



November 15, 2021

VIA EMAIL

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Re: Comments on the Draft Scope and Public Comment Period
for a Proposed Expansion of the Hakes C&D Landfill

Dear Ms. Merchant:

On behalf of our 45,000 members, the Sierra Club Atlantic Chapter respectfully submits the following comments objecting to the issuance of a Draft Supplemental Environmental Impact Statement (DSEIS) Draft Scoping Outline by the New York State Department of Environmental Conservation (DEC) for a proposed Hakes C&D Landfill expansion project before the necessary permit application materials have been provided to the public by DEC and before the Town of Campbell has made its decision on the landfill's application to close Manning Ridge Road.¹ We appreciate the extension of the public comment period on the draft scope to November 15, 2021, but the comment period must be extended further until all the application documents have been made available to us and other members of the public for review.

Notwithstanding our objection to making comments on the draft scope before we have had an opportunity to review all the application documents, we offer comments identifying areas where the final scope for the DSEIS needs to be expanded.

1. Public Comment on a Draft Scope is Premature until All Permit Application Documents Have Been Provided to the Public

If the Hakes expansion project is only in the initial planning stages, it is premature to prepare a DSEIS. The public must be given the details of a specific project to review in order to have a meaningful opportunity to participate in the SEQRA process. Otherwise, the application process becomes a private negotiation between the developer and DEC in violation of SEQRA. As I explain in my letter of November 5, 2021, copy attached, without an opportunity to review the information contained in the application documents, the public does not have an adequate basis for commenting on the scope of a proposed DSEIS. Scheduling a comment period before all the application documents have been prepared or made public is not in accordance with the requirements of the State Environmental Quality Review Act (SEQRA). Section 617.8(c) of the SEQRA regulations clearly contemplates that the application materials will be made public before scoping for a DSEIS

¹ The positive declaration, draft scope and public comment period were announced in DEC's Environmental Notice Bulletin (ENB) on September 15, 2021. See https://www.dec.ny.gov/enb/20210915_not8.html.

is begun. See 6 NYCRR 617.8(c) which states that “Scoping must include an opportunity for public participation.” There is no meaningful opportunity for public participation in the EIS process if the public is not given access to the application documents during scoping. DEC’s new SEQRA regulations provide that all issues regarding the scope of a DEIS should be raised during the scoping process. Section 617.8(f) of the SEQRA regulations states that, “All relevant issues should be raised before the issuance of a final written scope.” 6 NYCRR 617.8(f). This cannot be done if the application materials are not provided for public review. The public must be given an opportunity to review the application materials during scoping in order to be able to identify issues for the scope of the DSEIS. To allow the EIS process for the proposed expansion project to proceed in the absence of all the permit application materials allows the expansion project to avoid effective SEQRA review.

For these reasons, we respectfully request that the comment period on the draft scope be extended until the public has been provided with copies of all the necessary application documents.

2. Climate Change Issues

In addition to the CLCPA and greenhouse gas emission issues identified in the draft scope, climate change has many other possible impacts on solid waste and construction and demolition landfills. As USAID has explained:²

Climate stressors can impact solid waste facilities both directly and indirectly. For example, while higher temperatures may directly alter decomposition rates, climate change may also affect access to roads, ports, and energy, indirectly limiting the collection of waste and operation of waste management sites. Flooding poses the biggest threat to solid waste infrastructure. Without proper water catchment systems around a landfill, heavy rain events can degrade the landfill, causing breaks in the containment structure that allow debris and leachate to escape from the landfill and contaminate local resources. Flooding from extreme storms may undermine landfill foundations, releasing leachate into groundwater or block collection routes, sweep waste into waterways, and cause waste to clog other infrastructure.³

The potential for these types of impacts needs to be analyzed in the DSEIS. Among the impacts that should be analyzed are the impacts resulting from increased precipitation and increased flooding on the proposed expansion. Such analysis requires characterization of the present and future rainfall intensity-frequency relationship. The media reports that the Northeast region is getting wetter and enduring heavier storms. The number of severe rainstorms - those that drop more than 1 inch in 24 hours - has increased by 74 percent in the Northeast, more than in any other region of the country, according to the National Climate Assessment.⁴ The analysis in the DSEIS needs to take into account regionally significant past storm events such as Hurricane

² Solid Waste Management: Addressing Climate Change Impacts on Infrastructure: Preparing for Change, Fact Sheet, USAID, https://www.climatelinks.org/sites/default/files/asset/document/Infrastructure_SolidWasteManagement.pdf

³ Id.

⁴ See New Yorkers Got Record Rain, and a Warning: Storms Are Packing More Punch: Because of global warming, the heaviest storms can now produce huge amounts of rainfall in a short time, Brad Plumer, *New York Times*, Sept. 2, 2021, <https://www.nytimes.com/2021/09/02/climate/new-york-rain-climate-change.html> and Heavy Northeast rainstorms getting stronger, more frequent: study, Glenn Coin, *NYup.com*, Apr. 12, 2019, <https://www.newyorkupstate.com/weather/2019/04/heavy-northeast-rainstorms-getting-stronger-more-frequent-study.html>.

Agnes (1972)⁵ and the exceptional storm that occurred on July 18, 1942 in the region of McKean County (PA), Potter County (PA), and Cattaraugus County (NY).⁶ Intense rainfall events such as these may overwhelm landfill's leachate collection system and storage ponds and result in releases of untreated leachate to the environment. Such impacts, and the measures needed to prevent or minimize such impacts, should be analyzed in relation to the increasing frequency and intensity of heavy rainfall events. Intense rainfall events may erode the toes of landfill slopes and erode channels into landfill slopes and caps, creating pathways for releases of waste, releases of leachate, and the ingress of stormwater into the body of the landfill. Such impacts, and measures needed to prevent or minimize such impacts, should be analyzed in the DSEIS. Intense rainfall events and associated debris may overtop and erode local roads traversing the steep slopes leading up to the landfill and diminish or cutoff access to roads around the landfill and inhibit transport into and out of the landfill. Frog Hollow Road, for example, has extremely steep sections. Impacts on Frog Hollow Road become especially important if part of Manning Ridge Road is permanently closed, and its through traffic permanently diverted onto Frog Hollow Road. High flow conditions in the creek that runs alongside the road in its very narrow valley may put drivers and passengers at risk as water levels are rising, and may put residents at risk of road closure due to high water prevents timely access by emergency vehicles. Potential impacts from extreme winds often associated with intense rainfall events also need to be analyzed.

3. Cumulative Impacts

The DSEIS needs to analyze the cumulative impact of all landfill expansions being planned for this region of New York, which is already has more landfills than any other part of the state, particularly the climate change impacts. We understand that Casella Waste Industries, the parent of Hakes, is in the midst of multiple landfill expansions.⁷ The compatibility of these expansions with New York's solid waste management plan should be evaluated.

4. Alternatives to Landfill Expansion

The DSEIS needs to analyze a variety of alternatives to the proposed expansion. In addition to the no action alternative mentioned in the draft scope, the DSEIS should evaluate greater implementation of waste reduction strategies, alternate expansion sites, and alternate magnitudes of expansion.

5. Geology and Seismic Issues

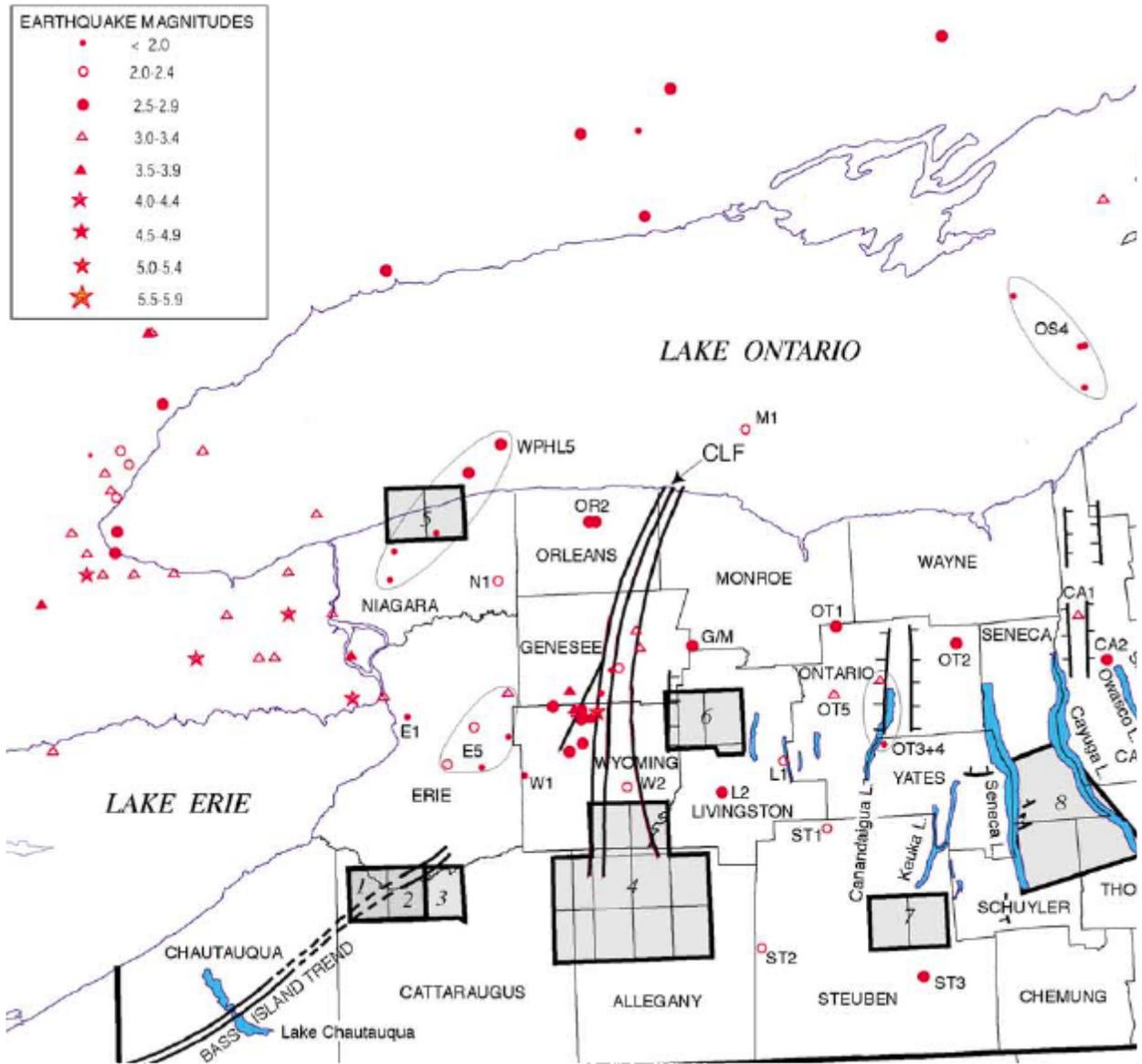
The DSEIS should characterize and assess the possibility of seismic impacts on the landfill. Earthquakes may cause serious damage to landfills. Earthquakes can damage landfill slope stability and landfill liner integrity. In order to analyze the potential for such impacts, the DSEIS needs to characterize of nearby faults and seismic events that have occurred in the area. It is important to run or acquire seismic lines in order

⁵ Flood of 1972: Remembering the Destruction and Loss, Nick Guzzo, *MyTwinTiers.com*, Jun 23, 2021, <https://www.mytwintiers.com/news-cat/top-stories/flood-of-1972-remembering-the-destruction-and-loss/> .

⁶ See Flood Analysis for the World-Record-Setting July 1942 "Smethport" Storm, Joe Bellini, Bill Kappel, Study funded by the Pennsylvania Department of Environmental Protection, *The Journal of Dam Safety* , Vol. 16, Issue 3, 2019, http://www.appliedweatherassociates.com/uploads/1/3/8/1/13810758/smethport-asdso_paper-final.pdf .

⁷ .See Casella moving ahead with multiple Northeast landfill expansions as capacity tightens, *WasteDive*, Feb. 19, 2021, <https://www.wastedive.com/news/casella-q4-2020-northeast-landfill-pennsylvania/595393/> , and Allegany County, New York, approves plan to expand Casella's Hyland landfill, *WasteDive*, Nov. 10, 2020, <https://www.wastetodaymagazine.com/article/allegany-county-new-york-approves-plan-to-expand-casella-hyland-landfill/>

to characterize the subsurface geologic structure underlying the landfill and adjacent areas. The available literature shows several faults near the Hakes landfill, including the Keuka Lake fault, and a nearby earthquake that is on/near the Keuka Lake fault trace.⁸ The location of these faults and the earthquake epicenter are illustrated in two diagrams below from the Jacobi article cited in note 8. The first diagram, a portion of Fig. 1 in the article, shows the location of an earthquake of magnitude 2.5-2.9 in Steuben County relatively near the Hakes landfill.



⁸ For evidence of Keuka Lake fault and nearby faults, see R.D. Jacobi, Basement faults and seismicity in the Appalachian Basin of New York State, *Tectonophysics* 353, 75-113 (2002), Fig. 5, and R.D. Jacobi et al., *AAPG Bulletin* 105, 2093-2124 (October 2021). For the earthquake epicenter (“ST3”), see Jacobi, *Tectonophysics*, op. cit., Figs. 1 and 5. For context and general relevance, see https://www.dec.ny.gov/docs/materials_minerals_pdf/20171030tepnioia2pt1.pdf, esp. pdf pages 23-26, for the attention paid to Jacobi’s work in a letter and attachment sent to DEC R8 Mineral Resources Supervisor Linda Collart in 2017. This 2017 letter, while dealing with an entirely separate matter, shows the importance of Jacobi’s methodology in identifying deep faults that remain hidden beneath the surface until investigated in detail.

The second diagram, a close up of Fig. 5 of the article shows that the earthquake may have occurred at the intersection of several faults, with the Keuka Lake fault.



While “[t]he identification of potential faults... does not lead to the conclusion that the faults are currently active or that they will be active at some point in the future,”⁹ at the Hakes site or elsewhere, the earthquake recorded nearby provides evidence of fault activity near Hakes that requires subsurface characterization.

6. Wetland Issues

In addition to the wetland issues identified in the draft scope, the DSEIS needs to evaluate the connections between the wetlands in and near the proposed landfill expansion site and perched aquifers in the Erwin Creek watershed that is part of the Corning aquifer system. Studies have shown connections between ridge-top ephemeral wetlands to perched aquifers,¹⁰ and that perched aquifers have a role in hydrogeological connectivity.¹¹ The interaction between ground water and surface water in the adjoining Meads Creek

⁹ Quoted from attachment to the above-cited 2017 letter to L. Collart, pdf page 25.

¹⁰ The Ecological Importance of Perched Aquifers and their Hydrological Connectivity to Ridge Top Ephemeral Wetlands in the Daniel Boone National Forest, E. Sweet and J.M. Malzone, https://encompass.eku.edu/swps_undergraduategallery/194/.

¹¹ See The Role of Perched Aquifers in Hydrological Connectivity and Biogeochemical Processes in Vernal Pool Landscapes, Central Valley, California, M.C. Rains, et al., March 2006, *Hydrological Processes* 20(5):1157 – 1175, https://www.researchgate.net/publication/227662746_The_Role_of_Perched_Aquifers_in_Hydrological_Connectivity_and_Biogeochemical_Processes_in_Vernal_Pool_Landscapes_Central_Valley_California.

watershed is the subject of an ongoing USGS study.¹² A similar study needs to be made of the Erwin Creek watershed where the Hakes landfill is located.

7. Landfill Fire Issues

The applicant has previously acknowledged that the landfill “has experienced both surface and subsurface fires.”¹³ A new DSEIS needs to evaluate how the ongoing fires may impact new landfill construction.

8. PFAS Issues

We have reviewed the following table in the 2019 Hakes Annual Report showing high levels of PFAS (per- and polyfluoroalkyl substances that include chemicals known as PFOS, PFOA and GenX) in water samples from the landfill.¹⁴

Analytical Report		
Client:	Casella Waste Systems (Hampden ME)	Service Request: R1911491
Project:	Hakes C&D Landfill - Part 363 Expanded Parameters	Date Collected: 11/20/19 11:30
Sample Matrix:	Water	Date Received: 11/21/19 09:35
Sample Name:	LCS-1119	Units: ng/L
Lab Code:	R1911491-001	Basis: NA

Per- and Polyfluoroalkyl Substances (PFAS) by LC/MS/MS

Analysis Method: PFC/537M
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Perfluoroalkane Sulfonic Acids							
Perfluorobutane sulfonic acid (PFBS)	330	31	1.8	1	12/05/19 16:20	12/3/19	
Perfluorohexane sulfonic acid (PFHxS)	220	31	8.2	1	12/05/19 16:20	12/3/19	
Perfluoroheptane sulfonic acid (PFHpS)	ND U	31	2.8	1	12/05/19 16:20	12/3/19	
Perfluorooctane sulfonic acid (PFOS)	120	13	2.8	1	12/05/19 16:20	12/3/19	
Perfluorodecane sulfonic acid (PFDS)	ND U	31	1.9	1	12/05/19 16:20	12/3/19	
Perfluoroalkane Carboxylic Acids							
Perfluorobutanoic acid (PFBA)	720	31	2.5	1	12/05/19 16:20	12/3/19	
Perfluoropentanoic acid (PFPeA)	2200	31	11	1	12/05/19 16:20	12/3/19	
Perfluorohexanoic acid (PFHxA)	1600	63	55	1	12/05/19 16:20	12/3/19	
Perfluoroheptanoic acid (PFHpA)	580	31	4.0	1	12/05/19 16:20	12/3/19	
Perfluorooctanoic acid (PFOA)	940	13	2.2	1	12/05/19 16:20	12/3/19	
Perfluorononanoic acid (PFNA)	46	31	6.9	1	12/05/19 16:20	12/3/19	
Perfluorodecanoic acid (PFDA)	15 J	31	7.5	1	12/05/19 16:20	12/3/19	
Perfluoroundecanoic acid (PFUnDA)	ND U	31	9.4	1	12/05/19 16:20	12/3/19	
Perfluorododecanoic acid (PFDoDA)	ND U	31	8.2	1	12/05/19 16:20	12/3/19	
Perfluorotridecanoic acid (PFTTrDA)	ND U	31	8.2	1	12/05/19 16:20	12/3/19	
Perfluorotetradecanoic acid (PFTeDA)	ND U	31	13	1	12/05/19 16:20	12/3/19	
Perfluoroalkyl Sulfonamides							
Perfluorooctane sulfonamide (FOSA)	ND U	31	3.3	1	12/05/19 16:20	12/3/19	
N-Methyl perfluorooctane sulfonamidoacetic acid	46	31	8.8	1	12/05/19 16:20	12/3/19	
N-Ethyl perfluorooctane sulfonamidoacetic acid	12 J	31	3.2	1	12/05/19 16:20	12/3/19	
(n:2) Fluorotelomer Sulfonic Acids							
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	220	31	3.5	1	12/07/19 01:09	12/3/19	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	8.1 J	31	0.94	1	12/05/19 16:20	12/3/19	

¹² Hydrogeology and Surface/Groundwater Interactions in the Meads Creek Valley, Schuyler and Steuben Counties, New York, https://www.usgs.gov/centers/ny-water/science/hydrogeology-and-surfacegroundwater-interactions-meads-creek-valley?qt-science_center_objects=0#qt-science_center_objects

¹³ 2018 DSEIS, p. 17.

¹⁴ See https://www.dec.ny.gov/data/IF/Landfills/2019%20Landfill%20Annual%20Reports/R8/51LC0300_Hakes_cdd_R8_2019.2020-02-20.AR.pdf

These high levels raise concerns regarding expansion of the landfill. Additional testing of many more PFAS compounds and different types of water and waste sources needs to be presented in the DSEIS in order to understand the scope of the problem. The annual report does not identify the source of the water sample that was tested? Is it a leachate sample? If so, from which cells were the test samples taken? Is it a sample from a groundwater test well? If so, which test well? PFAS was found in water well testing at the Bath Landfill. Finding PFAS in a ground water test wells raises questions about whether the landfill's liner system is leaking and whether the cause of those leaks has been investigated. Such investigations need to be conducted before an expansion is permitted using a similar liner system. It is particularly important that PFAS levels in the existing landfill be quantified because research indicates that PFAS may be able to interact with and damage landfill liners.¹⁵

It is urgent that PFAS in the landfill be adequately characterized. It needs to be determined if PFAS is in the leachate that is being sent to the Steuben County leachate pre-treatment plant in Bath, which discharges into the Village of Bath Wastewater Treatment Plant, which in turn discharges into the Cohocton River, a primary aquifer that provides drinking water for all the communities downstream, including the Village of Painted Post and the City of Corning. We note that the Town of Erwin discloses the presence of PFAS in its 2020 Annual Drinking Water Report.¹⁶ There are many possible sources for PFAS in the Erwin water supply, which is the Corning aquifer, but investigation is needed as to whether the landfill is one of the sources. We have reviewed the extensive PFAS Waste Source Testing Report, prepared for New England Waste Services of Vermont, Inc., a Hakes affiliate, in October 2019.¹⁷ A similar report needs to be prepared for Hakes before a meaningful environmental review can be conducted on Hakes proposed expansion plans.

9. Radioactivity Issues

Consistent with the goal of focusing the DSEIS on potentially significant adverse impacts and eliminating consideration of those impacts that are irrelevant or not significant, the scope of the DSEIS needs to include investigation of radon emission impacts, resulting from the emission of radon from the landfill gas collection system and landfill flare in order to determine *whether* high levels of radon are present in the landfill-gas emissions. Without such testing, DEC will not be able to conduct informed decision making on the expansion proposal.

It appears that the draft scope is attempting to preclude radioactivity issues from being included in the scope, incorrectly claiming that such issues “were exhaustively reviewed, analyzed, and rejected during environmental review of the prior landfill expansion application in 2018-2019.”¹⁸ There is no dispute that such issues were rejected in the previous environmental review process. However, the issues were *not* exhaustively

¹⁵ Interactions of Per-and Polyfluoralkyl Substances (PFAS) with Landfill Liners, by Will P Gates,, Alastair JN MacLeod, Andras Fehervari, Abdelmalek Bouazza, Daniel Gibbs, Ryan Hackney, Damien L Callahan, and Mathew Watts, *Advances in Environmental and Engineering Research*, December 2020, https://www.researchgate.net/publication/348035527_Interactions_of_Per-and_Polyfluoralkyl_Substances_PFAS_with_Landfill_Liners
DOI: 10.21926/aer.2004007

¹⁶ See <https://www.erwinny.org/AnnualWaterReport.pdf>.

¹⁷ <https://anrweb.vt.gov/PubDocs/DEC/SolidWaste/OL510/OL510%202019.10.15%20NEWSVT%20PFAS%20Source%20Testing%20Rpt%20-%20Final.pdf>

¹⁸ See Draft Scope., p. 37, “Environmental Reviews Not Proposed for Inclusion in the DSEIS.”

reviewed or analyzed during that process. Both DEC and Hakes refused to investigate the evidence that we brought to their attention about high radon levels in the landfill's leachate test results. DEC then eliminated the semiannual gamma spectroscopy leachate testing requirement that enabled us to identify radon breakdown products in the leachate test results. In the hope that DEC will recognize that the leachate test results we previously presented do need to be investigated, we again offer the affidavit of our expert Dr. Raymond Vaughan summarizing the evidence. A copy of Dr. Vaughan's affidavit is attached.

It is not appropriate for the draft scope to discourage members of the public from raising issues they think are significant in their comments on the scope of the DSEIS. It is not until after draft scoping comments are received that DEC reviews these comments and decides which issues are appropriate for inclusion in the final scope. See 6 NYCRR 617.8(e)(7) which requires "a brief description of the prominent issues that were considered in the review of the environmental assessment form or raised during scoping, or both, and determined to be neither relevant nor environmentally significant or that have been adequately addressed in a prior environmental review and the reasons why those issues were not included in the final scope."

10. Health Issues

Because high levels of PFAS have been shown in the landfill, it is important that the DSEIS provide a health impact analysis based on a study of the health impacts experienced by landfill workers and people living near the landfill.

* * *

In conclusion, we respectfully request that scoping process for a DSEIS for a new Hakes landfill expansion project be postponed until all the necessary application documents have been provided to us and we can offer meaningful comments based on the required application materials.

Respectfully,



Kate Bartholomew, Chair
Sierra Club Atlantic Chapter