PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Case Management
Mail Code 401-05F
P.O. Box 420
Trenton, New Jersey 08625-0420
Telephone: 609-633-1455

SHAWN M. LATOURETTE
Commissioner

June 13, 2022

Attn: Ms. Rupika Ketu
United States Environmental Protection Agency
New Jersey Remediation Branch
290 Broadway, 19th Floor
New York, New York 100007-1866
Name & Address of EPA Lead

Re: Rolling Knolls Landfill
35 Britten Road
Chatham Township, Morris County
PI #: G000004411
Activity Number: RPC080001
Type of Letter: *Additional Department Comments on the March 2021 Draft Feasibility Study Report*

Dear Ms. Ketu:

The New Jersey Department of Environmental Protection (Department) is sending this correspondence as an Addendum to its May 7, 2021 comment letter issued as part of its review of the March 2021 Revised Draft Feasibility Study Report (Draft FS) which was submitted in regard to the above referenced Rolling Knolls site.

As was relayed to US Environmental Protection Agency (EPA) staff during our May 23, 2022 conference call, internal changes to Department staffing resulted in a new Technical Coordinator (TC) / Ecologic Reviewer (Erica Snyder-Research Scientist) being assigned to the Rolling Knolls case team. While familiarizing herself with the case, the TC pulled key documents for the purpose of both coming up to speed as to the type, concentration and distribution of contamination identified in soil and sediments identified across the Rolling Knolls site, and developing a working understanding of the key remedial decisions that have been made in regard to the site, to date, especially with respect to ecological issues. It was during these document reviews that several ecological risk questions were raised. In addition to further TC review these ecological concerns were discussed, in detail, with one of the Department's ecologic risk assessors (Nancy Hamill-Research Scientist) to ascertain if the concerns being raised warranted an addendum to the FS comments that the Department had previously issued. As a result of these internal evaluations, the Department reached out to EPA to discuss how best to incorporate these concerns into the comments the Department had previously provided on the Draft FS.

As requested by EPA during our May 2022 conference call, the Department's additional comments on the Draft FS for the Rolling Knolls Superfund Site are provided, below. These comments pertain specifically to the evaluation of ecological risk at the site and the need to develop ecological risk-based preliminary remediation goals (PRGs) for determining the extent of the remediation.

1. The 170-acre Rolling Knolls site is in its entirety an ecological exposure area, with portions of the site extending into the Great Swamp National Wildlife Refuge (GSNWR). The Department previously approved human health-based alternative remediation standards (ARS) for soil that are protective of trespassers (passive recreation) at the site, however these ARSs are not suitable for the protection of ecological receptors. The remediation of this Superfund site is currently in the Draft FS Phase. Review of the proposed Remedial Alternatives in the draft FS, the 2016 Baseline Ecological Risk Assessment (BERA), and Remedial Investigation data for the site indicates that elevated concentrations of contaminants that are not protective of ecological receptors. will remain across both the Great Swamp National Wildlife Refuge (GSNWR) and non-GSNWR portions of the site.

   It is the Department's opinion that for contaminated environmental sensitive natural resources (ESNRs) at the site, ecological risk-based preliminary remediation goals (PRGs) are paramount for determining the extent of the remediation and should be developed for key ecological risk-driving contaminants in the FS, especially considering that the human health-based ARS are not sufficient for the protection of ecological receptors that utilize this property. The 2016 BERA demonstrated elevated risk, whereby lowest observed adverse effect levels (LOAELs) based hazard quotients (HQs) exceeded one (1) for several contaminants and receptor groups. For example, vermivorous mammals (short-tailed shrew) and vermivorous avian species (American robin) are at risk from exposure to inorganics, PCBs, and PCDD/F in terrestrial and wetland areas across the site (see Tables 1 and 2 below). Certainty regarding these HQs is improved because dietary concentrations were not estimated via models but in fact were directly measured from site-specific prey tissue sample collection (i.e., earthworm and arthropod). In addition, the calculated HQ_{LOAELs} for these areas were significantly greater than the HQ_{LOAELs} calculated for the reference wetland and terrestrial locations. Ecological risk-based PRGs should be developed for key ecological risk-driving contaminants and used to determine the extent of the remediation. In consideration of the presence of threatened and endangered species and habitats of special concern at the Rolling Knolls site, the Department recommends that NOAEL-based PRGs be used as the basis of the remediation.

Table 1: Maximum HQ_{LOAELs} and Areas for Short-tailed Shrew

COPEC	Receptor Area	Maximum Calculated HQ_{LOAEL}
PCB TEQ	Terrestrial - within GSNWR	8.8
Barium	Terrestrial – within GSNWR	1.6
Cadmium	Terrestrial - within GSNWR	3.8
Chromium	All terrestrial areas	22
Copper	Wetland - south	1.9
Lead	Terrestrial - within GSNWR	7.5
Manganese	Terrestrial - within GSNWR	5.1
Mercury (assumed 100% methyl mercury)	All terrestrial areas	15
Nickel	Terrestrial - within GSNWR	3.2
Selenium	Wetland – North Ponds	12

Table 2: Maximum HQ_{LOAELs} and Areas for American Robin

COPEC	Receptor Area	Maximum Calculated HQ_{LOAEL}
PCB TEQ	Wetland - south	4.7
PCDD TEQ	Terrestrial - within GSNWR	4.7
Arsenic	Terrestrial - within GSNWR	3
Barium	Terrestrial - within GSNWR	12
Cadmium	All terrestrial areas	11
Chromium	Terrestrial - within GSNWR	2.6
Copper	Wetland - south	15
Cyanide	Terrestrial - within GSNWR	19
Lead	All terrestrial areas	32 (outside GSNWR);34 (inside GSNWR)
Manganese	Terrestrial-within GSNWR	2.4
Mercury (assumed 100% methyl mercury)	All terrestrial areas	41 (within GSNWR); 35 (outside GSNWR)
Nickel	All terrestrial areas	5
Selenium	Terrestrial-within GSNWR	14

2. The ecological risk remaining to wildlife receptors after implementation of Remedial Alternatives was evaluated in Appendix C, Residual Ecological Risk Evaluation, of the Draft FS. It is the Department's opinion that such an evaluation should vary only the contaminant concentrations. However, this review uncovered that the toxicity reference values (TRVs) employed in the residual risk assessment were much less conservative than those used in the BERA, some by orders of magnitude. For example, when evaluating the risk associated with lead exposure for the American robin, the BERA used a TRV_{LOAEL} of 53.8 mg/kg-day for lead, whereas the residual risk assessment used 624 mg/kg-day. Another example is evaluating the risk associated with copper exposure for the short-tailed shrew, where the BERA used a TRV_{LOAEL} of 499 mg/kg-day and the residual risk assessment used 47,519 mg/kg-day.

   The Department does not agree with the dual toxicity reference value (TRV) approach applied in the residual ecological risk assessment or the findings. The Department's Ecological Evaluation Technical Guidance (NJDEP 2018) does not advocate the use of more than one set of TRVs for individual contaminant-receptor pairs. It is the Department's position that a single TRV set (NOAEL and LOAEL) evaluating the more sensitive species and endpoints to characterize risk to invertebrates, fish, birds, and wildlife should be utilized throughout the ecological risk assessment process. It is also the NJDEP's position that the use of one conservative TRV set derived for sensitive receptors and sensitive endpoints most clearly demonstrates the degree of risk for individual contaminant-receptor pairs and ensures protection of threatened, endangered, and species of special concern. The same set of conservative TRVs used in the BERA should be used for the calculation of site-specific ecological risk-based PRGs and to evaluate the residual risk remaining after the implementation of a remedy.

Based on the above reasoning the Department requests that risk-based ecological PRGs be developed for the Rolling Knolls site during the FS phase using the information included in the final BERA that was approved for the site. Also, as specifically discussed in Comment 2., above, accepted practices should be followed when determining ecological risk to enable an accurate assessment of remedial alternatives for the site. The Department is providing these comments as an Addendum to its May 7, 2021 Comment Letter which was issued in regard to the March 2021 Draft FS. Please incorporate these comments into your response to the Responsible Parties in regard to the Draft FS.

Nothing in this correspondence affects your potential liability and obligations to the State Trustee, the Department or its Commissioner regarding natural resource injuries or damages.

Thank you for your cooperation in this matter. If you have any questions regarding this correspondence, contact Jill McKenzie of the Bureau of Case Management at (609) 292-1993 or, via email, at Jill.McKenzie@dep.nj.gov.

Sincerely,

Jill McKenzie
Bureau of Case Management

cc: Jill McKenzie-BCM
Erica Snyder-BEERA
Nancy Hamill-ETRA/BEERA
Michael Russo-BGWPA