BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
PROPOSED AMENDMENTS TO	)	R22-18(A)
GROUNDWATER QUALITY	)	(Rulemaking – Public Water Supplies)
35 ILL.ADM.CODE 620	)	

TESTIMONY OF BRAD HUNSBERGER ON BEHALF OF LAND AND LAKES COMPANY

My name is Brad Hunsberger. I am Vice President and Director of Hydrogeological Services at Andrews Engineering, Inc. ("Andrews"). Andrews is a civil and environmental engineering firm located in Springfield. I have been employed by Andrews for 38 years. As Vice President and Director of Hydrogeological Services, I am responsible for management and oversight of geologic and hydrogeologic related services, which include design of subsurface investigations, oversight of installation of monitoring wells and other subsurface detection devices, aquifer characterization, oversight of groundwater/leachate sampling services, and design and implementation of various types of monitoring, remediation, and dewatering programs. I also have experience in computer modeling of groundwater movement and chemical fate transport, and have provided expert testimony for projects regarding geologic and hydrogeologic issues relating to public health, safety, and welfare for solid waste disposal facilities. I have a BS in Geology from Illinois State University.

I am providing testimony on behalf of Land and Lakes Company ("Land and Lakes"). Land and Lakes's corporate offices are located at 1400 East Touhy Avenue, Des Plaines, Illinois. Land and Lakes is a member of the National Waste and Recycling Association ("NWRA") and is the operator of the Land and Lakes 1 & 2 landfill. Land and Lakes 1 & 2 is a closed landfill regulated under 35 Ill. Adm. Code 807 ("Part 807"). Part 807 landfills are existing landfills that

generally ceased accepting waste on or before October 9, 1993, the date upon which the 35 Ill. Adm. Code 811 ("Part 811") regulations became effective. *See* 415 ILCS 5/3.285. Land and Lakes 1 & 2 closed in 1994, after receiving an extension to receive flood-related waste. *See* 35 Ill. Adm. Code 814.107(c).

Land and Lakes 1 & 2 is currently in post-closure. Based on information received from the Illinois EPA in response to a Freedom of Information Act (FOIA) request, as of 05/22/2025, there are ninety-seven (97) Part 807 solid waste landfills in Illinois that have not completed post-closure care. Of these, thirty-four (34) are closed, but not certified closed, and sixty-three (63) are in post-closure (including Land and Lakes 1 & 2). *See* IEPA Response to FOIA Request, Attachment A. Many of the Part 807 landfills are publicly-owned or in the care of the Illinois EPA.

My testimony is to inform the Board that, like the Part 811 and Part 814 landfills, the Part 807 landfills: (a) are subject to the Part 620 groundwater quality standards (absent an exemption); and (b) should be included in the Board's exemptions from compliance with the six per-and polyfluoroalkyl substances ("PFAS") (PFOA; PFOS; PFNA; PFBS; PFHxS; and HFPO-DA) groundwater quality standards in Sections 620.410(f) and 620.420(e). I am also providing information regarding Part 807 landfills to address the information requested by the Board in its May 15, 2025 Order. That information pertains to the infeasibility of Part 807 landfills to comply with the applicable PFAS-related monitoring or corrective action requirements triggered by the Part 620 PFAS standards.

First, the Illinois Appellate Court, affirming a Board decision, has previously held that the Part 620 groundwater quality regulations apply to Part 807 landfills. *D&L Landfill, Inc. v. Illinois Pollution Control Bd.*, 2017 IL App (5th) 160071, ¶ 32. In that case, the Board had found that when it adopted the Part 620 standards, it was aware facilities would be closing under Part 807, but it

did not provide any exemption in Part 620 for those landfills. *Id.* at ¶ 18. Although Part 620 is not incorporated by reference in Part 807 (which was initially adopted in 1978), Section 807.524(c) requires Part 807 landfills to certify that the "site will not cause future violations of the Act or this Part" in order to certify that the post-closure period has ended. *See id.* at ¶ 17. The Board noted it had previously interpreted this provision in a prior case, *Hayden Wrecking Corp.*, PCB AS 04-3, January 6, 2005, at p. 1, as requiring a Part 807 landfill to demonstrate that the groundwater in the vicinity of the site satisfies groundwater quality standards. *Id.* at ¶ 18. In affirming the Board's decision, the Appellate Court stated that the Board "correctly concluded that the part 620 standards may be properly applied to a part 807 landfill" when there was no language in part 620 exempting landfills from its groundwater standards. *Id.* at ¶¶ 32-33.

In my experience, after the effective date of Part 620 in 1991, the Illinois EPA has incorporated the applicable groundwater quality standards from Sections 620.410 - 620.450 into the supplemental permits for landfills subject to Part 807. The first supplemental permit to contain references to Part 620 for Land and Lakes 1 & 2 was Supplemental Permit No. 1996-034-SP, issued May 9, 1996. The reference was contained in Condition 6(b) to Attachment A:

> *6. The permittee shall conclude that a significant change in groundwater quality has occurred if the results of the evaluation in No. 5 above indicate that the value for any parameter exceeds:*
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> *a. The background value established for that parameter at the 99% confidence level, or*
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> *b. The Class I groundwater quality standards listed in Subpart D of 35 IAC Part 620 Standards (this class applies until adequate demonstration has been made by the Permittee that another class applies pursuant to Subpart B of 35 IAC 620 Standards); or*
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> *c. For organic parameters listed in 35 IAC Part 724, Appendix I and as referenced in List 3 of this Attachment, two (2) times the Practical*

Quantitation Limit (PQL) for a single parameter or any two or more parameters exceed the PQL in the same well.

Illinois EPA has incorporated the Part 620 groundwater quality standards into all subsequent supplemental permits for Land and Lakes 1 & 2.

Land and Lakes recently discussed the applicability of the Part 620 amendments to Part 807 landfills with Illinois EPA and was told that the amendments to Part 620, including the groundwater quality standards for the PFAS constituents, are immediately applicable to Part 807 landfills. Therefore, Land and Lakes 1 & 2 cannot certify the post-closure period has ended under Section 807.524(c) unless the site can demonstrate it can meet the Part 620 groundwater quality standards for the new PFAS constituents.

Second, the same economic concerns expressed by representatives for NWRA during the Part 620 rulemaking (R2022-018) apply equally to Part 807, 811 and 814 landfills. As such, Sections 620.410(f) and 620.420(e) should be amended to exempt landfills regulated pursuant to Part 807, as well. For the Board's reference, Part 811 landfills are landfills that meet the standards presented in 35 Ill. Adm. Code Part 811. *See* 415 ILCS 5/3.285. They are subject to the most stringent location, design and operating standards. Part 814 landfills are landfills in existence as of October 1993 or lateral expansions of those existing landfills, which were required to either comply with the Part 811 operating standards (per 814 Subpart C) or close by 1997 (per 814 Subpart D). *See* 35 Ill. Adm. Code 814.107. Many of the Part 814 landfills closed by 1997, in lieu of having to comply with the applicable sections of the Part 811 operating standards. As I stated earlier in my testimony, Part 807 landfills closed no later than 1993 or 1994, over 30 years ago.

I assisted the NWRA's Landfill Technical Committee with preparation for the Board's hearings and attended the Board's hearings with the committee members and their counsel. I believe the intent of the NWRA's testimony and comments was to include all landfills

uncategorically in the exemption. There was no discerning between Part 807, 811 and 814 units with the exception of impacts to the Groundwater Impact Assessments (GIA), which are specific to Part 811 and Part 814 Subpart C units.

The following pre-filed testimony provided by the NWRA committee cited both sets of regulations, Parts 807 and 811, and was not specifically limited to Part 811:

> My testimony today focuses on the industry's concerns with the proposed PFAS new standards and how the IEPA's proposed changes to Part 620 will affect our **807 and 811 sites** and their monitoring programs both operationally and financially.
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> * * *
>
> Data reported by others in various studies and sample results for our landfills in other states indicate PFAS will be detected in landfill leachate especially at such proposed conservative low detection limits. The presence of PFAS in leachate is due to disposal of many different PFAS containing products. Once the testing of PFAS is added to our leachate monitoring program this will immediately add substantially more monitoring and associated costs that we believe have not been thoroughly researched by the IEPA – either as to the reasonableness of such costs in relation to environmental benefit or as to the feasibility of monitoring or remediating to such conservative values. **This will affect 807 sites** as well as "greenfield" sites all the way through post closure of currently active facilities.
>
> * * *
>
> One of NWRA's primary concerns with the IEPA's proposed rule is that it fails to consider and address the cost and feasibility of treating leachate or biosolids to achieve the PFAS levels proposed, presuming such may be required to achieve those levels. Specifically, **as to both 807 and 811 sites**, we are concerned with how the proposed standards will affect our need to remove and dispose of leachate at local WWTPs.
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> Ballenger Test. at 2, 4 (September 15, 2022) (emphasis added).

The NWRA committee clarified that this testimony was referring to "all permitted landfills that have groundwater monitoring obligations," which includes landfills regulated under Part 807, in response to the following Board Questions:

24. On page 2, you state, "this will affect 807 sites as well as "greenfield" sites all the way through post-closure of currently active facilities."

a. Regarding Part 807 facilities, please clarify whether you are referring to landfills or all types of waste disposal facilities regulated under that Part.

ANSWER: The concern throughout my comments is that we do not know how IEPA intends to implement these new strict groundwater standards in the context of the landfill regulations, and we have no idea or control over when or whether the IEPA might seek to change the landfill regulations to address these concerns. Thus, we are forced to address the issues based upon our experience with IEPA implementing other Board promulgated groundwater standards at landfill sites.

Our further concern here is that given the very strict standards proposed, and the ubiquitous nature of PFAS, the proposed standards may not be achievable and/or may reflect background conditions unrelated to possible landfill releases – forcing environmental violations without properly assessing actual environmental or public health risk in the context of landfill operations.

As to the Board's specific question, **I am referring to all permitted landfills that have groundwater monitoring obligations – recognizing of course that any landfill still regulated under Part 807 has long ago closed and, while it has different obligations than newer landfills regulated pursuant to Part 814, some old waste units continue to be regulated under Part 807 and still have groundwater monitoring obligations as the IEPA has not released those areas from post-closure care.**

b. If you are referring to landfills, please comment on whether landfills in the State that are still being regulated under Part 807 or they generally regulated under Parts 813 and 814.

ANSWER: See above.

Ballenger Pre-Filed Answers at 1-2 (November 23, 2002) (emphasis added).

Mr. Ballenger further testified at the Board's hearing held on December 7, 2022 that NWRA's concern was the same for Parts 807 and 811 sites, when addressing testimony from the Illinois EPA that it intended to put the Part 620 PFAS standards into landfill permits as enforceable standards:

> [W]e also have a concern obviously with the pre-Subtitle D facilities under the 807 rules. And it is my understanding that once PFAS is added, that will have to be added to groundwater facilities. And that is even potentially more of a concern

> because of the age of the facilities, also the age and the type of pumping products that we have used in those older facilities, and for facilities that are very close to ending its postclosure care period under the current rules, adding potentially PFAS in the parts per trillion could certainly open up those facilities to more scrutiny, more trying to identify what the potential sources of PFAS be whether it be background or such.
>
> So I think, you know, regardless of 811 or 807, it still really is the same concern. There hasn't been enough studies done on how this will affect our ability to monitor effectively and the associated costs.

Board Hrg. Trans., December 7, 2022 (Ballenger Test.) at 95-96.

The following pre-filed testimony provided by the NWRA also addressed Part 807:

> The addition of PFAS constituents at the levels in the proposed rule will have currently undefined impacts on multiple other regulatory programs. Without a structured review of the impacts the proposed changes have on **other regulatory programs**, individuals, businesses and units of local government will be left without a practical or economic alternative to comply with the other regulatory programs.

Hilbert Test. at 2-3 (September 15, 2022) (emphasis added).

The reference to "regulatory programs" in Mr. Hilbert's testimony was meant to be plural and not specific to Part 811. Later in his testimony, he did reference the Groundwater Impact Assessment (GIA – Section 811.317) in that with such low standards for the six PFAS constituents, passing the contaminant transport model would be problematic for those sites operating or in post-closure care pursuant to Part 811.

Mr. Hilbert further discussed complexities of the sampling and analyses process and potential for cross-contamination due to Teflon and PFAS containing plastics in existing components of the groundwater monitoring network. These issues will apply to sites in both regulatory programs (Parts 807 and 811).

Mr. Hilbert and Mr. Ballenger addressed the situation between the landfills and the POTWs, and how treatment or pre-treatment may be necessary for leachate at the landfills. Mr. Hilbert specifically referenced the requirement for leachate removal pursuant to the Part 811 rules.

He did not specifically reference Part 807 landfills as, in general, Part 807 sites are not required to actively extract leachate. However, if leachate extraction is occurring as part of a correction action program, Part 807 landfills encounter the same issues as Part 811 landfills.

Further, the following public comment filed by NWRA about the immediate impacts of the revised Part 620 standards specifically calls out Part 807 landfills:

> NWRA and its member companies remain incredibly concerned that the Agency's regulatory approach—and now the Board's First Notice Opinion and Order—fail to address the impact to other Board regulatory programs, especially programs that are required to monitor and meet Part 620 Groundwater Quality Standards, such as the Board's landfill regulations. Over the past several decades, the Agency has woven the Part 620 Groundwater Quality Standards into various other regulatory programs administered by the Agency. Specifically, the regulations of 35 Illinois Administrative Code 620 can be implemented to landfill facilities operating or in post- closure care pursuant to 35 Illinois Administrative Code 814, Subparts C or D, **or for those sites under post-closure care pursuant to 35 Illinois Administrative Code 807** without additional rulemakings to update those provisions and largely through incorporations by reference.
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> PC 62 at 1-2 (emphasis added).

Regardless of the reason for not previously including Part 807 landfills as part of the exemption granted to Parts 811 and 814 landfills, there is no principled distinction between these landfill categories for purposes of the new PFAS Part 620 standards. All three landfill categories are subject to the same costs, risks and uncertainties inherent in this new rule, with the exception of the GIA specific to Parts 811 and 814 Subpart C units. It is simply unknown how, and whether, the landfills can comply with this rule, issued decades after designing and implementing a groundwater monitoring program, developing closure and post-closure care programs, and providing the associated financial assurance for those programs.

R2022-018, SUBDOCKET A: INFORMATION REQUEST

The Board opened Sub-docket A to develop the record on the economic impact of the Part 620 PFAS groundwater quality standards on landfills. On May 15, 2025, the Board directed any participant to provide the Board with certain information regarding landfills regulated under Parts 811 and 814. Part 807 landfills still in post-closure care should be included in this information request as the potential costs of compliance are comparable to those costs for Part 811 and Part 814 landfills. None of these landfills previously have been required to test for PFAS as part of their regular groundwater monitoring programs. None of them have factored in the added cost of any potential monitoring, assessment or corrective action for the PFAS constituents, and none of them have estimated or provided for those costs in their financial assurance for closure and post-closure care. To my knowledge, there is simply no analytical record established at any of the landfills.

In my opinion, the economic impacts to a Part 807 landfill are comparable to those for a Part 811 or 814 facility, with the one exception related to the GIA for Parts 811 and 814 Subpart C. The Part 807 landfills ceased accepting waste decades ago. There is no revenue being generated from waste disposal. Given the extremely low groundwater quality standards for the PFAS constituents, the potential for these sites to exit post-closure is unlikely without substantial investment in PFAS remediation. With this significant economic burden and no matching revenue streams to offset these unplanned costs, it will not be surprising if many owners of Part 807 landfills will be forced to walk away from the sites, leaving these sites to the State of Illinois to manage. Many of the Part 807 sites are municipally-owned or under the management of the Illinois EPA already.

The following is a response to the Board's list of questions as they pertain to Part 807 landfills:

1. Provide a list of affected landfills in Illinois, i.e., landfills planning expansion and landfills undergoing assessment monitoring.

Response: All ninety-seven (97) Part 807 landfills in Illinois, as provided in Attachment A, are required to monitor for groundwater and will, therefore, be affected by the Part 620 PFAS standards. The fact that these landfills have not been released from post-closure care in the 30+ years since their closure indicates that most are likely in assessment or are orphan sites. There can be no expansion of landfills regulated pursuant to Part 807.

2. How many of the affected landfills currently monitor for PFAS?

Response: To my knowledge, no Part 807 facilities monitor for PFAS constituents as it was not a requirement of the applicable regulations.

3. Do the affected landfills monitor on a quarterly, semi-annual, or annual basis?

Response: The monitoring frequency varies according to the permits for each site, but in general, Part 807 landfills monitor quarterly. However, I would expect that the PFAS constituents will be added to the site's annual list of parameters (similar to the addition of 1,4-dioxane), which is a comprehensive list of constituents sampled on an annual basis.

4. *What would be the potential incremental cost of adding Part 620 PFAS constituents to existing monitoring program at affected landfills?*

Response: The term "incremental" implies there are costs over time that will be incurred due to initial monitoring of the Part 620 PFAS constituents. My testimony assumes the Part 620 PFAS constituents will be incorporated by the Illinois EPA into the annual list of parameters (commonly referred to as the G2 list of parameters) to the supplemental permits of all Part 807 units at some point. It is not clear when the Illinois EPA intends to add the PFAS 620 constituents to the applicable list of parameters for each landfill. My testimony also assumes background concentrations are in place and general routine monitoring costs apply. Information and costs

related to derivation of background concentration, verification of data, and assessment monitoring are provided in the response to Item 5 below.

The potential incremental cost of adding Part 620 PFAS constituents to existing monitoring programs will vary for each site depending upon the number of monitoring wells at each facility and their individual financial arrangements with employees, consultants, and laboratories for the sampling, analyses, and reporting of the results. As previously stated, sampling of most Part 807 landfill units occur on a quarterly basis, however, I anticipate the additional costs for sampling of the PFAS constituents will be incidental with the annual sampling events and not the quarterly events. A national laboratory that provides PFAS analyses to the limits specified in Sections 620.410 and 620.420 estimates the analyses of the six PFAS constituents at $375 per sample. I estimate that sampling, compilation and reporting costs will be an additional $45 per well; however, the amount will vary depending on the number of wells. Therefore, for each monitoring point, the cost of sampling, laboratory analysis and compilation/reporting is approximately $420 per event.

To determine the total potential incremental costs, the incremental sampling event costs must be multiplied by the number of wells for the expected number of years until release from post closure care. For Part 807 facilities, these incremental costs may be incurred for an unlimited number of years. As a result, the additional annual costs may have no end date. The incremental costs are included in Table 1.

5. What additional cost do landfills incur to monitor for PFAS?

Response: In addition to the costs of routine sampling and analyses of the PFAS constituents conducted on an annual basis (discussed in the response to Item 4 above), the following additional costs are expected to be incurred:

a. The unit/landfill will need to establish background concentrations for the PFAS constituents by conducting four consecutive quarters of sampling at the upgradient/background wells. This will include a submittal of supplemental permit applications with the proposed statistical background concentration(s). This process may continue for some time dependent upon issuance of comments by the Illinois EPA.

b. Evaluation of the current monitoring well network will need to be completed to ensure cross-contamination from Teflon tape, gaskets, tubing or pumps are not impacting the results. It is difficult to assess a cost to such events at this time as no current PFAS data exists. Demonstrating that the upgradient PFAS constituent concentrations are representative of background conditions may require the installation of additional wells, with the potential of sampling nearby surface water (site ditches or impoundments) and soils sampling (TCLP and/or SPLP). It is assumed that this will be conducted in cooperation with the Illinois EPA; efforts will significantly vary from site to site.

c. At this point, any downgradient PFAS constituent concentration can be compared to the background concentrations. If an exceedance occurs, the permit conditions of Attachment A to the supplemental permit must be followed. These conditions typically mimic the regulations presented in Section 811.319(b) specific to Part 811 and Part 814 units.

d. Given the pervasiveness of PFAS in the environment, the chances of any landfill going into assessment monitoring will increase. This will require the installation of additional monitoring wells as well as related sampling, analysis and permitting.

Costs for the items discussed above are estimated for a typical Part 807 site in Table 1 attached to this testimony. These costs are a continuation of the incremental costs also included in Table 1.

6. How many of the affected landfills in the State are expected to begin corrective action to address PFAS if Part 620 PFAS constituents are included under the groundwater quality standards?

Response: Given the extremely low detection limits for PFAS, the chances are that many Part 807 landfills will enter corrective action.

7. What is the estimated cost of PFAS-related corrective action for each landfill?

Response: Under Part 807, a groundwater management zone (GMZ) will be necessary for the impacted areas. As provided in Section 620.250(b), an application for establishment of a GMZ must be submitted, adhering to the requirements of Section 620 Appendix D.

To estimate PFAS-related corrective action costs for each Part 807 landfill, the site conditions must be generalized as each landfill will vary significantly. The variabilities include aerial and volumetric size, final cover system, physical settings, hydrogeological settings, whether the landfill contains gas vents, characteristics of the waste, and placement methods of the waste during operation. What may work for one site may not work for others.

Remedial action designs for PFAS constituents will be similar to most other contaminants. It will likely involve source control, including leachate extraction, treatment and disposal, and/or hydraulic gradient control and removal of the impacted groundwater through groundwater extraction that may or may not include barrier walls. However, removal of such PFAS-containing liquids (groundwater or leachate) may be complicated by the lack of treatment facilities willing to accept such liquids. Even if publicly-owned and/or private water treatment facilities decide to accept the PFAS-containing liquids for treatment, the treatment and disposal costs are currently unknown. In addition, transportation costs could be very significant depending upon the distance

to a facility accepting these liquids. Part 807 facilities, none of which are currently operating, are highly unlikely to have the economic resources available to develop on-site PFAS treatment methods. However, ranges for construction and operational costs have been estimated for on-site treatment facilities for the PFAS constituents.

The corrective action program will require an adequate groundwater monitoring program that allows continued monitoring of the extent of the GMZ during corrective action. Costs for well installations and monitoring must be included in the estimate.

The remedial actions continue until the applicable groundwater quality standards are achieved within the GMZ pursuant to Section 620.450(a)(4)(A).

Costs for anticipated remedial action for typical sites regulated by Part 807 are provided in the attached Table 2. As described in the response to Item 4 above, the remedial costs for a Part 807 unit will likely have no termination date; therefore, total costs are highly uncertain and cannot be calculated.

8. Provide cost breakdowns for PFAS-related remediation efforts for landfills in other states.

Response: Evaluation of PFAS-related impacts at landfill units, in general, is in the early stages. Treatment technologies are emerging but have not been applied on a large scale. Information is sparse. In polling personnel from multiple national solid waste disposal companies, the cost breakdowns for PFAS-related remediation efforts in other states is not available.

This concludes my testimony.

ATTACHMENT A

	ID No.	SiteName	StreetAddr	City	ZipCode	County	Latitude	Longitude
J		**PART 807 PERMITTED SOLID WASTE LANDFILLS, CLOSED, BUT NOT CERTIFIED CLOSED**						
1	0178050001	Lewis				Cass	39.96279	-90.41234
2	0298050006	Western Lion Ltd				Coles	39.50892	-88.26854
3	0298080001	Kaufman Landill				Coles	39.61279	-88.37589
4	0310450011	Fitzmar Landfill Inc				Cook	41.48766	-87.62805
5	0310690005	Cottage Grove Landfill				Cook	41.64459	-87.59783
6	0316000033	Paxton Landfill Corp 2				Cook	41.69249	-87.57197
7	0418030001	Multi-County Landfill		Villa Grove		Douglas	39.87847	-88.13709
8	0598030001	Lambert				Gallatin	37.72940	-88.34705
9	0838030003	Pointer				Jersey	39.14536	-90.24468
10	0894380008	Elgin Municipal				Kane	42.00780	-88.31477
11	0998330001	Fredericks Dump Site				LaSalle	41.35643	-88.99906
12	1058070001	Ocoya Sanitary Landfill				Livingston	40.80105	-88.69853
13	1078020002	Logan Landfill Inc (aka Landers LF)				Logan	40.08946	-89.39350
14	1158010001	Waste Hauling Landfill				Macon	39.81469	-89.06455
15	1158020001	Bath Inc				Macon	39.82848	-88.97881
16	1158020005	Waste Control				Macon	39.83611	-88.93056
17	1170150002	Carlinville Landfill				Macoupin	39.26857	-89.87140
18	1178130001	Stauton Landfill Inc				Macoupin	39.05756	-89.80495
19	1190100001	Owens-Brockway Glass Container				Madison	38.82390	-90.01621
20	1214220003	Centralia Env				Marion	38.51500	-89.11988
21	1218020002	Prior-Blackwell				Marion	38.51500	-89.11988
22	1218020006	Prior/Peabody Mine 5				Marion	38.51500	-89.11988
23	1358090001	Donley Inc				Montgomery	39.33333	-89.32500
24	1358150003	Bishop Landfill				Montgomery	39.15097	-89.64613
25	1530150002	Delta Regional Landfill				Pulaski	37.12382	-89.23401
26	1598070005	Ochs 2				Richland	38.71838	-88.08922
27	1618000001	Watts Landfill				Rock Island	41.43779	-90.67902
28	1630100001	Roesch Inc				St. Clair	38.52398	-90.00892
29	1630100002	J&R Landfill Inc				St. Clair	38.48538	-90.02141
30	1638160001	Bi State Disposal Inc				St. Clair	38.51230	-89.98895
31	1838070002	Tweedy 1				Vermilion	40.41549	-87.67622
32	1938010002	White County Landfill 2				White	38.11528	-88.18611
33	1970450003	Carlstrom				Will	41.51111	-88.09612
34	2010300008	Nimtz Quarry				Winnebago	42.33071	-89.01237

OBJECTID	SiteID	SiteName	StreetAddr	City	ZipCode	County	Latitude	Longitude
K		**PART 807 PERMITTED SOLID WASTE LANDFILLS PERMITTED, IN POST-CLOSURE**						
1	0050050001	D&L Landfill Inc				Bond	38.88560	-89.42620

2	0070050006	Belvidere Municipal 2	Boone	42.29610	-88.85030
3	0110850001	Princton Muncipal Landfill	Bureau	41.37870	-89.49391
4	0111100001	Walnut Municipal	Bureau	41.42938	-89.39353
5	0198110001	Rantoul Municipal Landfill	Champaign	40.34351	-88.12001
6	0310450009	Chicago Heights Refuse Depot	Cook	41.49044	-87.63244
7	0310630001	Des Plaines Landfill	Cook	42.06961	-87.88370
8	0311590001	Prairie/Lansing Landfill	Cook	41.58611	-87.55000
9	0311620027	Northeast Illinois Railroad Co	Cook	41.67406	-88.00298
10	0313330001	Winnetka Municipal	Cook	42.09938	-87.75400
11	0314520001	31st Street Landfill	Cook	41.84070	-87.91409
12	0316000005	Land & Lakes 1&2	Cook	41.64579	-87.59290
13	0316000008	Stearns Quarry	Cook	41.84255	-87.65055
14	0398080005	Clinton Landfill Inc	DeWitt	40.11590	-88.96270
15	0418080002	Equistar Chemicals	Douglas	39.79306	-88.34723
16	0478580001	Edwards County Landfill	Edwards	38.45616	-88.05694
17	0558020005	Risley 2	Franklin	37.97596	-88.97122
18	0670650005	Finton 2	Hancock	40.35652	-91.42198
19	0678150001	Carthage Muni	Hancock	40.42700	-91.14591
20	0798090002	Bergbower	Jasper	38.99500	-88.11000
21	0818020004	Mt Vernon Muniicpal 3	Jefferson	38.30555	-89.05120
22	0838000001	Principia College	Jersey	38.95501	-90.34811
23	0838040001	Jersey Sanitation Corp	Jersey	39.08647	-90.36540
24	0850150003	Elizabeth Municipal 2	JoDaviess	42.31250	-90.23056
25	0890350001	Midway Landfill 1	Kane	41.86896	-88.28767
26	0890350003	Midway Landfill 2 (and 3)	Kane	41.86965	-88.28543
27	0958160002	Knox County Landfill Combined Phase I/II	Knox	41.02290	-90.24890
28	0970900001	Lake County Grading Co LLC	Lake	42.33960	-87.94320
29	0972000001	Zion Municipal 1	Lake	42.46616	-87.84852
30	0972000003	Zion Municipal 2	Lake	42.46590	-87.84650
31	0978110002	US Naval Training 2	Lake	42.29995	-87.86696
32	0990850002	Peru Municipal 2	LaSalle	41.31650	-89.12200
33	1058040001	Diller-Prinsco	Livingston	40.76667	-88.28333
34	1058220007	Streator Area Landfill	Livingston	41.09620	-88.85343
35	1118010002	McHenry Co Sanitary Landfill	McHenry	42.23144	-88.27917
36	1130950001	Bradd	McLean	40.42164	-88.52688
37	1158020006	Rhodes	Macon	39.83080	-88.97900
38	1190250001	Edwardsville Municipal	Madison	38.82045	-89.97303
39	1198010020	Chain of Rocks South Phase 1	Madison	38.76195	-90.12930
40	1218130003	Salem Community Landfill	Marion	38.61370	-88.93231
41	1218130007	Salem Municipal Landfill 2	Marion	38.61834	-88.93339

42	1318030001	Viola Landfill	Mercer	41.23561	-90.61635
43	1278540004	Metropolis Municipal	Massac	37.20650	-88.79940
44	1318130001	Spencer	Mercer	41.23974	-90.49575
45	1350150002	White & Brewer Trucking	Montgomery	39.07136	-89.38065
46	1358030006	White & Brewer Trucking Cell A-D	Montgomery	39.06675	-89.37899
47	1378020004	Jacksonville Municipal 3	Morgan	39.82430	-90.23020
48	1598070001	Ochs 1 & 2 Landfills	Richland	38.68699	-88.07353
49	1610400007	Quad Cities Landfill Ph 1 2 & 3	Rock Island	41.37570	-90.52309
50	1618100004	East Moline Municipal	Rock Island	41.54390	-90.38350
51	1631000003	PBT Landfill- SE Unit	St. Clair	38.64366	-90.14149
52	1678250016	Buerkett 2	Sangamon	39.77164	-89.60985
53	1770200002	Freeport Municipal 2 & 3	Stephenson	42.26370	-89.61919
54	1818520001	Anna Municipal	Union	37.48161	-89.26568
55	1878080001	Monmouth Landfill	Warren	40.89867	-90.62599
56	1918080001	Daubs Landfill 1	Wayne	38.35034	-88.32357
57	1958140003	Whiteside County Landfill 2	Whiteside	41.79910	-89.88431
58	1970450027	Joilet Army Ammunition Plant	Will	41.37279	-88.10314
59	1978170005	CDT Landfill	Will	41.49596	-88.15415
60	1998580001	Herrin Municipal Landfill	Williamson	37.77603	-89.00547
61	1998580002	Hindman Landfill	WIlliamson	37.77515	-89.00736
62	1998620012	Marion Municipal 4	Williamson	37.76583	-88.92917
63	2010300025	Rockford Airport - Unit I	Winnebago	42.19070	-89.09891

OBJECTID	SiteID	SiteName	StreetAddr	City	ZipCode	County	Latitude	Longitude
M		**OTHER PART 807 SOLID WASTE LANDILLS**						
1	0310450001	Chicago Heights Muni				Cook	41.49802	-87.63674
2	0310450005	Triem Ind Bldgs Operation				Cook	41.48985	-87.62124
3	0316000002	Paxton Landfill Corp				Cook	41.68273	-87.56683

OBJECTID	SiteID	SiteName	StreetAddr	City	ZipCode	County	Latitude	Longitude
N		**PERMITTED LANDFILLS REGULATED UNDER 35 IAC PART 807 -- Never Developed**						
1	0318050005	SWANCC Balefill				Cook		
2	0578010002	Illinois Power Resources Duck Creek				Fulton	40.46529	-89.98485
3	0670250001	Sutton	Rural Route 3	Carthage	62321	Hancock		
4	1130900014	Normal Lime Sludge Disposal	South Cottage Ave	Normal	61761	McLean		
5	1158120005	Decatur North Water Plant				Macon	39.88062	-88.86832

Last updated 5/22/2025

TABLE 1

TABLE 1

Estimated Incremental Costs of Adding Part 620 PFAS Constituents to Existing Groundwater Monitoring Program of "Typical" Part 807 Landfill

I. Establishment of Background Concentrations for PFAS Constituents

	Item	# wells	Cost/Well	Occurrences	Estimated Cost	Duration	Total Cost	Comments
1	Background Sampling	2	$ 420	4	$ 3,360	1 year	$ 3,360	Establishing background concentrations requires 4 consecutive quarters of data.
2	Engineering Costs for Permit Application			1	$ 5,000	90 days	$ 5,000	Calculation of statistical derivation of background concentrations.
3	Verification of Background Data			1	$ 15,000	6-12 months	$ 15,000	Costs will vary as this is site specific. May include installation of additional wells, additional sampling and analysis of existing wells, surface water and soil samples. Meetings with IEPA likely necessary. Installation of one well is approximately $12,000.
4	Permitting of Assessment Monitoring Program			1	$ 7,500	6 months	$ 7,500	Preparation of supplemental permit application defining the assessment monitoring program.
5	Assessment Extent Investigation			1	$ 72,100	6 months	$ 72,100	Costs will vary as this is site specific. An extent investigation requires a phased drilling approach of Geoprobe borings and the installation of a least four wells, construction oversight, surveying and documentation.
6	Laboratory Analysis of Geoprobe Samples			8	$ 3,000	30 days	$ 3,000	Assumes 8 borings.
7	Installation of Compliance Boundary Wells			4	$ 12,000	90 days	$ 48,000	12,000 per well - costs will very significantly dependent upon the site geology and depth and number of water-bearing deposits.
8	Reporting/Permitting			1	$ 7,500	90-180 days	$ 7,500	Extent investigation results to be submitted to IEPA. Multiple submissions may be required for each phase of investigation.
				Estimated time to establishment of program:		**40-49 months**		
				Costs to Establish Assessment Program:			**$ 161,460**	

II. Annual Costs

	Item	# Wells	Cost/Well	Occurrences	Annual Costs	Duration	Total Cost	Comments
9	Annual Sampling Event	15	$ 420	1	$ 6,300	UNKNOWN	TBD	Assumes conducted 1x/yr as part of routine monitoring.
10	Sampling & Laboratory Analysis -12 wells (4 Compliance Boundary Wells 4 Groundwater Monitoring Zone Wells 4 Impacted Detection Wells)	12	$ 590	4	$ 28,320	UNKNOWN	TBD	Quarterly monitoring for one year. To be incurred annually until corrective action is completed.
11	Annual Reporting and Permitting		$ 7,500	1	$ 7,500	UNKNOWN	TBD	Results of analysis to be submitted in reports to IEPA. Multiple reports may be required.
				Annual Costs:	**$ 42,120**			
				Number of years of Operation:		**TBD**		
				Total Annual Costs:			**TBD**	

TABLE 2

TABLE 2

Estimated Costs for PFAS-Related Corrective Action at "Typical" 50-acre Part 807 Landfill

I. Initial Planning and Construction of PFAS Control and Reduction Systems

	Item	Units		Cost	Occurrences		Total Cost	Comments
1	Preliminary Correction Action Design	Lump Sum	$	5,000	1	$	5,000	The preliminary design must consider all factors to control the sources of PFAS constituents and identify necessary information.
2	Final Cover Augmentation	Acre	$	151,000	50	$	7,550,000	Part 807 landfills typically contain a soil final cover system which will have settled and been subject to multiple freeze-thaw cycles. Augmentation of final cover will be necessary to reduce precipitation infiltration and subsequently reduce leachate generation. This estimate assumes installation of a standard geocomposite cover system with geotextile. This per acre estimate assumes a clay borrow source is near the Part 807 site, which is often not the case.
3	Leachate Extraction System	Lump Sum	$	285,000	1	$	285,000	Assumes installed five extraction wells and related infrastructure (force main, air line for pneumatic pumps, frac tank for leachate storage, secondary containment for tank and loadout pad).
4	Groundwater Extraction System	Lump Sum	$	130,600	1	$	130,600	A groundwater extraction system can control the hydraulic gradient and remove contaminants. This cost estimate assumes installation of three extraction wells, air lines, force main and pumps which produce 30,000 gallons/week. Extracted groundwater would be treated at a nearby POTW.
5	Barrier Wall Installation	Lump Sum	$	844,388	1	$	844,388	Barrier walls are installed to limit the volume of extracted groundwater necessary to achieve the clean-up objectives. Design and costs are highly variable based upon site hydrogeologic characteristics at an individual site. Estimate assumes a 1,000 linear foot barrier wall at an average of 40 feet in depth.
					Initial Costs:	**$**	**8,814,988**	

II. Annual Operations and Maintenance of Systems

	Item	Units		Cost	Occurrences		Total Cost	Comments
6	Annual POTW Leachate Treatment							
	Treatment	gallons		UNKNOWN	1,200,000		TBD	POTWs may refuse to treat liquids containing PFAS. If POTWs do accept Part 807 landfill liquids, this estimate includes treatment
	Hauling	truck loads	$	450.00	$ 400	$	180,000	costs per gallon for 25,000 gallons per week, with hauling to a nearby POTW. Typical tanker trucks typically carry 3,000 gallons.
7	Annual Maintenance and Operation of Leachate Extraction System	Lump Sum	$	50,000	1	$	50,000	Electric costs for pumps, routine repairs of extraction points, air lines and force main based on experience with typical Part 807 site.
8	Annual Groundwater Extraction Costs							
	Treatment	gallons		UNKNOWN	1,560,000		TBD	A groundwater extraction system can control the hydraulic gradient and remove contaminants. This cost estimate assumes
	Hauling	truck loads	$	450.00	520	$	234,000	installation of three extraction wells, air lines, force main and pumps which produce 30,000 gallons/week. Extracted groundwater would be treated at a nearby POTW.
9	Annual Maintenance and Operation of GW Extraction System	Lump Sum	$	50,000	1	$	50,000	Electric costs for pumps, routine repairs of wells, air lines and force main based on experience with typical Part 807 site.
					Annual Costs, Before POTW Treatment Costs Are Identified:	**$**	**464,000**	
					Number of Years of Operation :		**TBD**	

III. Alternative Treatment if POTW Refuses PFAS Liquids

	Item	Units	Cost	Occurrences	Total Cost	Comments
10	Construction of On-Site Treatment System	1	$1-5 million	1	$1-5 million	Treatment technologies are emerging but not applied on a large scale. Information is sparse. The size of an on-site treatment system is based on information that is not readily available at this time, including volumes of leachate and/or impacted groundwater requiring treatment. A system for larger volumes can exceed the cost range provided.
11	Annual Operation and Maintenance of On-Site PFAS Treatment System	1	$100k to $500k	TBD	$100k to $500k	Treatment technologies are emerging but not applied on a large scale. Information is sparse. Number of years of operation unknown.
			Costs of Alternative to POTW Treatment:		**TBD**	

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
PROPOSED AMENDMENTS TO	)	R22-18(A)
GROUNDWATER QUALITY	)	(Rulemaking – Public Water Supplies)
35 ILL.ADM.CODE 620	)	

NOTICE OF ELECTRONIC FILING

TO: ALL PARTIES ON THE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that on July 25, 2025 , **Land and Lakes Company** electronically filed with the Office of the Clerk of the Illinois Pollution Control Board the TESTIMONY OF BRAD HUNSBERGER ON BEHALF OF LAND AND LAKES COMPANY, a copy of which is hereby served upon you.

/s/ Ann M. Zwick

Ann M. Zwick

Dated: July 25, 2025

Philip L. Comella
Ann M. Zwick
Taft Stettinius & Hollister LLP
111 E. Wacker Dr. #2600
Chicago, IL 60601
(312) 836-4112
PComella@taftlaw.com
AZwick@taftlaw.com

Service List

Illinois Environmental Protection Agency **Petitioner** Sara Terranova - Assistant Counsel sara.terranova@illinois.gov Nick M. San Diego - Deputy General Counsel nick.m.sandiego@illinois.gov Kaitlyn Hutchison - Assistant Counsel kaitlyn.hutchison@illinois.gov 2520 W Iles Ave P.O. Box 19276 Springfield, IL 62794	Illinois Pollution Control Board **Interested Party** Don Brown - Clerk of the Board don.brown@illinois.gov 60 E Van Buren St Suite 630 Chicago, IL 60605
Metropolitan Water Reclamation District of Greater Chicago **Interested Party** Jorge T. Mihalopoulos - Head Assistant Attorney jorge.mihalopoulos@mwrd.org Susan T. Morakalis - General Counsel morakaliss@mwrd.org J. Mark Powell - Senior Attorney PowellJ@mwrd.org 100 E. Erie Street Chicago, IL 60611	Barnes & Thornburg **Interested Party** Fredric P. Andes fandes@btlaw.com Ian Surdell ian.surdell@btlaw.com 1 North Wacker Drive Suite 4400 Chicago, IL 60606
Illinois Department of Natural Resources **Interested Party** Renee Snow - General Counsel renee.snow@illinois.gov One Natural Resources Way Springfield, IL 62702	Brown, Hay & Stephens LLP **Interested Party** Scott B. Sievers ssievers@bhslaw.com Lauren C. Lurkins llurkins@bhslaw.com Claire D. Meyer cmeyer@bhslaw.com 205 South Fifth Street, Suite 700 P.O. Box 2459 Springfield, IL 62705
International Molybdenum Association **Interested Party** Sandra Carey - HSE Executive sandracarey@imoa.info 454-458 Chiswick High Road, London, W4 5TT, United Kingdom	Illinois Environmental Protection Agency **Interested Party** Trevor D. Dell'Aquila - Assistant Counsel trevor.dellaquila@illinois.gov 115 S. LaSalle Street Suite 2203 Chicago, IL 60603

ArentFox Schiff LLP **Interested Party** Joshua R. More Joshua.More@afslaw.com Bina Joshi Bina.Joshi@afslaw.com Daniel J. Deeb Dan.Deeb@afslaw.com Sarah L. Lode Sarah.Lode@afslaw.com Alex Garel-Frantzen Alex.Garel-Frantzen@afslaw.com 233 South Wacker Drive Suite 6600 Chicago, IL 60606	Sorling Northrup **Interested Party** James M. Morphew jmmorphew@sorlinglaw.com 1 North Old State Capitol Plaza, Suite 200 P.O. Box 5131 Springfield, IL 62705
American Chemistry Council **Interested Party** Aleacia Chinkhota aleacia_chinkhota@americanchemistry.com Rob Simon Rob_Simon@americanchemistry.com 700 2nd Street, NE Washington, DC 20002	Illinois Environmental Regulatory Group **Interested Party** Trejahn Hunter thunter@ierg.org 215 East Adams Street Springfield, IL 62701
Barnes & Thornburg LLP **Interested Party** Jennifer Baker jbaker@btlaw.com 11 South Meridian St Indianapolis, IN 46024	Joint Committee on Administrative Rules **Interested Party** Kim Schultz - Executive Director kimberlyS@ilga.gov Wm. G. Stratton Office Building Room 700 Springfield, IL 62706
Beveridge & Diamond, PC **Interested Party** Nessa Coppinger ncoppinger@bdlaw.com Daniel Schulson dschulson@bdlaw.com 1900 N. St. NW Washington, DC 20036	Office of the Attorney General **Interested Party** Ellen F. O'Laughlin - Senior Assistant Attorney General Ellen.Olaughlin@ilag.gov Jason James - Assistant Attorney General Jason.James@ilag.gov 69 West Washington Street, Suite 1800 Chicago, IL 60602

CERTIFICATE OF E-MAIL SERVICE

The undersigned attorney certifies that she served a copy of the foregoing TESTIMONY OF BRAD HUNSBERGER ON BEHLAF OF LAND AND LAKES COMPANY, to the above-listed parties, by sending a copy to the email addresses designated above on or before 4:30 p.m. on July 25, 2025.

/s/ Ann M. Zwick

One of the Attorneys for Land and Lakes Company