Public Information Meeting on JRL Landfill Expansion Application
Old Town City Council Chambers September 29, 2025
Public Comments and Response

1. **Are there maps that look at groundwater flows?**
   There are maps that show groundwater flows at the landfill. The site assessment report in Volume II of the Application will contain the hydrogeologic information required by the solid waste rules for a landfill expansion and demonstrates that no unreasonable risk of a discharge to a significant groundwater aquifer exists.
2. **How are the liner sections connected?**
   Geomembrane panels are welded together using fusion or extrusion methods. Each welded seam is then tested by the geomembrane installer under the oversight of a third-party quality assurance technician.
3. **Where do the sand, gravel, and clay come from? Is it sourced on site?**
   Some of the clay is sourced from a privately owned, adjacent property, but sand and gravel are hauled from another location off site.
4. **Is the sand reused or virgin material?**
   The sand is virgin material.
5. **Why wouldn't we apply the clay layer throughout the new liner system, and not just the augmented areas?**
   The liner system will incorporate a continuous clay layer throughout the entire primary liner system. The augmented areas of the secondary liner will get an additional layer of clay where the time travel to sensitive receptors is less than 6 years, which is the requirement of the solid waste rules. A sensitive receptor is defined in the Maine DEP Solid Waste Rules, chapter 400, which states: "'Sensitive receptor' means public and private water supply aquifers and wellhead protection zone; public and private drinking water supplies; significant ground water aquifers and primary sand and gravel recharge areas; sand and gravel deposits; and Class AA, A, and B surface water bodies and great ponds." The travel time to sensitive receptors in the remaining expansion area has a travel time longer than the 6-year requirement without the additional clay.
6. **If clay is better than till, why use till instead of clay for secondary liner system soil?**
   The till-based secondary liner system will meet the travel time requirements without the use of the additional clay. In addition to this, the volume of clay borrows in the adjacent borrow area is finite and when it is depleted, clay borrow will likely be trucked to the site on public roads. Using till barrier soil from an adjacent private property for the majority of the secondary liner will allow construction of the system while limiting trucking on public roads.

7. **Will Casella be testing residential drinking water?**

   Casella tests abutting residential wells upon request.

8. **What water quality testing will be done for the abutters to ensure PFAS testing is addressed?**

   Casella will be testing private water supplies for PFAS in accordance with 38 M.R.S. §1310-N(10-B).

9. **What is the life expectancy for the landfill liner system?**

   The landfill liner system is constructed to meet the requirements of MEDEP rules and utilizes both synthetic and natura (clay/till) materials to protect human health and the environment.

   Synthetic liner materials are made from high density polyethylene (HDPE) overlying a geosynthetic clay liner composed of dried clay and geotextile. Expected temperatures at the HDPE liner system are 70 to 80 degrees Fahrenheit (F). At this temperature, we anticipate the life expectancy of the primary geomembrane to be somewhere between 150 to 400 years. Natural materials utilized in the design include a 12-inch-thick clay barrier soil layer placed directly below the synthetic liners.

   Along with the primary liner system, a secondary liner system will also be incorporated. The secondary liner system also uses both synthetic (HDPE liner only) and natural soil materials, oriented similarly to the primary liner system described above.

10. **What are the negative effects to high temperatures in the landfill on the geosynthetic materials in the liner system?**

    Geomembrane liner physical properties can be impacted by high temperatures. Leachate at the landfill was recently measured to be between 70- and 80-degrees F. Because leachate flows over the geomembrane, its temperature is about the same as the geomembrane liner. This temperature is reasonable and much lower than the liner's melting point, which is between 248- and 338-degrees F.

11. **Why expand the landfill if it will increase leachate generation?**

    The landfill is being expanded to provide disposal capacity for the State of Maine. Once filled, cells will be permanently closed in accordance with State law and DEP Rules, which are detailed in the Operations Manual. Cell construction and cell cover projects will alternate years. As an example, if a new cell is built in 2027, then a cover project will occur in 2028.

Leachate produced at the facility was on average between 15 and 26.5 million gallons a year over the past five years, and during the planned expansion, it is expected to be between 10 and 27 million gallons a year as continued construction of final cover at the landfill is anticipated during the future expansion.

12. **What happens to the PFAS compounds that are removed from the landfill leachate after the treatment process?**

    PFAS treatment systems and technologies are still being evaluated. The disposal of concentrated PFAS compounds will be a component of the treatment system that is approved by the Maine Department of Environmental Protection (DEP) per the Public Benefit Determination (PBD).

13. **Will the PFAS treatment system be operational before the landfill expansion?**

    The PBD requires that the PFAS treatment system be operational prior to opening Cell 18 for accepting waste.

14. **Who issues the permits needed for landfill expansion?**

    Permits will be required from the DEP, U.S. Army Corps of Engineers, and City of Old Town.

15. **Why don't we take all the money that will go to the expansion, close JRL and start something new that is not in a watershed and use the remaining time left under the current expansion to allow for communities to increase recycling and composting rates to reduce the amount of waste being landfilled?**

    This question will be answered in multiple parts.

1. The State does not fund the construction of Juniper Ridge Landfill. The Operating Services Agreement (OSA) requires that Casella bears "all costs, expenses, and liabilities associated with the operation and maintenance of the Landfill," including construction of any future expansion.
2. When the initial search for a landfill site was conducted for the James River Paper Company in 1988, 58 sites were reviewed, and it was concluded that Juniper Ridge was the best site for the landfill.
3. Maine already has laws to encourage recycling and waste reduction, but as a state, we are a long way from reaching those goals.

The 2024 Maine Materials Management Plan from the DEP states:

"Maine's laws have established specific recycling and waste reduction goals including:

- 38 M.R.S. § 2132(1) A goal to recycle or compost 50% of the MSW tonnage generated each year within the State by January 1, 2021.

- 38 M.R.S. § 2132(1-B) A goal to reduce the statewide per capita disposal rate of MSW tonnage to 0.55 tons disposed per capita by January 1, 2019, and to further reduce the statewide per capita disposal rate by an additional 5% every 5 years thereafter. This incremental goal of reducing waste by 5% every 5 years provides a mechanism to measure progress at the municipal level.
- 38 M.R.S. § 2133(1-A) Municipal responsibilities for meeting the goals above. Municipalities are not required to meet the state recycling goal in 38 M.R.S. § 2132, but they must demonstrate reasonable progress toward that goal, and the DEP shall determine reasonable progress. While reasonable progress is not specifically defined in statute, the DEP notes that the goals set in statute are used as criteria for determining progress.

Maine's combined MSW, CDD, and organics recycling rate was 24.46% (less than half of the goal set for 2021).

Maine's per capita disposal rate is 3.8 tons (almost 7 times the goal set in statute).

The changed economics of recycling have caused many municipalities in Maine to consider curtailing or eliminating their programs. Some communities have faced steep increases in costs for recycling services from private sector companies. When these costs are greater than the cost of disposal some are opting to suspend recycling services, at least until recycling is less costly than disposal."

"More waste is being generated in Maine despite our collective efforts to reduce, reuse, and recycle, which leads to a need for landfill space. Even if everyone reduces, reuses, composts, and recycles, and even if ... processors are running all the time, we still need landfills to handle certain waste streams. A new landfill could probably not as a practical matter be sited, permitted, and developed in time and BGS has an obligation to the entire state (because private landfills are banned) to ensure that this capacity exists."

16. How is "unreasonable risk" to groundwater evaluated and defined?

Unreasonable risk is evaluated through assessment of the proposed site and surrounding areas including classified surface waters, significant sand and gravel aquifers, and fractured bedrock aquifers that could be affected by the proposed facility during normal operations or in the event of unforeseen events including the failure of engineered barriers to ground water flow.

Maine Revised Statute Title 38 Chapter 1310-N(A-2) indicates that the Department may not issue a license for a solid waste disposal facility if it finds that the facility overlies a significant sand and gravel aquifer; poses an unreasonable threat to the quality of a significant sand and gravel aquifer that it does not overlie; or poses an unreasonable threat to an underlying fractured bedrock aquifer.

17. What happens if contamination is detected in the groundwater?

The exact details would depend on the circumstances, but the most likely approach would be to drill additional wells that would pump out the contaminated groundwater, which would be collected, and sent to an appropriate treatment facility.

18. Who does the water quality monitoring?

Samples are collected by Sevee and Maher Engineers, Inc., and the samples are sent to Maine Environmental Laboratory in Yarmouth, Maine, which is a private laboratory that is certified by the State. Some samples may be sent to other certified laboratories, depending on the compound being tested. This is consistent with most other on-site water testing in Maine.

19. Are there a lot of fugitive methane emissions that are not captured by the landfill gas collection system?

Juniper Ridge Landfill has one of the highest collection efficiencies of greenhouse gas emissions, when compared to other operating landfills in the Northeastern US. Approximately 85% of emissions were captured in 2024 as reported on page 4, paragraph 7 of the 2025 Sanborn, Head & Associates United States Environmental Protection Agency (USEPA) Combined Air Emissions Reporting System (CAERS) emissions inventory for the Juniper Ridge Landfill (JRL) in Old Town, Maine. The CAERS emissions inventory presented in the report is an estimate of air pollutant emissions required by Chapter 137 of the Maine Department of Environmental Protection (Maine DEP) regulations and JRL's Part 70 Air Emissions License. These efforts are achieved by the use of a robust collection system that exceeds MEDEP requirements, and incorporates a large amount of temporary geomembrane cover, utilized until final cover systems are installed.

20. What chemicals are used in the spray on deodorizer?

The deodorizer is iodine-based and consists of ingredients and ratios that are proprietary to the manufacturer. Similar deodorizers are used at other landfills across USA. Both chemical manufacturers report that their deodorizing product is non-toxic and is not expected to bio-accumulate. See question #24 for more information.

21. Are there any plans to improve the Odor Management Plan?

Yes, JRL will be further limiting the daily open area of waste and, as required by the Public Benefit Determination, will hire a consultant to conduct an odor study for recommended potential improvements.

22. Is there any monitoring for airborne PFAS compounds?

PFAS compounds are not included in the Air Quality Monitoring Program required by DEP.

23. Have effects of climate change been considered?

Yes. The proposed expansion design keeps all development outside the 100-year flood limits as established by the Federal Emergency Management Agency (FEMA) in 2023 and uses storm intensity provided by the National Oceanic and Atmospheric Administration (NOAA) to predict stormwater flows. Sevee & Maher Engineers utilized precipitation, temperature, and solar radiation data collected from Bangor, Maine, spanning the years 2009 through 2023 as input for the Hydrologic Evaluation of Landfill Performance (HELP) model. This approach incorporated the most recent 15 years of readily available data to assess the effectiveness of landfill liner systems, providing a current evaluation of their performance.

24. Are there any studies on environmental impacts resulting from the use of deodorizers?

We are not aware of studies on environmental impacts related to the deodorizers used at the landfill facility. Both chemical manufacturers report that their deodorizing product is non-toxic, not expected to bio-accumulate, and that the products have been reviewed and have been approved by industrial hygienists for major waste handlers and municipalities around the USA. In addition to this, in the past the Safety Data Sheet confirmed that, in its dilute form, the chemical is not classified as hazardous by OSHA.

25. What about waste that has blown/fallen out of loads along Interstate 95 and the Bennoch Rd?

Casella uses temporary hired employment to clean up any windblown litter on the Landfill Road, as well as the Bennoch Road from the landfill entrance to the on ramp for Interstate 95 South.

26. What does maximizing depredation mean?

Maximizing depredation means culling the maximum number of gulls allowed under the permit.

NEWSME currently maintains a depredation permit, which allows for the culling of up to 200 herring gulls (Larus smithsonianus), 100 ring-billed gulls (Larus delawarensis), and 25 great black-backed gulls (Larus marinus) per year. NEWSME provided records of depredation events since 2022; the greatest number of gulls killed was in the fall each year. Additionally, the permitted limit of euthanized gulls was not met in any year from 2022-2024 (Table 1). Once culled, gulls are buried within the landfill.

Table 1. Number of gulls euthanized by species from 2022-2024 under depredation permit number MB670894-0 at Juniper Ridge Landfill.

Species	Gulls Euthanized by Species			Depredation Permit Limit
	2022	2023	2024	
Herring Gull	143	135	104	200
Ring-Billed Gull	21	70	50	100
Great Black-Backed Gull	4	0	1	25

27. Define the hazing techniques, and do the audible techniques violate noise ordinances?

Hazing techniques under the USDA depredation permit refers to non-lethal methods used to deter wildlife from causing damage to crops or property. This can include techniques such as noise making, visual deterrents, human presence, or other strategies aimed at encouraging animals to leave an area without harming them.

JRL uses both hazing techniques and a depredation permit to discourage gull activity.

Recommendations for JRL by the consulting wildlife biologists at Stantec include:

- Reducing the area of non-covered, open waste;
- Restricting work to one area of the landfill at a time;
- Continuing to hold a depredation permit and increase efforts to reach the quota in the permit;
- Installing bird roosting deterrents (e.g., Bird Barrier Daddi Long Legs) on suitable perching areas;
- Installing non-lethal auditory hazing devices (e.g., zon gun);
- Conducting additional site visits (to include sunrise and sunset) to assess gull abundance at JRL in winter and spring.

MEDEP rules define sound level limits as one-hour equivalent sound levels, essentially the average sound level over a 1-hour period. Transient sound events do impact the equivalent sound level, but very brief impulse sounds like the proposed auditory hazing devices would not impact the average sound level enough to violate applicable noise ordinances.

28. What is the depredation procedure?

A federal depredation permit authorizes one to capture or kill birds to help reduce damage to agricultural crops/livestock, private property, human health & safety (including at airports), and protect wildlife. A depredation permit is used with other, nonlethal measures to help eliminate or significantly reduce the problem. Regulations require that any animal culled as part of a depredation permit must be buried. Any gulls would be disposed of in the landfill, with a record of the total number of birds by species that were culled during that calendar year reported annually to the U.S. Fish & Wildlife Service.

29. **How are the questions recorded and responded to?**
    The meeting was recorded through the Zoom platform, along with physical notes taken during the meeting. A question list with formal responses will be created in Microsoft Word format. All video recordings, questions and responses will be published to the Bureau of General Services Juniper Ridge Landfill web page.
30. **Is the plan to close JRL after this proposed expansion?**
    There are no current plans for future expansion of JRL beyond the Phase II Expansion. BGS is still evaluating future solid waste disposal options.
31. **What percentage of landfill gas is flared off vs. being utilized by the Renewable Natural Gas (RNG) Facility?**
    To date, the RNG Facility is still operating at a limited capacity until remaining permits/approvals are granted. Once granted, the remaining infrastructure will be installed, and it is expected that the RNG Facility will be able to process roughly 3,200 standard cubic feet per minute of landfill gas into renewable natural gas. This is nearly all the gas currently produced at JRL. Any additional gas and/or gas unable to be processed by the RNG Facility, will be destructed through the use of the JRL on-site flare.
32. **Are there plans for solar or wind projects on the closed cells?**
    The closed landfill would be challenging and no plans for solar or wind projects are being considered at this time.
33. **Was the "lack of historical significance" criteria met by a direct response from the tribes, or a lack of response, and are those records in the PBD documents?**
    As required for the permitting process, all five of Maine's tribes were asked if there were important cultural or archaeological features at the site. The Mi'kmaq and Maliseet responded that they do not have important features at the site. The two bands of the Passamaquoddy responded that they defer to the Penobscot Nation. In January 2025 the Penobscot Nation responded with a declaration indicating their on-going cultural and historic resource concerns associated with the Juniper Ridge Landfill. A second response was received from the Penobscot Nation in February 2025 indicating that the project appeared to have no impact on a structure of or site of historic, architectural, or archaeological significance to the Penobscot Nation. Those correspondences can be found in the Expansion Application.

34. Is the State looking into whether or not there is sufficient bulky waste generated "in-state" to manage the wet waste?

The State of Maine Department of Administrative and Financial Services, Bureau of General Services (BGS), contracted with TRC Companies, Inc. (TRC) to complete the Study for Evaluating Availability of Traditional and Alternative Bulking Agents Originating within the State of Maine which has the following objectives:

1. Evaluate the type/quantity of bulking agents needed to safely dispose of the WWTP biosolids produced in the State within solid waste landfills in Maine; and
2. Evaluate whether sufficient and consistent amounts of bulking agent originating in Maine are available to support continued acceptance of the current levels of municipal biosolids and other wet wastes at the Juniper Ridge Landfill and other solid waste landfills in Maine after July 1, 2025.

Key Takeaways from The TRC Report

- Materials proposed for bulking biosolids are waste materials that currently have no other purpose.
- Biosolids material quantities do not vary greatly throughout the year, causing the need for consistent availability of bulking materials to ensure year-round landfill stability
- There is a finite quantity of CDD available within the State of Maine for use in landfills as a bulking agent and for diversion to processing facilities for recycling. The rate of CDD availability is variable, based on the season and the strength of the economy which drives new construction as well as redevelopment.
- Based on TRC's review of the waste quantities disposed of and processed within the state, the bulking properties of the available wastes, and the reduced and unpredictable availability of CDD and its processing residuals, further reduction of the quantity of CDD and its residuals available for disposal at JRL (and other landfills that accept biosolids) will be detrimental to the stability of the landfills as they are currently operated especially during winter months.
- Without an adequate volume of waste materials for bulking, landfills currently accepting biosolids would be forced to source alternative materials that have not been historically accepted at landfills, like clean wood materials and gravel, in order to maintain current operational geometry and available capacity. These materials are all resources used in the construction industry in Maine for development of new roads, land development, etc.

> Should landfills rely upon these materials for bulking, not only is landfill capacity being consumed by non-waste materials but additional borrow sources/ gravel pits would need to be identified and developed, potentially leading to further land disturbance. The need to obtain these materials will increase the cost of operations at the landfills and therefore likely increase the disposal fees charged to municipal WWTPs for biosolids at landfills.

A link to that report is included: Study TRC Bulky Waste Report .pdf

It is important to note that the State cannot prevent private companies from importing waste to or exporting waste from Maine. JRL can only accept waste generated within the State, as defined in state statute.

Through Public Law 2025, chapter 373, the legislature recognized that there were insufficient volumes of materials, defined as "waste generated in Maine" currently available to safely bulk biosolids for landfill disposal and allowed for acceptance of limited volumes of excess bulking material through July 1, 2028, to support disposal of biosolids in a state-owned landfill.

Public Law 2025, chapter 373, amends Public Law 2023, chapter 283, section 2, which provided that for the period ending July 1, 2025, if in any 12-month period the total weight of the residue generated by a solid waste processing facility and disposed of or otherwise placed in a solid waste landfill exceeds the total weight of the solid waste initially generated within the State that was processed by the facility in that 12-month period, such excess residue, not to exceed 25,000 tons in that 12-month period, is deemed to be waste generated within the State as long as that excess residue is composed of oversized bulky waste and is disposed of or otherwise placed in a state-owned solid waste landfill. Any other excess residue generated by the facility in that 12-month period is deemed not to be waste generated within the State.

The bill amends Public Law 2023, chapter 283, section 2 in the following ways.

1. It removes the provision that any other excess residue generated by the facility in that 12-month period is deemed not to be waste generated within the State.
2. It provides that the excess residue associated with the processing of oversized bulky waste that is used as alternative daily cover is deemed to be waste generated within the State.
3. It changes the end date of the period that the law is applicable to July 1, 2028.
4. It makes the changes retroactive to June 23, 2023.

35. Is there any anticipation that there will be less wet waste going to JRL once the sludge dryer at the Crossroads Landfill comes online?

While the Crossroads Landfill has a sludge dryer with estimated capacity to handle the majority of Maine's biosolids, it is not yet operational and is a privately owned facility. BGS has no authority to direct waste to the Crossroads Landfill for disposal. Any new waste entering the Crossroads Landfill would be at the discretion of the owner, and may require approval from the Maine DEP.

36. There are claims that there will be less waste, but more traffic as a result of the expansion. Please explain the discrepancy.

There will be a slight increase in traffic compared to the traffic observed in 2023. Traffic analysis conducted by Gorrill Palmer indicates that expansion is expected to increase by about 10 trucks per day during working hours, primarily because the amount of solid waste generated in Maine is slowly increasing.

37. What has the State done to take an environmentally proactive approach to solid waste management?

Response was drafted in consultation w/ Maine DEP:

DEP is tasked with updating Maine's Waste Management and Recycling Plan, Waste Generation and Disposal Capacity Report, and Product Stewardship Report at varying frequencies. These reports collectively outline Maine's waste reduction, recycling, and diversion goals; an assessment of existing and potential disposal, processing, and material recovery facility capacity; suggestions regarding improvements to Maine's waste management systems; and recommendations for new stewardship programs to increase recycling and materials recovery. Solid waste management in Maine is complex, and Maine has both a shortage of disposal options as well as access limitations to recycling or composting programs depending on the specific area. DEP has established several programs to increase waste diversion and recycling including, but not limited to, the following:

(a) Solid Waste Division Grants – Since 2015, DEP has provided grants to public and private entities with proposals for waste diversion. Since its inception, more than 90 projects have been funded with more than $1.7 million in grants awarded.

(b) Spearheading both a waste characterization study and food loss and waste generation study to strategically plan for addressing food loss and waste by better characterization.

(c) Implementing a stewardship program for packaging requiring producers to pay for the recycling of their materials thereby decreasing the burden on municipalities that participate in the program.

(d) Implementing Maine's stewardship programs for beverage containers, lead-acid batteries, rechargeable batteries, mercury auto switches, mercury thermostats, electronic waste, cellular telephones, mercury-added lamps, architectural paint, and pharmaceuticals as well as bans of single-use plastic bags and certain polystyrene foam products. See also https://www.maine.gov/dep/sustainability/index.html.

38. Are we working on a future site?

BGS is looking into options for future solid waste disposal capacity for the State of Maine, but the siting, design, permitting, and construction can take years to complete.

39. There are multiple technologies available for solid waste management. Why can't Maine be an alternative waste management state similar to Maine being an alternative energy state?

Response was drafted in consultation w/ Maine DEP:

Maine is a large state with limitations in transportation infrastructure and waste management and recycling infrastructure, making management of solid waste complex. Maine law requires each municipality to provide solid waste disposal services for domestic and commercial solid waste generated within their municipality and municipalities often look for the most cost-effective option. Generally speaking, landfilling is the most cost-effective alternative in Maine depending on the availability and ease of recycling and diversion opportunities, although Maine's new stewardship for packaging program will soon make recycling more affordable for participating municipalities. DEP continues to work with the Maine Legislature to find solutions to Maine's solid waste infrastructure limitations, research alternatives to waste disposal, communicates with other states, works with waste processing and incineration facilities, and provides significant education and outreach.

40. How is the state classifying PFAS/PFOS/PFOA for the purposes of disposal?

Response was drafted in consultation w/ Maine DEP:

For the purposes of disposal, PFAS-impacted solid waste can be disposed in a DEP-licensed special waste landfill according to the facility's specific operating manual.