ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
2520 WEST ILES AVENUE, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JAMES JENNINGS, ACTING DIRECTOR

217-524-3301

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

9589 0710 5270 0389 7046 19

JUL 29 2025

Life Technologies Corporation
Mrunal Salunkhe, Robert Knox
3747 N Meridian Rd
Rockford, IL 61101

Re: 2010300034 -- Winnebago County
Life Technologies Corporation (fka Pierce Biotechnology Inc)
ILD041539230
Log No B-161R2
RCRA Administrative Record – 24D
Permit Draft

Dear Mrunal Salunkhe and Robert Knox:

Attached is a draft renewed Resource Conservation and Recovery Act (RCRA) Post-Closure Permit (draft Permit) and associated fact sheet. This draft Permit is based on Illinois EPA's administrative record files. The contents of the administrative record are described in Title 35 Illinois Administrative Code (35 IAC) 705.144.

Under 35 IAC 705.141, the draft Permit and administrative record must be publicly noticed and made available for public review and comment. Illinois EPA must also provide an opportunity for a public hearing. Copies of the draft Permit, fact sheet, and permit renewal application are available for review at the Rockford Public Library, 215 North Wyman Street, Rockford, Illinois. Illinois EPA has not scheduled a public hearing currently. However, any interested party may request a public hearing. The public comment period will close on September 18, 2025. During the comment period, the applicant or any interested party may submit comments to Illinois EPA regarding the draft Permit. At the end of the comment period, Illinois EPA will prepare a response to comments. Comments may be submitted to:

Sarah Brubaker, Office of Community Relations - #5
Illinois Environmental Protection Agency
2520 West Iles Avenue
PO Box 19276
Springfield, Illinois 62794

Illinois EPA will issue a final RCRA Permit after the close of the public comment period unless Illinois EPA decides to reverse its decision. The appeal process and limitations are described in 35 IAC 705.212.

Questions regarding groundwater can be sent to Gabriel Kammel-ODonnell by phone at or by email at. All other questions concerning this permit can be sent to Behzad Feda by phone at 217-524-8980 or by email at behzad.feda@illinois.gov.

Sincerely,

Joshua L Rhoades, PG
Permit Section Manager
Bureau of Land

Attachments: Fact Sheet
Draft Renewed RCRA Post-Closure Permit

JLR:BF:2010300034-RCRA-B161R2-Draft.docx
BF TNH GKO AMB
cc: Steven Swenson – Swenson-Marzec & Associates Inc

Fact Sheet
Draft Renewed RCRA Post-Closure Permit
Life Technologies Corporation
Rockford, Illinois
IEPA ID No 2010300034
USEPA ID No ILD041539230
Log No B-161R2

I. INTRODUCTION

Illinois EPA has prepared a draft Resource Conservation and Recovery Act (RCRA) Post-Closure Permit (draft Permit) for public comment for the Life Technologies Corporation (the Permittee) facility located at 3747 North Meridian Road, Rockford, Illinois (the facility). The Permittee changed its name from Pierce Biotechnology Inc to Life Technologies Corporation in 2025. This fact sheet has been prepared according to Title 35 Illinois Administrative Code (35 IAC) 705.143 and it provides a summary of the principal facts and significant factual, legal, methodological, and policy questions considered in preparing this draft Permit.

The draft Permit, if issued, would require the Permittee to carry out the following activities at the facility: (1) provide post-closure care for two former hazardous waste storage tanks closed as landfills; (2) conduct a groundwater cleanup and monitoring program; (3) continue to comply with the institutional controls in place; and (4) establish procedures to address hazardous waste or hazardous constituent releases discovered in the future. It contains: (1) all the standard conditions required by 35 IAC Parts 702, 703, and 724 for the management of hazardous waste; and (2) other applicable conditions from 35 IAC Part 724.

The Permittee was issued a RCRA permit (Log No B-161) for the first time on April 15, 1997. That permit expired in 2007 and was renewed in 2010. The renewed permit expired in 2020. In accordance with 35 IAC 702.125, the requirements of the previous permit remained in place beyond the expiration date due to the timely submittal of the renewal application.

II. DESCRIPTION OF FACILITY

The Permittee produces research products for use in protein chemistry, sample handling, immunology, and chromatography. It was formerly known as Pierce Biotechnology Inc before changing its name to Life Technologies Corporation on April 15, 2025. The Permittee owns approximately 51 acres at this location with approximately 19 acres developed for its manufacturing process. A drawing showing the location of the facility is provided in Attachment A of the draft Permit.

Under 35 IAC 722.134, a facility that generates hazardous waste may accumulate that waste on-site without a permit if the waste does not stay on-site for more than 90 days. When a hazardous waste management unit ceases operation, it must be cleaned up, closed, and monitored according to the requirements under RCRA.

Since this facility had to leave waste in place upon closure of its two former underground storage tanks, post-closure care is required as well as an associated permit, which details the specific responsibilities of the Permittee during post-closure care.

III. HAZARDOUS WASTE MANAGEMENT UNITS

In the 1970s and early 1980s, the Permittee operated two underground storage tanks (USTs) for waste solvents. Each UST held 3000 gallons, and the waste included halogenated and non-halogenated solvents. The tanks were removed, but the groundwater in the vicinity of those tanks was contaminated and both UST areas had to be closed as landfills. The tanks were previously identified and referred to as solid waste management units (SWMUs) 1 and 2 but are now known as hazardous waste management units (HWMUs) 1 and 2.

On September 15, 1988, Illinois EPA approved (1) certification of closure of these two hazardous waste storage tanks as landfills; (2) an interim status post-closure care plan; and (3) a remediation system to address the groundwater contamination around these tanks. This draft Permit contains requirements for, among other things, post-closure of these units.

The original RCRA permit also required the Permittee to address two surface impoundments. After investigations and a demonstration that the surface impoundments posed no threat to human health and the environment, they were closed. An institutional control was established restricting future use of the area of these surface impoundments to commercial and industrial purposes.

IV. HAZARDOUS WASTE CLEANUP

The Permittee is required to conduct hazardous waste cleanup activities, known as corrective action, to protect human health and the environment from all releases of hazardous wastes or hazardous constituents from any SWMU or area of concern (AOC). The RCRA permit issued for this facility in 1997 required it to conduct cleanup on five SWMUs.

The Permittee has completed all the cleanup responsibilities for those SWMUs previously identified at the facility. As part of those efforts, the Permittee established two institutional controls which restricted the future use of the property. This draft Permit requires the Permittee to continue complying with their institutional controls. In addition, any release of hazardous waste or hazardous constituent(s) that is discovered in the future must be properly addressed. This draft Permit describes the actions to take to properly address any future releases of hazardous waste or hazardous constituents at the facility.

Currently, the Permittee is investigating on-site contamination associated with potential indoor-inhalation exposure at the site. The soil gas investigation is being conducted to meet the requirements of 35 IAC Part 742, which was updated in 2013 to include the indoor inhalation exposure route.

Throughout this draft Permit, the term corrective action is used, which should be understood as referring to hazardous waste cleanup.

V. GROUNDWATER CORRECTIVE ACTION

Hazardous constituents released from the two removed underground storage tanks, which were previously designated as S02 and closed as landfill units (D80), have been detected in the groundwater at and beyond the point of compliance at concentrations which exceed the groundwater protection standards established in 35 IAC 724.192, and groundwater quality standards. These constituents have impacted the uppermost aquifer at the facility, defined as the unconsolidated glacial sandy sediments of the Quaternary age Winnebago Formation (Argyle Till Member) which directly overlies Ordovician age dolomite of the Galena Formation. Therefore, groundwater cleanup in the form of a Groundwater Corrective Action Program, meeting the requirements of 35 IAC 724.200, must be implemented in Section III. These former USTs are referred to as HWMUs 1 and 2 (formerly SWMU 1 and SWMU 2), but they are closed as landfills and considered as hazardous waste management units undergoing RCRA post-closure. Pursuant to Section 39(d) of the Environmental Protection Act (Act), Illinois EPA may also include conditions within a RCRA permit to achieve compliance with the State standards. Therefore, the Groundwater Corrective Action Program for the hazardous waste management units required by this draft Permit includes:

1. Establishment and maintenance of a Groundwater Management Zone (GMZ). A GMZ is defined as the three-dimensional region containing groundwater being managed to mitigate groundwater effects caused by the release of contaminants from a site that is subject to groundwater cleanup activities or for which the owner/operator undertakes an adequate groundwater cleanup program in a timely and appropriate manner and provides written confirmation to Illinois EPA;

2. Adequate control of the horizontal and vertical flow of groundwater within the aquifer of concern. The control of groundwater flow will be accomplished by extracting sufficient quantities of groundwater from the aquifer at locations between the point of compliance and the downgradient facility property boundary and, where necessary, beyond the facility boundary to protect human health and the environment;

3. Monitoring groundwater elevations in the aquifer of concern to ensure the effectiveness and success of the corrective actions as well as verify compliance with the GMZ; and

4. Monitoring the quality of groundwater in the aquifer of concern to demonstrate the effectiveness and success of groundwater cleanup activities, as well as verify compliance with the groundwater protection standards.

To comply with the updated 35 IAC Part 620 regulations, effective on March 28, 2025, and 35 IAC Part 724 regulations, and to better assess the Groundwater Corrective Action Program undertaken by the facility, Section III of the draft Permit has been modified by Illinois EPA to update currently monitored constituents in accordance with updated 35 IAC Part 620 values. A

List D4, sampled as part of GMZ re-evaluations, has been added to provide current sampling data of previously removed constituents to confirm conditions at the facility and ensure Lists D1 and D2 remain appropriate.

Additionally, Condition V.C contains the compliance schedule which includes several actions the facility must take to comply with the requirements of this permit. These actions are listed below:

1. The submittal of a revised Sampling and Analysis Plan (SAP) to address deficiencies related to the use of HydraSleeves at the facility and to meet the requirements of 35 IAC 620.510(b)(4).

2. Sampling for new constituents to comply with the March 28, 2025, 35 IAC Part 620 regulation changes.

3. The prompt abandonment of Monitoring wells GA72, RA92, G14S, GA0D, and RB1S. Additionally, the submittal of a Class 1* permit modification to update the well list to align with the impromptu abandonment of wells G201 and G203 and the proposed abandonment of wells GA72, RA92, G14S, GA0D, and RB1S.

4. The Submittal of a GMZ re-evaluation to ensure the modified Groundwater Monitoring System proposed by the Subject Submittal is protective of human health and the environment.

5. The submittal of a Class 1* permit modification to replace pages within the approved permit application to align with the changes herein made to align with the new 35 IAC Part 620 regulations.

VI. PERMITS OTHER THAN RCRA

Air

The air emissions from a hazardous waste management facility are regulated under the Clean Air Act, the Illinois Environment Protection Act, and state regulations under 35 IAC Subtitle B. According to these regulations, a permit is required to install or operate any process which is, or may be, a source of air pollution. Illinois EPA's Bureau of Air issued a permit (#73070712) for the Permittee to operate its air emission units and pollution control equipment.

Water

Wastewater and contaminated groundwater generated at the facility are regulated under the Clean Water Act, the Illinois Environmental Protection Act, and state regulations under 35 IAC Subtitles C and D. According to these regulations, a permit is required to discharge pollutants to water. Illinois EPA's Bureau of Water issued a permit (IL0003191) for Permittee to discharge water to the municipal sanitary sewer for further treatment.

VII. PROCEDURES FOR REACHING A FINAL DECISION

Pursuant to 35 IAC 705.162(a)(2), the public is given at least 45 days to review the application and comment on this draft Permit prior to Illinois EPA taking any final permitting action on the application for this draft Permit. The comment period will begin on August 4, 2025, the date of the first publication of the public notice in the newspaper of general circulation in the area. The comment period will end on September 18, 2025.

A public notice regarding the availability of this draft Permit for public comment will be placed in the Rockford Register Star. Illinois EPA will consider all comments received during the public comment period and develop a response to the comments. When Illinois EPA makes its final permit decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final permit decision. The draft Permit will become effective 35 days after service of notice of the decision, or later if stated in the permit, unless the decision is appealed.

Copies of the permit application, draft Permit, and fact sheet are available for review at:

Rockford Public Library
Main Library
215 N Wyman St
Rockford, Illinois 61101
815-965-7606

The administrative record for this draft Permit is available for public inspection by appointment at Illinois EPA's Springfield headquarters on weekdays from 8:30 am to 5:00 pm. This administrative record includes the permit application, draft Permit, fact sheet, and other supporting documents and correspondence submitted to or developed by Illinois EPA as part of the permitting process. Inspection of the administrative record must be scheduled in advanced by contacting:

Sarah Brubaker, Office of Community Relations - #5
Illinois Environmental Protection Agency
2520 W Iles Ave
PO Box 19276
Springfield, Illinois 62794
217-785-8724

In response to requests received during the comment period or at the discretion of Illinois EPA, a public hearing may be held to clarify issues concerning the permit application. A request for a public hearing must be submitted in writing at least 45 days before the hearing date. Requests must state the nature of the concerns regarding the permit application. Contact Jeff Guy to request a public hearing.

RCRA Post-Closure Permit

Life Technologies Corporation

Rockford, Illinois

Illinois EPA No 2010300034

USEPA No ILD041539230

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
2520 WEST ILES AVENUE, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JAMES JENNINGS, ACTING DIRECTOR

RCRA POST-CLOSURE PERMIT

2010300034 – Winnebago County
Life Technologies Corporation
ILD041539230
Permit Log B-161R2
RCRA Administrative Record – 24D

Issue Date: DRAFT
Effective Date: DRAFT
Expiration Date: DRAFT

PERMITTEE
Life Technologies Corporation
Attn: Robert Knox
3747 North Meridian Road
Rockford, Illinois 61101

A renewed Resource Conservation Recovery Act (RCRA) Post-Closure Permit is hereby granted to Life Technologies Corporation as Owner, Operator, and the Permittee as authorized by Section 39(d) of the Illinois Environmental Protection Act (Act), and Title 35 Illinois Administrative Code (35 IAC) Subtitle G.

PERMITTED HAZARDOUS WASTE ACTIVITY

This Permit requires Life Technologies Corporation to conduct the following hazardous waste activities:

Post-Closure Care: two former underground storage tank areas closed as landfills
Groundwater Monitoring: Corrective Action program
Corrective Action: conducting corrective action at the site as necessary

This Permit consists of the conditions contained herein and those in the sections and attachments. The Permittee must comply with all terms and conditions and the applicable regulations contained in 35 IAC Parts 702, 703, 705, 720-729 that are in effect on the effective date of this Permit.

This Permit is issued based on the information submitted in the approved permit application identified in Attachment C of this Permit and any subsequent amendments. Any inaccuracies found in the information provided in the approved permit application may be grounds for the termination or modification of this Permit (see 35 IAC 702.186 and 702.187) and potential enforcement action (415 ILCS 5/44(h)).

DRAFT

Joshua L Rhoades, PG
Permit Section Manager
Bureau of Land

JLR:BF:2010300034-RCRA-B161R2-Draft

RCRA Post-Closure Permit
Life Technologies Corporation

TABLE OF CONTENTS

SECTION I: GENERAL FACILITY DESCRIPTION

A. OWNER AND OPERATOR

Life Technologies Corporation is the Owner and Operator of this facility and is a wholly owned subsidiary of Thermo Fisher Scientific Inc.

Facility Contacts

Mrunal Salunkhe
General Manager
815-968-0747

Robert Knox
Environmental Health & Safety Manager
815-987-4640

B. LOCATION

1. The facility is located at 3747 North Meridian Road, Rockford, Illinois, 61101, in Winnebago County.

2. The general location of the facility is shown on Attachment A. The area is approximately 51.27 acres with 19.21 of those acres actively used by the Permittee's production processes.

C. DESCRIPTION OF HAZARDOUS WASTE MANAGEMENT ACTIVITIES

The Permittee is a generator of hazardous waste as part of research and biochemical production activities. The hazardous wastes are accumulated in satellite containers, which are subsequently removed from the laboratories and placed in a container storage building until they are collected and shipped off-site for treatment or disposal. All waste handling, including the movement of containers and shipping, is handled by third-party vendors. Waste is stored for less than 90 days.

Previously, hazardous waste was stored in two underground storage tanks (USTs), which were previously identified as Solid Waste Management Units (SWMUs) 1 and 2. These tanks were removed in the 1980s, but the Permittee could not achieve clean closure because of groundwater contamination in the vicinity of the tanks. In 1989, Illinois EPA approved the closure of the former tank areas as landfills and approved the facility's post-closure care plan, as well as a remediation system for the groundwater contamination. Starting in this second renewed permit, these SWMUs 1 and 2 are now identified and referred to as Hazardous Waste Management Units (HWMUs) 1 and 2, respectively.

In 1997, Illinois EPA issued the Permittee a RCRA Permit which required the Permittee to address issues with two surface impoundments and conduct corrective action at five other SWMUs. The surface impoundments achieved closure by removal, and no further action was required after an institutional control was established to restrict usage of their area to commercial/industrial purposes. In addition, corrective action requirements were completed at the five other SWMUs.

Post-closure care is ongoing for the former tank areas, HWMUs 1 and 2, including maintenance of the final cover, groundwater monitoring and remediation, and providing financial assurance for post-closure activities.

SECTION II: POST-CLOSURE

A. SUMMARY

Two underground hazardous storage tanks were once present at the facility. These tank units were removed in October 1986 but were not able to be "clean closed" at the time, so they were closed as hazardous waste landfills requiring post-closure care. Illinois EPA certified closure of the underground storage tanks on September 15, 1988. The initial post-closure period began on May 9, 1989.

B. UNIT IDENTIFICATION

1. The Permittee must provide post-closure care for the following hazardous waste management units (HWMUs) subject to the terms and conditions of this Permit:

Designation	Dimensions (feet)	Capacity (gallons)	Wastes	Waste Codes
HWMU 1	14 x 20	Former USTs – 3000 each	spent solvents; constituents include benzene, chlorobenzene, chloroform, ethylbenzene, methylene chloride, toluene, trichloroethene, xylenes, 1,2-dichloroethane	F003, F005, D001, U008, U196, U108, U213, U109, U188, U044, U190
HWMU 2	16 x 24			

Note: HWMUs 1 and 2 were previously identified and referred to as SWMUs 1 and 2 in the previous Permits issued to the facility and in the approved permit application.

2. A survey plat indicating the location and dimensions of the HWMUs listed in Condition II.B.1 with respect to permanently surveyed benchmarks was prepared and certified by a professional land surveyor. The survey plat serves as an instrument, which is examined during title search, that will in perpetuity notify any potential purchaser of the property that the land identified has been used to manage hazardous wastes and its use is restricted under 35 IAC Part 725. Prior to completion of post-closure care of these units, the Permittee must meet the requirements of Condition II.F below.

3. The survey plat was recorded with the Recorder of Deeds for Winnebago County, with the zoning office of the City of Rockford, IL, and with Illinois EPA on February 3, 1989. The survey plat has document number 1826203, and it is for the parcel with index number 11-06-301-003.

4. The area of HWMU 1 is currently capped by asphalt and used as a parking lot. The area of HWMU 2 is currently capped by concrete and partially covered by a storage building.

5. The landfills are associated with the removal of underground storage tanks from the area and therefore, the units do not have a bottom liner, cut-off walls, slurry walls, leachate collection system, leak detection system, or a soil gas collection system.

C. POST-CLOSURE CARE PERIOD

1. The post-closure care period for the units listed in Condition II.B.1 began on May 9, 1989, and the initial 30-year minimum post-closure was reached on May 9, 2019. As the facility has applied for a renewal of the post-closure permit and did not complete post-closure care and corrective action at the site, the post-closure care of the units identified in Condition II.B.1 must continue until such time that there are no unacceptable risks to human health and the environment, as determined by Illinois EPA.

2. Illinois EPA may include restrictions upon the future use of the site if necessary to protect public health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. After administrative and judicial challenges to such restrictions have been exhausted, Illinois EPA will file such restrictions of record in the Office of the Recorder of the county in which the facility is located.

3. The Permittee must not allow the property where the landfill areas identified in Condition II.B.1 are located to be used in a way that could disturb the integrity of the final cover unless Illinois EPA finds, by way of a permit modification, that such use is necessary for either of the following reasons:

   a. It is necessary to the proposed use of the property, and will not increase the potential hazard to the public health or the environment; or

   b. It is necessary to reduce a threat to human health or the environment.

D. INSPECTIONS

1. The Permittee must inspect the components, structures, and equipment at the site in accordance with the inspection schedule in the approved permit application and the conditions in this Permit. The inspection schedule for the landfill caps, monitoring wells, and recovery wells is summarized in Attachment D of this Permit.

2. The Permittee must inspect the surface caps and monitoring well network at least annually for signs of deterioration. The recovery well network totalizer must be read daily and any changes in the pumping rate must be addressed as described in the approved permit application. Appropriate corrective action shall be taken if problems are observed at any time.

3. If corrective action is taken, the area involved must be reinspected one month following completion of the work to ensure the corrective actions have adequately addressed the problems.

4. The Permittee must inspect the benchmarks used to identify the location of the hazardous waste management units and solid waste management units within 60 days of the effective date of this Permit and thereafter in accordance with the inspection schedule in the approved permit application. Benchmarks must be repaired and re-surveyed whenever an inspection of the benchmarks indicates they have been damaged. The inspection results, repairs, and surveys of the benchmarks must be maintained as part of the operating record. In accordance with 35 IAC 702.161(d), Illinois EPA will review the RCRA Permit no later than five years after the date of issuance or reissuance, and Illinois EPA will modify the permit as necessary, including changing the surveying frequency.

5. Results of all inspections and a description of any remedial actions taken must be documented in a repair log within the operating record and maintained for the entirety of the post-closure period.

6. The Permittee must contact the Rockford Regional Office of Illinois EPA via telephone and by written correspondence within 24 hours of identifying issues with the surface caps over the HWMUs listed in Condition II.B.1 or with the well network.

7. The storage building that partially covers the surface cap of HWMU 2 must have a water-tight seal between the building and surface cap. The integrity of the secondary containment pad and the construction joint between the building and cap must be included in inspection events.

E. MONITORING, MAINTENANCE, AND RECORDKEEPING

1. The Permittee must maintain a written operating record in accordance with 35 IAC 724.173. The operating record will include items such as all permits issued to the Permittee, all permit applications, all permit mods, all work plans, and all groundwater monitoring reports. It is required for the Permittee to maintain the operating record on-site. According to 35 IAC 724.174, the record must be provided to Illinois EPA for inspection when requested.

2. The Permittee must maintain the groundwater monitoring system and comply with the applicable regulations of 35 IAC Part 724 during the post-closure care period.

3. The Permittee must maintain the integrity and effectiveness of the final cover of the units closed as landfills, including making repairs to the caps, as described in the approved permit application. In addition, corrective action must be taken if ponding, any cracks, or any other sign(s) of deterioration that compromise the integrity of the cover are observed.

4. The Permittee must maintain the benchmarks utilized for surveying the location and boundaries of the units.

F. NOTICES AND CERTIFICATIONS

1. Requests to change the post-closure plan must be submitted in the form of permit modification requests. The request must be in accordance with applicable requirements of 35 IAC Parts 702, 703, and 724, and must include a copy of the amended post-closure plan for review and approval by Illinois EPA.

2. If the Permittee or any subsequent owner/operator of the land upon which the units listed in Condition II.B.1 are located wants to remove hazardous waste, hazardous waste residue, or contaminated soil, they must request a modification to this RCRA Permit in accordance with the applicable regulations in 35 IAC Parts 703, 705, and 724. At a minimum, Owner/Operator must demonstrate that the removal of such material will satisfy the criteria of 35 IAC 724.217.

3. If the Permittee wants to demonstrate that they should be allowed to end the post-closure care period (e.g., all waste has been removed, and groundwater monitoring results do not indicate a potential for migration of waste at levels which may be harmful to human health or the environment), the Permittee must establish an Environmental Covenant for the future land use and management of the property on which the HWMUs listed in Condition II.B.1 are located. A proposed Environmental Covenant must be submitted at least one year prior to the date the Permittee expects to submit the Certification of Completion of Post-Closure. The purpose of the Environmental Covenant is to place restrictions upon the future use of the site necessary to protect public health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. The Environmental Covenant will be established between the Permittee and the State of Illinois, and it will be in the form and format specified by Illinois EPA.

4. If the Permittee wants to exit post-closure care, the Permittee must submit the following documents to Illinois EPA by registered mail no later than 60 days after completion of the established post-closure care period for the units in Condition II.B.1:

   a. Certification of Completion of Post-Closure form that states the post-closure care for the units listed in Condition II.B.1 was performed in accordance with the specification in the post-closure plan within the approved permit application and the conditions in this Permit. Owner/Operator and a qualified Illinois licensed Professional Engineer must sign the certification form.

   b. Post-Closure Documentation Report that documents the post-closure care conditions and activities at the facility during the post-closure period. The Post-Closure Documentation Report must include:

i. background information about the facility and the units subject to the post-closure certification

ii. detailed descriptions of the units including their design, operational history, closure, wastes stored, location, scaled drawings of dimensions and cross-section, and a survey of the unit when it was certified closed

iii. discussion on the inspection and maintenance of the final cover over the HWMUs in chronological order

iv. discussion on the groundwater monitoring program, including any corrective measures that were completed during the post-closure care period and a summary of the three most recent years of groundwater data

v. identification of the horizontal and vertical extent of any groundwater contaminant plume from the units that existed from the beginning of post-closure care and every five-year interval afterward

vi. completed Illinois EPA LPC-PA23 and 39(i) forms

c. Proof that the Environmental Covenant described in Condition II.F.3 has been filed with the County Recorder's Office.

5. Within 60 days of receiving certification from Owner/Operator and a qualified Illinois licensed professional engineer that the post-closure care period has been completed for the hazardous waste management units listed in Condition II.B.1, Illinois EPA will notify Owner/Operator that it is no longer required to maintain financial assurance for post-closure care unless Illinois EPA determines that the post-closure care has not been in accordance with the approved post-closure plan. Illinois EPA will provide Owner/Operator with a detailed written statement of any such determination.

G. POST-CLOSURE CARE COST ESTIMATE/FINANCIAL ASSURANCE

1. The Permittee must maintain financial assurance for post-closure care of the hazardous waste management units listed in Condition II.B.1 of this Permit for the approved cost estimate.

2. Post-closure care costs are determined by multiplying annual costs by the 30-year post-closure care period and by adding any other one-time costs associated with post-closure care. Financial assurance sufficient to meet the requirements of 35 IAC Part 724 for post-closure care costs must be adjusted for inflation annually and continuously maintained.

SECTION III: GROUNDWATER CORRECTIVE ACTION PROGRAM

A. SUMMARY

Hazardous constituents released from the two removed USTs which were previously designated S02, closed as landfill units (D80), have been detected in the groundwater at and beyond the point of compliance at concentrations which exceed the groundwater protection standards established in 35 IAC 724.192, and 35 IAC Part 620 groundwater quality standards. Therefore, this Groundwater Corrective Action Program, meeting the requirements of 35 IAC 724.200, must be implemented. The locations of the regulated units are depicted on Figure C-1 of the approved permit application. Pursuant to Section 39(d) of the Environmental Protection Act, Illinois EPA may also include conditions within a RCRA permit to achieve compliance with the State standards. The Groundwater Corrective Action Program for the regulated units required by this Permit includes:

1. Establishment and maintenance of a Groundwater Management Zone (GMZ). A GMZ is defined as the three-dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site that is subject to corrective action or for which the owner/operator undertakes an adequate corrective action in a timely and appropriate manner and provides written confirmation to Illinois EPA;

2. Adequate control of the horizontal and vertical flow of groundwater within the aquifer of concern. The control of groundwater flow will be accomplished by extracting enough groundwater from the aquifer at locations between the point of compliance and the downgradient facility property boundary and, where necessary, beyond the facility boundary to protect human health and the environment;

3. Monitoring groundwater elevations in the aquifer of concern to ensure the effectiveness and success of the corrective actions as well as verify compliance with the GMZ; and

4. Monitoring the quality of groundwater in the aquifer of concern to demonstrate the effectiveness and success of the corrective actions, as well as verify compliance with the groundwater protection standards.

B. IMPLEMENTATION

1. The Permittee shall implement the Groundwater Corrective Action Program established in this Permit upon the effective date of this Permit. On that date, the corrective action and groundwater monitoring requirements set forth in this Permit shall supersede those previously established.

2. The Permittee shall carry out the Groundwater Corrective Action Program specified in this Permit on the groundwater beneath the Life Technologies Facility in Rockford, Illinois. The uppermost aquifer in the vicinity of the facility has been identified as the

permeable silty clay of the Wadsworth Till Member of the Wedron Formation and the weathered and fractured upper portions of the Racine Formation dolomite. The uppermost aquifer is comprised of unconsolidated glacial sediments of the Quaternary age Winnebago Formation (Argyle Till Member) which directly overlies Ordovician age dolomite of the Galena Formation. These units have been demonstrated to be hydraulically connected. For this Permit, and in accordance with the 35 IAC Part 620, the uppermost aquifer has been designated Class I: Potable Resource Groundwater. "Uppermost Aquifer" refers to the geologic formation nearest the natural ground surface that is an aquifer as well as lower aquifer that are hydraulically connected with this aquifer in the vicinity of the facility.

3. The point of compliance is defined as a vertical surface located at the hydraulically downgradient limit of the regulated unit that extends down into the uppermost aquifer underlying the unit is delineated by the wells identified as the point of compliance wells in Condition III.D.1 and illustrated in Figure C-6 of the approved permit application.

4. The Permittee must continue corrective action measures during the compliance period to the extent necessary to ensure that the groundwater protection standard is not exceeded. If the Permittee is conducting corrective action at the end of the compliance period, the Permittee must continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The Permittee may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if the Permittee can demonstrate, based on data from the groundwater monitoring program pursuant to 35 IAC 724.200(f), that the groundwater protection standards found in Condition III.D.1 have not been exceeded for a period of three consecutive years. The compliance period at the Life Technologies Facility has been defined as a minimum of 30 years.

5. The point of compliance must be postponed for the regulated unit until such time that the GMZ monitoring wells have attained the applicable concentration limits that comprise the groundwater protection standard found in Condition III.D.1 and Condition III.D.2 and the GMZ expires. At that time, the facility must submit a proposal for establishment of a point of compliance which satisfies the regulatory requirements found in 35 IAC Part 724, Subpart F and reflects the current conditions of the facility.

C. WELL LOCATIONS AND CONSTRUCTION

1. Apart from the private groundwater supply wells, the Permittee shall maintain all monitoring wells, recovery wells, and piezometers identified in the table below to allow for the collection of groundwater samples and elevations from the aquifer of concern. The location of each well and piezometer is depicted on Figure C-7 of the approved permit application.

IEPA Well No.	Facility Well No.	Well Depth (Ft-bgs)	Well Depth Elevation (Ft.-MSL)	Well Screen Interval (Ft-MSL)	State Plane Coordinates (Northing/Easting)
Groundwater Management Zone Perimeter Wells (Semi-annual sampling)					
G11S	1	17.06	776.01	786.01-776.01	2058241.37/ 2565252.73
G11D	1D	47	746.40	751.40-746.40	2058241.37/ 2565252.73
GA7S	17	12.61	765.91	770.91-765.91	2057869.52/ 2565650.04
G14S	4	17.1	766.33	776.33-766.33	2057946.36/ 2565831.86
GA0D	10D	36.83	752.54	757.54-752.54	2058027.46/ 2565907.16
RB1S	21	45.02	733.06	738.06-733.06	2057896.56/ 2565974.18
GC1S	GC1S	10	776.36	781.36-776.36	2057990.36/ 2565443.93
G603%	G603	23.35	763.13	----------	2057943.70/ 2565558.66
Observation Zone Wells (Semi-annual sampling)					
GA1S	11S	9.76	774.98	779.98-774.98	2057996.23/ 2565585.96
GA1D	11D	29.5	755.22	760.22-755.22	20580000.04/ 2565585.96
GA3S	13	16.7	770.67	775.67-770.67	2058177.73/ 2565477.99
RA9S	RA9S	38.1	740	744.90-740.30	2057871.18/ 2565696.75
GB8S	GB8S	10	780.5	788.50-780.50	2058166.60/ 2565341.90
GB9S	GB9S	14	774.2	784.20-774.20	2058241.47/ 2565439.24
GC0S	GC0S	15.5	770.5	780.50-770.50	2058146.89/ 2565615.16

GC4S	GC4S	30	757.54	767.39-758.04	2058117.82/ 2565771.65
GC5S	GC5S	26	759.62	769.47-760.12	2058005.85/ 2565776.56
Investigative Wells (Annual sampling)					
G17D##	7D	31	755.41	775.41-755.41	2057996.23/ 2565585.96
R17S##	7R	8	778.24	783.24-778.24	2058071.89/ 2565455.54
G18S	8S	10.23	775.96	780.96-775.96	2058107.91/ 2565586.65
G18D	8D	30.43	756.04	761.04-756.04	2058112.17/ 2565586.52
G19S	9	9.93	777.34	782.30-777.30	2058118.61/ 2565487.01
GA2S##	12	13.59	777.92	782.92-777.92	2058241.08/ 2565345.41
GA2D##	12D	42.84	748.66	758.66-748.66	2058825.46/ 2565994.10
GC2S	GC2S	20	767.5	777.50-767.50	2058186.75/ 2565429.17
G201#	PW-1	Unknown	Unknown	Unknown	Unknown
G202#	PW-2	Unknown	Unknown	Unknown	Unknown
G203#	PW-3	Unknown	Unknown	Unknown	Unknown

Notes:

* Based on ground surface elevation to bottom of well elevation.
** Estimate.
\+ Well to be abandoned.
++ Well to be abandoned and replaced.
% Well to be used only as a piezometer for the collection of groundwater elevation data
# Facility owned potable water wells used for groundwater monitoring only
Point of compliance Wells
"Ft - bgs" refers to the number of feet below the ground surface.

"Ft-MSL" refers to the number of feet below the ground surface referenced to mean sea level.

2. Construction of each monitoring well/piezometer must be in accordance with the "Monitoring Well Diagram" and "Well Completion Report" forms located on Illinois EPA website, unless otherwise approved in writing by Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs contained in the "Field Boring Log" form on Illinois EPA website, unless otherwise approved by Illinois EPA.

3. This Permit may be modified by the Permittee or Illinois EPA in accordance with 35 IAC 705.128 if information becomes available that the current well spacing is not adequate to detect contamination from the hazardous waste management areas to the uppermost aquifer.

4. Apart from the private groundwater supply wells, the Permittee shall notify the Illinois EPA within 30 days in writing if any of the wells identified in Condition III.C.1 are damaged, or the structural integrity has been compromised. A proposal for a replacement within 10 feet of the subject well shall accompany this notification. The well shall not be plugged until the new well is on-line and monitoring data has been obtained and verified unless the well is extremely damaged and would create a potential route for groundwater contamination. Prior to replacing the subject well, the Permittee shall obtain written approval from Illinois EPA regarding the proposed installation procedures and construction.

5. Should any well become consistently dry or unserviceable, excepting private groundwater supply wells, a replacement well shall be provided within 10 feet of the existing well. This well shall monitor the same geologic zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time that the well is replaced. A well which is more than 10 feet from the existing well or does not monitor the same geologic zone must be approved by Illinois EPA and designated a new well.

6. Monitoring well and piezometer construction shall comply with the minimum standards set forth in 77 IAC Part 920 regulations. The Permittee shall submit boring logs, construction diagrams, and data sheets from the installation and development of each new or replacement well to Illinois EPA at the address below within 30 days of the date that installation of the well is completed. In addition, the Permittee shall submit certification that plugging and abandonment of a well was carried out in accordance with the approved procedures to Illinois EPA at the address below within 30 days of the date that the well is plugged and abandoned. All information shall be submitted to the appropriate Agencies.

Illinois Environmental Protection Agency
Bureau of Land #33
Permits Section
2520 West Iles Avenue
Post Office Box 19276
Springfield, Illinois 62794-9276

7. All wells/piezometers shall be clearly identified and shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas shall be protected with bumper guards.

8. All groundwater monitoring wells and piezometers not utilized in the approved groundwater monitoring system; but retained by the facility, shall be constructed and maintained in accordance with 77 IAC Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition III.C.6.

D. GROUNDWATER PROTECTION STANDARD

1. The Permittee shall determine groundwater quality at groundwater monitoring wells identified in Condition III.C.1 semi-annually. The concentration limits listed for the following hazardous constituents comprise the semi-annual groundwater protection standard, hereafter referred to as List D1. A parameter may be transferred from List D1 to List D2 if it has been determined the concentration over two consecutive sampling and analysis events is below the concentration limit for that parameter, or if that parameter concentration limit is not specified, the Lower Limit of Quantitation (LLOQ). Total (unfiltered) values shall be used for comparison with groundwater quality standards. Dissolved (filtered) fraction shall be used for statistical analysis of inorganics. Concentration limits are 35 IAC 724, Appendix I standards, 35 IAC Part 620 standards, or approved background values.

LIST D1 (Groundwater Protection Standard -- Semi-Annual Sampling)

Hazardous Constituents	STORET	Concentration Limits (mg/L)
benzene	34030	0.005
chlorobenzene	34301	0.1
chloroform	32106	0.07
ethylbenzene	78113	0.7
toluene	34010	1.0
trichloroethene	39180	0.005
xylene (total)	81551	10
1,2-dichloroethene	34531	0.005
1,4-dichlorobenzene	34571	0.075
tetrachloroethene	34475	0.005

cis-1,2-dichloroethene	77093	0.07
1,3-dichlorobenzene	34566	0.0063

*Note: (1) In addition to meeting the individual 35 IAC 620.410 Class I groundwater protection standards indicated in Condition III.D.1, D.2, and D.4, an evaluation for mixtures of similar-acting substances must be conducted for non-carcinogenic substances to meet the requirements of 35 IAC 620.615.

(2) In addition to meeting the individual 35 IAC 620.410 Class I groundwater protection standards indicated in Condition III.D.1, D.2, and D.4 the requirements of 35 IAC 620.615 must be met for carcinogenic substances.

(3) Calculation to meet Notes (1) and (2) must be based on the most current information to remain protective of human health and the environment. This evaluation must be reported semi-annually during routine groundwater monitoring reports required by condition III.I.2

2. The concentration limits listed for the following hazardous constituents comprise the annual groundwater protection standard, hereafter referred to as List D2. List D2 is comprised of those parameters which have been detected or may be, based upon hazardous waste constituents which were stored in the regulated units, or have been found in groundwater. Illinois EPA reserves the right to transfer a constituent from List D2 for the purposes of adding it to list D1 should it be determined the constituent requires additional sampling to be protective of human health and environment. Total (unfiltered) values shall be used for comparison with groundwater quality standards. Dissolved (filtered) fraction shall be used for statistical analysis of inorganics.

LIST D2 (Groundwater Protection Standard – Sampled Annually)

Hazardous Constituents	STORET	Concentration Limits (mg/L)
acetone	81552	3.5
benzene	34030	0.005
bromoform	32104	0.001
chlorobenzene	34301	0.1
chloroform	32106	0.07
diethyl phthalate	34336	3.1
dimethyl phthalate	34341	7.0
ethylbenzene	78113	0.7
methyl chloride	34418	28
naphthalene	34696	0.077
phenols	32730	0.1
toluene	34010	1.0

trichloroethene	39180	0.005
vinyl chloride	39175	0.002
xylene (total)	81551	10
1,2-dichloroethane	34531	0.005
1,2,4-trichlorobenzene	34551	0.07
1,4-dichlorobenzene	34571	0.075
tetrachloroethene	34475	0.005
cis-1,2-dichloroethene	77093	0.07
trans-1,2-dichloroethene	34546	0.1
1,3-dichlorobenzene	34566	0.0063
methylene chloride	34423	0.005
1,1,1-trichloroethene	34506	0.2
acrylonitrile	34215	0.005
bis (2-ethylhexyl) phthalate	39100	0.006

*Note: See Notes to List D1 for additional requirements for List 2.

3. The following parameters comprise the field parameter list, hereafter referred to as List D3.

List D3 (Field Parameters)

Field Parameter Units	STORET	Reporting Units
pH	00400	Standard Units
Specific Conductance	00094	umhos/cm
Temperature of Water Sample	00011	(°F)
Turbidity	45626	Ntus
Depth to Water (below land surface)	72019	Ft
Depth to Water (below measuring point)	72109	Ft
Elevation of bottom of Well#	72020	Ft MSL
Elevation of Groundwater Surface	71993	Ft MSL
Elevation of Measuring Point (Top of Casing)##	72110	Ft MSL

Note: # Shall be determined during the second sampling event of each year.
Shall be surveyed once every two years, or at the request of Illinois EPA, or whenever the elevation changes as required by III.F.2.

4. The following parameters comprise the historically removed parameters from the program, hereafter referred to as List D4. These are the historically removed groundwater

protection standards. Total (unfiltered) values shall be used for comparison with groundwater quality standards.

LIST D4 (Historical Groundwater Protection Standard – Sampled Once Every Five Years)*

Hazardous Constituents	STORET	Concentration Limits (mg/L)
Bis(2-chloroethyl) ether	34273	0.01
1,2-Dichlorobenzene	34536	0.6
1,2-Dichloroethene	45167	0.005
1,1,2,2-Tetrachloroethane	34516	0.21
1,1-Dichloroethane	34496	0.77
1,1-Dichloroethene	34501	0.007
1,2-Dichloropropane	34541	0.005
Vinyl Acetate	77057	0.7
Dichlorodifluoromethane	34668	0.77
Methyl Ethyl Ketone	81595	2.3
Carbon Disulfide	77041	0.38
Butyl Benzyl Phthalate	34292	1.4

*Note: See notes to List D1 for additional requirements for List D4.

5. Pursuant to 35 IAC 724.194(a), the appropriate concentration limits that comprise the groundwater protection standard presented in Lists D1, D2, and D4 are either: background concentrations; 35 IAC 724.194 Table 1 concentration limits; or an alternate concentration limit such as the appropriate 35 IAC Part 620 GQS, or submit the information required by 35 IAC 724.194(b). Background Groundwater Quality Values (BGV) for those constituents presented in Lists D1, D2, and D4 were previously established using a minimum of four quarters of monitoring data. For those parameters not detected in background groundwater, the SW-846 method specific practical quantitation limit was proposed at that time as the concentration limit. "Detected" shall mean a concentration equal to or above the LLOQ listed in the latest promulgated version of USEPA's Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, Third Edition (SW-846) and finalized updates for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition III.H of the Permit.

   a. To establish background of a constituent for the purpose of establishing the concentration limit, the following procedures shall be followed:

      Background shall be established on data obtained from the quarterly sampling of each upgradient well for 4 consecutive quarterly sampling events in accordance

with the procedures outlined in Appendix C-7 of the approved permit application. Background shall be proposed to Illinois EPA for approval within 45 days of receipt of the fourth quarter analytical results. For those monitoring parameters or constituents not detected above the LLOQ during background gathering, the background value must be established as either the lowest LLOQ or contained in 35 IAC 724, Appendix I or the appropriate 35 IAC Part 620 GQS, whichever is lower.

6. Alternate concentration limits may be established where the Permittee can determine a constituent will not pose a substantial hazard to human health and the environment.

   a. Where a hazardous constituent has a standard in 35 IAC Part 620, the facility must apply for an adjusted standard as outlined in Section 28.1 of the Environmental Protection Act.

   b. For those hazardous constituents without a 35 IAC Part 620 standard, the alternative concentration limit(s) proposed by the facility must be approved by Illinois EPA.

7. The compliance period (post-closure period) during which the groundwater protection standard applies shall be extended until the Permittee demonstrates that the groundwater protection standard has not been exceeded at the point of compliance for three consecutive years.

E. GROUNDWATER CORRECTIVE ACTION PROGRAM

The Permittee shall conduct the Groundwater Corrective Action program and perform groundwater monitoring in accordance with the following:

1. All wells listed in Condition III.C.1 are those that will be utilized to monitor the GMZ at the facility. The geographic location of the GMZ is defined by the wells listed in Condition III.C.1 and depicted on Figure C-7 of the approved permit application. The GMZ shall apply to the constituents comprising the groundwater protection standards listed in Condition III.D. The GMZ shall remain in place while the corrective actions are being conducted in a timely and appropriate manner. The GMZ shall expire upon the groundwater meeting the groundwater protection standards.

2. The Observation Zone and Investigative Zone wells listed in Condition III.C.1 monitor the area of contamination within the GMZ. Groundwater monitoring to ensure the groundwater protection standard has not been exceeded within the GMZ shall be evaluated semi-annually or annually in accordance with the procedures outlined in Section C of the approved permit application and in accordance with the schedule found in Condition III.I.2.

a. Monitoring wells listed in Condition III.C.1 shall be sampled according to the frequency identified on the table.

b. Samples collected during the second quarter of each year shall be analyzed for List D2 and D3 constituents listed in Conditions III.D.2 and III.D.3.

c. Samples collected during the fourth quarter of each year shall be analyzed for List D1 and List D3 constituents listed in Conditions III.D.1 and III.D.3.

d. Sampling and analytical procedures utilized for groundwater sampling of Observation Zone and Investigative Zone wells shall be in accordance with Condition III.G.

3. The GMZ Perimeter wells listed in Condition III.C.1 monitor the extent of the effects of the groundwater corrective action and define the boundary of the GMZ. Groundwater monitoring to ensure the groundwater protection standard has not been exceeded at the GMZ perimeter shall be evaluated semi-annually in accordance with the procedures outlined in Section C of the approved permit application and in accordance with the schedule found in Condition III.I.2.

a. Monitoring wells listed in Condition III.C.1 shall be sampled according to the frequency identified on the table.

b. Samples collected during the second quarter of each year shall be analyzed for List D2 and D3 constituents listed in Conditions III.D.2 and III.D.3.

c. Samples collected during the fourth quarter of each year shall be analyzed for List D1 and List D3 constituents listed in Conditions III.D.1 and III.D.3.

d. Once every five years, during the second quarter of the respective year, GMZ Perimeter wells shall be analyzed for List D4 constituents listed in Condition III.D.4.

e. Sampling and analytical procedures utilized for groundwater sampling of GMZ Perimeter wells shall be in accordance with Condition III.G.

4. The GMZ shall be monitored and maintained as follows:

a. Implementation of the groundwater recovery system described herein shall maintain hydraulic control of the contaminated groundwater and forms the basis of the GMZ. The Permittee shall implement at the following groundwater extraction wells the corrective measures described in Section C.8 and as described in Conditions III.E.4.b through i.

b. Three groundwater extraction wells labeled G601, G605, and G606, depicted on Figure C-7 of the approved permit application, are currently located within the GMZ to provide hydraulic control and remediation of groundwater at the facility. Groundwater extraction from the extraction wells G605 and G606 shall be maintained to ensure that groundwater flow is adequately controlled in the aquifer. Groundwater extraction well G601 is off-line but shall be retained and maintained in accordance with the requirements of Condition III.C.8.

c. The pumping rate for each extraction well shall be recorded daily (normal operating days) using instantaneous flowrate meters. This data shall be used to calculate the weekly and monthly average extraction rates and to ensure that the pumping system is operating properly.

d. Changes in the pumping rate must be explained in the annual report. Extended periods of "downtime" (i.e. 24 hours) shall be reported to Illinois EPA.

e. Hydraulic head measurements shall be made semi-annually during the compliance period. This data shall be used to evaluate the long-term seasonal trends of water-table surfaces when subjected to the pumping stress of the gradient and source control systems, and to determine the size of the resulting capture zone.

f. Flow rate data shall be recorded on a weekly basis. The flow rate shall be calculated from the cumulative discharge data of each well as measured by its cumulative flowmeter. The annual report shall present the weekly flowmeter data for the annual period, and the flow rate calculated from this data. Flow rate data shall be calculated as the average volume pumped in gallons per minute for each well during each weekly measurement period, as well as the average flow rate for the annual reporting period.

g. The Permittee shall maintain all groundwater extraction equipment associated with the corrective action plan to ensure that groundwater flow within the aquifer of concern remains adequately controlled.

h. The hydraulic effects of the extraction well system must be determined at each well listed in Condition III.C.1 when they are sampled by monitoring the horizontal and vertical gradients of groundwater flow within the aquifer of concern. To evaluate the hydraulic effects of the groundwater corrective action system, scaled potentiometric maps both within the zone of influence and capture created by the extraction system, and beyond the facility property boundary where necessary to protect human health and environment, shall be developed. The potentiometric maps must be based upon groundwater flow rate and direction in the uppermost aquifer which is to be reported alongside this evaluation. The pumping rate shall also be identified on the potentiometric maps. These maps are to be included in each semi-annual reports in accordance with the schedule found in Condition III.I.2.

i. The Permittee shall demonstrate the effectiveness of the groundwater extraction system by monitoring groundwater from wells identified in Condition III.C.1 as described in Condition III.E.1.

5. Within the annual evaluation required by Condition III.I.10, the Permittee shall provide an adequate characterization of the contaminant plume pursuant to 35 IAC 703.185(d) and Conditions III.E.1 and III.E.2. The plume characterization shall adequately assess the distribution and concentrations of all Condition III.D constituents within the groundwater. Specifically, the maximum concentration and identification of the extent of each Condition III.D constituent which has migrated from the hazardous waste management area must be depicted. This information shall be utilized to assess the effectiveness of the Groundwater Corrective Action Program, the completeness of the groundwater monitoring system, and to maintain the establishment of the GMZ.

   a. The Permittee shall submit the following data to Illinois EPA semi-annually in accordance with the schedule in Condition III.I.2 to demonstrate that groundwater flow throughout the contaminated area requiring corrective action, and where necessary to protect human health and the environment, is adequately controlled and contained:

      i. A record of the weekly and monthly average of groundwater extracted from each groundwater extraction well.

      ii. Semi-annual groundwater elevation measurements from wells identified in Condition III.C.1.

      iii. Piezometric maps and underflow calculations of the aquifer as described in Condition III.E.2.a.iv

      iv. The rate and extent of contaminant migration and water quality trends in groundwater throughout the compliance period.

6. The Permittee shall install additional wells as necessary to provide an adequate characterization of the groundwater contaminate plume and the effectiveness of the corrective action

7. The Permittee must obtain written approval from Illinois EPA prior to making any changes on-site which might affect the overall program associated with controlling the groundwater flow as required by Condition III.A.2. Detailed information regarding the changes must be submitted to Illinois EPA at least 120 days prior to the date that the change is to be made.

8. An evaluation of the GMZ shall be submitted in a report for Illinois EPA review and approval, a minimum of every five years, in accordance with the guidance document,

"Re-evaluation of Groundwater Management Zones at RCRA Facilities" found at Illinois EPA website. This report will include the following:

a. All the information required by the guidance document, "Re-evaluation of Groundwater Management Zones at RCRA Facilities" found at Illinois EPA website.

b. Analytical data from samples collected during the 5-year evaluation period from all wells that were analyzed, including List D4 constituents sampled at GMZ Perimeter wells.

c. A proposal to submit a Class 1* permit modification within 90 days of the GMZ re-evaluation to transfer any detected List D4 constituents to List D1.

F. GROUNDWATER ELEVATIONS

1. The Permittee shall determine the groundwater surface elevation referenced to mean sea level (MSL) at each well each time groundwater is sampled in accordance with Condition III.I.2.

2. The Permittee shall determine the surveyed elevation of "stick-up" (height of the referenced survey datum determined within ±0.01 foot in relation to MSL, referenced to an established National Geodetic Vertical Datum) when the well is installed (with as-built diagrams) and every two years during the annual sampling event, or at the request of Illinois EPA, or whenever the elevation changes in accordance with Condition III.I.5

3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020) is to be reported at least annually. The mandatory measurement shall be taken during the annual sampling event described in Condition III.I.2.

G. SAMPLING AND ANALYSIS PROCEDURES

1. The Permittee shall use the techniques and procedures described in Section C.8.4.3 of the approved permit application, except as modified, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition III.C.l:

a. Samples shall be collected by the techniques described in Section C.8.4.3 of the approved permit application.

b. Samples shall be preserved, shipped, and handled in accordance with the procedures specified in Section C.8.4.3 of the approved permit application.

c. Samples shall be analyzed according to the procedures specified in Section C.8.4.3 of the approved permit application. Groundwater analysis must be in accordance with the most current version of the applicable methods found in

USEPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," Third Edition (SW-846) and finalized updates.

d. Samples shall be tracked and controlled using the chain of custody procedures specified in Section C.8.4.3 of the approved permit application.

H. STATISTICAL PROCEEDURES

The Permittee shall use the statistical procedures described in Section C.8.4.5 of the approved permit application, except as modified herein, when evaluating results in accordance with Condition III.E. These are in keeping with USEPA's "Statistical Analysis of Groundwater Monitoring Data at Resource Conservation and Recovery Act (RCRA; as defined by Section 3.425 of the Environmental Protection Act, 415 ILCS 5/1) Facilities – Unified Guidance" (2009).

1. The Permittee shall evaluate the quality of groundwater samples acquired during the semi-annual sampling events identified in Condition III.E.

   a. GMZ Perimeter wells (see Condition III.E.1.b) shall be evaluated according to the following procedures:

      i. The concentration of each hazardous constituent which comprise the groundwater protection standard (Condition III.D.1) shall be compared to their respective Concentration Limit or if no Concentration Limit is specified, the parameter's SW-846 LLOQ. If a parameter exceeds its Concentration Limit specified in Condition III.D.1 or SW-846 method specific LLOQ, the Permittee shall follow the procedures specified in Conditions III.I.11 and III.I.12.

      ii. Constituents detected below the LLOQ shall be determined to be showing no change and no action is necessary.

      iii. Constituents detected above the LLOQ shall be evaluated using trend tests as described in Section C.8.4.5 of the approved permit application. Constituents determined to have an increasing trend at the 90% confidence level shall be reported as a potential area of increasing contamination. In addition, this report shall contain an evaluation on whether the corrective actions are operating effectively and whether adjustments or additional remedial actions are necessary based on this trend.

2. The Permittee shall evaluate the results of the analyses required by Condition III.E by:

   a. Comparing the list of substances found in samples to the list of hazardous constituents contained in Condition III.D.1. If a given constituent is found above the LLOQ in the sample, collected from the well, the Permittee may resample

within 30 days. This sample shall be analyzed for the constituent(s) detected above the LLOQ in the initial sample.

b. If the constituent(s) of concern is (are) again detected above the LLOQ, or the Permittee does not resample, the Permittee shall conclude that the constituent(s) of concern is (are) in the groundwater and follow the procedures in Condition III.I.13.

c. If the constituent(s) of concern is (are) not detected in the resample, the Permittee will not be required at that time to continue sampling for the particular constituent(s).

d. Comparing the concentration of the samples from the GMZ Perimeter wells to the concentration limits of the groundwater protection standard identified in Condition III.D.1. If this comparison indicates a constituent exceeds its Concentration Limit, the Permittee shall follow the procedures specified in Condition III.I.11 and III.I.12.

e. Determining the concentration trend at each well to identify areas that may have increased contamination and to evaluate the effectiveness of the extraction system for reducing the concentration of contaminants within the GMZ. GMZ Perimeter wells shall be evaluated as follows:

   i. Constituents detected below the LLOQ shall be determined to be showing no change and no action is necessary.

   ii. Constituents detected above the LLOQ shall be plotted on graphs which show the concentration versus time. The information shall be used to evaluate whether all constituents comprising the groundwater protection standard are being adequately remediated. This evaluation shall include an assessment of the current corrective actions and whether adjustments or additional remedial actions are necessary.

3. The Permittee shall evaluate the effectiveness of the groundwater extraction system to hydraulically capture and withdraw the off-site plume of groundwater contamination. The information required by Condition III.E.2 and Section C.8 of the approved permit application shall be used for this evaluation. This evaluation shall be conducted semi-annually. If the evaluation indicates the off-site plume of contamination is not completely captured by the current extraction system design and present pumping rate static conditions, the Permittee shall submit within 30 days of the semi-annual evaluation, proper notification or modification to achieve capture of the groundwater contamination.

I. REPORTING AND RECORDKEEPING

1. The Permittee shall enter all monitoring, testing and analytical data obtained in accordance with Conditions III.D, III.E, III.G and III.H into the operating record.

2. Samples collected to meet the requirements of the groundwater monitoring described in Condition III.D, III.E, III.G, and III.H shall be collected and reported as identified in the included table. All additional data collected for groundwater monitoring (as specified in Conditions III.D, III.E, III.G, and III.H) shall also be submitted to Illinois EPA at the address listed in Condition III.C.6 in accordance with this schedule:

Sampling Event of Calendar Year	Samples to be Collected During the Months of	Results submitted to Illinois EPA	Constituents	Monitoring Wells
Second Quarter	April-May	June 15	List D2, List D3	GMZ Perimeter Wells, Observation Zone Wells, Investigative Wells
Fourth Quarter	October-November	January 15	List D1, List D3	GMZ Perimeter Wells, Observation Zone Wells
Second Quarter every five years	April-May	June 15	List D3, List D4	GMZ Perimeter Wells

3. Groundwater surface elevation data measured pursuant to Condition III.F.1, shall be collected each time groundwater is sampled in accordance with Condition III.I.2 and submitted to Illinois EPA as identified in Condition III.I.2.

4. The Permittee shall report groundwater flow rate and direction in the uppermost aquifer, as required by Condition III.E.2.a.iv during the semi-annual sampling event of each year.

5. The Permittee shall report the surveyed elevation, as required by Condition III.F.2, of the top of the well casing ("stick-up"), referenced to MSL in accordance with the following schedule:

   a. For all wells identified in Condition III.C.1, every two years (during the second quarter annual sampling event) or at the request of Illinois EPA, or whenever the elevation changes.

   b. For any new wells, at the time of installation and reported in the as-built diagrams, subsequent measurements shall be made every two years (during the

second quarter sampling event) or at the request of Illinois EPA, or whenever the elevation changes.

6. Elevation of the bottom of each monitoring well identified in Condition III.F.3, as referenced to MSL, is to be reported at least annually. This measurement shall be taken during the second quarter sampling event in accordance with Condition III.I.2.

7. Information required by Conditions III.E, III.F, and III.G must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found in the form "Formatting Requirements for the 01 (and 02) Record of the Electronically Submitted Groundwater and Leachate Data" (LPC 160) located on Illinois EPA website, and in accordance with the schedule found in Condition III.I.2. Additional guidance regarding the submittal of the information in an electronic format can be found on Illinois EPA website.

8. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate, and Gas Reporting Form" (LPC 592) as a cover sheet for any notices or reports required by the Permit for identification purposes. Only one copy of the LPC 592 with wet signatures must accompany your submittal. However, the Permittee must submit one original copy of each notice or report submitted to Illinois EPA in paper format and (excluding the groundwater and leachate monitoring results submitted in an electronic format) a minimum of two electronic copies (one addressed to the Bureau of Land Permit Section, and one addressed to the regional Field Operation Section). Additional paper and electronic copies must be provided upon Illinois EPA request. The form is not to be used for permit modification requests.

9. The Permittee shall report all information to Illinois EPA in a form which can be easily reviewed. All submittals shall contain tables of data, drawings, and text (as necessary) to accurately describe the information contained in the submittal. The Permittee must include the appropriate concentration limits in groundwater quality summary data tables for all constituents listed in Condition III.D.

10. The Permittee shall submit a written report annually in accordance with the schedule found in Condition III.I.2 which discusses the effectiveness of the Groundwater Corrective Action Program and place it in the operating record for the facility. At minimum, the report must include, but not be limited to, the following:

    a. Address the information requirements in Conditions III.D, III.E, and III.G and III.H, and contain the information specified in Section C.8 of the approved permit application.

    b. Evaluate the effectiveness of the hydraulic control and contaminant removal from the GMZ, including the information required by Condition III.E.

c. Provide a discussion of any improvement in the quality of groundwater beneath the facility which has resulted from corrective action.

11. If the Permittee determines that the groundwater corrective action is not effective, the Permittee shall:

a. Notify Illinois EPA in writing within seven days of the date that this determination is made.

b. Take actions necessary to regain control of groundwater flow as required by Condition III.E.3.a

c. Submit a written report to Illinois EPA within 30 days describing the actions taken to regain control of groundwater flow. In addition, the notification must contain information that demonstrates that groundwater flow is being adequately controlled.

d. Submit a request for permit modification to Illinois EPA within 90 days describing any changes which must be made to the Groundwater Corrective Action Program to ensure that the groundwater flow is being adequately controlled.

12. If the Permittee determines pursuant to Condition III.H.2 that any concentration limits specified in the groundwater protection standard in Condition III.D.1 are being exceeded at the Groundwater Corrective Action Program wells, the Permittee shall:

a. Notify Illinois EPA of this finding in writing within seven days of the date this determination is made. The notification must indicate what concentrations limits have been exceeded.

b. Submit to Illinois EPA an application for a Permit modification to establish a Corrective Action Program meeting the requirements of 35 IAC 724.200 within 90 days. The application must at minimum include the following information:

i. A detailed description of corrective actions that will achieve compliance with the groundwater protection standard

ii. A plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program.

13. If the Permittee determines, pursuant to Condition III.H.2 that the groundwater protection standard in Condition III.D is being exceeded at any of the Groundwater Corrective Action Program wells, the Permittee may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in

sampling, analysis or statistical evaluation, or natural variation in groundwater. In making a demonstration under this condition, the Permittee shall:

a. Notify Illinois EPA in writing within seven days that it intends to make a demonstration under this condition;

b. Within 90 days, submit a report to Illinois EPA which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis or evaluation;

c. Within 90 days, submit to Illinois EPA an application for a Permit modification to make any appropriate changes to the corrective action monitoring system at the facility, and;

d. Continue to monitor in accordance with Condition III.E.

14. If the Permittee determines that additional constituents not currently included in List D1 or List D2 are present in the groundwater pursuant to Condition III.H.2, the Permittee shall:

a. Report the concentration of these additional constituents detected in the groundwater to Illinois EPA within seven days after completion of the analyses, and;

b. Add the additional constituents to the monitoring list of the groundwater protection standard in Condition III.D.1 and establish the concentration limit for each additional constituent following procedures in Condition III.D.5.

15. The Permittee shall submit to Illinois EPA documentation associated with the groundwater extraction system maintenance procedures. The documentation must be submitted in semi-annual groundwater reports in accordance with the schedule found in Condition III.I.2. The documentation must include, at a minimum, the following:

a. A brief description of the qualification of personnel performing the maintenance procedures;

b. Dates of inspection and/or service, average time servicing the system (including re-circulation times and draw-down times) and future maintenance frequency and schedules;

c. Problems observed, such as excessive biofouling and/or scaling, structural damage to wells or well system components, malfunctions in equipment (valves, container housing, lines, etc.). This should include a brief discussion of any field

observations made during the maintenance event and proposed procedures to address any problems, if necessary;

d. Values for the field parameters: conductivity, temperature, Eh, and pH for comparison of water quality before and after cleaning events;

e. Supporting data confirming that groundwater quality returns to a natural level after the completion of the maintenance procedures (water must be pumped from the well until the water quality is essentially the same as prior to treatment; and

f. Identification of all cleaning compounds used for well maintenance, including, but not limited to, a discussion and supporting documentation regarding: (1) mixture concentrations, amounts, and injection rates; (2) general procedures used in the application of chemical compounds that are utilized to maintain the system; and (3) a performance evaluation. If the cleaning technique involves the application of acidic chemical compounds, at total concentration of 15% (two to three times zone volume) should not be exceeded.

16. In accordance with Condition III.E.8, a review of the GMZ must take place no less often than every five years and the results shall be presented to Illinois EPA in the form of a corrective action modification as a written report. This report must contain analytical data from GMZ Perimeter wells for constituents present on List D4 as described in Condition III.E.6. Submit the re-evaluation as a Class 1* permit modification within 90 days of the GMZ re-evaluation to propose any changes to the program, including transfer of any detected List D4 constituents to List D1 as described in Condition III.D.1.

J. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee determines that the Groundwater Corrective Action Program no longer satisfies the requirements of 35 IAC 724.200, the Permittee must, within 90 days submit a permit modification to Illinois EPA, Bureau of Land, Permits Section to make any appropriate changes to the program which will satisfy the regulations.

2. Conditions in this section of this draft Permit may be modified in accordance with 35 IAC 705.128 if there is cause for such modification, as defined in 35 IAC 702.184. Causes for modification identified in this section include, but are not limited to, alterations to the permitted facility; additional information which would have justified the application of different permit conditions at the time of issuance; and new regulations.

SECTION IV: CORRECTIVE ACTION

A. INTRODUCTION

1. In accordance with Section 3004(u) and (v) of RCRA and 35 IAC 724.201, the Permittee must institute such corrective action as necessary to protect human health and the environment from all releases of hazardous wastes or hazardous constituents from any solid waste management unit (SWMU) and any areas of concern (AOCs) at the facility. This section contains the conditions which must be followed to ensure these requirements are met.

2. The original RCRA Permit for this facility was issued by Illinois EPA on April 15, 1997 (Log No B-161); Section IV of that RCRA Permit contained corrective action requirements. The Permittee has completed the corrective action requirements of the initial RCRA Permit for SWMUs 3, 5, 6, 7, 8, and 9.

3. The Permittee must provide hazardous waste cleanups, as appropriate, for: (1) any newly discovered SWMUs/AOCs; and/or (2) future releases for existing SWMUs/AOCs at the facility.

4. The Permittee must conduct, as appropriate: (1) a RCRA Facility Investigation (RFI) to characterize each AOC or SWMU of concern at the facility; (2) determine whether releases of hazardous wastes and hazardous constituents have occurred from each AOC or SWMU of concern, and if so, the nature and extent of the release(s); and (3) gather other data, as necessary, to be used in determining the need, scope and design of a Corrective Measures Program (CMP).

5. Based upon the results of the RFI, the Permittee must develop and implement a CMP to protect human health and the environment from any of the SWMUs or AOCs at the facility.

6. The Permittee must carry out interim measures in accordance with the terms, conditions and requirements of this Permit, as appropriate, to address existing contamination at the facility until such time as a final corrective measure can be developed and implemented.

7. The requirements of 35 IAC Parts 620 and 742 must be met, when applicable, in establishing remediation objectives for corrective action. In addition, all hazardous waste cleanup efforts must meet the requirements of 35 IAC 724.201.

8. The Permittee must incorporate, as necessary, climate change resilience and adaptation considerations into the hazardous waste cleanups required at this facility.

9. All Illinois EPA final decisions regarding RCRA corrective action at this facility are subject to the appeal provisions of the Illinois Environmental Protection Act (the Act).

B. CORRECTIVE ACTION REQUIREMENTS

1. The Permittee must conduct and complete an RFI, as necessary, to determine whether releases of hazardous wastes and hazardous constituents have occurred from SWMUs/AOCs, and if so, the nature and extent of the release(s). In addition, the facility must gather other data, as necessary, to be used in determining the need, scope, and design of a Corrective Measures Program (CMP).

2. To date, the facility has conducted a substantial amount of investigation at this facility. Condition IV.C describes the facility's corrective action efforts that have been completed to date. Condition IV.D includes the corrective actions that must still be completed at the facility.

3. Additional investigations and remediation must be conducted, as necessary, to address any on-site contamination and any contamination which has migrated beyond the property boundaries. Corrective action is required for contamination resulting from former or current operation of the facility.

4. The Permittee must obtain "No Further Action" (NFA) determinations from Illinois EPA for any corrective action. NFA will be determined when sufficient information has been provided by the Permittee that the media of interest has been adequately remediated for the SWMUs/AOCs.

5. The currently identified SWMUs/AOCs are listed below (note: SWMUs 1 and 2 have been renamed as HWMUs 1 and 2).

Designation	Description
HWMU 1	UST for hazardous waste that was closed as a landfill.
HWMU 2	UST for hazardous waste that was closed as a landfill.
SWMU 3	Two lagoons used for treatment of wastewater.
SWMU 4	Waste drum storage area.
SWMU 5	Aboveground storage tank that was removed in May 1988.
SWMU 6	Refuse area where open burning of chemical items and boxes occurred.
SWMU 7	One lagoon used for treatment of wastewater.
SWMU 8	Waste piles for soil excavated during projects like utility repairs.
SWMU 9	Drum storage area on a concrete pad for sodium hydroxide detergent.

6. Former USTs, HWMUs 1 and 2, have been closed with hazardous waste in place and must meet the requirements of Section II of this Permit.

7. Groundwater corrective action responsibilities, which are described in Section III of this Permit, must be completed to obtain an NFA at the facility.

8. The indoor inhalation exposure route was incorporated into 35 IAC Part 742 and became effective in July 2013. The Permittee must address the indoor inhalation exposure route at the facility in accordance with the requirements of 35 IAC Part 742 and obtain an NFA determination.

C. CORRECTIVE ACTION EFFORTS COMPLETED TO DATE

1. The status of each SWMU/HWMU at the facility, as well as the date the NFA determination was made by Illinois EPA is summarized below:

SWMU	Description	Status	Date of NFA
1	HWMU 1	UST closed as landfill, under post-closure care and undergoing CA for groundwater	NA – See Section II of the Permit.
2	HWMU 2	UST closed as landfill, under post-closure care and undergoing CA for groundwater	NA – See Section II of the Permit.
3	Water Treatment Lagoons	NFA provided an institutional control is in place with restrictions as described in Condition IV.C.3.	09/13/02 (B-161-CA-6) 02/21/03 (B-161-CA-7) 05/19/03 (B-161-CA-8)
4	Drum Storage Area	No CA was required.	04/15/97 (B-161)
5	Aboveground Storage Tank	NFA following removal of the tank in May 1988 and area was covered by concrete which prevented soil contamination.	12/02/99 (B-161-CA-1)
6	Refuse Area	NFA supported by sampling/analysis.	05/08/01 (B-161-CA-3)
7	Lagoon	NFA provided an institutional control is in place with restrictions as described in Condition IV.C.4.	05/08/01 (B-161-CA-3) 02/05/02 (B-161-CA-4) 10/09/02 (B-161-CA-5)
8	Waste Piles	NFA supported by sampling/analysis.	05/08/01 (B-161-CA-3)
9	Old Drum Storage Area	NFA. Area was covered by concrete which prevented soil contamination.	12/02/99 (B-161-CA-1)

Note: NFA – No Further Action, CA – Corrective Action, NA – Not Applicable

2. Environmental Land Use Controls (ELUCs) were established as below in accordance with 35 IAC Part 742 during corrective action and closure by removal efforts carried out at the facility. These ELUCs place certain restrictions on future use of the facility and were established to support remediation objectives for the SWMUs. These ELUCs will apply in perpetuity to the facility and will not be released until: (1) Illinois EPA determines that there is no longer a need for the ELUC; (2) Illinois EPA, upon written request from the property owner and in accordance with 35 IAC 742.1010, issues an amended certification of closure or a permit modification approving modification/elimination of the ELUC requirements; and (3) a release or modification of the ELUC is filed on the chain of title for the property.

Environmental Land Use Controls				
Area Name	Approximate Size (acres)	Parcel Index Number	County Recorder's Document Number	Date Recorded
SWMU 3	2.09	11-06-351-001	0323687	March 18, 2003
SWMU 7	0.211	11-06-351-001	0220668	March 14, 2002

3. The ELUC for SWMU 3 restricts the water treatment lagoons and the area immediately east of them to commercial/industrial use.

4. The ELUC for SWMU 7 has the following conditions:

   a. the facility must maintain an engineered barrier over the area (currently the floor of the building over SWMU 7 serves this purpose);

   b. construction activities in the vicinity of the building over SWMU 7 must adhere to a health and safety plan meeting the requirements of the Occupational Safety and Health Administration; and

   c. soil removed from beneath the building must be managed in accordance with 35 IAC, Subtitle G.

D. CORRECTIVE ACTION STILL TO BE COMPLETED

1. In July 2013, 35 IAC Part 742 was modified to include the indoor inhalation exposure route. As volatile organic compounds (VOCs) have been managed and detected at the site, the Permittee must meet the requirements of 35 IAC Part 742 to address the indoor inhalation exposure routes at the SWMUs identified in Condition IV.C.1 and on a site-wide basis to ensure compliance.

2. Groundwater contamination at the facility must be addressed to meet the requirements of 35 IAC Parts 620 and 742. Note that 35 IAC Part 620 was updated in March 2025.

3. Additional evaluation, investigation, and remediation, as necessary, must be conducted to meet the requirements of Conditions IV.D.1 and 2 above.

E. CORRECTIVE MEASURES

1. If it is determined that corrective measures must be taken at a SWMU, then the Permittee must implement a Corrective Measures Program for such SWMUs in accordance with the procedures set forth in Attachment B. The corrective measures implemented by the Permittee must be sufficient to ensure the appropriate requirements of 35 IAC Parts 302, 620, 724, and 742 are met.

F. REQUIREMENTS FOR ADDRESSING NEWLY IDENTIFIED SWMUs AND AOCs

1. The Permittee must notify Illinois EPA in writing of any newly identified SWMU or AOC discovered during groundwater monitoring, field investigations, environmental audits, or other means, no later than 30 calendar days after discovery. The notification must provide the following information:

   a. the location of the newly identified SWMU or AOC in relation to other SWMUs or AOCs on a scaled map or drawing

   b. the type and past and present function of the unit

   c. dimensions, capacities, and structural description of the unit or area

   d. the period during which the unit operated

   e. the specifics on all materials, including wastes and hazardous constituents, which have been or are being managed at the SWMU or AOC

   f. the results of any relevant available sampling and analysis which may aid in determining whether release of hazardous wastes or hazardous constituents have occurred or are occurring from the unit

2. If the submitted information demonstrates the potential for release of hazardous waste or hazardous constituents from any newly identified SWMU or AOC, Illinois EPA may request in writing that the Permittee prepare a SWMU Assessment Plan and to propose a schedule for implementation of this plan. The SWMU Assessment Plan must also propose investigations, including field investigations, to determine the release potential to specific environmental media for the newly identified SWMUs or AOCs. The SWMU Assessment Plan must demonstrate that the sampling and analysis program can yield representative samples, and it must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the newly identified SWMUs or AOCs to the environment.

3. The Permittee must submit the SWMU Assessment Plan within 60 days of receiving Illinois EPA's request.

4. Illinois EPA will either approve, conditionally approve, or reject the plan. If the plan is approved, the Permittee must implement the plan within 45 days of receiving the written notification. If the plan is rejected, Illinois EPA will notify the Permittee in writing of the plan's deficiencies and specify a due date for submittal of a revised plan.

5. The Permittee must submit a report documenting the results of the approved SWMU Assessment Plan to Illinois EPA according to the schedule established within the plan. The SWMU Assessment Report must describe the results obtained from implementation of the approved SWMU Assessment Plan.

6. Additional investigation plans and reports must be submitted to and approved by Illinois EPA, as necessary, to ensure the nature and extent of contamination at the SWMU/AOC is adequately characterized. Once the contamination is characterized, the Permittee shall develop remedial objectives for the SMWU/AOC in accordance with 35 IAC Parts 620 and 742; such objectives are subject to Illinois EPA review and approval.

7. The Permittee must implement a CMP to address any contamination encountered during the assessment. Guidance regarding the implementation of this program will be provided at the time Illinois EPA notifies the Permittee of the need for such a program.

G. FUTURE RELEASES FROM SWMUs

1. If the Permittee discovers that a release has occurred from any SWMU or AOC that is not currently undergoing corrective action, then Illinois EPA must be notified of this release within 30 days after its discovery. Additional investigation and corrective measures at this SWMU or AOC must be carried out in accordance with the procedures set forth in Condition IV.F. The results of all corrective action required by this condition must meet the requirements of 35 IAC 724.201.

H. INTERIM MEASURES/STABILIZATION

The Permittee must carry out interim measures/stabilization activities to prevent or mitigate the migration of a release of hazardous substances into the environment, and to provide adequate protection to human health and the environment.

1. At any time during the corrective action process, the Permittee may initiate interim measures for the purposes of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous constituents. It will not be necessary to conduct all phases of a RFI or a Corrective Measures Study (CMS) prior to implementing an interim measure if Illinois EPA and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal CMS.

2. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed interim measure to Illinois EPA for approval. This information must include, at a minimum:

   a. objectives of the interim measures; how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long-term solution at the facility.

   b. design, construction, and maintenance requirements.

   c. schedules for design and construction.

   d. schedules for progress reports

3. If Illinois EPA determines that a release cannot be addressed without additional study and/or a formal CMS, then Illinois EPA will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, must not affect the schedule for implementation of the other corrective action efforts being carried out at the facility or of any other portion of the Permit.

4. If Illinois EPA determines that the interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit modification.

5. Consistent with the annual reporting requirements of this Permit, the Permittee must submit a report assessing the effectiveness of any interim measure being carried out in accordance with this Permit. Based on review of this report, Illinois EPA reserves the right to require additional interim measures be carried out if it is determined that the interim measure is unable to protect human health and the environment. This annual report should at a minimum contain the following information regarding each system which comprises the interim measure:

   a. A discussion of each system's operation during the year. This discussion should address: (1) actual daily, weekly, and monthly flow rates through each system; (2) any periods when the systems were not operating; and (3) deviations from the design operating procedures for the system (such as problem with drawing an adequate vacuum, downtime due to equipment failure, etc.)

   b. Results of all monitoring efforts carried out during the year

   c. A discussion of the effectiveness of the system supported as appropriate with data and calculations

   d. recommended changes, if any, which should be made to the system to improve its effectiveness

6. Illinois EPA reserves the right to require the Permittee to remove or treat soil if Illinois EPA determines that contaminants are present in the soils at levels such that the remediation system is unable to protect human health and the environment. Remediation objectives for corrective measures will be established by Illinois EPA later.

7. The interim measure approved for a SWMU may not be sufficient to meet the final requirements for corrective action for remediation. The adequacy of the interim measure will be addressed when Illinois EPA reviews and approves the RFI reports and CMP, as required by this Permit. As such, the Permittee may be required to expand this interim measure as necessary to address existing or additional contamination detected through RFI investigations.

8. Illinois EPA reserves the right to require revision and modification of the interim measures implemented by the Permittee if Illinois EPA determines through information obtained through facility monitoring that the interim measures approved by this portion of the permit are ineffective in protecting human health and the environment.

I. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

1. The Permittee must prepare an updated cost estimate for the completion of any corrective action required under this Permit and must establish financial assurance for the approved estimate amount. The cost estimate for completing corrective action required by this Permit must include a 10% contingency cost.

2. The Permittee must prepare the cost estimate according as described in Condition V.B. The cost estimate must be based upon the cost of contamination investigations and assessments for SWMUs and AOCs, and design, construction, operation, inspection, monitoring, and maintenance of the corrective measures necessary to meet the requirements of 35 IAC 724.201 and this Permit. Estimates must be based on third-party costs.

3. The Permittee must demonstrate continuous compliance with 35 IAC 724.201 by providing documentation of financial assurance using a mechanism specified in 35 IAC 724.243 and in at least the amount of the cost estimate described in Conditions IV.I.1 and IV.I.2. Illinois EPA may accept financial assurance for completion of corrective action in combination with another financial mechanism that is acceptable under 35 IAC 724.246 at its discretion.

4. It must be noted that cost estimates and financial assurance must be provided for the operation of the groundwater corrective action required by Section III of this Permit as such a system is necessary to meet the requirements of 35 IAC 724.201.

5. All cost estimates must be submitted as Class 1* permit modification requests in accordance with 35 IAC 703.281.

6. Financial assurance for corrective action must be updated, as necessary, to reflect the status of the corrective action efforts at the facility. In addition, the financial assurance must be adjusted annually for inflation.

SECTION V: SPECIAL CONDITIONS

A. 39(i) CERTIFICATION

1. The Permittee must provide a completed Illinois EPA permit application form LPC-PA23 with all permit modification requests, additional information, and permit applications that submitted to Illinois EPA.

2. The Permittee must submit a current 39(i) certification and supporting documentation with all permit applications.

B. FINANCIAL ASSURANCE

1. The Permittee must provide revised cost estimates for 30 years of post-closure care for the units identified in Condition II.B.1 and to meet the corrective action requirements of Conditions IV.D and IV.I. The cost estimates must be submitted as additional information to the approved permit application within 30 days of the effective date of this Permit. Financial assurance for the estimated cost must be submitted within 60 days of Illinois EPA's approval of the revised cost estimates.

C. COMPLIANCE SCHEDULE

1. Sampling and Analysis Plan (SAP): Within 90 days of the effective date of this permit, the Permittee must submit a Class 1* permit modification to Illinois EPA providing a new SAP to replace the one provided in Appendix C-3 of the approved permit application (log No. B-161R2). This submittal must contain the following additional information:

    a. Which portions of each HydraSleeve will be re-used and sanitized on site including weights, strings, etc. Note, HydraSleeves themselves cannot be reused;

    b. An explanation of the method of collecting field parameters using HydraSleeves and determining which supplemental methods will be used if a single set of field parameters is not sufficient at a well;

    c. Specification of where the HydraSleeve will be placed in of the screened interval of a well and reasoning for this collection interval;

    d. Justification for which sampling method (HydraSleeve or Low-Flow Sampling) would be utilized for each well on site as seen in Table 2 of Appendix C-3. This justification must consider that Illinois EPA does not recommend HydraSleeves for low yield wells;

    e. A determination if multiple HydraSleeve samples are required for wells selected to use HydraSleeves for the purposes of QA/QC or sample volume requirements,

and what method of setup and sampling will be used for multiple HydraSleeves being placed in selected wells;

f. The use of bailers for sampling groundwater is not acceptable currently. An alternate backup method must be established, or the initial two methods of HydraSleeves or Bladder Pumps must be utilized with no third sampling methodology; and

g. The SAP must be revised to propose an analysis methodology which complies with the use of Lower Limit of Quantitation (LLOQ) instead of the Practical Quantitation Limit (PQL) and those values must be equal to or less than the 35 IAC Part 620 standards effective March 28, 2025.

2. To comply with the March 28, 2025, 35 IAC Part 620 regulation changes, within 120 days of the effective date of this permit, the Permittee must initiate quarterly sampling for one year at all wells within the monitoring well network, including but not limited to the following constituents: HFPO-DA (hexafluoropropylene oxide dimer acid GenX), PFBS (perfluorobutanesulfonic acid), PFHxS (perfluorohexanesulfonic acid), PFNA (perfluorononanoic acid), PFOA (perfluorooctanoic acid), and PFOS (perfluorooctanesulfonic acid). Those constituents which are detected during the four sampling events must be added to List D1 in Condition III.D.1. Within 90 days following the fourth sampling event, the Permittee must submit a Class 1* Permit modification to add detected constituents to List D1 of Condition III.D.

a. "Detected" is defined as a concentration equal to or above the Lower Limit of Quantitation (LLOQ) for the latest version of USEPA's "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," Third Edition (SW-846) and finalized updates for the applicable analytical methods specified in the approved Interim Groundwater Monitoring Plan, which should not exceed the applicable 35 IAC 620.420 Class I GQSs.

b. The facility must establish background values for the 35 IAC 620 Class I parameters which do not currently have an approved background value. For current parameters where there is a new lower groundwater quality standard, either compare to the new 35 IAC Part 620 standard or establish background values.

3. Abandonment of Monitoring Wells G201, G203, GA72, RA92, G14S, GA0D, and RB1S: Within 90 days of the effective date of this draft Permit:

a. The Permittee shall submit certification that plugging and abandonment of wells G201, G203, GA72, RA92, G14S, GA0D, and RB1S was carried out in accordance with the Illinois Department of Public Health (IDPH) Water Well Construction Code, 77 IAC Part 920 and the approved Illinois EPA procedures to Illinois EPA at the following address within 30 days of the date that the wells are

plugged and abandoned. All information shall be submitted to the appropriate Agencies.

Illinois Environmental Protection Agency
Bureau of Land #33
Permits Section
2520 West Iles Avenue
Post Office Box 19276
Springfield, Illinois 62794-9276

b. Once plugging and abandonment of wells G201, G203, GA72, RA92, G14S, GA0D, and RB1S has been completed and appropriate forms submitted, Life Technologies Corporation must submit a Class 1* Permit modification to update Condition III.C.1 to remove wells G201, G203, GA72, RA92, G14S, GA0D, and RB1S from the permit.

4. Proposed Modifications to the Groundwater Monitoring System: Within 180 days of the effective date of this draft Permit, the Permittee must submit a GMZ Re-Evaluation as per Condition III.I.16 of this draft Permit in accordance with Conditions III.E.8 and III.I.16.

5. Modifications to the Groundwater Corrective Action Program: Within 90 days of the effective date of this draft Permit, the Permittee must submit a Class 1* Permit modification to modify the approved permit application with replacement pages that align with the changes present in this draft Permit due to the March 28, 2025, updates to the 35 IAC Part 620 regulations. These changes include but are not limited to the sampling of PFAS constituents in Condition V.C.2, the adjusted constituent limits found in Conditions III.D.1, III.D.2, and III.D.4, and the revisions to the Groundwater Corrective Action Program as described in Conditions III.D, III.E, and III.I.

SECTION VI: STANDARD CONDITIONS

GENERAL REQUIRMENTS

1. EFFECT OF PERMIT. The existence of a RCRA Permit does not constitute a defense to a violation of the Environmental Protection Act (Act) or Subtitle G, except for prohibitions against development, modification, or operation without a permit. Issuance of this Permit does not convey property rights or any exclusive privilege. Issuance of this Permit does not authorize any injury to persons or property or invasion of other privacy rights, or infringement of state or local law or regulations. (35 IAC 702.181)

2. PERMIT ACTIONS. This Permit may be modified, reissued, or revoked for cause as specified in 35 IAC 703.270-273 and 702.186. The filing of a request by the Permittee for a permit modification or reissuance, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. (35 IAC 702.146)

3. 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 will not be affected thereby. (35 IAC 705.202)

4. PERMIT CONDITION CONFLICT. In case of conflict between a special permit condition and a standard condition, the special condition will prevail. (35 IAC 702.160)

5. DUTY TO COMPLY. The Permittee must comply with all conditions of this Permit except for the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit revocation or modification, or for denial of a permit application. (35 IAC 702.141 and 703.242)

6. DUTY TO REAPPLY. If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee must apply for a new permit at least 180 days before this Permit expires, unless permission for a later date has been granted by Illinois EPA. (35 IAC 702.142 and 703.125)

7. PERMIT EXPIRATION. This Permit and all conditions herein will remain in effect beyond the Permit's expiration date if the Permittee has submitted a timely, complete, application (see 35 IAC 703.181-209) and through no fault of the Permittee, Illinois EPA has not issued a new permit as set forth in 35 IAC 702.125.

8. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE. It will not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this Permit. (35 IAC 702.143)

9. DUTY TO MITIGATE. In the event of noncompliance with the Permit, 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 impacts on human health or the environment. (35 IAC 702.144)

10. PROPER OPERATION AND MAINTENANCE. The Permittee must always properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. (35 IAC 702.145)

11. DUTY TO PROVIDE INFORMATION. The Permittee must provide to Illinois EPA, within a reasonable time, any relevant information which Illinois EPA may request to determine whether cause exists for modifying, revoking, reissuing, or terminating this Permit, or to determine compliance with this Permit. the Permittee must also provide to Illinois EPA, upon request, copies of records required to be kept by this Permit. (35 IAC 702.148)

12. INSPECTION AND ENTRY. The Permittee must allow an authorized representative of Illinois EPA, upon the presentation of credentials and other documents as may be required by law, to:

    a. enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, where records must be kept under the conditions of this Permit.

    b. have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit.

    c. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit.

    d. sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances or parameters at any location. (35 IAC 702.149)

13. MONITORING AND RECORDS.

    a. Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. The method used to obtain a

representative sample of the waste must be the appropriate method from Appendix A of 35 IAC Part 721. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW 846, latest versions; Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, latest versions; or an equivalent method as specified in the approved Waste Analysis Plan.

b. 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, 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, or application. These periods may be extended by request of Illinois EPA at any time. The Permittee must maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

c. Records of monitoring information must include:

i. the date(s), exact place, and time of sampling or measurements.

ii. the individual(s) who performed the sampling or measurements.

iii. the date(s) analyses were performed.

iv. the individual(s) who performed the analyses.

v. the analytical technique(s) or method(s) used.

vi. the result(s) of such analyses. (35 IAC 702.150)

14. REPORTING PLANNED CHANGES. The Permittee must give written notice to Illinois EPA as soon as possible of any planned physical alternations or additions to the facility. In general, proposed changes to the facility will need to be submitted to Illinois EPA as permit modification requests that comply with the requirements of 35 IAC 703.280. (35 IAC 702.152)

15. CONSTRUCTION CERTIFICATION. For a new hazardous waste management facility, the Permittee must not commence treatment, storage, or disposal of hazardous waste; and for a facility being modified, the Permittee must not treat, store, or dispose of hazardous waste in the modified portion of the facility, until:

a. The Permittee submits to Illinois EPA by certified mail or hand delivery a letter signed by the Permittee and a qualified Illinois licensed Professional Engineer

stating that the facility has been constructed or modified in compliance with the Permit

b. Illinois EPA inspects the modified or newly constructed facility and finds it complies with the Permit. If, within 15 days of the date of submission of the letter in 15.a, the Permittee has not received notice from Illinois EPA of its intent to inspect, the inspection is waived, and the Permittee may commence treatment, storage, or disposal of hazardous waste. (35 IAC 703.247)

16. ANTICIPATED NONCOMPLIANCE. The Permittee must give advanced written notice to Illinois EPA of any planned changes in the facility or activity which may result in noncompliance with the Permit, regulations, or the Act. (35 IAC 702.152)

17. TRANSFER OF PERMITS. This Permit may not be transferred by the Permittee to a new Owner or Operator unless the Permit has been modified or reissued. Changes to Owner or Operator must be made as a Class 1 modification with prior written approval of Illinois EPA. The new Owner or Operator must submit a revised permit application no later than 90 days prior to the scheduled change. (35 IAC 702.260)

18. MONITORING REPORTS. Monitoring results must be reported at the intervals specified in the Permit. (35 IAC 702.152)

19. COMPLIANCE SCHEDULES. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit must be submitted no later than specified in 35 IAC 702.162. (35 IAC 702.152)

20. TWENTY-FOUR HOUR REPORTING.

a. The Permittee must report to Illinois EPA any noncompliance with the Permit which may endanger health or the environment. Any such information must be reported verbally within 24 hours from the time the Permittee becomes aware of the following:

i. information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.

ii. information concerning the release or discharge of any hazardous waste or of a fire or explosion at the hazardous waste management facility, which could threaten the environment or human health outside the facility.

b. The description of the occurrence and its cause must include:

i. the name, address, and telephone number of the Owner or Operator.

ii. the name, address, and telephone number of the facility.

iii. the date, time, and type of incident.

iv. the name and quantity of material(s) involved.

v. the extent of injuries.

vi. an assessment of actual or potential hazards to the environment and human health outside the facility.

vii. an estimated quantity and disposition of recovered material that resulted from the incident.

21. OTHER NONCOMPLIANCE. The Permittee must report all instances of noncompliance not otherwise required to be reported under Standard Conditions 14, 15, and 16, at the time monitoring reports, as required by this Permit, are submitted. The reports must contain the information listed in Standard Condition 20. 325 IAC 702.152)

22. OTHER INFORMATION. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application, or in any report to Illinois EPA, the Permittee must promptly submit such facts or information. (35 IAC 702.152)

23. SUBMITTAL OF REPORTS OR OTHER INFORMATION. All written reports or other written information required to be submitted by the terms of this Permit must be sent to:

Permit Section
Illinois Environmental Protection Agency
Bureau of Land - #33
2520 W Iles Ave
PO Box 19276
Springfield, IL 62794-9276

24. SIGNATORY REQUIREMENT. All permit applications, reports, or information submitted to Illinois EPA must be signed and certified as required by 35 IAC 702.126 (35 IAC 702.151)

25. CONFIDENTIAL INFORMATION. Any claim of confidentiality must be asserted according to 35 IAC 702.103 and 35 IAC Part 161.

26. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE. The Permittee must maintain at the facility, until post-closure is complete, the following documents and amendments, revisions, and modifications to these documents:

a. the post-closure plan (35 IAC 724.218)

b. the cost estimate for post-closure care (35 IAC 724.244)

c. the operating record (35 IAC 724.173)

d. the inspection schedule (35 IAC 734.115)

GENERAL FACILITY STANDRDS

27. GENERATOR REQUIREMENTS. Any hazardous waste generated at this facility must be managed according to generator requirements found in 35 IAC Part 722.

28. SECURITY. The Permittee must comply with the security provisions of 35 IAC 724.114.

29. GENERAL INSPECTION REQUIREMENTS. The Permittee must follow the approved inspection schedule. The Permittee must remedy any deterioration or malfunction discovered by an inspection. Records of inspections must be kept. (35 IAC 724.115)

30. CLOSURE REQUIREMENTS FOR ACCUMULATION AREAS. The Permittee must close container storage areas, tanks, drip pads, or containment buildings used for the accumulation of on-site generated hazardous waste according to 35 IAC 722.117.

PREPAREDNESS AND PREVENTION

31. DESIGN AND OPERATION OF FACILITY. The Permittee must maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (35 IAC 724.131)

RECORD KEEPING

32. OPERATING RECORD. The Permittee must maintain a written operating record at the facility according to 35 IAC 724.173.

POST-CLOSURE

33. CARE AND USE OF PROPERTY. The Permittee must provide post-closure care for the facility according to the post-closure plan. (35 IAC 724.217)

34. AMENDMENT TO POST-CLOSURE PLAN. The Permittee must amend the post-closure plan whenever a change in the facility operation or facility design affects the post-closure plan or when an unexpected event has occurred which has affected the post-closure plan. (35 IAC 724.218)

35. COST ESTIMATE FOR POST-CLOSURE. The Permittee's original post-closure cost estimate must be:

    a. adjusted for inflation either 60 days prior to each anniversary of the date on which the first closure cost estimate was prepared or if using the financial test or corporate guarantee, within 30 days after close of the firm's fiscal year.

    b. revised whenever there is a change in the facility's post-closure plan increasing the cost of closure.

    c. kept on record at the facility and updated. (35 IAC 724.244)

36. ADJUST POST-CLOSURE COST ESTIMATE FOR INFLATION. The Permittee must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instruments used to comply with 35 IAC 724.244.

    a. If the Owner/Operator use the financial test or corporate guarantee, the post-closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to Illinois EPA and in accordance with 35 IAC 724.244 and 724.245.

    b. Owner/Operator may request to modify the post-closure plan as needed for Illinois EPA review and approval. Owner/Operator must revise the post-closure estimate within 30 days after Illinois EPA has approved a modification to the Permit. The revised post-closure cost estimate must be adjusted for inflation in accordance with 35 IAC 724.244.

37. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE. The Permittee must demonstrate compliance with 35 IAC 724.245 by providing documentation of financial assurance, in at least the amount of the cost estimates required by Standard Condition 35. Changes in financial assurance mechanisms must be approved by Illinois EPA. (35 IAC 724.251)

    Financial assurance documents should be directed to the following address:

    Materials Management and Compliance Section
    Illinois Environmental Protection Agency
    Bureau of Land - #24
    2520 West Iles Avenue
    P.O. Box 19276
    Springfield, IL 62794-9276

38. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS. The Permittee must comply with 35 IAC 724.248 whenever necessary.

SECTION VII: REPORTING AND NOTIFICATION

The reporting and notification requirements of each section of the RCRA Permit are summarized below. It is provided for the convenience of the Permittee, but it is not meant to supersede the requirements of the various sections of this Permit.

Note: "EC" = Environmental Covenant, "PCC" = Post-Closure Care, "CCPC" = the Certification of Completion of Post-Closure form

SECTION II: POST-CLOSURE

Condition	Action	Date
D.6	Report problems with surface caps of PCC units	Within 24 hours of identifying an issue
F.3	Submit EC to exit PCC	At least one year before CCPC is submitted
F.4	Submit CCPC to exit PCC	Within 60 days of completion of PCC
F.4	Submit PCC Documentation Report to exit PCC	Within 60 days of completion of PCC
F.4	Proof of EC to exit PCC	Within 60 days of completion of PCC

SECTION III: GROUNDWATER CORRECTIVE ACTION PROGRAM

Condition	Action	Date
C.4	Submit a proposal for replacement of damaged or structurally compromised monitoring wells.	Within 30 days of determining the well is damaged or structurally compromised
C.6	Submit the appropriate completed data sheets from the instillation and development of each new or replacement well, or the plugging and abandonment of existing wells.	Within 30 days of the date of instillation of plugging and abandonment
D.4.a	Background shall be proposed for approval	Within 45 days of receipt of the fourth quarter analytical results
E.2.a.iii	Reporting of changes in pumping rates for groundwater pumping wells.	Within the Second Quarter annual sampling report

E.2.a.iv	Measuring the hydraulic head at groundwater pumping wells	Twice each year and reported during the semi-annual sampling events
E.5	Submit detailed information regarding changes to the overall program associated with groundwater flow.	At least 120 days prior to the date changes are to be made
H.3	Submit a notification or modification to achieve capture of a groundwater contamination plume found to be no longer under hydraulic control	Within 30 days of the semi-annual evaluation that the contamination plume is not under hydraulic control
I.2	Groundwater monitoring data, surface elevation, elevation of the bottom of each monitoring well, flow and direction, and statistics	See Condition I.2 for specific reporting dates
I.5	Report the surveyed elevation of the top of well casing ("stick-up") referenced to MSL	See Condition I.5 for specific reporting dates
I.8	Requirement to submit "Leachate and Gas and Reporting Form" (LPC 592)	Notices and reports required by the Permit
I.10	Annual report discussing the effectiveness of the Groundwater Corrective Action Program	Second Quarter
I.11.a	Notify Illinois EPA that the Permittee has determined the groundwater corrective action is not effective	Within seven days of the date of determination
I.11.c	Submit a report to Illinois EPA describing actions taken to regain control of groundwater flow and demonstrations that flow is under control.	Within 30 days
I.12.a	Notify Illinois EPA of a detection or an exceedance of the concentration limit	Notify within seven days of discovery of detection or exceedance
I.12.b	Submit a Permit modification to establish a Corrective Action Program	Within 180 days or within 90 days if an engineering feasibility study has been previously submitted
I.13.a	Notify Illinois EPA of the intent to make a demonstration.	Within seven days that it is determined the groundwater protection standard is being exceeded at groundwater corrective action program wells

I.13.b	Submit a demonstration that a source other than the regulated unit caused the contamination or that the detection is a laboratory artifact.	Within 90 days
I.13.c	Submit a permit modification to make any appropriate changes to the corrective action monitoring system at the facility	Within 90 days
I.14.a	Report the concentration of additionally detected constituents that were previously not part of the groundwater protection standards.	Within seven days after completion of analysis
I.15	Submit a corrective action modification containing a review of the GMZ and List D4 constituents	Every five years from the last GMZ review
I.15	Submit a Class 1* Permit modification to transfer detected constituents from List D4 to List D1	Within the GMZ re-evaluation
J.1	Submit a permit modification to make any appropriate changes to the Groundwater Corrective Action Program to satisfy 35 IAC 724, Subpart F.	Within 90 days of the determination that the Groundwater Corrective Action Program no longer satisfies the requirements of 35 IAC 724, Subpart F

SECTION IV: CORRECTIVE ACTION

Condition	Action	Date
F.1	Notify Illinois EPA of new SWMU/AOC	Within 30 days of discovery
G.1	Notify Illinois EPA of release from SWMU/AOC	Within 30 days of discovery
H.2	Describe interim measures	Obtain Illinois EPA approval prior to starting
H.5	Assessment of ongoing interim measures	Annually

SECTION V: SPECIAL CONDITIONS

Condition	Action	Date
B.1	Submit cost estimate	Within 30 days of effective date of this Permit

B.1	Submit financial assurance	Within 60 days of approval of cost estimate
C.1	Submit a Class 1* Permit Modification providing a new SAP to replace Appendix-C-3 of the approved permit application.	Within 90 days of the effective date of this Permit
C.2	Initiate quarterly sampling for one year at all wells within the monitoring well network for the new 35 IAC Part 620 constituents	Within 120 days of the effective date of this permit
C.2	Submit a Class 1* permit modification to add any detected constituents sampled for during the year of quarterly sampling	Within 90 days of the end of the four quarter sampling events
C.3.a	Submit certification of the plugging and abandonment of wells G201, G203, GA72, RA92, G14S, GA0D, and RB1S	Within 90 days of the effective date of this Permit, and within 30 days of the date that the wells were plugged and abandoned
C.3.b	Submit a Class 1* Permit modification to update Condition III.C.1 to remove all plugged and abandoned wells from the Groundwater Corrective Action program list.	Within 90 days of the effective date of this permit
C.4	Submit a GMZ re-evaluation as per Condition III.I.16	Within 180 days of the effective date of this permit
C.5	Submit a Class 1* Permit modification to modify the approved permit application with replacement pages.	Within 90 days of the effective date of this permit

SECTION VI: STANDARD CONDITIONS

Condition	Action	Date
6	Submit application for new permit	At least 180 days before permit expires
11	Provide information	Within a reasonable time when requested
14	Notify Illinois EPA of planned physical alterations	As soon as possible
15	Notify Illinois EPA of new construction activity	Before starting
16	Notify Illinois EPA of anticipated noncompliance	As soon as possible
17	Transfer of permit	At least 90 days before transfer
20	Notify Illinois EPA of noncompliance which may endanger human health or the environment	Within 24 hours of discovery
21	Notify Illinois EPA of any instance of noncompliance	Within annual report
22	Notify Illinois EPA of incorrect/missing info	As soon as possible
35	Adjusting cost estimate for inflation	At least 60 days before anniversary date

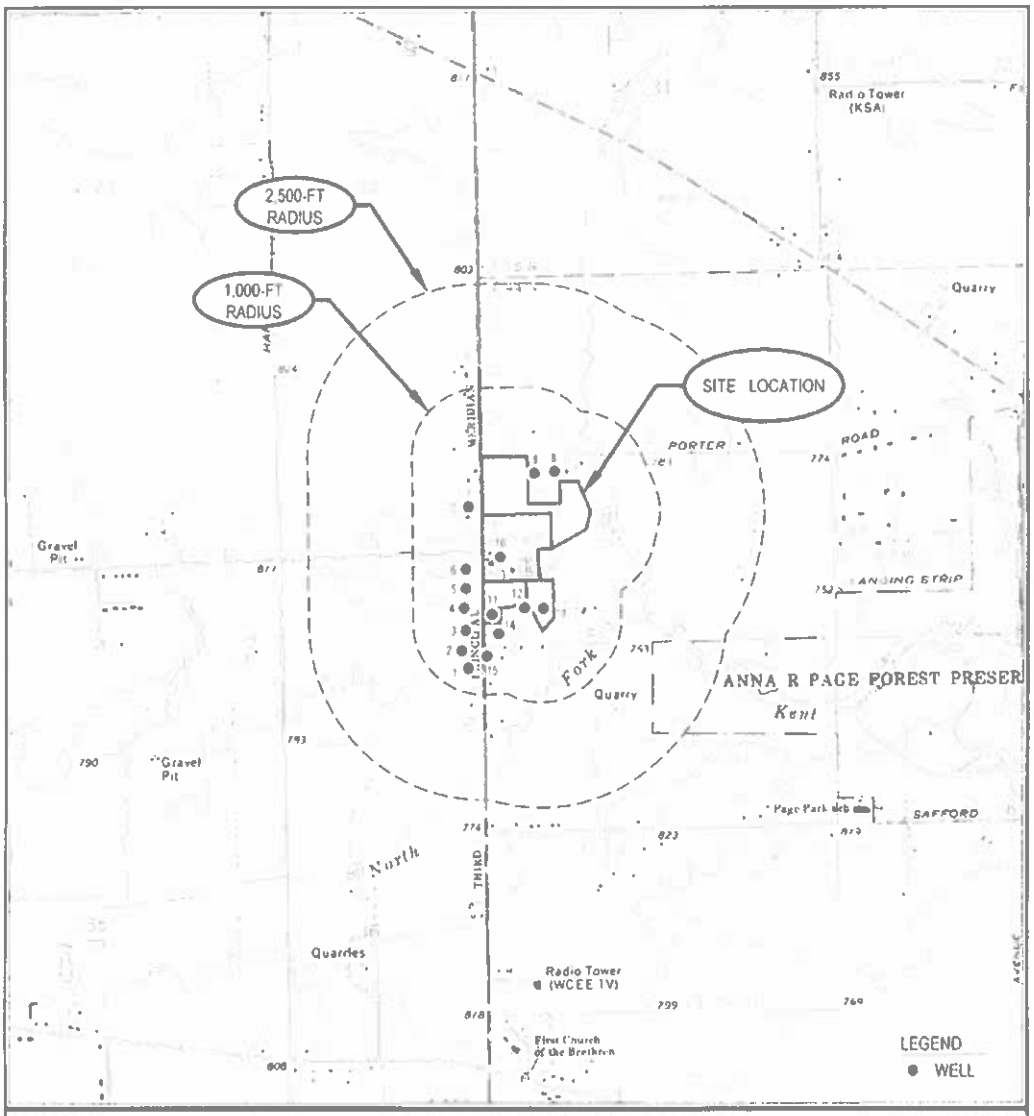
ATTACHMENT A

MAPS OF FACILITY

ILLINOIS EPA # 2010300034

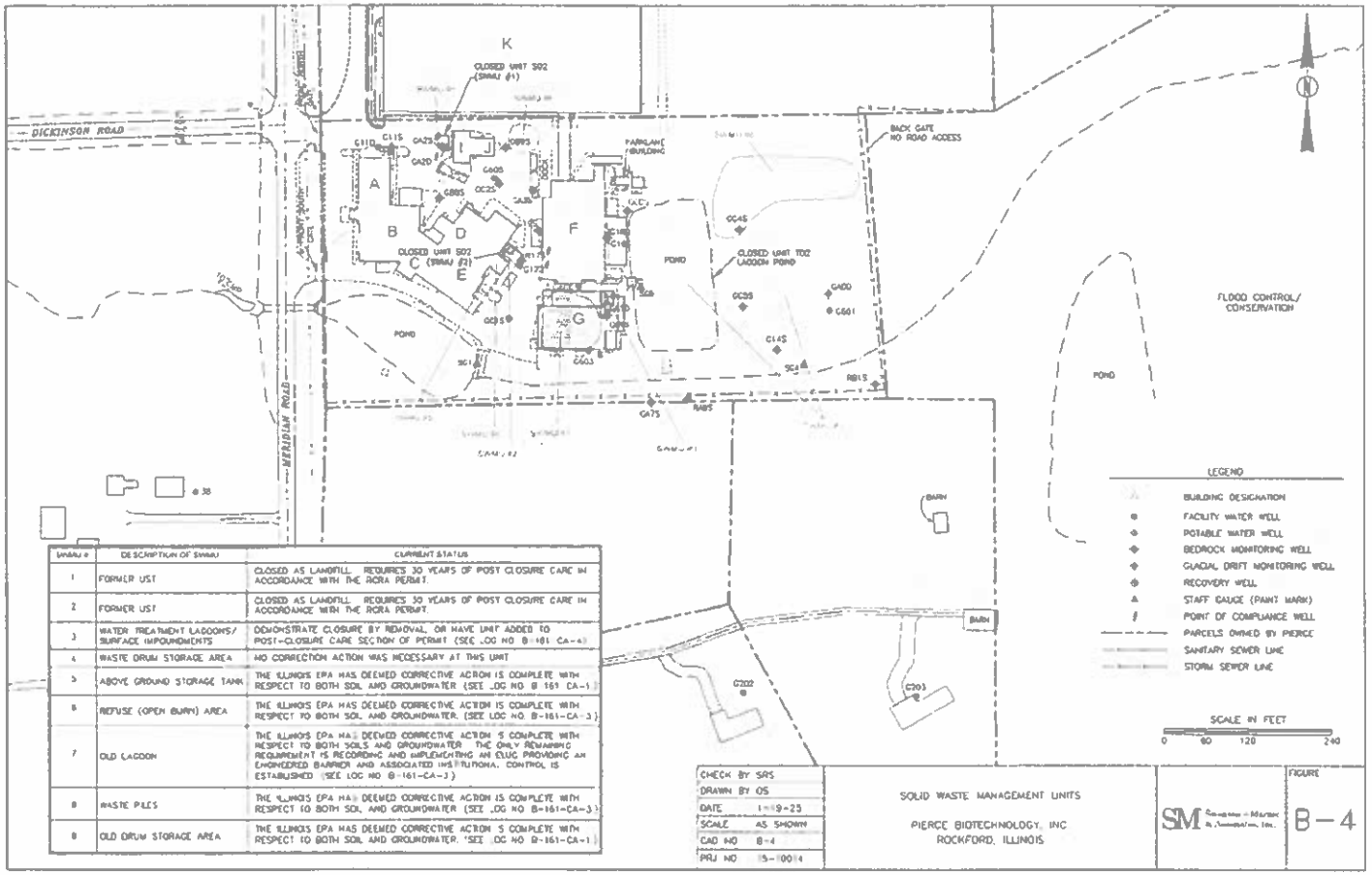
USEPA # ILD041539230

POST-CLOSURE PERMIT LOG NO B-161R



CHECK BY SRS	SITE LOCATION MAP PIERCE BIOTECHNOLOGY, INC. ROCKFORD, ILLINOIS	SM Stephenson - Marcus & Associates Inc	FIGURE B – 1
DRAWN BY OS			
DATE 2-25-25			
SCALE AS SHOWN			
CAD NO. B-1			
PRJ NO. 15-10014			

ATTACHMENT A-1
FACILITY + 1 MILE MAP



SWMU #	DESCRIPTION OF SWMU	CURRENT STATUS
1	FORMER UST	CLOSED AS LANDFILL. REQUIRES 30 YEARS OF POST CLOSURE CARE IN ACCORDANCE WITH THE RCRA PERMIT.
2	FORMER UST	CLOSED AS LANDFILL. REQUIRES 30 YEARS OF POST CLOSURE CARE IN ACCORDANCE WITH THE RCRA PERMIT.
3	WATER TREATMENT LAGOONS/ SURFACE IMPOUNDMENTS	DEMONSTRATE CLOSURE BY REMOVAL, OR HAVE UNIT ADDED TO POST-CLOSURE CARE SECTION OF PERMIT (SEE LOG NO B-161 CA-4)
4	WASTE DRUM STORAGE AREA	NO CORRECTION ACTION WAS NECESSARY AT THIS UNIT
5	ABOVE GROUND STORAGE TANK	THE ILLINOIS EPA HAS DEEMED CORRECTIVE ACTION IS COMPLETE WITH RESPECT TO BOTH SOIL AND GROUNDWATER (SEE LOG NO B-161 CA-1)
6	REFUSE (OPEN BURN) AREA	THE ILLINOIS EPA HAS DEEMED CORRECTIVE ACTION IS COMPLETE WITH RESPECT TO BOTH SOIL AND GROUNDWATER. (SEE LOG NO. B-161-CA-3)
7	OLD LAGOON	THE ILLINOIS EPA HAS DEEMED CORRECTIVE ACTION IS COMPLETE WITH RESPECT TO BOTH SOILS AND GROUNDWATER. THE ONLY REMAINING REQUIREMENT IS RECORDING AND IMPLEMENTING AN ELUC PROVIDING AN ENGINEERED BARRIER AND ASSOCIATED INSTITUTIONAL CONTROL IS ESTABLISHED (SEE LOG NO B-161-CA-3)
8	WASTE PILES	THE ILLINOIS EPA HAS DEEMED CORRECTIVE ACTION IS COMPLETE WITH RESPECT TO BOTH SOIL AND GROUNDWATER. (SEE LOG NO B-161-CA-3)
8	OLD DRUM STORAGE AREA	THE ILLINOIS EPA HAS DEEMED CORRECTIVE ACTION IS COMPLETE WITH RESPECT TO BOTH SOIL AND GROUNDWATER. (SEE LOG NO B-161-CA-1)

CHECK BY	SRS
DRAWN BY	OS
DATE	1-19-23
SCALE	AS SHOWN
CAD NO	B-4
PRJ NO	15-10014

SOLID WASTE MANAGEMENT UNITS

PIERCE BIOTECHNOLOGY, INC
ROCKFORD, ILLINOIS

SM

FIGURE B – 4

ATTACHMENT A-2
SITE LAYOUT MAP

ATTACHMENT B

CORRECTIVE MEASURES PROGRAM

ILLINOIS EPA # 2010300034

USEPA # ILD041539230

POST-CLOSURE PERMIT LOG NO B-161R2

ATTACHMENT B
CORRECTIVE MEASURES PROGRAM REQUIREMENTS

1.0 INTRODUCTION/PURPOSE

RCRA Corrective Action projects typically consist of two phases: (1) A RCRA Facility Investigation (RFI) where an investigation is conducted at the solid waste management units (SWMUs) of concern at a facility; and (2) implementation of corrective measures needed to properly address any contaminant encountered during the RFI. This document has been developed to outline the procedures to be carried out to implement a corrective measure program.

1.0 BRIEF OVERVIEW OF A RCRA CORRECTIVE MEASURES PROGRAM

Typically, at the end of an RFI, the concentration of contaminants in the soil/sediments/groundwater/surface waters at a SWMU or other area of concern is compared to remediation objectives developed in accordance with Title 35 Illinois Administrative Code (35 IAC) 742. If the contaminant levels are above these objectives, then some type of corrective measure must be completed to achieve these objectives. In addition, certain corrective measures may need to be carried out to support the established remediation objectives (i.e., the establishment of engineered barriers and/or institutional controls). However, at a unit where waste or elevated levels of contamination remains, a decision may be made to close the unit as a landfill and then provide post-closure rather than removing the material and/or achieving remediation objectives developed in accordance with 35 IAC 742.

To allow for a logical and orderly progression in developing and implementing necessary corrective measures, the Corrective Measures Program (CMP) being carried out in accordance with this RCRA permit should be carried out in five phases which build on each other. It is not necessary for a corrective measures program at a given SWMU or other areas of concern to follow these five phases step-by-step; rather, phases can be combined and/or skipped, depending on the actual remedial measure selected. The overall CMP implemented must set forth a logical path for its implementation and allow for Illinois EPA oversight and approval throughout the entire process.

A brief discussion of the five phases of a CMP is as follows:

1. Phase I is the conceptual design of the selected corrective measure(s).

2. Phase II is the development of final design plans for the corrective measure, including installation and operation/maintenance plans.

3. Phase III is the actual construction/installation of the selected corrective measure.

4. Phase IV is the operation, maintenance, and monitoring of the selected corrective measure to ensure it is properly protecting human health and the environment.

5. Phase V is the final demonstration/verification that the implemented corrective measure achieved the approved remedial objectives.

Sections 3.0 through 7.0 which follow provide a more detailed discussion of each of these five phases. Section 8.0 has been developed to describe the corrective measures program which may be used in lieu of the afore-mentioned five phase procedure when soil removal is the selected remedy. It must be noted that work plans, reports, etc. must be developed to document how the Permittee carries out the required corrective measures program at each SWMU or other areas of concern. All such documents must be reviewed and approved by Illinois EPA prior to their implementation.

1.0 PHASE I OF THE CMP

Phase I of the CMP includes selection of the corrective measure to be taken and developing a basis for completing the final design of the measure. This effort should be documented in a Conceptual Design Report which describes the proposed corrective measure for each SWMU and other areas of concern and provides a conceptual design for these measures. The main criteria for Illinois EPA review are whether the proposed corrective measures can achieve the final cleanup objectives previously established by the Permittee and Illinois EPA and/or provide the necessary institutional controls to prevent the migration of contaminants from the SWMU of concern. Based upon a review of the Conceptual Design Report, Illinois EPA may approve the corrective measures, require revisions to the proposed corrective measures, or require that a new corrective measures proposal be submitted to Illinois EPA.

The Conceptual Design Report should contain the following sections:

1. Introduction/Purpose. This section should contain: (1) general background information regarding the project; (2) the purpose and goals of the submittal; and (3) the scope of the project.

2. Existing Site Conditions. This section should contain a summary of the investigative activities conducted for each of the units of concern. Investigation analytical results should be provided in tabular form, and maps depicting both the horizontal and vertical extent of contamination at the site should be provided.

3. Evaluation for Potential Future Migration. Based on the existing site conditions, a conceptual model of the site should be developed and presented in this section. The potential for additional future migration of contamination for each of the units of concern must then be evaluated, especially those units which have been determined to have released hazardous waste/hazardous constituents to the groundwater. It may be helpful to develop conceptual models for contaminant migration. Of special concern in this evaluation are (1) the physical properties of the contaminants (solubility, volatility, mobility, etc.); and (2) existing site conditions (types of soil present, location of contamination, hydrology, geology, etc.).

4. Corrective Measures Objectives. This section should discuss the general objectives of the proposed corrective measure to be constructed/installed, and the ability of the proposed corrective measure to achieve the established remediation objectives (unless the selected corrective measure is closure as a landfill which will require proper establishment of a final cover and proper post-closure care of the closed unit.

5. Identification of Options Available. This section should contain a brief discussion of the options available to achieve the corrective measures objectives for each unit. This discussion should identify: (1) a general overview of each option available, including how the option will achieve the stated objective; (2) the advantages associated with each option; (3) the disadvantages associated with each option and (4) an estimate of the cost associated with choosing each remedial option.

6. Description of Selected Corrective Measure. This section should contain a qualitative discussion of the corrective measure chosen, along with the rationale which was used to select this measure from all those identified initially. This discussion should include documentation that the selected corrective measure will be effective.

7. Identification of Design Criteria. This section should identify what information must be available to design the selected corrective measure.

8. Review of Available Information. This section should contain an evaluation of the existing information to ensure that it is sufficient to complete the design of the selected corrective measure. If insufficient information is available, then the report should contain procedures for collecting the required additional information.

9. Procedures for Completing the Design. This section should contain a description of the procedures which will be followed to complete the design of the corrective measure. This should include as appropriate:

    a. Identification of the references and established guidance which will be used in designing the selected corrective measure. Justification for the selection of this procedure should also be provided

    b. A description of the procedures which will be used to complete the design of the corrective measure

    c. Identification of assumptions to be used in the design, and the impact these assumptions have on the overall corrective measure

    d. Significant data to be used in the design effort

    e. Identification and discussion of the major equations to be used in the design effort (including a reference to the source of the equations)

f. Sample calculations to be used in the design effort

g. Conceptual process/schematic diagrams

h. A site plan showing a preliminary layout of the selected corrective measure

i. Tables giving preliminary mass balances

j. Site safety and security provisions

This information will form the technical basis for the detailed design of the remedial measure and the preparation of construction plans/specifications.

10. Identification of Required Permits. This section should identify and describe any necessary permits associated with the selected corrective measure, as well as the procedures which will be used to obtain these permits.

11. Long lead Procurement Considerations. This section should identify any elements/components of the selected corrective measure which will require a large amount of time to obtain/install. The following issues should also be discussed: (1) the reason it will take a large amount of time to obtain/install the item; (2) the length of time necessary for procurement and (3) recognized sources of such items.

12. Project Management. This section should contain information regarding the procedures and personnel which will be involved in completing the design of the selected corrective measure. A schedule for completing the design should also be provided.

4.0 PHASE II OF THE CMP

Once Illinois EPA approves the Conceptual Design Report, the facility should complete the design of the approved corrective action (Phase II of the CMP). Upon final completion of the design, a Final Design Report, consisting of final plans, specifications, construction work plan, etc., must be submitted to Illinois EPA for review and approval.

Several documents must be submitted to Illinois EPA as part of Phase II of the CMP. The following text describes the expected contents of the various documents which should be developed and submitted to Illinois EPA as part of Phase II of the CMP.

1. Final Design Report and Construction Work Plan. The Final Design Report and Construction Work Plan must contain the detailed plans, specifications and drawings needed to construct the corrective measure. In addition, this document must contain (1) calculations, data etc., in support of the final design; and (2) a detailed description of the overall management strategy, construction quality assurance procedures and schedule for constructing the corrective measure. It must be noted that the approved Conceptual

Design Report forms the basis for this final report. The information which should be provided in this document includes:

a. Introduction/Purpose. This portion of the document should: (1) provide background information regarding the project, (2) describe the purpose and goals of the project, and (3) describe the scope of the project.

b. Detailed Plans of the Design System, including the following:

1) Plan views

2) Section and supplementary views which, together with the specifications and general layouts, facilitate construction of the designed system

3) Dimensions and relative elevations of structures

4) Location and outline form of the equipment

5) Ground elevations

6) Descriptive notations, as necessary, for clarity

c. Technical Specifications. Complete technical specifications for the construction of the system, including, but are not limited to, the following:

1) All construction information, not shown in the drawings, which is necessary to inform the contractor in detail as to the required quality of materials, workmanship, and fabrication of the project

2) The type, size, strength, and operating characteristics of the equipment

3) The complete requirements for all mechanical and electrical equipment, including machinery, valves, piping and jointing of pipe

4) Electrical apparatus, wiring and meters

5) Construction materials

6) Chemicals, when used

7) Miscellaneous appurtenances

8) Instruction for testing materials and equipment as necessary
9) Availability of soil boring information.

d. Project Management. A description of the construction management approach, including the levels of authority and responsibility, lines of communication and qualifications if key personnel who will direct corrective measures construction/installation must be provided in the work plan.

e. Construction Quality Assurance/Quality Control. A construction quality assurance/quality control plan describing the procedures which will be followed to ensure the corrective measure is constructed/installed in accordance with the approved plans and specifications.

f. Schedule. The work plan must contain a schedule for completion of all major activities associated with construction/installation of the selected corrective measures. All major points of the construction/installation should be highlighted.

g. Waste Management Practices. This portion of the document should identify the wastes anticipated to be generated during the construction/installation of the corrective measures and provide a description of the procedures for appropriate characterization and management of these wastes.

h. Required Permits. Copies of permit applications submitted to other Bureaus of Illinois EPA for the selected corrective measure must be provided in the report. If it is determined that no permit is required for construction/installation and implementation of the corrective measures, rationale and justification must be provided to support this contention.

i. Cleanup Verification. The report must contain the procedures which will be followed that the approved remediation objectives have been achieved when operation of the system is completed.

2. Operation and Maintenance Plan. An Operation and Maintenance Plan must be developed and submitted as part of Phase II of the CMP. This plan should outline the procedures for performing operations, long term maintenance, and monitoring of the corrective measure.

a. Introduction and Purpose. This portion of the document should provide a brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.

b. System Description. This portion of the document should provide a description of the corrective measure and significant equipment, including manufacturer's specifications. This portion of the permit should also include a narrative of how the selected system equipment can comply with the final engineered design of the corrective measure.

c. Operation and Maintenance Procedures. This portion of the document should provide a description of the normal operation and maintenance procedures for the corrective measures system, including:

1) Description of tasks for operation

2) Description of tasks for maintenance

3) Description of prescribed treatment or operation conditions

4) Schedule showing the frequency of each operation and maintenance task

d. Inspection Schedule. This portion of the document should provide a description of the procedures for inspection of the corrective measures system, including problems to look for during the inspection procedure, specific inspection items, and frequency of the inspections.

e. Waste Management Practices. This portion of the document should provide a description of the wastes generated by the corrective measure, and the appropriate procedures for proper characterization/management of these wastes.

f. Contingency Procedures. This portion of the document should provide a description of the procedures which will address the following items:

1) System breakdowns and operational problems including a list of redundant and emergency backup equipment and procedures

2) Alternative procedures (i.e., stabilization) which are to be implemented if the corrective measure fails. The alternative procedures must be able to prevent release or threatened releases of hazardous wastes/hazardous constituents which may endanger human health and the environment or exceed cleanup standards

3) Notification of facility and regulatory personnel in the event of a breakdown in the corrective measures, including written notification identifying what occurred, what response action is being taken and any potential impacts on human health and the environment

5.0 PHASE III OF THE CMP

Once the final design report is approved by Illinois EPA, construction/installation of the approved corrective measure must commence. During this period, quarterly reports should be submitted which contain the following information:

1. Summary of activities completed during the reporting period

2. An estimate of the percentage of the work completed

3. Summaries of all actual or proposed changes to the approved plans and specifications or its implementation

4. Summaries of all actual or potential problems encountered during the reporting period

5. Proposal for correcting any problems

6. Projected work for the next reporting period

Upon completion of construction/installation of the approved corrective measure, a Construction Completion Report must be submitted to Illinois EPA documenting that these efforts were carried out in accordance with Illinois EPA approved plans and specifications. This report should contain a thorough description of the efforts that went into constructing/installing the corrective measure and demonstrate that the procedures in Illinois EPA approved Final Design Report were followed during this effort. Such a report should be formatted in a logical and orderly manner and contain the following information:

1. An introduction discussing the background of the project, and the purpose and scope of the corrective measure described in the report.

2. Identification of the plans, technical specifications and drawings which were used in constructing/installing the corrective measure. These specifications and drawings should have been approved by Illinois EPA during Phase II.

3. Identification of any variations from Illinois EPA approved plans, technical specifications and drawings used in construction/installing the corrective measure. Justification regarding the need to vary from the approved plans and specifications must also be provided.

4. A description of the procedures used to construct/install the corrective measure, including the procedures used for quality assurance and quality control.

5. As built drawings, including identification of any variations from the approved plans, technical specifications, and drawings.

6. A summary of all test results from the construction/installation effort, including quality assurance/quality control testing.

7. Actual test results, including quality assurance/quality control test results. These results should be in an attachment/appendix and be well organized.

8. Identification of any test results which did not meet the specified value and a description of the action taken in response to this failure, including retesting efforts.

9. Photographs documenting the various phases of construction.

10. A detailed discussion of how the construction/installation effort met the requirements of the approved Final Design Report.

11. A certification meeting the requirements of 35 IAC 702.126 by an independent qualified, licensed professional engineer and by an authorized representative of the owner/operator.

6.0 PHASE IV OF THE CMP

Once the corrective measure has been constructed/installed, it must be operated, maintained, and monitored in accordance with the approved plans and specifications (this is Phase IV of the CMP). During this period, quarterly reports must be submitted to Illinois EPA documenting the results of these efforts. These reports include the following:

1. Introduction. -- A brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.

2. System Description. -- A description of the corrective measures constructed/installed at the site and identify significant equipment. Describe the corrective measure and identify significant equipment.

3. Monitoring Results. -- A description of the monitoring and inspection procedures to be performed on the corrective measures. A summary of the monitoring results for the corrective measures, including copies of any laboratory analyses which document system effectiveness, provide a description of the monitoring procedures and inspections performed, and include a summary of the monitoring results for the corrective measure. Copies of all laboratory analytical results which document system monitoring must be provided.

4. Effectiveness Determination. -- Calculations and other relevant documentation which demonstrates the effectiveness of the selected corrective measure in remediating/stabilizing contamination to the extent anticipated by the corrective measures final design. Copies of relevant analytical data should be provided to substantiate this determination.

5. System Effectiveness Recommendation. -- Based upon the results of the effectiveness determination required under Item 4 above, recommendations on continued operation of the corrective measure must be provided. If the corrective measure is not performing in accordance with the final design, a recommendation on revisions or expansion of the system should be provided.

7.0 PHASE V OF THE CMP

Once all corrective measures have been completed, a report must be developed documenting all the efforts which were carried out as part of implementing the corrective measure and demonstrating, as appropriate, that the approved remediation objectives have been achieved. This report should contain a compilation of all previous reports and contain sufficient information to demonstrate that the approved remediation objectives have been achieved. It must be noted that such a report will not be developed for a unit closed as a landfill until the post-closure care period has been completed.

8.0 PROCEDURES WHICH SHOULD BE FOLLOWED WHEN SOIL REMOVAL IS THE SELECTED CORRECTIVE MEASURE

Sections 2.0 through 6.0 above describe the procedures which should be followed when it is necessary to design some type of physical corrective measure (e.g., a final cover system, some type of treatment system, etc.). However, such detail is not necessary if excavation/removal is selected as the remedial action for the contaminated soil encountered at the site. In general, a work plan should be developed for this effort (for Illinois EPA review and approval) which fully describes each step to be used in removing the contaminated soil from the property. This includes a description of (1) the equipment utilized in the removal effort, (2) the pattern followed in removing the soil; (3) the depth to which the soil will be removed; (4) management of the soil on-site after it is removed from the ground; (5) loading areas; (6) the ultimate destination of the soil; and (7) any other steps critical to the removal effort.

One way to conduct a soil removal effort is to collect and analyze enough soil samples to clearly determine the horizontal and vertical extent of soil contamination prior to conducting the soil removal effort. The boundaries of soil which must be removed are defined by Illinois EPA established cleanup objectives for the project. Soil excavation must extend to sample locations where soil test results indicate that the remediation objectives are met. Closure verification sampling is not necessary in such cases, if a registered professional engineer oversees the soil removal effort and certifies that the remediation limits extend to these boundaries.

Another way to conduct a soil removal effort is to collect and analyze a limited number of soil samples prior to the soil removal effort and to rely on field observation to determine the extent of the soil removal. In such cases closure verification sampling is necessary. Soil samples must be collected for analysis from the bottom and sidewalls of the final excavation. The following sampling/analysis effort is necessary to demonstrate that the remaining soil meets the established cleanup objectives:

1. A grid system should be established over the excavation.

2. Samples should be collected from the floor of the excavation at each grid intersection, including intersections along the perimeter of the excavation.

must also be collected at the midpoint of the excavation wall at each grid intersection along the excavation perimeter.

4. Collection/analysis of all required samples must be in accordance with the procedures set forth in the approved plan.

5. Soil samples which must be analyzed for volatile organic compounds (VOCs) must be collected in accordance with the procedures set forth in Method 5035 of SW-846. In addition, such samples must be collected 6"-12" beneath the floor/sidewalls of the excavation to minimize the possibility of volatilization of the contaminants prior to the collection of the samples.

6. No random sampling may be conducted to verify achievement of cleanup objectives have been met.

7. Additional soil must be removed, as necessary, until it can be demonstrated that the remaining soil in and around the area of concern meets the established cleanup objectives. Additional samples must be collected and analyzed in accordance with the procedures described above from areas where additional soil has been removed.

ATTACHMENT C

IDENTIFICATION OF APPROVED PERMIT APPLICATION

ILLINOIS EPA # 2010300034

USEPA # ILD041539230

POST-CLOSURE PERMIT LOG NO B-161R2

ATTACHMENT C
IDENTIFICATION OF THE APPROVED PERMIT APPLICATION

This Permit is based on the information in the approved permit application. The approved permit application consists of the following documents:

Document	Dated	Received
RCRA Permit Application	December 13, 2019	December 16, 2019
--Revised Section E	March 20, 2020	March 20, 2020
Revised Application	February 26, 2025	February 28, 2025
--Name Change	April 21, 2025	May 19, 2025

ATTACHMENT D

INSPECTION SCHEDULE

ILLINOIS EPA # 2010300034

USEPA # ILD041539230

POST-CLOSURE PERMIT LOG NO B-161R2

ATTACHMENT D
INSPECTION SCHEDULE

Inspections must be conducted in accordance with Section E.6 of the approved permit application. All inspections must be logged and kept in operating record.

Item	Description	Frequency*	Comments
Surface Caps	Inspect for cracks, broken/missing sections	Annually (April–June)	In addition, inspect secondary containment pad of the storage building over HWMU 2 and the joints between building and surface cap
Monitoring Wells	Inspect labels, locks, survey marks, venting, surface seal, casing integrity	Annually (March–April)	
Recovery Wells	Inspect for failure, clogging, damage, read totalizer meter	Daily	

* In addition to regular schedule, inspections must occur after storm events with greater than 2 inches of rain over 24 hours

ATTACHMENT E

CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

ILLINOIS EPA # 2010300034

USEPA # ILD041539230

POST-CLOSURE PERMIT LOG NO B-161R2

Illinois Environmental Protection Agency

CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

Life Technologies Corporation (2010300034) – Winnebago County
USEPA ID: ILD041539230
RCRA Permit Log No. B-161R2

To meet the requirements of 35 Ill. Adm. Code 724.220, this statement is to be completed by both a responsible officer of the owner/operator (as defined in 35 Ill. Adm. Code 702.126) and by a qualified Illinois licensed professional engineer upon completion of post-closure care of the hazardous waste management units. Submit one copy of the certification with original signatures and two additional copies.

The hazardous waste management units (HWMUs) closed as landfills, known as HWMUs 1 and 2, have been closed in accordance with the specifications in the approved closure plan. Post-Closure care required for the HWMUs has been provided and completed in accordance with the RCRA Permit. A report documenting that required post-closure care have been carried out and completed in accordance with the approved post-closure care plan is attached.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS5/44(h))

Facility Name	**Printed Name of Responsible Officer**
Signature of Owner/Operator Responsible Officer **Date**	**Printed Title of Responsible Officer**
Signature of Licensed P.E. **Date**	**Printed Name of Licensed P.E. and Illinois License Number**
Mailing Address of P.E.:	**Licensed P.E.'s Seal:**