WM Waste, Inc.
21211 Durand Ave.
Union Grove, WI 53182
(262) 878-2599

April 29, 2025

Lauren Hill
Wisconsin Department of Natural Resources
1027 W. Saint Paul Ave
Milwaukee, WI 53233-2641

RE: Class 1-1 License Modification Request – Revised Corrective Action Plan
Container Storage License #3102
WM Waste, Inc.
EPA ID# WIR000000356

Dear Ms. Hill:

In accordance with NR 670.042(1), Wis. Adm. Code, WM Waste, Inc. (WM Waste) notifies the Wisconsin Department of Natural Resources (DNR) via a Class 1-1 modification request pursuant to Condition 96 of the WDNR's Feasibility and Plan of Operation Report (FPOR) Conditional Approval, dated April 25, 2024. WM Waste is submitting a Revised Corrective Action Plan (CAP) to satisfy Condition 96 of the Final Determination of the FPOR. This Revised CAP addresses the DNR's Notice of Deficiency, dated February 2, 2025.

Upon DNR approval of this Class 1-1 modification request and your instructions and pursuant to NR 670.042(2), WM Waste will send notice of the modification to all persons on the facility mailing list. I can be contacted anytime at 225-305-5529 or mnoel@wm.com if you have further questions or concerns about this submittal.

Sincerely,
WM Waste, Inc.

Mark Noel
Director-Environmental, Health & Safety

Attachment: Corrective Action Plan

cc: Doug Coenen, Benjamin Petrus, Angela Carey & Adam McIlheran – DNR
Sixto Ortiz, Steve Smolko, Michelle Gale, & Erin Bulson – WM
David Crass – Michael Best & Friedrich
Lee Daigle & Luke Specketer – Tetra Tech

Revised Corrective Action Plan

WM Waste Inc.

BRRTS Activity # 02-52-586974
DNR FID # 252195350

April 29, 2025

209-4241720

PRESENTED TO

WM Waste, Inc.
21211 Durand Ave
Union Grove, WI 53182

PRESENTED BY

Cornerstone Environmental Group, LLC
8413 Excelsior Drive,
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Madison, WI 53717

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Prepared by:

April 29, 2025

Luke Specketer
Project Manager

Date

Reviewed by:

April 29, 2025

Josh Davenport, P.E.
Senior Project Manager

Date

TETRA TECH

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PE CERTIFICATION

"I, Joshua Davenport, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

_____ 40131-006

Signature P.E. Number

Senior Project Manager

Title

P.E. Stamp:

1 INTRODUCTION

WM Waste, Inc (WM Waste) owns and operates the facility located at 21211 Durand Avenue, Union Grove, Wisconsin. The facility historically operated as a licensed hazardous waste treatment and storage facility and also conducted exempt mercury recycling/retorting. All mercury retorting has ceased, and the facility is now permitted to operate as a hazardous waste temporary storage and transfer facility. This Corrective Action Plan (CAP) has been prepared in compliance with Condition 96 of the Feasibility and Plan of Operation Report (FPOR) approval, dated April 25, 2024.

This CAP summarizes the previous investigations conducted at the WM Waste facility. These past investigations were used to guide the proposed remaining work described within this CAP. This CAP has been prepared in a format that follows the NR 700 et seq. Wis. Admin. Code process. The remaining work described in this CAP includes additional site investigations to facilitate decision making and guide any corrective actions. The remaining work in this CAP includes the completion of a case closure request, assessment of the need for any continuing obligations, a suggested corrective action schedule, and a financial assurance report that estimates the cost to conduct the remaining work.

1.1 RESPONSIBLE PARTY INFORMATION

Current Property Owner:	WM Waste, Inc.
Address:	21211 Durand Avenue Union Grove, WI 53182
Phone:	(262) 498-3072
Client Contact:	Steven Smolko – WM Waste, Inc.

1.2 CONSULTANT

Consultant:	Tetra Tech
Address:	8413 Excelsior Drive, Suite 160 Madison, WI 53717
Project Manager:	Josh Davenport
Phone:	(608) 419-5752

1.3 SITE INFORMATION

Site name:	WM Waste, Inc.
Address:	21211 Durand Avenue Union Grove, WI 53182
Parcel IDs:	006-03-20-36-031-018 006-03-20-36-031-017 006-03-20-36-029-000 006-03-20-36-031-022 006-03-20-36-031-021

Site location: Northeast ¼ of the Northeast ¼ of section 36 of Township 3 North and Range 20 East
Racine County, Wisconsin

The WM Waste facility is located in a small industrial park. The site is bordered to the north by Durand Avenue, with agricultural land extending north of Durand Avenue. The remainder of the surrounding area consists of industrial properties and farmland to the south, and residential properties to the east and west.

The facility was historically used as a recycler that processed various hazardous and universal waste containing mercury, as well as recycling fluorescent and incandescent lamps and lighting ballasts starting circa 1998. The waste was processed utilizing a thermal retort system, and the recovered metallic mercury was sold. Prior to the WM Waste operations, the facility was occupied by M&W Shops, Grove Die Casting, and Klein Corporation (all metal fabrication shops) from 1983 to 1998. Mercury Waste Solutions LLC (MWS) operated the property from 1998 to 2010 when it was purchased, and the operations were continued by WM Mercury Waste, Inc. WM Mercury Waste, Inc continued operating the mercury recycling facility from 2010 to 2020. Around 2020 the name was changed to WM Waste, inc.

The licensed facility consists of four (4) enclosed buildings with roofs and brick/metal walls and concrete floors. In addition, the facility includes a paved outdoor bulk container storage area under roof that is enclosed by a security fence, as shown on **Figure 1.** The West Building is organized into areas designated for hazardous waste storage and consolidation, shipping and receiving, and offices. The East Building includes areas for hazardous waste storage and consolidation. The East and West Buildings are connected by an enclosed hallway.

The South Building, approximately 6,000 square feet in size, is split into two sides. Half of the building is used to store roll-off containers containing hazardous waste or universal waste storage for batteries, which are shipped off-site for disposal. The other half of the building is used for non-waste related storage.

The Administrative (Admin) Building is approximately 7,000 square feet in size and is located on the western side of the facility property. This building houses WM Waste maintenance operations and serves as the facility command center.

As of early 2020, the facility no longer operates the retort ovens, nor processes mercury for recycling. The retort ovens have been removed, the inside of the West building has been cleaned, the floor has been repaired, and the floor has been sealed. The granular activated carbon (GAC) system remains operational, as needed, at the facility. The GAC's carbon media is replaced approximately every five years.

1.4 CORRECTIVE ACTION HISTORY

Beginning in 1998, soil samples located at the roof downspouts and courtyard of the facility were taken on an annual basis and analyzed for mercury. Detectable mercury levels above 1 mg/kg were encountered in the courtyard and near downspouts on the west side of the facility. As part of addressing the elevated concentrations of mercury, approximately 20 cubic yards of soil in the courtyard area and below the facility's downspouts were excavated to 1-2 feet below surface and replaced with clean material each year from 1999 to 2002. Changes were made to the stormwater system to slow stormwater velocity and minimize the spread of possible impacts. MWS requested temporary authorization from the WDNR to include corrective action in its Treatment, Storage and Disposal (TDS) Permit. Authorization was granted and MWS entered the corrective action process under the Resource Conservation and Recovery Act (RCRA). The WDNR was notified in August 2001 that soil at the facility was impacted with mercury.

On March 11, 1999, a mercury spill occurred from a truck being received at the facility. MWS used berms of absorbent material to minimize movement of the spill. On May 14, 1999, a soil sampling event occurred that indicated elevated mercury levels from spill materials entering a ground drain and migrating to a drainage ditch.

Approximately 24 cubic yards of soil were excavated and retorted from within the drains and west ditch. Post-excavation soil samples were found to have less than 1 mg/kg of mercury.

The previous site investigation work, along with proposed capital projects at the facility, resulted in corrective actions to remove impacted or potentially impacted soil. Additionally, the existing stormwater management system was upgraded by installing additional storm sewers and constructing a retention pond. This work occurred from late 2004 through 2007, and a documentation report and case closure request were submitted in May 2008. Case closure was obtained from the WDNR in June 2009. The corrective actions associated with this work are summarized below.

Several locations on the site were excavated, and remaining soil was evaluated against a WDNR-approved site-specific Soil Cleanup Standard (SCS) of 10.0 mg/kg total mercury. Soil was excavated to a depth of six inches in the courtyard, which was the only area on site at the time with concentrations of mercury above 10 mg/kg. To prepare for repaving of the receiving area and to demonstrate that loading and unloading activities had not allowed mercury to infiltrate the asphalt and enter soil, the area was cleared of asphalt and excavated to 12-18 inches below the soil surface. Asphalt and concrete were also removed from the open area at the south end of the west building before excavating 12-18 inches below the soil surface. Soil samples were collected from the floor of all excavation areas. The vertical wall of the receiving area excavation was also sampled to address WDNR concerns of possible lateral migration of mercury in water in the gravel layer beneath the paved areas. All samples were below the detection limit or had mercury concentrations below the 10 mg/kg SCS. The sampling was used to demonstrate that mercury had not penetrated to these depths at concentrations above 10 mg/kg. In the area planned for the stormwater pond construction, a more conservative 5 mg/kg SCS was applied to the soil being excavated. Prior to excavation, vegetation was removed, and a grid of samples was collected from the upper three inches of soil. All sample mercury concentrations were well below 5 mg/kg total mercury.

Since 2012, WM Waste has been mandated as a condition of its operating license to conduct biennial surficial soil sampling for total mercury from designated grid locations. These samples are analyzed for total mercury by a certified laboratory. Should any of the biennial soil samples meet or exceed the threshold of 10 mg/kg, WM Waste is obligated to provide written notification to the Wisconsin Department of Natural Resources (WDNR) Hazardous Waste Inspector assigned to the facility.

On August 28, 2020, the biennial soil sampling event was conducted in accordance with the approved FPOR. Lab results identified seven of the 89 samples collected exceeded the site-specific standard of 10 mg/kg. Remedial action was taken to address the site-specific exceedances, which consisted of over-excavation of the impacted soil in December 2020. Specifically, soil in the area of the GAC system was identified with exceedances during the biennial soil sampling event, with this area being remediated through excavation. WM Waste personnel over-excavated soils to a depth of approximately 1-foot below ground surface (bgs) based on analytical results, including around the GAC spill. Post-excavation confirmation samples collected from the bottom of the excavation were below the site-specific standard of 10 mg/kg, as well as the direct contact residual contaminant level (RCL) of 3.13 mg/kg.

Between the previous remedial action in December of 2020 and the implementation of the Site Investigation Work Plan (SIWP), routine sampling has continued at the site including annual sediment sample collection in the stormwater retention pond and biennial sitewide surficial soil samples. The annual sediment samples from the stormwater retention pond were collected by Tetra Tech on December 21, 2020, and November 22, 2021. Concentrations of total mercury were present above laboratory detection limits in the pond sediment in both events. Sediment samples collected from the stormwater retention pond have had detections above the laboratory detection limits for total mercury since the pond sediment was first analyzed in 2012. The presence of mercury in the sediments will be further evaluated during the NR 700 site investigation.

Biennial surficial soil sampling was completed by Tetra Tech in April 2022. These samples were collected from the soil just below the grass or gravel surface in an established grid pattern across the site. The sample

concentrations of total mercury were below the site-specific limit of 10mg/kg, and therefore the WDNR was not required to be notified of the results. The samples in the vicinity of the GAC cleanout spill and excavation area, and from the biennial soil sampling, were used to further characterize the extent of the soil impacts related to the spill. Specifically, biennial sample locations E6, E6a, E7, E7a, F5a, F6, F6a, F7, and F7a, are located within the remediated area, or between the GAC location and the paved road to the West. None of the samples from the locations had concentrations above the NR 720 RCL of 3.13 mg/kg for direct contact RCL.

Following the biennial soil sampling in April 2022, a SIWP was implemented in two phases (1A and 1B) during May 2022 and July/August 2022 events, respectively. The activities associated with the SIWP are summarized in the next section.

The following table is a summary of the above discussed corrective actions:

Table 1: WM Waste Corrective Action Summary

Year	Site Location	Corrective Action Initiation	Corrective Action Result
1998	Roof downspouts and Courtyard	Collected soil samples at downspouts and Courtyard. Mercury was detected and excavated	~20 CY of soil excavated from Courtyard and at each downspout outlet to depths of 1-2 feet. Post-excavation sampling results below 10 mg/kg.
1999	Loading dock	A spill of mercury impacted material from a truck being received at the facility. Berms and absorbent materials were used to minimize spill movement. Soil sampling after the event identified mercury in nearby drainage ditch	~24 CY of soil was excavated from drainage ditch. Post-excavation sampling results below 1 mg/kg.
2007	Courtyard	Soil sampling identified mercury impacts in the surface soil at the facility. A Soil Cleanup Standard (SCS) of 10 mg/kg was developed for all site cleanups.	Excavation of 6 inches of surface soil with results above 10 mg/kg. Post-excavation sampling results below 10 mg/kg.
2007	Receiving Yard	Area intended to be repaved	Excavation of Asphalt and soil to a depth of 12-18 inches. Post-excavation sampling results below 10 mg/kg.
2007	West Building	Soil sampling identified mercury impacts in the surface soil at the facility.	Asphalt and soil was excavated to a depth of 12-18 inches on south end of building. Post-excavation sampling results below 10 mg/kg.
2007	Proposed Retention Pond	Soil sampling conducted in area of proposed retention pond	Soil sampled identified no mercury impacts above 5 mg/kg.
2020	West of West Building, northeast property corner	Site-wide surface soil sampling identified results above 10 mg/kg next to GAC system resulting from GAC release and at northeast corner of property next to property entrance/exit.	Soil excavation to a depth of 1 foot. Post-excavation sampling results below 10 mg/kg.

2 SITE INVESTIGATIONS

2.1 COMPLETED INVESTIGATIONS

As noted above, beginning in 1998, soil samples at the downspouts and courtyard of the facility were taken on an annual basis and analyzed for mercury. Detectable mercury levels above 1 mg/kg were encountered in the courtyard and near downspouts on the west side of the facility. In January 2004, MWS submitted a RCRA Facility Investigation work plan to the WDNR for sampling of its property for the presence of mercury in site soils and groundwater.as required of all RCRA--permitted hazardous waste facilities. This was also done in anticipation of a major capital improvement project to re-pave the high traffic areas of the property and construct a basin for containment of storm water. The investigation was completed in four phases, commencing with area-wide sampling of the entire property to establish patterns of concentration, and culminating in high-density grid sampling in those areas associated with the paving and construction of the storm water basin. The soil quality data was used to demonstrate that the facility had not adversely impacted the environment, and a statistical analysis of the data also was used to establish a site-specific SCS of 10 mg/kg of total Mercury for the MWS property. Monitoring wells installed on-site were sampled in 2005 and 2008 and used to demonstrate that the presence of mercury in soil samples had not impacted underlying groundwater.

A site investigation was performed from late 2004 through early 2007, along with a soil sampling event in September 2010 where samples were collected from the facility and select surrounding properties. All results were below the site-specific standard for mercury of 10 mg/kg.

According to Condition 59.f of the facility's former FPOR, approved by the WDNR on August 18, 2011, the collection and analysis for total mercury of a minimum of 70 soil samples was to commence beginning in 2012 and occur biennially thereafter. Results at or above the site-specific standard of 10 mg/kg must be reported to the WDNR. Implementation of this requirement consisted of biennial sampling at the site from 2012 through 2018 with no exceedances of the site-specific standard. The FPOR approved in 2011 has since been replaced with the FPOR approved in WDNR's approval letter dated April 25, 2024.

Historic analytical results from samples collected at the two on-site water supply wells and the neighboring properties' wells as part of site investigations indicate no detections of mercury. The neighborhood well sampling occurred in late 2007 and early 2008, and also in 2010, and the onsite wells were sampled in 2009 and 2022.

On August 28, 2020, the biennial soil sampling event was conducted in accordance with the approved FPOR. The facility collected grab surface soil samples, and lab results identified that seven of the 89 samples collected exceeded the site-specific standard of 10 mg/kg. A suspected source of the elevated concentrations around the GAC emissions control equipment was spillage of approximately one gallon of carbon media that occurred during the last GAC changeout event on September 26, 2018. WM Waste was not aware of the release prior to the 2020 sampling event. The changeout was reportedly performed by new employees and, although plastic tarping was used, carbon media was spilled on the ground surface near the carbon vessels on the west side of the facility while being transferred to totes.

The carbon media spill was reported to WDNR and was assigned BRRTS number 02-52-586974; immediate non-emergency remedial action was taken to address the site-specific exceedances. Over-excavation of impacted soil was conducted in December 2020. WM Waste personnel over-excavated soils to a depth of approximately 1-foot below ground surface (bgs) based on analytical results and visual observations. Post-excavation confirmation sample results were below the site-specific standard of 10 mg/kg as well as the direct contact RCL of 3.13 mg/kg as reported in the Request for No Further Action (NFA) Letter, dated February 21, 2021, submitted to the WDNR.

There is no known potential for impacts to sensitive species, habitats or ecosystems, based on a Preliminary WDNR Endangered Resource Review completed on August 13, 2021. A review of nearby surface waters and wetlands in the vicinity of the site showed a small wetland mapped approximately 130 feet west of the stormwater pond discharge area. No waterways are present in the vicinity of the site where the site would discharge stormwater. Additionally, no potential impacts to sites of historical/archaeological significance are known.

The stormwater retention pond was constructed circa 2007-2008 to manage stormwater from the site in accordance with Conditions 60 and 61 of the facility's former FPOR. The pond is designed with a 2-foot-thick clay liner to protect the groundwater from infiltration. The pond sediment was initially sampled in 2012 and has been sampled annually since, except for 2019, with the last sampling event occurring in 2024. The analytical reports are maintained in on-site records, and the results from pond sediment samples have fluctuated over time, with results ranging from 0.10 mg/kg to 1,290 mg/kg. Sediment samples collected from the stormwater retention pond have had detections above laboratory detection limits for total mercury since the pond sediment was first analyzed in 2012. The presence of mercury in the sediments will be further evaluated during the NR 700 site investigation.

WM Waste's No Further Action (NFA) Request Letter was not approved by WDNR, and additional investigation activities were required. In response, a SIWP was submitted to WDNR to conduct additional investigation activities. These activities are in addition to the routine annual sediment sample collection in the stormwater retention pond and biennial sitewide surficial samples required by the FPOR.

Tetra Tech completed biennial surficial soil sampling in April 2022. The sample concentrations of total mercury were below the site-specific limit of 10 mg/kg and the direct contact RCL of 3.13 mg/kg. Following the biennial soil sampling, the SIWP was implemented in two phases (1A and 1B) during May 2022 and July - August 2022, respectively. During the May 2022 Phase 1A Investigation, soil samples were collected at six locations. Two samples were collected at each sample location, one below the grass or gravel surface and one at 12 inches of depth. This phase also included collecting water samples at the two on-site private water supply wells. Surface water in the stormwater retention pond was sampled in two locations: one sample from within the pond and one sample from the pond outlet while it was flowing.

Out of the six soil sample locations, laboratory results showed that the surficial soils at two locations had total mercury concentrations above the direct contact RCL of 3.13 mg/kg. The remaining surficial soil samples were below the RCL or the detection limits. None of the samples collected during May 2022 at one foot below the surface had total mercury detections above the direct contact RCL. Total mercury was not detected in the two on-site private water supply well samples (PW-1 and PW-2). The sample collected in the pond had a concentration of 0.90 ug/L and the sample collected from the pond discharge had a concentration of 0.42ug/L.

Based on results from the Phase 1A investigation, a Step Out (Phase 1B) Sampling Plan was developed in accordance with the SIWP around the Initial (Phase 1A) soil sample locations with detections above the reporting standards. The Step Out samples were collected in July 2022 and August 2022. Each of the 34 total step out samples was collected between areas that previously had samples that exceeded the RCL and/or warranted further investigation and a known boundary delineation. A full summary of the results from this investigation and site figures were submitted in a report to WDNR dated October 25, 2022.

The investigation continued in 2024, with Tetra Tech conducting step-out soil sampling at the facility's stormwater retention basin outlet. Total mercury concentrations from samples collected at the ground surface ranged from 0.056 mg/kg to 174 mg/kg and from 0.056 mg/kg to 27.7 mg/kg for the samples collected 1 foot bgs. Full results and figures for this investigation were presented in the report submitted to WDNR on May 28, 2024. Based on the results of the February 2024 investigation, residual mercury above the direct contact RCL is likely limited to the top 12 inches of soil, with the exception of samples collected within the drainage path to the west of the retention basin outlet along the property line. The total mercury concentrations become lower as the sample locations get farther from the visible drainage path and appear limited to near the surface.

On April 25, 2024, the WDNR issued a Final Determination to Conditionally Approve a new Feasibility and Plan of Operation Report for the facility (Final Determination). Condition 103 of the Final Determination provides: that until an alternate soil sampling plan is approved, Licensee shall continue to comply with conditions 59.a through 59.e of the final determination dated August 18, 2011, except that sampling shall be performed annually and all results shall be submitted in accordance with condition 105, within 30 days of completion of fieldwork. Results are to be submitted to both the WDNR's Remediation and Redevelopment (RR) Program project manager for BRRTS case #02-52-586974, and the department's hazardous waste program representatives.

Tetra Tech conducted the site wide soil sampling event required by the FPOR in June 2024. Of these samples, five (5) exceeded the NR 720 direct contact RCL of 3.13 mg/kg. The locations and magnitude of mercury results were presented in the annual sampling report submitted to the WDNR on August 2, 2024. Based on these results, additional samples were collected in October 2024 to define the vertical and horizontal extent of the mercury impacts at those locations and to guide future remediation efforts for these soils.

2.2 ANTICIPATED INVESTIGATIONS

This Section describes the remaining site investigation activities that are anticipated to provide the information necessary to define the nature, degree and extent of impacts, define the source of impacts, and determine whether any interim actions or remedial actions are necessary. A site investigation workplan is being developed to define the full extent of mercury impacts both horizontally and vertically within the soil in areas that are not yet fully defined based on the results of previous investigations. The SI work plan will be submitted separately to the WDNR Remediation and Redevelopment Bureau and to the Hazardous Waste Group in accordance with Condition 95 of the Final Determination.

At this time, the proposed site investigation to horizontally define the extent of mercury soil impacts will consist of collecting additional step out samples around the previously identified sample locations with concentrations above the direct contact and soil to groundwater RCLs.

Previous sampling conducted in 2024 as part of the FPOR-required biennial sampling noted surface soil samples at locations B9b, E6, E7a, F6, and F8 with soil concentrations above the direct contact RCL. Step out soil samples were not performed around B9b because the extent of the concentrations above the direct contact RCL are defined by B9, B9a, and B9c, all of which had soil concentrations below the direct contact RCL. Step out samples were performed around sample locations E6, E7a, F6, and F8. These results identified step out sample results above the direct contact RCL around sample location F8. Therefore, additional step out sampling around sample location F8 will be performed to define the extent of mercury soil impacts above the direct contact RCL. This location is northwest of the West Building, and north of the fenced-in area that contains the GAC emissions control equipment, storage sheds, and other electrical equipment.

The above-noted 2024 FPOR-required sampling identified surface soil samples near the property boundary with soil concentrations above the soil-to-groundwater RCL. Additional surface soil samples will be collected between the property line and the current soil samples with concentrations above the soil-to-groundwater RCL. These samples will be used to horizontally define the extent of mercury concentrations above the soil-to-groundwater RCL. These locations are anticipated to be along the north property line, the northwest property line, and the south property line. Surface soil samples will also be collected around the perimeter of the grass area north of the neighboring property at 21209 Durand Avenue.

The surface soil step out samples will be collected in four cardinal directions around the sample location. The step-out soil samples will be collected three feet away from the original sample locations. At each sample location, a soil sample will be collected at the surface and one foot below the ground surface. The soil samples will be collected and laboratory analyzed for total mercury. A sample will also be collected at the original location

with results above the direct contact RCL to confirm the initial sampling results. Further details concerning the sampling plan will be provided in the updated site investigation work plan.

Previous site investigations have defined the vertical extent of mercury impacts around the building, in the area of the retention pond, and the area northwest. Based on these past site investigations groundwater has not been impacted at the site above the NR 140 standards for mercury, which was documented historically with vertical soil samples showing results below the soil to groundwater RCL and with groundwater samples showing results below the NR 140 preventative action limit for mercury. WM Waste assumes that the mercury concentrations in the soil will be below the groundwater RCL before the water table is reached in areas where deeper soil samples have not been collected due to the clayey soils on site, depth to groundwater in the area, and documented historical soil and groundwater data for the site. To prove this assumption, at areas with known surface mercury impacts to the soil and where deeper soil samples have not previously been collected, deeper samples (up to 8 feet deep) will be collected and analyzed for total mercury. If a soil sample has a concentration below the groundwater RCL at a depth above the water table, then the pathway between the surface impacts and the groundwater is incomplete.

3 PROPOSED REMEDIAL ACTIONS

Following an adequate site investigation and WDNR approval, a Remedial Action Options Report (RAOR) following NR 722, Wis. Admin. Code requirements will be developed to determine the best method to address the impacts to soil and sediments at the site. The general tasks that would be included for the RAOR are the following:

- Cover Letter
- Executive Summary
- Background Information
- Remedial Action Options Evaluation
- Selected Remedial Action

Scoping of the future RAOR will evaluate addressing the soil impacts above the direct contact RCL. It is anticipated that additional soil sampling will demonstrate that mercury impacts to the groundwater through the groundwater pathway are not present. The proposed remedial actions expected to be evaluated would be no action; addressing the soil above the direct contact RCL by capping or excavating and transporting offsite for disposal; addressing the sediment in the retention pond by immobilizing the mercury in place or excavating and transporting the sediment offsite for disposal.

Following the completion of the RAOR, a Remedial Action Plan (RAP), prepared in accordance with NR 724.09 and NR 724.11, Wis. Admin. Code will be created. The general tasks that would be included for the RAP are the following:

- General Site and Project Information
- Detailed description of the remedial action
- Engineering criteria, concepts, and assumptions used in preparing the design
- Any treatability study information, pilot tests and/or aquifer test results
- Any necessary permits or approvals required
- How the remedial action will be documented and monitored
- Post-remediation operation and maintenance
- Design plans and specifications, including a materials management plan

The RAP will be submitted for WDNR review and comment prior to implementation. Following RAP approval, remediation efforts will be implemented. The proposed remedial actions that will be implemented in the RAP are 1) excavate the mercury impacted soil above the direct contact RCL on WM Waste property and northwest of the WM Waste property and haul offsite for disposal, 2) excavate the mercury impacted soil above the direct contact RCL at the outlet of the retention pond, 3) remove the pond sediment, stabilize and haul offsite for disposal, and 4) site restoration.

3.1 EXCAVATION OF IMPACTED SOIL ABOVE THE DIRECT CONTACT RCL

Once the site investigation is complete and approved and the horizontal and vertical extent of the soil impacted with mercury concentrations that exceed the NR 720 direct contact RCL has been delineated, then a remedial action will be proposed to address the impacted soil. The most likely remedial action is excavation and removal of impacted soil above the direct contact RCL from the site. The areas of impacted soil that are proposed to be excavated are along the west side of the West Building on the WM Waste property, a portion of soil located northeast of the WM Waste property, and at the outlet of the retention pond. These areas are discussed below.

3.1.1 WM Waste Property and Northeast Soil Excavation

WM Waste assumed the following for the excavation of impacted soil above the direct contact RCL for the WM Waste property and the northeast portion and for the cost estimate:

- Soil impacts above the NR 720 direct contact RCL are at a depth no deeper than 2.5 feet below the ground surface.
- There is a separation of non-mercury impacted soil between the mercury impacted soil above the groundwater RCL and the water table, therefore the groundwater pathway is not complete and the soil to groundwater RCL will not be used as the cleanup threshold for the site.
- An estimated volume of 500 cubic yards of impacted soil is assumed to be removed.
- Post-remediation soil samples will be collected to document the impacted soil has been removed.

3.1.2 Pond Outlet Mercury Soil Excavation

Based on the completed site investigation work, the soil near the pond outlet has mercury concentrations above the direct contact RCL. The remedial action will likely propose to excavate and remove the impacted soil from WM Waste Property and Neighboring Property. Provided permission is granted from the neighboring property owner, the boundary of the proposed excavation area will be defined by the sample results with detections less than the NR 720 direct contact RCL. Upon completion of the remediation activities, the roll-off containers will be removed from the site and disposed of under proper chain-of-custody (manifest).

The following are the assumptions for the pond outlet soil excavation and for the cost estimate, which will be further refined in the RAOR:

- Soil impacts above the NR 720 direct contact RCL are at a depth no deeper than 2.5 feet below the ground surface.
- There is a separation of non-mercury impacted soil between the mercury impacted soil above the soil to groundwater RCL and the water table, therefore the NR 720 soil to groundwater RCL will not be used as the cleanup threshold for the site.

An estimated volume of 85 cubic yards of impacted soil to be removed.

3.2 RETENTION POND SEDIMENT REMOVAL

Past sampling of retention pond water and sediment have identified the presence of residual mercury. The presence of mercury in the pond water and the sediment will require addressing both the water and sediment in the pond. The remedial action that is most likely to be proposed is to dewater and remove the pond sediment. These remedial activities will occur after the upstream catch basins and storm sewers are cleaned as well as after any upland soil removal is completed in association with other remedial actions, as needed.

The following has been assumed for the retention pond sediment removal and for the cost estimate, which will be further refined in the RAOR:

- Soil impacts above the NR 720 direct contact RCL are at a depth no deeper than 0.5 feet below the ponds compacted clay liner surface.
- There is a separation of non-mercury impacted soil between the mercury impacted soil above the soil to groundwater RCL and the water table, therefore the NR 720 soil to groundwater RCL will not be used as the cleanup threshold for the site.
- An estimated volume of 300,000 gallons of impacted surface water is to be removed or treated.

- An estimated volume of 900 cubic yards of impacted sediment and clay liner material is to be removed.
- An estimated volume of 675 cubic yards of impacted sediments will be solidified.

4 CASE CLOSURE

Following the completion of all necessary remedial actions, a case closure request packet will be prepared in accordance with NR 726, Wis. Admin. Code. Case closure means a determination by the WDNR that no further action is necessary at the site; site closure requires compliance with the requirements of Wisconsin Administrative Code NR 700 series rules. Closure documentation requires a comprehensive review and compilation of past site activities from investigation through remediation and monitoring. The required case closure request packet will be prepared utilizing Department forms and submitted for WDNR review and approval. The case closure request packet preparation will include the following tasks:

- Prepare a project summary including results of all investigation activities (including those 'by others' as appropriate), remedial actions taken, a discussion of residual soil and groundwater impacts, and a discussion of how potential or actual impacts to receptors have been addressed.
- Summarize soil investigation information including soil data summary tables, field and laboratory analytical results, and maps of all pre-remediation soil sample locations including information from other consultants.
- Summarize the data collected for the purpose of showing that there is not a groundwater pathway between the impacted soils at the surface and the water table.
- Post-remedial continuing obligations, such as a long-term cap maintenance plan as necessary. This proposal assumes implementation of any operation and maintenance plans will be the responsibility of the site owner.
- A complete and accurate case closure request package, including materials for the GIS Registry.
- A WDNR Closure Request Form 4400-202 and associated required figures, photos, tables, appendices, attachments, and other required content.

Approval of the case closure request would require the site investigation and remediation activities being completed and accepted by the WDNR with no further sampling required, and understanding of the continuing obligations, if any, required.

5 CONTINUING OBLIGATIONS

WM Waste assumed the following for the continuing obligations and for the cost estimate based on the anticipated remedial actions described above:

- No groundwater impacts are identified at the site and there is no apparent groundwater pathway for contamination
- Following implementation of the remedial actions, the mercury concentrations of the remaining soil at the site will be below the direct contact RCL.
- Following the retention pond cleanup, no continuing obligations related to the retention pond will be necessary.

6 IMPLEMENTATION SCHEDULE

The actual project schedule will be developed following site investigation work plan approval. Actual start and completion dates and milestones are contingent upon regulatory review schedules, construction plan negotiations, permitting, adverse weather conditions, and the actual scope of work performed. Significant changes in review times or the scope of work outlined in this schedule or adverse weather conditions will necessarily affect the project schedule.

The proposed schedule for completing the corrective actions is as follows:

***Table 6-1.* Schedule**

Project Task	Task Length of Time	Calendar Timeframe
Corrective Action Plan Submittal	N/A	April 2025
WDNR Review and Approval	4 months	May-August 2025
Site Investigation Work Plan	1 Month	May 2025
WDNR Review and Approval of SI Work Plan	2 Months	June-July 2025
Site Investigation Field Activities	2 Months	August-September 2025
Site Investigation Report	2 Months	October-November 2025
WDNR Review and Approval of SI Report	2 Months	December 2025-January-2026
RAOR	2 Months	February-March 2026
WDNR Review and Approval of RAOR	3 Months	April-June 2026
Soil Excavation Related to the Step-Out Sampling	1 Month	July 2026
Pond Sediment Removal (Including Permitting Time)	9 Months	August 2026-April 2027
Pond Outlet Excavation	1 Month	April 2027
Case Closure Request Packet Preparation	1 Month	May 2027
WDNR Review and Approval	2 Months	June-July 2028

This schedule ends after the WDNR approval of the case closure request because continuing obligations under NR 725-727 are not anticipated to be needed and only the hazardous waste permit continuing obligations will be required.

7 FINANCIAL ASSURANCE REPORT

The cost estimate presented below provides the major tasks involved in executing this Corrective Action Plan. The unit costs include all labor, materials, and equipment necessary to execute the work along with any ancillary tasks not listed.

Table 7-1. **Corrective Action Plan Cost Estimate**

Project Task	Quantity	Units	Unit Cost	Task Cost
Site Investigation Work Plan				
Certifying Engineer/Project Manager	1	Labor	$2,500	$2,500
Professional Geologist	1	Labor	$1,700	$1,700
Staff Engineer	1	Labor	$10,500	$10,500
CAD Designer	1	Labor	$1,500	$1,500
Administrative Staff	1	Labor	$250	$250
WDNR Review Fee	1	Each	$1,050	$1,050
Site Investigation Work Plan Subtotal				**$18,500.00**
Site Investigation				
Soil Sampling (Surface & Deep Samples	2	Days	$3,000	$6,000
Geoprobe Subcontractor (Deep Samples	1	Day	$5,000	$5,000
Analytical (Total Mercury)	40	Each	$65.00	$2,600
Site Investigation Subtotal				**$13,600.00**
Site Investigation Report				
Certifying Engineer	1	Labor	$2,800	$2,800
Professional Geologist	1	Labor	$3,200	$3,200
Staff Engineer	1	Labor	$5,700	$5,700
CAD Designer	1	Labor	$2,000	$2,000
Administrative Staff	1	Labor	$250	$250
WDNR Review Fee	1	Each	$1,050	$1,050
Site Investigation Report Subtotal				**$15,000.00**
Remedial Action Option Report				
Certifying Engineer/Project Manager	1	Labor	$6,000	$2,000
Professional Geologist	1	Labor	$7,000	$4,000
Staff Engineer	1	Labor	$11,700	$6,200
CAD Designer	1	Labor	$4,000	$1,500

Project Task	Quantity	Units	Unit Cost	Task Cost
Administrative Staff	1	Labor	$250	$250
WDNR Review Fee	1	Each	$1,050	$1,050
Remedial Action Option Report Subtotal				**$15,000.00**
Direct Contact RCL Soil Excavation on WM Waste Property & Northeast Portion				
Soil Excavation	4	Days	$10,000	$40,000
Soil Disposal	750	Tons	$80.00	$60,000
Confirmation Sampling	15	Samples	$300	$4,500
Clean Backfill	550	CY	$30.00	$16,500
Construction Oversight & Project Administration	4	Days	$2,000	$8,000
Direct Contact RCL Soil Excavation Subtotal				**$129,000.00**
Pond Sediment Clean Out				
Mobilization/ Demobilization	1	Each	$239,121	$239,121
Dewatering	300,000	Gal	$0.55	$165,000
Sediment Removal	900	CY	$266.39	$239,751
Sediment Stabilization	675	CY	$267.50	$180,562.50
Sediment Disposal	1,422	Tons	$80.00	$113,760
Confirmation Sampling	17	Sample	$300	$5,100
Construction Oversight & Project Administration	45	Days	$1,100	$49,500
Pond Sediment Clean Out Subtotal				**$992,794.50**
Pond Outlet Soil Excavation				
Soil Excavation	3	Days	$10,000	$30,000
Soil Disposal	100	Tons	$80.00	$8,000
Confirmation Sampling	5	Sample	$300	$1,500
Clean Backfill	85	CY	$30.00	$2,550
Construction Oversight & Project Administration	3	Days	$2,000	$6,000
Pond Outlet Soil Excavation Total				**$48,050.00**
Case Closure Request Packet				
Certifying Engineer/Project Manager	1	Labor	$2,800	$2,800
Professional Geologist	1	Labor	$3,200	$3,200
Staff Engineer	1	Labor	$5,700	$5,700

Project Task	Quantity	Units	Unit Cost	Task Cost
CAD Designer	1	Labor	$2,000	$2,000
Administrative Staff	1	Labor	$250	$250
WDNR Review Fee	1	Lump Sum	$1,050	$1,050
Case Closure Request Packet Subtotal				**$15,000.00**
CAP Subtotal				**$1,246,944.50**
Contingency (10%)				**$124,694.45**
CAP Total				**$1,371,638.95**

The Corrective Action Plan costs for the Site Investigation Work Plan, Site Investigation Report, Remedial Action Option Report, and the Case Closure Request Packet are based on Tetra Tech's previous experience and professional opinions on the efforts required to accomplish these tasks. The unit costs are based on the cost for personnel with that title to complete their portion of the task. Specific costs associated with each person are not provided as that is Tetra Tech's proprietary information. The costs provided are sufficient for budgetary estimates and are based on current 2025 pricing for Tetra Tech's personnel.

The Corrective Action Plan costs for the Site Investigation, Direct Contact RCL Soil Excavation, Pond Sediment Clean Out, and the Pond Outlet Soil Excavation are based upon discussions with third-party contractors who would be tasked with completing the work under Tetra Tech's oversight. The costs are based on 2025 pricing provided by the contractors. Laboratory costs are also included in the unit costs and are based on 2025 pricing. Actual costs will be contingent on the laboratory information on disposal, disposal type and location (hazardous vs. non-hazardous, geographic proximity of landfill), quantity of soil to excavate, and other aspects to be further discussed in the RAOR and RAP.

8 LIMITATIONS

The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

The work product herein (including opinions, conclusions, suggestions, etc.) was prepared based on the situations and circumstances as found at the time, location, scope and goal of our performance and thus should be relied upon and used by our client recognizing these considerations and limitations. Cornerstone Environmental Group, LLC - A Tetra Tech Company shall not be liable for the consequences of any change in environmental standards, practices, or regulations following the completion of our work and there is no warrant to the veracity of information provided by third parties, or the partial utilization of this work product.

FIGURE

LEGEND

PROPERTY BOUNDARY

WM PROPERTY EXTENTS

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0 50 100

SCALE IN FEET

ISSUED FOR WDNR REVIEW

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE APR 2025

DRAWN BY JK

DESIGNED BY JD

CHECKED BY JD/BP

APPROVED BY JD

TETRA TECH

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

WASTE MANAGEMENT
WM WASTE, INC.
UNION GROVE, WISCONSIN

SITE PLAN
EXISTING SITE CONDITIONS

SHEET NO. **01**

PROJECT NO. 209-4251438

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