UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1 – NEW ENGLAND
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Via Electronic Mail

April 2, 2020

Mr. Peter Britz, Environmental Planner
City of Portsmouth Planning Department
1 Junkins Avenue
Portsmouth, NH 03801

RE: Coakley Landfill Superfund Site
January 22, 2020 *Stormwater Investigation Report – Response to Comments, Coakley Landfill Superfund Site, North Hampton, New Hampshire*

Dear Mr. Britz:

The United States Environmental Protection Agency (USEPA) is in receipt of the January 22, 2020, *Stormwater Investigation Report – Response to Comments* (the "Response") prepared by CES, Inc., on behalf of the Coakley Landfill Group (CLG). The Response was submitted following the issuance of comments by USEPA on November 22, 2019, which were issued in response to the *Stormwater Investigation Report* submitted by CES, Inc. on behalf of the CLG on September 24, 2019. Included in the Response was the *Surface Water Evaluation Scope of Work* (the "SOW") that details actions proposed to further assess the extent of contaminant distribution and migration to Berrys Brook and to better understand the interaction between stormwater, surface water and groundwater discharging to the wetland complex and Berrys Brook.

The SOW is subject to the terms and conditions specified in the Consent Decree that was lodged in District Court on January 14, 1999 (the "Consent Decree"). Pursuant to paragraph 37(b) of the Consent Decree, USEPA, after consultation with the New Hampshire Department of Environmental Services (NHDES), approves the SOW subject to the following conditions:

Section 3.1 Piezometer Installation

1. Many of the proposed piezometer locations shown in Figure 2 are paired with surface water sampling locations while others (such as PZ-6 and PZ-7) are not. A more thorough rationale for selecting the specific locations shown on Figure 2 should be provided. Suspected areas of groundwater discharge should be identified and screened prior to the selection of the final locations for piezometer installation. Temperature profiling and/or infrared scanning should also be used to identify areas of groundwater discharge for piezometer or seepage meter placement. In order to best evaluate the relationships between surface water and shallow groundwater north and west of the landfill, the CLG shall make every effort to identify groundwater discharge areas before installing piezometers.

2. There are no piezometers proposed in the area directly west of the landfill between locations PZ-4 and PZ-5, or in the vicinity of MW-21S. Groundwater contour maps and contaminant plume maps provided in the Annual Reports suggest the main portion of the contaminant plume extends to these areas, and samples from MW-21S have detected PFAS compounds. The area directly west of the landfill between locations PZ-4 and PZ-5, and in the vicinity of MW-21S, shall be screened for areas of groundwater discharge and, based on the screening results, additional piezometers shall be installed in these critical areas.

3. The procedures for the installation of the piezometers (stainless-steel drive point and PVC) shall be detailed in the Sampling and Analysis Plan (SAP).

Section 3.2 Stormwater and Shallow Groundwater Sampling

4. Consideration should be given to conducting storm event sampling in Berrys Brook. This would include sampling select surface water locations along Berrys Brook at regular time intervals (i.e. 2 hours) during a significant storm event (1-2" of rain). This would provide a graph of PFAS concentrations in the brook versus time and allow for an accurate assessment of impacts to Berrys Brook resulting from surface runoff from the landfill during precipitation events. This sampling could be collected along with stormwater sampling at the landfill to allow for evaluation of the impacts of stormwater runoff. Baseline surface water samples from Berrys Brook should also be collected as part of any stormwater sampling event.

5. CLG shall make every effort to collect samples from routine stormwater sampling locations (SW-4, SW-5, SW-103, BB-2, BB-1, SW-110) and seep location L-1 at the same time that stormwater and shallow groundwater sampling specified in this SOW are collected, in addition to routine sampling events that may have already been conducted.

Section 3.2.3 Porewater Sampling

6. Consideration should be given to using seepage meters instead of push-point samplers to collect pore water samples. Push-point samplers collect highly discrete samples that can result in large variability in contaminant concentrations. Also, groundwater flux data cannot be obtained using push-point samplers. Seepage meters sample a larger area and can provide more consistent results. Seepage meters are permanent to allow for repeat sampling, and groundwater/surface water flux rates can be estimated to directly measure contaminant mass loading rates. Temperature profiling and/or infrared scanning shall be used to identify areas of groundwater discharge for porewater sampling.

Section 3.3 Water Level Measurements

7. CLG should consider using data loggers to monitor surface water elevations at locations adjacent to the piezometers that have data loggers. This would facilitate continuous comparison of groundwater/surface water elevations during storm events and allow an assessment of bank storage on the system.

Section 3.5 Beaver Dam Removal

8. Beaver mitigation and dam removal should occur as soon as possible to allow surface water to subside and a new equilibrium between surface water and groundwater to be established

before conducting profiling or infrared scanning. CLG shall continue to coordinate with NHDES and NHDOT and private property owners, as necessary, to initiate the beaver mitigation and dam removal process ahead of the implementation of the other tasks in the SOW.

Section 3.6 Refined System Modeling

9. As stated in USEPA's November 22, 2019, letter, sufficient information already exists to perform the "additional/refined mass flux calculations" described. USEPA also described the preferred methods for conducting these additional calculations. Specifically, a more traditional method would be to calculate the PFAS mass flux in groundwater at a series of transects perpendicular to the groundwater flow across the mapped plume. The groundwater flux is calculated via Darcy's Law and analytical results from monitoring wells located along the transect(s) are used for the PFAS concentration. This provides a reliable estimate of the PFAS mass leaving the landfill via the groundwater pathway.

Section 3.7 Remedial Alternatives Evaluation

10. USEPA expects that CLG is continuing to work with NHDES to develop a more specific scope and schedule for evaluating and piloting remedial alternatives to limit the contaminant loading to Berrys Brook.

CLG shall develop a schedule for the implementation of the work included in SOW, as conditionally approved by this letter, that includes the submission of the surface water evaluation report described in the SOW. This schedule shall be submitted to USEPA and NHDES for review and approval.

USEPA understands that some of these components in the SOW may overlap with some of the remaining investigation components that will be implemented as part of the ongoing bedrock investigation such that certain tasks may satisfy both scopes.

If you have any questions or comments regarding this letter, you can contact me at (617) 918-1882 or Hull.Richard@epa.gov.

Sincerely,

Richard W. Hull

Richard W. Hull, Remedial Project Manager
New Hampshire & Rhode Island Superfund Program

cc: Andrew Hoffman, NHDES
Jim Soukup, Weston Solutions
RuthAnn Sherman, USEPA
Chris Buckman, CES, Inc.