



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
GRAND RAPIDS DISTRICT OFFICE



DANIEL EICHINGER  
ACTING DIRECTOR

March 10, 2023

VIA EMAIL ONLY

Dave Latchana  
Associate General Counsel  
Wolverine World Wide, Incorporated  
9341 Courtland Drive, NE  
Rockford, Michigan 49351

Dear Dave Latchana:

**SUBJECT:** Denial of the Tannery Interceptor System Response Activity Plan  
Addendum as Required by the Wolverine World Wide, Incorporated  
Consent Decree Court Case No.: 1:18-cv-00039  
Facility ID No.: 41000451

The Michigan Department of Environment, Great Lakes, and Energy, (EGLE), Remediation and Redevelopment Division (RRD), has reviewed the Response Activity Plan (ResAP) Addendum for the property located at 181 North Main Street in Rockford, Kent County, Michigan submitted by Rose & Westra, a Division of GZA GeoEnvironmental, Inc. (GZA) on the behalf of Wolverine World Wide, Inc. (Wolverine) on December 1, 2022. The Tannery Interceptor System is a requirement of the Consent Decree (effective February 19, 2020) as described in Paragraph 7.7 of the Consent Decree. EGLE approved the Final Tannery Interceptor System ResAP submitted by GZA on behalf of Wolverine on March 31, 2022. This Addendum provided supplemental information and modified portions of the EGLE-approved March 2022 ResAP in accordance with Paragraph 7.14 of the Consent Decree.

As outlined in Section 15 (Submission and Approvals) of the Consent Decree, after receipt of any submission relating to Response Activities that is required to be submitted for approval, EGLE may notify the Defendant that the plan is disapproved if applicable. The Tannery Interceptor System ResAP Addendum has been disapproved for the following reasons:

**Modeling Comments:**

1. Contamination is present between the trench and the Rogue River to the west. If particle tracking has been conducted from these areas of contamination to the trench, that modelling should be included in the Revised Tannery Interceptor System ResAP (Revised ResAP).

2. Additional scenarios should be modelled prior to system installation, including how the system will accommodate peak flow periods due to storm events and higher turbidity.
3. Verify that the storm and sanitary sewer utilities are included within the groundwater model since site infrastructure can impact groundwater flow.

**General Comments which apply to entire report (may not be called out in specific report sections below):**

4. The re-submittal of this denied ResAP should be provided to EGLE as a fully Revised ResAP (revising the March 31, 2022, version), not as an addendum report as it was provided in December 2022.
5. Additional information should be included in the Revised ResAP regarding how the location of the trench was selected. A pilot trench may be warranted to evaluate the subsurface conditions and better understand the placement and depth of the proposed trench system prior to installation.
6. If the trench is not continuous across the length of the Rogue River and Rum Creek, provide information on how per- and polyfluoroalkyl substances (PFAS) will be addressed in the space between the trench segments.
7. A comparison of trench elevations and elevations of PFAS groundwater contamination is required in order to evaluate how the depth of PFAS contamination correlates with the proposed trench depths and how performance of the system will remedy each water bearing zone or aquifer.
8. Include what contingencies or actions will be taken if there is evidence of PFAS contaminated groundwater flowing under the trenches.
9. Although a Long-term Operations and Maintenance (O&M) Plan will be included in the Completion Report, an interim O&M Plan should be included in the Revised ResAP. The interim O&M Plan should include a schedule for detecting and identifying problems and finding solutions if trench systems go down. EGLE also anticipates that this plan will include proactive measures to keep the trench system up and running, such as regular flushing of the sumps and piping.

**Specific Comments by report section:**

**10. Section 4.4.1 Groundwater Collection Trenches**

Additional details regarding the design of the trenches should be provided in order to better understand how the design of the trenches will guarantee flow to the sumps if float switches or gravity flow (or a combination) will be relied on to maintain a lower head in the sump than in the trench.

**11. Section 4.4.1 Groundwater Collection Trenches**

Clarify if variable frequency drives (VFDs) are proposed to aid in flow control.

**12. Section 4.4.1 Groundwater Collection Trenches**

Additional information is needed to document that there are a sufficient number of sumps and cisterns based on the total footprint of the trenches.

**13. Section 4.4.1 Groundwater Collection Trenches**

The diameter of the sumps may need to be increased to account for larger pumps, instrumentation, and cleanout capability.

**14. Section 4.4.1 Groundwater Collection Trenches**

Provide rationale for the decision to use 10-foot screens in the sumps.

**15. Section 4.4.1 Groundwater Collection Trenches**

The trench will accumulate silts and cleanouts will be needed to keep sections flowing. These cleanouts should be mentioned and included in the Revised ResAP.

**16. Section 4.4.2 Extraction Wells**

Similar to the sumps, the diameter of the extraction wells may need to be increased to account for larger pumps, instrumentation, and cleanout capability.

**17. Section 4.4.3 Collection Cisterns**

Design details of the cisterns should be provided to EGLE for review as part of the Revised ResAP.

**18. Section 4.4.5 Piezometers**

Details on the depths of the piezometers should be provided to EGLE for review. Lines of evidence should also be included within the report to support the number of piezometers proposed. EGLE does not believe that five river piezometers will be sufficient to demonstrate that PFAS contaminated groundwater is not venting to the Rogue River at concentrations above criteria.

**19. Section 4.4.6 Pressure Transducers**

Details regarding the types of instrumentation to be used should be provided to EGLE for review. Chosen instrumentation should not contain PFAS in wetted parts.

**20. Section 4.4.6 Pressure Transducers**

Update the report text to clarify that pressure transducers will be included in the trench piezometers (TPZs) and any other paired piezometers (i.e., PZDs).

**21. Section 5.0 Schedule**

The Revised ResAP should include a schedule containing actual dates (which EGLE understands in some cases will be based on anticipated permit issuance dates) for project deadlines for Phases I, II, and III.

**22. Section 5.0 Schedule**

Additional details are needed regarding the pilot testing in Phase II including the goals and metrics of the testing.

**23. Section 6.0 Performance Monitoring Plan**

In accordance with the approved March 31, 2022, ResAP, EGLE requests that weekly elevation data from the piezometers, TA-RP-5, and TA-SG-RC be collected during the first four months of full system operation. Additionally, the groundwater flow direction in the monitoring sections/transects should be compared and evaluated weekly in accordance with the March 31, 2022, ResAP. After the four months of weekly readings, EGLE and GZA can discuss an updated monitoring frequency for the remainder of the 2-year testing period dependent on system installation progress.

**24. Section 6.0 Performance Monitoring Plan**

EGLE does not believe there are a sufficient number of points of comparison proposed to adequately monitor the effectiveness of the interceptor system. Currently, there are only nine monitoring transects which span over 2,000 linear feet of trench system. Additional monitoring points are needed to prove that groundwater is being captured by the trenches, and additional screened depths are needed to monitor that groundwater is not flowing under the trenches. The existing monitoring well network may provide additional points for comparison and/or additional piezometers will be needed.

**25. Section 6.0 Performance Monitoring Plan**

Depth to water measurements should also be collected from all existing monitoring wells located between the trench and the Rogue River, in addition to the wells located along the monitoring transects. These additional depth to water readings should be collected at least every other week for the first 4 months of the trench system operation. After the four months, EGLE and GZA can discuss any changes that may need to occur in the frequency of collection of depth to water readings in these monitoring wells.

**26. Section 6.0 Performance Monitoring Plan**

Baseline groundwater elevation map(s), showing seasonal variations, should be provided for comparison as part of the performance monitoring plan.

**27. Section 6.0 Performance Monitoring Plan**

As part of the monthly progress reports, EGLE requests site-wide gradient maps and updated water budgets to show if groundwater is stagnating across the entirety of the facility.

**28. Section 6.0 Performance Monitoring Plan**

Based on the significant change in the type of interceptor system being proposed at the Tannery, EGLE does not believe that gradient measurements alone will be adequate information or lines of evidence to document and prove that the trench system is meeting the objective of the Consent Decree of “preventing PFAS Compounds from entering the surface water above water quality standards issued under Part 31.” Some type of targeted PFAS monitoring needs to occur to document that groundwater above criteria is not venting into surface water. This is especially important given the “highly heterogenous lithologies and hydraulic conductivities” encountered at the site as described by GZA in the Addendum Report.

**29. Section 7.0 Groundwater Sampling**

EGLE requests that non-boundary wells north and south of Rum Creek be sampled quarterly for two years as stated in the approved March 31, 2022, ResAP. North of Rum Creek these wells are PZ-1, PZ-2, PZ-3, TA-MW-306A, TA-MW-306B, TA-TMW-109, and TA-GW-02. South of Rum Creek these wells are TA-MW-3, TA-MW-304A, TA-MW-304B, TA-GW-06, TA-MW-303A, TA-MW-303B, TA-MW-303C, TA-MW-303D, TA-MW-302A, TA-MW-302B, TA-MW-301B, TA-MW-301C, TA-MW-301D, TA-GW-08, TA-MW-309A, TA-MW-309B, TA-MW-309C, TA-MW-309D, TA-TMW-103, TA-MW-1, TA-GW-04, TA-P-5, TA-MW-313A, TA-MW-313B, TA-MW-313C, TA-TMW-104, TA-MW-301B, TA-MW-301C, and TA-MW-301D.

**30. Section 7.0 Groundwater Sampling**

EGLE is clarifying that a long-term groundwater sampling plan must be included in the Completion Report for EGLE approval. As previously stated in EGLE’s February 10, 2022, Approval with Conditions Letter in point 6, *“EGLE requests that the monitoring wells identified on Table 15-1 that are currently identified as being tested annually, be tested quarterly during the duration of the two-year testing period. After the two-year testing period, a reduced sampling frequency could then be outlined in the long-term monitoring plan.”*

**31. Section 7.0 Groundwater Sampling**

Based on the design changing to a trench capture system, EGLE requests that all river piezometers installed as part of the performance monitoring also be sampled under the groundwater sampling program.

**32. Section 7.0 Groundwater Sampling**

Remove the following sentences from Section 7.0: *“As such, the hydraulic gradient between the Rogue River or Rum Creek and the extraction system will generally be small and groundwater velocity low resulting in few pore-water volume changes in years. It is unlikely that the constituent concentrations in the monitoring wells/piezometers will exhibit noticeable decreases in the short term; therefore, the annual sampling frequency is proposed in the long term.”*

EGLE does not agree with this statement since with the trench technology, there will be inward gradient and actual flushing of the pore water with river water over time for wells located between the trench and the Rogue River. As stated in EGLE's February 10, 2022, Approval with Conditions Letter, the long-term groundwater monitoring plan will be reviewed as part of the Tannery Completion Report.

This disapproval of the Tannery Interceptor System ResAP Addendum requires revisions and resubmittal to EGLE. The existing time limits for submittals in the March 31, 2022, Final Tannery Interceptor System ResAP will be replaced and superseded by new deadlines that must be contained in the required Revised ResAP and approved by EGLE. EGLE and Wolverine have been in discussions regarding the time limits in the March 31, 2022, Final Tannery Interceptor System ResAP and the need for appropriate new time limits to be included in the Revised ResAP. Those discussions satisfy the notice provisions in Paragraph 12.3 of the Consent Decree regarding verbal notice of potential delay and the written notice of obligations that may be impacted by delays in Paragraph 12.4 of the Consent Decree.

In recognition of the identified deficiencies that require significant work to be corrected in the requested Revised ResAP, the time limit for submission of the Revised ResAP including a schedule to supersede the March 31, 2022, Final Tannery Interceptor System ResAP shall be sixty [60] days from the date of this letter, which is May 9, 2023. EGLE notes that stipulated penalties can and will be accruing under the Consent Decree from the date of this disapproval until the revised submission is submitted and will be assessed if the revised submittal is not approvable. If EGLE is not provided an approvable resubmission, EGLE will demand payment of the stipulated penalties pursuant to Section XVII (Stipulated Penalties).

EGLE received 230 public comments during the public comment period for this Tannery Interceptor System ResAP Addendum, some of which have already been shared with GZA. EGLE is preparing a Public Responsiveness Summary document that will summarize and respond to the 230 public comments. EGLE will also hold another public comment period once Wolverine resubmits the Revised ResAP.

Although this report has been denied, Wolverine should continue to move forward with portions of the March 31, 2022, Final Tannery Interceptor System ResAP that are not proposed to change, including the pursuit of a Lakes and Streams permit, National Pollutant Discharge Elimination System (NPDES) permit, and the design of the treatment system.

The deficiencies identified in this letter are based on representations and information contained in the submittal. Therefore, additional supplementary information may be necessary to address the deficiencies identified above.

If you should have further questions or concerns, please contact the Project Manager, Leah Gies, at the Grand Rapids District Office at 616-215-4781, or at GiesL1@Michigan.gov; or you may contact me.

Sincerely,

*Karen Vorce*

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