If, based upon review of the Permittee's request for a permit modification, the results of the completed RFI, and other information, Ohio EPA determines that releases or suspected releases which were investigated either are nonexistent or do not pose an unacceptable risk to human health and the environment, then Ohio EPA will approve the requested modification. Decisions regarding the completion of RCRA Corrective Action and no further action may be made for the entire Facility, for a portion of the Facility, or for a specific unit or release.

(b) Periodic Monitoring

A determination of no further action shall not preclude Ohio EPA from requiring continued or periodic monitoring of air, soil, ground water, or surface water, if necessary to protect human health and the environment, when site-specific circumstances indicate that potential or actual releases of hazardous waste or constituents exists.

(c) Further Investigations

A determination of no further action shall not preclude Ohio EPA from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates that a release or potential release from a WMU at the Facility may pose an unacceptable risk to human health or the environment. In such a case, Ohio EPA shall initiate a

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modification to the terms of the permit to rescind the determination made in accordance with Permit Condition E.7(a). Additionally, in the event Ohio EPA determines that there is insufficient information on which to base a determination, the Permittee, upon notification, is required to develop a Work Plan and upon Ohio EPA approval of that Work Plan, perform additional investigations as needed.

E.8 Corrective Measures Study (CMS)

Ohio EPA has determined, based on the RFI Phase I and other relevant information, that implementation of containment corrective measures are necessary and appropriate for certain units while the Permittee completes the RFI. These specific corrective measures are outlined in permit condition E.9.(b).

If Ohio EPA determines, based on additional or final results of the RFI and any other relevant information, that additional corrective measures are necessary, Ohio EPA will notify the Permittee in writing that the Permittee must conduct a CMS either as below or as described in Ohio EPA's notification to the Permittee. The purpose of the CMS will be to develop and evaluate the corrective action alternative(s) and to outline one or more alternative corrective measure(s) that will satisfy the performance objectives specified in Permit Condition E.9.

(a) CMS Work Plan

The Permittee must submit a written CMS Work Plan to Ohio EPA within 60 days from the notification by Ohio EPA of the requirement to conduct a CMS.

- (i) If necessary, Ohio EPA will provide written comments on the CMS Work Plan to the Permittee.
- (ii) Within 60 days of receipt of Ohio EPA's comments, the Permittee must submit either an amended or new CMS Work Plan that incorporates Ohio EPA's comments.
- (iii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Work Plan. The CMS Work Plan, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Work Plan must be authorized by Ohio EPA.

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(b) CMS Work Plan Implementation

Within 30 days of Ohio EPA written approval of the CMS Work Plan, the Permittee must implement the CMS Work Plan according to the terms and schedule in the approved CMS Work Plan.

(c) CMS Final Report

Within 30 days after the completion* of the CMS, the Permittee must submit a CMS Final Report to Ohio EPA. The CMS Final Report must summarize the results of the investigations for each remedy studied and must include an evaluation of each remedial alternative.

- (i) If necessary, Ohio EPA will provide written comments on the CMS Final Report to the Permittee.
- (ii) Within 60 days of receipt of Ohio EPA's comments, the Permittee must submit either an amended or new CMS Final Report that incorporates Ohio EPA's comments.
- (iii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Final Report. The CMS Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Final Report must be authorized by Ohio EPA.

* Completion occurs when all activities approved in the CMS Work Plan are completed with the exception of report preparation.

E.9 Corrective Measures Implementation (CMI)

Ohio EPA has determined, based on the RFI Phase I and other relevant information, that implementation of containment corrective measures are necessary and appropriate for certain units while the Permittee completes the RFI. These specific corrective measures are outlined in permit condition E.9.(b) below.

Upon completion of the RFI, the Permittee may be required to implement additional Corrective Measures. Based on the results of the CMS, the Permittee must implement one or more of the Corrective Measures authorized by Ohio EPA. Ohio EPA will authorize one or more of the Corrective Measures in the CMS, and will notify the Permittee in writing of the decision. The Corrective Measure selected for implementation must: (1) be protective of human health and the environment; (2) attain media clean-up standards; (3) control the source(s) of releases so as to

reduce or eliminate further releases of hazardous waste(s) (including hazardous constituent[s]); and, (4) comply with all applicable standards for management of wastes.

If two or more of the Corrective Measures studied meet the threshold criteria set out above, Ohio EPA will authorize the Corrective Measures Implementation by considering remedy selection factors including: (1) long-term reliability and effectiveness; (2) the degree to which the Corrective Measure will reduce the toxicity, mobility or volume of contamination; (3) the Corrective Measure's short-term effectiveness; (4) the Corrective Measure's implementability; and (5) the relative cost associated with the alternative.

(a) Permit Modification

Ohio EPA will initiate a permit modification, as provided by OAC Rule 3745-50-51 to require implementation of the corrective measure(s) authorized.

The Permittee must not implement the corrective measure until the permit is modified pursuant to OAC Rule 3745-50-51.

(b) Selected Containment Corrective Measures

Based on results of the RFI Phase I and subsequent field work, Ohio EPA has determined that the appropriate remedy for WMUs 1, 5, 6 and 7 includes containment. Ohio EPA has determined that it is appropriate to require implementation of the containment remedy for these units while the Permittee completes Phase II RFI activities in accordance with Permit Condition E.5. U.S. EPA has established containment as the presumptive remedy for municipal landfills to protect human health and the environment and save time and costs.

(i) WMUs 5, 6, & 7 - Leachate Collection System Performance Objectives

The leachate collection and removal systems for WMUs 5, 6, and 7 must be installed and fully operating by July 1, 2007. The leachate collection and removal systems for WMUs 5, 6 and 7 shall be maintained and operated as detailed in the Operations, Maintenance & Performance Monitoring Plan for the Leachate Collection Systems at Waste Management Unit Nos. 5, 6, and 7. The Permittee must minimize impacts to ground water at each WMU; establish an inward hydraulic gradient at each WMU; and reduce head levels by removing

leachate to the lowest level which is practicably achievable at a frequency that will promote removal without compromising equipment functionality. These performance objectives will be implemented by the following:

- (a) The permittee will decrease the volume of the contaminant sources by reducing head levels within the WMUs. The permittee will demonstrate that this objective is achieved at each WMU by documenting that the head levels at established interior piezometers, as identified in Table 1.0 of the Operations, Maintenance, & Performance Monitoring Plan, have a decreasing trend. This objective must be achieved no later than July 1, 2009 and sustained until Permit Condition E.9(b)(i)(b) is established.
- (b) The permittee will demonstrate that an inward hydraulic gradient is established by documenting that the leachate level at a WMU's interior piezometers have an average head potential 1-foot lower than the measured liquid potential in established perimeter shallow till wells, as identified in Table 1.0 of the Operations, Maintenance, & Performance Monitoring Plan. This objective must be achieved not later than July 1, 2010 and sustained until Permit Condition E.9(b)(i)(c) is established.
- (c) WMU 6: No later than July 1, 2012, the permittee will ensure that the average of the leachate head level measurements from piezometers PZ-1, PZ-2, PZ-3, PZ-4, PZ-14, PZ-15, and any other locations established in the future with concurrence from Ohio EPA is below 553.0 ft. MSL.

WMU 7: No later than July 1, 2014, the permittee will ensure that the average of the leachate head level measurements from piezometers PZ-9, PZ-10, PZ-11, PZ-12, and any other locations established in the future with concurrence from Ohio EPA is below 569.0 ft. MSL.

WMU 5 Central Area: No later than July 1, 2016, the permittee will ensure that the average of the leachate head level measurements from piezometers PZ-5, PZ-6, PZ-7, PZ-8, and any other locations established in the future with concurrence from Ohio EPA is below 541.5 ft. MSL.

WMU 5 West Area: No later than July 1, 2016, the permittee will ensure that the average of the leachate head level measurements from piezometer PZ-13, and any other locations established in the future with concurrence from Ohio EPA is below the target leachate column level established with concurrence from Ohio EPA no later than July 1, 2007 (Based on an available boring log near the proposed location of recovery well RW-4, the target leachate column level is expected to be approximately 574 ft. MSL.).

(ii) Cap Enhancements or Modifications for WMU 1

Cap enhancements and/or modifications must be made for WMU 1, to minimize infiltration of liquids and promote positive drainage of precipitation. The Permittee must prepare and submit preliminary design alternatives to Ohio EPA within 90 days of the effective date of this permit condition. Ohio EPA will review the alternatives and select a remedy design. The Permittee must, within 60 days of receiving notification from Ohio EPA of its selected remedy design, submit a Class 1 permit modification request requiring director's approval that includes final design plans for the enhanced or modified cap and an implementation schedule.

(iii) Landfill gas mitigation for WMUs 1, 5, 6 and 7

To address landfill gas generation in WMUs 1, 5, 6 and 7 the Permittee must prepare and submit to Ohio EPA a pre-design work plan within 90 days of the effective date of this permit condition. The pre-design work plan must ensure collection and evaluation of sufficient information to complete a final design of any necessary landfill gas mitigation system or systems. The pre-design work plan must include a tasks schedule. After Ohio EPA approval of the pre-design work plan, the Permittee must implement the pre-design work plan in accordance with the tasks schedule. Within 60 days of the completion of the tasks, the Permittee must submit a Class 1 permit modification request requiring director's approval that includes a final

design plan for the landfill gas mitigation system or systems and an implementation schedule.

(c) Corrective Measures Completion Report

Within forty-five (45) days of completion of corrective measures implementation for each corrective measure (CM) in permit conditions E.9.(d)(i) through (iii), the Permittee shall submit to Ohio EPA a CM Completion Report, Operation and Maintenance (O&M) Plan and, if necessary, a performance monitoring program for each CM.

- (1) If necessary, Ohio EPA shall provide written comments on the CM Completion Report and O&M Plan to the Permittee.
- (2) Within forth-five (45) days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new CM Completion Report and O&M Plan.
- (3) Ohio EPA shall approve or modify and approve, in writing, the amended or new CM Completion Report and O&M Plan. The CM Completion Report and O&M Plan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CM Completion Report and O&M Plan must be authorized by Ohio EPA.

(d) Permit Modification

In case of a newly discovered waste management unit that requires corrective measures or Ohio EPA determination that additional corrective measures are necessary, Ohio EPA will initiate a permit modification, as provided by OAC Rule 3745-50-51 to require implementation of the corrective measures authorized.

(e) Financial Assurance
OAC Rule 3745-54-101

Within forty five (45) days after receiving approval of the CMI, the Permittee must provide financial assurance in the amount necessary to implement the corrective measure(s) as required by OAC Rule 3745-54-101 (B) and (C).

E.10 Newly Identified WMUs or Releases
OAC Rule 3745-54-101

(a) General Information

The Permittee must submit to Ohio EPA, within 30 days of discovery, the following information regarding any new WMU identified at the Facility by Ohio EPA or the Permittee:

- (i) The location of the unit on the site topographic map;
- (ii) Designation of the type of unit;
- (iii) General dimensions and structural description (supply any available drawings);
- (iv) When the unit was operated; and
- (v) Specification of all waste(s) that have been managed at the unit.

(b) Release Information

The Permittee must submit to Ohio EPA, within 30 days of discovery, all available information pertaining to any release of hazardous waste(s) or hazardous constituent(s) from any new or existing WMU.

E.11 Corrective Action for Newly Identified WMUs and Releases
OAC Rule 3745-54-101

If Ohio EPA determines that a RFI is required for newly identified WMUs, the Permittee must submit a written RCRA Facility Investigation Work Plan to Ohio EPA upon a time frame established in written notification by Ohio EPA in accordance with Permit Condition E.5. This determination will be made based on the information submitted in accordance with Permit Condition E.10.

Further investigations or corrective measures will be established by Ohio EPA.

The Permittee must make such a submittal in accordance with time frames established by Ohio EPA.

E.12 Documents Requiring Professional Engineer Stamp

ORC 4733.01

Preparation of the following Corrective Action documents constitutes the "practice of engineering" as defined by ORC 4733.01:

Final Interim Measures Report
Corrective Measures Final Design
Corrective Measures Construction Completion Report
Corrective Measures Attainment of Ground Water Performance Standards Report
Corrective Measures Completion of Work Report

As such, the Permittee must ensure that these documents, as submitted to Ohio EPA, are stamped by a Professional Engineer licensed to practice in the State of Ohio.

E.13 Schedule of Compliance

The Permittee must provide Ohio EPA with the following items according to the schedule below:

Facility Submission	Due Date
Document revisions	60 days from date of receipt of deficiencies from Ohio EPA.
Newly identified WMU	30 days after discovery.
RFI Implementation	60 days after approval of the RFI Work Plan.
RFI Report(s)	60 days after completion of each phase of the RFI.
CMS Work Plan	60 days from the notification of the requirement to conduct the CMS.
CMS Implementation	60 days after Ohio EPA written approval.
Corrective Measures Report	30 days after completion of the CMS.
Progress Reports	Monthly, by the 12 th of each month. If the 12 th falls on a non-work day, the report will be submitted on the first work day after the 12th.

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MODULE F - CONTAINMENT BUILDING STORAGE & TREATMENT

F. MODULE HIGHLIGHTS

The Stabilization/Containment Building is a steel frame constructed building with a footprint of approximately 1.2 acres in addition to four containment pads on the exterior of the building. Each area of the building is generally dedicated to a specific treatment and/or handling operation and includes the micro/macroencapsulation area, sort floor area, debris crusher area, waste mixing area with the excavator bridge for mixing, container storage areas, unloading areas, scale area and campaign bin area where larger volumes are mixed. The interior floor's wearing surface is constructed of multiple floating concrete slabs with grout filling the joints between the slabs. The building interior is divided into 10 drainage areas, each of which slope to concrete catch basins (sumps) constructed in the floor. The four exterior containment pads have similar catch basins. The building was designed and constructed with underlying double liner systems beneath the floating slab with liquid collection, removal and leak detection components (collectively called the Containment Building Sump System or CBS). There are 14 separate areas within the Stabilization/Containment Building, each with their own CBS. Riser pipes extend from these sumps to covered concrete sump boxes built into the floor. These sumps are used to determine if any liquid is present on the liners and to remove any liquid that may be on the primary or secondary liners. The CBS components include a primary liner which is a continuous 80 mil High Density Polyethylene (HDPE) liner covered with a minimum of six inches of pea gravel. Beneath the primary liner is the secondary liner which is also a continuous 80 mil HDPE liner topped with a drainage geonet. Underlying the secondary liner is a layer of recompacted clay that is a minimum of 3 feet thick.

Wastes are brought into the Stabilization/Containment Building via trucks, drums, containers, intermodal containers, gondola rail cars and rail hopper cars. Waste characteristics vary from fine, dusty wastes to soils and debris. For fugitive dust management, the building is equipped with Air Pollution Control Systems managing the building's ventilation as well as for dump hoods used for pneumatic unloading and truck unloading. Additionally, the mixing stations are equipped with a water spray system to minimize the generation of particulate emissions during the mixing process.

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F.1 Stabilization/Containment Building Storage/ Quantity Limitation

- (a) The Permittee is authorized to store 515 cubic yards of hazardous waste at any given time in the permitted Stabilization/Containment Building as detailed in the following table:

Storage Area	Description/Location	Capacity (Cubic Yards)	Type of Containment	Description of Waste
A1	Debris Sort Floor Storage and Treatment Area	270	Modified Tank	All Permitted Waste Codes
A2	Campaign Bin Storage and Treatment Area	230	Modified Tank	All Permitted Waste Codes
F	Oversized Material Storage Area Adjacent to Crusher	15	Modified Tank	All Permitted Waste Codes

The Permittee must store hazardous waste in the manner described in Section D of the permit application. The Permittee must clearly mark each area/bin which contains hazardous waste restricted from land disposal under OAC Chapter 270 to identify its contents and the date each period of accumulation begins.

- (b) Permit Conditions F.1(a) and F.2 shall not apply to the Permittee's activities as a generator accumulating hazardous waste on-site in compliance with OAC Rule 3745-52-34.

However, when accumulating waste within the permitted Stabilization/Containment Building, in accordance with OAC Rule 3745-52-34, the Permittee must not, for the total amount of hazardous waste stored and accumulated, exceed the maximum Stabilization/Containment Building inventory established under this permit condition.

F.2 Limitations on Treatment of Hazardous Waste in Stabilization/ Containment Building

- (a) The Permittee is authorized to treat hazardous waste in the Stabilization/ Containment Building at a rate not to exceed 150 tons

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per hour or no more than 250,000 tons of incoming and on-site generated waste can be processed by the Permittee in any calendar year. The Permittee must treat hazardous waste in the Stabilization/Containment Building in the manner described in Section D of the permit application.

- (b) The Permittee must, prior to accepting any waste stream for stabilization or encapsulation treatment or prior to submitting a WPR form to Ohio EPA for approval, conduct a pre-acceptance analysis for each such waste stream and submit an analytical/treatment report along with the WPR package. This report shall include the following data:
- (i) waste code designation and analytical data showing its constituents, quantitatively;
 - (ii) the exact type, sequence, and/or combination of treatment methods designated for said waste;
 - (iii) bench scale test data that shows the composition of treatment reagents, waste material, or filler materials added to the waste, contact time, operating parameters to be monitored, safety precautions and measures, final product analysis; and,
 - (iv) Toxicity Characteristics Leachate Procedure test results, land disposal restrictions, and any other applicable regulatory requirements that the waste must meet prior to its final disposal.
- (c) WPR approval by Ohio EPA will not relieve the Permittee of the Permittee's responsibility to treat, store, or dispose of hazardous waste in an environmentally safe manner.
- (d) The Permittee must prepare, document, and maintain on site data showing that dilution did not occur during treatment. This data must be compiled for each grab and hold stabilization batch process as required by Permit Condition B.3(h)(iii)(b).
- (e) The Permittee may use the stabilization/solidification additives referenced in Appendix C.13 or Volume 7 of the permit application, or may use such other reagents as are deemed necessary to improve a waste handling characteristic or to achieve compliance

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with a treatment standard specified in OAC Rule 3745-270-40. The Permittee must request authorization from Ohio EPA (via a Class 1 prior approval modification) for any additions made to this list and submit any relevant technical and analytical data that supports the effectiveness of the treatment additive.

F.3 Waste Identification

The Permittee is authorized to store and treat in the Stabilization/Containment Building only the EPA hazardous waste numbers specified in Part A of the permit application.

F.4 Design and Construction Standards
OAC Rule 3745-205-101 (A) & (B)

The constructed Stabilization/Containment Building is described in Section D of the permit application and must comply with the following design and construction standards:

- (a) The Stabilization/Containment Building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.
- (b) The floor and containment walls of the Stabilization/Containment Building, including the secondary containment system, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the Stabilization/Containment Building; and to prevent failure due to pressure gradients, settlement, compression, or uplift; physical contact with the wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the Stabilization/Containment Building and contact of such equipment with the containment walls.
- (c) The Stabilization/Containment Building must be designed so that it has sufficient structural strength to prevent collapse or other failure.
- (d) All surfaces to be in contact with hazardous waste must be chemically compatible with those wastes.

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- (e) If appropriate to the nature of the waste management operation to take place in the Stabilization/Containment Building, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:
 - (i) They provide an effective barrier against fugitive dust emissions.
 - (ii) The Stabilization/Containment Building is designed and operated in a manner that assures that waste will not penetrate these openings when they are closed.
 - (f) Incompatible hazardous waste or treatment reagents must not be placed in the Stabilization/Containment Building or its secondary containment system if they could cause the Stabilization/Containment Building or secondary containment system to leak, corrode, or otherwise fail.
 - (g) A Stabilization/Containment Building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the Stabilization/Containment Building during the operating life of the Stabilization/Containment Building and appropriate for the physical and chemical characteristics of the waste to be managed.
 - (h) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier.
 - (i) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the Stabilization/Containment Building.
 - (i) The primary barrier must be sloped to drain liquids to the associated collection system.
 - (ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.
 - (j) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is

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capable of detection failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

- (k) The leak detection system must be constructed with a bottom slope of one percent or more and be constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of a synthetic or geonet drainage materials with transmissivity of 3×10^{-5} m²/sec or more.
- (l) If treatment is to be conducted in the Stabilization/Containment Building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.
- (m) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the Stabilization/Containment Building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the Stabilization/Containment Building.
- (n) In addition to the requirements for secondary containment systems in Permit Conditions F.4 (j), (k), and (m), the Stabilization/Containment Building must meet the requirements of paragraphs (B), (c)(1), and (c)(2) of OAC Rule 3745-55-93 to be considered an acceptable secondary containment system for a tank.
- (o) The Permittee must operate and maintain a run-on control system capable of preventing flow into the Stabilization/Containment Building and onto the outside containment pads onto the active portion of the Stabilization/ Containment Building during peak discharge from a 25 year-24 hour storm.
- (p) The Permittee must maintain a baghouse or an equivalent device on all Air Pollution Control Systems managing the Stabilization/Containment Building ventilation and on the dump hoods used for pneumatic unloading and truck unloading. Performance test results must be available on-site in the operating record. Performance evaluations must be conducted on a yearly

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basis during the operating life of the Stabilization/Containment Building. Vents and ducts must be inspected not less than annually to determine if an accumulation has occurred along the ducts. Records of these inspections must be maintained on-site for the life of the facility.

F.5 Operating Standards
OAC Rule 3745-205-101(C)

The constructed Stabilization/Containment Building described in Section D of the permit application must comply with the following operating standards:

- (a) The Permittee must use controls and practices to ensure containment of the hazardous waste within the Stabilization/Containment Building; and, at a minimum:
 - (i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier.
 - (ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the Stabilization/Containment Building so that the height of any containment wall is not exceeded.
 - (iii) Take measures to prevent the tracking of hazardous waste out of the building by personnel or by equipment used in handling the waste, including trucks off-loading waste.
 - (a) Within fifteen minutes after a hazardous waste transportation vehicle leaves the Stabilization/Containment Building area, the Permittee must inspect the Stabilization/Containment Building entrance apron used by the vehicle and remove all tracked or fallen waste at the time of the inspection. By the end of each day's use, the containment pads around the Stabilization/Containment building must be inspected and all tracked or fallen waste must be removed at the time of inspection.

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- (b) The Permittee must maintain a log that records the inspection of and any actions taken at the entrance aprons and containment pads of the Stabilization/Containment Building.
 - (iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions. In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices. This state of no visible emissions must be maintained effectively at all times during routine operating and maintenance conditions, including when vehicles and personnel are entering and exiting the Stabilization/Containment Building and during the unloading of pneumatic tank trucks.
 - (v) The Stabilization/Containment Building doors must remain closed at any doorway adjacent to waste handling activities and while waste is being processed, except when vehicles, personnel, or equipment are entering or exiting the building. The truck unloading side of the building must be equipped with a split curtain to control wind dispersal for unloading hoods and sort floors. The split curtain must be inspected periodically and be repaired or replaced as needed.
 - (vi) To the extent practicable, a conditioner/wetter must be applied as necessary to minimize dust from treatment reagents, wastes, or stabilized materials while they are being used in the treatment processes in the Stabilization/Containment Building to control fugitive dust emissions.
 - (b) The Permittee must maintain a certification by a qualified registered professional engineer that the Stabilization/Containment Building design meets the requirements of paragraphs (A) to (C)(4) of OAC Rule 3745-205-101.
 - (c) Throughout the active life of the Stabilization/Containment Building, the Permittee must repair, promptly upon detection, any condition that could lead to or has caused a release of hazardous waste in accordance with OAC Rule 3745-205-101(C)(3)(a) through (c).

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- (d) The Permittee is authorized to operate two pneumatic truck unloading stations at the *Stabilization/ Containment Building*. The design and operation requirements of the stations are detailed in Section D of the permit application. The Permittee must not unload more than 24 pneumatic tank trucks per day. The number of unloadings on pneumatic tank trucks permitted per day may be reduced if the Permittee is unable to prevent the release of hazardous waste from the *Stabilization/Containment Building* including tracking of hazardous waste out of the building by personnel, pneumatic tank trucks or other waste handling equipment.
- (e) The Permittee must maintain and operate the primary liquid collection and removal system to collect and remove liquids that may be *potentially contaminated* from the *Stabilization/Containment Building*. The primary leachate collection system must be operated in a manner that allows the system to function without clogging through the scheduled closure of the *Stabilization/Containment Building*. The Permittee must maintain and operate the secondary liquid collection and detection system installed immediately below the primary liner for the purpose of monitoring and removing any liquid that could pass through the concrete and the primary HDPE liner.
- (f) The Permittee must expeditiously remove all accumulated liquids and solid material from collection and holding sumps located in the *Stabilization/Containment Building* and on the containment pads outside of the *Stabilization/Containment Building*. Each sump must be inspected on a daily basis (operating day) and after storms (2 inches per 8 hours) for the purpose of monitoring the accumulated water level. All water removed from the run-off collection system is to be treated as *potentially contaminated*.
- (i) The Permittee must remove material from the sumps when such material has reached the bottom of the grate. All sumps within the *Stabilization/Containment Building* must be cleaned out once each calendar month regardless of the amount of material that has accumulated.
- (ii) The Permittee must record in the facility operating record, the dates when material is removed from the sumps; and, must also note on *daily inspection forms* any amount of

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material that is observed within the sumps at the time of the inspection and if removal of material from the sump(s) is necessary.

- (iii) In the event that liquids freeze within a sump, the Permittee must note in the daily inspection log that accumulated materials are in the sump and the time of discovery. The Permittee must remove the accumulated material by allowing the frozen liquid to thaw or by other means that will not compromise the integrity of the sump. The Permittee must note in the daily inspection log the date and time the material was removed.
- (g) When the presence of an aqueous phase is an appropriate active ingredient in the stabilization process, the amount of liquid used in the stabilization process must be based upon treatment formulations derived from bench scale results and/or from existing documented information from similar treatment of similar wastes under similar conditions. Liquids used in the process must be legitimate stabilization ingredients.
- (h) D001 ignitable liquid waste must not be managed in the treatment process unless such waste can be effectively treated (i.e., remove the characteristic of ignitability by either destroying or removing the organic constituents that gave the waste its ignitable characteristic; as used herein, destruction is not achieved through dilution) as required by the land disposal restrictions of OAC Chapter 3745-270.
- (i) A central carbon adsorption or equivalent system must be maintained to control organic emissions from the Stabilization/Containment Building.
- (j) Incompatible hazardous wastes or treatment reagents must not be placed in the Stabilization/Containment Building or its secondary containment system, if they could cause the Stabilization/Containment Building or secondary containment system to leak, corrode, or otherwise fail.
- (k) After each shipment of hazardous waste is received and has been placed into storage, the Permittee must label the hazardous waste storage area with the following information:

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- (i) waste type and description;
 - (ii) date waste was received into the storage area;
 - (iii) Permittee load number and/or container sequence number (for on-site generated waste);
 - (iv) generator name; and,
 - (v) Waste Stream Identification Number (WSID).

F.6 Leak Detection for the Stabilization/Containment Building.

- (a) The Permittee must inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment as well as the Stabilization/Containment Building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste in accordance with OAC Rule 3745-205-101.
- (b) The Permittee must follow the approved Response Action Plan (RAP) containing procedures for the detection, mitigation, notification and reporting of leakage into the leak detection system as found in Appendix D.22 of the permit application.

**F.7 Inspection Schedules and Procedures
OAC Rules 3745-54-15 and 3745-54-73**

The Permittee must inspect the Stabilization/Containment Building in accordance with the inspection schedule contained in Section F of the permit application, Permit Condition B.5(g) and in accordance with OAC Rule 3745-54-15. The inspection schedule must be written such that the Permittee must inspect and record in the facility's operating record data gathered from monitoring equipment, leak detection equipment, the Stabilization/Containment Building, and the area immediately surrounding the Stabilization/Containment Building at least once every seven days in order to detect signs of releases of hazardous waste. The Permittee must note the results of these inspections in the inspection log along with any remedial action taken.

F.8 Recordkeeping
OAC Rule 3745-54-73

- (a) The Permittee must comply with all record keeping requirements of OAC Rule 3745-54-73 as part of the facility operating record.
- (b) After each shipment of hazardous waste is received and has been placed into storage, the Permittee must log into a storage area daily report the following information:
 - (i) quantity of waste in the storage area;
 - (ii) waste type and description;
 - (iii) date waste was received into the storage area;
 - (iv) waste location (by storage area);
 - (v) date waste was removed from the storage area;
 - (vi) Permittee load number and/or container sequence number;
 - (vii) generator name; and,
 - (viii) Waste Stream Identification Number (WSID).

F.9 Special Provisions for Ignitable or Reactive Waste
OAC Rules 3745-54-17

- (a) The Permittee must not store or treat ignitable or reactive waste except in accordance with OAC Rule 3745-54-17.
- (b) The Permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and must follow the storage or treatment procedures specified in Section D of the permit application.

F.10 Encapsulation Technology

The Permittee is authorized to treat certain waste within the Stabilization/Containment Building using encapsulation technology as detailed in Section D-5i through D-5l of the permit application.

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- (a) Waste that is primarily debris (based upon visual inspection) must be treated via encapsulation technology to meet Land Disposal Restrictions found in OAC Chapter 3745-270 prior to disposal into the active cell. "Debris," and/or "non-debris," is herein defined as set forth in OAC Rule 3745-270-45. The Permittee must not perform encapsulation treatment on the following types of waste:
- (i) waste that the Permittee knows, or reasonably should know, has been deliberately mixed with non-debris waste by the generator in order to avoid numerical or technical treatment standards under OAC Chapter 3745-270; and,
 - (ii) any hazardous waste that is not authorized in Section A of the permit application.
- (b) The Permittee must use only materials compatible with the waste being encapsulated as an encapsulating agent. The Permittee must not use materials that will cause an adverse reaction with or otherwise degrade significantly when exposed to the waste.
- (c) The Permittee must perform a quality control check on all waste that undergoes encapsulation treatment. The quality control inspection is detailed as follows:
- (i) Microencapsulation:
 - (a) The Permittee must inspect a minimum number of microencapsulation boxes based on the cube root of the number of boxes present or ten percent of the boxes, whichever is greater, as determined by ESOI load number or WSID (waste stream identification number). Finished cardboard boxes used as containers must be inspected by opening the cardboard from near top to near bottom, directly exposing an area at least six inches wide and allowing more of the surface area to be viewed by pulling the cardboard away from the setup encapsulant.
 - (b) All waste that is microencapsulated in bulk must be sufficiently coated with the treatment reagents. This

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will be evaluated through visual inspection. All microencapsulated waste must be allowed to cure.

(ii) Macroencapsulation:

- (a) The Permittee must only use storage and handling pallets (or a combination of pallets) that are larger than the containers used in the macroencapsulation process.
- (b) The Permittee must use structural supports, when appropriate, around the macroencapsulation container to prevent rupture of the LDPE liner. The macroencapsulation containers may not be overfilled to cause rupture of the LDPE liner.
- (c) Each container used in the macroencapsulation process must be inspected for damage to the liner. Containers with damaged liners must be reprocessed.

F.11 Closure and Post-Closure

OAC Rules 3745-55-10 through 3745-55-20, and 3745-205-102

At closure of the Stabilization/Containment Building, the Permittee must remove or decontaminate all hazardous waste and hazardous waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, in accordance with the procedures in the closure plan set forth in Section I of the permit application.

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MODULE G – WATERLINE TRENCH MONITORING PROGRAM

G. MODULE HIGHLIGHTS

Two City of Toledo low pressure raw water transmission lines transect the Permittee's property. These water transmission lines carry untreated water from Lake Erie to the City of Toledo Collins Park Water Treatment Plant located at 600 Collins Park, Toledo, Ohio, 43605. The Permittee installed monitoring and dewatering trenches on either side of these water transmission lines.

One of the two transmission lines is a 78 inch, bituminous-coated, steel pipe constructed in 1939 to 1940. This pipe was installed at a depth ranging from 11 to 21 feet below ground surface (bgs). Backfill consisted of "selected clay" that was compacted to 24 inches above the top of the pipe. In 1967, the second line, a 60 inch steel encased pre-stressed concrete pipe, was installed to the north and parallel to the original line at a depth ranging from 9 to 18 feet bgs. In 1973 to 1974, the first line was improved by adding a ½ inch thick cement grout lining to the inner-core of the pipe. The interior of the first line was inspected in 1984 and determined to be in good condition.

For the purpose of protecting the two waterlines, the Permittee installed waterline monitoring and dewatering trenches between the waste cells and the waterlines. These trenches were installed in various phases from 1984 to 1987 in conjunction with the facility's waste disposal area development. Each trench was installed at least one foot below the depth of the adjacent waterline. The trenches are approximately 2.5 feet wide and are sloped at one percent grade with collection sumps located at each end and the middle of trenches 1 and 2, each end of trenches 3, 4 and 5 and the middle of trench 6. According to the 1986 Hazardous Waste Groundwater Task Force Evaluation of Fondessy Enterprises, Inc. Oregon, Ohio, the trenches along the north side of the waterlines were backfilled with gravel to a level of two feet bgs and then sealed with recompacted blue clay as a means to prevent storm water infiltration. To enhance the collection of liquids in the trenches, a four inch slotted polyethylene flex hose is located at the bottom of each trench.

Waterline trenches 1, 2 and 6 have been historically clean and are designated waterline monitoring trenches by the Permittee. Trench 1 is located between Cell H and the waterlines and discharges to the Cell H surface water retention pond; Trench 2 is located between Cell I and the waterlines and discharges to the Cell I surface water retention pond; and, Trench 6 is located between Cell M and the waterlines and discharges to the Cell M storm water retention pond. The surface water from the retention ponds is discharged off-site through National Pollutant Discharge Elimination System (NPDES) outfalls. Waterline trenches 3, 4 and 5 are known to be contaminated and are designated by the Permittee as waterline dewatering trenches. Trench 3 is located between the New Oil Pond and the

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waterlines; Trench 4 is located between the Old Oil Pond and the waterlines; and, Trench 5 is located between Cell G and the waterlines. The liquids removed from dewatering Trenches 3, 4 and 5 are pumped to an on-site vacuum truck, tank or tanker truck and are recycled, shipped off-site for treatment or handled with F039 (multi-source landfill leachate). Trench locations can be found on drawing number F20D2A.

The purpose of this permit module is to detect if the liquids accumulated in waterline monitoring trenches 1, 2 and 6 become contaminated and to ensure that contaminated liquids accumulated in waterline dewatering trenches 3, 4 and 5 are removed and managed properly. Corrective action for the contaminated trenches is discussed in Module E of this permit.

G.1 Low Pressure Raw Waterline Security Agreement

- (a) The Permittee must continue to be a party to the Waterline Security Agreement with the City of Toledo as found in Appendix B.2 of the permit application.
- (b) The Permittee must remove and dispose of liquids in accordance with the Waterline Security Agreement and applicable regulations.
- (c) The Permittee must allow access to the waterline easement to the City of Toledo, Division of Environmental Services, to conduct appropriate testing and monitoring to determine compliance with the Waterline Security Agreement during all normal and customary facility operating hours.

G.2 Waterline Monitoring Trench Constituents List

A listing of the various analytical methods utilized to evaluate the constituents listed in Table G-1 below is located in Appendix B.3 of the permit application.

Table G-1: Monitoring Constituent List

Constituent	Limit
Volatile Organic Compounds	PQL
Semivolatile Organic Compounds	PQL
PCBs	PQL
Lead (Dissolved)	0.01 mg/L
Cadmium (Dissolved)	0.005 mg/L
Chromium (Dissolved)	0.05 mg/L

G.3 Waterline Trench Monitoring and Data Evaluation

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For the purposes of this module, waterline monitoring trenches are defined as those trenches which have not exceeded limits for any of the constituents listed in Table G-1 above. Likewise, waterline dewatering trenches are defined as those trenches which have historically exhibited constituent levels at or above the limits defined in Table G-1.

- (a) For waterline monitoring trenches, the Permittee must withdraw a sample from each waterline monitoring trench on a semi-annual basis and analyze the samples for the constituents listed in Table G-1.
 - (i) If the analysis shows any constituent in Table G-1 at or above the Limit specified for that constituent, then the Permittee must either designate the trench as a waterline dewatering trench or withdraw a confirmation sample from the affected waterline monitoring trench within 30 days of receipt of the original analytical results by the Permittee.
 - (ii) If the analysis and the confirmation analysis, confirmed in accordance with OAC 3745-54-98(G)(3), shows any constituent in Table G-1 at or above the Limit specified for that constituent, then the Permittee must designate the waterline monitoring trench as a waterline dewatering trench.
- (b) The Permittee must notify the director in writing within 14 days of determining that a waterline monitoring trench must be designated a waterline dewatering trench.

G.4 Inspection Schedules and Procedures

- (a) The Permittee must inspect the following at least one time per week:
 - (i) the waterline easement boundaries for potential degradation and/or damage to the cover systems of nearby waste management units;
 - (ii) the waterline monitoring and dewatering trench caps for erosion and/or damage;
 - (iii) the waterline monitoring and dewatering trench collection sumps for damage;
 - (iv) the City of Toledo waterline easement for evidence of leakage from the waterlines; and,
 - (v) the presence of pumpable liquids in the waterline monitoring trenches.

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- (b) In the event that degradation and/or damage to the cover systems of nearby waste management units along the waterline easement boundaries, erosion or damage to the waterline monitoring and dewatering trench caps, or damage to the monitoring and dewatering trench collection sumps, is observed during the weekly inspections required by Permit Condition G.4(a)(i) through G.4(a)(iii), the Permittee must notify Ohio EPA within 24 hours, document the problem on the inspection form and make necessary repairs within 30 days.
- (c) In the event that evidence of leakage from the waterlines is observed during the once per week inspections required by Permit Condition G.4(a)(iv), the Permittee must contact the City of Toledo and Ohio EPA within 24 hours.
- (d) The Permittee must inspect the liquid elevation levels in the waterline dewatering trench sumps every Monday, Wednesday and Friday. If one of these days is a holiday, the Permittee must conduct the inspection on that holiday or the following work day. If the liquid elevation in any waterline dewatering trench sump is at or above a point twelve (12) inches below the invert elevation of the adjacent waterline, the Permittee must:
 - (i) Record the date and time that the inspection of the waterline trenches for that day (e.g., Monday, Wednesday or Friday) is completed.
 - (ii) Commence pumping from at least one sump in each of the affected waterline dewatering trenches within 24 hours of the date and time recorded in Permit Condition G.4(d)(i).
 - (iii) Record the date and time that pumping commences at each of the waterline dewatering trenches required to be pumped by Permit Condition G.4(d)(ii).
 - (iv) Continue pumping the affected waterline dewatering trench(es) during the following work days until pump cavitation occurs or liquid flow ceases and the liquid elevation in all waterline dewatering trenches is below a point twelve (12) inches below the invert elevation of the adjacent waterline.

G.5 Recordkeeping and Reporting

- (a) For waterline monitoring trenches, the Permittee must submit a waterline monitoring trench report (due 30 days after receipt of all analytical data and data evaluation required by Permit Condition G.3(a)) to Ohio EPA and the City of Toledo. The report must contain the analytical results from the constituents listed in Table G-1.

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- (b) The Permittee must submit to Ohio EPA, on a monthly basis, a report detailing the date and amount of liquids removed from each waterline monitoring and dewatering trench.
- (c) In accordance with OAC Rule 3745-54-73, the Permittee must maintain a copy of the Toledo Waterline Elevation Weekly Summary Record (or an equivalent record) as part of the facility operating record.
- (d) In accordance with OAC Rule 3745-54-73(B)(5), the Permittee must maintain a copy of the inspection records required by Permit Condition G.4 as part of the facility operating record. The inspection records required by Permit Condition G.4 must include the date and time that the inspections are conducted, including any dates and times required by Permit Conditions G.4(d)(i) and G.4(d)(iii), and the observed liquid elevations.

MODULE H - RESERVED

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MODULE I - POST-CLOSURE CARE

I. POST-CLOSURE CARE

The Permittee maintains and monitors four hazardous waste landfill units that are currently undergoing post-closure care, Cells F, G, H and I; and, one landfill unit that is currently active, Cell M. Landfill Cells F, G, H and I were closed under Resource Conservation and Recovery Act (RCRA) Closure Plans specific to those units. Cell M will begin post-closure after completion of closure as described in Section I of the permit application. This module addresses the requirements for post-closure care, monitoring and maintenance in accordance with OAC Rules 3745-55-17 through 3745-55-20 and the landfill specific post-closure requirements of OAC Rule 3745-57-10. The Permittee's post-closure activities include the following:

- maintenance of facility security systems;
- ground water monitoring;
- leachate collection and removal;
- maintain and monitor leak detection system;
- maintenance of landfill covers;
- maintenance of support facilities (e.g., access roadways and storm water management systems); and,
- periodic inspections of the unit.

These ongoing post-closure activities are designed to maintain the integrity of the final cover, liners and other components of the containment system, and the function of the units' monitoring systems. Each unit currently undergoing post-closure care is described below.

Cell F

Cell F is a permitted RCRA hazardous waste landfill unit located in the northwest corner of the Permittee's facility. Cell F was operated from 1980 to 1983 for the disposal of both non-hazardous industrial and RCRA hazardous waste. Cell F encompasses an area measuring approximately three acres. Wastes disposed within the cell were bulk solids and containers, and were primarily treated sludges, landfarm soil, ignitable solids, refinery solids, paint solids and contaminated soils, along with non-hazardous industrial waste solids. Cell F has an estimated waste thickness of 50 to 55 feet, with a total disposed amount of waste of approximately 135,300 cy.

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Cell F was constructed by excavating into in-situ clay soils and installing a leachate collection and removal system. The bottom soils consist of approximately 25 feet of in-situ grey silty clay till located on top of dolomite. The side wall is also comprised of in-situ soils consisting of brown and gray silty lacustrine clay, blue and gray silty clay till, and gray silty clay till. As part of the cell construction, a soil berm consisting of the same in-situ soils as the cell sidewalls was left in place to separate Cell F and the Northern Sanitary Landfill located east of Cell F. The leachate collection and removal system consists of a network of pipes leading to a manhole for removal. The pipes leading to the leachate removal manhole are six inch diameter perforated PVC pipes. The leachate removal manhole is a 36-inch diameter reinforced concrete pipe.

Cell F was closed in accordance with the approved closure plan. The final cap design consisted of at least three feet of upper till compacted clay covered by one foot of vegetative cover. As constructed, the intermediate clay cover and final clay cap resulted in a landfill cover over five feet thick. According to the *Documentation of Cell F Closure Construction*, dated March 18, 1987, the closure construction began June 10, 1986 and was completed January 5, 1987.

The final cap of Cell F was constructed to accommodate a utility easement that traverses the footprint of the cell. Specifically, the Toledo Edison Company holds a 100 foot wide easement that traverses the central portion of Cell F. In order to comply with clearance requirements within the National Electric Safety Code, the final grading plan was designed to provide an approximate clearance of 20 feet between the lowest transmission wire and highest ground surface directly beneath it. This necessitated lowering the final cap elevation within this easement relative to the surrounding crown portion of the cap. The minimum five foot landfill thickness cover was maintained within this easement area. Ohio EPA approved the final closure of Cell F on June 17, 1987.

Documentation relevant to Cell F is provided in Appendix F of the *Description of Current Conditions*, revised March 23, 2001.

Cell G

Cell G is a permitted RCRA hazardous waste landfill unit located in the southwest corner of the Permittee's facility, north of York Street. Cell G was operated from 1990 to 1994 for the disposal of RCRA hazardous wastes and non-hazardous industrial wastes. The majority of the waste in

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Cell G consists of electroplating sludges. Other waste types include wastewater treatment sludges, paint wastes, incinerator ashes and RCRA contaminated soils. Cell G covers approximately 7.1 acres with an average waste thickness of 89 feet. The total disposed volume of waste within Cell G is approximately 479,000 cubic yards.

Cell G was constructed with below grade double geomembrane liners, a primary leachate collection system and a secondary leak detection system. The design included a double composite liner system along its entire bottom and a composite secondary liner system with a single primary liner system along its below grade side slopes. The double composite liner system included a primary system (two feet of recompacted natural clay and 80 mil geomembrane liner on the base of the cell and 80 mil geomembrane liner along the sideslopes) overlain on an independent secondary system (three feet of natural clay and 60 mil geomembrane liner).

Incorporated into Cell G's construction is a below grade sheet piling wall system along the eastern, southern and southwestern limits of the Cell G area. This system acts as a physical barrier and provides additional structural support between the adjacent sanitary landfill (Central Sanitary Landfill) and the City of Toledo raw waterlines. This system was constructed between March 1988 and March 1989.

Cell G was closed in accordance with the approved closure plan. The final cover system design included a two foot recompacted clay layer, a 40 mil geomembrane liner, a geocomposite drainage layer, and four feet of protective cover/vegetative soil. Cell G closure was implemented in two phases. The first phase involved the construction of perimeter above grade dikes that were constructed during above grade waste placement activities. The construction of the dikes provided for the installation of the cap, which consisted of a recompacted clay layer and an additional 1.5 feet sacrificial clay layer. The second and final phase of the closure was initiated upon receipt of the final waste on June 9, 1994. Ohio EPA approved the final closure of Cell G on July 13, 1995.

Documentation relevant to Cell G is provided in Appendix G of the *Description of Current Conditions*, revised March 23, 2001.

Cells H and I

Cell H is a permitted RCRA landfill unit located in the northeast portion of the Permittee's facility. Cell H was operated from December 1983 to May

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1987 for the disposal of industrial and hazardous wastes. Cell H covers approximately nine acres and has an average waste thickness of 90 feet. The total approximate amount of waste disposed in Cell H is 737,639 tons. Cell H was constructed with a four foot recompacted clay liner, a single 60 mil geomembrane liner and a leachate collection system. Documentation relevant to Cell H is provided in Appendix H of the *Description of Current Conditions*, revised March 23, 2001.

Cell I is a permitted RCRA landfill unit located in the east-central portion of the Permittee's facility between Cell H and York Street. Cell I was operated as a commercial landfill for the disposal of industrial and hazardous wastes from March 1987 to November 1990. The total disposed volume of waste within Cell I was approximately 677,200 cubic yards. Cell I covers approximately 8 acres and has an average waste thickness of approximately 88 feet.

Cell I was constructed with double geomembrane liners, a primary leachate collection system and a secondary leak detection system. The design included a double composite liner system along its entire bottom and composite secondary liner system with a single primary liner system along its below grade side slopes. The double composite liner system included a primary system (two feet of recompacted clay and 80 mil synthetic liner on the base of the cell and 80 mil synthetic liner along the sideslopes) overlain on an independent secondary system (three feet of recompacted clay and 60 mil synthetic liner). Documentation relevant to Cell I is provided in Appendix I of the *Description of Current Conditions*, revised March 23, 2001.

Cells H and I were constructed in the area of a former land treatment unit (referred to as the York Street Landfarm) that covered an area of approximately 8.9 acres. The York Street Landfarm treatment unit was used for the treatment of various biodegradable wastes during the period of August 1980 to November 1984 and approximately 13,200 tons of primarily oil bearing waste were treated at this unit during its operational life. The treatment zone for the York Street Landfarm was surrounded with a recompacted earthen dike for run-on/run-off water control. Originally, the containment dike surrounded the entire land treatment unit; however, as part of the facility's long-term plans to construct two landfill cells at this location, the dike was reconstructed to divide the unit into two separate areas: Areas A and B. Area A covered approximately 4.9 acres and was located entirely within the footprint of existing Cell H. Area B covered approximately 4.0 acres and was located entirely within the

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footprint of Cell I. Surface soils located between Areas A and B were removed and placed into the land treatment unit's treatment zone, and clean soils were backfilled into this area. The land treatment unit was then converted into hazardous waste Cells H and I.

Cells H and I were closed in accordance with the approved closure plans. The final phase of closure for both units included clay cap surface preparation and the installation of the 40 mil geomembrane liner, geocomposite drainage layer, cover soils, vegetation and a drainage system. Ohio EPA approved the final closure of both Cells H and I on April 2, 1993.

Cell M

Cell M is currently active. Operational requirements for this landfill can be found in Module J of this permit.

I.1 Unit Identification

The Permittee must provide post-closure care for the following hazardous waste management units, subject to the terms and conditions of this permit:

Type of Waste Unit	Unit No. or Other Designation	Approximate Maximum Waste Inventory	Description of Wastes Contained	Year Post-closure began
Landfill	Cell F	135,185 yd ³	Treated sludges, landfarm soil, ignitable solids, refinery solids, paint solids, contaminated soils, and non-hazardous industrial waste solids.	06/17/1987
Landfill	Cell G	479,200 yd ³	Electroplating sludges, wastewater treatment sludges, paint wastes, incinerator ashes, and RCRA contaminated soils.	07/13/1995
Landfill	Cell H	737,639 tons	Industrial and hazardous wastes.	04/02/1993
Landfill	Cell I	677,200 yd ³	Industrial and hazardous wastes.	04/02/1993
Landfill	Cell M	see Module J	see Module J	active

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I.2 Post-closure Procedures and Use of Property
OAC Rule 3745-55-17

- (a) The Permittee must conduct post-closure care for each hazardous waste management unit listed in Permit Condition I.1 above, to begin after completion of closure of the unit and continue for 30 years after that date. The 30-year post-closure care period may be shortened upon application and demonstration approved by Ohio EPA that the reduced period is sufficient to protect human health and the environment. The 30-year post-closure care period may be extended if the Director finds that the extended period is necessary to protect human health and the environment.
- (b) The Permittee must maintain and monitor the ground water monitoring system and comply with all other applicable requirements of OAC Rules 3745-54-90 through 3745-54-100 during the post-closure period. Ground water must be monitored in accordance with Module K, Integrated Ground Water Monitoring Program.
- (c) RESERVED
- (d) The Permittee must comply with the requirements for landfills, as follows:
 - (i) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, or other events.
 - (ii) Continue to operate the leachate collection and removal system until leachate is no longer detected. All existing leachate systems must be maintained in good repair. They must be inspected monthly and repaired if required. Leachate found within the systems must be removed for shipment to an approved treatment, storage, or disposal facility. Pertinent information, including origin of leachates, quantities, and analytical results, must be recorded within the facility's post-closure operations record;

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- (iii) Prevent run-on and run-off from eroding or otherwise damaging the final cover.
- (a) Erosion control structures must be maintained during post-closure care. Erosion damage must be repaired and corrected.
 - (b) The facility must be inspected monthly or after every major rainfall (two or more inches per eight hour period). Erosion or pooling of water must be corrected.
 - (c) Erosion controls (slopes/vegetation) must be monitored and maintained in accordance with the facility's approved post-closure care plan.
- (iv) Protect and maintain surveyed benchmarks used in complying with the surveying and recordkeeping requirements of OAC Rule 3745-57-09.
- (v) General Facility Care
- (a) Grass cutting must be performed as needed, but at least annually. Damaged or dead vegetation must be removed and replaced with equivalent vegetation. No trees, shrubs, or other deep rooted plants must be allowed to grow on closed waste units. Areas damaged by erosion must be repaired and re-vegetated.

The Permittee must remove trees, shrubs or other deep-rooted plants in the fall quarter of each year. The Permittee must notify an Ohio EPA on-site inspector verbally, by letter, or by telephone at least 48 hours prior to beginning the vegetation removal efforts. On-site staff at their discretion, can exempt the Permittee from the 48 hour notification requirement. Any damage to the closed waste unit cover system caused by the growth or removal of trees, shrubs or other deep-rooted plants must be promptly repaired.

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- (b) Buildings located on the site must be maintained in good repair. Compliance with all permits, fire codes, etc., must be maintained.
 - (c) All existing roadways must be maintained in good repair. No new roadways shall be constructed over any final cover areas unless approved by Ohio EPA. The roadways must be maintained as necessary during inclement weather to provide access to all areas.
 - (d) All existing drainage ditches must be maintained and kept free of debris. No ditches must be constructed on closed hazardous waste areas. Drainage ditches must not be altered from the facility's approved pattern unless approved by Ohio EPA.
 - (e) All utilities must be maintained and operational. Electrically operated security and monitoring devices must be provided with internal back-up power to allow operation in the event of a main power outage. No underground utility construction must occur in areas used previously for hazardous waste disposal.
- (e) The Permittee must comply with all security requirements, as specified in the permit application and as follows:
- (i) All fencing must be maintained in a manner that prevents unknowing entrance to the facility. Fencing must be inspected monthly and repaired or replaced as necessary.
 - (ii) All warning signs must be maintained or replaced to meet the readability requirements described in the OAC Rule 3745-54-14(C). Signs must be inspected monthly.
 - (iii) All site entrance/exit gates must be maintained in operable condition and securely locked when not monitored by a gate keeper. Gate locks must be inspected weekly.
 - (iv) The Permittee must inspect the ground water monitoring wells on a weekly basis. All ground water monitoring wells

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must have locking caps and remain locked except when being sampled.

- (v) The Permittee must inspect the facility on a weekly basis for signs of unauthorized entry. If during the post-closure care period there are any signs of unauthorized entry, the Permittee must immediately notify the Director.
- (f) The Permittee must not allow any use of the units designated in Permit Condition I.1 which will disturb the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems during the post-closure care period.
- (g) The Permittee must implement the post-closure plan. All post-closure care activities must be conducted in accordance with the provisions of the post-closure plan.

I.3 Inspections
OAC Rule 3745-55-18(B)

The Permittee must inspect the components, structures, and equipment at the facility in accordance with the inspection schedule found in the post-closure plan.

I.4 Notices and Certification
OAC Rules 3745-55-19 and 3745-55-20

- (a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the Permittee must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the director, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the Permittee must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.
- (b) Within 60 days after certification of closure of the first and the last hazardous waste disposal unit, the Permittee must:

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- (i) Record, in accordance with Ohio law, a notation on the deed to the facility property that will in perpetuity notify any potential purchaser of the property that:
- (a) The land has been used to manage hazardous wastes;
 - (b) Its use is restricted under OAC Rules 3745-55-10 thru 3745-55-20; and
 - (c) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility have been filed with the director and the local zoning authority, or the authority with jurisdiction over local land use.
- (ii) Submit a certification to the director, signed by the Permittee, that he has recorded the notation specified in Permit Condition 1.4(b)(i), including a copy of the document in which the notation has been placed.
- (c) If the Permittee wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, then he must request a modification to this permit in accordance with the applicable requirements in OAC Chapter 3745-50. The Permittee must demonstrate that the removal of hazardous wastes will satisfy the criteria of OAC Rule 3745-55-17(c).

By removing hazardous waste, the Permittee may become a generator of hazardous waste and must manage it in accordance with all applicable hazardous waste requirements.

If the Permittee is granted a permit modification or otherwise granted approval to conduct such removal activities, the Permittee may request that the director approve either:

- (i) The removal of the notation on the deed to the facility property or other instrument normally examined during title search or,

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- (ii) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.
 - (d) No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee must submit to the director, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the Permittee and an independent, qualified, registered professional engineer. Documentation supporting the independent, qualified, registered professional engineer's certification must be furnished to the director upon request until the director releases the Permittee from the financial assurance requirements for post-closure care under OAC Rule 3745-55-45.

1.5 Financial Assurance
OAC Rule 3745-55-45

- (a) The Permittee must maintain financial assurance during the post-closure period and comply with all applicable requirements of OAC Rules 3745-55-40 thru 3745-55-51.
- (b) The Permittee must demonstrate to the Director that the value of the financial assurance mechanism exceeds the remaining cost of post-closure care, in order for the Director to approve a release of funds.
- (c) The Permittee must submit itemized bills to the Director when requesting reimbursement for post-closure care.

1.6 Post-closure Permit Modifications
OAC Rule 3745-55-18(D)

The Permittee must request a permit modification to authorize a change in the approved post-closure plan. This request must be in accordance with applicable requirements of OAC Rules 3745-50-40 through 3745-50-62, and must include a copy of the proposed amended post-closure plan for approval by the Director. The Permittee must request a permit modification whenever changes in operating plans or facility design affect the approved post-closure plan, there is a change in the expected year of

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final closure, or other events occur during the active life of the facility that affect the approved post-closure plan. The Permittee must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan.

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MODULE J – CELL M LANDFILL

J. MODULE HIGHLIGHTS

The Permittee maintains and operates one active landfill known as Cell M and shown on Drawing PRMO-T04 in Volume 8 of the permit application. The scope of this permit module involves regulatory requirements for Cell M. Cell M, located south of York Street, was excavated and developed in a total of 3 phases. Cell M is approximately 25 acres at ground surface and extends approximately 45 feet below the original ground surface and is permitted for a maximum height of 106 feet (700 msl) above the ground surface. Cell M was constructed with a multi-component bottom liner system that consists of a minimum of 9 feet of recompacted, engineered clay and multiple synthetic liners which is discussed in more detail below. The components of the liner and leachate collection systems are described in the Construction Quality Assurance report for Cell M, Phases 1, 2 and 3 Below Grade Liner Construction. As-built details of Cell M excavation and the secondary clay liner are provided within the Cell M, Phases 1, 2 and 3 As-Built Drawings. The total capacity for Cell M is approximately 3.194 million cubic yards.

The bottom of Cell M was designed and constructed with a double liner system that includes the following components (listed from bottom to top):

- A secondary composite liner consisting of a minimum of 9 feet (and a maximum of 21 feet) of recompacted clay layer covered by a 60-mil High Density Polyethylene (HDPE) geomembrane liner.
- A leak detection and collection system above the secondary liner consisting of a geotextile covering a 12-inch aggregate drainage layer covering another geotextile and a HDPE geonet.
- A primary composite liner consisting of 2 feet of recompacted clay support layer covered by an 80-mil HDPE geomembrane liner.
- A leachate collection system (LCS) above the primary liner consisting of a geotextile, a 12-inch aggregate drainage layer, another geotextile and an HDPE geonet.

The internal sideslopes of Cell M were designed and constructed with a double liner system that includes the following:

- A secondary liner consisting of a minimum of 6.5 feet of recompacted clay

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layer covered by a 60-mil HDPE geomembrane liner.

- A leak detection and collection system above the secondary liner consisting of a geonet.
- A primary liner consisting of an 80-mil HDPE geomembrane liner.
- A LCS above the primary liner consisting of a geotextile over a HDPE geomembrane geonet.

Liquids collected in the Cell M liner system drain to collection sumps. Liquids are pumped from the sumps through sideslope riser pipes and transported to the Leachate Storage Tank Building by tanker truck or a double walled force main pipe.

Drawing numbers PRMO-L06, L07, L08, L10, and L13 in the permit application provide details associated with the Cell M liner, final cover (or cap) design, and leachate tanker truck loading areas.

Site Staging Area O is located within the active area(s) of Cell M. Area O has a total staging capacity of 1,200 cubic yards. Also, some treatment processes (e.g., solidification, stabilization) could occur within the landfill as described in Section D of the permit application.

The units located north of York Street, Cells F, G, H, and I, are closed and currently undergoing post closure care subject to the terms and conditions found in Module I of this permit. These cells are also shown on Drawing PRMO-T04 in Volume 8 of the permit application.

J.1 Landfill Waste Disposal Limitations

- (a) Subject to the conditions of this permit, the Permittee must dispose of only the hazardous wastes identified in Part A of the permit application and such other wastes as authorized by the Ohio hazardous waste rules or approved by Ohio EPA.
- (b) The Permittee must adhere to the Waste Product Review (WPR) approval process described in Section C of the permit application. The Permittee must not accept waste that has not received approval by Ohio EPA pursuant to the WPR process.
- (c) Placement of wastes in Cell M must be no less than 100 feet from the respective center lines of York Street and Otter Creek Road, 70 feet

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from the facility boundary, and 40 feet from the City of Toledo's water lines.

- (d) The following wastes are prohibited from disposal in landfill cells:
- (i) any wastes containing free liquids as determined in accordance with OAC Rule 3745-57-14, except lab packs;
 - (ii) water reactive or pyrophoric wastes, except as specified in OAC Rule 3745-57-12;
 - (iii) Class 1 explosives, as defined in 49 CFR 173.50(b)(1) and (2);
 - (iv) shock sensitive wastes;
 - (v) polychlorinated biphenyls (PCBs) regulated by the Toxic Substances Control Act (TSCA) (greater than or equal to 50 ppm), except waste that may be disposed in a RCRA facility in accordance with 40 CFR 761.61 that is also;
 - (a) a mixed RCRA-TSCA waste that complies with applicable Land Disposal Restriction (LDR) standards in OAC Rules 3745-270-48 and 3745-270-49.
 - (vi) radioactive wastes regulated by the Nuclear Regulatory Commission;
 - (vii) infectious wastes;
 - (viii) any waste in gaseous form;
 - (ix) any waste that under standard temperature and pressure, is capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard, as specified in OAC Rules 3745-51-21(B) and 3745-57-12(A);
 - (x) any lab pack container that is found either to be incorrectly packaged, incorrectly sealed, leaking, or which does not otherwise meet the requirements specified in OAC Rule 3745-57-16;
 - (xi) any ignitable, reactive, or incompatible wastes unless those wastes are containerized and physically separated by inert material to protect them from conditions that may cause them to ignite or react; and,

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- (xii) wastes that will, at the concentration accepted:
 - (a) adversely affect the permeability of the clay liner(s);
 - (b) produce leachate that is incompatible with the synthetic liner(s) and leachate collection system piping; and,
 - (c) generate gases that adversely affect the permeability of the clay cap.
- (xiii) any wastes exhibiting a flashpoint below 100 degrees Fahrenheit as detailed in Sections C-2(f)(11) through C-2(f)(13) of the permit application.
- (xiv) any waste that will not achieve after 4 weeks of placement and maintain thereafter a minimum shear strength of 2000 pounds per square foot. Compliance with this permit condition is to be determined in accordance with condition J.2(s) of this permit.
- (e) The Permittee must comply with all Landfill Disposal Restrictions as specified in OAC Chapter 3745-270.

J.2 Landfill Design and Installation
OAC Rule 3745-57-03

- (a) The Permittee must construct Cell M in accordance with the plans and drawings contained in Section D of the permit application, terms and conditions of this permit, and the Ohio hazardous waste rules. Any design or construction plans for Cell M must be approved by Ohio EPA.
- (b) The earthfills, where used, must consist of a well-graded soil mixture. The material must be free of debris, plant materials (except when earthfill is being used for vegetative cover material), rock fragments greater than six inches in maximum dimension, large clods, frozen material, or other foreign materials. In-situ density tests are required to verify the desired degree of compaction. Any construction utilizing earthfill must be in accordance with Appendix D.6 of the permit application. The material must be brought to the proper water content.

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- (c) The Permittee must perform leak testing and certification of the entire length of each seam in each synthetic liner, including caps, sump welds, and connections, by vacuum box, unless an equivalent or more rigorous test method is used.
 - (d) For each day of synthetic liner seaming operations, the Permittee must subject at least one of the three trial seam samples to tensiometer testing for tensile strength and peel strength prior to making field seams during that day. A random field seam sample must also be subject to said testing each day of the liner seaming operation.
 - (e) The Permittee must require the liner installer to cap or otherwise repair synthetic liner seams for which representative samples failed destructive shear and/or peel tests.
 - (f) The outer perimeter of all liners and liner systems must be well protected and well marked through all stages of landfill cell construction, partial closure, and final closure.
 - (g) The cap for Cell M must consist of a three foot thick uppermost soil layer composed of a six inch layer of soil that supports vegetation and a 30-inch layer of cover soil, underlain consecutively by a geotextile fabric, a synthetic drainage net, a 40-mil HDPE membrane liner, a two foot layer of recompacted clay, and geotextile fabric at the top between the perimeter clay dikes. After the placement of the two-foot recompacted clay, and prior to the placement of the remainder of the cap, the Permittee must submit certification to Ohio EPA that the recompacted clay liner has not been exposed to freeze/thaw conditions and/or any other weather conditions which have impaired its desired permeability.
 - (h) In the event of the failure of any component of the landfill system or construction techniques to perform as required by the approved design plans, Ohio hazardous waste rules, and the terms and conditions of this permit, the Permittee must notify Ohio EPA, in writing, as soon as practicable or within seven days, whichever is less.
 - (i) During construction of the phases of Cell M, the Permittee excavated to the top of the lower till. All materials located at the contact of the upper and lower tills, including sands, were completely removed over the entire base of Cell M.

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- (j) RESERVED
- (k) The lowest point of the three-foot recompacted clay secondary liner, including any portion of the secondary clay liner below the leachate collection sumps, must be maintained no less than six feet above the top of the lower till. This installation must ensure a minimum of nine feet of recompacted clay at the base of Cell M when measured from the top of the lower till.
- (l) All below grade sideslopes of Cell M must have a minimum of 3.5 feet of recompacted clay installed between the in-situ material and the outermost portion of the three foot recompacted clay secondary liner, measured perpendicularly from the sidewall. This installation must ensure a minimum of 6.5 feet of recompacted clay on all Cell M side slopes, measured perpendicularly from the sidewall. The constructed sideslopes must extend from the ground surface to the top of the lower till and must be effectively attached or otherwise "keyed" into both the clay liner base and the lower till. In the areas of Phase 3 where a 10% slope area has been designated, the side slope must extend to the 10% slope area and be effectively attached or otherwise "keyed" into the 10% slope area.
- (m) The 10% slope area of Phase 3 must have a minimum of 3.5 feet of recompacted clay installed between the in-situ materials and the outermost portion of the three-foot recompacted clay secondary liner, measured perpendicularly from the slope. This installation must ensure a minimum of 6.5 feet of recompacted clay for the 10% slope area, measured perpendicularly from the slope. The 10% slope area must also include a 12 inch granular layer and a geonet for the primary leachate collection system and structurally enhanced tri-planar geonet installed as a secondary collection system.
- (n) The final cover (cap) and the bottom clay liners for Cell M must have permeabilities no greater than that of the in-situ upper till (represented as 3.6×10^{-8} cm/sec as determined using the slug tests in upper till and utilizing the Bouwer and Rice method).
- (o) The above-grade design and construction of Cell M must be as follows:
- (i) the maximum above-grade side slope must not exceed $33\frac{1}{3}\%$;

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- (ii) the slope of the final cover top surface must range from 3% to 5%; and,
 - (iii) the maximum above-grade elevation must not exceed 106 feet (i.e., 700 feet above mean sea level) including the final cap thickness.
 - (iv) all above grade side slopes must be designed to achieve a minimum deep-seated static slope stability factor of safety of 1.5 and a corresponding seismic factor of safety of 1.0.
- (p) The landfill must maintain both a lead detection/collection system and primary leachate collection and removal system in accordance with the plans contained in the permit application, Ohio hazardous waste rules, and the terms and conditions of this permit.
- (q) For each phase of landfill construction, the Permittee must have an independent, qualified, registered professional engineer monitor and examine the construction and certify, in accordance with OAC Rule 3745-50-42(D)(1), that construction is in accordance with the document, statements, designs, and plans contained in the permit application and the terms and conditions of this permit. Said engineer must be selected and paid for the Permittee and approved by Ohio EPA.
- (r) Within 30 days of the effective date of this permit and prior to beginning construction activities related to the vertical expansion modification, the Permittee shall submit revised plan drawings, cross sections and related details in accordance with the compound slope specifications as outlined in their February 10, 2005 revised slope stability calculations. The revised drawings and design specification must be consistent with the slope factor of safety requirements specified in Permit Condition J.2(o)(iv) above. Within this same period the Permittee must also submit revised application pages for all other sections of the vertical expansion modification (received by Ohio EPA on January 22, 2004) that are affected by the February 10, 2005 submission (e.g., settlement calculations, surface drainage, etc.).

The information required by this condition must be submitted as a Class 1 permit modification requiring director's approval (Class 1A) in accordance with OAC Rule 3745-50-51.

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- (s) To ensure that the global slope stability factor for static condition remains above 1.5, the minimum shear strength of the waste material disposed in Cell M, after curing, must not be less than 2000 psf (pounds per square foot). In order to verify that the required minimal waste in-situ shear strength of 2000 psf is being maintained, the Permittee shall conduct the following test at the regular intervals as specified below and beginning within two (2) weeks from the effective date of this permit:
- (i) Once every calendar month, the Permittee shall obtain at least one undisturbed sample of waste material following its disposal and compaction (if any). The Permittee must notify Ohio EPA on-site staff at least 3 days prior to the sampling event. The sample(s), which need to be representative of common waste placement practices, shall be taken from within the placed lift, following applicable ASTM D1587 "Practice for Thin-walled Tube Sampling of Soils for Geotechnical Purposes" requirements. The sample must be transported following standards outlined in ASTM D 4220 "Practices for Preserving and Transporting Soil Samples." In addition, the sample shall be left to cure for a minimum of one (1) week, but not more than four (4) weeks. The sample shall be sent to an independent (not associated with the Permittee) laboratory to undergo an unconfined compressive strength test in strict accordance with the testing procedure standard ASTM D 2166-00. The shear strength shall be reported by the laboratory in accordance with the paragraph 3.2.2 of this test as $\frac{1}{2}$ the compressive stress at failure. In lieu of off-site testing, Permittee may conduct the unconfined compressive strength test on site in strict accordance with the testing procedure standard ASTM D 2166-00 using qualified personnel.

The name(s) of person(s) who performed sampling, location (slab XYZ coordinates), sampling depth, equipment used, date of sampling, sampled waste designation, complete sample description (a photograph, diameter, recovered length, discontinuities, visual observations, any encountered problems, cure time, etc.) and laboratory test results must be all recorded in a dedicated document titled "Cell M – In-situ Waste Shear Strength Testing Report." This report must be submitted to the Ohio EPA every 6 months from the effective

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date of this permit, within 15 days from the last day of the respective 6 month sampling period.

- (ii) In case that the reported shear strength is less than 2000 psf, the Permittee must, within 60 days of the original sampling date, re-sample the area by taking a minimum of three (3) core samples within the same slab. (As an alternative, the Permittee may take these additional samples at the same time when the required monthly sample is taken, and keep in case they are needed.) If ASTM D 2166-00 tests show that the median shear strength of the additional samples is equal or above 2000 psf, the Permittee can continue with operations in this area. If the median shear strength of the additional samples is below 2000 psf, the Permittee must discontinue waste disposal in this area and submit within 90 days from the original sample date a plan to Ohio EPA detailing the measures to be taken in order to return to compliance with the 2000 psf shear strength requirement.
- (iii) If twelve (12) consecutive tests show that the 2000 psf shear strength requirement has been met at all times, the testing frequency may be lowered to one (1) test every two (2) months. In case of any subsequent failure requiring submittal of a plan of action per condition J.2.(s)(ii), the Permittee shall return to one (1) test per month until the results of twelve consecutive tests show that 2000 psf shear strength standard has been met; thereafter, a reduced frequency of testing as indicated above may be implemented.
- (iv) Within 90 days of permit issuance, the Permittee must submit a Class 1 permit modification, in accordance with OAC Rule 3745-50-51, to revise applicable portions of the application to be consistent with the requirements outlined in this condition.

J.3. Containment and Detection of Releases

- (a) The Permittee must monitor, operate, and maintain the primary leachate collection system (PLCS) and secondary leachate collection system (SLCS), as applicable, of Cell M.
 - (i) The level of leachate accumulation on the primary synthetic liner, excluding the sumps, must not exceed the height of one foot, as required by OAC Rule 3745-57-30(A)(2), except for temporary

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excursions in Cell M when leachate infiltration rates temporarily exceed the capability of the PLCS pumps. Compliance will be evaluated in accordance with Permit Condition J.7(c).

- (ii) To minimize the potential for excursions, the Permittee must activate the PLCS pumps whenever the leachate levels on the liner exceed 10 inches above the primary liner as defined in Appendix D.5 for each sub-cell in Cell M.
 - (iii) The Permittee must return to a leachate level of less than 12 inches as defined in Appendix D.5 for each sub-cell in Cell M after a temporary excursion by operating the PLCS pumps in the affected landfill collection sumps 24 hours per day, 7 days per week.
- (b) The Permittee must monitor the quality of leachate pumped from the PLCS, where applicable, of each cell in accordance with Permit Condition J.7(e).
 - (c) The Permittee must monitor the SLCS for the presence of liquid. If commercially available level monitoring equipment (e.g., transducers) cannot be inserted into specific sub-cell sumps because of space constraints within a SLCS riser pipe, then the Permittee must monitor for the presence of liquid on a semi-weekly (Sunday through Saturday) basis by activation of the sub-cell pump until pump cavitation occurs or liquid flow ceases. If activation of the pump produces no liquids, then the Permittee will verify that the pump is operable before concluding that no liquid is present in the sub-cell sump. If the pump is found to be inoperable, then the Permittee must repair or replace it as appropriate to restore pumping capability.
 - (d) The Permittee must monitor the PLCS and SLCS of Cell M for the production of liquid. When a sub-cell that is not capped or closed that normally produces liquid every week produces no liquid for two sequential calendar weeks, the Permittee will, unless liquid production has resumed, verify that the pump and its control system are operable before concluding that no liquid is present in the sub-cell sump. If the pump or its control system is found to be inoperable, then the Permittee must repair or replace it as appropriate to restore pumping capability.

J.4 Operating Requirements

The Permittee must conduct landfill operations according to the approved practices and procedures set forth in Section D of the permit application and the terms and conditions of this permit including, but not limited to, the following:

- (a) trucks carrying wastes into a cell must be swept or brushed to remove all visible particles of waste from the tires and exterior of the bed prior to leaving the facility. Truck tires and frame that come into contact with hazardous waste must be decontaminated prior to leaving the facility;

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- (b) unloading of wastes into Cell M must be halted and mitigative steps must commence to minimize wind dispersal of waste whenever wind speed is high enough to blow wastes out of the cell;
- (c) the Permittee is authorized to conduct treatment within Cell M in accordance with the procedures outlined in Section D-4 and D-5 of the permit application. Authorized treatment of waste within the cell will be prohibited when there is a potential to generate fugitive dusts that could migrate beyond the landfill's perimeter; and,
- (d) the Permittee must continue to monitor the temperature of incoming bulk waste loads. If such temperature is less than 20 degrees Fahrenheit below the waste's flashpoint, the load must either be rejected or not disposed in the landfill until the temperature reaches the desired range.
- (e) Wastes containing PCBs accepted in accordance with Permit Condition J.1(d)(v)(a) must be handled in the following manner:
 - (i) Treated by the Permittee in the Stabilization /Containment Building to meet LDR standards in OAC 3745-270-49 prior to disposal in the landfill, and;
 - (i) Following placement of treated waste in the landfill, the Permittee must cover the exposed surface of the waste with a daily cover material by the end of the working day. Suitable cover materials include soil, synthetic materials such as tarps, or spray-applied cover systems in general use for landfill systems.

J.5 Inspection Schedules and Procedures
OAC Rule 3745-57-05

- (a) The Permittee must inspect Cell M in accordance with the Inspection Schedule found in Section F of the permit application and must complete the items in Permit Conditions J.5(b) and J.5(c) as part of those inspections:
- (b) Inspections during construction of landfill components, including but not limited to subsoil foundations, clay and synthetic cover and liners, leachate collection and leachate detection systems must be conducted in accordance with OAC Rules 3745-54-15, 3745-54-31, 3745-57-01, quality assurance and the inspection plans contained in the permit application, and the terms and conditions of this permit.
- (c) The Permittee must inspect the following components of the landfill weekly and after storm events (2 inches or more of rain in 8 hours):
 - (i) deterioration, malfunctions, or improper operation of run-on and run-off control systems;
 - (ii) proper functioning of wind dispersal control system; and

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- (iii) the presence of leachate in and proper functioning of leachate collection and removal systems, where present.
- (d) The Permittee must document compliance with Permit Condition J.5 in the operating record of the facility.
- (e) The Permittee must record the amount of liquids removed from each leak detection sump at least once a week during the active life and closure period of the landfill. After final cover (cap), the amount of liquids removed from leak detection sumps must be recorded at least monthly. Additional conditions of reporting requirements listed in OAC 3745-57-05 (C)(2) are incorporated by reference.
- (f) The Permittee must perform the transducer maintenance check procedures described in Appendix D.19 for the leachate collection system in Cell M.

J.6 Response to Releases
OAC Rule 3745-57-03

- (a) The Permittee must follow the Response Action Plan (RAP) found in Appendix D.32 of the permit application, which contains procedures for detecting, mitigating, notifying, and reporting leakage into the leak detection system present between the synthetic liners.
- (b) Upon the discovery of leakage or an imminent hazard of leakage, the Permittee must notify the director in accordance with the RAP and must expeditiously repair the damage to the liner system. Upon discovery of a tear or puncture in the liner system, the Permittee must notify the Ohio EPA on-site inspector and must expeditiously repair the damage. Within seven days after the completion of the repairs, the Permittee must complete and file a "Liner System Repair Report," and "Certification of Liner System Report," into the facility's operating record, both of which must be certified in accordance with OAC Rule 3745-50-42(D)(1).
- (c) If the cell or sub-cell is active and the Permittee cannot implement the RAP, then the Permittee must cease waste disposal activity in this cell or sub cell.

J.7 Recordkeeping and Reporting
OAC Rule 3745-57-09

- (a) The Permittee must maintain the following items in the facility's operating record in accordance with OAC Rule 3745-57-09:
 - (i) on a map, the location and dimensions, including depth, of each landfill cell with respect to permanently surveyed benchmarks;
 - (ii) the contents of each landfill area and each waste's approximate location within the landfill; and,

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- (iii) the waste's identification cross referenced to the manifest document number.
- (b) For each operating day, the Permittee must record in the facility's operating record:
 - (i) measurements of wind direction;
 - (ii) average and maximum wind speed; and,
 - (iii) precipitation accumulated over the previous 24 hour period.
- (c) The Permittee must record leachate level readings in the Cell M subcells at the beginning of each working day and after completion of operator-assisted leachate storage or shipment activities at the end of each working day. The start time and end time of each working day is documented on inspection form MF-18b. These leachate level readings will be used to evaluate compliance with Permit Condition J.3(a)(i) and OAC Rule 3745-57-03(A)(2).
 - (i) In evaluating compliance with Permit Conditions J.3(a)(i), (ii) and (iii), Ohio EPA will consider factors such as power failures, equipment failures, maintenance activities, the safety of personnel or the environment, declared Level 2 or 3 snow emergencies affecting availability of transportation, or the consequences of other natural or manmade disasters.
- (d) The Permittee must report to Ohio EPA on a monthly basis, the following information related to the primary and secondary leachate collection and removal systems of Cell M:
 - (i) daily on-site rainfall measurements;
 - (ii) as applicable, any daily operational problems associated with the systems (e.g., pumps inoperable, transducers inoperable, etc.);
 - (iii) daily leachate level readings for each sub-cell in Cell M recorded in accordance with Permit Condition J.7(c); and,
 - (iv) daily volumes of leachate removed from the systems.
- (e) The Permittee must provide to Ohio EPA analytical results of leachate from each sub-cell annually. Parameters to be tested are listed in Table K-1 (Constituents with Specified Comparison Standards), K-2 (Constituents with Comparison Standards) and K-3 (Ground Water Quality Parameters) of this permit.

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- (i) The Permittee must annually test leachate from each sub-cell used to dispose of waste containing PCBs in accordance with Permit Condition J.1(d)(v)(a) for total polychlorinated biphenyls (PCBs).

J.8 Closure and Post-Closure Care

OAC Rules 3745-57-10, 3745-55-17, 3745-55-19, and 3745-55-20

- (a) At closure of the landfill, the Permittee must follow the procedures in the closure plan in Section I of the permit application.
- (b) After final closure, the Permittee must comply with all post-closure requirements contained in OAC Rules 3745-55-17, 3745-55-20, and Section I of the permit application; and, must provide maps, charts, and other required records to the director and the local land authorities as required by OAC Rule 3745-55-19(B)(1)(c).

J.9 Special Provisions for Ignitable or Reactive Wastes

OAC Rule 3745-57-12

The Permittee must not place ignitable or reactive waste in the landfill, unless the procedures specified in the permit application are followed, the waste and landfill meet all applicable requirements of OAC Chapter 3745-270, or compliance with OAC Rule 3745-54-17(B) is achieved. The Permittee must document compliance with this condition and place it in the operating record.

J.10 Special Provisions for Incompatible Wastes

OAC Rule 3745-57-13

The Permittee must not place incompatible wastes, or incompatible wastes and materials, in the same landfill unless the procedures specified in the permit application and OAC Rule 3745-54-17(B) are followed. The Permittee must document compliance with this condition and place that documentation into the operating record.

J.11 Special Requirements for Containers

OAC Rule 3745-57-15

The Permittee must meet the requirements of OAC Rule 3745-57-15, Section D of the permit application, and the following requirements prior to the placement of containers of hazardous waste in the landfill:

- (a) The Permittee must not dispose of containers in the landfill that are less than 90 percent full and hold free liquids unless the following conditions are present:

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- (i) the container is very small, such as an ampule;
 - (ii) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or,
 - (iii) the container is a lab pack as defined in OAC Rule 3745-57-16.
- (b) For containers less than 90 percent full, the Permittee must either crush the container, or add other material so that the container is at least 90 percent full prior to landfill disposal.
- (c) The Permittee must cover and enclose containers placed in the landfill with compatible bulk wastes, stabilized material, or intermediate cover. This material must be placed to fill void spaces between the containers.

**J.12 Special Requirements for Disposal of Small Containers (Lab Packs)
OAC Rule 3745-57-16**

The Permittee must meet the requirements of OAC Rule 3745-57-16 and Section D of the permit application prior to the placement of small containers of hazardous waste in overpacked drums (lab packs) in a landfill.

**J.13 Special Requirements for F020, F021, F022, F023, F026 and F027
OAC Rule 3745-57-17**

EPA hazardous waste numbers F020, F021, F022, F023, F026, and F027 must not be placed in a landfill unless the Permittee operates the landfill in accordance with a management plan for these wastes that is approved by the director pursuant to the standards set forth in OAC Rule 3745-57-18, and in accordance with all other applicable requirements of OAC Chapter 3745-57.

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MODULE K – INTEGRATED GROUND WATER MONITORING PROGRAM

K. MODULE HIGHLIGHTS

The Permittee maintains a network of ground water monitoring wells around the site for the purpose of detecting releases of hazardous constituents from the active (Cell M) and closed disposal units. The monitoring network wells are screened at various depths – from the upper till zone down to bedrock and at various zones in between. The ground water monitoring network does not monitor RCRA units and pre-RCRA areas of concern (AOCs) separately. Generally, with the exception of the Millard Road Cell and Cell M, the monitoring network does not include wells between each RCRA unit and AOC. Due to the proximity of these units/AOCs to one another, the facility is monitored as a whole with a network of wells circumscribing all the units and AOCs.

During the October 1997 sampling event, laboratory analysis confirmed the presence of hazardous constituents in four wells located along the northern boundary of the facility. Although none of these affected wells monitor the primary source of ground water in the area (the bedrock aquifer), the Permittee's permit requires the facility to move into a more advanced stage of ground water protection when constituent detection has been confirmed.

This permit module institutes an Integrated Ground Water Monitoring Program (IGWMP). The IGWMP is designed to coordinate the requirements of three programs: 1) on-going detection monitoring for detection of new contaminant releases; 2) compliance monitoring for detection of concentrations exceeding ground water protection standards; and, 3) RCRA Corrective Action requirements. Specific RCRA Corrective Action requirements are found in Module E of this permit.

The IGWMP applies to the entire facility, including all regulated and corrective action units listed in Module E. Under an integrated program and in accordance with OAC Rule 3745-54-101, the well system, sampling scheme (including parameters monitored, appropriate sampling and analytical methods, and frequency of monitoring), evaluation procedures, record keeping, reporting and any necessary corrective action are coordinated across the site.

The Permittee's "S" wells monitor the contact between the lacustrine clay and the shallow (a.k.a. "upper") till, the "D" wells monitor the contact between the shallow till and the deep till (a.k.a "lower till" or "hardpan") and sand lenses at that

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contact. Due to a ruling May 8, 1991, by the Hazardous Waste Facility Board, these shallow zones are monitored by "S" and "D" wells as an early leak detection system. The Permittee's "R" wells monitor the bedrock, which is considered to be the uppermost aquifer. The data quality requirements are the same regardless of the geologic unit being monitored, such that each well's samples are collected, analyzed and validated as if the well were at the compliance point. Contamination detected in each zone is evaluated in accordance with the exposures associated with each zone defined in the ACL model in Appendix E.11 of the approved Part B permit application.

Wells that do not indicate a potential or known release from the facility are considered to be "unaffected" and are monitored essentially as if they are in detection monitoring according to OAC Rule 3745-54-98. Wells with elevated constituent concentrations, defined by Permit Condition K.2(b)(i) and (ii), K.6(e)(iii) and K.6(f) and (g), are considered to be "affected" and are monitored essentially as if they are in compliance monitoring according to OAC Rule 3745-54-99. A more detailed description of the relationship between these two types of wells can be found in Section E of the approved Part B permit application.

Each well is monitored for at least the constituents listed in Tables K-1, K-2 and K-3 in Permit Condition K.2(b). In addition, the following monitoring wells are monitored for the following additional constituents:

- Affected wells are monitored annually for constituents in the Appendix to OAC Rule 3745-54-98. Affected wells are defined in the module highlights and Permit Condition K.6(d).
- Affected wells, previously-affected wells and adjacent wells (wells in the same horizon and wells in the same cluster monitoring the zone above and/or below the affected well) of either an affected or previously-affected well are monitored semi-annually for elevated constituents or previously-elevated constituents. Elevated constituents are defined in Permit Conditions K.2(b), K.6(c), K.6(D), K.6(e)(iii) and K.6(g).

Data are compared to comparison standards defined in Permit Condition K.2(b)(i) and (ii) and K.6(e)(iii) and subject to confirmation sampling in Permit Conditions K.6(c) and K.6(e)(ii), as a means to determine whether ground water quality has been adversely impacted. In addition to the constituents listed in Tables K-1 and K-2, affected wells and adjacent wells (vertical and horizontal) are also monitored

for any other elevated constituents identified as part of Appendix to OAC Rule 3745-54-98 sampling and Permit Conditions K.6(e), (f) and (g).

The data for elevated constituents are evaluated using the Permittee's ACL Model. The model uses standard risk assessment practices that are consistent with site-wide ground water risk assessment requirements, which will be necessary as part of corrective action under OAC Rule 3745-54-101. The details of the ACL model are presented in Appendix E.11 of the approved Part B permit application.

K.1. Well Location, Installation and Construction
OAC Rules 3745-54-97 through 3745-54-101

The Permittee must maintain a ground water monitoring system to comply with the requirements specified below:

- (a) The Permittee must maintain ground water monitoring wells in conformance with the list in Attachment K-1 at the locations shown on the map in Attachment K-2 and wells installed in accordance with the following:
 - (i) Reserved.
 - (ii) The ground water monitoring system must yield samples in upgradient wells that represent the quality of the background ground water unaffected by leakage from the facility; and, in downgradient wells, yield samples that represent the quality of water passing the point of compliance. The number and location of monitoring wells must be sufficient to identify and define all logical release pathways from the facility based on site-specific hydrogeologic characterization.
- (b) The Permittee must monitor and maintain the monitoring wells identified in Permit Conditions K.1(a) in accordance with Appendix E.9 of the approved Part B permit application, and with Permit Condition 1.2(e)(iv), including replacement of wells, if needed.
- (c) Abandonment and replacement of an existing network well that has been damaged or rendered inoperable, without change to location, design or depth of the well, will require a Class 1 permit modification in accordance

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with OAC Rule 3745-50-51. Addition of a monitoring location or removal of a monitoring location from the network will require a Class 2 permit modification in accordance with OAC Rule 3745-50-51. Each of these types of changes must be accompanied by a revised map as provided in Attachment K-2 of the permit terms and conditions. Within 30 days from the date a well is added to the ground water monitoring well network, the Permittee must submit to the director and Ohio EPA, Northwest District Office, all well construction details.

- (d) All wells replaced or removed in accordance with Permit Condition K.1.(c) should be plugged and abandoned in accordance with the *State of Ohio Technical Guidance for Sealing Unused Wells* (State Coordinating Committee on Ground Water, 1996) and *Ohio EPA's Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring* (1995). Well plugging and abandonment methods, and certification must be submitted to the director within thirty (30) days from the date the wells are removed from the monitoring program.
- (e) Whenever any well specified in Permit Condition K.1(a) is replaced for any reason or, if any other well is added to the network (i.e., any well that is not already installed), the Permittee must:
 - (i) Conduct Appendix to OAC Rule 3745-54-98 sampling at that well within one year from the date of installation;
 - (ii) Within one year of the date of installation, collect from that well all ground water samples necessary to develop comparison standards for data from that location for naturally occurring constituents in accordance with Permit Condition K.2(b)(ii)(c);
 - (iii) Whenever any of the wells specified in Permit Condition K.1(a) are replaced, the Permittee must demonstrate to Ohio EPA that the ground water chemistry at the replacement well meets the criteria in Permit Condition K.1(a) prior to submittal of the next semi-annual data report according to Permit Condition K.7 using means appropriate to the reason for replacement. For all replacement wells, the Permittee must perform a statistical comparison of the water quality at the replacement well with that of the original well;

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- (iv) Submit a report to Ohio EPA Northwest District Office detailing the results due to Permit Conditions K.1(e)(i), (ii) and (iii). This report is due along with the semi-annual data report for the event immediately following the end of the first year after the installation of the new well. The schedule for semi-annual reports is found in Permit Condition K.7. The Permittee must enter the Appendix to OAC Rule 3745-54-98 sampling and analysis data generated pursuant to Permit Condition K.1(e)(i) into the operating record as described in Permit Condition K.7;
 - (v) If the comparison of ground water quality pursuant to Permit Condition K.1(e)(iii) shows a statistically significant difference between that of the original well and the replacement well, then the report described in Permit Condition K.1(e)(iv) must include an evaluation as to whether this difference has an effect on the ground water monitoring program, including the assessment of risk for the ground water medium; and,
 - (vi) If any changes are necessary to the ground water monitoring program as a result of a statistically significant difference in ground water quality between a replacement well and the well it replaced, the Permittee must submit a request for permit modification in accordance with Permit Condition K.8.

K.2 Comparison Methods and Ground Water Protection Standard
OAC Rules 3745-54-95 through 3745-54-101

(a) Compliance Point

The Permittee must monitor the wells listed in Attachment K-1 at the locations shown on Attachment K-2 and any other well described in Permit Condition K.1(a) that meet the intent of compliance point wells per OAC Rule 3745-54-95 for at least the constituents specified in Tables K-1, K-2 and K-3.

(b) Monitoring Constituents and Comparison Standards

Constituents specified below must be monitored at the locations specified in Permit Condition K.2(a) to determine if the constituent concentration is elevated due to the past or current operations of the facility. A constituent

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must be considered elevated if its concentration is equal to or greater than the comparison standard in Permit Condition K.2(b)(i) or greater than a comparison standard determined in accordance with Permit Condition K.2(b)(ii) and an alternate source demonstration in accordance with Permit Condition K.6(i) has not been submitted.

(i) Table K-1. Constituents With Specified Comparison Standards

Constituent	Comparison Standard for Unaffected Wells (µg/L)
acetone	10
Benzene	1
chloroform	1
1,1-dichloroethane	1
1,2-dichloroethane	1
1,4-dioxane	50
ethylbenzene	1
methylene chloride	1
methyl ethyl ketone	10
total phenols	5
tetrahydrofuran	2
toluene	1
1,1,1-trichloroethane	1
trichloroethene	1
vinyl chloride	2
total xylenes	1
cadmium (dissolved)	1
chromium (dissolved)	25
dissolved lead	5
cyanide	10

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- (ii) Table K-2. Constituents With Comparison Standards listed in Appendix E.7 of the approved Part B permit application:

Constituent
Barium (dissolved)
Cyanide at R-6

- (iii) For constituents without comparison standards listed in Appendix E.7 of the approved Part B permit application (e.g., new or replacement wells or Appendix to OAC Rule 3745-54-98 constituents where comparison standards are required as a result of a well being identified as affected), comparison standards must be developed in accordance with the following requirements and submitted as a permit modification to Appendix E.7 of the approved Part B permit application.

- (a) The Permittee must evaluate currently available analytical results and determine, based on historical data at the site, regional data, geologic information and other relevant information, whether the constituent concentration at each well has been affected by past or current operations at the facility per Permit Condition K.6(c). The determination and justification supporting the determination must be submitted with the first semi-annual final data.
- (b) In the case that the Permittee finds, in accordance with Permit Condition K.2(b)(iii)(a), that the concentration of a constituent at a well has been affected by past or current operations at the facility or the director does not concur with the Permittee's findings that it is not elevated, then that constituent at that well will be considered elevated until demonstrated, to the director's satisfaction, that it is not elevated due to past or current operations of the facility.

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- (c) In the case that the Permittee finds, in accordance with Permit Condition K.2(b)(iii)(a), that the concentration (first analytical result following the approval of this permit modification) of a constituent at a well has not been affected by past or current operations at the facility, then the Permittee must develop comparison standards using intrawell statistical methods in accordance with OAC Rule 3745-54-97(G), (H) and (I). If there are less than 8 historical data points for background, then the Permittee must collect the necessary background data within the first year following the approval of this permit modification. Background must be updated in accordance with the procedures in Permit Condition K.2(b)(iii)(d) until the background data set consists of at least 16 data points.
- (d) Background for comparison standards in Appendix E.7 and developed in accordance with Permit Condition K.2(b)(iii)(c) and OAC Rule 3745-54-97(G), (H) and (I) may be updated in accordance with the following requirements:
- (i) Background is not updated with less than 4 new data points at any one time.
- (ii) The new background (previous background data plus new background data) must be checked for slowly increasing trends. If a slowly increasing trend is identified, then the background must not be updated unless concurrence from Ohio EPA is received that the Permittee has adequately demonstrated that the increasing trend is not the result of a release from the facility.
- (iii) Background updates must be accumulative and not a moving window, unless a trend is identified in the background data. As required in Permit Condition K.2(b)(iii)(d)(ii), the Permittee must adequately demonstrate that the identified trends are not the result of a release from the facility before the background update would be accepted by Ohio EPA.

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- (iv) When a trend in background data has been identified and it has been adequately demonstrated to not be the result of a release from the facility, then a moving window background should be used. The size of the moving window will be dependent upon the rate of change and the best balance between background size and variance.
 - (v) Background data for wells with established statistical comparison standards and a background size less than 16 must be re-evaluated on a fixed schedule of every four years, beginning in calendar year 2012. Data points available to the Permittee on July 1, 2012 (and on the first day of July every four years thereafter) will be used for recalculation of comparison standard values, provided that four or more new data points are available for the constituent-well combination being monitored as required in K.2(b)(iii)(d)(i). Recalculated statistical comparison standards must be submitted to Ohio EPA in the form of a Permit modification by the last day of the calendar year during which the recalculation is performed, based on the four-year schedule beginning in 2012. The Permittee may elect to recalculate individual statistical comparison standards at any well more frequently than specified herein, provided that the Permittee complies with the requirements of K.2(b)(iii)(d)(i) through K.2(b)(iii)(d)(iv).
- (iv) In addition to the constituents in Tables K-1 and K-2, the Permittee must collect and analyze samples from each well for the parameters listed in Table K-3 below.

Table K-3. Ground Water Quality Parameters

Parameters
pH
specific conductance
temperature
turbidity

Note: The parameters in Table K-3 will be measured in the field in accordance with the Permittee's Standard Operating Procedures for the collection of ground water samples as described in Appendix E.9 of the Part B Permit Application. These parameters will be collected to demonstrate that the collected ground water samples are representative of formation water.

(c) Concentration Limits

In lieu of establishing individual concentration limits for elevated constituents determined in Permit Condition K.2(b)(i), (ii) and (iii), K.6(c), (d), (e)(iii) and (g), per OAC Rule 3745-54-94 for the affected wells and their constituents, the Permittee must apply the ACL Model in accordance with Appendix E-11 of the approved Part B permit application.

(d) Compliance Period

The Permittee must monitor for the constituents identified in Tables K-1, K-2 and K-3 in Permit Condition K.2(b) during the compliance period described in Permit Condition I.1(c).

K.3 Corrective Action Program

OAC Rules 3745-54-98, 3745-54-99, 3745-54-100 and 3745-54-101.

When target risk levels, calculated in accordance with the ACL model in Appendix E-11 of the approved Part B permit application, are exceeded in the wells listed in Permit Condition K.2(a), the Permittee must:

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- (a) In accordance with OAC 3745-54-99(H), notify the director in writing within seven days of this finding.
- (b) Within 90 days of this finding, submit a permit modification to establish and implement a corrective action program that prevents constituents in the ground water from exceeding the risk standards specified in Permit Condition K.6(I)(i) by removing the hazardous waste constituents or by treating them in place. If corrective action pursuant to OAC Rule 3745-54-101 and Permit Module E is already occurring, then any corrective action necessary in response will be coordinated with Permit Module E to the extent practical.
- (c) The Permittee may demonstrate that a source other than the facility caused exceedance of the ACL risk goal or that the exceedance is an artifact caused by an error in sampling, analysis or statistical evaluation or natural variation in the ground water. In making such a demonstration, the Permittee must:
 - (i) Notify the director in writing, within seven (7) days of determining that the facility has reached or exceeded the ACL risk goal of the intent to make a demonstration.
 - (ii) Include in the Final Report in Permit Condition K.7(c)(v) a report which successfully demonstrates that a source other than the facility caused the standard to be exceeded of that the apparent noncompliance with the standards resulted from error in sampling, analysis or evaluation.
 - (iii) Include in the Final Report in Permit Condition K.7(c)(v) an application for a permit modification to make any appropriate changes to the IGWMP at the facility.
 - (iv) The Permittee may make this demonstration in addition to, or in lieu of, submitting a permit modification application to modify the IGWMP for corrective action as required by Permit Condition K.3(b) and OAC Rule 3745-54-99(H)(2). However, the same period of ninety (90) days is required for both a successful "Other Source Demonstration" and the submittal of the permit modification application in accordance with Condition K.3(b). The Permittee is not relieved of the ninety (90) day requirement for a permit

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modification unless the "Other Source Demonstration" is deemed successful by the Agency prior to the ninety (90) day time limit.

- (v) Continue to monitor in accordance with the IGWMP at the facility.

K.4 Sampling and Analysis Procedures
OAC Rule 3745-54-97(D) and (E)

The Permittee must use the following techniques and procedures when obtaining and analyzing samples from the ground water monitoring wells described in Permit Condition K.1:

- (a) Ground water elevations must be measured using the techniques described in Appendix E.9 of the approved Part B permit application.
- (b) Each well must be checked for the present of immiscible layers using an interface probe prior to purging where dissolved concentrations of any site-specific parameter indicates that immiscible layers could be present using the methods described in Appendix E.9 of the approved Part B permit application.
- (c) Sample Collection
 - (i) Samples must be collected and handled (including well evacuation, sample withdrawal, preservation, containerization, filtration and shipment) to ensure representative samples are obtained using the techniques and equipment described in Appendix E.9 of the approved Part B application.
 - (ii) The Permittee must collect samples from the wells least likely to exhibit ground water contamination prior to collecting samples from wells with known or suspected ground water contamination.
- (d) Field analysis must be performed using instruments, procedures and forms described in the approved Part B permit application. Instruments must be calibrated as described in Appendix E.9 of the approved Part B permit application.
- (e) Sampling equipment must be decontaminated using techniques described in Appendix E.9 of the approved Part B permit application.

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- (f) Purge water must be disposed in accordance with procedures described in Appendix E.9 of the approved Part B permit application.
- (g) Laboratory Analysis
 - (i) Laboratory analytical methods, detection limits and sample holding time must be in accordance with techniques described in Appendix E.9 of the approved Part B permit application.
 - (ii) Laboratory selection for sample analysis shall not be contingent upon Ohio EPA approval of laboratories.
- (h) Quality Assurance/Quality Control
 - (i) Quality assurance, including field/lab/equipment blanks, duplicate samples and identification of potential interferences, must be in accordance with the methods described in Appendix E.9 of the approved Part B permit application.
 - (ii) Field and analytical data must be validated in accordance with the procedures specified in Appendix E.12 of the approved Part B permit application and reported as specified in Permit Condition K.7(b)(vi) and (vii).
 - (iii) Chain of custody procedures, including standardized field tracking reporting forms, and sample labels, must be in accordance with Appendix E.9 of the approved Part B permit application.

K.5 Ground Water Surface Elevation
OAC Rule 3745-54-97(F)

- (a) The Permittee must determine the ground water surface elevation at each well, including chart recorder wells DUG-1, DUG-2, DDG-3, DDG-1 and CR-1, each time ground water is sampled, and submit the information in accordance with Permit Condition K.7(b)(xv).
- (b) The Permittee must report, in writing to the Ohio EPA, Northwest District Office, the surveyed elevation of the tops of casing, ground surface and/or aprons, and protective casings of any new or replacement monitoring

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wells specified in Permit Condition K.1(c) within 30 days of the date of installation.

K.6 Monitoring Program and Data Evaluation

OAC Rules 3745-54-96, 3745-54-98, 3745-54-99 and 3745-54-100

The Permittee must establish and implement an IGWMP as effective as the programs for detection monitoring under OAC Rule 3745-54-98 (ability to detect releases from the facility); compliance monitoring under OAC Rule 3745-54-99 (ability to determine if corrective action is required); and, where necessary, corrective action monitoring under OAC Rules 3745-54-100 and 3745-54-101 (ability to return the ground water to concentrations meeting the acceptable target risk levels using the ACL model). The Permittee must determine ground water quality as follows:

- (a) The Permittee must collect, preserve and analyze samples in accordance with Permit Condition K.4.
- (b) The Permittee must semi-annually determine the concentrations of the constituents specified in Tables K-1, K-2 and K-3 in Permit Condition K.2(b) throughout the compliance period and any extensions due to corrective action implementation, to demonstrate conformance with the ground water protection standard. Sampling for this determination must occur in April and October of each year. The permittee may utilize analysis of wells which are sampled in accordance with this permit and in the calendar month prior to an April or October semi-annual sampling event to meet the requirements of this condition. Analysis results for the samples must be submitted to Ohio EPA Northwest District Office and entered into the operating record in accordance with OAC Rule 3745-54-73 and Permit Condition K.7.
- (c) During each semi-annual sampling event, the Permittee must compare the concentrations of the constituents in Permit Condition K.2(b)(i) and (ii) in each well to the comparison standards specified or established in Permit Condition K.2(b)(i) and (ii) as indicated in Section E-6b of the approved Part B permit application. When the initial sample concentration of a constituent is equal to or exceeds its associated comparison standard in Permit Condition K.2(b)(i) or exceeds its associated comparison standard in Permit Condition K.2(b)(ii), the Permittee must re-sample the well(s) in question in duplicate. The duplicate samples will be analyzed by two

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independent laboratories. If the independent laboratory results have a relative percent difference of 30% or less, then the exceedence will be considered confirmed only if the analysis results from both laboratories exceed the associated comparison standard. If the independent laboratory results have a relative percent difference greater than 30%, then the exceedence will be considered confirmed if either result exceeds the associated comparison standard. If the exceedence is confirmed, the constituent will be considered to be elevated and the well will be considered to be affected. If the exceedence is not confirmed, the constituent will be considered to be not elevated and the well will remain unaffected and in detection monitoring, except as described in Permit Condition K.6(d), below:

- (d) If multiple non-naturally occurring constituents are confirmed in an unaffected well but at concentrations less than their associated comparison standards, then the Permittee must note this occurrence in the sampling report for that event. Ohio EPA will determine on a case-by-case basis whether such constituents and wells must be considered elevated constituents and affected wells.
- (e) Elevated Constituents
 - (i) Sampling and analysis of constituents listed in Appendix to OAC Rule 3745-54-98 must be conducted in accordance with the following:
 - (a) Whenever the concentration of a hazardous constituent listed in Permit Condition K.2(b)(i) is confirmed to be equal to or greater than its associated comparison standard, or whenever the concentration of a constituent listed in Permit Condition K.2(b)(ii) is confirmed to exceed its associated comparison standard at an unaffected well, the Permittee must conduct Appendix to OAC Rule 3745-54-98 sampling at all of the monitoring wells in that particular cluster and at adjacent wells screened in the same horizon as described in Section E.8b of the approved Part B permit application, initiated no later than the next regularly scheduled sampling event.

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- (ii) The Permittee may confirm the initial results of Appendix to OAC Rule 3745-54-98 sampling conducted pursuant to Permit Condition K.6(e)(i) in the same manner as described in Permit Condition K.6(c); otherwise any constituents reported initially will be assumed to have been detected.
- (iii) All non-naturally occurring constituents reported to be detected at or above the practical quantitation limit (PQL) during the Appendix to OAC Rule 3745-54-98 sampling in accordance with Permit Condition K.6(e)(i) and (ii) must be considered elevated. For naturally occurring constituents the Permittee must determine if the constituents are elevated by developing comparison standards in accordance with the requirements of Permit Condition K.2(b)(iii).
- (iv) The Permittee must report to the director in writing, according to the schedule in Permit Condition K.7:
 - (a) The change in status from unaffected to affected for the wells found to have elevated constituents in accordance with Permit Conditions K.6(c) through (g);
 - (b) The concentrations of all constituents reported following the Appendix to OAC Rule 3745-54-98 sampling in Permit Conditions K.6(e)(i) and (ii), K.6(f) and K.6(g).
 - (c) A list of elevated constituents for each well; and
 - (d) A permit modification request to add the elevated constituents to the constituent list for the affected wells and the wells monitoring the vertical and horizontal extent of elevated constituents (adjacent wells in the same horizon and wells in the same cluster monitoring the zone above or below). The Permittee must begin sampling for the elevated constituents in the associated affected wells and adjacent (vertical and horizontal) wells during the next semi-annual sampling event.
- (f) If the results of Appendix to OAC Rule 3745-54-98 sampling in accordance with Permit Condition K.6(e) indicate constituents are detected exceeding comparison standards, in accordance with Permit

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Condition K.6(e)(iii), in any of the wells adjacent to the well with the initial exceedence of a comparison standard, determined in accordance with Permit Condition K.2.(b)(i), (ii) and (iii), then the Permittee must conduct additional Appendix to OAC Rule 3745-54-98 sampling using the well sampling strategy described in Permit Condition K.6(e) not later than the next regularly scheduled sampling event at these adjacent wells. A well need only be sampled once within a given sampling event, excluding resampling or confirmation considerations, to meet the requirements of this Permit Condition, even if it is identified for this sampling more than once due to overlap.

- (g) The Permittee must analyze samples from all affected monitoring wells for all constituents contained in the Appendix to OAC Rule 3745-54-98 annually to determine if there are any new elevated constituents. The Permittee may confirm the initial results of this sampling in the same manner as described in Permit Condition K.6(c); otherwise, any constituents initially detected at or above the practical quantitation limit (PQL) or above its comparison standard will be assumed to be elevated. The Permittee must identify the constituents that are elevated in accordance with the procedures in Permit Conditions K.2(b)(iii) and K.6(e)(iii). The Permittee must report the analysis results and identify any new elevated constituents to the director in writing as well as submit a modification request to add any newly identified elevated constituents to the constituent list for the affected wells and the adjacent wells (vertical and horizontal), according to the schedule in Permit Condition K.7(c)(iii). The Permittee must begin sampling and analyzing for the new constituents in the associated affected wells during the next semi-annual sampling event.

- (h) Affected well will revert to unaffected status when there have been no elevated constituents detected at the well for three consecutive sampling events. Non-naturally occurring constituents at the site listed in Permit Condition K.2(b)(i) or the Appendix to OAC Rule 3745-54-98 are no longer considered elevated when they have not been detected at or above the method detection limit (MDL) for three consecutive sampling events. Naturally occurring constituents listed in Permit Condition K.2(b)(i) or K.2(b)(ii) or the Appendix to OAC Rule 3745-54-98 are no longer considered elevated when they are less than the associated comparison standard for three consecutive sampling events. Constituents that were added to a well's sampling and analysis list must remain on the well's sampling and analysis list.

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- (i) If a constituent's analytical result is equal to or greater than its comparison standard for non-naturally occurring constituents, or greater than its comparison standard for naturally occurring constituents, then in accordance with OAC Rule 3745-54-98(G)(1), the Permittee must notify the director, in writing, within seven (7) days of this finding. Comparison standards are determined in accordance with Permit Conditions K.2(b), K.6(c), (e), (f) or (g). The notification must indicate what chemical parameters or hazardous constituent have shown statistically significant evidence of contamination. The Permittee may demonstrate that a source other than the facility caused the contamination or that the detection is an artifact caused by an error in sampling, analysis or statistical evaluation or natural variation in the ground water. In making such a demonstration, the Permittee must:
 - (a) Notify the director, in writing, within seven (7) days of determining that a constituent has reached or exceeded its comparison standard, of the intent to make a demonstration.
 - (b) Include in the Final Report in Permit Condition K.7(c)(v) a report which successfully demonstrates that a source other than the facility caused the newly elevated constituent(s), or that the newly elevated constituent(s) exceedence resulted from error in sampling, analysis or evaluation.
 - (c) Include in the Final Report in Permit Condition K.7(c)(v) an application for a permit modification to make any appropriate changes to the IGWMP at the facility.
 - (d) If this exceedence also causes an exceedence of the risk standard in the ACL model in Appendix E.11 of the approved Part B permit application, the Permittee may make this demonstration in addition to, or in lieu of, submitting a permit modification application to modify the IGWMP for corrective action as required by Permit Condition K.3(c) and OAC Rule 3745-54-99(H)(2). However, under Permit Condition K.3(c), the same period of ninety (90) days is required for both a successful "Other Source Demonstration" and the submittal of the permit modification application. The Permittee is not relieved of the ninety (90) day requirement for a permit modification unless this "Other Source Demonstration" is deemed successful by the Agency prior to the ninety (90) day time limit.

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- (e) Continue to monitor in accordance with the IGWMP at the facility.
- (j) For each elevated constituent the Permittee must report the extent of the plume. The report must include an isoconcentration map and isoconcentration cross section for each elevated constituent. The concentration or value of the parameter must be printed on the map and cross section next to the appropriate well location and concentration contours must be drawn on the map and cross section. The estimated extent of the plume must be indicated on the map and cross section. The report must include an evaluation of the need for additional monitoring wells to determine the full extent of the plume. If additional wells are needed to determine the extent of the plume, a Class 2 permit modification in accordance with Permit Condition K.1(c) must be included in the report. This report information must be included in each Final Data Report and Evaluation submitted in accordance with the schedule in Permit Condition K.7(c)(vi).
- (k) The Permittee will evaluate all elevated constituents in accordance with the ACL model in Appendix E.11 of the approved Part B permit application.
- (l) When evaluating the results of the ACL model:
 - (i) The comparison standard for noncarcinogenic risk is a hazard index of unity. The comparison standard for carcinogenic risk is 1.0×10^{-5} . The Permittee must calculate the total noncarcinogenic and carcinogenic risks for all of the constituents detected (and confirmed, optionally or as required) in all of the unaffected and affected wells, in accordance with the scenarios described in Appendix E.11 and Data Usability Guidelines in Attachment F of Appendix E.12 of the approved Part B permit application.
 - (ii) If the total noncarcinogenic and carcinogenic risks in a particular vicinity do not exceed their respective standards in Permit Condition K.6(l)(i), then routine monitoring will continue.

(m) Applying the ACL Model

- (i) If the results of the ACL model indicate that the Permittee has not met the risk standards in Permit Condition K.6.(I)(i), then corrective action will apply, and must be conducted in accordance with Permit Condition K.3.
- (ii) Once the results of the ACL model have been evaluated for an area, and that area is determined to be subject to Corrective Action in accordance with Permit Condition K.3, it is not necessary to reevaluate the ACL for that area unless one or more of the following conditions apply:
 - (a) New constituents of concern or wells are added to the affected well listing,
 - (b) Significant changes in constituent concentrations are observed, or
 - (c) New information regarding model input becomes available (e.g., toxicity data, fate and transportation parameters).
- (iii) In addition to the risk standards for the ACL model, no concentrations in the uppermost aquifer in excess of maximum concentration levels (for constituents that have them) are permitted to leave the facility, including easements and rights-of-way. If such an exceedance occurs, then corrective action will apply, and must be conducted in accordance with Permit Condition K.3.
- (n) The Permittee must determine and report the ground water flow rate and direction in the uppermost aquifer semi-annually in accordance with Permit Condition K.7(b)(xvi).

K.7 Record Keeping and Reporting
OAC Rule 3745-54-97(J)

- (a) The Permittee must submit semi-annually both a Preliminary Data Report and a Final Data Report and Evaluation for each semi-annual sampling and analysis event, conducted in April and October each year. Preliminary Data Reports must be submitted on or before July 1st for April

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events and January 2nd for October events. Final Data Reports and Evaluations must be submitted on or before September 1st for April events and March 1st for October events. If any of these dates fall on a weekend or state holiday, the reports will be due no later than the following business day. The reports must be submitted to Ohio EPA Northwest District Office and entered into the operating record in accordance with OAC Rule 3745-54-73. The Permittee must maintain all documentation from the laboratories regarding analysis of ground water samples. Ohio EPA may require submittal of a copy of the full quality assurance/quality control (QA/QC) report for a particular event if circumstances warrant; but, in general, this will not be required except as described in Permit Conditions K.7(b) and (c).

- (b) Preliminary Data Reports required by Permit Condition K.7(a) must include all the information listed below for: 1. Replacement well sampling required by Permit Condition K.1(e); 2. Background sampling for statistics required by Permit Condition K.2(b)(iii)(c); 3. Semi-annual sampling and analysis events required by Permit Condition K.6(b); 4. Appendix to OAC Rule 3745-54-98 sampling and analysis required by Permit Condition K.6(e)(i) and K.6.(f); and, 5. Annual Appendix to OAC Rule 3745-54-98 sampling and analysis required by Permit Condition K.6(g).
- (i) The laboratory results from each of the wells, including duplicates, and their associated data qualifiers;
 - (ii) The date each well was sampled (tabulated);
 - (iii) The date, time and identification of all blanks and duplicates (tabulated);
 - (iv) Any field log documenting deviation from the procedures in Appendix E.9 of the approved Part B permit application including documentation of parameter omissions during the sampling event;
 - (v) The date the Permittee received the results from the laboratory.
 - (vi) The date the owner or operator completed their preliminary review of the analytical laboratory's verification of the accuracy and precision of the analytical data and determined its quality. This review must be based upon the elements in Permit Condition

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K.7(b)(vii) and the data validation procedures in Appendix E.12 of the approved Part B permit application. Compliance will be facilitated by referring to:

Ohio EPA Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring, February 1995;

- (vii) The results of the preliminary data validation review per K.7(b)(vi) including: report completeness, chain of custody, sample receipt form, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results consistent with the U.S. EPA and Ohio EPA guidelines for data review;
- (viii) The results from all blanks (temperature, trip, field, equipment, method, etc.), matrix spike analysis, and laboratory control samples;
- (ix) Results of the field parameters;
- (x) All Chains-of-Custody;
- (xi) A list of affected wells;
- (xii) The constituent lists for the affected wells;
- (xiii) Identified of the person(s) performing the statistical evaluation;
- (xiv) Ground water elevation data, tabulated and evaluated as required by Permit Conditions K.5(a) and K.6(n);
- (xv) Potentiometric surface maps for each monitored zone based on the ground water elevation data [one map for each zone based on data from all wells and five maps (one for each month preceding the sampling event) for the bedrock aquifer based on data from DUG-1, DUG-2, DDG-3, DDG-1 and CR-1], whether the data are contourable or not; and,

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- (xvi) A discussion of flow characteristics, including any changes in ground water flow direction in the bedrock zone.
- (c) Final Data Reports and Evaluations required by Permit Condition K.7(a) must include the following:
- (i) The information specified in Permit Condition K.7(b)(i) through (xiii) for all resampling and analysis and confirmation sampling and analysis conducted to satisfy the requirements of the Permit Conditions referenced in paragraph K.7(b);
 - (ii) The date of completion of all data evaluation (ACL model, statistical analysis, etc.);
 - (iii) In accordance with Permit Condition K.6(c) and (g), identification of elevated constituents for each well; in accordance with Permit Condition K.6(d), identification of non-naturally occurring constituents that are confirmed in an unaffected well but at concentrations less than their associated comparison standards; in accordance with Permit Condition K.6(e)(iv), notice of change in well status from unaffected to affected; and, in accordance with Permit Condition K.6(h) notice of change in well status from affected to unaffected, and change in constituent from elevated to non-elevated;
 - (iv) The date the owner or operator completed their final review of the analytical laboratory's verification of the accuracy and precision of the analytical data and determined its quality and a signed statement of validity. This review must be based upon the elements in Permit Condition K.7(b)(vii) and the data validation procedures in Appendix E.12 of the approved Part B permit application.
 - (v) Plan maps, cross sections, and evaluations for each elevated constituent showing the extent of the plume in accordance with permit Condition K.6(j);
 - (vi) The results of applying the ACL model, including a discussion of the effect of using any qualified data;

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- (vii) A report on the effectiveness of the IGWMP, performed by a qualified hydrogeologist; and,
- (viii) A report on, and schedule for, any permit modification requests to be submitted in accordance with Permit Condition K.8. Permit modification requests may include, but are not limited to, those required by Permit Conditions:
 - (a) K.1(c), to add, remove or replace wells;
 - (b) K.1(e)(vi), for changes to the program as a result of a difference in ground water quality between a well and a replacement well;
 - (c) K.3(b) and (c)(iii), to establish a corrective action program meeting the requirements of OAC Rules 3745-54-100 and 3745-54-101;
 - (d) K.6(e)(iv)(d) and K.6(g), to add constituents to sampling and analysis lists for affected wells and adjacent wells;
 - (e) K.6(i)(iii), for changes to the program as a result of a demonstration;
 - (f) K.6(j), add wells to determine extent; and,
 - (g) K.8 changes as a result of the Permittee or the director determining that the IGWMP established by this Permit no longer satisfies the regulatory requirements.
- (d) The Permittee must submit an annual report to the director by March 1st of each year. The Permittee may submit this report in conjunction with the October sampling event Final Data Report [see Permit Condition K.7(a)]. Annual reports must reference the titles and dates of the semi-annual reports and any updates to those reports (for example, due to confirmation sampling, comments by Ohio EPA, etc.), but generally do not need to include duplicates of hard copies previously submitted. The annual reports must include at least a copy on disk of all ground water analyses and elevations, blank data, and a hard copy of well-specific information (location, depth, etc.) for any new/replacement wells in the format selected

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by Ohio EPA, as well as any other information specified in the instructions for the annual report not addressed in this Permit Condition.

K.8 Request for Permit Modification

OAC Rules 3745-54-98(H), 3745-54-99(J), 3745-54-100(H) and 3745-54-101

If the Permittee or the director determines that the IGWMP established by this Permit no longer satisfies the regulatory requirements, then the Permittee must submit an application for a permit modification within 90 days of this determination to make any appropriate changes to the program.

K.9 Compliance Schedule

The Permittee must submit to Ohio EPA within ninety (90) days after permit journalization an updated Section E of the permit application which addresses all the comments outlined in Attachment A of the permit.

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ATTACHMENT K-1
Monitoring Wells in the Integrated Ground Water Monitoring Program
Permit Condition K.1.(a)

"S" Wells		"D" Wells		Bedrock Wells
F1S	M6S	F1DA	M4D	R-1
F2S	M10S	F2D	M5D	R-2
F3S	M11S	F3D	M6D	R-3
G1S	M12S	G1DA	M8D	R-4
G2S	M13S	G2DA	M9D	R-5
G3S	M14S	G3D	M10D	R-6
G4S	M15S	G6	M11D	R-7
H1S	M16S	G7	M12D	R-8
H2S	M17S	G8	M13D	R-9
H3S	M18S	G9	M14D	R-10
H4S	M19S	G10A	M15D	R-11
H5S	M20S	G11	M16D	R-12
H6S	M21S	H1D	M17D	R-13
I3SA	M22S	H2D	M18D	R-14
I4S	M23S	H3D	M19D	R-15
I5SA	MR1SA	H4D	M20D	R-16
I6S	MR2S	H5D	M21D	R-17
I7S	MR3S	H6D	M22D	R-18
I8S	MR4S	I3D	MR1DA	R-19
M1S	SW1S	I4D	MR2D	R-20
M2S	SW2S	I5D	MR3D	R-21
M3S	SW3S	I6D	MR4D	R-22
M5S		M1D	SW1D	R-23
		M2D	SW2D	R-24
		M3D	SW3D	CR-1*
				DDG-1*
				DDG-3*
				DUG-1*
				DUG-2*

*Bedrock Water Level Monitoring Wells. These wells are utilized for collecting water level measurements only.

MODULE L - ADDITIONAL CONDITION

L.1 Reserved.

L.2 Fire Control Provisions

Prior to managing hazardous waste in any area of the modified portions of the facility, the Permittee must have available a sufficient supply of water at a nozzle pressure of 100 PSI for use with the Permittee's fire suppression system.

L.3 Surface Water Management

The Permittee must follow the surface water management plan for the entire facility as found in Volume 3C, Appendix D.24 of the approved Part B permit application.

L.4 Maintenance and Abandonment of Other Wells

All other wells or borings that have been installed at the facility that are not addressed in Modules K or E must be operated and maintained to perform to design specifications and when abandoned, should be plugged and abandoned in accordance with the *State of Ohio Technical Guidance for Sealing Unused Wells* (State Coordinating Committee on Ground Water, 1996) and *Ohio EPA's Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring* (1995). Well plugging and abandonment methods, and certification must be submitted to the director within thirty (30) days from the date the wells are abandoned.

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Attachment A
Part B Permit Application Renewal Comments

Note: Ohio EPA received Revision No. 18 of Section E (related to ground water monitoring and response) on June 30 as a part of a self implementing Class 1 permit modification. Ohio EPA has evaluated Revision 18 and determined that the Permittee has adequately addressed the comments of Attachment A of the draft permit with the exception of the following comments: Attachment A comment #1, #3 (partial), #17 and #19. Therefore, all the comments of Attachment A of the draft permit have been removed in the final permit with the exception of the comments noted above.

1. Section E-1a, page E-3, last paragraph, last two sentences state, "The location of monitoring wells are included on Plate 2, and Plates GW-1 through GW-4. The boring logs for the various investigations are in Volume 4B and 4D." ESOI must update the drawings, boring logs, well construction logs, and abandonment reports to include any changes (new wells or abandonments) since the April 1992 permit revision. Also a replacement figure is needed for Figure 2-1 in the *Comprehensive Hydrogeologic Report* contained in Volume 4A.

3. Section E-1c, page E-8, third paragraph; page E-10, first paragraph; and page E-11, last paragraph discuss permeability ranges. ESOI must update the permeability to include the range defined in the May 1996 and October 30, 1998 Permit Renewal Applications and any data obtained during the RCRA Facility Investigation (RFI).

The text should also be revised to include a calculation of permeability for the upper till. The calculation should be based upon the initial placement of waste in the unit, the distance traveled from the waste unit to the well and the time it took for contaminants to show up in monitoring wells. The potential permeability ranges shall include measured permeabilities and calculated permeabilities.

17. OAC Rule 3745-50-44(B)(2) requires the permit application to include, for all borings/piezometers/wells, drilling logs, well construction logs, and abandonment reports, a map(s) showing their location and a Table listing all borings/wells identifying whether the borings/wells are active or abandoned and referencing the location of drilling logs, well construction logs, and abandonment reports.

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- ▶ Section E-1a of the permit application, page E-2, second paragraph, states "With few exceptions the borings and wells installed prior to 1985, during the preceding studies, have been grouted." ESOI must revise the text to identify which borings/piezometer/wells have been plugged. ESOI should reference a table that includes a list of borings/piezometers/wells at the facility and lists whether the borings/piezometers/wells are active or abandoned. The table should be updated to include all existing knowledge of borings at the site and to reference the location in the permit application of drilling logs and abandonment reports.
 - ▶ Section E-1a, page E-3, last sentence of third paragraph, "Figure E-1 shows the ESOI site with the locations of the borings done during the various studies up to 1987." ESOI must update this text and Figure E-1 or add a series of Figures to show all borings, piezometers and wells (including shallow borings/piezometers/wells) to date.
19. Figures E-3 through E-3B show cross sections of the geologic stratigraphy. In accordance with OAC Rule 3745-50-44(B)(2), ESOI must add additional cross sections to show the geologic stratigraphy along the whole line of compliance as described by OAC Rule 3745-54-95. The cross section should use data from all borings installed along the point of compliance to date. In addition, cross sections should be included across each waste unit showing the position of waste placement relative to the geologic strata.

ATTACHMENT B

**Comments on April 16, 2004 Revised Closure Plan
(Section I)**

General Comment

1. ESOI must delete all references to Section H (such as found on pages I-33, I-36, I-46, I-55, I-64, I.3-5, I.3-6, etc.) and revise the text in Section I as appropriate. ESOI must provide a modified version of Section I (addressing the comments below) to the Agency within 90 days of permit journalization. The modified version should be submitted as a Class 1 permit modification requiring prior director's approval pursuant to OAC Rule 3745-50-51.

Comments Related to Text

2. In Section I-2h6, Landfill, ESOI must provide the most up-to-date (at the time of responding to these comments) information on remaining Cell M capacity and on the status of installed and to be installed stainless steel riser pipe inserts.
3. The last paragraph in Section I-3c4, Container Storage Area Soil Sampling, (new text) states that ESOI may elect to excavate and stabilize underlying soils without prior testing. ESOI must expand the narrative which describes this alternative by providing a method to determine whether the remaining (un-excavated) soil is clean, or if further excavation and treatment is needed. ESOI must also state that any created depression, which may cause a significant retention (ponding) of rain water, will be back-filled with an appropriate clean material.
4. In Section I-3f1, Closure Schedule, besides deleting reference to Section H, ESOI must revise the text to state that the partial closure of each phase of Cell M will occur when waste placement reaches final grade and has a surface area of 250,000 square feet available for capping, and, as these areas are closed, they will be monitored and maintained as described in Module I ("Post-Closure Care") of the Permit, and in accordance OAC Rule 3745-55-17.

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5. In Section I-4, Post-Closure Activities, paragraph 3, ESOI must delete the term "applicable to Cell M" since the post-closure activities listed in this paragraph apply to all of the closed units at ESOI.
6. In Appendix I.3, page I.3-7, in the last two sentences of the first paragraph, ESOI must delete term "upper prediction limits" since it is not relevant to the background remediation standard (BRS) - calculated as a mean of the background concentrations plus two standard deviations.
7. Regardless of the employed sampling-depth interval (0 to 2 feet, or below 2 feet), ESOI must sample soils in question for all fourteen metals shown in permit application Appendix I.3, page I.3-8, "Table of ESOI Site-Specific Background Values". ESOI must revise values for antimony, mercury, selenium, silver, and thallium, as follows:

For values based on "Johlin" data:

Antimony	0.25 mg/kg (MDL) to replace 0.84 mg/kg (due to more than 90% non-detects - refer to page 58 of the 1999 CPRG)
Mercury	0.13 mg/kg (available GRS - generic remediation standard, 1999 CPRG) to replace "NA" (due to 100% NDs)
Silver	0.30 mg/kg to replace 0.32 mg/kg (all values are 0.3 mg/kg, and SD = 0 - Appendix I.3, Attachment C)

For values based on "Wynn" data:

Antimony	3.00 mg/kg (90 th percentile) to replace 3.63 mg/kg (due to more than 50% non-detects - refer to page 58 of the 1999 CPRG)
Mercury	0.13 mg/kg (available GRS - generic remediation standard, 1999 CPRG) to replace "NA" (due to 100% NDs)

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Selenium	56.0 mg/kg (90 th percentile) to replace 76.46 mg/kg (not normal distribution, large SD)
Silver	0.30 mg/kg (from "Johlin" data) to replace "NA" (due to the lack of data from Wynn Rd)
Thallium	0.10 mg/kg (from "Johlin" data) to replace "NA" (due to the lack of data from Wynn Rd)

8. In Appendix I.3, at the bottom of page I.3-5, ESOI must delete remark # 2, and instead, state that the values for silver and thallium from the "Johlin" data are also used in the Wynn Rd "metals subset". (Please see comment # 6, above.)
9. In Appendix I.3, at the bottom of page I.3-8, ESOI must revise the remark # 4 in accordance with the required changes in background values, as presented in comment # 6, above. Also, ESOI must delete both, the portion of the remark # 4 discussing intended use of the "Non-Parametric Bootstrap Method", and the Attachment B to Appendix I.3, with an overview of the "Bootstrap" method - because neither is relevant to the way the soils BRS are determined for the purpose of the Otter Creek Rd. facility closure.
10. In Appendix I.3, at the beginning of Section 2.0, "Testing Evaluation of Soils, Contaminated Media and Non-Waste Handling Areas of the Facility", ESOI must state that the Land Disposal Restrictions (LDR) status, for each waste stream that would be generated during closure, will be described in Schedule C. Additionally, ESOI must say that those hazardous constituents, for which the testing would be conducted during closure, will be described in Schedule D, and that both Schedules C and D will be updated annually and submitted to Ohio EPA with the annual report that is required by OAC 3745-54-75. ESOI also must incorporate the following language which further specifies the requirements and the procedures associated with these schedules:
 - (i) Schedule C shall be based upon all approved codes listed in Form 8700-23 ("Hazardous Waste Permit Information Form"), Section 10. Schedule C shall be updated annually for any new EPA Hazardous Waste Number (Waste Code) that the facility may accept. An EPA Hazardous Waste Number may be excluded from

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consideration at the time of closure if the Permittee can demonstrate, through the annual report or other records, that such waste has never been handled at the facility, at a specific location within the facility, or in a specific regulated unit.

- (ii) Schedule D shall list the hazardous constituents reported in Schedule C, and must be in accordance with OAC 3745-270-40, Table - Treatment Standards for Hazardous Wastes. Schedule D shall be used as a resource in making waste determinations in accordance with OAC 3745-52-11 and thereby determining the constituents that would be analyzed for at the time of closure for each regulated unit and roadway surfaces in accordance with the waste evaluation plan in Section I, Appendix I.3 of the Permit.

Comments Related to Drawings

11. On Drawing PRMO-T04, ESOI must state what the "dash-dot" line on the South side of Cell M represents.
12. On Drawing PRMO-L13, ESOI must revise detail "Typical L.C.S. Access Pipe" to show how and where the final cover components will be keyed-in.
13. All drawings which have a revision date of 12/2003 or 02/2004 (based on the posting instructions from the 4/22/04 revision submission) have not been certified by a PE. The revision table on the drawing itself indicates the drawing has been "Revised for Response Ohio EPA 4-18-03 NOD" which seems to contradict the posting revision date. ESOI must provide drawings with accurate revision dates in addition to the required PE certifications.

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ATTACHMENT C

"Eligible Investments" means (i) direct obligations of (including obligations issued or held in book entry form on the books of the Department of the Treasury of the United States of America), or obligations the principal of and interest on which are unconditionally guaranteed by the United States of America; (ii) bonds, debentures or notes, or other evidence of indebtedness payable in cash and issued or guaranteed by any one or a combination of any federal agencies whose obligations represent the full faith and credit of the United States of America; (iii) certificates of deposit properly secured at all times by collateral security described in (i) and (ii) above, (which agreements are only acceptable with commercial banks, savings and loan associations, and mutual savings banks); (iv) the following investments fully insured by the Federal Deposit Insurance Corporation or the Federal Savings and Loan Insurance Corporation: (a) certificates of deposit, (b) savings accounts, (c) deposit accounts, or (d) depository receipts of banks, savings and loan associations and mutual savings banks; (v) commercial paper rated in one of the two highest rating categories by at least two nationally recognized rating agencies or commercial paper backed by a letter of credit or line of credit rated in one of the two highest rating categories; (vi) written repurchase agreements with any bank, savings institution, or trust company which is insured by the Federal Deposit Insurance Corporation or the Federal Savings and Loan Insurance Corporation, or with any broker-dealer with retail customers which falls under Securities Investors Protection Corporation protections, provided that such agency or instrumentality of the United States of America, and provided further that (A) such collateral is held by the Trustee or any agent acting solely for the Trustee during the terms of such repurchase agreement; (B) such collateral is not subject to liens or claims of third parties; (C) such collateral has a market value not including accrued interest (determined at least once every 14 days by the Trustee) at least equal to the amount invested in the repurchase agreement; (D) the Trustee has a perfected first security interest in the collateral; (E) the repurchase agreement shall be for a term not longer than 270 days; and, (F) the failure to maintain such collateral at the level required in (C) above will require the Trustee to liquidate the collateral; (vii) investments in a money market mutual fund rated AAAM or AAAM-G by Standard & Poor's Corporation, the assets of which funds consist of either tax-exempt obligations or direct obligations of the United States of America; (viii) investment agreements, but not in excess of 10% of the invested proceeds of the Bonds; (ix) other than those obligations issued by the State Pursuant to Article VIII, Section 13 of the Constitution of the State or Chapter 140 or 3377 of the Ohio Revised Code, obligations issued by the State or its subdivisions rated in one of the two highest rating categories of either Standard & Poor's Corporation or Moody's Investors Service, or any successors thereto; and, (xi) any no-load money market mutual fund

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or fund sponsored by a bank, including the Trustee, in either case consisting exclusively of obligations of the United States of America or any agency thereof. Any of the foregoing investments may be with or purchased from the Trustee or its affiliates.