

Public Input on the following General Electric Documents:

- Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility, dated January 29, 2024
- Upland Disposal Facility Final Design Plan, dated February 28, 2024
- Upland Disposal Facility Operations, Monitoring, and Maintenance Plan, dated February 28, 2024

May 2024



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

May 17, 2024

Via electronic submittal to:

R1Housatonic@epa.gov

Mr. Dean Tagliaferro
EPA Project Coordinator
U.S. Environmental Protection Agency
c/o HDR, Inc.
75 South Church Street, Suite 403
Pittsfield, MA 01201

Re: Comments on *Upland Disposal Facility Final Design Plan, February 2024* and *Upland Disposal Facility Operation, Monitoring, and Maintenance Plan, February 2024* prepared for General Electric Company by Arcadis – GE/Housatonic River Site

Dear Mr. Tagliaferro:

The Massachusetts Department of Environmental Protection (Department, or MassDEP) submits comments numbered below for *Upland Disposal Facility Final Design Plan* (UDF Final Design Plan), *February 2024* and *Upland Disposal Facility Operation, Monitoring, and Maintenance Plan* (UDF OM&M Plan), *February 2024*, prepared pursuant to Sections II.H.7 & II.H.17 of the Revised Final Permit issued by U.S. Environmental Protection Agency (U.S. EPA) for the General Electric/Housatonic River site. The UDF Final Design and UDF OM&M Plans were prepared for General Electric Company (GE) by Arcadis in accordance with the requirement specified in Section 4.3.2 of the *Final Revised Statement of Work, September 14, 2021*, prepared by Anchor QEA for GE and approved by U.S. EPA.

General Comment: MassDEP has reviewed the proposed Upland Disposal Facility (UDF) design and operation for consistency with the design and operational standards for solid waste landfills at 310 CMR 19.000, the Massachusetts Landfill Technical Design Manual (1997), good

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282.

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engineering practice, and standard quality assurance/quality control (QA/QC) practices for constructing landfill facilities. The UDF Final Design Plan document indicates the technical requirements of 310 CMR 19.000 were considered in the design. MassDEP finds that the proposed facility substantially incorporates the Massachusetts solid waste design standards. There were some instances where the design could not be fully evaluated because necessary information was not included in the available materials. These instances are presented in detail below.

UDF Final Design Plan

Missing Technical Specifications

1. The Technical Specifications do not have sections for:
 - a. “granular drainage layer” or state a permeability specification for a sand or other analogous material.
 - b. “graded aggregate.” There is a section for “dense graded aggregate”, but it is unclear if it is intended to be the same material.
 - c. “sump backfill”. There are specifications for drainage stone, but there is no permeability or particle size specification included.
 - d. “filter stone”.
 - e. “excavated material” as it pertains to gas vent construction.
 - f. “final cover subbase” or identification of what “moderately permeable” means.

Liner Comments:

2. The primary leachate collection system on the floor area of the liner consists of 12 inches of “granular drainage layer” over a geocomposite drainage layer (geonet). The usual state of practice is to provide 18 inches of soil having a minimum hydraulic conductivity of 1×10^{-3} cm/s AND a geonet.

3. Calculations in Appendix E indicate that the minimum transmissivity of the geocomposite drainage net under liner slope conditions should be $6.6 \times 10^{-4} \text{ m}^2/\text{s}$, but the specifications at 31 05 19.26 - 5 state a minimum of $6.1 \times 10^{-4} \text{ m}^2/\text{s}$. The specifications should be corrected to be in agreement.

Leachate Conveyance and Storage System

4. The two leachate junction manholes are not depicted as having leak detection (Sheet 21, Detail 1). The electrical diagram on Sheet 42 shows high level switches in the junction manholes, so the lack of leak detection in the detail drawing may simply be an oversight. If so, Sheet 21, Detail 1 should be updated to depict the leak detection equipment.
5. There is no detail drawing of how conduits for power and communications would be brought into the various manholes requiring them.

Stability Analysis

6. Static and pseudo-static (seismic) stability were evaluated to analyze deep circular failures and sliding block failures. The liner was modeled as a single layer using the parameters for the weakest layer. The liner was assumed to have the lowest strength within the global stability analysis and was also assumed to have a shear strength of 24.0° and a cohesion of zero. The system was found to meet adequate factors of safety (FS) with these assumptions. However, the geocomposite clay liner (GCL) minimum internal shear strength is specified as only 17° with a minimum cohesion of 200 psf. There should be a demonstration that the GCL internal shear specifications are equivalent or greater than the minimum parameters assumed for the stability modeling, or the modeling should be revisited to ensure adequate FS are achieved despite lower specified shear strength.
7. All materials and interfaces should be tested to ensure that they meet the minimum of 24° , or where applicable, the higher values assumed in modeling. It is MassDEP's experience that interfaces involving GCL liners in particular can exhibit lower interfacial shear strengths than other typical landfill system materials, but interface testing for GCL does not appear to be specified.

8. On Page 4 of Appendix D, it states that the “Detailed output from the stability analyses, including figures showing the critical failure surface, are provided in Attachment C.” The stability analysis output was not observed in the available documents reviewed.

Landfill Final Cover System and Stormwater Management

9. No gas venting features are depicted on Drawing 8, however, a statement in the narrative on Page 22 that they are so this should be clarified.
10. Stormwater on the final cover system would be handled in part by swales at the perimeter toe (“perimeter ditch”), midslope (“diversion berm”), and topslope perimeter (“plateau ditch”). The detail drawings on Sheet 31 depict that there will be buried collection pipes under the diversion berm (Detail 2) and plateau ditch (Detail 3). Detail 1 for the perimeter ditch does not show a collection pipe, despite an analysis in Appendix F indicating that it should have one. The calculations in Appendix F evaluate the usage of 6-inch or 8-inch diameter pipes in single or double configurations and appear to determine that in some locations double 6-inch pipes will be needed in the swales. However, the detail drawings (Sheet 31) and plan (Sheet 8) do not show the pipe diameters selected or show where double pipes are needed. Sheets 8 and 31 should be updated with this information. It may be intended that the pipes daylight at culvert inlets, but no detail was provided.
11. Section 3.4 states that the construction of the UDF will generate approximately 285,000 cubic yards of excess soil. Plans for the temporary and, if necessary, permanent management of the excess soil generated during construction should be discussed. If the full utilization of this material during the Rest of River Action is speculative, definitive alternatives should be identified.

UDF Operations, Monitoring, and Maintenance Plan

12. Regulation 310 CMR 19.110(10) requires that the liner design must ensure that the hydraulic head of leachate on the liner can be maintained at less than one foot at the expected flow except during storm events. The operation of the leachate pumps is indicated to be via level switches. The on and off levels do not currently appear to be specified and transducers are not specified to be provided. There does not appear to be a way to verify the leachate level during operation.

13. Page 22 of the UDF Operation, Monitoring, and Maintenance Plan names multiple types of potential daily cover, including six inches of soil, plastic sheeting, spray-applied coatings, or similar materials but does not give detailed information on how cover will be used or maintained. Consideration should be given to setting performance standards for daily cover and/or specifying which specific materials can be used and under what circumstances.
14. Page 22 of the UDF Operation, Monitoring, and Maintenance Plan states that nine existing wells will be gauged on a semiannual basis (May and Nov) and groundwater sampling will occur annually in May for (PCBs, VOCs, SVOCs, inorganics, dioxins/furans, pesticides, herbicides, and PFAS). This is a lower monitoring frequency than typical for MassDEP-regulated operating LFs, which are typically monitored semiannually (per 310 CMR 19.132(2)(d)). MassDEP would also offer that, given the nature of soils to be accepted, data obtained from the sampling of both leachate and stormwater should be a consideration in the selection of analytical parameters for groundwater monitoring wells in the long-term.
15. Consideration should be given to periodic sampling of stormwater and sediment from stormwater management structures to ensure that contact and non-contact stormwaters are being effectively managed over the operational life of the facility to assure that stormwater within an active disposal cell does not become contact stormwater.
16. Page 12 of the UDF Operation, Monitoring, and Maintenance Plan states that incidental releases of contaminated materials will be prevented, in part, by use of aggregate vehicle tracking pads located at exit points within the cells, and BMPs implemented to remove soil material from construction vehicle tires and tracks prior to exiting the cells. Tracking pads do not appear to be depicted in the project plans and there are no details given on these BMPs. More information would be beneficial.
17. Page 12 of the UDF Operation, Monitoring, and Maintenance Plan states that the Leachate Management System (i.e. the system that removes leachate from the disposal area, force mains, storage tanks, loadout station, and associated structures and equipment) will be inspected annually or more frequently if there are performance issues. MassDEP notes that most system components are easily accessible for visual inspection (e.g. within occupiable structures or by opening manholes) and routine inspection should occur more frequently.
18. Page 14 of the UDF OM&M Plan states that water level gauging will be performed in May and November. MassDEP recommends quarterly groundwater elevation measurements be taken, to confirm the actual groundwater elevation fluctuations and high groundwater given

the Pre-Design Investigation measurements were based on one year of measurements and the Frimpter method.

19. Page 14 of the UDF OM&M Plan contains a reference to monitoring wells in “Section 3.3.4.1.” The monitoring well list is in Section 3.3.3.1.
20. Page 14 the UDF OM&M Plan does not clearly indicate the comparison criteria for reporting and response to detections of chemical constituents in the monitoring wells. Please elaborate on how groundwater quality data will be reviewed in terms of reporting thresholds and response actions.
22. Figure 4 of the UDF OM&M Plan appears to have an incorrect label for monitoring well MW 2022-4 and does not depict MW 2022-3. Please correct the labels. If MW 2022-3 will be preserved during regrading, replaced, or another well will be installed near its current location for groundwater monitoring, please include a location for it on this figure and describe this in the document text.

MassDEP thanks you for the opportunity to comment on this document. Please contact me should you have any questions regarding these comments.

Sincerely,



Michael J. Gorski
Regional Director

ec: Catherine Skiba, MassDEP
Eva V. Tor, MassDEP
Daniel Hall, MassDEP
Benjamin Gudi, MassDEP



TOWN OF LEE
32 Main Street, Lee, MA 01238
www.lee.ma.us

R. Christopher Brittain,
Town Administrator

May 10, 2024

Mr. Dean Tagliaferro
EPA New England
10 Lyman Street, Suite 2
Pittsfield, MA 01201

Dear Mr. Tagliaferro,

The following is a list of comments from the Town of Lee regarding the UDF Final Design Plan and OMM Plan.

The Statement of Work (SOW) outlines the components of the UDF Final Design Plan (pdf page 53 of the SOW). There are several components that are absent from the document as follows:

- Identification of UDF construction team - including key personnel, their roles and responsibilities, and lines of authority;
- Process for selection of a UDF construction contractor, if not already selected;
- Schedule for construction;
- Construction Quality Assurance Plan (CQAP);
- Project closeout requirements; and
- Summary of anticipated Post-Construction Site Control activities following completion of the final cover and closure.

In addition, it would be useful if the UDF Final Design Plan summarized the compliance of the design elements as compared to the SOW performance standards in a table or bullet list summary (such as estimated consolidation area volume as compared to the 1.3 million cubic yards required design capacity, etc.).

The town requests that the UDF Final Design Plan be amended to include the above elements, and a concise summary documenting design element compliance to associated performance standards be included.

The Revised Final Permit specifies aspects of the bottom liner and cap liner to have “permeability equal or less than 1×10^{-7} cm/sec [centimeters per second], a minimum thickness of 30 mils and be chemically compatible with PCBs” (pdf page 65). The UDF Final Design Plan states that these standards will be complied with and provides technical specifications within Appendix C, and describes the baseliner system components in Section 3.3.1 to include “60-mil textured high density polyethylene (HDPE) geomembrane” (pdf page 22). However, it may be useful to attach the selected geomembrane material specification literature for the liner product to be relied upon in order to verify these performance standards are met. Furthermore, the community may want to review any available supporting literature that documents the compatibility of these materials with PCBs.

The town requests that GE amend the UDF Final Design Plan by attaching the liner specifications (and any additional information identified by the community) describing permeability, thickness and PCB reactive characteristics.

Appendix E (page E-2, pdf page 141) of the Revised Final Permit states that “EPA agrees to work with GE to design an appropriate transition and hybrid disposal averaging area in the Woods Pond Headwaters area between Reach 5C and Woods Pond” in the section that discusses all sediment except for Reach 5B. Woods Pond is located due north and within close proximity of the UDF parcel. It may be appropriate to consider the UDF Parcel as a suitable setting to develop this hybrid disposal process. Materials removed during the consolidation area excavation may be suitable for averaging the Reach 5C and Woods Pond wastes.

The town would like to know if the UDF area is a suitable setting to address the Reach 5C and Woods Pond hybrid disposal averaging process.

Section 2.6.3 of the UDF Final Design Plan describes the planned leachate management system. This section describes how leachate captured from the consolidation cells will be captured and routed to on-site storage tanks. The leachate will then be transferred by a tanker truck to GE’s water treatment facility (Building 64G) or another approved treatment facility outside of the UDF property. The third paragraph on page 9 (pdf page 19) indicates that leachate created from future hydraulic dredges may ultimately be treated at an on-site treatment facility at the GE parcel and discharged to the Housatonic River in compliance with appropriate National Pollutant Discharge Elimination System (NPDES) discharge limits set forth in Table 1 (pdf page 56) of the document. Review of the Table 1 NPDES applicable or relevant and appropriate requirements indicates that the “point source discharge must meet technology-based effluent limitations and effluent limitations and conditions necessary to meet state water quality standards, except that discharges in compliance with instructions of On-Scene Coordinator (OSC) acting pursuant to the National Contingency Plan (NCP) are exempt from these requirements (122.3(d)).” This information indicates that there may be a point discharge to the river that is associated with treated leachate releases from hydraulically conveyed waste. This condition raises several questions:

- It is not clear how the current designs accommodate the placement of an on-site treatment facility, or any associated features necessary to manage the leachate to be treated.
- It is not clear if there is a right-of-way access between the UDF parcel and the Housatonic River to allow for the construction of a point discharge. There is a considerable buffer area between the UDF and the Housatonic River that is occupied by the Northeast Paving/Eurovia Atlantic Coast, LLC gravel mine that would seemingly pose an obstacle to a point discharge from the UDF.
- It is not clear from the information in Table 1 as to what is considered a ‘discharge in compliance with instructions of the On-Scene Coordinator’ as opposed to discharges to be held in compliance with NPDES standards, and
- It is not clear if future monitoring of the UDF will include sampling of the Housatonic River above, within and below the mixing zone of the point discharge from the UDF.

The town requests that further information be provided that will show how the proposed UDF design will accommodate the needs of the potential hydraulic waste leachate management and point discharge.

The UDF Final Design Plan provides a brief description of “contact” (have had the potential for contact with the consolidation material) and “non-contact” (have not had the potential for contact with the consolidation material) waters associated with the UDF construction process. The document does not describe the management approaches for either of these types of water (refer to Section 5.3 on pdf page 39).

The town would like GE to provide information describing how contact and non-contact water will be managed.

The UDF Final Design Plan does not describe how materials will be managed and stored. Excavated topsoil removed during construction would typically be stored as berm material for later soil replenishment, capping and reclamation. The document does not mention whether topsoil will be sorted and held for later use. Similarly, there is likely a need to conduct tree and brush removal, in addition to the removal of a centrally located patch of milkweed. These materials could also be retained for later soil amendment and re-establishment of habitat of use to the Monarch butterfly (as described in Appendix H). The plan mentions concrete debris material within and next to the consolidation area limits, but does not describe how or if these materials will be disposed of.

The town requests that the Final UDF Design Plan be amended to discuss areas where materials will be managed for later use or disposal, such as topsoil, vegetation materials and concrete debris.

The UDF Final Design Plan does not describe features to address spills or releases of PCB-contaminated materials. Of particular concern in regards to spill management are the areas used for waste material load-out into the consolidation area, and the leachate collection tanks. It seems that the UDF design could include appropriate best management practices to control incidental releases of contaminated material.

The town requests that the UDF Final Design Plan be amended to include features to address spills of contaminated material.

The UDF Final Design Plan describes the intermittent stream and GE's intended methods to address the constructed road crossing associated with it (Section 6.2.2, pdf page 44). However, the treatment/management of the water flows associated with this feature is not fully described. In addition, this feature is not called out on any of the design sheets making it difficult to track the relationship of the drainage in relation to proposed construction activities (with the exception of the anticipated culvert to be placed to allow traffic across the drainage provided on Figure 35). It seems important that the water associated with this drainage be actively managed so that it does not undermine/erode any UDF feature. The document (in several places) acknowledges that surface flows absorb into a wetland area at the terminus of the drainage adjacent to the overhead wires right-of-way. It is important to retain the natural character provided by this feature, but it also may be important to be sure the flows do not compromise the UDF.

The town requests that the UDF Final Design Plan describe if there is a need to manage the water flow associated with the intermittent drainage/stream flow.

Several of the site plans depict the location of heavy traffic/high use areas in close association with stormwater management area (SMA) features as follows:

- The stabilized construction entrance to the UDF is adjacent to SMA-2, SMA-3A, SMA-3B and the South Stormwater Basin (Appendix A, Final Drawings, Figure 9, pdf page 90).
- The Y-shaped road junctions where traffic can cross (the southern crossing adjacent to an operations area that may serve as the waste load-out area is closely located to the south stormwater basin [Appendix A, Final Drawings, Figure 4A, pdf page 83], and the northern junction is adjacent to the North Stormwater Basin [Appendix A, Final Drawings, Figure 4B, pdf page 84])

These high use areas may be susceptible to potential spills and accidents. It may be prudent to amend the adjacent SMA ponds with activated carbon to ameliorate any spilled PCB materials. In addition, it may be proactive to encompass the leachate storage tanks with a catchment basin (with a perimeter berm) that is also amended with activated carbon (since there does not appear to be any dedicated stormwater routing feature associated with the tanks as shown on Figure 6).

The town requests that stormwater basins (and/or ditches) that occur adjacent to UDF high traffic areas be designed to include carbon amendments to assist with the buffering and adsorption of spilled PCB waste materials.

A required component of the UDF Final Design Plan is an understanding of the UDF Operations Areas. The UDF Final Design Plan does not provide clarity on the use of the Operations Areas, which remains uncertain regarding use. It is important to understand the uses of the identified support areas in order to be aware of the possibility of PCB-contaminated waste spillage. If spills are a concern, then precautionary design elements (such as creation of berms, sloping of the pad toward a collection point, or possible underlayment of a liner) could be included in the design. Furthermore, these working areas may be suitable locations to place monitoring equipment for dust/air monitoring.

The Town would like the EPA to determine if the absence of understanding Operation Area(s) functions represents a significant gap in the UDF Final Design Plan.

The On-Site and Off-Site Transportation and Disposal Plan (Arcadis U.S., Inc. October 2023) was recently released for initial review. This document is to be revised and to incorporate the possible use of rail transport as part of the plan. The use of rail is critically linked to the UDF; therefore, it seems appropriate that components of this UDF Final Design Plan consider the placement of a rail-based waste offloading area. Currently, the plans provided within the UDF Final Design Plan do not exhibit any opportunity for a rail-based connection to the UDF.

The town requests that the UDF Final Design Plan be amended to include considerations/aspects associated with the potential linkage to a rail-based waste transfer area.

Hydraulic conveyance of waste materials is a potential mechanism for future waste transport. This potential waste transport mechanism is acknowledged within the UDF Final Design Plan, however the design (and associated text narrative) does not describe how hydraulic elements are to be addressed. This document states “it will not change significantly,” and yet key elements of waste transport (mentioned in the previous comment) and hydraulic transport have yet to be described.

The town requests that the UDF Final Design Plan be amended to further clarify how wastes from hydraulic transport methods are to be addressed.

TASC has raised several questions related to the status of the adjacent gravel quarry (Northeast Paving, a division of Eurovia Atlantic Coast, LLC). The Revised Final PDI Summary Report indicates that the quarry retains active mining operations. The Revised Final PDI Summary Report states “The UDF will be constructed on a 75-acre property that was formerly part of an active sand and gravel quarry and that GE acquired from The Lane Construction Corporation (Lane) in April 2021” (pdf page 11), and “since the two westerly ponds remain in active use as part of the gravel pit operation ongoing in the land abutting the west side of the GE parcel, they are also not regulated wetlands

under the MWPA regulations” (pdf page 22). It is not clear if GE will work cooperatively with the gravel mine landowner to maintain the ponds for gravel operations and allow access (if needed) for this landowner. Furthermore, it is not clear if future gravel operations may be in conflict with the UDF (or could influence groundwater pathways toward the Housatonic River since mining operations may affect these pathways). There is a very thorough description of other GE relations with Eversource in order to address the overhead electrical utility easement (described in Section 2.4 pdf pages 16-17 of the UDF Final Design Plan) but there is no description in the UDF Final Design Plan regarding Northeast Paving/Eurovia Atlantic Coast, LLC.

The town requests that the UDF Final Design Plan be revised to include a thorough description of GE’s relationship with the adjacent gravel mine operation.

The Quality of Life Compliance Plan (Anchor QEA, LLC and Arcadis U.S., Inc., December 2023) was recently released and reviewed by TASC. GE is to monitor air, noise, odor and light as part of the proposed monitoring program. TASC recommended that additional variables of aesthetics and invasive species be added as monitored measures.

The town requests that GE address community recommendations on visible impacts to area aesthetics through appropriate best management practices, and to monitor revegetation of the final cap to ensure promotion of desired species and prevention of invasive species.

Appendix A, Final Drawings, Overall Site Plan 1 (pdf page 78) provides an overview of the Site Plan. As shown in the southeast corner of the parcel, there are several existing structures (or tanks) and lamp posts. This is the location for the UDF stabilized construction entrance for waste haulage traffic. Therefore, it is assumed that these structures will be removed, yet the document does not mention the fate of these features.

The town requests that the UDF Final Design Plan include a description of the fate of the buildings/structures located in the southeast corner of the UDF parcel where the construction entrance is to be located.

Appendix A, Final Drawings, Figure 4B of the UDF Final Design Plan depicts the initial site grading plan (south) (pdf page 84). The footprint of disturbance appears to potentially impact two monitoring wells directly (MW-2022-2 and MW-2022-3) with the placement of fill and/or the access road. In addition, the grading footprint to the east is closely located to MW-2023-1SR and MW-2022-1D. The UDF Final Design Plan does not mention if any protective barriers are to be established in order to protect the integrity of these wells.

The town requests that GE place protective barriers for the monitoring wells that are located close to the anticipated UDF construction disturbance.

Appendix A, Final Drawings, Figure 9 (pdf page 90) of the UDF Final Design Plan depicts elements of the stormwater management process for the UDF. It appears that stormwater will largely be ‘eliminated’ through evaporation from stormwater management area (SMA) retention; however there also appear to be stormwater culverts that convey water from the UDF areas to surrounding areas such as the adjacent gravel mine ponds (refer to the stormwater culvert adjacent to SMA-5, and the culvert draining SMA-4 shown in Figure 9). Furthermore, it is not entirely clear if there are any stormwater discharge points/releases from the UDF that would require a stormwater NPDES permit. To comprehensively understand the stormwater management process for the UDF, it may be prudent to develop a stormwater conceptual site model that tracks hydrologic linkages between stormwater sources and flow pathways to the designed stormwater management elements (SMA features, culverts, ditches, any outfalls, etc.).

The town requests that GE document a stormwater conceptual site model that will enable the tracking and review of the stormwater pathways (and management elements) associated with the UDF.

Appendix A, Final Drawings, Figures 11 and 12 (pdf pages 92 and 93) depict cross sections of the UDF. These figures show the relationship of constructed elements to the groundwater levels (and associated performance standard). The UDF design has a maximum allowable elevation of 1,099 feet that can be adjusted based on the effects of the groundwater levels. The measured groundwater elevations (Table 6A, pdf page 182 of the Final PDI Summary Report) and the modeled groundwater elevations using the Frimpter Method (Table 6B, beginning on pdf page 183 of the Revised Final PDI Summary Report) yield levels routinely greater than the permit performance standard threshold of 950 feet above mean sea level. This is allowable as per the permit standards that state “if the seasonally high groundwater elevation is determined to be higher than 950 feet above mean sea level, the maximum elevation of the landfill consolidation area (1,099 feet) may be increased by the number of feet that is the difference between the seasonally high groundwater elevation and 950 feet above mean sea level in order for the UDF to have a maximum capacity of 1.3 million cubic yards” (pdf pages 59-60 of the Revised Final Permit). The difference between the seasonally high groundwater elevation and 950 feet (referred to as difference values) varies by monitoring well/piezometer location. Estimated difference values (example calculated value for MW-2022-1S from Table 6B [pdf page 183 of the Revised Final PDI Summary Report] of $975.85 - 950 = 25.85$ ft) occur from a minimum of 3.9 feet above mean sea level (MW-2022-4S) to a maximum of 25.85 feet above mean sea level (MW-2022-1S) (Table 6B of the Revised Final PDI Summary Report). These results indicate that the entire UDF design was allowably elevated above the 1,099 feet of elevation performance standard. It may be useful to understand this allowable adjustment on the Site Cross Section profiles provided on Figures 11 and 12 of the UDF Final Design Plan in order to visualize the compliance of the design in relation to the standards.

The town requests that Figures 11 and 12 of the UDF Final Design Plan be revised to include the upper build-out threshold performance standard.

Appendix A, Final Drawings, Figure 12 (pdf page 93) provides site cross sections. As per information provided in the Revised Final PDI Summary Report, on Figure 7 A-A' West-East Geologic Cross Section pdf page 291, the restrictive or confining layer of underlying marble bedrock occurs at depths ranging from 912 feet below ground surface at MW-2022-8 to about 960-965 feet at MW-2022-1S/D. However, Figure 12 in Appendix A, does not capture the cross section area with the highest bedrock layer (and associated groundwater level). It may be useful to develop a cross section that captures the northeast portion of the consolidation area to visualize how the underlying features of bedrock and groundwater influence the design (and capacity) of the consolidation area.

The town requests that Figure 12 be revised to include the northeast area of the consolidation area in order to understand if underlying bedrock and groundwater will influence the design.

Appendix B (beginning on pdf page 126) provides the Upland Disposal Facility Leachate Detection Response Action Plan. This plan provides a thorough description of the measures to be taken to control and contain leachate from the consolidated waste areas. Section 3 describes the monitoring and testing procedures, which are focused on measuring volume to ensure proper containment. Because the leachate is to be transferred to the GE treatment facility, it would be appropriate for this material to be tested for PCBs (and other chemicals that may affect treatment).

The town requests that the leachate collected be analyzed for PCB content and concentrations in order to be sure GE's treatment facility can adequately provide the necessary treatment.

Appendix H (beginning on pdf page 1253) provides the Habitat Restoration and Mitigation Assessment Report and Plan for the Upland Disposal Facility Area. It provides thorough descriptions of natural setting features throughout the GE parcel, as well as an assessment of potential impacts to natural settings (and species) as a result of the UDF construction. TASC raised the potential concern that the collected sediment waste materials may separate out by phase within the consolidation area thereby creating ponded water. The UDF Final Design Plan appropriately describes how ponded water will be managed. However, this water may create an attractive (and potentially toxic) nuisance to migratory bird species. Appendix H (Section 6.2, Other Operational Areas) does not assess if this potential situation could arise, or if there would be an impact to migratory species. It is likely that any accumulation of water will be proactively managed, however the document does not provide these details.

The town requests that EPA determine if there is reason to be concerned about the attraction of migratory birds to ponded water in the UDF consolidation area.

Section 3 of the Revised Final PDI Summary Report describes the data summary evaluation by media. As stated on page 9 (pdf page 19) the document “also presents the data and information obtained from those PDI activities through November 2023 (and for one well, December 2023) and an evaluation of the data to the extent practicable.” Additional water level elevation monitoring was conducted through December 2023 along with additional synoptic gauging performed in October 2023. The new groundwater data provided in the Revised Final PDI Summary Report is a valuable addition to the understanding of groundwater movement and quality associated with the UDF. However, it does not appear that this newly acquired information was integrated into any of the data evaluation conclusions. Of particular interest would be the mapping of the groundwater contours for this Fall data set, and a comparison to the previous year (Figures 13, 14 and 15 where applicable).

The town requests that the Revised Final PDI Summary Report include interpretation and/or integration of the fall 2023 groundwater data.

Table 6A of the Revised Final PDI Summary Report (pdf page 183) provides groundwater elevation monitoring results for monitoring wells, Lee Landfill wells, piezometers and surface water features (MP-1, Gravel Pond and MP-2, Housatonic River). The results in the table capture over one year of monitoring including 2-3 months of temporal overlap (June, October and one well in December in 2022 and 2023). Comparison of the measured groundwater levels between June 2022 and June 2023 shows a decrease in groundwater levels for all wells measured. The decreases range from 0.03 feet to 10.41 feet. The results highlight the importance of continued monitoring to capture additional seasonal/annual trends in the groundwater level data. As mentioned previously, prior to UDF construction, the piezometers will be abandoned in place. However, the monitoring wells may remain in service for continued monitoring.” While the amount of information captured to date represents a robust dataset from which to draw conclusions regarding trends, this divergence of data in one year demonstrates the need to continue monitoring.

The town requests that groundwater level monitoring continue to be collected during and after the UDF construction to capture year-to-year trends.

Table 6-C of the Revised Final PDI Summary Report, which summarizes the Frimpter Method for Calculation of Seasonal High Groundwater Elevation (pdf pages 185 through 188), does not include the Fall (October-November) 2023 groundwater levels. While GE has achieved the requirements set forth to calculate the Seasonal High Groundwater Elevation estimates, it seems appropriate to include this information to further test the adequacy of the Frimpter Method.

The town requests that additional October and November 2023 information be used to further test the appropriate application of the Frimpter Method.

On page 40, the plan states: "While climate change related changes on groundwater are uncertain for the UDF area hydrogeologic setting, it is likely they will result in lower-than-average groundwater levels relative to current and historical conditions." This statement requires substantiation, given that groundwater levels are a driving design criterion for the UDF. All climate models, including integrated analyses across 14 dominant models, predict significantly increased precipitation in the near-term, and greater annual precipitation in the long-term in the region of the UDF. These models are confirmed by climate data; the models are on track, if not conservative. The unpublished assumption may be that decreased snow accumulation attendant to long-term regional warming trends will reduce spring snowmelt ("spring rush"). Snowmelt is the assumed primary contributor to seasonally high ground water levels as observed in the monitoring wells. Yet the 2022-2023 observed monitoring well data occurred in a year with little snow accumulation. Regional hydrograph variability (e.g., Frimpter) will reflect similar predictive weakness for this time period. That future warming will result in more rain and less snow is clear; if current trends hold, this has, in fact, already occurred. The shift to greater precipitation as rain will most likely reduce hydrograph variability across seasons. Yet, as a general rule, greater annual precipitation generally increases regional hydrographs. The assumption that more annual precipitation raises groundwater levels is arguably more likely. The assumption that the hydrograph will not rise in response to greater average annual precipitation is weak at best. The statement on page 40 that climate change will 'likely' not raise groundwater appears to be an undefended assumption with, it seems, no attendant consideration of risk for maintaining the minimum 15 feet between the consolidation area liner and ground water levels.

The town requests substantiation of the argument that "climate change...will result in lower-than-average groundwater levels relative to current and historical conditions."

The UDF Plan relies on PCB levels in sediment (ppm) to be completed in the river or flood plain to have an average concentration of 50 ppm or less. Yet the plan does not require any routine testing of sediment actually deposited in the UDF. Therefore compliance with the average concentration requirement depends on other, less direct methods of measurement and estimation.

The town requests that additional testing be performed at the UDF site to confirm that the average level does not exceed 50ppm. Testing should be completed at regular periods (ideally on a daily basis) from random samples taken from sediments newly deposited at the UDF. Cumulative records should be kept and published to ensure the average concentrations do not exceed 50ppm. The town should be allowed to retrieve split samples of the sampled sediments for independent chemical analysis.

Existing ground water tests indicate the presence of PFAS, however the town is not aware of any compositional analysis completed on these samples.

The town requests that a compositional analysis be performed on the existing PFAS content of groundwater from the UDF site for comparison of any future samples taken after construction of the UDF. This would help to determine if increased levels of PFAS (if any are detected) were derived from the river cleanup operation or from a pre-existing source.

The upper boundary conditions to evaluate risk from maximum precipitation events on leachate management capacity appears low. Appendix E-5 Calculation Brief provides a worst day of simulation leachate volume during active conditions of 148,478 gallons to establish the leachate system's capacity. GE needs to help the Town with the math here, or at least point out the model's assumptions. For a 13-acre catchment, each inch of rain results in 501,267 gallons. The Plan's worst-day scenario estimates 148,478 gallons of leachate. This equates to 0.3 inches of precipitation. The rationale for using precipitation data from Albany, which is 25% below historical averages, is unclear. The Hydrologic Evaluation of Landfill Performance quizzically only uses Albany data – this appears flawed. The use of mean monthly data from both Albany and Pittsfield Airport suggests the analysis is a probabilistic model, not a risk assessment with clearly derived upper boundary conditions. For the residents of Lee, individual 24-hour precipitation events of 2-3 inches are increasingly common. An event of 2 inches is 706,010 gallons over 13 acres; volumes obviously increase with the rainfall. A one-week precipitation event of 7 inches during several active phases (September 2023) equates to 3.5m gallons. We assume the worst day of simulation takes retardation of gravity-drained precipitation through the consolidation material (percolation), but the Plan's assumptions are either unclearly stated or buried in the materials. Bottomline, there is a great deal more water falling from the sky than appears to be modeled.

The town requests that the UDF Plan address the risk during Phases 2 -5 active period that the leachate system will have sufficient capacity to perform in both significant 24-hour precipitation events and several day events such as tropical depressions. In addition, the town requests an analysis of quality of life impacts resulting from trucking contact water to filtration facilities (e.g., GE facilities in Pittsfield).

UDF design criteria and engineering analysis (Appendix D Geotechnical Calculations) argue that 24 inches of unconsolidated subsoil and soil over an impermeable barrier will be stable. Appendix F is particularly interesting in its calculations to assess erosional risk (A = RKLSCP) on the 33% slope of the completed UDF. The inclusion of Chapter 3 on Erosion from the National Engineering Handbook is particularly illuminating. Written in the mid-70s, it no doubt has provided useful calculations for farming, construction grading, and mining restoration over the decades. Nowhere, however, does

it include discussion of the stability of unconsolidated soils on a steeply sloped, low-permeability geosynthetic layer over a low-permeability, low-friction HPDE liner. Will the finished UDF be stable when saturated soils are sitting on a subsurface sheet flow during significant precipitation event over several days? Will herbaceous vegetation and downslope buttressing avoid soil liquification and collapse? That these considerations will be studied and modelled later (4.5.4 Slope Stability Analysis) – after slope angle commitments have been made based on current design looks like putting the cart before the horse. Looking forward, what maintenance protocols will ensure burrowing mammals will not similarly create pathways for erosion and collapse during significant precipitation events? And what is the planned maintenance protocol to ensure that mowing will not create weaknesses in slope soil structure to be exploited by erosional forces? The thinking presented in the Final Plan appears flawed.

The town requests that the UDF plan clarify the risk analysis of the 33% side slope of the finished containment layer being destabilized during significant precipitation events.

Section 5.5 states that UDF Operation, Monitoring, and Maintenance Operation, monitoring, and maintenance activities to be carried out during the construction and operation of the UDF are described in the UDF OMM Plan being submitted concurrently with this Final Design Plan. The primary components of the UDF OMM Plan include the following: Construction-phase controls and monitoring, including construction oversight, implementation of Quality Assurance/Quality Control (QA/QC) measures, routine site controls, **air** and noise **monitoring**, road use, inspections and maintenance, and reporting;

The town requests that baseline PCB air sampling take place before construction of the UDF and that sampling will continue during construction and after capping of the UDF.

The UDF plan states that certain test wells in the footprint of the UDF be discontinued from use but does not specify the procedure using in closing the wells.

The town requests additional information on the well closures to insure that they are properly closed in order to prevent a “conduit” of toxic material to the underlying aquifer.

The following items were not mentioned in the plan. The Town requests that they be included in future revisions:

1. A major safety component of the UDF is the liner and leachate system. The town, however, is not aware of any documents assessing the risks associated with a possible

failures of those system. We request a comprehensive risk analysis on the possible failure of the liner and leachate system.

2. The town request more information on dewatering process that will occur at the UDF site including methods, locations and treatment of water.

3. The town request that there be a more thorough characterization of substrate in order to determine if the UDF site contains a perched water table. The presence of a perched water table would impact the high-water mark and impact the location of the UDF base.

4. The plan does not fully address the presence of organic material in the dredged sediment. This organic material is chemically bonded to PCBs and is subject to decomposition, which may impact the overall compaction and gravity dewatering that will take place in the UDF. The plan should be amended to express the expected compaction of organic material over time and the likely effects on UDF operation and management.

5. The town request more information on the use and location of a potential water treatment plant and if the plant will remain on the site once the UDF is capped.

6. Please specify the maximum period of storage of leachate in storage tanks before transport or treatment.

7. The town would like to be informed of progress during build phase and particularly of any unforeseen circumstances and challenges and any changes to the plan as submitted?

8. Section 3.4 of the report states that the total amount of soil excavated during construction of the consolidation area will be 715,000 cy. The goal is to reuse as much as possible as long as it is suitable. The plan is to reuse 430,000 cy during construction, leaving a gross surplus of 285,000 cy. There is no specification provided for soil management. How will the surplus be managed appropriately?

9. One could argue that the El. 1099 ft-msl is a man-made feature that doesn't fit the surrounding natural landscape. Unrestricted increase in the elevation of the landfill seems unreasonable. Consider a maximum elevation regardless of water table elevation. This would mean that the 1.3M capacity would decrease, if water table increases. How does an increase of one foot in groundwater elevation increase the elevation of the landfill?

10. It is recommended that the perimeter berm be constructed of natural material not reused materials from the debris piles that contain concrete, millings, brick, and rubble.

11. Floodplain soils may have high organic content. Confirm that the liners will withstand conditions generated by landfills, e.g., corrosive anerobic environment with low pH, low redox, etc. Vent pipe locations aren't shown on Design Drawing 8.

12. Leachate collection was modeled for 5 years post-closure. Is there a contingency for leachate collection beyond this date? Leachate will be collected by tanker truck (max capacity of 6K gallons). Highest monthly active leachate generation is 32K gal/day (6 trucks/day) and lowest is 13K gal/day (3 trucks/day). This represents a high amount of truck traffic. Active duration of 15 years * 1,500 truck/year = 22,500 trucks. Consider water treatment and on-site recharge.

Comments on the UDF OMM Plan

The UDF Final Design Plan shows the footprint of construction impacts to the parcel while the Revised Final PDI Summary Report summarizes all the data summaries for pertinent data collection efforts completed to assist in the UDF design. Now that the configuration of UDF features is more clearly understood, and the characterization of the UDF site setting is accomplished, the future monitoring program can be more accurately defined. TASC recommends the following considerations for future monitoring effort that may influence the monitoring design shown in the UDF OMM Plan:

- The proposed UDF consolidation area construction will eliminate all temporary piezometers and monitoring wells 2022-8 and 2022-9 (see Figure 23, pdf page 307 of the Final PDI Summary Report). It may be appropriate to plan for the creation of replacement wells at this time in order for the UDF design and construction to accommodate these new wells. For instance, it may be appropriate to make up for the loss of monitoring well 2022-9 with the installation of an additional upgradient well placed in the furthest southeast corner of the parcel to monitor groundwater quality upgradient of all UDF components.
- Of potential use once the UDF is to be closed, monitoring wells in a nested series located within and outside the consolidation area may be of use to monitor the effectiveness of the liner system. Paired wells (a set of two wells located in close proximity that are within and outside an area to be tested, such as a lined landfill cell) that are placed within and outside the UDF may be useful if appropriately designed. Wells 'within the UDF' consolidation area would have to be completed so that they do NOT create a transport mechanism of UDF waste to underlying materials. As a conservative approach, it may be more prudent to establish wells upgradient and downgradient of the UDF consolidation area along the groundwater flow pathway.
- Monitoring wells that capture operational areas including stormwater basins may be useful to delineate impacts to groundwater that are created by these areas. It may be beneficial to establish paired wells with one well located

upgradient of the operational area, and the second (paired well) located downgradient.

- The figures show that the highest groundwater levels occur to the north/northeast. It is important to continue to characterize upgradient/background groundwater quality through the duration of UDF use and post-closure. There appear to be spatial gaps in the characterization of the upgradient area that may benefit from additional monitoring wells. Specifically, this includes two areas where there are no monitoring wells: 1) between MW-2022-1S/1D and MW-2022-7, and 2) between MW-2022-7 and MW-84-1 (see Figure 6 on pdf page 290 of the Final PDI Summary Report).
- It is also important to recognize that wells MW-2022-1SR, MW-2022-1D and MW-84-1 are valuable for future upgradient monitoring of the consolidation area and the potential uses of the operational areas that have yet to be defined. The continued use of these wells for monitoring should be acknowledged.
- The pond that overlaps the GE parcel and the adjacent quarry area (located between MW-2022-3 and MW-2022-4) is sampled for surface water levels at sites MP-1 and MP-3, shown in Figure 6 (pdf page 290) of the Revised Final PDI Summary Report report). This pond is a groundwater sink (an area that groundwater is moving toward) as shown in the repeated groundwater contours for each map shown on Figures 9 through 22 (pdf pages 293 through 306) of the Revised Final PDI Summary Report. This indicates that this pond may be a useful surface water and sediment quality monitoring feature for PCB analysis in the future after the UDF is in use. The use of the pond's surface water and sediment for future PCB monitoring should be considered since co-located surface water and sediment samples analyzed for chemical content would add valuable information to characterization of background conditions.

The town requests that EPA determine if the above considerations have been considered as part of the UDF monitoring strategy.

The UDF OMM Plan provides a thorough narrative of the proposed monitoring and maintenance. It may be useful to summarize the proposed monitoring and maintenance schedule in a table or Gantt chart to be made available on any provided community outreach website.

The town requests that the monitoring and maintenance schedule could be summarized in a table or Gantt chart and be made available to the community during the UDF construction and operation phases.

The UDF OMM Plan describes the oversight components to be accomplished during the construction phase and operation phase, but does not describe any oversight during the operation-phase consolidation process (Section 4). Furthermore, the OMM Plan does not mention if EPA or other trustees will be providing any oversight for performance

standard compliance.

The town would like to ask EPA if GE will have oversight of their operation-phase consolidation process, and if EPA will provide oversight during construction and operation phases of the UDF.

A thorough stormwater management plan is described in the UDF Final Design Plan. This design appears to comprehensively capture and contain on-site stormwater and would likely capture and contain spilled materials as well. A potential method to measure migration and on-site stormwater containment of contaminated waste materials would be to sample and analyze stormwater for PCB content. The results would provide an indication of whether or not the waste management processes (on-site) are effectively containing the contaminated material. If PCBs are detected, then this would provide GE information on the potential problem areas where containment is a challenge (and GE could thereby address the issue).

The town requests testing of stormwater on-site for PCB content to determine if the PCB Content is being effectively contained. The test results should be cumulated and published.

The proposed double liner system for the containment cells seems appropriate for the containment of placed waste. The UDF OMM Plan describes the precautionary measures to monitor the liner integrity (Section 4.1.1 Initial Cell Filling, pdf page 27), however it is not clear if these materials are to be replaced or repaired if they are impacted from the equipment traffic. The UDF OMM Plan should describe the steps to be taken if the liner is found to be compromised.

The town request additional information about the liner system and its durability to withstand the anticipated heavy equipment traffic within each consolidation cell.

Section 3.3.3.2 of the UDF OMM Plan describes the proposed groundwater quality sampling to be performed annually in the spring at the nine monitoring wells. Spring conditions represent the potentially highest groundwater levels, however it may be important to also capture the fall conditions in order to observe the seasonal influences. Since there are only two complete years (two) that capture all seasonal data, it is recommended that both fall and spring groundwater information should continue to be collected.

The town requests groundwater quality sampling in both spring and fall until UDF construction is complete.

Section 3.5.1 of the UDF OMM Plan describes the inspection and maintenance procedures to be applied to the stormwater management system. As mentioned in this section, “maintenance could include the placement of new soil, regrading existing soil within the eroded area, seeding...”. This brings to light that maintenance of UDF features may require soils applications to amend erosion impacts. Soils excavated from the UDF construction could be used for this purpose, therefore it seems prudent to incorporate soils storage as part of the UDF design.

The town requests that an area should be set aside for excavated soils storage for later use during UDF maintenance.

Section 4.7.3 of the UDF OMM Plan addresses the maintenance efforts potentially necessary to address frost and snow. This brings to light the potential freeze/thaw issues that may affect UDF design features such as underground pipes (leachate collection and conveyance) and water conveyance systems. It is not clear if the UDF area will be affected by freeze/thaw conditions.

The town requests that the UDF Final Design Plan should consider and incorporate aspects to address possible freeze/thaw conditions.

The UDF OMM Plan states that Figure 2 (pdf page 38) depicts both the primary access and secondary access to the UDF area. Review of this figure shows the terminus of the on-site roads to the north at a point where the road combines with the Eversource right-of-way. It is not clear where the secondary access is located along the perimeter of the UDF parcel boundary.

The town requests that Figure 2 of the UDF OMM Plan be amended to clarify the secondary access location.

Figure 3 (pdf page 39) of the UDF OMM Plan depicts the air monitoring stations. This is a robust monitoring design, however it may be of interest to the community to monitor air quality to the north (the predominant wind direction) at a point of interest, such as the Woods Pond boat launch (as shown in <https://berkshiresoutside.org/place/woods-pond-boat-launch-lenox-ma/>, Berkshire Regional Planning Commission et al., 2024) within the Woods Pond recreational area (<https://www.mass.gov/doc/outdoor-recreation-map/download>, Massachusetts Division of Fisheries and Wildlife, Department of Conservation and Recreation, undated).

The town request that an air monitoring station be located in the Woods Pond recreational area in order to acquire monitoring information of interest to the community (where community members could be exposed if contamination is airborne).

The UDF OMM Plan describes a number of measures of potential interest to the community including the results of the quality-of-life parameters of noise, light, odor and air quality; and results from site inspections and maintenance, fill capacity monitoring and leachate capacity monitoring and management. It may be useful for GE to post the measurements gained from these monitoring efforts for community review.

The town requests that GE provide the results of various monitoring, sampling and testing measures 'real-time' to the community via active communication methods such as a community dashboard website.

THE OMM plan addresses testing of air quality but does not specifically mention sampling of truck tire residue left on roads when bringing material from the river to the UDF.

The town requests that the dust samples are collected from pavement on those roads within the town that are used for PCB transport and tested for PCB content.

The OMM states that oversight is to come from a contractor hired for that purpose by GE. Data from monitoring will be maintained for "record purposes." The only reporting to EPA mentioned is an annual report. Not addressed are notifications to EPA and remedial steps to be taken in case of data not conforming to pre-determined standards.

The town would like to see more EPA oversight during this process with more frequent reporting from GE contractors.

Additional Comments

- *PCB air monitoring will be completed along the perimeter of the UDF at the start of filling activities (two sequential 24-hour periods of monitoring) and will be reduced to one 24-hour period weekly until operations are completed, if the initial monitoring is confirmed below applicable criteria. There was no information provided on their plan of action if the monitoring results exceed the criteria.*
- *What is the threshold criteria for air, any detections of PCBs? No values were presented in the plan and there were no references to any SAP's that contain that information.*
- *Groundwater monitoring will be completed annually at nine locations and compared to the baseline concentrations from the PDI. There was no information provided on their approach if any new compounds are detected, or existing detections increase.*
- *No monitoring well construction logs were provided in the PDI so we are not able to confirm well screen depths/intervals at MW-2022-3, MW-2022-5 and MW-2022-*

6, which are three of the nine wells planned to be sampled annually. We are not able to note depths/intervals for the other six wells based on the cross-sections in the PDI.

Comments on the Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area

- *There is no summary table for the completed monitoring wells in Appendix I.*
- *The cross sections of the PDI regarding well screen depths/intervals during the OMM showed two monitoring wells that appear to be screened across overburden and bedrock (MW-2022-1D and MW-2022-4D). Again, no well construction logs were included.*

FINAL REMARKS

The primary goal of the Town of Lee is to eliminate risks to residents and the environment. While the town feels that the comments in this letter help achieve those goals the town would like to stress the importance of a better long-term solution for the residents of Lee. Such solutions include alternative in-river treatment solutions and/or the transport of all materials to a licensed out of state facility. We feel that these methods offer the only long-term safety for the people of Lee.

Sincerely,



R. Christopher Brittain,
Town Administrator

cc:

The Honorable Edward Markey, U.S. Senate
The Honorable Elizabeth Warren, U.S. Senate
The Honorable Richard Neal, U.S. House of Representatives
Her Excellency Maura Healey, Governor of Massachusetts
The Honorable Andrea Joy Campbell, Attorney General of Massachusetts
The Honorable Paul Mark, State Senator
The Honorable William "Smitty" Pignatelli, State Representative, 3rd Berkshire
Select Board, Town of Lee

From: [Christopher Brittain](#)
To: [R1Housatonic](#)
Subject: FW: An Additional Item for the Town's UDF Response
Date: Thursday, May 16, 2024 4:28:40 PM
Attachments: [wdm_response.pdf](#)
[koerner-soong-2015-analysis-and-design-of-veneer-cover-soils.pdf](#)
[Lessons learned from successes and failures associated with Geosynthetics.pdf](#)

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

The town of Lee received these comments from a resident after we submitted our final report. Please accept them as additional information.

From: William D Mathews
To: Chris Brittain
Subj: An Additional Item for the Town's UDF Response
Date: May 16, 2024

Chris –

An adequate critique of the massive Final UDF Plan and accompanying two documents is a really tall order for any town. The Final Plan is 1347 pages, the Revised Pre-Design is 4459 pages, and the Monitoring & Maintenance is 42 pages for a total of 5848 pages in this release.

While much data has been presented in these documents, there are still instances where underlying numbers are unknown and incorrect conclusions drawn.

I'm centering my comments on the Calculation Brief sheets for slope failure of the veneer since discussion at the most recent PCB Committee meeting expressed skepticism as to whether the slopes were too steep and that the rainwater collection system is inadequate.

The Calculation Brief for the veneer (final cover) appears in the Final Plan pdf pages 374 and following. In general, the "Calculation Brief" here and elsewhere throughout the Appendices to the Final Plan are meant to give us assurance that appropriate design principles have been followed.

This Calculation uses the well-accepted method in Koerner and Soong's famous treatise given as the keynote Giroud Lecture more than a quarter of a century ago at the *Sixth International Geosynthetics Conference*.

Geosynthetics are pertinent to us here in Lee as critical components of the UDF bottom liner and top cover. RM Koerner (now deceased) and JP Giroud are the world's top experts on Geosynthetics.

The peer-reviewed literature on Geosynthetics is substantial and readily gives even the most casual reader an appreciation for the complexities involved in using these materials in waste management settings.

The Calculation Brief beginning on pdf page 374, unfortunately makes unsupported assumptions regarding the top cover's properties. Failing to use verified measurements as input violates the purpose of the computation.

The geosynthetics literature repeatedly warns against using nominal industry measurements instead of verified numbers. This malpractice invariably leads to career-ending lawsuits for the practitioner in the event of actual slope failure.

Briefly, the way this is supposed to work is:

- The requirements for the cover are identified (needs assessment).
- An RFP (request for proposal) is written.
- Potential Vendors are identified.
- Sample Geosynthetic material is obtained together with a guarantee of sufficient consistent supply to cover the entire site.

- An independent qualified testing firm verifies that the material's properties satisfy the requirements.
- The verified numbers are then used in the Koerner computation.

Beyond the Geosynthetic material, all the cover's components need to be identified and quantified. The engineering sheets depicting the top cover in the Final Plan show at least five components. In particular, the soil above the Geosynthetic material must be measured in its saturated condition as well as dry.

Here in the Final Plan's Appendix we see the perfect counter-example – a classroom exercise in how *not* to compute the Figure of Safety for the covering material.

If the letter to Dean Tagliafero does not yet touch on this deficiency, I would like to offer something like this for the item's text:

>>>>

#n. The Calculation Brief for top cover design on pdf page 374 of the Final Plan makes assumptions rather than verified measurements in its computation of the Figure of Safety (FS). This is directly counter to Industry Best Practices and instead produces a meaningless FS.

The town asks that the Final Plan be modified to specify that industry-standard steps will be followed to obtain a legitimate Figure of Safety, in particular incorporating measurements of the intended Geosynthetic materials validated by a qualified independent firm.

<<<<

Actually, a similar complaint can be made about the several other instances where Calculation Briefs appear. The leachate piping design, for example, is accompanied by a vendor's spec sheet but no assertion that this is the piping material that will actually be used. All this leads back to item #1 on our town's draft response where we ask who is responsible for deciding any of this.

I've declined to get that far into the weeds. But it really begs the question how GE can issue something called a “Final Plan” when it doesn't commit to final specs or even the process for getting there.

If you are not able to incorporate my text (or an approximation thereof) into the Town's response, please let me know so that I can send it along as a private citizen's response.

I have attached two documents that will be useful for the PCB Committee's reading file.

1. Koerner's method for calculating Figure of Safety for a slope.
2. A Paper by Giroud that discusses the many failure modes when designing a toxic dump using Geosynthetic materials.

Best Regards,

– Bill Mathews

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TOWN OF LENOX
6 Walker Street, Lenox, MA 01240
www.townoflenox.com

Christopher J. Ketchen
Town Manager

May 17, 2024

Mr. Dean Tagliaferro
EPA New England
10 Lyman Street, Suite 2
Pittsfield, MA 01201

[VIA EMAIL: R1Housatonic@epa.gov]

RE: Town of Lenox Comments – UDF Final Design Plan, Revised Final Pre-Design Investigation Summary Report for UDF, and UDF Operation, Monitoring and Maintenance Plan

Dear Mr. Tagliaferro:

The purpose of this letter is to convey comments and concerns of the Town of Lenox regarding the remediation of polychlorinated biphenyls (PCBs) in the Housatonic River. Specifically, we submit the forgoing comments on three plans submitted by General Electric for the design, construction, and ongoing maintenance of the Upland Disposal Facility (UDF).

Lenox has reviewed the GE proposals and accompanying data submitted. Lenox has also engaged a consulting engineer (Weston & Sampson) to provide technical analysis (see three attached technical memorandums). There are 71 total comments on the three submissions covering landfill engineering, hydrogeology and environmental assessment, and geotechnical engineering. Finally, Lenox has reviewed the comments (37) provided under the Technical Assistance Services for Communities (TASC) filing dated April 5, 2024.

This letter and accompanying attachments constitute the Town's response to the Environmental Protection Agency (EPA) as approved by the Lenox Select Board on May 15, 2024, in advance of the formal comment deadline on May 20, 2024.

While all of the comments by Weston & Sampson and the TASC filing should be addressed by EPA, in this letter the Town has the following points of emphasis:

1. Weston & Sampson's comments highlight multiple aspects of the plans that require verification of standards – e.g. aerodynamic diameter of particulate matter, centimeters per second permeability, millimeters of geomembrane thickness, etc. While these critiques and recommendations regarding UDF specifications are highly technical in nature, they illustrate the overarching concerns that Lenox has repeatedly voiced for this project – namely, the need for independent monitoring of contractors as stated in multiple prior filings. **Lenox again implores EPA to maximize third-party oversight of all cleanup activities.** It is self-evident that human nature causes contractors to behave differently when there is oversight. Therefore, the presence and independence of oversight monitors are crucial given the permit holder's incentive to minimize cleanup costs.

2. As pointed out on page 5 of the TASC comments, the SOW for the Final Design Plan does not include roles, responsibilities, and hierarchy of key personnel, nor is there disclosure of the process for selecting contractors or scheduling work. There is no Construction Quality Assurance Plan, project closeout requirements, or post-construction closure activities. Lenox draws EPA's attention to these deficiencies and requests an amended plan that includes these absent components.
3. While the UDF is located in Lee, the top portion will be visible from Lenox. Therefore, Lenox supports the Town of Lee's proposed revegetation of the landfill cap with a grassland cover and plant-pollinator species. We are pleased to see the inclusion of this element in the UDF plan. However, we draw EPA's attention to TASC comment #15 regarding steps to eliminate and prevent the presence of invasive species, which has also been a concern expressed by Lenox in previous filings.
4. Hydraulic conveyance is a key component of Lenox's requirements under the 2020 Settlement Agreement, which led to the Revised Final Permit for this project. As such, we draw EPA's attention to Weston & Sampson's UDF Final Design Plan memorandum comment #10 and TASC comment #13, as well as our own observations that the plan does not describe the element of the site that will enable hydraulic transport. Obviously, this requires an amendment to the plan as submitted.
5. Lenox requests that EPA consider the suitability of the UDF itself as a location for hybrid disposal averaging area as opposed to the Woods Pond headwaters contemplated in the Revised Final Permit. We believe the UDF is a suitable site for these activities, making their removal from the river corridor more efficient and less disruptive. Therefore, we see an opportunity here to improve upon the Permit in a mutually beneficial way.
6. Lenox is concerned about the disjointed nature of the UDF plans relative to other operational aspects of the project. This has been a general thread of concern in several previous filings. As it relates to the UDF Final Design Plan, for example, Weston & Sampson's UDF Final Design Plan memorandum (comment #10) states that "The handling, dewatering, placement, and compaction of hydraulically dredged sediment is intrinsic to the design and operation of the UDF. ...[T]he final Design Report suggests that slurry will be placed directly into the UDF cells, however, the means and methods for this approach is lacking in specifics... If dewatering of slurry is proposed for outside the UDF cells, the operational support areas to conduct slurry dewatering have not been identified in the Final Design Plan." Similarly, TASC comment #11 states that "[a] required component of the UDF Final Design Plan is an understanding of the UDF Operations Areas. The UDF Final Design Plan does not provide clarity on the use of the Operations Areas, which remains uncertain regarding use." Examples such as this abound throughout these and other submissions and, while it would be cumbersome to enumerate them all in this space, they have been documented by the Town of Lenox as well as other third-party reviewers. This is a problem – and represents a pattern of deficiency that EPA must address.
7. As the public comment filings become more numerous, we request that EPA develop a system of correspondence that addresses community and citizen submissions. The Town of

Lenox has made many filings over the last 10 months and expects to continue doing so throughout the project. We would like to see a process where explanation is provided for how various comments have been (or will be) incorporated into final work plans. Alternatively, we would like to see explanations provided as to why comments that have been submitted cannot be included based on EPA's review.

8. Lenox has made frequent mention of the need for online resources to keep the public informed of daily cleanup activities. Expanding upon these previous requests, Lenox would like to see the inclusion of statistical data to the maximum extent possible. Moreover, Weston & Sampson have made several comments regarding the establishment of action thresholds based on air quality monitoring and other data collected. EPA must include all of these recommendations in a public communication plan – whether part of an approved quality-of-life compliance plan, one or more UDF plans, or transportation and disposal plan. Here again, Lenox observes examples of real-time, online displays of statistical measures (dust, noise, other contaminants) via dedicated project websites in other parts of the country (e.g. East Palestine, Ohio Train Derailment – Air Sampling Data dashboard). Again, we demand a reporting system that is just as robust – and preferably better – as part of this cleanup project.

Thank you in advance for your consideration of these comments and we look forward to your favorable response.

Sincerely,



Christopher J. Ketchen, ICMA-CM
Town Manager

cc: The Honorable Edward Markey, U.S. Senate
The Honorable Elizabeth Warren, U.S. Senate
The Honorable Richard Neal, U.S. House of Representatives
Her Excellency Maura Healey, Governor of Massachusetts
The Honorable Paul Mark, State Senator
The Honorable Smitty Pignatelli, State Representative, 3rd Berkshire
Select Board members, Town of Lenox

MEMORANDUM

TO: Christopher Ketchen, Town Manager, Lenox, MA

FROM: Weston & Sampson

DATE: May 20, 2024

SUBJECT: Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area

Weston and Sampson Engineers, Inc. (Weston & Sampson) has reviewed the relevant technical documents and reports pertaining to the pre-design investigation and conceptual design of the proposed Upland Disposal Facility (UDF) for the GE-Pittsfield/Housatonic Rest of River Project. In this memorandum we review responses made to comments on the site hydrogeology and environmental assessment, geotechnical, and landfill engineering aspects of the Project. The documents which were the primary focus of our review and comment efforts were as follows:

- *Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area*, GE-Pittsfield/Housatonic River Site; Arcadis, January 2024.
- *Memorandum, Review of Final Pre-Design Investigation Summary Report for Upland Disposal Facility*, Weston & Sampson, October 9, 2023.

To support this technical review, we also referred to the following documents for supporting information:

- *Upland Disposal Facility Final Design Plan*, Arcadis, February 2024.

The format for this memorandum generally presents a brief bulleted synopsis of responses made to comments on the Final Pre-Design Investigation (PDI) Summary Report in October 2023 and a determination if these comments were addressed in the revised report. The memorandum has three main sections focusing on Landfill Engineering, Site Hydrogeology and Environmental Assessment, and Geotechnical Engineering.

Landfill Engineering

Comment #1: Provide back-up calculations for UDF disposal capacity. Has the volume of the intercell berm and the general fill shown beneath the final cover on Figure 7 of the CDP been considered in the calculations of the maximum capacity?

- Extent of Response: These calculations were not provided.

Comment #2: The disposal facility design does not include a system for managing gases produced from the decomposition of consolidated waste. The presence of a small amount of carbon, sulfur, and other elements in sediments could result in the production of decomposition gases beneath the final

cover. This could threaten the integrity of the final cover. Has the possible production of decomposition gases been considered in the design of the UDF?

- Extent of Response: This comment was addressed as the UDF design includes a gas venting system.

Comment #3: Figure 7 depicts the geosynthetic layers of the baseliner and final cover terminating in separate anchor trenches. Has the approach of welding the geomembranes of the final cover system and primary baseliner been considered?

- Extent of Response: This comment was addressed. However, the termination details are complicated. Please see our corresponding comment of the Final Design Plan.

Comment #4: Section 4.2.4 discusses modelling of shear slope stability. Geosynthetic shear strength parameters are indicated as potentially the weakest interface shear strength in the UDF. It is noted that the baseliner was modelled as if it were a single layer. Are there intentions to further refine the shear strength modelling to determine if any particular interface within the baseliner or between the baseliners and an adjoining surface are weaker than is currently modelled? Are interface shear strength tests being considered as part of construction quality testing?

- Extent of Response: This comment was addressed as interface friction testing is included in the technical specifications.

Comment #5: Has the use of temporary stormwater berms within the cells been considered during early facility operations in order to reduce the size of the active cell and thus limit the amount of contact water generated during rain events?

- Extent of Response: No, the use of temporary stormwater berms within cells has not been considered. Contact stormwater will be treated as leachate.

Comment #6: There does not appear to be an access road from the perimeter to the top of the disposal facility on Figure 4. Will an access road be included in a future design and how might it affect stormwater management and consolidation capacity?

- Extent of Response: This comment was addressed, and an access road has been included in UDF design.

Comment #7: The movement of leachate through the consolidation material could be rather slow, which could result in a lengthy settlement period. Have means of increasing the rate of leachate movement been considered, such as the use of vertical drainage risers that extend from the primary leachate collection system up through the consolidation material?

- Extent of Response: No, other means of increasing the rate of leachate movement have not been considered.

Comment #8: There are indications that PFAS may present various concerns throughout the construction of the facility, such as the presence of PFAS in baseline groundwater monitoring. What considerations have been made about the potential presence of PFAS in various site materials, such as collected leachate? Given the evolving regulatory environment around PFAS, how will potential PFAS concerns be addressed if such compounds are detected during the project?

- Extent of Response: The potential presence of PFAS in site materials has not been addressed.

Comment #9: It is assumed that a financial assurance will be established for the UDF. Given the high interest of local communities in the amount and type of financial assurance, discussion of this in the next report is recommended.

- Extent of Response: Financial assurance was not discussed in the Final Design Plan or OMM Plan.

Hydrogeology and Environmental Site Assessment

Comment #1: Sampling network appears representative and includes worst-case sampling locations near grade and at groundwater interface.

- Extent of Response: General comment, no response required.

Comment #2: No conclusion offered about reuse. Appears adequate quality for reuse but should be confirmed.

- Extent of Response: General comment, no response required.

Comment #3: Geologic cross sections indicate thickness of overburden sediments range from 68 to 117 feet (east to west) and 47 to 105 feet (north to south). Depth-to groundwater ranges from 57 to 79 ft bg (east to west) and 21 to 80 ft bg (north to south). Variability east to west principally due to sloping bedrock surface, north to south due to topography.

- Extent of Response: EPA incorporated into their comments, a more detailed discussion of the bedrock surface and glacial till overburden to the east of the UDF and how it may impact groundwater levels is recommended but not required.

Comment #4: Geologic cross sections indicate phreatic water table, with no confining conditions or significant restrictive layers/stratification.

- Extent of Response: EPA incorporated into their comments, has been addressed in Revised UDF PDI.

Comment #5: Consider providing an extended section view from east to west, e.g., from the till boundary to other side of the Housatonic River valley.

- Extent of Response: EPA incorporated into their comments, a longer cross-section is recommended but not required.

Comment #6: Data suggests the till boundary is nearby to the east and affects groundwater levels and gradient.

- Extent of Response: No response required.

Comment #7: Table provided in comments document presents a summary of the water-level data relative to seasonal high groundwater levels.

- Extent of Response: No response required.

Comment #8: Appears to be significant variability of high groundwater levels between wells, which suggests variable hydrogeology relative to sediment composition, vertical permeability, and infiltration rates.

- Extent of Response: No response required.

Comment #9: It appears that the high groundwater level often occurs in months with below normal precipitation (see table provided in comments document with monthly precipitation amounts for 2000 through 2023, normalized mean values and relative wet/dry months for monitoring period). This should be explained.

- Extent of Response: EPA did not incorporate into their comments. GE used acceptable methodology and information to determine the seasonal high-water table. Weston & Sampson still recommends more detailed evaluation.

Comment #10: The fluctuation of groundwater levels is generally highest along the eastern perimeter, reflecting thinning of aquifer to east and effects of till boundary.

- Extent of Response: No response required.

Comment #11: For PZ-2022-3 located within the UDF footprint, the high groundwater elevation and Max Frimpter elevation is less than 15 feet below the proposed baseliner elevation of 975'.

- Extent of Response: EPA incorporated into their comments and GE provided additional information in the revised PDI report indicating that there should be compliance with the requirement that the baseliner be a minimum of 15 feet above the seasonal high groundwater table.

Comment #12: Water levels at MW-2022-1S/D well cluster, located east of the UDF, are significantly higher than 975'. Using the gradient from 1S/D to PZ-2022-5, groundwater beneath the eastern edge of the UDF may be higher than 975'.

- Extent of Response: EPA incorporated into their comments and GE provided additional information in the revised PDI report indicating that there should be compliance with the requirement that the baseliner be a minimum of 15 feet above the seasonal high groundwater table.

Comment #13: The monitoring network appears to be representative of hydrogeologic conditions. May need more monitoring wells along eastern edge of UDF and a longer period of record for comparison to the baseliner elevation.

- Extent of Response: Information provided in the Revised UDF PDI indicates that the existing monitoring well network appears to be adequate to demonstrate compliance with the 15-foot separation requirement.

Comment #14: Confirm the location of MW-2022-5. It appears to be shown at different locations on figures and cross section. This well is critical to the groundwater configuration beneath the central and western UDF areas.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Comment #15: The groundwater configuration appears relatively consistent throughout the monitoring period. The steep gradient beneath the east side of the UDF likely reflects the upland till/bedrock boundary. The hydraulic gradient shallows beneath the central and western portions of the UDF, with a centrally located east to west divide; flow north and south toward groundwater discharge areas at the northern pond and MW-2022-6. The divide is principally established by water levels in MW-2022-5, which appear to be several feet higher than would be expected. Water levels at MW-2022-5 and screen/aquifer connection should be confirmed. Redevelop well if needed.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Comment #16: Table 2 in the original comments document showed a water-level fluctuation of 3 to 6 feet beneath areas of the UDF, with the east area within 9 feet of the baseliner elevation, and 6 feet when seasonal high Frimpter elevations are considered.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Comment #17: The average fluctuation of groundwater levels in all wells, including the LML, was 6.16 feet; and for site wells only 5.80 feet. This conflicts with determination of 5 feet for comparison to OW. The significance of this deviation should be explained/evaluated or corrected.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Comment #18: Weston & Sampson reviewed stream-gauge and precipitation records to evaluate the climatic conditions for the monitoring period. The stream gauge in the Housatonic River at Lenox dale, MA-01197145 (at Site) only has a period of record beginning September 2022. The gauge near Great Barrington, MA-01197500, is the closest downstream station to the parcel with a long period of record. This gauge shows variable flow conditions over the monitoring period but generally representative of historical flow variability, with the possible exception of highest flow period 2021.

- Extent of Response: No response required.

Comment #19: During the monitoring period the precipitation total was 63.16 inches, compared to the normalized mean precipitation total for this period of 56.76. So, monitoring was conducted during a statistically wet period.

- Extent of Response: No response required.

Comment #20: In 2022, total precipitation was 50.19 inches, compared to the normal annual precipitation amount of 47.57 inches, so relatively wet.

- Extent of Response: No response required.

Comment #21: Since 2000, the highest annual precipitation was 66.53 inches recorded in 2021 prior to the monitoring period. This corresponds to a high stream gauge reading as noted above. The monitoring period was statistically wet, as noted above under #19, but not the wettest period according to recent records. The measured water levels during the monitoring period should reflect relatively high conditions, but not the highest.

- Extent of Response: No response required.

Comment #22: The analyte list appears to be adequate for assessment of background conditions. Confirm that the list includes all analytes used for assessment of remedial dredge samples to confirm the background water-quality results are useful for monitoring of potential releases from UDF.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Comment #23: Sample results from seasonal events appear to be reasonably consistent, validating use for background conditions.

- Extent of Response: No response required.

Comment #24: Absence of PCBs good for operational and post-closure monitoring.

- Extent of Response: No response required.

Comment #25: To understand the significance and distribution of results, the relevance and use of in-situ "K values for parcel soils" should be explained. The report only references it as being required by EPA.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Comment #26: The results are not relevant to reuse due to depth of saturated soils. They may be useful for development of a groundwater flow model, which is recommended to understand pre- and post UDF conditions.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Comment #27: K values reflect the heterogeneous nature of glacial deposits.

- Extent of Response: No response required.

Comment #28: No slug tests were conducted within the proposed stormwater basin area for mounding analysis purposes. The closest test was conducted at MW-2022-2; $K = 30 \text{ ft/d}$; 224 gpd/ft^2 . This K value is characteristic of fine to coarse sand and glacial till (Groundwater and Wells, 1989). K values beneath the proposed stormwater basin would facilitate a mounding analysis for the design use of infiltration, and to assess the effects of infiltration on groundwater elevation and flow in the northern UDF area.

- Extent of Response: EPA did not incorporate into their comments, and this is not addressed in the Revised UDF PDI. Weston & Sampson still recommends that a mounding analysis be performed in the area of the stormwater basin to evaluate compliance with the 15-foot separation requirement.

Comment #29: A mounding analysis should be conducted to confirm groundwater separation from baseliner in northern portion of UDF. Of note, the Frimpter estimate at PZ-1 is about 18.5 feet below the baseliner elevation 975'. Would mounding raise groundwater in this area 3.5 feet?

- Extent of Response: Clarifications in the Revised UDF PDI mitigate the need to perform a mounding analysis in the location of the stormwater basin. Weston & Sampson still recommends that this be performed.

Comment #30: Is 500-foot radius adequate for this assessment? This radius should consider well yields and radius of influence, which could be greater than 500 feet if used for more than residential supply.

- Extent of Response: EPA did not incorporate into their comments, and nothing was provided in the Revised UDF PDI indicating that the 500-foot radius would be extended. Weston & Sampson recommends that an assessment be performed to determine if there are wells outside of this radius to determine if wells are present that may affect groundwater movement.

Comment #31: Will construction of the UDF include a restriction from development of groundwater supplies within a certain radius of the UDF consolidation area?

- Extent of Response: EPA did not incorporate into their comments, and nothing was provided in the Revised UDF PDI addressing this comment. Weston & Sampson requests clarification about any land use restrictions that may be placed for development of the UDF.

Comment #32: The bedrock surface was confirmed at 3 borings. The highest bedrock-surface elevation was 957.5 feet, at MW-2022-1. This is approximately 17.5 feet below the baseliner elevation of 975'. Perform additional borings to provide additional information.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Comment #33: Design drawings and sections show lowest bottom elevation of baseliner at 975'. Drawing of bottom elevation contours compared to seasonal high groundwater elevation contour should be provided.

- Extent of Response: Revised UDF PDI addresses this comment, no additional information is required.

Geotechnical Engineering

Comment #1: MW-2022-4S/D: profile on Figure 7 indicated that this boring extended into rock, but log indicates it terminated in sand.

- Extent of Response: Comment not addressed.

Comment #2: A total of 22 borings for the site seems low. Provide justification that the number of borings adequately assesses site subsurface conditions.

- Extent of Response: Comment not addressed.

Comment #3: Of the 22 borings completed, 5 encountered very loose to loose material. Based on the "upland disposal facility limits of Consolidated material" on Figure 6, these borings are outside the UDF. Please confirm.

- Extent of Response: Comment not addressed.

Comment #4: Of the 22 borings completed, only 9 are located within the "Upland Disposal Facility Limits of Consolidated Material" on Figure 6. Rock cores were retrieved from 3 of the 22 borings, none of which are located within the UDF limits. Recommend additional borings within the UDF limits extending into rock to further define the soil conditions, soil thickness and rock elevation, and rock characteristics in particular degree of fracturing and corresponding permeability.

- Extent of Response:

Comment #5: Additional borings may be necessary to assess slope stability depending on the proposed grading.

- Extent of Response: Comment not addressed.

Comment #6: Section 4.2.1 presents the final cover system components. Confirm that veneer stability has been assessed.

- Extent of Response: Comment partially resolved. Calculation in Appendix D.4 states "Acceptability of the proposed cover system materials will be determined by laboratory testing of each soil-to-geosynthetic and geosynthetic-to-geosynthetic interface (ASTM D5321 or ASTM D6243, as appropriate for interface) and by direct shear testing (internal friction angle) of fill materials (ASTM D3080)." However, this testing is not required in the specifications included in Appendix C.

Comment #7: What will be the condition and degree of saturation of the dredged material at the time it is placed in the UDF cells? If sediment is to be dewatered on site how will this be achieved and how will effluent be managed? Is there sufficient space on site for a sediment dewatering operation?

- Extent of Response: Comment partially resolved. Technical specifications are included in Appendix C, but they do not address handling and conditioning of the Consolidated Materials.

Comment #8: Section 4.2.3 notes that settlement will be evaluated as part of the final design, and it will include settlement of the proposed fill. Fill placement and compaction criteria for the dredged/waste

materials has not been provided. Confirm that this will be included in the final report along with corresponding geotechnical strength parameters.

- Extent of Response: Comment partially resolved. Settlement calculations are provided in Appendix D-2.
 1. The calculation does not discuss if long term settlement of the Consolidated Materials is anticipated as this material drains.
 2. Settlement of the subgrade floor is estimated to be up to 1.2 feet. Provide calculations demonstrating that this magnitude of settlement will not negatively impact connections of the piping within the drainage system; corresponding strain within the HDPE geomembrane sheets and at the seams; and the anticipated change in the pipe slope.
 3. Subgrade settlement figures in Attachment C assumes uniform settlement which is not consistent with the Settle3D output.

Comment #9: Section 4.2.4 indicates that slope stability analyses have been performed. However, the report does not provide the soil parameters or cross sections used in the analysis which are critical input in the analysis. Without that information, we cannot comment on the slope stability analysis.

- Extent of Response: Comment partially addressed. Appendix D-1 includes a summary of the slope stability computations but does not include figures showing the cross sections used in the analysis. Additional Comments are provided:
 1. Attachments A, B, and C to the calculation are referenced but not included.
 2. Provide a bases for the geotechnical material parameters selected for the Consolidated Materials. Information has not been provided on the composition/gradation of the dredged materials; material conditioning prior to placement; acceptable water content of compacted materials; or discussion that the material placement described in Specification 31 22 00 is consistent with the assumed geotechnical parameters.
 3. It is unclear from the discussion what was assumed for the water level within the proposed fill.

Comment #10: Section 4.4.3 discusses culvert design with respect to flow conditions. Will the design also consider structural and geotechnical engineering?

- Extent of Response: Comment not addressed.

Comment #11: Section 5.2 indicates that transport of the dredged or excavated material has not been determined but "trucking or conveyance via slurry within a temporary pipe to the UDF" are under consideration. These methods have very different impacts on the material handling, dewatering, and placement. It is unclear how geotechnical engineering parameters could have been assigned to perform a slope stability analysis without this having been determined.

- Extent of Response: Report indicates that is will be addressed in a revised Transportation and Disposal Plan. This plan had not been submitted to EPA at this time.

MEMORANDUM

TO: Christopher Ketchen, Town Manager, Lenox, MA
FROM: Weston & Sampson
DATE: May 20, 2024
SUBJECT: Upland Disposal Facility Final Design Plan

Weston and Sampson Engineers, Inc. (Weston & Sampson) has reviewed the relevant technical documents and reports pertaining to the design of the proposed Upland Disposal Facility (UDF) for the GE-Pittsfield/Housatonic Rest of River Project. In this memorandum we provide our review comments on the landfill and geotechnical engineering aspects of the Project. The documents which were the primary focus of our review and comment efforts were as follows:

- *Upland Disposal Facility Final Design Plan*, Arcadis, February 2024.

To support this technical review, we also referred to the following documents for supporting information:

- *Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area*, GE-Pittsfield/Housatonic River Site; Arcadis, January 2024.
- *Upland Disposal Facility, Operation, Monitoring, and Maintenance Plan*, GE-Pittsfield/Housatonic River Site; Arcadis, February 2024.

The format for this memorandum generally presents a brief bulleted synopsis of comments made on the Final Design Plan. The memorandum has two main sections focusing on Landfill Engineering and Geotechnical Engineering.

Landfill Engineering

The proposed final cover system components include 18" General Soil Fill as shown on Sheet 25 of the design plans and described in Technical Specification Section: 31 05 13, 2.01 Materials. This is the final cover system layer above drainage geocomposite and the Technical Specification references 3" minus soil and a permeability no greater than 1×10^{-4} cm/sec.

- *Comment #1:* Stones of 3" in size have the potential to damage the underlying geocomposite and geomembrane and it is typical to specify 1" minus soil material for this layer. Please provide justification for use of 3" minus materials.
- *Comment #2:* A maximum allowable permeability of 1×10^{-4} cm/sec is an order of magnitude higher than what is typically specified for a "drainage layer" material (1×10^{-3} cm/sec). Soil with a permeability of 1×10^{-4} cm/sec or less will potentially limit the infiltration rate of water through this layer to the drainage geocomposite. This could result in saturated conditions in the above topsoil

layer potentially causing instability and excessive erosion. Please provide justification for use of lower permeability materials in this drainage layer.

Perimeter Berm & Anchor Trenches as shown on sheet 13 indicate three geosynthetic anchor trenches (liner system, cap system and geosynthetics extension) located along the perimeter berm.

- *Comment #3:* While this design works, it appears to be overly complicated and may be difficult to construct. Also, there is potential for leachate to fill and create a hydraulic head in the liner system anchor trench because the cap geomembrane is welded to the liner several feet outside of the liner anchor trench. Typically, in landfill designs, the cap geomembrane is welded to the liner geomembrane before the liner anchor trench, which eliminates the potential for leachate sitting in the anchor trench. This would also eliminate the need for the geosynthetics extension and its anchor trench. Please consider revising this detail.

PVC Gas Vents detail as shown on sheet 38.

- *Comment #4:* The landfill gas vents are designed to be SCH 40 PVC; please consider specifying SCH 80 for additional strength. These vents are subject to damage from UV exposure, weather, and post closure maintenance activities (mowing). The extra strength will help prolong the life of these vents.
- *Comment #5:* The bottom of the PVC gas vent pipe is perforated to allow the collection of landfill gas. The detail shows previously excavated consolidated soils to be used as backfill around the perforated pipe. It is recommended that a stone filter backfill be used in place of the soil to allow better gas collection and to prevent soil from migrating into or clogging the perforations.

There are no plans or specifications for electrical supply and control panels. It is assumed that these will be developed at a later date.

- *Comment #6:* Electrical supply and control panels are integral to the operation of the UDF, and these plans should be provided prior to construction.

The Paved Entrance Road, as shown on the construction drawings (sheet 35) show pavement thicknesses of 1-1/2" top course and 2-1/2" binder course. Technical specification 32 12 00, section 2.0, specifies pavement thicknesses of 2" top course and 4" binder course.

- *Comment #7:* Provide clarification of pavement thicknesses.

Leachate Conveyance Pipe as shown on the construction plans (sheet 20) specify HDPE SDR 21 for the dual contained leachate pipe from the leachate vaults to the storage tanks. The HDPE technical specification, section 33 05 33 specifies SDR 26 for this pipe.

- *Comment #8:* Please clarify the type of pipe to be used.
- *Comment #9:* There are no pipe spacers between the carrier pipe and the containment pipe. Consider using pipe manufactured with spacers to prevent damage to the carrier pipe.

The HDPE pipe specification, section 33 05 33 specifies 80-mil HDPE geomembrane for leachate pipe boots. All other geomembrane in the design is 60-mil thickness.

- *Comment #10:* Please clarify if the 80-mil thickness is correct.

In general, based on our review of the Final Design Plan, the UDF design meets the requirements for a hazardous waste landfill as specified under Subtitle C of the Resource Conservation and Recovery Act (RCRA). The basic requirements of a Subtitle C landfill include double liner system, double leachate collection and removal systems, leak detection system, and stormwater run-on/runoff controls, which the UDF includes as part of its design. However, we recommend that the GE and their contractors address the comments above.

We also recommend that GE and their contractors expedite provision of details concerning additional UDF operational support areas needed for activities associated with hydraulic dredging and pumping. The handling, dewatering, placement, and compaction of hydraulically dredged sediment is intrinsic to the design and operation of the UDF. Section 31 22 00 requires that consolidation material be compacted to 90%. This degree of compaction for hydraulically dredged material will require significant unit operations for dewatering pumped sediment slurry, such as geotubes, centrifuge, filter press, or other suitable means. Section 5.2 of the Final Design Report suggests that slurry will be placed directly into the UDF cells, however, the means and methods for this approach is lacking in specifics. Details should be provided on how the slurry material will be managed, dewatered within the cells so that material compaction criteria can be met.

If dewatering of slurry is proposed for outside the UDF cells, the operational support areas to conduct slurry dewatering have not been identified in the Final Design Plan. Based on the extents of proposed site grading and development, it is unclear where such additional operational footprints could be located within the site boundaries. Information should be provided on any additional footprint needed and, if it is on a different parcel, property, or other area of the Lane property, its' availability for purchase, lease, or use on the project should be clarified. The scenario whereby hydraulic dredging (which has the great benefit of eliminating trucking) is determined at a later point in the project planning and design process to be unfeasible due to lack of available and suitably sized footprint for slurry dewatering operations should be avoided.

Geotechnical Engineering

Specification 31 22 00 indicated that the Consolidated Materials in the UDF shall have a minimum unconfined compressive strength of 10 psi.

- Comment #1: The specification does not indicate what test method is to be used to measure this value and this should be provided.
- Comment #2: Please provide calculations showing that placement of the consolidated materials to a compressive strength of 10 psi is consistent with the geotechnical material properties assumed for the slope stability and settlement analyses.

MEMORANDUM

TO: Christopher Ketchen, Town Manager, Lenox, MA
FROM: Weston & Sampson
DATE: May 20, 2024
SUBJECT: Upland Disposal Facility –Operation, Monitoring, and Maintenance Plan

Weston and Sampson Engineers, Inc. (Weston & Sampson) has reviewed the relevant technical documents and reports pertaining to the operation, maintenance, and monitoring of the proposed Upland Disposal Facility (UDF) for the GE-Pittsfield/Housatonic Rest of River Project. In this memorandum we provide our review comments on the landfill engineering and site hydrogeology and environmental assessment aspects of the Project. The documents which were the primary focus of our review and comment efforts were as follows:

- *Upland Disposal Facility Operation, Maintenance, and Monitoring Plan*, Arcadis, February 2024.

To support this technical review, we also referred to the following documents for supporting information:

- *Upland Disposal Facility Final Design Plan*, GE-Pittsfield/Housatonic River Site; Arcadis, February 2024.

The format for this memorandum generally presents a brief bulleted synopsis of comments made on the Operation, Monitoring, and Maintenance Plan. The memorandum has two main sections focusing on Landfill Engineering and Site Hydrogeology and Environmental Assessment.

Landfill Engineering

Section 3.3 – Environmental Monitoring

- Comment #1: Air monitoring is being performed for particulate matter less than 10 microns in aerodynamic diameter (PM₁₀). This represents potentially respirable dust and should be performed. However, if dust released from the UDF is larger in aerodynamic diameter, this represents a potential release of PCBs to the environment. Continuous monitoring for total dust with an action level set based upon potential PCB concentrations in materials being placed in the landfill (e.g., 50 mg/kg) is recommended.
- Comment #2: Response actions are included in the Quality of Life (QOL) Plan. Not included in the QOL Plan is notifications to local government bodies should there be an exceedance of an Action Level that required active response and potentially poses a risk to the community.

Section 4.5 – Cover Material Management

- Comment #3: While the daily and interim cover are well explained, there should be a mechanism for periodic cover inspections. Daily cover (6" soil, plastic, or spray cover) per the plan can be in place for up to 180 days. Soil on slopes can easily erode from precipitation events and plastic sheeting can be destroyed from windstorm events. An inspection program should be described and implemented.
- Comment #4: During the use of soil for daily cover, will the cover soil be visually different from the consolidated fill material? If not, it may be hard to determine if adequate cover is in place or if the cover has eroded. Inspection of soil cover and evaluating erosion should be discussed further.
- Comment #5: It is not specified whether the daily cover soil is clean and free of contamination, or if contaminated soils will be allowed to be used. If contaminated soils are used, acceptance criteria should be provided. If clean soil is used, clean should be defined.

In general, based on our review of the OMM Plan, the UDF design meets the requirements for closure and post-closure care of a hazardous waste landfill as specified under Subtitle C of the Resource Conservation and Recovery Act (RCRA). The basic requirements of OMM for a Subtitle C landfill include:

- Installing and maintaining a final cover.
- Continuing operation of the leachate collection and removal system until leachate is no longer detected.
- Maintaining and monitoring the leak detection system.
- Maintaining ground water monitoring.
- Preventing storm water run on and runoff.
- Installing and protecting surveyed benchmarks.

In general, the OMM plan meets the above requirements, however, we recommend that GE and their contractors address the comments provided.

Site Hydrogeology and Environmental Assessment

In general, the planned groundwater monitoring well network has monitoring wells placed at appropriate locations to evaluate any potential impacts to groundwater. The planned analyses for this monitoring are appropriate for this evaluation as well. No additional comments are provided.



Town of Sheffield
Select Board
Town Hall – 21 Depot Square
Sheffield, Massachusetts 01257

Voice: 413-229-7000
Fax: 413-229-7010
TTY: 800-439-2370

May 16, 2024

Comments emailed to : R1Housatonic@epa.gov

Re: GE-Pittsfield/Housatonic River Site: Revised Final Pre-Design Investigation Summary Report for UDF and UDF Operation, Monitory and Maintenance Plan

Dear EPA:

The Town of Sheffield Select Board, representing the most downstream of the five Housatonic Rest of River Communities, respectfully submits the following comments on the above referenced Plans concerning the Upland Disposal Facility (UDF).

We continue to be grateful and appreciate EPA's provision of Technical Assistance Services for Communities (TASC) and the comments SKEO has provided on these Plans. The average citizen or review board, such as ours, could not possess the required knowledge to do a thorough review and comment accordingly. We take SKEO's comments seriously as we deem the EPA and GE also do; their comments are attached.

We also note the additional work being done on the Transportation Plan and believe the results of that revised plan, potentially focusing more on use of rail lines and less on truck traffic, will have impacts on the two plans being commented on here; these impacts may be significant enough to require revision and reissuance of both of the above plans. We are concerned that the word "Final" in this Revised Final Pre-Design Investigation Summary Report for UDF may be premature. Whatever impacts or adjustments may be required to either/both of the above plans following review and reissuance of the Transportation Plan, we are confident EPA will require the necessary modifications from GE and look forward to reviewing any and all adjustments in each of these three critical plans.

Our comments on the Revised Final Pre-Design Investigation Summary Report for UDF:

1. We respectfully request the EPA require GE to amend the UDF Final Design Plan is to be amended to include the following components cited by SKEO as missing in this document:
 - "Identification of UDF construction team, including key personnel, their roles and responsibilities, and lines of authority;
 - Process for selection of a UDF construction contractor, if not already selected;
 - Schedule for construction;
 - Construction Quality Assurance Plan (CQAP);
 - Project closeout requirements;
 - Summary of anticipated Post-Construction Site Control activities following completion of the final cover and closure; and
 - statement(s) showing compliance to the performance standards associated with the UDF design."
2. We request clarification on the specifications of the bottom and cap liners to clear up any confusion as to specifications, compatibility, permeability, and reaction to PCBs.
3. Does the Final Design address the possibility of freeze or thaw conditions? If not, it should be revised to do so.

This institution is an equal opportunity employer and provider.

4. Post-capping final design plans for the UDF must be consistent with the Town of Lee ideas. This has been a contentious point for several years as GE appears to wish to promote use of the site and the Town of Lee in the past has taken a different position. The Town of Lee, in our opinion, should have the deciding say and this final decision making process must be included in the final plan. View aesthetics and control of invasive species plans are missing.
5. As Skeo queries, is “the UDF area is a suitable setting to address the Reach 5C and Woods Pond hybrid disposal averaging process.” The EPA is requested to address this query and take appropriate action.
6. Section 2.6.3, on the leachate management system, as currently envisioned, raises a number of troubling questions that require immediate attention and answers for not only the final design document, but just as importantly the publics’ understanding of this system. There have long been strongly voiced concerns about leachate going back into the Housatonic River, which appears to have little support for. The comments submitted by SKEO need to be addressed, not only for understanding this proposed point discharge option but also to make sure the public does not feel betrayed once the UDF is in operation. We believe the discussion to date has focused on off-site transport of the leachate, not point discharge into the river. This new option will not be received well and requires further information and forthright discussions.
7. Section 5.3 needs to be expanded upon to not only provide basic information on “contact” and “non-contact” water, but also how each type of water will be managed, including disposed of.
8. Similar to #6, all materials excavated during construction, as well as those used during construction, need a management plan spelled out in the UDF Final Design Plan document. Will they be disposed of? If so, how, and what is the plan for doing so? Later integrated back into the site? If so, how? If not, disposal plans? What are the plans for disposing of any currently stored materials in what will be the total UDF footprint?
9. The EPA should require GE to include plans, based on best management practices, to address materials spills, such as leachate, fuel, oil, and releases, to include any PCB- or other contaminated materials. This is a critical oversight on GE’s part and must be rectified. The Rest of River Municipal Committee spoke often of such possibilities and what if any equipment / resources / training would be needed by the Rest of River Towns to address such possibilities. It may be appropriate to require at least a desktop exercise to address such possibilities. How will these potential spills or contamination events be handled and by whom? What is the chain of command and response hierarchy? These items should be discussed with the adjacent municipalities if they have not already been briefed on these matters.
10. Section 6.2.2 and associated Figures need further clarity and updating to address the “intermittent stream and GE’s intended methods to address the constructed road crossing associated with it”. What is the plan to address this?
11. We request the EPA to carefully review the intersection of high use and high traffic associated with stormwater management areas, ditches, ponds, etc., with regard to the possibility of spills and other types of accidents and whether activated carbon should be required to lessen the impact of such spills and accidents. Are there other interventions to consider, such as the SKEO cited proactive catchment basins near leachate collection storage units?
12. UDF Operations Areas are not sufficiently spelled out in this Final Plan. An understanding of these areas is absent for both the EPA and the public. What does their insufficient documentation by GE say about GE’s understanding of them? Without such information, how can this be a Final Plan? This fundamental exclusion must be addressed and presented for public review and comment before any UDF Design Plan is finalized. How and when does the EPA plan to address this lack of information and specifications with GE?
13. Further information is needed on how hydraulic conveyance of waste materials will be handled. The information provided is incomplete and appears to reference previous documents without basic information and parameters ever being provided. As hydraulic dredging and movement of materials is a major possibility, every aspect of that process needs to be addressed, especially as the movement of PCB-waste materials interact with the UDF.

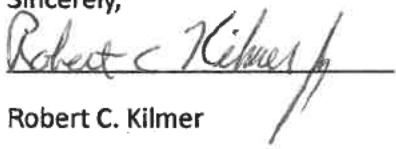
14. GE's interactions with the adjacent gravel quarry, Northeast Paving, needs more details in order to understand potential impacts on the two ponds currently used as part of this quarry, as well as their possibly impacts on the UDF. This relationship requires the same specificity as is detailed in other relationships in the Final Design document.
15. What if any protective barriers are to be installed around the monitoring wells and how will initial site grading, placement of fill, or creation of an access road(s) impact these wells? They need to be protected as they will monitor water quality/levels for years to come.
16. There appears to be confusion and potentially inconsistent statements and drawings around the stormwater management process proposed by GE for the UDF. As recommended by SKEO, to make the stormwater management process at the UDF clear and trackable, we support the requirement for the development of a stormwater conceptual site model for the UDF.
17. Will leachate collected at the UDF be analyzed for PCBs and other treatment affecting chemicals prior to being transferred to the described treatment facility? It is essential that GE's treatment facility will be able to properly treat the leachate, especially if point discharge is under consideration.
18. We request documentation of a plan to deal with the potential pooled water created from collected sediment waste materials and its potential impact on migratory birds and other wildlife, as the Final Plan is silent on this matter.

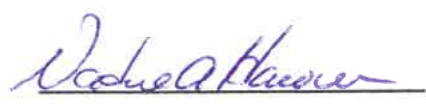
Our comments on the UDF Operation, Monitory and Maintenance Plan:

1. Given the relationship between groundwater height and the UDF's final allowable elevation, the public needs to understand the relationship of the latest collected data compared to previously collected data. As such, we request EPA to require GE to integrate the latest 2023 data set with previous data sets and provide comments, as appropriate. In association with this, it appears continued monitoring of groundwater levels is important and may yield valuable information before, during, and post-UDF construction. We ask that such monitoring continue and that collected data sets be integrated with current data sets to provide a more accurate measurement of groundwater levels and that this collection be done in both the spring and fall of each year.
2. Are further data sets needed to validate the application of the Frimpter method for calculating seasonal high groundwater elevation?
3. What is the UDF monitoring strategy going forward? Has GE presented a sufficiently robust plan?
We ask EPA to evaluate this carefully given the concerns surrounding the UDF and that the final monitoring plan will play a significant role in not only monitoring the out of sight workings of the UDF but also provide important data needed to assure residents of the integrity of the UDF.
4. We ask the EPA to consider how the monitoring and maintenance tasks presented in this plan may be made more approachable and useful to the public for outreach efforts. This public friendly approach also applies to monitoring quality of life aspects, maintenance, and inspection results, etc. The more information that is being collected is made available, the less the public may feel GE and the EPA are hiding something.
5. What are the oversight components for the "operation-phase consolidation process" and who will provide such oversight? Will EPA provide oversight during other phases of the UDF construction and operational phases?
6. Regarding Section 4.1.1, what are the plans if any portion of the liner system is compromised during UDF construction? Is the liner system strong enough to endure the anticipated equipment and associated traffic within each of the consolidation cells?
7. Regarding Figure 2, where is the secondary access located? It appears unclear.
8. As air quality is a key concern to residents, Skeo's suggestion to install an air quality monitoring station where the public interacts with the river is a good idea. We hope the EPA will incorporate their suggestion of installing such a station within the Woods Pond boat launch or other visible spot in this recreational area. This will either confirm the absence of air borne contamination or require GE to address such contamination.

Thank you for receiving our comments and the attention we know you will give them. As we believe the UDF has attracted more public concern, it may be in the best interests of the EPA to consider whether additional public input should be accepted if the Final Design Plan for the UDF requires revision when a new transportation plan is released or if warranted due to received public input you have received. We urge the EPA to error on the side of the public, if needed. While certain members of the vocal public wish to link the EPA and GE, we know through our involvement with EPA during this long process that this is not the case. We earnestly hope EPA's review of public input on these two UDF plans provides the public the opportunity to understand the role the EPA has exercised in support of the Rest of River communities.

Sincerely,


Robert C. Kilmer


Nadine A. Hawver


Lee Buttala

Enclosure: TASC Comments April 5, 2024



Technical Assistance Services *for* Communities
GE-Pittsfield/Housatonic River Site
Comments on Upland
Disposal Facility (UDF) Documents
April 5, 2024

Contract No.: 68HERH21A0018

Call Order Number: 68HERH22F0082 (14.0.0 OSRTI – Regional & Headquarters
TASC/CI Support)

Technical Direction: R1 2.9.14 GE Pittsfield

Technical Assistance Services for Communities (TASC)

Comments on GE-Pittsfield/Housatonic River Site – UDF Final Design Plan (February 2024), Revised Final Pre-Design Investigation Summary Report for UDF (January 2024) and UDF Operation, Monitoring and Maintenance Plan (February 2024)

Introduction

This document provides TASC comments on the GE-Pittsfield/Housatonic River – Upland Disposal Facility (UDF) Final Design Plan, including companion documents: the January 2024 Revised Final Pre-Design Investigation (PDI) Summary Report for UDF and UDF Operation, Monitoring, and Maintenance (OMM) Plan. This document is for the Berkshire Regional Planning Commission (BRPC); the city of Pittsfield; the towns of Lee, Lenox, Stockbridge, Great Barrington and Sheffield; Massachusetts Audubon; Berkshire Environmental Action Team and other entities to use as they develop comments to share with the U.S. Environmental Protection Agency (EPA). TASC does not make comments directly to EPA on behalf of communities. This document is funded by EPA’s TASC program. The contents do not necessarily reflect the policies, actions or positions of EPA.

Pursuant to the Revised Resource Conservation and Recovery Act (RCRA) Permit Modification (Revised Final Permit) issued by EPA to the General Electric Company (GE) on December 16, 2020, for the Rest of River (ROR) portion of the GE-Pittsfield/Housatonic River site, GE developed and submitted a Statement of Work (SOW) specifying the deliverables and activities that GE will conduct to design and implement the ROR Remedial Action. In accordance with that requirement, GE submitted a Final Revised Rest of River SOW on September 14, 2021. The Final Revised SOW included pre-design and design requirements for the UDF and a UDF Support Area.

On November 24, 2021, GE submitted a PDI Work Plan for the UDF. GE subsequently conducted the pre-design investigation of the UDF area in 2022 and 2023 described in GE’s

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Final PDI Summary Report for the UDF Area (August 2023). EPA issued a conditional approval letter requiring that the conditions therein be addressed in a Revised Final PDI Summary Report. On January 29, 2024, GE submitted a Revised Final PDI Summary Report for the Upland Disposal Facility (January 2024).

On December 6, 2022, GE submitted a Conceptual Design Plan for the UDF. EPA issued a conditional approval letter for the Conceptual Design Plan. The UDF Final Design Plan (February 2024) presents the final design elements for the UDF and related support areas.

In accordance with Section 4.3.2.3 of the Final Revised SOW, GE prepared an Operation, Monitoring, and Maintenance (OMM) Plan for the UDF area (February 2024), based on the components and provisions included in the UDF Final Design Plan.

Summary

The January 2024 Revised Final PDI Summary Report for UDF Area includes four sections:

- Introduction
- Site Background and Historical Site Data Summary
- Pre-Design Investigation and Data Summary and Evaluation
- References

The Revised Final PDI Summary Report for the UDF Area presents data obtained through November 2023 during the pre-design of the area that will contain the UDF and UDF support areas associated with the ROR Remedial Action.

The February 2024 UDF Final Design Plan includes 10 sections:

- Introduction
- Design Summary
- Perimeter Berm and Baseline System
- Buildout and Final Cover System
- UDF Operational and Supporting Activities
- Measures to Address Habitat Impacts
- UDF Closure and Preparation for Post-Closure
- UDF Sustainability and Climate Change Considerations
- UDF Post-Closure Monitoring and Maintenance
- References

The UDF Final Design Plan documents the technical basis for the UDF design. The UDF design is at the final design stage and is not expected to change significantly.

The February 2024 UDF OMM Plan includes five sections:

- Introduction

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- UDF Construction-Phase Controls and Monitoring
- UDF Operation-Phase Controls and Monitoring
- UDF Operation-Phase Consolidation
- References

The UDF OMM Plan describes the operation, monitoring and maintenance activities to be implemented during the construction and operation of the UDF. The Plan covers activities occurring through completed consolidation material filling operations. It does not cover monitoring and maintenance activities that will be implemented during the UDF closure phase, including final cover construction. Those activities will be described in the UDF Final Cover/Closure Plan. Following the final cover construction, post-closure monitoring and maintenance activities will be conducted under a Post-Closure Monitoring and Maintenance Plan.

TASC Comments

This section provides TASC comments on the UDF Final Design Plan, the Revised Final PDI Summary Report, and the UDF OMM Plan. The UDF Final Design Plan provides the final design of the UDF consolidation area and operation areas using the performance standards criteria combined with site characteristics gathered from various studies completed throughout the GE parcel. Site characteristics (such as groundwater flow and levels) are critical to the UDF design. This information is contained within the accompanying Revised Final PDI Summary Report. The UDF OMM Plan provides supporting information describing the proposed monitoring and maintenance strategies for the UDF designed features. Review comments were generated by TASC for all three documents and are separated by document below. Most comments generated by TASC focus on final design elements of potential interest to the community.

TASC compared the documents to the Statement of Work (SOW) and Revised Final Permit requirements. TASC also reviewed:

- Arcadis and AECOM. 2021. Pre-Design Investigation Work Plan for Upland Disposal Facility. Prepared for General Electric Company, Pittsfield, Massachusetts. November. <https://semspub.epa.gov/src/document/01/661267>
- Arcadis and AECOM. 2022. Interim Pre-Design Investigation Data Summary Report for Upland Disposal Facility Area. Prepared for General Electric Company, Pittsfield, Massachusetts. December 6. <https://semspub.epa.gov/src/document/01/671716>
- Arcadis. UDF Conceptual Design Plan. GE-Pittsfield/Housatonic River Site. December 2022. <https://semspub.epa.gov/src/document/01/671715>
- AECOM. Phase 1A Cultural Resources Assessment Report for Upland Disposal Facility Area. July 2022. <https://semspub.epa.gov/src/document/01/666138>
- Anchor QEA, LLC. 2022. Sustainability and Climate Adaptation Plan. GE-Pittsfield/Housatonic River Site. Prepared for General Electric Company, Pittsfield, Massachusetts. September. <https://semspub.epa.gov/src/document/01/668293>

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- Anchor QEA. 2023. Adaptive Management Plan. Housatonic River – Rest of River. Prepared for General Electric Company, Pittsfield, Massachusetts. November. <https://semspub.epa.gov/src/document/01/677682>
- Anchor QEA and Arcadis. 2023. Quality of Life Compliance Plan. Housatonic River – Rest of River. Prepared for General Electric Company, Pittsfield, Massachusetts. December. <https://semspub.epa.gov/src/document/01/679162>
- Arcadis. 2023. On-Site and Off-Site Transportation and Disposal Plan. Housatonic River – Rest of River. Prepared for General Electric Company, Pittsfield, Massachusetts. October. <https://semspub.epa.gov/src/document/01/677632>

TASC comments provided about the above references that are pertinent to this review have been included.

TASC was generally pleased with the overall design approach in the Final UDF Design Plan. It appears to be a comprehensive design that adheres and accomplishes the required performance standards. In addition, the proposed leachate capture system design is also comprehensive with fail-safe elements to ensure complete capture of the leachate (to make sure there will be no leaks).

The principal concern identified by TASC is found in the UDF Final Design Plan statement: “As presented herein, the UDF design is at the final design stage and is not expected to change significantly” (Section 1.1 Purpose, pdf page 12). While TASC acknowledges that the Final UDF Design Plan provides a solid foundation for the anticipated UDF design, there may be certain elements such as the potential linkage of the UDF to a rail-based waste transport system that may substantially affect the UDF site layout. Furthermore, the document acknowledges that “additional support areas will be described in later design submittals associated with hydraulic dredging and pumping activities (i.e., design work plans for Reach 6)” (pdf page 20). Based on these two additional UDF features, TASC is concerned that the UDF design may need to change significantly.

Eventually the UDF will achieve closure and be a component of the local landscape. As such, it is important for the community to determine if they wish to retain an active role in communicating future land use expectations with GE to determine suitable reuse options. To date, as per documentation provided within the Final UDF Design Plan, it appears that strong communication between the community and GE is ongoing, therefore the next steps to achieve UDF closure in coordination with community future reuse recommendations seem achievable. It may be suitable to consider options including the acknowledgement that the UDF is closely associated with Woods Pond and other adjacent natural setting features. It may be appropriate for the community to consider opportunities for natural setting access and recreational use. The UDF’s closure and reclamation may also serve as a potential outdoor learning setting for area schools. TASC generated several comments regarding potential future UDF area land use opportunities for the community.

The following comments are separated for each document with comments pertaining to the UDF Final Design Plan provided in comments 1 through 23, comments pertaining to the Revised Final

TASC Comments on UDF Final Design Plan, Revised Final PDI Summary Report and UDF OMM Plan

PDI Summary Report provided in 24 through 26, and comments for the UDF OMM Plan provided in 27 through 37.

TASC Comments on the UDF Final Design Plan

1. The SOW outlines the components of the UDF Final Design Plan (pdf page 53 of the SOW). There are several components that are absent from the document as follows:
 - Identification of UDF construction team, including key personnel, their roles and responsibilities, and lines of authority;
 - Process for selection of a UDF construction contractor, if not already selected;
 - Schedule for construction;
 - Construction Quality Assurance Plan (CQAP);
 - Project closeout requirements; and
 - Summary of anticipated Post-Construction Site Control activities following completion of the final cover and closure.

In addition, it would be useful if the UDF Final Design Plan summarized the compliance of the design elements as compared to the SOW performance standards in a table or bullet list summary (such as estimated consolidation area volume as compared to the 1.3 million cubic yards required design capacity, etc.).

The community may want to ask EPA if the UDF Final Design Plan is to be amended to include the above elements, and if a concise summary documenting design element compliance to associated performance standards could be included.

2. The Revised Final Permit specifies aspects of the bottom liner and cap liner to have “permeability equal or less than 1×10^{-7} cm/sec [centimeters per second], a minimum thickness of 30 mils and be chemically compatible with PCBs” (pdf page 65). The UDF Final Design Plan states that these standards will be complied with and provides technical specifications within Appendix C, and describes the baseliner system components in Section 3.3.1 to include “60-mil textured high density polyethylene (HDPE) geomembrane” (pdf page 22). However, it may be useful to attach the selected geomembrane material specification literature for the liner product to be relied upon in order to verify these performance standards are met. Furthermore, the community may want to review any available supporting literature that documents the compatibility of these materials with PCBs.

The community may ask EPA if GE should amend the UDF Final Design Plan by attaching the liner specifications (and any additional information identified by the community) describing permeability, thickness and PCB reactive characteristics.

3. The Revised Final Permit describes the UDF corrective measures (pdf page 67, Section b.(2)) stating that the “Permittee shall include in its landfill design submissions one or more proposals (based on Permittee’s consultations with officials from the Town of Lee) describing how Permittee will prepare the Upland Disposal Facility for potential re-use once the landfill is capped if the Town of Lee desires.” As per information provided in

Section 6.1 (pdf page 42) of the UDF Final Design Plan, GE has corresponded with the community and are planning to revegetate the final cap with a seed mix to generate a grassland cover with the addition of plant pollinator species. In addition, GE is considering measures to promote increased use of the UDF site by Monarch butterflies (Section 6.3, pdf page 46). The Town of Lee should review this information and consider any additional recommendations for GE to address at this critical point in the UDF process.

The community may want to review the final design features of the UDF to be sure all their future reuse ideas have been addressed.

4. Appendix E (page E-2, pdf page 141) of the Revised Final Permit states that “EPA agrees to work with GE to design an appropriate transition and hybrid disposal averaging area in the Woods Pond Headwaters area between Reach 5C and Woods Pond” in the section that discusses all sediment except for Reach 5B. Woods Pond is located due north and within close proximity of the UDF parcel. It may be appropriate to consider the UDF Parcel as a suitable setting to develop this hybrid disposal process. Materials removed during the consolidation area excavation may be suitable for averaging the Reach 5C and Woods Pond wastes.

The community may want to ask EPA if the UDF area is a suitable setting to address the Reach 5C and Woods Pond hybrid disposal averaging process.

5. Section 2.6.3 of the UDF Final Design Plan describes the planned leachate management system. This section describes how leachate captured from the consolidation cells will be captured and routed to on-site storage tanks. The leachate will then be transferred by a tanker truck to GE’s water treatment facility (Building 64G) or another approved treatment facility outside of the UDF property. The third paragraph on page 9 (pdf page 19) indicates that leachate created from future hydraulic dredges may ultimately be treated at an on-site treatment facility at the GE parcel and discharged to the Housatonic River in compliance with appropriate National Pollutant Discharge Elimination System (NPDES) discharge limits set forth in Table 1 (pdf page 56) of the document. Review of the Table 1 NPDES applicable or relevant and appropriate requirements indicates that the “point source discharge must meet technology-based effluent limitations and effluent limitations and conditions necessary to meet state water quality standards, except that discharges in compliance with instructions of On-Scene Coordinator (OSC) acting pursuant to the National Contingency Plan (NCP) are exempt from these requirements (122.3(d)).” This information indicates that there may be a point discharge to the river that is associated with treated leachate releases from hydraulically conveyed waste. This condition raises several questions:

- It is not clear how the current designs accommodate the placement of an on-site treatment facility, or any associated features necessary to manage the leachate to be treated.
- It is not clear if there is a right-of-way access between the UDF parcel and the Housatonic River to allow for the construction of a point discharge. There is a considerable buffer area between the UDF and the Housatonic River that is

occupied by the Northeast Paving/Eurovia Atlantic Coast, LLC gravel mine that would seemingly pose an obstacle to a point discharge from the UDF.

- It is not clear from the information in Table 1 as to what is considered a ‘discharge in compliance with instructions of the On-Scene Coordinator’ as opposed to discharges to be held in compliance with NPDES standards, and
- It is not clear if future monitoring of the UDF will include sampling of the Housatonic River above, within and below the mixing zone of the point discharge from the UDF.

The community may want to ask EPA if further information can be provided that will show how the proposed UDF design will accommodate the needs of the potential hydraulic waste leachate management and point discharge.

6. The UDF Final Design Plan provides a brief description of “contact” (have had the potential for contact with the consolidation material) and “non-contact” (have not had the potential for contact with the consolidation material) waters associated with the UDF construction process. The document does not describe the management approaches for either of these types of water (refer to Section 5.3 on pdf page 39).

The community may want to ask EPA if GE is to provide the information describing how contact and non-contact water will be managed.

7. The UDF Final Design Plan does not describe how materials will be managed and stored. Excavated topsoil removed during construction would typically be stored as berm material for later soil replenishment, capping and reclamation. The document does not mention whether topsoil will be sorted and held for later use. Similarly, there is likely a need to conduct tree and brush removal, in addition to the removal of a centrally located patch of milkweed. These materials could also be retained for later soil amendment and re-establishment of habitat of use to the Monarch butterfly (as described in Appendix H). The plan mentions concrete debris material within and next to the consolidation area limits, but does not describe how or if these materials will be disposed of.

The community may want to ask EPA if the Final UDF Design Plan should be amended to discuss areas where materials will be managed for later use or disposal, such as topsoil, vegetation materials and concrete debris.

8. The UDF Final Design Plan does not describe features to address spills or releases of PCB-contaminated materials. Of particular concern in regards to spill management are the areas used for waste material load-out into the consolidation area, and the leachate collection tanks. It seems that the UDF design could include appropriate best management practices to control incidental releases of contaminated material.

The community may want to ask EPA if the UDF Final Design Plan should be amended to include features to address spills of contaminated material.

9. The UDF Final Design Plan describes the intermittent stream and GE's intended methods to address the constructed road crossing associated with it (Section 6.2.2, pdf page 44). However, the treatment/management of the water flows associated with this feature is not fully described. In addition, this feature is not called out on any of the design sheets making it difficult to track the relationship of the drainage in relation to proposed construction activities (with the exception of the anticipated culvert to be placed to allow traffic across the drainage provided on Figure 35). It seems important that the water associated with this drainage be actively managed so that it does not undermine/erode any UDF feature. The document (in several places) acknowledges that surface flows absorb into a wetland area at the terminus of the drainage adjacent to the overhead wires right-of-way. It is important to retain the natural character provided by this feature, but it also may be important to be sure the flows do not compromise the UDF.

The community may want to ask EPA if the UDF Final Design Plan should describe if there is a need to manage the water flow associated with the intermittent drainage.

10. Several of the site plans depict the location of heavy traffic/high use areas in close association with stormwater management area (SMA) features as follows:
- The stabilized construction entrance to the UDF is adjacent to SMA-2, SMA-3A, SMA-3B and the South Stormwater Basin (Appendix A, Final Drawings, Figure 9, pdf page 90).
 - The Y-shaped road junctions where traffic can cross (the southern crossing adjacent to an operations area that may serve as the waste load-out area is closely located to the south stormwater basin [Appendix A, Final Drawings, Figure 4A, pdf page 83], and the northern junction is adjacent to the North Stormwater Basin [Appendix A, Final Drawings, Figure 4B, pdf page 84])

These high use areas may be susceptible to potential spills and accidents. It may be prudent to amend the adjacent SMA ponds with activated carbon to ameliorate any spilled PCB materials. In addition, it may be proactive to encompass the leachate storage tanks with a catchment basin (with a perimeter berm) that is also amended with activated carbon (since there does not appear to be any dedicated stormwater routing feature associated with the tanks as shown on Figure 6).

The community may want to ask EPA if stormwater basins (and/or ditches) that occur adjacent to UDF high traffic areas could be designed to include carbon amendments to assist with the buffering and adsorption of spilled PCB waste materials.

11. A required component of the UDF Final Design Plan is an understanding of the UDF Operations Areas. The UDF Final Design Plan does not provide clarity on the use of the Operations Areas, which remains uncertain regarding use. It is important to understand the uses of the identified support areas in order to be aware of the possibility of PCB-contaminated waste spillage. If spills are a concern, then precautionary design elements (such as creation of berms, sloping of the pad toward a collection point, or possible underlayment of a liner) could be included in the design. Furthermore, these working areas may be suitable locations to place monitoring equipment for dust/air monitoring.

The community may want to ask EPA if the absence of understanding Operation Area(s) functions represents a significant gap in the UDF Final Design Plan.

12. The On-Site and Off-Site Transportation and Disposal Plan (Arcadis U.S., Inc. October 2023) was recently released for initial review. This document is to be revised and to incorporate the possible use of rail transport as part of the plan. The use of rail is critically linked to the UDF; therefore, it seems appropriate that components of this UDF Final Design Plan consider the placement of a rail-based waste offloading area. Currently, the plans provided within the UDF Final Design Plan do not exhibit any opportunity for a rail-based connection to the UDF.

The community may want to ask EPA if the UDF Final Design Plan should be amended to include considerations/aspects associated with the potential linkage to a rail-based waste transfer area.

13. Hydraulic conveyance of waste materials is a potential mechanism for future waste transport. This potential waste transport mechanism is acknowledged within the UDF Final Design Plan, however the design (and associated text narrative) does not describe how hydraulic elements are to be addressed. This document states “it will not change significantly,” and yet key elements of waste transport (mentioned in the previous comment) and hydraulic transport have yet to be described.

The community may want to ask EPA if the UDF Final Design Plan needs to be amended to further clarify how wastes from hydraulic transport methods are to be addressed.

14. TASC has raised several questions related to the status of the adjacent gravel quarry (Northeast Paving, a division of Eurovia Atlantic Coast, LLC). The Revised Final PDI Summary Report indicates that the quarry retains active mining operations. The Revised Final PDI Summary Report states “The UDF will be constructed on a 75-acre property that was formerly part of an active sand and gravel quarry and that GE acquired from The Lane Construction Corporation (Lane) in April 2021” (pdf page 11), and “since the two westerly ponds remain in active use as part of the gravel pit operation ongoing in the land abutting the west side of the GE parcel, they are also not regulated wetlands under the MWPA regulations” (pdf page 22). It is not clear if GE will work cooperatively with the gravel mine landowner to maintain the ponds for gravel operations and allow access (if needed) for this landowner. Furthermore, it is not clear if future gravel operations may be in conflict with the UDF (or could influence groundwater pathways toward the Housatonic River since mining operations may affect these pathways). There is a very thorough description of other GE relations with Eversource in order to address the overhead electrical utility easement (described in Section 2.4 pdf pages 16-17 of the UDF Final Design Plan) but there is no description in the UDF Final Design Plan regarding Northeast Paving/Eurovia Atlantic Coast, LLC.

The community may want to ask EPA if the UDF Final Design Plan should be revised to include a thorough description of GE's relationship with the adjacent gravel mine operation.

15. The Quality of Life Compliance Plan (Anchor QEA, LLC and Arcadis U.S., Inc., December 2023) was recently released and reviewed by TASC. GE is to monitor air, noise, odor and light as part of the proposed monitoring program. TASC recommended that additional variables of aesthetics and invasive species be added as monitored measures.

The community may want to consider asking GE to address community recommendations on visible impacts to area aesthetics through appropriate best management practices, and to monitor revegetation of the final cap to ensure promotion of desired species and prevention of invasive species.

16. Community members may want to request that GE provide a response to comments for the community to track and understand how their previous concerns were addressed or why they were not addressed. Since significant, outstanding UDF components are unknown (e.g., placement of Support Area features associated with hydraulic transport of waste, and possible linkage of the UDF with the railroad to transport waste), it seems particularly important to revise the UDF Final Design Plan once critical decisions are made regarding these issues.

The community may want to ask EPA, if the UDF Final Design Plan is to be revised, whether it would be appropriate for the document to track GE's responses to community comments.

17. Appendix A, Final Drawings, Overall Site Plan 1 (pdf page 78) provides an overview of the Site Plan. As shown in the southeast corner of the parcel, there are several existing structures (or tanks) and lamp posts. This is the location for the UDF stabilized construction entrance for waste haulage traffic. Therefore, it is assumed that these structures will be removed, yet the document does not mention the fate of these features.

The community may want to ask EPA if the UDF Final Design Plan should include a description of the fate of the buildings/structures located in the southeast corner of the UDF parcel where the construction entrance is to be located.

18. Appendix A, Final Drawings, Figure 4B of the UDF Final Design Plan depicts the initial site grading plan (south) (pdf page 84). The footprint of disturbance appears to potentially impact two monitoring wells directly (MW-2022-2 and MW-2022-3) with the placement of fill and/or the access road. In addition, the grading footprint to the east is closely located to MW-2023-1SR and MW-2022-1D. The UDF Final Design Plan does not mention if any protective barriers are to be established in order to protect the integrity of these wells.

The community may want to ask EPA if GE plans to install any protective barriers for monitoring wells located close to the anticipated UDF construction disturbance.

19. Appendix A, Final Drawings, Figure 9 (pdf page 90) of the UDF Final Design Plan depicts elements of the stormwater management process for the UDF. It appears that stormwater will largely be ‘eliminated’ through evaporation from stormwater management area (SMA) retention; however there also appear to be stormwater culverts that convey water from the UDF areas to surrounding areas such as the adjacent gravel mine ponds (refer to the stormwater culvert adjacent to SMA-5, and the culvert draining SMA-4 shown in Figure 9). Furthermore, it is not entirely clear if there are any stormwater discharge points/releases from the UDF that would require a stormwater NPDES permit. To comprehensively understand the stormwater management process for the UDF, it may be prudent to develop a stormwater conceptual site model that tracks hydrologic linkages between stormwater sources and flow pathways to the designed stormwater management elements (SMA features, culverts, ditches, any outfalls, etc.).

The community may want to ask EPA if GE could document a stormwater conceptual site model that will enable the tracking and review of the stormwater pathways (and management elements) associated with the UDF.

20. Appendix A, Final Drawings, Figures 11 and 12 (pdf pages 92 and 93) depict cross sections of the UDF. These figures show the relationship of constructed elements to the groundwater levels (and associated performance standard). The UDF design has a maximum allowable elevation of 1,099 feet that can be adjusted based on the effects of the groundwater levels. The measured groundwater elevations (Table 6A, pdf page 182 of the Final PDI Summary Report) and the modeled groundwater elevations using the Frimpter Method (Table 6B, beginning on pdf page 183 of the Revised Final PDI Summary Report) yield levels routinely greater than the permit performance standard threshold of 950 feet above mean sea level. This is allowable as per the permit standards that state “if the seasonally high groundwater elevation is determined to be higher than 950 feet above mean sea level, the maximum elevation of the landfill consolidation area (1,099 feet) may be increased by the number of feet that is the difference between the seasonally high groundwater elevation and 950 feet above mean sea level in order for the UDF to have a maximum capacity of 1.3 million cubic yards” (pdf pages 59-60 of the Revised Final Permit). The difference between the seasonally high groundwater elevation and 950 feet (referred to as difference values) varies by monitoring well/piezometer location. Estimated difference values (example calculated value for MW-2022-1S from Table 6B [pdf page 183 of the Revised Final PDI Summary Report] of $975.85 - 950 = 25.85$ ft) occur from a minimum of 3.9 feet above mean sea level (MW-2022-4S) to a maximum of 25.85 feet above mean sea level (MW-2022-1S) (Table 6B of the Revised Final PDI Summary Report). These results indicate that the entire UDF design was allowably elevated above the 1,099 feet of elevation performance standard. It may be useful to understand this allowable adjustment on the Site Cross Section profiles provided on Figures 11 and 12 of the UDF Final Design Plan in order to visualize the compliance of the design in relation to the standards.

The community may want to ask EPA if Figures 11 and 12 of the UDF Final Design Plan can be revised to include the upper build-out threshold performance standard.

21. Appendix A, Final Drawings, Figure 12 (pdf page 93) provides site cross sections. As per information provided in the Revised Final PDI Summary Report, on Figure 7 A-A' West-East Geologic Cross Section pdf page 291, the restrictive or confining layer of underlying marble bedrock occurs at depths ranging from 912 feet below ground surface at MW-2022-8 to about 960-965 feet at MW-2022-1S/D. However, Figure 12 in Appendix A, does not capture the cross section area with the highest bedrock layer (and associated groundwater level). It may be useful to develop a cross section that captures the northeast portion of the consolidation area to visualize how the underlying features of bedrock and groundwater influence the design (and capacity) of the consolidation area.

The community may want to ask EPA if the information provided on Figure 12 should be revised to include the northeast area of the consolidation area in order to understand if underlying bedrock and groundwater will influence the design.

22. Appendix B (beginning on pdf page 126) provides the Upland Disposal Facility Leachate Detection Response Action Plan. This plan provides a thorough description of the measures to be taken to control and contain leachate from the consolidated waste areas. Section 3 describes the monitoring and testing procedures, which are focused on measuring volume to ensure proper containment. Because the leachate is to be transferred to the GE treatment facility, it would be appropriate for this material to be tested for PCBs (and other chemicals that may affect treatment).

The community may want to ask EPA if the leachate collected will be analyzed for PCB content in order to be sure GE's treatment facility can adequately provide the necessary treatment.

23. Appendix H (beginning on pdf page 1253) provides the Habitat Restoration and Mitigation Assessment Report and Plan for the Upland Disposal Facility Area. It provides thorough descriptions of natural setting features throughout the GE parcel, as well as an assessment of potential impacts to natural settings (and species) as a result of the UDF construction. TASC raised the potential concern that the collected sediment waste materials may separate out by phase within the consolidation area thereby creating ponded water. The UDF Final Design Plan appropriately describes how ponded water will be managed. However, this water may create an attractive (and potentially toxic) nuisance to migratory bird species. Appendix H (Section 6.2, Other Operational Areas) does not assess if this potential situation could arise, or if there would be an impact to migratory species. It is likely that any accumulation of water will be proactively managed, however the document does not provide these details.

The community may want to ask EPA if there is reason to be concerned about the attraction of migratory birds to ponded water in the UDF consolidation area.

TASC Comments on the Revised Final PDI Summary Report

24. Section 3 of the Revised Final PDI Summary Report describes the data summary evaluation by media. As stated on page 9 (pdf page 19) the document “also presents the data and information obtained from those PDI activities through November 2023 (and for one well, December 2023) and an evaluation of the data to the extent practicable.” Additional water level elevation monitoring was conducted through December 2023 along with additional synoptic gauging performed in October 2023. The new groundwater data provided in the Revised Final PDI Summary Report is a valuable addition to the understanding of groundwater movement and quality associated with the UDF. However, it does not appear that this newly acquired information was integrated into any of the data evaluation conclusions. Of particular interest would be the mapping of the groundwater contours for this Fall data set, and a comparison to the previous year (Figures 13, 14 and 15 where applicable).

The community may want to ask EPA if the Revised Final PDI Summary Report should include interpretation and/or integration of the fall 2023 groundwater data.

25. Table 6A of the Revised Final PDI Summary Report (pdf page 183) provides groundwater elevation monitoring results for monitoring wells, Lee Landfill wells, piezometers and surface water features (MP-1, Gravel Pond and MP-2, Housatonic River). The results in the table capture over one year of monitoring including 2-3 months of temporal overlap (June, October and one well in December in 2022 and 2023). Comparison of the measured groundwater levels between June 2022 and June 2023 shows a decrease in groundwater levels for all wells measured. The decreases range from 0.03 feet to 10.41 feet. The results highlight the importance of continued monitoring to capture additional seasonal/annual trends in the groundwater level data. As mentioned previously, prior to UDF construction, the piezometers will be abandoned in place. However, the monitoring wells may remain in service for continued monitoring.” While the amount of information captured to date represents a robust dataset from which to draw conclusions regarding trends, this divergence of data in one year demonstrates the need to continue monitoring.

The community may want to ask EPA if groundwater level monitoring will continue to be collected during and after the UDF construction to capture year-to-year trends.

26. Table 6-C of the Revised Final PDI Summary Report, which summarizes the Frimpter Method for Calculation of Seasonal High Groundwater Elevation (pdf pages 185 through 188), does not include the Fall (October-November) 2023 groundwater levels. While GE has achieved the requirements set forth to calculate the Seasonal High Groundwater Elevation estimates, it seems appropriate to include this information to further test the adequacy of the Frimpter Method.

The community may want to ask EPA if the additional October and November 2023 information can be used to further test the appropriate application of the Frimpter Method.

TASC Comments on the UDF OMM Plan

27. The UDF Final Design Plan shows the footprint of construction impacts to the parcel while the Revised Final PDI Summary Report summarizes all the data summaries for pertinent data collection efforts completed to assist in the UDF design. Now that the configuration of UDF features is more clearly understood, and the characterization of the UDF site setting is accomplished, the future monitoring program can be more accurately defined. TASC recommends the following considerations for future monitoring effort that may influence the monitoring design shown in the UDF OMM Plan:

- The proposed UDF consolidation area construction will eliminate all temporary piezometers and monitoring wells 2022-8 and 2022-9 (see Figure 23, pdf page 307 of the Final PDI Summary Report). It may be appropriate to plan for the creation of replacement wells at this time in order for the UDF design and construction to accommodate these new wells. For instance, it may be appropriate to make up for the loss of monitoring well 2022-9 with the installation of an additional upgradient well placed in the furthest southeast corner of the parcel to monitor groundwater quality upgradient of all UDF components.
- Of potential use once the UDF is to be closed, monitoring wells in a nested series located within and outside the consolidation area may be of use to monitor the effectiveness of the liner system. Paired wells (a set of two wells located in close proximity that are within and outside an area to be tested, such as a lined landfill cell) that are placed within and outside the UDF may be useful if appropriately designed. Wells 'within the UDF' consolidation area would have to be completed so that they do NOT create a transport mechanism of UDF waste to underlying materials. As a conservative approach, it may be more prudent to establish wells upgradient and downgradient of the UDF consolidation area along the groundwater flow pathway.
- Monitoring wells that capture operational areas including stormwater basins may be useful to delineate impacts to groundwater that are created by these areas. It may be beneficial to establish paired wells with one well located upgradient of the operational area, and the second (paired well) located downgradient.
- The figures show that the highest groundwater levels occur to the north/northeast. It is important to continue to characterize upgradient/background groundwater quality through the duration of UDF use and post-closure. There appear to be spatial gaps in the characterization of the upgradient area that may benefit from additional monitoring wells. Specifically, this includes two areas where there are no monitoring wells: 1) between MW-2022-1S/1D and MW-2022-7, and 2) between MW-2022-7 and MW-84-1 (see Figure 6 on pdf page 290 of the Final PDI Summary Report).
- It is also important to recognize that wells MW-2022-1SR, MW-2022-1D and MW-84-1 are valuable for future upgradient monitoring of the consolidation area and the potential uses of the operational areas that have yet to be defined. The continued use of these wells for monitoring should be acknowledged.
- The pond that overlaps the GE parcel and the adjacent quarry area (located between MW-2022-3 and MW-2022-4) is sampled for surface water levels at sites MP-1 and MP-3, shown in Figure 6 (pdf page 290) of the Revised Final PDI Summary Report report). This pond is a groundwater sink (an area that groundwater is moving toward)

as shown in the repeated groundwater contours for each map shown on Figures 9 through 22 (pdf pages 293 through 306) of the Revised Final PDI Summary Report. This indicates that this pond may be a useful surface water and sediment quality monitoring feature for PCB analysis in the future after the UDF is in use. The use of the pond's surface water and sediment for future PCB monitoring should be considered since co-located surface water and sediment samples analyzed for chemical content would add valuable information to characterization of background conditions.

The community may want to ask EPA if the above considerations have been considered as part of the UDF monitoring strategy.

28. The UDF OMM Plan provides a thorough narrative of the proposed monitoring and maintenance. It may be useful to summarize the proposed monitoring and maintenance schedule in a table or Gantt chart to be made available on any provided community outreach website.

The community may want to ask EPA if the monitoring and maintenance schedule could be summarized in a table or Gantt chart and be made available to the community during the UDF construction and operation phases.

29. The UDF OMM Plan describes the oversight components to be accomplished during the construction phase and operation phase, but does not describe any oversight during the operation-phase consolidation process (Section 4). Furthermore, the OMM Plan does not mention if EPA or other trustees will be providing any oversight for performance standard compliance.

The community may want to ask EPA if GE will have oversight of their operation-phase consolidation process, and if EPA will provide oversight during construction and operation phases of the UDF.

30. A thorough stormwater management plan is described in the UDF Final Design Plan. This design appears to comprehensively capture and contain on-site stormwater and would likely capture and contain spilled materials as well. A potential method to measure migration and on-site stormwater containment of contaminated waste materials would be to sample and analyze stormwater for PCB content. The results would provide an indication of whether or not the waste management processes (on-site) are effectively containing the contaminated material. If PCBs are detected, then this would provide GE information on the potential problem areas where containment is a challenge (and GE could thereby address the issue).

The community may want to ask EPA if testing of stormwater on-site for PCB content would be of potential benefit to determine if the waste is being effectively contained.

31. The proposed double liner system for the containment cells seems appropriate for the containment of placed waste. The UDF OMM Plan describes the precautionary measures

to monitor the liner integrity (Section 4.1.1 Initial Cell Filling, pdf page 27), however it is not clear if these materials are to be replaced or repaired if they are impacted from the equipment traffic. The UDF OMM Plan should describe the steps to be taken if the liner is found to be compromised.

The community may want to ask EPA if the liner system is durable enough to withstand the anticipated heavy equipment traffic within each consolidation cell.

32. Section 3.3.3.2 of the UDF OMM Plan describes the proposed groundwater quality sampling to be performed annually in the spring at the nine monitoring wells. Spring conditions represent the potentially highest groundwater levels, however it may be important to also capture the fall conditions in order to observe the seasonal influences. Since there are only a few complete years (two) that capture all seasonal data, it is recommended that both fall and spring groundwater information should continue to be collected.

The community may want to ask EPA if the proposed groundwater quality sampling could include both spring and fall sampling.

33. Section 3.5.1 of the UDF OMM Plan describes the inspection and maintenance procedures to be applied to the stormwater management system. As mentioned in this section, “maintenance could include the placement of new soil, regrading existing soil within the eroded area, seeding...”. This brings to light that maintenance of UDF features may require soils applications to amend erosion impacts. Soils excavated from the UDF construction could be used for this purpose, therefore it seems prudent to incorporate soils storage as part of the UDF design.

The community may want to ask EPA if an area should be set aside for excavated soils storage for later use during UDF maintenance.

34. Section 4.7.3 of the UDF OMM Plan addresses the maintenance efforts potentially necessary to address frost and snow. This brings to light the potential freeze/thaw issues that may affect UDF design features such as underground pipes (leachate collection and conveyance) and water conveyance systems. It is not clear if the UDF area will be affected by freeze/thaw conditions.

The community may want to ask EPA if the UDF Final Design Plan should consider and incorporate aspects to address possible freeze/thaw conditions.

35. The UDF OMM Plan states that Figure 2 (pdf page 38) depicts both the primary access and secondary access to the UDF area. Review of this figure shows the terminus of the on-site roads to the north at a point where the road combines with the Eversource right-of-way. It is not clear where the secondary access is located along the perimeter of the UDF parcel boundary.

The community may want to ask EPA if the information provided in Figure 2 of the UDF OMM Plan should be amended to clarify the secondary access location.

36. Figure 3 (pdf page 39) of the UDF OMM Plan depicts the air monitoring stations. This is a robust monitoring design, however it may be of interest to the community to monitor air quality to the north (the predominant wind direction) at a point of interest, such as the Woods Pond boat launch (as shown in <https://berkshiresoutside.org/place/woods-pond-boat-launch-lenox-ma/>, Berkshire Regional Planning Commission et al., 2024) within the Woods Pond recreational area (<https://www.mass.gov/doc/outdoor-recreation-map/download>, Massachusetts Division of Fisheries and Wildlife, Department of Conservation and Recreation, undated).

The community may want to ask EPA if an air monitoring station could be located in the Woods Pond recreational area in order to acquire monitoring information of interest to the community (where community members could be exposed if contamination is airborne).

37. The UDF OMM Plan describes a number of measures of potential interest to the community including the results of the quality of life parameters of noise, light, odor and air quality; and results from site inspections and maintenance, fill capacity monitoring and leachate capacity monitoring and management. It may be useful for GE to post the measurements gained from these monitoring efforts for community review.

The community may want to ask EPA if GE can provide the results of various monitoring measures 'real-time' to the community via active communication methods such as a community dashboard website.

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TASC Contact Information

Technical Advisor

Karmen King

970-852-0036

kking@skeo.com

Project Manager/Technical Advisor

Kirby Webster

802-227-7290

kwebster@skeo.com

Program Manager

Tiffany Reed

847-786-8767

treed@skeo.com

Skeo Co-CEO and Director of Finance and Contracts

Briana Branham

434-226-4284

bbranham@skeo.com

TASC Quality Control Monitor

Bruce Engelbert

703-953-6675

bengelbert@skeo.com

Comments on “Upland Disposal Facility final design plan”, document 679608, submitted by General Electric on 28 February 2024.

Comments by Mark H. Hermanson, Ph. D.,
Hermanson & Associates LLC
20 May 2024.

These comments are restricted to the sections identified below.

Page 13: Design Summary.

Comment: There is no mention made that this type of waste landfill has been used elsewhere for the same purpose as the UDF, or what the experiences were with it, and, accordingly, how those experiences have led to the present design.

Page 13, section 2.1, bullet 7: The phrase “chemically compatible with PCBs” is used. It is also used on p.21, section 4.5.1.

Comment: This phrase is extremely vague and limited in scope. PCBs are widely known to only chemically react at extremely high temperatures or to dissolve in (not react with) certain solvents. It would be more important to state that the thermal conditions and solvents inside the closed landfill are intended to prevent reactions involving PCBs.

Page 13: Here it is noted that the maximum capacity of the UDF is considered to be 1.3 million cubic yards.

Comment: How much of this material is expected to be PCBs?

Page 17: “GE has not received comments or inputs from Eversource regarding these matters (of Eversource easement for overhead power lines).”

Comment: If there are unresolved easement issues, then this document cannot be called “UDF Final Design Plan”.

Page 17: “UDF SIP”

Comment: “SIP” apparently is not defined here.

Page 18: Section 2.6.2 regarding gas venting layer. (Note: All waste landfills require gas venting systems.)

Comment: In this case, there is no identification of anticipated gases evolving from landfill contents. Presumably this could include gas-phase PCB depending, in part, on temperature of material inside the landfill. There is no apparent system included in this plan that will monitor this temperature. And there appears to be no system to measure gas-phase PCBs on the site before, during or after construction.

Page 31, Section 4.5.1: There is a statement regarding concentrations of PCBs and other chemical constituents in cover materials. The amounts are to be found in Appendix C. However, there appear to be no amounts of any chemical constituents in cover material found in Appendix C.

Page 243, Appendix C, section 1.02:

Comment: In this section, there is a list of 15 “reference standards”, the final 8 of which are chemical analytical methods. The need for these methods is not mention through the end of this section of Appendix C. One wonders, for example, why cyanide is being analyzed.

Citizens for PCB Removal (CPR) Comments for Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site Rest of River (GECD850)

May 20, 2024

These comments will also be used for *Upland Disposal Facility Final Design Plan* and *Upland Disposal Facility Operation, Monitoring, and Maintenance Plan* submittals due to overlap of issues.

Submitted via email to r1housatonic@epa.gov

Having been allowed to tour the proposed UDF site, I now have a better understanding of just how massive this project is and now disagree more than ever that this UDF should be created. The cost alone to build this UDF since it was first conceived so many years ago must have also increased immensely due to inflation and construction cost overruns. Also to be considered are the FOREVER costs to monitor this UDF and the future costs that would be associated with a breach of the liner system, capping layers or as what happened at the Ontario County landfill, where approximately 3.5 acres of a new seven-acre permanent cap slid down the southwest face of the landfill.

This UDF should not be created due to many factors that just having a proposed design does not satisfy.

1. The EPA was on record in the past that this (and other potentially suggested dump sites) site location should not be used to create a toxic landfill. The fact that the EPA is now allowing this site to be used is appalling.
2. The location being directly over an aquifer is yet another factor against placing the UDF at this site.
3. Increasing the original proposed baseliner system from two to five liner components, just shows that there are complications to this project that should worry not only the EPA but all the citizens of Lee and other stakeholders hoping for a true removal of contamination from Rest of River.
4. Moving and relocating so much PCB contamination from the Housatonic River, it's floodplains and Woods Pond to just place it in what should be considered a geologically unstable location (i.e. old gravel pit) should be against all that EPA was created to prevent.
5. True understanding of climate change issues and how the determination of groundwater levels may be affected in the future are not being addressed properly in this design. Just looking at a current pond is not sufficient.
6. Allowing this landfill to be placed as part of Rest of River removal actions sets a terrible precedent that other communities across Massachusetts, Connecticut and the United States will be forced upon communities hoping for clean futures.
7. EPA is violating its own mission statement (see **Bold** below):
The mission of EPA is to protect human health and the environment.
EPA works to ensure that: Americans have clean air, land and water;
National efforts to reduce environmental risks are based on the best available scientific information;
Federal laws protecting human health and the environment are administered and enforced fairly, effectively and as Congress intended;

Environmental stewardship is integral to U.S. policies concerning natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade, and these factors are similarly considered in establishing environmental policy;

All parts of society--communities, individuals, businesses, and state, local and tribal governments--have access to accurate information sufficient to effectively participate in managing human health and environmental risks;

Contaminated lands and toxic sites are cleaned up by potentially responsible parties and revitalized; and Chemicals in the marketplace are reviewed for safety.

8. The secret negotiations that allowed the agreement to create this landfill and its location should never have been allowed. A small group of individuals representing local towns were “bullied” into the prospect of having more local dumps and so they acquiesced. With paltry amounts of money being offered by GE for these concessions, they thought they were being offered a king’s ransom. They should have learned that Pittsfield received a mere 10 million dollars for giving up their rights to a lost aquifer under their city. That money is long gone with Pittsfield having virtually nothing substantial to show for it. In fact the “secret negotiators” here in Rest of River were being bought off to allow the dump to be set in the most economically disadvantaged town of the group. This is also a violation of Environmental Justice tenets, which the EPA proudly claims to endorse.
9. The OPCAs (Hill 78 and Building 81 created between 2001 and 2006)) in Pittsfield continue to leach PCBs into the monitoring wells where the contamination must be treated on the Pittsfield Plant site under NPDES Permit MA0003891. It is only reasonable to believe that more releases are going to places other than the monitoring wells. This will eventually happen at the proposed UDF regardless of the number of monitoring wells. Additionally those OPCAs are only about a maximum of 25 feet above the surrounding area and have a much smaller footprint. The UDF height is at least **4** times that height. It is also contain almost **10 times** the amount of contamination.
10. CPR is concerned that most of the testing for PCBs in the river were taken over 20 years ago using EPA methods at the time. In 2010 EPA developed Method 1668C - Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS. This method will give more complete and accurate results for contamination in the river, in the floodplains and on residential and public properties along the Rest of River. This method could also identify if ANY of the original PCB Aroclor components have been affected by DE chlorination and have resulted in PCB-6 and PCB-4 levels which have been shown to be even more toxic and hazardous to human health. That would allow MORE toxic contamination in the UDF. Old data is often poor data. More testing needs to be done.
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GE-Pittsfield/Housatonic River Site Rest of River (GECD850)

May 20, 2024

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Submitted via email to r1housatonic@epa.gov

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From: [Roberta Bianco](#)
To: [R1Housatonic](#)
Subject: Comments on GE-Pittsfield/Housatonic River Site Rest of River (GECD850) Upland Disposal Facility Operation, Monitoring, and Maintenance Plan
Date: Monday, May 20, 2024 9:46:26 PM

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

To Environmental Protection Agency
Regarding Re: Comments on GE-Pittsfield/Housatonic River Site Rest of River (GECD850) Upland Disposal Facility Operation, Monitoring, and Maintenance Plan

My husband and I own a home located at [REDACTED] in Lenox Dale, MA [REDACTED]. I have lived in this home since 1987, my husband since 2000, it is our permanent home. The PCB contamination in the Rest of River area is a risk to our health and our property value.

As a result, we are extremely concerned that the removal and disposal plans, including the Upland Disposal Facility (UDF) Operation, Monitoring, and Maintenance (OMM Plan) be conducted in a manner that is effective, safe, prompt, and non-disruptive.

I appreciate the opportunity provided by the EPA for public comment and respectfully request that the following comments be considered by EPA in overseeing and regulating the Rest of River PCB removal project, including the OMM Plan.

1. Protecting Human Health and the Environment Are Priorities That Are Not Adequately Addressed in the OMM Plan

As the EPA did with the New Bedford Harbor cleanup, I ask EPA to be vigilant in requiring actions that will reduce the risk to human health and the environment in Lenox and the other Towns impacted by the rest of river PCB contamination. Requiring hydraulic pumping transport where possible, and, when not, rail transport where possible, significantly reduces the risk to human health and the environment. These risks include the expected number of deaths and serious injury from large truck traffic, pollution caused by the trucks, and escape of PCB contamination if the materials are not properly handled or secured. As such, it is critical that these alternatives be fully analyzed and included unless EPA should determine that they are not needed to protect human health and the environment.

The OMM Plan does not include activities one would expect to see relating to hydraulic pumping transport and rail transport.

It also does not include detail on monitoring how PCB contamination is secured during removal process and while stored at work sites, in transit and inside the UDF.

2. The OMM Plan Is Deficient Because It Omits Alternatives That Are Necessary to Address the

2021 Statement of Work and the October 2023 Transportation and Disposal Plan

The 2021 Statement of Work (SOW) specifies that hydraulic pumping of excavated

sediment will be employed if feasible for some sections of the Rest of River remediation. The October 2023 Transportation and Disposal Plan included language noting the inclusion of hydraulic pumping if feasible.

Clearly, the use of this technology will have impacts on the specifics of transportation planning,

operations, monitoring, and maintenance at removal sites and at the UDF (processes, personnel, and monitoring of dewatering/solidification of the pumped slurry, landfilling into the UDF or offsite transport of the waste with higher PCB concentrations).

We have seen no final determination by EPA that GE will be permitted to use only mechanical

dredging/overland transport technology to remove PCBs at all Rest of River contaminated sites. If that final determination has not been made, then the OMM Plan is deficient as it does not include specifications relating to the dewatering locations, equipment, and processes, and does not include 2 processes to construct and maintain railroad siding to receive and unload contaminated materials transported to the UDF by rail.

3. Future Plans Such as the OMM Plan Should Be Required to Be Reasonably Complete

The deficiencies noted in comment 2 above are indicative that GE, GE's consultants, and others representing GE (together referred to as "GE" in this letter) or any reasonable reader would expect that the OMM Plan would need further substantial revisions. The same type incomplete proposal was reflected in the transportation plan which assumed more overland transportation that could reasonably be thought to be safe and acceptable to any community. I ask that EPA require future GE plans to be reasonably complete to avoid years of delay caused by multiple plans needing revision due to material omissions. Specifically, I ask that EPA require GE to include in future plans, submissions, and proposals:

a) Alternatives for hydraulic dredging/pumping where ever possible, and, if GE alleges it is not possible, a detailed explanation why not; and

b) Where hydraulic dredging/pumping is not required, alternatives to include rail transport rather than truck transport, except where rail transport is not possible, with an explanation of why rail transport is not possible.

Until a final determination is made on the feasibility of dredging and transport technology, plans for other phases of the project that do not include these alternatives will be inadequate and create a need for multiple revisions with new comment periods, resulting in endless delays before GE must begin the work to remove the toxic PCBs from the Rest of River area. The risk to human health and the environment are priorities, but also of concern are the need for expert analysis and review of multiple revisions which drives up costs.

4. Lenox and Other Towns Impacted by Rest of River Remediation Need Substantial Support For Critical Tasks Not Covered in the OMM Plan

The Towns where PCB removal, dewatering, transport (including loading and

unloading), and storage will occur are small, without adequate staff to monitor, oversee, report, and warn citizens as needed throughout the removal project and as long as PCBs are being stored at the UDF. The settlement monies are urgently needed to provide expert advice, currently provided by the Weston & Sampson firm to Lenox, in analyzing and commenting upon the specifications for each phase of the project – the materially incomplete transportation, design and OMM plans have increased the need for complex assistance.

Further, daily activities may involve a number of Towns, so having dedicated personnel who oversee all project activities, rather than having handoff between several Towns for one activity, allows for better quality and efficiency. Such needed support includes;

a. Monitoring It would protect our health and environment if EPA provided monitors, or required GE to provide independent monitors whose qualifications are approved by EPA, who would track daily activities, including all contaminated materials being properly capped or secured, levels of airborne PCB contamination, work flow, etc. and report to

EPA and the Towns as necessary.

b. Reporting. There should be daily website reporting of anticipated dredging, excavation, loading, unloading, truck and rail routes and timing, to inform, and minimize disruption to, citizens. There should also be prompt reporting and alerts for problems, such as airborne levels exceeding specified levels, spills causing water contamination to increase, overturned or leaking truck or rail loads, etc. Reporting should include monthly progress on specified project milestones to make clear if the project is being executed with all deliberate speed.

c. Interactive Communication System Manned by People. There should be a manned chat or email or text available for citizens to report problems they may observe, such as leaking or overturned trucks or rail cars, uncovered piles of sediment left unattended, etc.

d. Public Meetings. Someone from EPA, along with the persons responsible for monitoring and reporting, should host a public meeting at a location convenient for the impacted Towns, at least quarterly to allow citizens to ask questions and report concerns.

5. More Specificity Is Needed. The OMM does not include much specificity about key matters that must be determined before work can begin, including:

a. Workforce. The numbers of workers, locations, parking, qualifications, supervision, work hours, security for UDF and worksites during work and after hours.

b. Security for Contaminated Materials. Specifics for securing contaminated sediment (i) between removal and final storage at the UDF or transport to its final destination, (ii) during transport, and (iii) during storms. Details should include actions to be taken in response to various security concerns, including work slowdown or stop, and emergency protocols.

c. Reporting Requirements Must Be Specific. Specifics for reporting routine and emergency situations must be specified, including time periods, to whom reports are provided and by what method of communication.

d. Monitoring devices and processes must be specified. Continuous monitoring for total dust with an action level set based upon potential PCB concentrations in materials being placed in the landfill (e.g., 50 mg/kg) should be included.

e. Maintenance of UDF after Completion. This includes maintenance of vegetation (including removal of invasives); inspecting the covers, liners, and integrity of the UDF on a specified schedule; and leachate flow monitoring.

Roberta Bianco

[REDACTED]

Lenox Dale, Ma [REDACTED]

Sent from my iPad

From: [Joshua Bloom](#)
To: [Brooks, Ashlin](#)
Cc: [R1Housatonic](#)
Subject: Re: Public comment on UDF design plan
Date: Tuesday, May 7, 2024 12:25:16 PM

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

There were probably 60 people at the last briefing with GE. How many members of the public do you think would actually opt in? How would this be any less safe than any of the previous tours of similar size that you have offered?

You're unwilling to ask GE? Why? You wouldn't let me ask GE that question either, why?

You are just trying to restrict the public's ability to meaningfully comment on the UDF site design plan.

Sincerely,
Josh Bloom

Sent from my iPhone

On May 7, 2024, at 11:56 AM, Brooks, Ashlin <Brooks.Ashlin@epa.gov> wrote:

Good Afternoon Josh,

EPA has provided numerous tours to stakeholders, including the Lee Conservation Commission, Lee Agricultural Commission, Lee PCB Advisory Committee, Lee and Lenox Select Board members, and Lee and Lenox technical consultants. However, EPA will not ask GE to provide access to the UDF for the public at large to tour this heavily disturbed private property. As previously stated, this is unsafe for various reasons. For a visual representation of this area, please refer to PDF page 8 of the UDF renderings to see the current site condition of the UDF property.

EPA is capturing your email as input on the UDF documents which will be included with all public input received. If you have any additional public input, please send it to R1housatonic@epa.gov during the open public input period, which ends on Monday, May 20th.

Thank you,

Ashlin Brooks
Community Involvement Coordinator
U.S. EPA - New England, Region 1
5 Post Office Sq, Suite 100

Boston, MA 02109
Cell: (617) 913-9140
<image001.png>

From: Joshua Bloom [REDACTED]
Sent: Monday, May 6, 2024 3:15 PM
To: Brooks, Ashlin <Brooks.Ashlin@epa.gov>
Cc: R1Housatonic <R1Housatonic@epa.gov>
Subject: Public comment on UDF design plan

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Dear Ashlin,

Is the EPA and GE still refusing to provide the public tours of the UDF site before the deadline for public comments on the UDF's Final Design Plan?

Please enter my opposition to the EPA accepting the final design plan without providing public access tours into the comments on the plan.

The EPA avoidance of the request for tours and refusing to allow GE to answer questions about demands for tours demonstrates the EPA and GE's ongoing lack of respect for and cooperation with the local population.

The UDF site design plan must be rejected until the public is permitted to view the site firsthand.

Sincerely,
Josh Bloom
Lee, MA CCC Member

Sent from my iPhone

On May 6, 2024, at 1:11 PM, Brooks, Ashlin <Brooks.Ashlin@epa.gov> wrote:

Good Afternoon,

Several members of the community have requested a visual representation of the Upland Disposal Facility. Attached are GE and EPA's conceptual renderings of the UDF. These renderings are based on a maximum UDF height of 1,099 feet above sea level. In your review, please

note that the Town of Lee has proposed a pollinator garden in lieu of a walking trail. To view the renderings online, please follow the link provided: <https://semspub.epa.gov/src/document/01/681770>.

As a reminder, the public input period on the following UDF documents are due by **Monday, May 20, 2024**:

1. [Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility \(pdf\)](#)
2. [Upland Disposal Facility Final Design Plan \(pdf\)](#)
3. [Upland Disposal Facility Operations, Monitoring, and Maintenance Plan \(pdf\)](#)

Public input on these documents should be sent to R1Housatonic@epa.gov.

EPA may publish all comments received to a public docket and on EPA's website. By submitting a comment, you agree to public release of any information submitted. Any personally identifiable information (for example, name, home address, e-mail address, and phone number) may be publicly disclosed. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Please contact EPA for alternative submission methods if you seek to submit such information.

Thank you,

Ashlin Brooks

Community Involvement Coordinator
U.S. EPA - New England, Region 1
5 Post Office Sq, Suite 100
Boston, MA 02109
Cell: (617) 913-9140
<image001.png>
<UDF Renderings.pdf>

<UDF Renderings.pdf>

May 20, 2024

RE: EPA Doc # 680364

Dear Dean Taliaferro ad EPA Staff,

I have reviewed the Wildlife Habitat Study and have noticed that Wood Turtle and mole salamanders were not observed on the GE property. I have comments regarding this study which I would like to put on record.

Numerous trees and shrubs were removed surrounding and through the site prior to the habitat study done in 2022 and 2023. Please review aerial GIS data on Mass Mapper. Vegetation was removed from the Northeast Paving Sand and Gravel pit (in areas that were previously regulated by DEP), the Eversource Right of Way, and a 2-acre site owned by a local corporation which is adjacent to the GE property. The 2-acre property has been and still is milling asphalt near the south GE property line. This activity is being conducted near the vernal pool identified as having only a few Wood Frogs present in it. I observed the filling of BVW and asphalt milling on this 2-acre site since Spring of year2020.

Petroleum released from the asphalt will change the vernal pool chemistry which will cause adverse impact to vernal pool species and habitat. Mole Salamanders live underground most of the year so removing vegetation and root systems will have adverse impacts to salamanders and wood turtle habitat. When contacting EPA and or DEP I was told the GE property and surrounding areas would not be regulated by the town or state and that EPA has jurisdiction. Since EPA stated that work could go forward and surrounding areas would not be regulated, enforcement did not occur. The above-mentioned activities only serve to skew the habitat and endangered species studies done in 2022 and 2023. Therefore, I do not believe this is a true representation of the wildlife species that inhabit this area which falls within the Upper Housatonic ACEC.

In addition, an alternative Conservation Commission member was told at an onsite in Spring of 2021, two wood turtles were observed in the vicinity of the GE property. Although endangered species may not have been observed directly on the GE property, they were observed near the property within the ACEC therefore this information should be included in the documentation.

In the January 2024, Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area volume 1 of 3. EPA # 680634 , I reviewed Figure 4 -aerial view of monitoring wells and piezometers in and around UDF and Figure 7 cross section A-A East Geologic Cross section with depth of wells and piezometers.

- Was the area above the sand silt and clay checked for ground water?
- Please provide additional monitoring wells in southeast corner of GE site and more geologic cross sections starting at the southeast corner of UDF.
- Why was monitoring done after year 2021 when the Berkshires had several rain events which cause flooding. In the report it was noted that ground water studies were started in 2020 yet very little ground water monitoring was done in 2021. In July

of 23 we had 7 inches of rain, but ground water monitoring cease in June of 23. Please see chart with precipitation records taken for Lenoxdale Massachusetts. Documenting ground water during drought times will not provide true representation of the high ground water, therefore the results will be skewed.

Since Pittsfield Airport does not have ground water monitoring stations where is GE obtaining the local groundwater information to calculate high groundwater for Frimpter Method calculations?

Please require GE to provide ground water data 2 times per month especially after storm events of 1 inch of rain or greater and/ or during prolonged rain events over several days (for example 5 or more inches of rain within a week time).

Please require GE to collect wind direction and speed near the Eversource right of way and within the GE proposed landfill area toward the south end of the site. If a climatologist sees a better location, then please collect the wind data in that location.

Since EPA has waived numerous Environmental regulations and requirements for the landfill to be built, I do not see how our public health is being protected. Allowing more land to be polluted upgradient from the Town of Lee and adjacent to Lenoxdale, over an aquifer puts our children and citizens at great risk and is not a solution to this hazardous waste situation.

Sincerely,
Gail Ceresia PWS, RS,SE
Lee, MA

Attachment:

Lenoxdale MA Precipitation PDF

Monthly Total Precipitation for LENOX DALE, MA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2000	3.05	2.92	3.69	4.67	5.50	8.53	M	M	5.38	2.61	M	4.63	M
2001	M	3.02	6.42	2.26	2.60	5.77	2.68	2.21	4.91	1.38	1.56	3.24	M
2002	1.62	1.73	3.69	3.74	4.95	4.73	M	3.89	3.74	3.11	5.67	4.38	M
2003	3.43	3.12	3.72	1.76	5.16	3.50	2.24	6.64	6.45	6.00	4.27	5.75	52.04
2004	2.00	1.58	3.07	4.28	4.88	2.24	M	M	8.38	2.11	2.96	3.42	M
2005	4.48	2.80	4.42	2.85	1.53	2.81	3.47	M	1.64	15.27	6.23	3.95	M
2006	6.51	1.82	0.59	4.18	5.18	5.93	3.76	M	4.13	4.65	3.66	2.29	M
2007	3.59	2.94	5.63	6.56	2.23	2.16	6.18	M	1.77	5.35	4.03	5.65	M
2008	1.85	9.93	6.57	2.75	3.10	M	9.50	3.48	5.82	4.14	2.24	8.86	M
2009	3.11	2.40	2.50	1.91	4.97	8.17	10.91	6.23	1.08	4.80	2.83	3.69	52.60
2010	3.00	4.68	5.70	1.36	2.19	4.22	4.35	1.68	1.06	9.73	2.61	4.51	45.09
2011	3.03	4.08	5.02	5.26	M	6.89	2.69	9.48	10.61	4.23	2.30	5.32	M
2012	3.71	1.19	1.55	2.05	6.98	2.86	2.60	2.82	6.06	4.75	0.88	5.20	40.65
2013	2.39	3.21	2.63	2.30	5.95	6.59	2.58	5.60	4.38	1.23	3.65	3.52	44.03
2014	3.18	3.90	2.84	3.10	3.36	9.07	10.32	2.42	1.14	5.40	3.58	6.58	54.89
2015	4.26	2.22	2.18	3.18	1.60	7.69	5.35	4.96	2.49	3.27	2.28	3.78	43.26
2016	1.76	4.93	2.50	3.35	6.36	2.74	2.81	2.88	3.11	4.25	3.34	5.46	44.90
2017	3.26	2.87	3.55	3.49	5.65	3.48	4.34	4.13	3.70	5.06	1.13	2.80	43.46
2018	5.05	4.94	4.67	3.78	1.83	4.05	4.60	8.83	7.45	4.67	7.66	4.26	61.79
2019	5.44	2.95	M	M	4.53	M	M	2.49	3.04	7.87	4.70	6.84	52.22
2020	1.65	3.29	3.70	4.40	2.91	3.51	3.56	3.93	0.68	3.82	2.62	4.61	M
2021	2.53	2.26	2.20	5.53	6.63	5.32	15.97	4.52	7.27	7.32	2.92	4.06	66.53
2022	1.99	4.33	3.24	5.84	3.12	2.92	5.03	2.32	7.87	5.29	2.95	5.29	50.19
2023	5.40	2.05	4.70	2.99	2.60	4.72	9.03	4.85	5.25	5.45	1.84	5.54	54.42
2024	5.70	1.52	7.10	M	M	M	M	M	M	M	M	M	M
Mean	3.42	3.23	3.83	3.55	4.08	4.90	5.60	4.39	4.48	5.07	3.30	4.73	50.43
Max	6.51 2006	9.93 2008	7.10 2024	6.56 2007	6.98 2012	9.07 2014	15.97 2021	9.48 2011	10.61 2011	15.27 2005	7.66 2018	8.86 2008	66.53 2021
Min	1.62 2002	1.19 2012	0.59 2006	1.36 2010	1.53 2005	2.16 2007	2.24 2003	1.68 2010	0.68 2020	1.23 2013	0.88 2012	2.29 2006	40.65 2012

From: [Michael Lucia](#)
To: [R1Housatonic](#)
Cc: [Christopher Ketchen](#)
Subject: Public Comment: GE's Upland Disposal Facility Final Design Plan
Date: Monday, May 20, 2024 3:02:05 PM

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Dear EPA,

I am writing as a concerned resident of the community impacted by the proposed cleanup and management of the Housatonic River involving GE's Upland Disposal Facility. While we understand the necessity of addressing the contamination issues, there are several aspects of the current final design plan that are particularly troubling and require urgent reassessment.

Transportation of PCBs: One of the most pressing concerns is the plan to transport PCB-contaminated materials through our towns. The thought of trucks loaded with hazardous waste driving through residential areas and near schools and parks poses an unacceptable risk. We strongly urge the EPA to consider alternative routes that minimize exposure to populated areas or explore other methods of contaminant removal that do not involve transportation through our community.

De-watering Process and Staging: The final design plan lacks clarity on how and where the PCBs will be de-watered. The location of the staging area for this process is critical as it can have significant environmental and health impacts. We request detailed information about the chosen method and location for de-watering, along with the rationale behind this decision.

Leechate Containment System: We are concerned about the absence of detailed calculations regarding the capacities of the leechate containment systems. Given the potential for overflow or failure, it is imperative that robust safety margins are included to prevent any leachate from contaminating local waterways or groundwater. Furthermore, information regarding how long leachate will be held on-site and whether it will be covered to prevent exposure to the elements is crucial for assessing environmental safety.

UV Degradation of Liners: The exposure of liner systems to UV light is another critical issue that appears to have been overlooked. UV degradation can significantly weaken containment measures, leading to potential leaks and environmental hazards. We would like to know what materials and maintenance protocols are in place to ensure the long-term integrity of these liners.

Learning from Past Projects: Additionally, we strongly advocate for an extensive review of the findings from the third five-year review of the Hudson River PCBs cleanup project. This review should be utilized to inform and improve the strategies employed in the Housatonic River cleanup. Understanding the successes and shortcomings of the Hudson River project can provide invaluable insights that will enhance the effectiveness and safety of the current plan.

These issues highlight the need for a more thorough review and revision of the current plans to ensure they adequately protect the community and the environment. We urge the EPA to address these concerns promptly and transparently, and to involve community stakeholders in the decision-making process to ensure that all potential impacts are thoughtfully considered and mitigated.

Thank you for your attention to these urgent matters. We trust that the EPA will take the necessary steps to revise the Upland Disposal Facility's final design plan in a way that prioritizes public health, environmental safety, and community well-being.

Sincerely,

Michael Lucia

[REDACTED]
Lenox, MA [REDACTED]
[REDACTED]

Lee, MA
May 20 2024

Dean Tagliaferro
U.S. Environmental Protection Agency, Region I
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Re: Rest of River UDF Predesign and Final Plan

As a Lee resident, I wish to submit two comments in response to the February 28 release of the draft *UDF Final Plan* and the companion *UDF Predesign*.

1. Figures of Safety for the UDF Slopes

In the Slope Stability Analysis narrative on pdf page 32 (4.5.4) of the *UDF Final Plan* we read that:

The final cover system veneer stability has been evaluated for long-term static stability, short-term static stability (during construction with equipment loading) and seismic conditions. A procedure developed by Koerner and Soong (Reference 4) for finite slope lengths has been used to evaluate stability for the static (both peak and residual) and seismic conditions.

An accompanying Calculation Brief on pdf page 337 in Appendix D of the Final Plan states:

The objectives of the slope stability evaluations summarized herein include:

** Confirm stability meets design criteria under a static load case for temporary conditions related to excavation and consolidated material grading.*

** Confirm stability meets design criteria under both static and seismic load cases for final buildout of UDF.*

The Brief gives the appearance of assuring us that the proposed design will not suffer veneer failure. But the calculation misses its objectives by using assumptions rather than verified measurements in its computation. And critical values for the Geosynthetic materials are not part of the computation at all. This is directly counter to Industry Best Practices.

The same must be said for the “Veneer Stability Calculations” on pdf pages 400-408. These are classroom examples of how the Koerner calculations might be improperly performed using assumed values rather than numbers based on real-world measurements.

The Final Plan should give legitimate Figures of Safety for all slopes depicted in the drawing on pdf page 378, in particular incorporating real measurements of all the many components of the cover materials and including measurements of the intended Geosynthetic materials as validated by a qualified independent firm.

The Final Plan should also provide that samples of all Geosynthetic materials will be supplied to the Town of Lee before UDF construction begins.

2. Unreadable Graphics

The *Second Revised Baseline Ecological Characterization ...* in Appendix C of the *UDF Predesign* (document 680364) contains unreadable graphics on pdf pages 318, 364, 377-381, 384-394, 396-397, 465-469, and 473.

Similarly, the *Habitat Restoration and Mitigation Assessment ...* in Appendix H of the *UDF Final Plan* (document 679608) contains unreadable graphics on pdf pages 1282-1289, 1291-1297, 1329, 1335-1337, and 1339.

These sections should be re-issued with corrected pages.

If you have any questions please contact me by email at [REDACTED]

Best Regards.



William D Mathews

To: Environmental Protection Agency, Attention: Dean Tagliaferro, EPA Project
sent by email to RIHousatonic@epa.gov

Date: May 20, 2024

Re: Comments on GE-Pittsfield/Housatonic River Site Rest of River (GEC850) Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility and Upland Facility Final Design Plan

I own real property and a home located at [REDACTED] in Lenox Dale, MA [REDACTED]. I reside there full time. The PCB contamination in the Rest of River area is a risk to my health and my property value. As a result, I am keenly concerned that the removal and disposal plans, including the Revised Final Pre-Design Investigation Summary Report for Upland Disposal Facility (UDF) and Upland Facility Final Design Plan (together, the “GE Design Documents”), be revised so that the UDF is as safe and effective as possible.

I appreciate the opportunity provided by the EPA for public comment and respectfully request that my following comments be considered by EPA in overseeing and regulating the Rest of River PCB removal project, including the GE Design Documents.

1. Protecting Human Health and the Environment Are Priorities. Which Are Not Adequately Addressed in the GE Design Documents

As the EPA did with the New Bedford Harbor cleanup, we ask EPA to be vigilant in requiring actions that will reduce the risk to human health and the environment in our community. Requiring hydraulic pumping transport where possible, and, when not, rail transport where possible, significantly reduces the risk to human health and the environment by reducing expected volume of large truck traffic. Large truck traffic produces an anticipated number of deaths and serious injury to pedestrians, bike riders and humans in cars. It also increases pollution. As such, it is critical that these alternatives be fully analyzed and included unless EPA should determine that they are not needed to protect human health and the environment. The GE Design Documents do include features one would expect to see relating to hydraulic pumping transport (for example, dewatering sites) and rail transport (for example siding and bridges).

2. The GE Design Documents Are Deficient Because They Omit Alternatives That Are Necessary to Address the 2021 Statement of Work and the October 2023 Transportation and Disposal Plan

The 2021 Statement of Work (SOW) specifies that hydraulic pumping of excavated sediment will be employed if feasible for some sections of the Rest of River remediation. The October 2023 Transportation and Disposal Plan included language noting the inclusion of hydraulic pumping if feasible. Clearly, the use of this technology will have impacts on the specifics of transportation planning, operations, monitoring, and maintenance at removal sites and at the UDF (processes, personnel, and monitoring of dewatering/solidification of the pumped slurry, landfilling into the UDF or offsite transport of the waste with higher PCB concentrations).

We have seen no final determination by EPA that GE will be permitted to use only mechanical dredging/overland transport technology to remove PCBs at all Rest of River contaminated sites. If that final determination has not been made, then the GE Design Documents are deficient as they do not include specifications relating to the dewatering locations, equipment, and processes, and do not include

processes to construct and maintain railroad siding to receive and unload contaminated materials transported to the UDF by rail.

3. Future Plans Should Be Required to Be Reasonably Complete

The deficiencies noted in comment 2 above are indicative that GE, GE's consultants, and others representing GE (together referred to as "GE" in this letter) or any reasonable reader would expect that GE Design Documents would need further substantial revisions. The same type incomplete proposal was reflected in the transportation plan which assumed more overland transportation that could reasonably be thought to be safe and acceptable to any community. The operations, monitoring and maintenance plan reflected similar assumptions. I ask that EPA require future GE plans to be reasonably complete to avoid years of delay caused by multiple plans needing revision due to material omissions. Specifically, I ask that EPA require GE to include in future plans, submissions, and proposals:

- a) Alternatives for hydraulic dredging/pumping where ever possible, and, if GE alleges it is not possible, a detailed explanation why not; and
- b) Where hydraulic dredging/pumping is not required, alternatives to include rail transport rather than truck transport, except where rail transport is not possible, with an explanation of why rail transport is not possible.

Until a final determination is made on the feasibility of dredging and transport technology, plans for other phases of the project that do not include these alternatives will be inadequate and create a need for multiple revisions with new comment periods, resulting in endless delays before GE must begin the work to remove the toxic PCBs from the Rest of River area. The risk to human health and the environment are priorities, but the need for expert review of multiple revisions also drives up costs by increasing the need for outside experts to analyze and track important tasks that are omitted.

4. Technical Concerns.

Lenox has spent part of its rest of river settlement monies to engage the engineering firm Weston & Sampson to review the GE Design Documents on behalf of Lenox and its citizens. I believe Weston & Sampson's technical comments were included in attachments to the comment letter submitted to EPA by the Lenox Town Administrator, Chris Ketchen, dated May 17, 2024. I do not have the technical expertise to understand or evaluate Weston & Sampson's recommendations, and so must rely upon EPA to consider Weston & Sampson's recommendations regarding technical concerns on my behalf.

Respectfully submitted,
Susan Ellen Wolf

To: Environmental Protection Agency, Attention: Dean Tagliaferro, EPA Project
sent by email to RIHousatonic@epa.gov

Date: May 20, 2024

Re: Comments on GE-Pittsfield/Housatonic River Site Rest of River (GEC850) Upland Disposal Facility Operation, Monitoring, and Maintenance Plan

I own real property and a home located at [REDACTED] in Lenox Dale, MA [REDACTED]. I reside there full time. The PCB contamination in the Rest of River area is a risk to my health and my property value. As a result, I am keenly concerned that the removal and disposal plans, including the Upland Disposal Facility (UDF) Operation, Monitoring, and Maintenance (OMM Plan) be conducted in a manner that is as effective, safe, prompt, and non-disruptive as possible.

I appreciate the opportunity provided by the EPA for public comment and respectfully request that my following comments be considered by EPA in overseeing and regulating the Rest of River PCB removal project, including the OMM Plan.

1. Protecting Human Health and the Environment Are Priorities That Are Not Adequately Addressed in the OMM Plan

As the EPA did with the New Bedford Harbor cleanup, I ask EPA to be vigilant in requiring actions that will reduce the risk to human health and the environment in Lenox and the other Towns impacted by the rest of river PCB contamination. Requiring hydraulic pumping transport where possible, and, when not, rail transport where possible, significantly reduces the risk to human health and the environment. These risks include the expected number of deaths and serious injury from large truck traffic, pollution caused by the trucks, and escape of PCB contamination if the materials are not properly handled or secured. As such, it is critical that these alternatives be fully analyzed and included unless EPA should determine that they are not needed to protect human health and the environment. The OMM Plan does not include activities one would expect to see relating to hydraulic pumping transport and rail transport. It also does not include detail on monitoring how PCB contamination is secured during removal process and while stored at work sites, in transit and inside the UDF.

2. The OMM Plan Is Deficient Because It Omits Alternatives That Are Necessary to Address the 2021 Statement of Work and the October 2023 Transportation and Disposal Plan

The 2021 Statement of Work (SOW) specifies that hydraulic pumping of excavated sediment will be employed if feasible for some sections of the Rest of River remediation. The October 2023 Transportation and Disposal Plan included language noting the inclusion of hydraulic pumping if feasible. Clearly, the use of this technology will have impacts on the specifics of transportation planning, operations, monitoring, and maintenance at removal sites and at the UDF (processes, personnel, and monitoring of dewatering/solidification of the pumped slurry, landfilling into the UDF or offsite transport of the waste with higher PCB concentrations).

We have seen no final determination by EPA that GE will be permitted to use only mechanical dredging/overland transport technology to remove PCBs at all Rest of River contaminated sites. If that final determination has not been made, then the OMM Plan is deficient as it does not include specifications relating to the dewatering locations, equipment, and processes, and does not include

processes to construct and maintain railroad siding to receive and unload contaminated materials transported to the UDF by rail.

3. Future Plans Such as the OMM Plan Should Be Required to Be Reasonably Complete

The deficiencies noted in comment 2 above are indicative that GE, GE's consultants, and others representing GE (together referred to as "GE" in this letter) or any reasonable reader would expect that the OMM Plan would need further substantial revisions. The same type incomplete proposal was reflected in the transportation plan which assumed more overland transportation that could reasonably be thought to be safe and acceptable to any community. I ask that EPA require future GE plans to be reasonably complete to avoid years of delay caused by multiple plans needing revision due to material omissions. Specifically, I ask that EPA require GE to include in future plans, submissions, and proposals:

- a) Alternatives for hydraulic dredging/pumping where ever possible, and, if GE alleges it is not possible, a detailed explanation why not; and
- b) Where hydraulic dredging/pumping is not required, alternatives to include rail transport rather than truck transport, except where rail transport is not possible, with an explanation of why rail transport is not possible.

Until a final determination is made on the feasibility of dredging and transport technology, plans for other phases of the project that do not include these alternatives will be inadequate and create a need for multiple revisions with new comment periods, resulting in endless delays before GE must begin the work to remove the toxic PCBs from the Rest of River area. The risk to human health and the environment are priorities, bu also of concern are the need for expert analysis and review of multiple revisions which drives up costs.

4. Lenox and Other Towns Impacted by Rest of River Remediation Need Substantial Support For Critical Tasks Not Covered in the OMM Plan

The Towns where PCB removal, dewatering, transport (including loading and unloading), and storage will occur are small, without adequate staff to monitor, oversee, report, and warn citizens as needed throughout the removal project and as long as PCBs are being stored at the UDF. The settlement monies are urgently needed to provide expert advice, currently provided by the Weston & Sampson firm to Lenox, in analyzing and commenting upon the specifications for each phase of the project – the materially incomplete transportation, design and OMM plans have increased the need for complex assistance. Further, daily activities may involve a number of Towns, so having dedicated personnel who oversee all project activities, rather than having handoff between several Towns for one activity, allows for better quality and efficiency. Such needed support includes;

- a. Monitoring It would protect our health and environment if EPA provided monitors, or required GE to provide independent monitors whose qualifications are approved by EPA, who would track daily activities, including all contaminated materials being properly capped or secured, levels of airborne PCB contamination, work flow, etc. and report to EPA and the Towns as necessary.
- b. Reporting. There should be daily website reporting of anticipated dredging, excavation, loading, unloading, truck and rail routes and timing, to inform, and minimize disruption to, citizens. There should also be prompt reporting and alerts for problems, such as airborne levels exceeding specified levels, spills causing water contamination to increase, overturned or leaking truck or rail loads, etc. Reporting should include monthly progress on specified project milestones to make clear if the project is being executed with all deliberate speed.

- c. Interactive Communication System Manned by People. There should be a manned chat or email or text available for citizens to report problems they may observe, such as leaking or overturned trucks or rail cars, uncovered piles of sediment left unattended, etc.
 - d. Public Meetings. Someone from EPA, along with the persons responsible for monitoring and reporting, should host a public meeting at a location convenient for the impacted Towns, at least quarterly to allow citizens to ask questions and report concerns.
5. More Specificity Is Needed. The OMM does not include much specificity about key matters that must be determined before work can begin, including:
- a. Workforce. The numbers of workers, locations, parking, qualifications, supervision, work hours, security for UDF and worksites during work and after hours.
 - b. Security for Contaminated Materials. Specifics for securing contaminated sediment (i) between removal and final storage at the UDF or transport to its final destination, (ii) during transport, and (iii) during storms. Details should include actions to be taken in response to various security concerns, including work slowdown or stop, and emergency protocols.
 - c. Reporting Requirements Must Be Specific. Specifics for reporting routine and emergency situations must be specified, including time periods, to whom reports are provided and by what method of communication.
 - d. Monitoring. Monitoring devices and processes must be specified. Continuous monitoring for total dust with an action level set based upon potential PCB concentrations in materials being placed in the landfill (e.g., 50 mg/kg) should be included.
 - e. Maintenance of UDF after Completion. This includes maintenance of vegetation (including removal of invasives); inspecting the covers, liners, and integrity of the UDF on a specified schedule; and leachate flow monitoring.

Respectfully submitted,
Susan Ellen Wolf

May 17, 2024

Comments emailed to : R1Housatonic@epa.gov

Re: GE-Pittsfield/Housatonic River Site: Revised Final Pre-Design Investigation Summary Report for UDF and UDF Operation, Monitory and Maintenance Plan

Dear EPA:

As a resident of the Town of Sheffield and Sheffield representative to the Rest of River Municipal Committee for its entire existence, I respectfully submit the following comments on the above referenced Plans concerning the Upland Disposal Facility (UDF).

I am grateful for EPA's provision of Technical Assistance Services for Communities (TASC) and the comments SKEO has provided on these Plans.

I know there is additional work being done on the Transportation Plan and believe the results of that revised plan, potentially focusing more on use of rail lines and less on truck traffic, will have impacts on the two plans being commented on here; these impacts may be significant enough to require revision and reissuance of both of the above plans. As such the word "Final" in this Revised Final Pre-Design Investigation Summary Report for UDF may be premature. Whatever impacts or adjustments may be required to either/both of the above plans following review and reissuance of the Transportation Plan, I am confident EPA will require the necessary modifications from GE and look forward to reviewing any and all adjustments in each of these three critical plans.

My comments on the Revised Final Pre-Design Investigation Summary Report for UDF:

1. I respectfully request the EPA require GE to amend the UDF Final Design Plan to include the following components cited by SKEO as missing in this document:
 - "Identification of UDF construction team, including key personnel, their roles and responsibilities, and lines of authority;
 - Process for selection of a UDF construction contractor, if not already selected;
 - Schedule for construction;
 - Construction Quality Assurance Plan (CQAP);
 - Project closeout requirements;
 - Summary of anticipated Post-Construction Site Control activities following completion of the final cover and closure; and
 - statement(s) showing compliance to the performance standards associated with the UDF design."
2. I request clarification on the specifications of the bottom and cap liners to clear up any confusion as to specifications, compatibility, permeability, and reaction to PCBs.
3. Does the Final Design address the possibility of seasonal freeze/ thaw conditions? If not, it should be revised to do so.
4. Post-capping final design plans for the UDF must be consistent with the Town of Lee ideas.
5. As Skeo queries, is "the UDF area is a suitable setting to address the Reach 5C and Woods Pond hybrid disposal averaging process." The EPA is requested to address this query and take appropriate action.

6. Section 2.6.3, on the leachate management system, as currently envisioned, raises a number of troubling questions that require immediate attention and answers for not only the final design document, but just as importantly the public's understanding of this system. There have long been strongly voiced concerns about leachate going back into the Housatonic River, which appears to have little support for. The comments submitted by SKEO need to be addressed, not only for understanding this proposed point discharge option but also to make sure the public does not feel betrayed once the UDF is in operation. I believe the discussion to date has focused on off-site transport of the leachate, not point discharge into the river. This new option will not be received well and requires further information and forthright discussions.
7. Section 5.3 needs to be expanded upon to not only provide basic information on "contact" and "non-contact" water, but also how each type of water will be managed, including disposed of.
8. Similar to #6, all materials excavated during construction, as well as those used during construction, need a management plan spelled out in the UDF Final Design Plan document. Will they be disposed of? If so, how, and what is the plan for doing so? Later integrated back into the site? If so, how? If not, disposal plans? What are the plans for disposing of any currently stored materials in what will be the total UDF footprint?
9. The EPA should require GE to include plans, based on best management practices, to address materials spills, such as leachate, fuel, oil, and releases, to include any PCB- or other contaminated materials. This is a critical oversight on GE's part and must be rectified. The Rest of River Municipal Committee spoke often of such possibilities and what if any equipment / resources / training would be needed by the Rest of River Towns to address such possibilities. It may be appropriate to require at least a desktop exercise to address such possibilities. How will these potential spills or contamination events be handled and by whom? What is the chain of command and response hierarchy? These items should be discussed with the adjacent municipalities if they have not already been briefed on these matters.
10. Section 6.2.2 and associated Figures need further clarity and updating to address the "intermittent stream and GE's intended methods to address the constructed road crossing associated with it". What is the plan to address this?
11. I request the EPA to carefully review the intersection of high use and high traffic associated with stormwater management areas, ditches, ponds, etc., with regard to the possibility of spills and other types of accidents and whether activated carbon should be required to lessen the impact of such spills and accidents. Are there other interventions to consider, such as the SKEO cited proactive catchment basins near leachate collection storage units?
12. UDF Operations Areas are not sufficiently spelled out in this Final Plan. An understanding of these areas is absent for both the EPA and the public. What does their insufficient documentation by GE say about GE's understanding of them? Without such information, how can this be a Final Plan? This fundamental exclusion must be addressed and presented for public review and comment before any UDF Design Plan is finalized. How and when does the EPA plan to address this lack of information and specifications with GE?
13. Further information is needed on how hydraulic conveyance of waste materials will be handled. The information provided is incomplete and appears to reference previous documents without basic information and parameters ever being provided. As hydraulic dredging and movement of materials is a major possibility, every aspect of that process needs to be addressed, especially as the movement of PCB-waste materials interact with the UDF.

14. GE's interactions with the adjacent gravel quarry, Northeast Paving, needs additional details in order to understand potential impacts on the two ponds currently used as part of this quarry, as well as their possibly impacts on the UDF. This relationship requires the same specificity as is detailed in other relationships in the Final Design document.
15. What if any protective barriers are to be installed around the monitoring wells and how will initial site grading, placement of fill, or creation of an access road(s) impact these wells? They need to be protected as they will monitor water quality/levels for years to come.
16. There appears to be confusion and potentially inconsistent statements and drawings around the stormwater management process proposed by GE for the UDF. As recommended by SKEO, to make the stormwater management process at the UDF clear and trackable, I support the requirement for the development of a stormwater conceptual site model for the UDF.
17. Will leachate collected at the UDF be analyzed for PCBs and other treatment affecting chemicals prior to being transferred to the described treatment facility? It is essential that GE's treatment facility will be able to properly treat the leachate, especially if point discharge is under consideration.
18. I request documentation of a plan to deal with the potential pooled water created from collected sediment waste materials and its potential impact on migratory birds and other wildlife, as the Final Plan is silent on this matter.

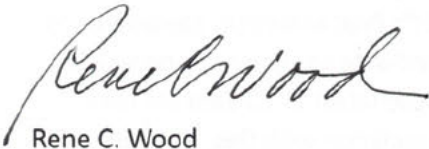
My comments on the UDF Operation, Monitory and Maintenance Plan:

1. Given the relationship between groundwater height and the UDF's final allowable elevation, the public needs to understand the relationship of the latest collected data compared to previously collected data. As such, I request EPA to require GE to integrate the latest 2023 data set with previous data sets and provide comments, as appropriate. In association with this, it appears continued monitoring of groundwater levels is important and may yield valuable information before, during, and post-UDF construction. I ask that such monitoring continue and that collected data sets be integrated with current data sets to provide a more accurate measurement of groundwater levels and that this collection be done in both the spring and fall of each year.
2. Are further data sets needed to validate the application of the Frimpter method for calculating seasonal high groundwater elevation?
3. What is the UDF monitoring strategy going forward? Has GE presented a sufficiently robust plan? I ask EPA to evaluate this carefully given the concerns surrounding the UDF and that the final monitoring plan will play a significant role in not only monitoring the out of sight workings of the UDF but also provide important data needed to assure residents of the integrity of the UDF.
4. I ask the EPA to consider how the monitoring and maintenance tasks presented in this plan may be made more approachable and useful to the public for outreach efforts. This public friendly approach also applies to monitoring quality of life aspects, maintenance, and inspection results, etc. The more information that is being collected is made available, the less the public may feel GE and the EPA are hiding something.
5. What are the oversight components for the "operation-phase consolidation process" and who will provide such oversight? Will EPA provide oversight during other phases of the UDF construction and operational phases?

6. Regarding Section 4.1.1, what are the plans if any portion of the liner system is compromised during UDF construction? Is the liner system strong enough to endure the anticipated equipment and associated traffic within each of the consolidation cells?
7. Regarding Figure 2, where is the secondary access located? It appears unclear.
8. As air quality is a key concern to residents, Skeo's suggestion to install an air quality monitoring station where the public interacts with the river is a good idea. I hope the EPA will incorporate their suggestion of installing such a station within the Woods Pond boat launch or other visible spot in this recreational area. This will either confirm the absence of air borne contamination or require GE to address such contamination.

Thank you for receiving my comments. As the UDF has attracted so much public concern, it may be in the best interests of the EPA to consider whether additional public input should be accepted if the Final Design Plan for the UDF requires revision when a new transportation plan is released. I urge the EPA to error on the side of the public, if needed. While certain members of the vocal public wish to link the EPA and GE, I know through my involvement with EPA during this long process that this is not the case. I earnestly hope EPA's review of public input on these two UDF plans provides the public the opportunity to understand the role the EPA has exercised in support of the Rest of River communities.

Sincerely,



Rene C. Wood

Sheffield, MA [REDACTED]