

August 9, 2024

VIA EMAIL

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Bureau of Remediation and Waste Management
Eastern Maine Regional Office

Subject: Response to Questions and Comments
Application for Determination of Public Benefit
Juniper Ridge Landfill

Dear Karen:

Sevee & Maher Engineers, Inc. (SME) submitted an Application for Determination of Public Benefit on behalf of NEWSME Landfill Operations, LLC. SME has prepared this letter in response to your questions and comments, dated July 30, 2024 to Lisa Turner of SME. For ease of reference we follow your original section and numbering format with our response.

- 1. Section 1.5.1 Description of Current Waste types. CDD processing fines and clean wood waste are used as alternative daily cover (ADC). The application notes that if ADC was not available, virgin sand and gravel would be used, and that using alternative daily cover preserves landfill space for other materials. Please explain further; if ADC materials were not available, wouldn't the same amount of space would be taken up by virgin sand and gravel?**

SME's Response: Construction and Demolition Debris (CDD) fines do not have other uses at this time, and therefore must be put in a landfill. If CDD fines were not recycled and used as ADC, they would be landfilled *and* a traditional soil daily cover would be used. Using CDD processing fines as ADC eliminates the need for soil daily cover on the days that CDD processing fines are available. Much of the clean wood waste consists of pallets that have nails and therefore are not usable for most applications where chipped wood is used, so the same is true for wood waste as for the CDD processing fines. Taking up space in the landfill with materials like virgin sand and gravel, which are not themselves wastes, is unnecessarily wasteful if there are available alternatives.

- 2. Section 1.7.1 Changes in Maine Legislation. The application notes that if sludge acceptance volumes remain consistent with 2020 through 2023 data, JRL anticipates receiving approximately 83,200 tons of municipal and industrial sludges per year. As you may be aware, Maine Regional Conversion Facility, LLC is constructing a 200 wet tons per day sludge dewatering facility in Norridgewock. The facility is expected to be operational by late 2025. Additionally, it is our understanding that Casella Waste Systems (CWS) is partnering with Viridi Energy to reopen and expand an anaerobic digester facility in Brunswick which could reduce the volume of sludge delivery to JRL by 90 percent. Please explain how these initiatives could affect the amount of sludge and CDD bulking materials accepted at JRL.**

SME's Response: 83,200 tons of sludge represents approximately 94,800 cubic yards (CY) of waste, or landfill volume. If the two technologies are successful in achieving a 90 percent reduction by volume, that would be a reduction of 85,300 CY of waste delivered to the landfill. As discussed on page 1-14 of the PBD, the sludge is mixed at a ratio of one part sludge to four parts bulky waste in order to provide structural stability to the landfill.

A substantial reduction of sludge could negate the need for any out of state bulking material to mix with the waste. According to their 2023 Annual Report to the Maine Department of Environmental Protection (MEDEP), the ReSource Lewiston facility (ReSource) received 53,270 tons of waste from in-state sources, which represented 30 percent of their total 179,008 tons of material.¹ ReSource shipped 78,532 tons of CDD residual to JRL.² Assuming the 30 percent ratio remains the same, JRL would only receive about 23,560 tons of CDD residual from ReSource, a reduction of 54,972 tons. Using the overall compaction factor of 0.82 stated in the PBD, this would be approximately 67,000 CY of waste.

Adding the loss of sludge and loss of CDD residual from ReSource gives an overall reduction of about 152,300 CY of waste, or about 14.5 percent of the total annual waste volume delivered to the landfill. Since all processing facilities have planned maintenance shutdowns and occasionally experience unplanned shutdowns, JRL will continue to receive some volume of wet sludge. During these times, JRL will continue to be the option of last resort for Maine's sludge. If the processing facilities work as intended, and ignoring the sludge sent during shutdowns, this might mean a best-case increase in Phase II Expansion to a total of about 13 years. If the processing facilities do not achieve their planned schedules and/or the technologies do not function as effectively as stated, the increased duration of the Phase II Expansion could be substantially less.

There would not be any volume reduction from any loss of fines shipped from ReSource to JRL, as that would need to be replaced with virgin soil as previously described in Question 1, or virgin gravel, as described more completely in Question 8. Assuming it could be accepted in accordance with MEDEP rules and JRL licenses, it is anticipated that the same relative amount of bulky wastes would continue to be sent to JRL from the current sources, consistent with current waste disposal practices.

- 3. Section 1.7.3 Penobscot Energy Recovery Company WTE Facility (now known as Eagle Point Energy Center LLC, or 'EPEC'). Please provide the current swap agreement between the Municipal Review Committee (MRC) and Pine Tree Waste, Inc. that is referenced in footnote 32. This section notes that "[s]ince the September 2023 shutdown of PERC, all bypass MSW, including MRC bypass MSW, has been sent to JRL for disposal." It is the Department's understanding that all MSW bypass from MRC-contracted communities is contractually obligated to go to the Crossroads Landfill in Norridgewock; however, a swap agreement was established to mitigate transportation logistical difficulties for MSW that was in closer proximity to JRL (i.e., greater Bangor area) such that this waste would go to JRL and an equal amount of waste would be delivered to the Crossroads Landfill from communities that contract with Pine Tree Waste, Inc. that are in closer proximity to that facility. Based on MRC's 2023 Annual Report, about 67% of MRC-contracted community MSW is destined for disposal at JRL while the Crossroads Landfill receives about 31%.**

¹ 2023 Annual Report for ReSource Waste Service of Lewiston LLC, pg. 5.

² 2023 Annual Report for ReSource Waste Service of Lewiston LLC, pg. 6.

SME's Response: The MRC communities were parties to a power purchase agreement with PERC that expired in 2018. When that agreement expired, the MRC communities split disposal between the PERC and Fiberight facilities. For those communities opting to go with Fiberight, the waste going to JRL is indeed a swap with Waste Management's Norridgewock facility that helps those communities avoid higher transportation costs. A copy of the swap agreement is included in Attachment 1. For MRC communities that opted to go with PERC (now EPEC), all bypass waste goes to JRL.

4. **Section 1.7.5 Other Maine Landfills.** This section specifies that approximately 880,000 tons per year of waste is estimated to go to JRL under current conditions; however, the 5-year average waste disposal rate from 2019 to 2023 is noted as 860,771 tons per year. In 2023, 834,363 tons of waste, were disposed at JRL. A clarification should be provided.

SME's Response: The amount of waste coming to JRL increased substantially in 2019 as compared to previous years and continued to increase from 2019 to 2022, with a slight decrease in 2023. To ensure adequate capacity to meet the state's waste disposal needs, an average of the 2021, 2022, and 2023 tonnages received at JRL were used to estimate the potential need for disposal capacity, assuming other facilities remained inoperable. Disposal for these three years was 882,000 tons in 2021; 934,000 tons in 2022; and 834,000 in 2023; for a three-year average of approximately 880,00 tons. Using an average of the three most recent years provides the most realistic estimate of future disposal to ensure adequate capacity.

5. **Section 3.1 Waste Characterization and Solid Waste Infrastructure Use.** Regarding the amount of MSW bypass JRL received from Maine's waste-to-energy facilities, please explain the marked increase in bypass disposal from these facilities during this time period (2020 to 2022). Based on Table 3-2, the amount of MSW bypass from PERC, MMWAC, and ecomaine more than doubled during this time. It would be helpful to show the amount of bypass from each facility as it is the Department's understanding that while PERC contributed a significant portion of this MSW bypass disposed at JRL, the amount of MSW bypass from ecomaine also increased during 2022, and that bypass from MMWAC was not received at JRL prior to 2022.

SME's Response: During 2022, ecomaine conducted both annual spring outage maintenance and turbine maintenance that is scheduled once every seven years. The repairs began in March, and due to problems experienced by the turbine refurbishment facility, continued through most of 2022 and the fall outage maintenance, increasing the amount of bypass that was sent to JRL.

The tonnage from PERC received at JRL increased by a factor of about 2.5 from 2019 to 2020 when the facility's operational capacity was initially reduced, and nearly doubled again from 2020 to 2021 as operational capacity continued to fail. The bypass tonnage in 2022 and 2023 was similar to the bypass tonnage in 2021.

Bypass from MMWAC had previously been disposed of at Waste Management in Norridgewock. In 2022, MMWAC put their bypass disposal contract out to bid and JRL was the selected bidder, thus adding to the total amount of bypass received at JRL.

The table below shows the tonnage received from each incineration facility from 2018 to 2023. It is conservatively assumed for purposes of the public benefit determination application that the total

bypass tonnage from the three facilities will be in the range of 205,000 to 250,000 tons for the foreseeable future.

MSW BYPASS TONNAGE RECEIVED FROM INCINERATORS AT JRL BY SOURCE

Year	PERC	MWWAC	ecomaine	Combined Total
	Tons	Tons	Tons	Tons
2018	24,100	0	100	24,200
2019	36,400	0	3,100	39,500
2020	94,200	0	8,300	102,500
2021	180,500	0	23,900	204,400
2022	171,700	12,600	72,000	256,300
2023	185,300	13,900	6,000	205,200
Notes: 1. Information provided by NEWSME. 2. Quantities rounded to the nearest 100 tons.				

6. **Section 3.1 Waste Characterization and Solid Waste Infrastructure Use.** While Table 3-3 shows that the amount of mixed CDD disposed at JRL has been relatively consistent from 2020 through 2022, data from JRL's annual reports illustrate that mixed CDD disposal has steadily increased from 199,405 tons in 2014 to 347,016 tons in 2023. Please explain how JRL works to ensure that the amount of mixed CDD disposed has been recycled to the extent practicable.

SME's Response: CDD materials are routinely diverted away from JRL and sent to ReSource who, as stated on their website, "recover components of value and transform waste into reusable commodities." ReSource further states that, "The Lewiston facility has been certified by the Recycling Certification Institute (RCI). The RCI certification was based on a rigorous evaluation performed by an independent third party of the facility's processes and protocols and it also verified the integrity of the facility's recovery/recycling reports."

In addition to the diversion of mixed CDD materials to ReSource, CWS-owned/operated transfer stations remove as many recoverable recyclable materials as possible out of all waste streams prior to preparing the material for transfer. This is done first by allowing/providing a place for customers to source separate materials ahead of the transfer process. During the loading/transfer process, CWS machine operators work to remove additional recyclable materials like tires and metal from the CDD, further increasing recycling rates and reducing CDD tonnage sent to JRL. Beginning in 2025, CWS intends to begin a mattress recycling program in Maine, which will further divert mixed CDD tonnage away from JRL.

7. **Section 3.1 Waste Characterization and Solid Waste Infrastructure Use.** Table 3-3 includes the quantity of processed CDD sent to a landfill for daily cover, shaping, and grading in 2020, 2021, and 2022. The 2020 and 2021 quantities are based on the amount of CDD originating from Maine and processed at Maine facilities, but the 2022 quantity is not. A clarification should be provided.

SME's Response: As described in the footnotes of Table 3-3, the first six rows of Table 3-3 are taken directly from data published by the MEDEP. The 2020 and 2021 data were taken directly from Tables 1 and 2 of the Maine Solid Waste Generation and Disposal Capacity Report for Calendar Years

2020 and 2021, published by the MEDEP in January 2023. Footnote 8 of Table 2 states that Table 2 “Includes only Maine-generated portion of CDD wastes from processing facilities located in Maine.”

The 2022 data was taken directly from Table 7 of the Maine Materials Management Plan: 2024 State Waste Management Plan Update and 2022 Waste Generation and Disposal Capacity Report, published by the MEDEP in January 2024. This table includes all CDD wastes, including those generated within Maine and outside of Maine.

Row seven of Table 3-3 is specific to JRL and provides the quantity of CDD disposed of at JRL, with data taken directly from JRL’s Annual Reports to the MEDEP.

In short, the distinction in the data between 2020 and 2021 versus 2022 comes from the MEDEP presentation of it.

8. Section 3.2.1 Source Reduction and Reuse. This section notes that recycled materials are used in a number of applications at the landfill. Please state which recycled materials are used for which purposes.

SME’s Response: The following waste materials and waste-derived construction materials have been reused in the landfill and have helped perform critical functions for landfill structural stability, liner protection, drainage, and vector control:

JUNIPER RIDGE LANDFILL REUSED AND WASTE-DERIVED PURCHASED WASTE MATERIALS AND USES

Reused Materials	Uses within the Landfill
CDD/MSW Processing Residue - OBW	Sludge Bulking
Bypass MSW	Sludge Bulking; Liner Protective Layer (Soft Layer)
Mixed CDD	Sludge Bulking; Road and Sideslope Building
Contaminated Soils & Debris	Sludge Bulking;
Ash (various types)	Sludge Bulking; Odor Control; Gas Pipe Bedding
Recycled CDD Processing Fines	Alternative Daily Cover; Sideslope Grading and Shaping; Interior Road Construction
Chipped Wood	Sideslope cover; Alternative Daily Cover; Road Base Construction
Construction Fines	Sideslope Grading and Shaping; Bedding for Final Closure Cap

Five of the materials, CDD/MSW processing residue (i.e., OBW), bypass MSW, mixed CDD, contaminated soils and debris, and ash, are used to bulk the sludge. Without sludge bulking materials, the sludge would not be able to hold a sideslope and would slump to a nearly flat pile, which would need to be contained horizontally with tall berms. This type of landfill containment for sludge would require a much larger landfill footprint than is needed with the use of OBW for structural stability and would unnecessarily consume additional landfill volume.

Bypass MSW is used for the initial five-foot-thick protective “soft layer” over the leachate collection sand to protect the liner system from damage from equipment or sharp pieces in CDD. Some form of waste will be used for the soft layer because of its thickness.

The strength of the materials used for sideslope construction at any landfill is critical to the landfill’s long-term stability, and specific materials are specified at each landfill to most effectively use the

available waste stream. Use of structurally sound materials such as mixed CDD in the outer 50 feet of the waste is critical to slope stability.

Interior road construction is necessary so that waste hauling trucks can transport the waste to the tipping area. These trucks, which include heavy tractor trailers, are over-the-road trucks that transport waste from the towns they serve to the landfill. Providing a solid, stable road that can be readily traversed by over-the-road trucks even in inclement weather is necessary to allow the volume of truck traffic at JRL to access the landfill in a timely manner and prevent trucks from getting stuck, puncturing tires, or breaking down from traveling on uneven ground. If CDD processing fines were unavailable, virgin gravel would be required. As previously mentioned in Question 1, there is no other use for fines, and they must be placed in a landfill whether as a beneficial use or simply as waste. The use of these materials for structural needs within the landfill offset the use of virgin gravel and preserve landfill space.

Similar to the internal road construction, gas piping requires a structurally stable underlayment in the form of pipe bedding. When available, ash provides a suitable bedding material, and thus offsets the need to use virgin stone or sand within the landfill. When available, ash can be mixed with odiferous wastes to help reduce nuisance odors due to its alkaline pH.

Construction fines are a waste material that is recycled by others to meet construction specifications and purchased for use in landfill cover projects and sideslope grading requirements and replace virgin soil.

CDD processing fines are processed by others and used as ADC, as described in the response to Question 1. CDD processing fines are also useful in shaping the landfill sideslopes prior to placing synthetic intermediate cover material.

The chipped wood is primarily from pallets, and as mentioned in Question 1, contains nails. This material is suitable for the initial base course of the interior access roads, provided that they are well covered with a material such as fines that does not contain nails, thereby allowing safe travel by rubber-tired trucks. The chipped wood is also used as ADC and intermediate cover on sideslopes because it is resistant to erosion.

9. Section 3.3.2 Recycling. Please list the CWS-owned and/or operated transfer stations in Maine with recycling capability, the drop-off locations for recyclables, the municipalities in which CWS collects curbside recyclables, and the types of recyclables handled.

SME's Response: The CWS-owned and/or operated transfer stations in Maine accept a wide variety of recyclable materials, including:

- Mixed Construction and Demolition Debris Waste and Bulky Items – drywall, metal, shingles, concrete, furniture, appliances, mattresses (see Question 6), and carpet;
- Clean Wood Wastes – separated clean pallets, non-painted/non-pressure treated wood;
- Cardboard;
- Mixed Recyclables – cardboard, paper, plastics, metal cans, and glass;

- Universal/Electronic Waste – batteries, ballasts, light bulbs, TVs, monitors, computers, printers, and stereos;
- Mixed Scrap Metal – various scrap metal and white goods;
- Tires;
- Yard Waste or Leaves – clean brush, tree limbs, lawn clippings, and leaves; and
- Waste Oil – used oil collected from residents for recycling or to be burned on-site.

The location of each CWS-owned and operated transfer station and what they accept is included in the following table.

RECYCLABLE ITEMS COLLECTED AT CWS OWNED AND/OR OPERATED TRANSFER STATIONS

	Mixed Construction & Demolition Waste and Bulky Items (Mixed CDD)	Clean Wood Wastes	Corrugated Cardboard (OCC)	Mixed Recyclables	Universal/Electronic Waste	Mixed Scrap Metal and White Goods	Tires	Yard Waste or Leaves	Residential Wood Ash	Waste Oil
Arundel	X		X	X	X	X				
Dayton	X			X		X	X			
Hampden	X	X	X		X	X	X			
Houlton	X		X		X	X		X		
Jonesboro	X			X	X	X	X			X
Mars Hill		X	X	X	X	X	X			
Naples	X	X				X	X			
Old Orchard Beach	X				X	X				
Old Town	X		X	X	X	X	X		X	X
Orient	X				X	X				
Waterville	X		X	X	X	X	X			
Wells	X			X		X				
West Bath	X			X	X	X	X			
Westbrook	X			X	X	X	X	X		
Weston	X				X	X				

CWS' Lewiston Materials Recovery Facility (MRF), Scarborough MRF, and Brokerage recovered and shipped approximately 93,000 tons of recyclables in Maine in 2023. This included materials recovered from approximately 178 different commercial and industrial businesses (excluding CWS entities) and more than 60 municipalities, which include towns represented by the Maine Resource Recovery Association. Many of the businesses served have multiple locations or various lines of business across Maine. Materials received through the two MRFs and Brokerage included: single stream (Zero-Sort), #1-#7 plastics, rigid plastics, #2 and #4 plastic film, aluminum beverage/tin/steel cans, ferrous/non-ferrous metals, white goods, high grade office paper, mixed paper, newspaper, magazines, mixed glass, mixed textiles, corrugated cardboard, and various other accepted materials.

CWS OPERATED CURBSIDE RECYCLING AND DROP-OFF RECYCLING

City/Town Served	Curbside Recycling Collection (Zero-Sort)	Drop-off Recycling Services (Zero-Sort)
Auburn	X	
Bangor	X	
Bath	X	
Biddeford	X	
Blaine	X	
Brewer	X	
Brunswick	X	
Buxton	X	
Cumberland	X	
Dayton	X	
Durham	X	
Eddington	X	
Falmouth	X	
Glenburn		X
Gorham	X	
Hermon	X	
Kennebunk	X	
Kennebunkport	X	
Levant	X	
Lewiston	X	
Milford	X	
Monticello		X
North Yarmouth	X	
Old Orchard Beach	X	
Old Town	X	
Portland	X	
Pownal	X	
Raymond	X	
Richmond		X
Saco	X	
Sanford	X	
Scarborough	X	
South Portland	X	
Springfield	X	
Veazie	X	
Webster	X	
Westbrook	X	
Windham	X	
York	X	

- 10. Section 3.3.2 Recycling.** The application describes CWS’ work with a large city in Maine to assist with curbside tagging programs, audits, and post-tagging audits for recyclables. This effort halved the contamination rate; has CWS considered taking this approach in other municipalities to decrease contamination of recyclables?

SME’s Response: CWS is currently supporting several municipalities in these efforts and would be happy to assist any other municipalities who are interested in this approach. However, CWS notes that effective projects require an active, willing partner in order to achieve successful outcomes.

- 11. Section 3.3.3 Universal and E-Waste Consolidation Facilities.** Please list the CWS-owned and/or operated facilities in Maine providing universal and e-waste collection capability.

SME’s Response: As shown in the table in response to Question 9, CWS-owned and/or operated transfer stations in Arundel, Hampden, Houlton, Jonesboro, Mars Hill, Old Orchard Beach, Old Town, Orient, Waterville, West Bath, Westbrook, and Weston collect universal and/or electronic waste.

- 12. Section 3.3.4 Wood Waste Processing.** The application states that an on-site transfer station is used to collect clean wood waste, which is chipped and used for alternative daily cover. We understand land clearing debris, pallets, and rail ties may be collected and chipped at this transfer station. Consideration should be given to using chips from land clearing debris for erosion control projects during construction at the facility site or for off-site projects rather than within the landfill. Consideration should be given to selling chipped wood waste as a green wood chip and chipped pallets and rail ties as substitute fuel chips to facilities with the appropriate fuel substitution license.

SME’s Response: All new cell construction projects at the site require the contractor to place silt fence or a “bark mulch sediment barrier” (also known as Erosion Control Mix or ECM) downgradient of any construction activity. Sargent Corporation, who has been responsible for all the cell construction at the site since the initial construction in 1996, uses ECM from land clearing debris on-site whenever possible. Use of silt fence is limited to times when ECM is not available.

As initially discussed in Question 1, much of the wood waste at the site that is considered to be clean wood waste consists of pallets, which are held together with nails. Many nails remain within the chipped material, making it unsuitable for many projects and unlikely to be considered a desirable product for nearly all off-site projects. These clean wood wastes are chipped and used within the landfill as ADC, providing an alternative to using virgin soil for the same purpose. This practice is currently being done at other Maine landfills as well as JRL.

At this time, due to recent per- and polyfluoroalkyl substances (PFAS) legislation, 90 percent of Maine’s municipal sludge is sent to the landfill. Additionally, two MSW incineration/processing facilities are inoperable, causing hundreds of thousands of tons of MSW bypass to be sent to the landfill. The wood chips are critical in helping control vectors and odor from the sludge and bypass MSW. If an abundance of other suitable ADC materials becomes available, and purchasing clean virgin soil is no longer necessary, the facility will consider alternate outlets for the chipped wood material. In the past, CWS has sold chipped wood waste as a substitute fuel, but there has not been a market for it in recent years.

13. How much daily cover has been used at JRL in the past several years, and what percent has been virgin sand and gravel as opposed to alternative daily cover?

SME's Response: The following table shows the total quantity of daily cover used at JRL, and the percent of that total that was virgin soil for 2021 through 2023. Soil used for daily cover was converted to tons assuming a standard density of 115 pounds per cubic foot.

DAILY COVER MATERIAL USED AT JRL

Year	Year		
	2023	2022	2021
Soil (CY)	35,604	19,593	0
Soil (equivalent tons)	55,275	30,418	0
ADC (tons)	51,022	73,836	95,563
Total Daily Cover (tons)	106,297	104,254	95,563
Virgin Soil as Percent by Weight of Total Daily Cover	52%	29%	0%

14. Section 3.3.4 Wood Waste Processing. The application states that in 2023, clean wood was separated from CDD and land clearing debris and other clean wood waste was collected from four CWS facilities, and sent for processing to divert it from direct disposal. Where and for what use was the processed material sent? Can this be done at other CWS-owned and/or operated transfer stations to help increase recycling rates?

SME's Response: As described in the response to Question 9 above, CWS' transfer stations in Hampden, Mars Hill, and Naples separate clean wood from CDD at their transfer stations. The clean wood from Hampden is sent to the JRL clean-wood transfer station, where it is chipped and used on-site as ADC. Clean wood from Mars Hill is sent to Aroostook Waste Solutions for the same purpose. The clean wood collected from Naples is sent to ReSource in Lewiston for further processing and/or chipping, with the end use determined by ReSource. Brush and branches from Houlton are sent to Aroostook Waste Solutions to be burned, then landfilled. Brush and branches from Westbrook are sent to the Riverside Recycling Facility in Portland for further processing. Typically, these materials are made into ECM or sold as biomass fuel.

Many CWS-operated transfer stations are owned by towns. CWS operates facilities based on the needs of towns and would be open to expanding wood waste collection if space allows. Many towns already have other outlets for wood wastes and partner with other local wood processors who properly manage the material, converting them into useful products.

15. Section 3.3.5 Composting, Processing, and Beneficial Reuse. Additional information should be provided regarding the over 31,000 tons of organics that CWS had a direct role in recovering. Please describe the scope, type, and location of these projects. In addition, please provide details regarding the management of the beneficial use project by CWS for a major chemical manufacturer's byproduct.

SME's Response: The sources of the 31,000 tons of material handled by CWS' organics division are listed in the table below.

ORGANIC MATERIALS RECOVERED IN 2022

Location	Material	tons per year
Rockland	seaweed residual	20,000
Easton	wood ash	1600
West Enfield	wood ash	2500
Jonesboro	wood ash	2100
Skowhegan	lime grit	1200
Skowhegan	lime cake	1300
Skowhegan	mill lime	2500
Total		31,200

The beneficial use project referred to in the application was for AlgeFiber, a seaweed residual. Because AlgeFiber is rich in organic matter, magnesium, and lime value, AlgeFiber improves agricultural soils, and enhances crop yields. The project has enjoyed ongoing success, with the material helping local farmers and soil blenders improve soil quality and performance. CWS continues to work with the client to further develop improvements and innovations.

16. How do the various CWS program areas (such as organics, recycling, hauling, and facilities) work together to minimize the amount of waste sent for disposal?

SME's Response: CWS has developed an integrated statewide business entity to manage each waste stream as efficiently as possible and provide the greatest amount of waste minimization that can be gleaned from each waste management methodology. These materials include a variety of wastes as described in responses to Question 9, along with many others. Removing these many and varied items from the waste stream greatly reduces the amount of material needing to be landfilled.

CWS provides rental dumpsters for construction projects, and therefore has the ability to transport the CDD to an appropriate recycling facility such as ReSource, reducing the amount of unprocessed/recycled CDD that enters the landfill.

CWS' on-site chipping turns waste materials into reusable products that are used in various ways to offset the use of virgin soil or gravel in the landfill, as more completely described in the response to Question 14.

The CWS organics division collects food wastes and other wastes from small industrial clients (as described in Question 15) and composts the collected material for use as a soil amendment, further reducing the waste stream to the landfill.

In communities where CWS provides transfer stations or waste hauling, they have the best opportunity to control and divert the waste stream prior to landfilling. CWS' recycling efforts are more completely discussed in Question 9.

17. Section 3.3.7 Education and Innovation. This section notes that CWS deployed a mobile recycling app to six Maine communities and additional deployments are planned for 2024. Education and outreach are important factors in implementing successful recycling programs. How is this app deployed and can it be deployed as a statewide initiative to educate the public about recycling?

It is unclear how and why the app was deployed to only six communities during this first phase. More information about this initiative would be helpful.

SME's Response: CWS' "Recycle Better" app is a resource and engagement tool. In addition to recycling guidance that is applicable statewide, it includes localized information, including scheduling information (e.g., what day is my pickup?), service notices (e.g., storm delays), and third-party recycling resources (such as addresses for local textile drop-offs). Set up and deployment takes time in each community. Because of this, and because it is a new solution, CWS has been deploying the app gradually with the municipalities that opt into it. CWS intends to continue expanding coverage to more customers in Maine and would be happy to explore this further with the MEDEP.

18. Section 3.4 BGS Efforts to Promote the Solid Waste Hierarchy. The application states that BGS provides assistance to municipal decision-makers regarding waste management, but examples were not included. A clarification should be provided.

SME's Response: The last PBD application was submitted by the Maine State Planning Office (SPO) in 2011. There was a list of mechanisms for the SPO to furnish municipal decision-makers with information, direction, and technical and financial assistance to aid them in managing their solid waste in an environmentally beneficial and cost-effective manner at the time the application was submitted.

The SPO was eliminated July 1, 2012, and the ownership and responsibility for three State-owned landfills was transferred to the Bureau of General Services (BGS), but the assistance services outlined under this section in the 2011 PBD did not transfer over to BGS.

BGS remains current with regional, national, and international solid waste trends, developments, and laws, for their effects and relevance to Maine's MSW management, and for future planning purposes.

19. Section 5.0 Consistency with Ensuring Environmental Justice for the Community in which the Facility is Proposed. This section specifies that "[a]n expansion of the monitoring program to include the additional 61 acres will continue to protect people and the environment surrounding the landfill." Does BGS and NEWSME anticipate making any enhancements to the current monitoring programs if an expansion is approved?

SME's Response: As concluded on page 10-1 of the 2023 Annual Water Quality Report for JRL prepared by SME, "site groundwater and surface water quality data do not show adverse effects from the performance of the landfill cells or leachate collection and transport systems" and "and do not indicate any significant landfill-related impacts to water quality from malfunction of the landfill liners." As currently envisioned, the Phase II Expansion will cover some of the current monitoring wells located to the north of Cells 14 and 17. Those wells will be abandoned by drilling out the well materials and grouting with a cement-bentonite slurry, in accordance with the MEDEP guidelines. New wells will be located at the northern boundary of the Phase II Expansion to replace the wells located to the north of the Cells 14 and 17, which represent the northern boundary of the current expansion. Additional wells will be added along the easterly and westerly sides of the Phase II expansion, similar to those located along the easterly and westerly sides of the first expansion, increasing the overall area monitored at the site.

Regarding the property value guarantee for neighbors living in the immediate proximity to JRL, have any of the neighbors taken advantage of this program?

SME's Response: Casella has purchased eleven houses and two tracts of land in immediate proximity to the landfill. They have subsequently sold two of the houses.

- 20. Appendix J, City of Old Town Host Community Agreement. Section 7 of Old Town's Host Community Agreement notes that "persons owning land contiguous to a State-owned Landfill may request that quarterly water quality sampling and analysis be performed on their private water supply." Please specify whether any neighboring water supplies have been sampled as part of this program and if so, please provide the Department with the results.**

SME's Response: Since the program was first offered in 2004, a total of 36 neighbors have taken advantage of the water quality sampling offered by CWS, including homes on Stagecoach Road, West Old Town Road, Bennoch Road, and West Coiley Road. The number of people who requested a water test each year is listed in the table below; some neighbors have had their water tested several times. The testing results are tabularized in Attachment 2.

PARTICIPANTS IN WATER TESTING PROGRAM

Year	Total number of participants
2004	22
2006	11
2013	2
2014	1
2016	3
2019	1
2020	1
2022	4
2023	1

- 21. Members of the public commented on CWS' program to provide bottled water to residents, and assumed this is done in the event a residential well has been contaminated by the landfill. The Department has no data that demonstrates residential well contamination due to the landfill; please explain the intent of the bottled water program.**

SME's Response: As can be seen in the results included in Attachment 2, there has been no contamination attributable to the landfill observed in any of residential wells near the landfill. When CWS entered into the initial OSA with the SPO, it chose to repeat the program it had initiated at Pine Tree Landfill, and offered bottled water to the surrounding homes to be a good neighbor and assuage any concerns of those who live next to the landfill.

- 22. Members of the public commented on the level of PFAS in the landfill leachate and CWS' leachate PFAS treatment system in use at a Vermont landfill. Please discuss CWS' experience with the leachate PFAS treatment system, including timing of engineering design, installation, and operation, treatment outcome, and whether CWS is considering installing PFAS leachate treatment at JRL.**

SME's Response: In a report to the BGS published in January 2023, SME and Crawford Engineers conducted a study of methods to treat PFAS in leachate generated at JRL (and at the Dolby Landfill in East Millinocket). The study identified readily available methods to reduce the concentration of six regulated PFAS to no more than 20 ng/l, which was the Maine Interim Drinking Water Standard for PFAS for drinking water at the time, even though a drinking water standard is arguably inapplicable to leachate. The United States Environmental Protection Agency (U.S.EPA) has subsequently lowered the drinking water standard to 4 ng/l. There is no standard for treatment or pretreatment of leachate in Maine or any other northeastern state.

Review of technologies indicated that Foam Fractionation (FF) would likely be capable of reliably meeting the 20 ng/l standard. Samples of the JRL leachate were obtained and sent to two laboratories for bench scale testing using FF. Both laboratories reported results consistent with the 20 ng/l interim standard. Other technologies such as adsorption (e.g., activated carbon), reverse osmosis, ion exchange, and thermal destruction are also under evaluation, with each technology having unique challenges relating to energy usage, long-term scaling concerns, and disposal of residuals. In particular, reverse osmosis technology may be a viable solution if a long-term solution for residual disposal is available.

CWS is in the process of scoping and evaluating multiple technologies for treatment or pretreatment of the JRL leachate. Since August 2023, CWS has been evaluating FF equipment at their Coventry, VT landfill to determine if FF is a truly viable technology to remove PFAS from leachate and could be implemented effectively at JRL. At this time, for the five PFAS compounds regulated by Vermont, the Coventry system appears to be removing 96 to 99 percent of four of the five PFAS compounds, and 66 percent of the fifth PFAS. Formal pilot testing of the project will be conducted in 2024 in order to establish a technology-based effluent standard for implementation at that facility.

23. A common theme of the public comments has been the belief that CWS has utilized significant landfill capacity for disposal of waste originating out of State, rather than conserving the space for waste originating in Maine, and that providing additional landfill capacity now will inhibit efforts to reduce waste generation and disposal. Please address these concerns.

SME's Response: As an initial matter, it is important to be clear about the terminology with respect to this topic. Because JRL is owned by the State, it can only accept waste that meets the statutory definition of "waste generated within the State." JRL makes every effort to comply with that requirement, and thus does not accept out of State waste. Some members of the public have recently begun to emphasize that some of the waste that meets the definition of "waste generated within the State" nonetheless originated from out of State and have urged a change in what constitutes so-called out of State waste. Thus far, although the Legislature has amended the definition of "waste generated within the State," it has declined to focus solely on where it originated, and so we understand this question to be directed at a legal practice of accepting waste generated by a recycler or processor located in Maine that is, therefore, waste generated within the State.

Only a small fraction of the waste disposed of at JRL can be considered as having originated from out of State. To aid in the construction of a structurally stable landfill, JRL has contracted with ReSource, which is located in Maine, to take OBW from their residual stream and fines from their CDD processing. As stated on page 5 of ReSource's 2023 annual report, 125,738 tons of waste comes to ReSource from outside Maine. This represents approximately 70 percent of the waste ReSource handled last year. On

page 6 of their 2023 Annual Report, ReSource states that it shipped 41,245 tons of CDD fines (to JRL) for shaping and grading and ADC, and 49,803 tons of construction fines. These materials were used to offset virgin soil or gravel. The volume of landfill space that these materials occupied would otherwise be filled with soil material if the recycled material were not available, hence their origin is unimportant with regard to the use of landfill space.

According to the same report, approximately 78,532 tons of CDD residual was also shipped to JRL from ReSource. Assuming that 70 percent of that total is from out of State, approximately 54,972 tons of waste generated within the State that originated out of State went to Juniper Ridge in 2023 to be used as bulking material for sludge. That is only about 6.6 percent of the total tonnage of waste going to JRL.

While everyone can agree that there should be more recycling and waste reduction facilities such as incinerators, there is no fast or easy solution to increasing the availability or participation in those alternatives. The air permitting for a new incinerator facility would be very challenging, because such projects are likely to generate strong public opposition, and the cost for adequately treating air emissions is likely to be cost prohibitive at this time. There is a reduction in the percent of waste being recycled, as borne out by Figure 2 on page 8 of the 2024 Maine Materials Management Plan, which shows that the tons of MSW diverted is generally unchanged since 2012, while total tons of MSW generated has increased. Despite the drop in the world market for recyclables and some towns dropping recycling alternatives due to the accompanying increase in cost, Casella continues to work with and encourage towns to engage in recycling activities. We believe the future will bring an increase in recycling and waste reduction efforts as time goes on, but these options will always need landfill space for their residuals and during shutdowns. For the time being, the landfill provides the “backstop” that provides an option of last resort for many communities in Maine.

If you have any questions regarding these responses, please do not hesitate to contact me at 207.829.5016 or via email at Lisa.Turner@smemaine.com.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.



Lisa Turner, P.E., L.S.S.
Project Manager

cc: Lane Gould--BGS
Jeffrey Pelletier, Wayne Boyd--CWS
Eric Hamlin, Kathy Tarbuck, Sean Dougherty, Carla Hopkins, Victoria Eleftheriou—MEDEP

Attachments: 1: Swap Agreement with Waste Management for Fiberight Communities
2: Residential Well Water Quality Results

ATTACHMENT 1

**SWAP AGREEMENT WITH WASTE MANAGEMENT
FOR FIBERIGHT COMMUNITIES**



ESTABLISHED 1975

December 1, 2023

James Condela, Chief Executive Officer
Innovative Resource Recovery, LLC
92 Harold Bouchard Way
Hampden, ME 04444

Re: Letter Agreement – Swap Tonnage

Dear James:

The purpose of this letter is to memorialize the agreement between Pine Tree Waste, Inc. a Maine Corporation and wholly owned subsidiary of Casella Waste Systems, Inc. ("Casella") (hereinafter "Pine Tree"), Innovative Resource Recovery, LLC ("Innovative") and Municipal Waste Solutions, LLC ("MWS"), in order to continue an agreement¹ with regard to Swap Tonnage as defined below, to take effect January 1, 2024, continuing for a two year term, through December 31, 2025. Either party may terminate this Agreement at any time in the event of a material breach by the other party that remains uncured after: (i) in the event of a monetary breach, ten (10) calendar days following written notice thereof; and (ii) in the event of a non-monetary breach, sixty (60) days following written notice thereof. Such termination shall be effective immediately and automatically upon the expiration of the applicable notice period, without further notice or action by either party and shall be in addition to any other remedies that may be available to the non-breaching party.

Swap Tonnage: means tonnage subject to a waste swap arrangement pursuant to which (a) Bypass MSW waste generated in Maine from MWS customers, primarily within the greater Bangor area, is delivered to Juniper Ridge Landfill ("JRL") rather than being delivered to the Crossroads Landfill ("Crossroads") ("Diverted Waste"), provided that Diverted Waste shall specifically exclude commercial MSW and non-MWS contracted residential MSW: (i) collected by Pine Tree; or (ii) that is the subject of a contract between MWS and Pine Tree and its affiliates for disposal and/or processing; and (b) equivalent tonnage of MSW originating in Maine that otherwise would be delivered by Pine Tree to JRL is instead delivered by Pine Tree to Crossroads ("Replacement Waste"); and (c) for which Diverted Waste, Innovative and MWS shall pay directly to Crossroads amounts equivalent to the Crossroads tipping fee as if such Diverted Waste had been delivered to Crossroads, and for which the Innovative and MWS shall pay Pine Tree a delivery fee of [REDACTED] per ton for Swap Tonnage to Crossroads.

All Swap Tonnage shall be MSW and shall be delivered in accordance with the customary delivery requirements for the Crossroads and/or JRL as applicable and may not include Unacceptable Waste. In the case of JRL, all tonnage delivered to JRL must originate within the State of Maine.

"Unacceptable Waste" means any material that is not MSW, including without limitation any material that by reason of its composition, characteristics or quantity is ineligible for disposal at Crossroads or JRL, as applicable, under any applicable federal, state or local laws, rules, regulations or permits; (b) hazardous, toxic, radioactive, hospital or laboratory wastes or substances; and (c) any other material that Pine Tree, JRL, or Crossroads, as applicable, reasonably concludes would require special handling outside the normal course or present an endangerment to its facility, the public health or safety, or the environment. For the purposes of this agreement, hazardous waste, construction and demolition debris, processed construction and demolition debris, or oversize bulky waste are considered Unacceptable Waste.

Innovative and MWS shall be responsible for payment of all MSW bypass from MWS customers, including any MRC contracted Members.

¹ Pine Tree, Municipal Review Committee, Inc. ("MRC") a Maine non-profit corporation, and MWS are parties to a swap tonnage letter agreement dated December 16, 2022, which expires December 31, 2023.




ESTABLISHED 1973

Pricing will be increased annually on the anniversary of each year of the term by a percentage equal to the lesser of (a) 3.0% or (b) the year-over-year percentage change in the Consumer Price Index for All Urban Consumers: All Items in U.S. City Average (CPI-U). Consumer Price Index increases will be based on the Bureau of Labor Statistics as reported for the most recent month prior to the date of pricing increase/reset using the unadjusted percentage change for the most recent month as compared to the same month for the prior year. Reference is made to <https://www.bls.gov/news.release/cpi.t02.htm>

Sincerely,


Brian Oliver
Vice President

Understood and Agreed:


Innovative Resource Recovery, LLC
Name: **James Condela**
Its: **CEO**

12/1/2023

Date


Municipal Waste Solutions, LLC
Name: **James Condela**
Its: **CEO**

12/1/2023

Date

ATTACHMENT 2

RESIDENTIAL WELL WATER QUALITY RESULTS

REPORT PREPARED: 8/5/2024 09:54 FOR: Juniper Ridge Landfill DATE RANGE: 1/1/2004 - 12/31/2024			DATA SUMMARY TABLE Residential Field Parameters							SEVEE & MAHER ENGINEERS, INC. 4 BLANCHARD ROAD CUMBERLAND CENTER, ME 04021		
Date	Sample ID	Specific Conductance umhos/cm @25°C	pH STU	Temperature Deg C	Eh mV	Dissolved Oxygen mg/L	Salinity g/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU			
6/7/2004	DW201X022	229	7.4	12.6			0.11					
6/7/2004	DW202X023	184	7.8	12.6			0.09					
6/7/2004	DW203X024	166	8.1	14.8			0.08					
6/7/2004	DW204X025	360	7.9	15			0.18					
6/7/2004	DW205X026	154	8.1	17.4			0.08					
6/7/2004	DW206X027	549	7.1	11.4			0.27					
6/7/2004	DW207X028	913	7.1	13			0.46					
6/7/2004	DW208X029	101	6.9	18.6			0.05					
6/8/2004	DW209X02A	145	7.3	12.4			0.07					
6/8/2004	DW210X02B	287	7.5	15.5			0.14					
6/8/2004	DW211X02C	486	8.5	17.5			0.24					
6/8/2004	DW212X02D	356	8.5	12			0.18					
6/8/2004	DW213X02E	440	8.5	12.4			0.22					
6/8/2004	DW214X02F	77	7.2	11.7			0.04					
6/8/2004	DW216X02H	166	8.3	15.2			0.08					
6/8/2004	DW217X02I	167	7.2	15.2			0.08					
6/8/2004	DW223X038	217	7.4	14.8			0.11					
6/9/2004	DW218X02J	209	7.6	21.4			0.1					
6/9/2004	DW219X030	135	7.8	13.8			0.07					
6/9/2004	DW220X031	230	7.8	11.2			0.11					
6/9/2004	DW221X032	92	7.9	13			0.05					
6/9/2004	DW222X037	87	7.8	14.5			0.05					
4/19/2006	DW224X1D1	197	6.5	11.8	212	4	0.1		0			
4/19/2006	DW225X1D2	196	7	8.9	269	4	0.1		0			
9/20/2006	DW204X24F	382	7.3			4	0.19		3.71			
9/20/2006	DW205X24G	191	6.74			0.1	0.1		10.5			
9/20/2006	DW209X24H	158	7.73			3	0.08		6.38			
9/20/2006	DW223X24I	236	6.9			1.5	0.12		8.58			
9/20/2006	DW500X24J	117	7.72			6	0.06		6.45			
9/20/2006	DW501X250	1375	6.8			6.68	0.71		26			
9/20/2006	DW502X251	145	7.68			5	0.07		7.48			
9/20/2006	DW503X252	145	6.12			8	0.07		7.48			
9/20/2006	DWXXXX253	99	6.11			10	0.05		7.94			
7/29/2013	DWXXX65I	116	5.8	14	261	5	0.06	30	0.8			
10/29/2013	DWXXX687	91	6.6	13.3	333	5	0.05	25	0.8			
10/20/2014	DWXXX744	198	7.7	11.3	401	2	0.1	75	0.9			
6/1/2016	DWXXX94H		7.9									
10/24/2016	DWXXX90A	614	7.6	13.6	327	2.6			4.7			
10/24/2016	DWXXX943	289	8	11.6	328	2.6			1.6			
10/29/2019	DWXXXBJH	146	7	11.8	324	7.3			1.6			
10/27/2020	DWXXXD51	150	7.8	11.3	332	7.4			2.8			
10/3/2022	DWXXXIGD	277	7.4	11	239	3.5			1.4			
10/4/2022	DWXXXG27	234	8.1	14.1	126	4.3			2.8			
10/4/2022	DWXXXG28	123	8.1	13.8	233	6.5			1.6			
7/19/2022	DWXXXFE8	238	7.8	15.3	216	2.6			1.7			
1/24/2023	DWXXXG3	190	8.7	10	138	2.7			1.8			

REPORT PREPARED: 8/5/2024 09:54 FOR: Juniper Ridge Landfill DATE RANGE: 1/1/2004 - 12/31/2024				DATA SUMMARY TABLE Residential Metals						SEVEE & MAHER ENGINEERS, INC. 4 BLANCHARD ROAD CUMBERLAND CENTER, ME 04021		
Date	Sample ID	Arsenic mg/L	Calcium mg/L	Copper mg/L	Iron mg/L	Lead mg/L	Magnesium mg/L	Manganese mg/L	Potassium mg/L	Sodium mg/L	Uranium mg/L	
6/7/2004	DW201X022	0.006	31		0.07	0.003 J	9.4	0.02 U	0.9	6.1		
6/7/2004	DW202X023	0.006	25		0.02 J	0.002 U	12	0.02 U	0.6	5.6		
6/7/2004	DW203X024	0.007	16		0.09	0.002 U	4.6	0.02 U	0.9	10		
6/7/2004	DW204X025	0.004	48		0.03 J	0.002 J	7.4	0.02 U	1	15		
6/7/2004	DW205X026	0.004	16		0.88	0.002 U	6.5	0.19	1	7.4		
6/7/2004	DW206X027	0.005	29		0.09	0.002 J	13	0.02 U	1.9	55		
6/7/2004	DW207X028	0.003 J	16		0.03 J	0.003 J	9.8	0.02 U	0.8	100		
6/7/2004	DW208X029	0.01 U	14		0.05 U	0.003 J	1.65	0.02 U	0.5	2.4		
6/7/2004	DWDP1X033	0.003 J	49		0.04 J	0.003 J	7.4	0.02 U	1.2	15		
6/8/2004	DW209X02A					0.002 J	10	0.02 U	0.8	12		
6/8/2004	DW210X02B	0.008	22		0.22	0.002 U	7.1	0.02 J	2	31		
6/8/2004	DW211X02C	0.011	18		0.11	0.003 J	12	0.09	6.6	52		
6/8/2004	DW212X02D	0.013	4.7		0.02 J	0.002 J	2.2	0.03 J	2.3	66		
6/8/2004	DW213X02E	0.007	2.1		0.35	0.004 J	0.07	0.02 U	0.3	54		
6/8/2004	DW214X02F	0.001 U	12		0.05 J	0.003 J	0.72	0.02 U	0.4	1.7		
6/8/2004	DW216X02H	0.003 J	15		0.04 J	0.002 J	6.4	0.02 J	1.2	8.3		
6/8/2004	DW217X02I	0.001 J	21		0.02 U	0.002 J	6.6	0.02 J	0.6	5.8		
6/8/2004	DW223X038	0.012	32		0.27	0.003 J	4.5	0.09	0.9	5		
6/9/2004	DW218X02J	0.004	18		0.09	0.004 J	8.3	0.02 U	3.9	10		
6/9/2004	DW219X030	0.004 J	16		0.03 J	0.003 J	6.2	0.08	1.2	7.1		
6/9/2004	DW220X031	0.002 J	41		0.02 J	0.003 J	4.9	0.02 U	0.8	3.9		
6/9/2004	DW221X032	0.002 J	14		0.02 U	0.002 U	3.9	0.02 U	0.9	3.6		
6/9/2004	DW222X037	0.001 J	12		0.12	0.002 U	3.5	0.02 U	0.7	3.5		
6/9/2004	DWDP2X034	0.003 J	15		0.02 J	0.002 J	6.2	0.08	1.1	6.6		
4/19/2006	DW224X1D1	0.001 U	23		0.02 U	0.001 J	2.9	0.02 U	0.7	8.9		
4/19/2006	DW225X1D2	0.001 U	20		0.02 J	0.001 J	5.9	0.02 J	1.1	7		
9/20/2006	DW204X24F	0.01 U	47		0.05 U		6.6	0.03 U	1.2	16		
9/20/2006	DW205X24G	0.01 U	17		0.14		6	0.2	1	7.4		
9/20/2006	DW209X24H						4.9	0.03 U	0.6	13		
9/20/2006	DW223X24I	0.01 U	37		0.33		4.4	0.16	0.9	6.1		
9/20/2006	DW500X24J	0.01 U	14		0.3		3.3	0.03 U	0.7	5.2		
9/20/2006	DW501X250	0.01 U	100		1.4		13	0.26	2.6	150		
9/20/2006	DW502X251	0.01 U	7.9		0.05 U		2.1	0.03 U	0.7	22		
9/20/2006	DW503X252	0.01 U	20		0.05 U		1.6	0.03 U	0.8	8.8		
9/20/2006	DWXXXX253						0.8	0.03 U	0.5 U	2.5		
7/29/2013	DWXXXX65I		12.7				0.7		0.3 U	1.4		
10/29/2013	DWXXXX687		13.2				0.8		0.3 U	1.6		
10/20/2014	DWXXXX744	0.005 U	17.5		0.05 U		5.6	0.05 U	0.9	10.8		
6/1/2016	DWXXXX94H	0.001 U	49	0.025 U	0.1 U	0.0002 U	36	0.012		13.2	0.0023	
10/24/2016	DWXXXX90A	0.005	52.9		0.07	0.004 U	27.1	0.05 U	1.9	10.9		
10/24/2016	DWXXXX943	0.005	23.6		0.05 U	0.004 U	15	0.05 U	1	8.3		
10/29/2019	DWXXXXBJH		18				1.3		0.4	4.5		
10/27/2020	DWXXXXD51	0.005 U	20		0.05 U		1.2	0.05 U	0.3	2.4		
10/3/2022	DWXXXXIGD	0.005 U	47		0.05 U		5.9	0.05 U	0.9	4.5		
10/4/2022	DWXXXXG27	0.005 U	40		0.05		4.4	0.05 U	0.8	3.1		
10/4/2022	DWXXXXG28	0.005 U	19		0.05 U		1	0.05 U	0.3	2.5		
7/19/2022	DWXXXXFE8	0.006	23		0.06	0.003 U	16	0.05 U	2.7	11		
1/24/2023	DWXXXXGC3	0.005 U	16		0.05 U		5.8	0.05 U	0.9	10		

REPORT PREPARED: 8/5/2024 09:54 FOR: Juniper Ridge Landfill DATE RANGE: 1/1/2004 - 12/31/2024			DATA SUMMARY TABLE Residential Inorganics Group 1 of 2							SEVEE & MAHER ENGINEERS, INC. 4 BLANCHARD ROAD CUMBERLAND CENTER, ME 04021		
		Total Kjeldahl Nitrogen	Ammonia (N)	Nitrate (N)	Nitrite (N)	Nitrite/Nitrate - (N)	Total Dissolved Solids	Total Suspended Solids	Sulfate	Ca-mg Hardness (CaCO3)	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)
Date	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
6/7/2004	DW201X022			1.4					4		94	
6/7/2004	DW202X023			0.1 J					4		111	
6/7/2004	DW203X024			0.1 U					5.5		72	
6/7/2004	DW204X025			0.1 U					6.9		117	
6/7/2004	DW205X026			0.1 U					4		90	
6/7/2004	DW206X027			0.8					8.7		66	
6/7/2004	DW207X028			0.5 J					7.8		44	
6/7/2004	DW208X029			0.2 J					3.8		64	
6/7/2004	DWDP1X033			0.1 U					6.7		121	
6/8/2004	DW209X02A			0.2 J					8.9		73	
6/8/2004	DW210X02B			0.6					8		55	
6/8/2004	DW211X02C			0.1 U					19.8		83	
6/8/2004	DW212X02D			0.1 U					24		145	
6/8/2004	DW213X02E			0.2 U					0.2 U		25	
6/8/2004	DW214X02F			0.1 U					4		37	
6/8/2004	DW216X02H			0.1 U					6.2		93	
6/8/2004	DW217X02I			1					5.3		68	
6/8/2004	DW223X038			0.1 U					6.6		118	
6/9/2004	DW218X02J			2					7.3		93	
6/9/2004	DW219X030			0.1 U					5		91	
6/9/2004	DW220X031			1					8.3		119	
6/9/2004	DW221X032			0.1 U					3.5		61	
6/9/2004	DW222X037			0.1 U					3.3		65	
6/9/2004	DWDP2X034			0.1 U					5.1		88	
4/19/2006	DW224X1D1			0.2 J					6.5		59	
4/19/2006	DW225X1D2			0.1 U					4.2		90	
9/20/2006	DW204X24F		0.5 U	0.2			230		7.1			110
9/20/2006	DW205X24G		0.5 U	0.1 U			130		4.6			81
9/20/2006	DW209X24H		0.5 U	0.3			91		7.9			68
9/20/2006	DW223X24I		0.5 U	0.1 U			140		6.2			120
9/20/2006	DW500X24J		0.5 U	0.1 U			88		6.9			51
9/20/2006	DW501X250		0.5 U	0.2			920		19			130
9/20/2006	DW502X251		0.5 U	0.1 U			84		6.7			63
9/20/2006	DW503X252		0.5 U	0.5			85		4.5			57
9/20/2006	DWXXX253		0.5 U	0.1 U			100		3.4			40
7/29/2013	DWXXX65I								3.9		35	
10/29/2013	DWXXX687								3.8		35	
10/20/2014	DWXXX744						120		8			82
6/1/2016	DWXXX94H			0.05 U	0.05 U					270		
10/24/2016	DWXXX90A						370		12.4			64
10/24/2016	DWXXX943						152		12.4			121
10/29/2019	DWXXXBJH								4.3		41	41
10/27/2020	DWXXXD51	0.5 U				0.25	72	2.5 U	4		57	
10/3/2022	DWXXXIGD	0.2 U				1	110	4 U	9		130	
10/4/2022	DWXXXG27	0.2 U				0.27	28	4 U	6.2		120	
10/4/2022	DWXXXG28	0.2 U				0.26		4 U	4.1		54	
10/4/2022	DWXXXG28RR						76 H					120
7/19/2022	DWXXXFE8						161		11		80	
1/24/2023	DWXXXGC3	0.2 U				0.078	109	2.5 U	8.6			

REPORT PREPARED: 8/5/2024 09:54 FOR: Juniper Ridge Landfill DATE RANGE: 1/1/2004 - 12/31/2024				DATA SUMMARY TABLE Residential Inorganics Group 2 of 2				SEVEE & MAHER ENGINEERS, INC. 4 BLANCHARD ROAD CUMBERLAND CENTER, ME 04021				
Organic Carbon			Chloride	Bromide	Total Coliform	E.Coli	Total Coliform					
Date	Sample ID	mg/L	mg/L	mg/L	Colonies/100mL	MPN/100mL	MPN/100mL					
6/7/2004	DW201X022	2.4	23.7									
6/7/2004	DW202X023	1 J	2.3									
6/7/2004	DW203X024	0.5 U	1.6									
6/7/2004	DW204X025	0.5 U	41.6									
6/7/2004	DW205X026	0.5 U	2.3									
6/7/2004	DW206X027	0.5 U	80.2									
6/7/2004	DW207X028	0.5 U	105									
6/7/2004	DW208X029	1.4 J	2.1									
6/7/2004	DWDP1X033	0.5 U	40.7									
6/8/2004	DW209X02A	0.5 U	3.2									
6/8/2004	DW210X02B	0.5 U	48.6									
6/8/2004	DW211X02C	0.5 U	69.2									
6/8/2004	DW212X02D	0.5 U	23.8									
6/8/2004	DW213X02E	0.6 J	64.8									
6/8/2004	DW214X02F	0.5 U	2.2									
6/8/2004	DW216X02H	0.5 U	2.1									
6/8/2004	DW217X02I	0.5 U	19.2									
6/8/2004	DW223X038	2	2.2									
6/9/2004	DW218X02J	0.7 J	5.6									
6/9/2004	DW219X030	0.5 U	1.7									
6/9/2004	DW220X031	0.5 U	4.9									
6/9/2004	DW221X032	0.5 U	1.7									
6/9/2004	DW222X037	0.5 U	1.7									
6/9/2004	DWDP2X034	0.5 U	1.7									
4/19/2006	DW224X1D1	0.9 J	20.3									
4/19/2006	DW225X1D2	0.5 U	2.2									
9/20/2006	DW204X24F	1 U	39									
9/20/2006	DW205X24G	1 U	1.9									
9/20/2006	DW209X24H	1 U	2.6									
9/20/2006	DW223X24I	2.7	1.5									
9/20/2006	DW500X24J	1 U	1.1									
9/20/2006	DW501X250	1 U	320									
9/20/2006	DW502X251	1 U	1.4									
9/20/2006	DW503X252	1 U	4.7									
9/20/2006	DWXXX253	1 U	1.1									
7/29/2013	DWXXX65I		1.6									
10/29/2013	DWXXX687		2.6									
10/20/2014	DWXXX744	2 U	1									
6/1/2016	DWXXX94H		150		1 U							
10/24/2016	DWXXX90A	2 U	139									
10/24/2016	DWXXX943	2 U	2.5									
10/29/2019	DWXXXBJH		11									
10/27/2020	DWXXXD51	12 M10	1.8	0.1 U	6							
10/3/2022	DWXXXIGD	1 U	4.1	0.1 U			1 U					
10/4/2022	DWXXXG27	1 U	1.9	0.1 U			23					
10/4/2022	DWXXXG28	1 U	1.8	0.1 U			10					
10/4/2022	DWXXXG28RR	1 U	1.5									
7/19/2022	DWXXXFE8	0.51	1 U	0.1 U	1 U	1 U						

REPORT PREPARED: 8/5/2024 09:54 FOR: Juniper Ridge Landfill DATE RANGE: 1/1/2004 - 12/31/2024			DATA SUMMARY TABLE Residential Volatile Organic Compounds Group 1 of 5							SEVEE & MAHER ENGINEERS, INC. 4 BLANCHARD ROAD CUMBERLAND CENTER, ME 04021		
Date	Sample ID	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2- Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1- Trichloroethane ug/L	Carbon Tetrachloride ug/L	Vinyl Acetate ug/L
6/7/2004	DW201X022	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/7/2004	DW202X023	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/7/2004	DW203X024	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/7/2004	DW204X025	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/7/2004	DW205X026	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/7/2004	DW206X027	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/7/2004	DW207X028	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/7/2004	DW208X029	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/7/2004	DWDP1X033	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/8/2004	DW209X02A	10 U	2 U	2 U								
6/8/2004	DW210X02B	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/8/2004	DW211X02C	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/8/2004	DW212X02D	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/8/2004	DW213X02E	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/8/2004	DW214X02F	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/8/2004	DW216X02H	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/8/2004	DW217X02I	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/8/2004	DW223X038	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/9/2004	DW218X02J	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/9/2004	DW219X030	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/9/2004	DW220X031	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/9/2004	DW221X032	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/9/2004	DW222X037	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
6/9/2004	DWDP2X034	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
4/19/2006	DW224X1D1	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U
4/19/2006	DW225X1D2	10 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	15 U

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REPORT PREPARED: 8/5/2024 09:54 FOR: Juniper Ridge Landfill DATE RANGE: 1/1/2004 - 12/31/2024				DATA SUMMARY TABLE Residential Volatile Organic Compounds Group 3 of 5						SEVEE & MAHER ENGINEERS, INC. 4 BLANCHARD ROAD CUMBERLAND CENTER, ME 04021		
		trans-1,3- Dichloropropene	Bromoform	4-Methyl-2- Pentanone	2-Hexanone	Tetrachloroethene	1,1,2,2- Tetrachloroethane	Toluene	Chlorobenzene	Ethylbenzene	Styrene	o-Xylene
Date	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
6/7/2004	DW201X022	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/7/2004	DW202X023	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/7/2004	DW203X024	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/7/2004	DW204X025	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/7/2004	DW205X026	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/7/2004	DW206X027	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/7/2004	DW207X028	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/7/2004	DW208X029	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/7/2004	DWDP1X033	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW209X02A	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW210X02B	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW211X02C	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW212X02D	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW213X02E	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW214X02F	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW216X02H	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW217X02I	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/8/2004	DW223X038	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/9/2004	DW218X02J	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/9/2004	DW219X030	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/9/2004	DW220X031	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/9/2004	DW221X032	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/9/2004	DW222X037	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
6/9/2004	DWDP2X034	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4/19/2006	DW224X1D1	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4/19/2006	DW225X1D2	2 U	2 U	10 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U

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		trans-1,-Dichloro-2-								Methylene		
		Acrylonitrile	butene	Iodomethane	Chloromethane	Bromomethane	Vinyl Chloride	Chloroethane	Chloride			
Date	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
6/7/2004	DW201X022	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/7/2004	DW202X023	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/7/2004	DW203X024	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/7/2004	DW204X025	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/7/2004	DW205X026	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/7/2004	DW206X027	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/7/2004	DW207X028				2 U	2 U	2 U	2 U	5 U			
6/7/2004	DW208X029				2 U	2 U	2 U	2 U	5 U			
6/7/2004	DWDP1X033	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW209X02A	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW210X02B	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW211X02C	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW212X02D	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW213X02E	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW214X02F	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW216X02H	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW217X02I	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/8/2004	DW223X038	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/9/2004	DW218X02J	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/9/2004	DW219X030	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/9/2004	DW220X031	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/9/2004	DW221X032	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/9/2004	DW222X037	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
6/9/2004	DWDP2X034	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
4/19/2006	DW224X1D1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			
4/19/2006	DW225X1D2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U			

Notes:

Sample Type XX = Environmental Sample, XD = Duplicate Sample

Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

H - Analyzed outside U.S.EPA's recommended hold time.

J - Analyte was positively identified/Associated value is an estimate. U - Not Detected above the laboratory reporting limit.

M10 - Due to a identified laboratory instrumentation malfunction, this analytical result is likely elevated--the laboratory has fixed the issue.

U - Not Detected above the laboratory reporting limit.