

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**Solid Waste Program, Attn: Vicky Bryant**  
**17 State House Station**  
**Augusta, Maine 04333-0017**  
**Telephone: (207) 287-2651**

<b><u>FOR DEP USE ONLY</u></b>			
ATS ID: _____	Seq: _____	DEP ID: _____	Received by DEP: _____
Bureau: <u>S</u>	Type of Application: _____	Activity: <u>A</u>	Fees Paid: _____
Project Analyst: _____		Check No.: _____	

**APPLICATION FOR A SOLID WASTE PROJECT AMENDMENT**

This form shall be used to request approval, pursuant to 38 MRSA, Section 1301 et seq., and Maine's Solid Waste Management Regulations, of any proposal to significantly increase the capacity of a solid waste facility; to significantly alter the siting, design, construction or operation of the facility; or significantly alter the nature of an activity to an extent that would require the Department to modify any findings with respect to any of the licensing criteria.

PLEASE TYPE OR PRINT

**Company Name:** State of Maine, acting through the  
 Department of Administrative and Financial Services,  
 Bureau of General Services,  
 Juniper Ridge Landfill

**Telephone:** 207-624-7360

Contact Person: Michael Barden

Telephone: 207-624-7360

**Address Information**

**Applicant Name:** State of Maine  
 Bureau of **General Services**  
 Telephone: 207-624-7360

**Agent/Consultant Name:** NEWSME Landfill Maine  
 Operations LLC  
 Telephone: 207-862-4200 ext 225

Mailing Address: 77 State House Station  
 Augusta Maine 04333

Mailing Address: (NEWSME) 2828 Bennoch Road  
 Old Town, Maine 04446

**Address: Billing**

Name: NEWSME Landfill Operations, LLC

Mailing Address: 110 Main St., Suite 1308  
 Saco, Maine 04072

**Site/Activity Information**

Project Description: The application is for an amendment of the license for the Juniper Ridge Landfill located in Old Town, Maine to accept municipal solid waste from sources within the State of Maine as a result of the anticipated closure of the Maine Energy facility in Biddeford. The Juniper Ridge Landfill is owned by the State

of Maine and operated by NEWSME Landfill Operations, LLC See attached document for more complete description.

Location: Juniper Ridge Landfill Old Town Maine

Directions:0.1 mile west of Interstate 95 Exit  
199 off Route 16

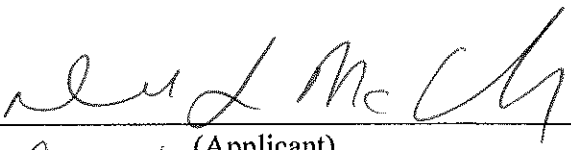
**PLEASE SEE PAGE 2 - SIGNATURE REQUIRED**

## SIGNATURE OF APPLICANT

By signing this application, the applicant certifies that he or she has: (1) published the public notice form once in a newspaper circulated in the area where the project is located, (2) sent a copy of the public notice form to the owners of property abutting the land upon which the project is located, (3) sent a copy of the public notice form to the chief municipal officer and chair of the municipal planning board of the municipality in which the project is located (4) filed a complete copy of this application in the municipal office of the municipality in which the project is located, (5) reviewed the instructions contained in this application form, and (6) reviewed the appropriate state laws that relate to the proposed project.

I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I, the property owner or lessee, authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

DATE: Sept 10, 2012

NAME:   
(Applicant)  
TITLE: Director BGS  
(If other than applicant, attach letter of agent authorization.)

**PLEASE SEE ATTACHED FEE SCHEDULE TO DETERMINE THE APPLICATION FEE FOR  
FOR AN AMENDMENT TO YOUR FACILITY LICENSE.**

# INSTRUCTIONS

1. Please contact DEP Solid Waste staff to determine if your project is a minor revision or amendment and to answer any questions that arise at any point during the application or review process.
2. Pre-Application meeting. Applicants proposing to amend a license are encouraged to meet with DEP staff to discuss the proposed project. The meetings can help avoid unnecessary expense and processing delays.
3. Fill out the application completely. INCOMPLETE APPLICATIONS WILL BE RETURNED, CAUSING UNNECESSARY DELAYS IN THE REVIEW PROCESS.
4. Publish the PUBLIC NOTICE OF INTENT TO FILE FORM once in a newspaper circulated in the area where the project is located. (A form for this is attached to this application.) The notice should appear in the newspaper within 30 days prior to filing the application with the DEP.
5. Send by certified mail, a copy of the PUBLIC NOTICE OF INTENT TO FILE FORM to all the owners of property abutting the project. Their names and addresses can be obtained from town tax maps or local public officials. Abutters must receive notice within 30 days prior to filing the application with the DEP. If your project abuts a road or other public or private right of way, the person on the opposite side of the right of way must be notified.
6. Send by certified mail, a copy of the PUBLIC NOTICE OF INTENT TO FILE FORM to the chief municipal officer and chairperson of the planning board in the municipality where the project is to be located. Send one complete copy of the application to the Municipal Office of the town within which the project is located. If the project is located in an unorganized area, send the PUBLIC NOTICE and application to the appropriate Office of the County Commissioners and the Maine Land Use Regulation Commission, State House Station 22, Augusta, Maine 04333. The notice must be filed in the municipal office within 30 days prior to filing with the DEP. The application must be filed in the municipal office at the time of filing with the DEP.
7. Consult with DEP staff to determine how many copies of the completed application form and supporting reports must be submitted to the Department. In general, three copies of site plans, drawings, soil maps, or other data on sheets larger than 8½" x 14" copies must be submitted unless the staff determines that fewer copies are needed. ALL PLANS SHOULD BE FOLDED TO SIZE 8½" x 11" unless otherwise indicated by the DEP's staff. Any part of the application which has been prepared by a P.E., C.G. or C.S.S. must be stamped and signed by that person. If the applicant is a corporation, a certificate of good-standing from the Secretary of State must be included.
8. Send the application along with all attachments and a check for the fee made payable to "Treasurer, State of Maine" to: Maine Department of Environmental Protection, Bureau of Remediation and Waste Management, 17 State House Station, Augusta, Maine 04333-0017.
9. Keep a copy of the completed application for your files. This copy will be helpful in speeding up communications with the DEP staff if any questions arise during the review of the project.
10. Upon the approval by the Department of Environmental Protection, a permit will be issued and sent to the applicant. The applicant should read the permit carefully in order to become familiar with any



conditions. Failure to comply with conditions of approval may lead to enforcement action or the revocation of a permit.

## PUBLIC NOTICE OF INTENT TO FILE

Please take notice that the State of Maine, acting through the Department of Administrative and Financial Services, Bureau of General Services, 77 State House Station, Augusta, Maine 04333 (Tel: (207) 624-7360), and NEWSME Landfill Operations, LLC, 2828 Bennoch Road, Old Town, Maine 04446 (Tel: (207) 862-4200 ext. 225) are intending to file an application with the Maine Department of Environmental Protection (DEP) on or about September 10, 2012, pursuant to the provisions of 38 M.R.S. §§ 1301 et seq. and Maine's Solid Waste Management Regulations.

The application is for an amendment of the license for the Juniper Ridge Landfill located in Old Town, Maine to accept municipal solid waste from sources within the State of Maine as a result of the anticipated closure of the Maine Energy facility in Biddeford. The Juniper Ridge Landfill is owned by the State of Maine and operated by NEWSME Landfill Operations, LLC. The facility mailing address is 2828 Bennoch Road, Old Town, Maine 04468.

According to Department regulations, interested parties must be publicly notified, written comments invited and, if justified, an opportunity for a public hearing given. A request for a public hearing or for the Board of Environmental Protection to assume jurisdiction over this application must be received by the Department, in writing, no later than 20 days after the application is accepted by the Department as complete for processing.

The application and supporting documentation are available for review at the Department's Bureau of Remediation and Waste Management Bangor and Augusta offices during normal working hours. A copy of the application and supporting documentation may also be seen at the municipal offices in Old Town and Alton, Maine and at the Penobscot Indian Nation.

Send all correspondence to: Michael Parker ([michael.t.parker@maine.gov](mailto:michael.t.parker@maine.gov)), Maine Department of Environmental Protection, Solid Waste Program, 17 State House Station, Augusta, Maine 04333-0017 (Tel: 207-287-7704 or 1-800-452-1942).

August 29, 2012



**JUNIPER RIDGE LANDFILL**

**AMENDMENT APPLICATION TO ACCEPT  
MUNICIPAL SOLID WASTE FROM MAINE  
SOURCES**

**Submitted by:**

**STATE OF MAINE BUREAU OF GENERAL  
SERVICES  
as Owner**

**and**

**NEWSME LANDFILL OPERATIONS, LLC,  
as Operator**

**September 2012**

**SME**

Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE



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**JUNIPER RIDGE LANDFILL  
AMENDMENT APPLICATION TO ACCEPT MUNICIPAL SOLID WASTE FROM MAINE  
SOURCES**

**1.0 INTRODUCTION**

Maine Bureau of General Services (BGS),<sup>1</sup> as the owner of Juniper Ridge Landfill (JRL), and NEWSME Landfill Operations, LLC (NEWSME), as operator of the JRL in Old Town, Maine, have prepared this amendment application (Application) for submission to the Maine Department of Environmental Protection (MEDEP) to remove the restriction and limitations placed on in-state municipal solid waste (MSW) disposal at the JRL. These restrictions and limitations are: (1) the source of MSW can only be by-passed material as set forth in Conditions 16.A and 16.C of MEDEP Order #S-020700-WD-N-A, or (2) the use of MSW, (i.e., in the soft layer) as approved by MEDEP Order #S-020700-WD-W-M.

This request for an amendment is occasioned by the August 1, 2012 execution of a landmark agreement between Maine Energy Recovery Company, LP (Maine Energy), the owner of the Maine Energy Incinerator (MEI), and the City of Biddeford (Biddeford) to sell, shut down and decommission the MEI facility. The Agreement is the culmination of years of controversy, strategic discussions, and negotiations over the location and operation of MEI within Biddeford, and the City expects a significant increase in economic opportunities and job creation to result from this conveyance and facility closure.

The closure of MEI is also aligned with a number of other waste management objectives for the State of Maine. First, it decreases the amount of out-of-state waste imported into the State since about 66 percent of the material handled by MEI originates from beyond Maine borders. In 2011, this represented approximately 170,000 tons of solid waste which will be pushed back to the out-of-state market. Second, this change further allows NEWSME's ultimate parent company, Casella Waste Systems, Inc. (CWS), to promote recycling programs which help the State achieve its recycling goals. For example, as part of the agreement to close MEI, CWS will

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<sup>1</sup> Pursuant to P.L. 2011, Chapter 655, Sec. GG-69, on July 1, 2012 the Bureau of General Services in the Department of Administrative and Financial Services became the owner and licensee of JRL. Prior to July 1, the State Planning Office owned JRL and held its licenses. The State Planning Office was abolished on July 1, 2012.



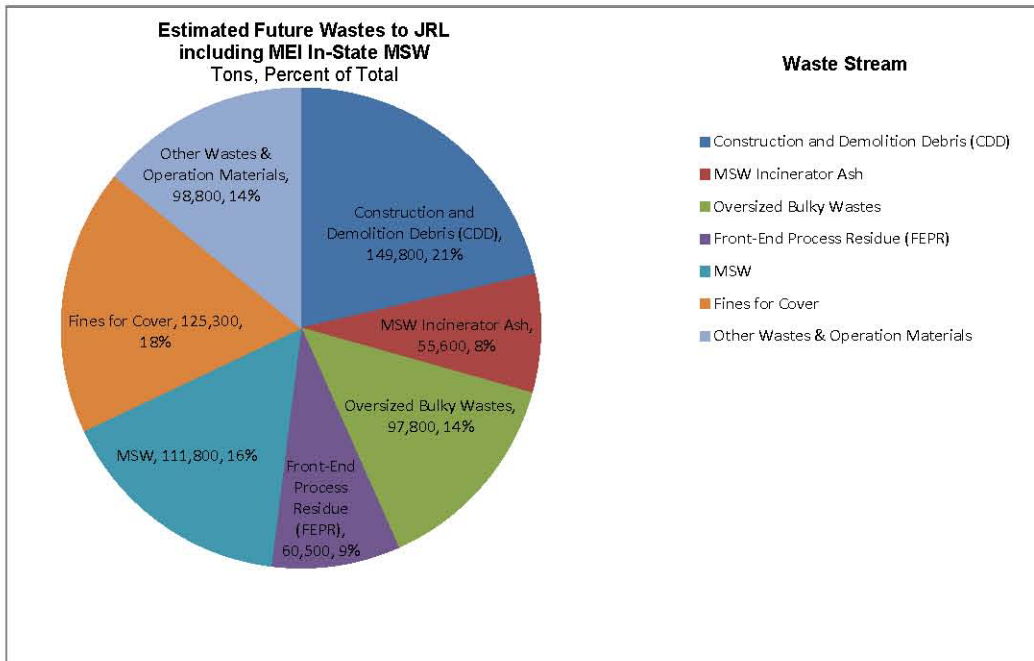
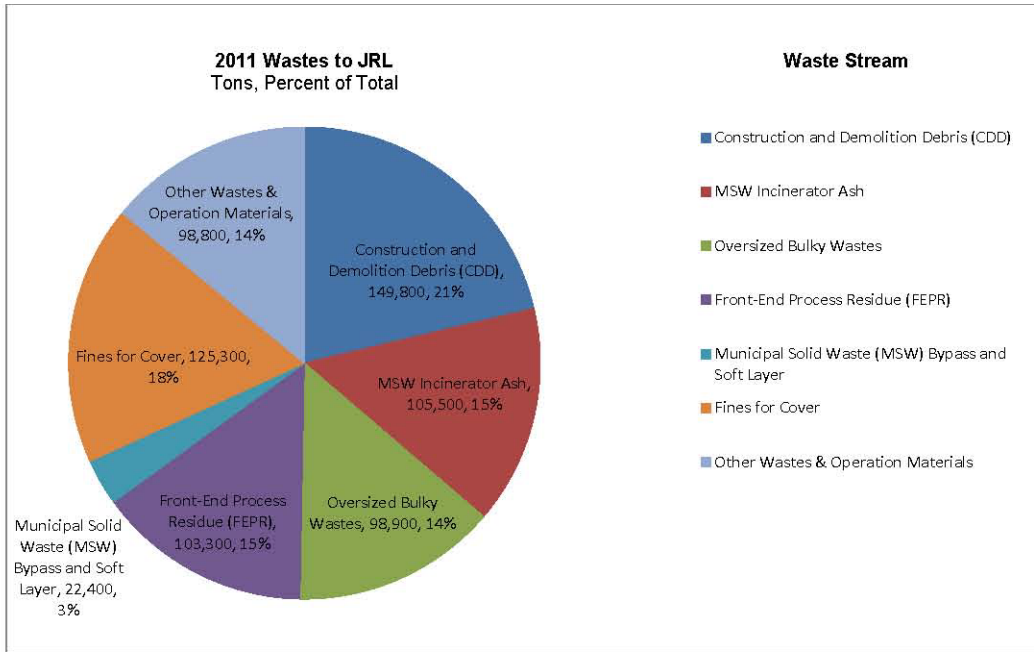
be providing the City of Biddeford with curb-side recycling services. CWS is also in the preliminary stages of developing a Zero-Sort<sup>®</sup> recycling facility in Lewiston Maine. This facility will provide an outlet for recycled materials, further reducing the amount of MSW requiring disposal. These initiatives are in addition to the significant role CWS and its subsidiary companies already play in recycling MSW and other waste streams in Maine and the rest of the Northeast. These and other CWS recycling activities are discussed in greater detail in this application.

This proposed amendment will not materially change the types and overall quantity of wastes accepted at JRL, nor its operations or projected life. MSW disposed at JRL will be offset by a decrease in the amount of residuals (ash and front-end processing residue, or FEPR, and oversized bulky waste) and by-pass generated by MEI that are currently disposed at JRL. Figure 1-1 shows the amount and relative percentages of the various waste types taken to JRL before and after the proposed change.

The amendment requested herein to JRL's license will allow uninterrupted waste disposal services to the State of Maine communities and businesses which currently utilize MEI. The in-State MSW that is currently accepted at MEI will be re-directed to the Pine Tree Waste transfer station in Westbrook where it will be consolidated into larger trailers and sent to JRL.

**FIGURE 1-1**

**SUMMARY OF CURRENT AND FUTURE WASTE COMPOSITION**



## 1.1 Background

This section provides a brief overview of JRL's permitting history and how the disposal of MSW has factored into that history.

CWS, through its subsidiary NEWSME, operates JRL under an Operating Services Agreement (OSA) that was entered into between the State of Maine and CWS as a result of the following chronology of events:

**June 13, 2003:** As provided for in the Legislative Resolve that authorized the acquisition of the Georgia-Pacific landfill, the Maine State Planning Office issued a Request for Proposals (RFP) for the selection of the operator of the West Old Town landfill (today called JRL).

**July 9, 2003:** CWS submitted a bid submittal in response to SPO's RFP.

**August 18, 2003:** SPO selects CWS as facility operator of the landfill.

**October 21, 2003:** MEDEP issued conditional approval for the transfer of licenses for the WOTL from Fort James to the SPO (MEDEP licenses #S-020700-WR-M-T and #L-019015-TH-C-T); the transfer became effective when the sale of the WOTL to SPO occurred on February 5, 2004.

**October 30, 2003:** NEWSME applied for an amendment to the existing Board Order for the West Old Town Landfill. That application contained the following table which identified the acceptance of at least the following wastes: front end process residue, oversized bulky waste, municipal solid waste, construction and demolition debris, ash related wastes, and water/treatment sludge.

TABLE 1-1

## WASTE TYPES PROPOSED IN THE 2003 AMENDMENT APPLICATION

Type of Waste	Anticipated Tonnage
Front End process Residue (FEPR)	120,000
Oversized Bulky Wastes (OBW)	20,000
Municipal Solid Wastes (MSW)	40,000
Construct and Demolition Debris (CDD)	190,000
Ash Related Wastes	70,000
Water/Wastewater Treatment Sludge	50,000
Miscellaneous Wastes	50,000
<b>Anticipated Annual Tons:</b>	<b>540,000</b>
<b>Anticipated Annual Cubic Yards</b>	<b>640,000</b>

**February 5, 2004:** SPO, the State of Maine and NEWSME executed the OSA for the operation of the WOTL.

**April 9, 2004:** MEDEP approved the amendment application (MEDEP license #S-020700-N-A) for a vertical increase in the final elevation of landfill and the disposal of additional waste streams (the "amendment license"). The amendment license was appealed to and upheld by both the BEP in 2004 and the Penobscot County Superior Court in 2006.<sup>2</sup>

Condition 16 of the amendment license addresses the acceptance of MSW for disposal at JRL, and is the subject of this Application.

Condition 16.A states that the operator of JRL "shall not dispose of unprocessed MSW from any source other than bypass from the following sources: PERC incinerator in Orrington and the Maine Energy incinerator in Biddeford; waste delivered under an interruptible contract with PERC; or waste delivered in excess of processing capacity at other MSW incinerators in Maine." The amount of MSW bypass that can be accepted at JRL is not specified in Condition 16.A; however, Condition 16.C limits the total amount of "(a) unprocessed MSW incinerated at Maine Energy, and (b) MSW bypassed from Maine Energy for disposal at the JRL and at Pine Tree Landfill's Secure III Landfill Expansion to no more than 310,000 tons in any

<sup>2</sup> In 2005, WOTL became known as the Juniper Ridge Landfill. The OSA states, in part, that NEWSME is responsible for all costs associated with operating JRL, and for obtaining any permits needed. As explained in Finding of Fact #3 of the amendment license, references to the applicant in licenses for construction or operation of JRL often refer to both SPO and CWS or NEWSME (or a subsequent operator).

calendar year, unless changes in conditions and circumstances occur that cause the Department to revise this cap.”

The origin of the “bypass only” limitation at JRL was a nearly identical condition in the license of the Pine Tree Landfill (PTL). In March of 2001 PTL applied for a license modification to accept MSW in response to a request from the Penobscot Energy Recovery Company to contract with PTL for disposal of by-passed MSW from PERC. PERC was required as a condition of its operating license to provide for alternate disposal of bypass but at the time had no such provision. At the time of PERC’s request to PTL, MSW was not provided for in PTL’s license, bypass or otherwise.

Despite the application having been prompted by PERC’s request, PERC and the Municipal Review Committee objected to the PTL application. Regional Waste Systems (now ecomaine) also objected to the application. In order to accommodate these objections, and in the interest of expediting the provision for a necessary site for incinerators needing alternate disposal of bypass, PTL voluntarily agreed to limit disposal of MSW at PTL to MSW bypass from Maine incinerators. PTL in fact provided this MSW bypass service for three of Maine’s four MSW incinerators. Prior to JRL, PTL was the only Maine landfill licensed to accept MSW that was limited in this fashion.

During the review of the Amendment Application for the West Old Town Landfill, the MEDEP staff asked NEWSME to agree to the same “bypass only” and numerical limitations regarding MEI since that was in the PTL license and NEWSME had proposed to accept the same Maine waste streams that were currently being disposed at PTL at the time of the Amendment Application. NEWSME agreed to that request since there were no discussions at the time regarding permanent closure of MEI. Those discussions did not occur until the first Task Force convened in 2005 by State Government.

On September 10, 2010, MEDEP approved Minor Revision, #S-020700-WD-W-M that allowed MSW to be used as the “soft layer” of JRL. The minor revision specifically addressed Condition 16.C of the amendment license and allowed a change in the annual limit of the amount of unprocessed MSW bypass that could be accepted at JRL so that MSW bypass could

be used in the “soft layer required to be placed within four to five feet of the landfill liner.” Per that license revision, this four to five feet of MSW bypass placed in the soft layer is not counted toward the 310,000-ton limit in Condition 16.C of the 2004 amendment license.

As demonstrated by this summary, the acceptance of MSW at JRL was included in the original amendment application. As shown on Table 1-1, MSW and FEPR made up approximately 30 percent of the anticipated total waste stream proposed for disposal at the JRL in the amendment application. Under this amendment proposal, MSW and FEPR will be approximately 25 percent of the anticipated total waste stream proposed for disposal at the JRL. The limitation placed on the acceptance of MSW per Conditions 16A and 16C of the amendment license related to the MEI facility. NEWSME agreed to that request since there were no discussions at the time regarding closure of MEI. Now, of course there is an agreement to sell and close MEI.

## 1.2 Description of Proposed Amendment and Application Content

The proposed amendment (the Proposed Amendment) consists of JRL accepting MSW, generated only within the State of Maine, without requiring that the MSW be (1) “bypassed” material<sup>3</sup> or (2) used as the soft layer during cell construction.<sup>4</sup> This amendment will not significantly change the site operations or landfill life because the amount of residuals generated by MEI is approximately the same as the amount of Maine MSW anticipated to be placed in JRL once MEI closes.<sup>5</sup> As part of this application BGS and NEWSME agree to accept no more MSW at JRL than 123,000 tons annually, the annual average of in-state MSW accepted at MEI combined with bypass and soft layer MSW from MEI sent to JRL over the past 3 years. This three year average will allow for the historical tonnage fluctuations at MEI due to the economy, tourism, waste generation, etc.

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<sup>3</sup>Condition 16.A, MEDEP Order #S-020700-WD-N-A

<sup>4</sup> Order #S-020700-WD-W-M

<sup>5</sup> This is demonstrated in this application by comparing the impact on landfill activities associated with the amount of MSW handled by MEI, and residual and by-pass from MEI that were disposed at JRL in 2011 with the hypothetical scenario of all the in-state MSW associated with MEI in 2011 being disposed at JRL.

In 2011, about 704,000 tons of waste and alternate daily cover (ADC) were placed or recycled in JRL, including approximately 93,900 tons of residuals (front end process residue (FEPR), and ash and bulky waste) and 22,400 tons of bypass and soft layer MSW from communities which use the MEI facility, totaling approximately 116,300 tons. The annual average of these combined materials over the last three years is 131,000 tons with 106,600 tons being residuals and 24,400 tons being bypass and soft layer MSW. NEWSME is proposing to replace this bypass, soft layer MSW and residuals with in-state MSW that is currently being disposed at MEI. The total number of tons of in-state MSW delivered to MEI in 2011 was 89,400. Add to that the total number of bypass and soft layer MSW tons delivered to JRL in 2011, and the total MSW tons that would have been delivered to JRL, had MEI been closed, would have been 111,800. The annual average of in-state MSW going to MEI combined with bypass and soft layer MSW from MEI sent to JRL over the past 3 years has been 123,000 tons. Therefore, if one compares the 2011 residuals and bypass/soft layer MSW tons of 116,300 from MEI (above) with the in-state MEI and bypass/soft layer MSW tons of 111,800, JRL would have accepted 4,500 less tons of in-state MSW from MEI in 2011. If one uses the 3-year averages for residuals and bypass/fluff layer MSW tons of 131,000 compared to the in-state MEI and bypass/fluff layer MSW tons of 123,000, then JRL would have accepted approximately 8,000 fewer tons per year of MSW from MEI communities. A portion of this in-state MSW will still be used for the soft layer of base cells, as needed.

Table 1-2 presents the various types and percentages of waste handled by JRL in 2011 and shows how these percentages will change as a result of eliminating the MEI wastes and accepting in-state MSW. The MSW will be commingled with the other waste types received by JRL as is currently the disposal practice for MSW bypass waste.

TABLE 1-2

COMPARISON OF WASTE TYPES AND PERCENTAGE BEFORE AND AFTER PROPOSED AMENDMENT

Waste Stream	2011 Wastes to JRL		Estimated Future Wastes to JRL including MEI In-State MSW	
	Tons <sup>1</sup>	Percent of Total	Tons <sup>1</sup>	Percent of Total
Construction and Demolition Debris (CDD)	149,800	21	149,800	21
Front-End Process Residue (FEPR)	103,300	15	60,500	9
MSW Incinerator Ash	105,500	15	55,600	8
Oversized Bulky Wastes	98,900	14	97,800	14
Municipal Solid Waste (MSW) Bypass and Soft Layer	22,400	3	22,400	3
MSW <sup>2</sup>			89,400	13
Fines for Cover	125,300	18	125,300	18
Other Wastes & Operation Materials	98,800	14	98,800	14
<b>TOTAL</b>	<b>704,000</b>		<b>699,600</b>	

**Note:**

1. All tonnages have been rounded to the nearest 100 tons and represent estimates based on 2011 tonnages.
2. MSW will continue to be utilized as a soft-layer application so the estimated net increase in MSW accepted at the site will be about 89,400 tons.
3. Operation materials include tire chips and gravel.

As illustrated, the total tonnage of material deposited and recycled at JRL is anticipated to change by a *de minimis* amount. Therefore, the design for JRL containment and collection systems, landfill configurations, and anticipated landfill life will not change. Section 3.0 of this application discusses the bases for these conclusions regarding design.

For the same reason, site operation will not change in any material manner. However, NEWSME recognizes that the relative increase in MSW has the potential to generate more odors, vectors, and windblown litter than the current mix of materials. Section 4.0 of this application presents the current and additional site operational controls that will be used to minimize/control these potential issues.

Finally, based on previous concerns about traffic related to site operation, an evaluation of the impact of the proposed amendment on site traffic has also been completed and is contained in Section 2.4 of the application. The proposed amendment will not change the truck traffic to or from the site (i.e., no significant increase or decrease in the number of trucks to and from the site).



## **2.0 CHAPTER 400 AND CHAPTER 2 GENERAL LICENSING CRITERIA**

### **2.1 Title, Right & Interest**

JRL is located on an approximate 780-acre parcel owned by the State of Maine (State), located east of Route 43 and west of Route 16 in Old Town, Maine. The SPO deed for JRL is recorded in Book 9188, Page 152 at the Penobscot County Registry of Deeds. A copy of the deed is included in Attachment 1.

**2.1.1 Public Notice of Intent to File.** On August 29, 2012 the Public Notice of Intent to File an Application was sent by certified mail to the JRL abutters, the Old Town City Manager, the Old Town Planning Board Chairman, the Town of Alton Selectmen, and the Penobscot Nation. This notice was also sent by certified mail to the members of the Juniper Ridge Landfill Advisory Board. A copy of the Public Notice, the JRL abutters, and Juniper Ridge Landfill Advisory Board members who received the public notice, and the certified mail receipts for the public notices are provided in Attachment 2.

The Notice of Intent to File an Application was published in the *Bangor Daily News* on August 30, 2012. A copy of the published notice is provided in Attachment 2.

**2.1.2 Pre-Application Meeting.** A pre-application meeting was held on August 22, 2012 with the MEDEP. At this meeting, the project concept and Application contents were discussed and the required contents of the Application were confirmed between BGS, NEWSME and the MEDEP.

**2.1.3 Pre-Submission Meetings.** A pre-submission meeting was held with the MEDEP on September 6, 2012 to review the contents of the Application.

**2.1.4 Certificate of Good Corporate Standing.** A copy of information obtained from the Secretary of State's CEC database demonstrating NEWSME's good corporate standing is included in Attachment 3.

## 2.2 Financial Ability

NEWSME is responsible for all costs associated with design, construction, operation, and closure of the JRL. NEWSME (whose sole member is a wholly-owned subsidiary of CWS) has the financial ability to carry out these activities in a manner consistent with all applicable regulatory requirements. Ongoing activities at the JRL are financed by revenues generated from the operation of JRL. CWS maintains a secure credit facility administered by the Bank of America N.A. which is available to support NEWSME with operation of JRL if necessary. Included in Attachment 4 is a letter from Bank of America N.A. attesting to the satisfactory relationship it has maintained with CWS since 1995, and indicating the status of CWS' current credit facility.

## 2.3 Technical Ability

NEWSME has management and staff available who are well qualified to operate and care for the JRL. NEWSME engages qualified consultants as necessary to undertake design and construction of the JRL and provide operational guidance in a manner consistent with State environmental requirements. NEWSME and/or other related companies also owned by CWS have managed the JRL facility since April 2004. NEWSME has met all of its obligations under the current JRL license and continues to operate the JRL in conformance with the DEP's regulations and the JRL license.

CWS is a vertically-integrated solid waste, recycling, and resource management services company. It provides resource management expertise and services to residential, commercial, municipal, and industrial customers, primarily in the areas of solid waste collection, transfer, disposal, recycling, and organics services. CWS operates in six states - Vermont, New Hampshire, New York, Massachusetts, Maine, and Pennsylvania, with headquarters located in Rutland, Vermont.

As of May 31, 2012, CWS owned and/or operated 32 solid waste collection operations, 31 transfer stations, 17 recycling facilities, nine Subtitle D landfills, four landfill gas-to-energy facilities, one landfill permitted to accept construction and demolition, or C&D materials, and one waste-to-energy facility.

CWS is also a leader in reduction of greenhouse gas emissions. Between 2005 and 2010, CWS slashed its company-wide greenhouse gas emissions by 45%. This reduction is equivalent to taking approximately 182,000 cars off the road. In January 2012, CWS's achievement was recognized by EPA, the Association of Climate Change Officers (ACCO), the Center for Climate and Energy Solutions (C2ES), and The Climate Registry (TCR) with a Climate Leadership Award for Excellence in GHG Management. CWS was recognized alongside such sustainability leaders as SC Johnson, Cummins, and Campbell Soup Company.

CWS's commitment to fighting climate change goes back to 2003, when the company became the first solid waste and recycling services company in the nation to become a member of the Environmental Protection Agency (EPA) Climate Leaders Program. The Climate Leaders Program was an industry-government partnership that worked to develop long-term comprehensive climate change strategies.

In 2010, CWS began reporting through the Carbon Disclosure Project, a globally-recognized non-profit initiative to promote transparency and consistency in greenhouse gas reporting. In the report, CWS discloses our greenhouse gas emissions, as well as our strategy for responding to carbon-related risks and opportunities. CWS's report can be found at [www.carbondisclosureproject.net](http://www.carbondisclosureproject.net).

CWS achieved its reduction by installing landfill gas collection systems where previously there were none, beginning to convert its vehicle fleet to run on compressed natural gas, and implementing various energy efficiency measures. In the coming years, CWS will pursue additional low emission landfill practices, continue its clean vehicle fleet conversion program, and commit to company-wide energy efficiency improvements and practices.

NEWSME retains Sevee & Maher Engineers, Inc. (SME) of Cumberland, Maine, to complete engineering designs for JRL, evaluate on-going water quality monitoring, and prepare applications for the facility. SME is a professional engineering and hydrogeologic consulting firm with a staff of approximately 40 people, including 18 professional engineers. In addition to SME, NEWSME retains Sanborn and Head Associates (SHA) of Concord, New Hampshire to assist with the JRL gas design and air permitting for the JRL facility.

## 2.4 Traffic Movement

The primary waste haul route to JRL for the MSW will be along I-95 to the Route 16 (Bennoch Road) interchange; then, Route 16 west to the JRL Access Road, similar to the current waste haul routes from MEI. The JRL access road from Route 16 is located approximately 0.1 mile west of the I-95 interchange. The primary waste haul routes for the waste generated in the vicinity of JRL will not change as a result of this revision. The existing primary access roads allow for continuous uninterrupted traffic movement without posing a danger to pedestrians or other vehicles. The existing on-site traffic patterns are clearly defined. All site internal access roads are maintained, including plowing in the winter and dust control in the summer.

2.4.1 Estimate of Number, Weight, and Types of Vehicles. Trucks using JRL are primarily tractor-trailer units with gross vehicle weights of less than 100,000 pounds. A comparison of 2011 truck trips to JRL to the future site truck trips with the change in the waste composition is provided in Table 2-1. The future trips were calculated based on the projected waste tonnages by waste types, and average truck weights for the individual waste types obtained from the 2011 JRL scale data. The future truck trips assume the elimination of the waste currently delivered from MEI; and the proposed MSW delivered to the site annually. Note that current MEI waste streams (ash and FEPR) are denser materials and therefore truck trailers are not filled to capacity in order to not exceed weight limitations. MSW is a less dense material and therefore more trailer capacity is used during transportation. The truck count calculations indicate that, based on a 6-day work week, JRL currently receives on average, 91 tractor-trailer units per day. As shown on Table 2-1, the proposed change will decrease the overall annual truck trips to the site.

**TABLE 2-1**  
**TRUCK TRAFFIC**  
**CURRENT VERSE ESTIMATED TRUCK COUNTS**

	2011 Truck Count	Future Truck Count
Construction and Demolition Debris (CDD)	6,908	6,908
Front End Process Residue MEI <sup>1</sup>	1,552	0
Front End Process Residue PERC <sup>1</sup>	2,166	2,166
MSW Incinerator Ash <sup>1</sup>	3,535	1,843
Oversized Bulk Waste <sup>1</sup>	3,899	3,856
Municipal Solid Waste <sup>1</sup>	813	4,066
Fines for Cover	4,571	4,571
Other Wastes and Operations Material	5,083	5,083
<b>Total Loads per Year</b>	<b>28,527</b>	<b>28,493</b>
<b>Total Loads per Day<sup>2</sup></b>	<b>91</b>	<b>91</b>
<b>Notes:</b>		
1. Average waste loads used in the analysis (tons/load) FEPR MEI=27.6 FEPR PERC=27.9, MSW=27.7, Ash MEI=29.5 Ash PERC 30.2, OBW 25.4.		
2. Number of trailer loads per day based on a six-day week.		

**2.4.2 Haul Routes.** The primary access road into JRL is located approximately 0.1 miles west of Interstate 95 Exit 199 off Route 16. The access road is a 30-foot-wide paved road entering the JRL property from Route 16. The road provides access to all portions of the existing JRL (active and closed) site monitoring wells, leachate storage tank, and stormwater ponds. A portion of the facility access road is on a right-of-way through University of Maine land.

**2.4.3 Congested Locations/Weight Limitations.** There are no congested locations along the primary waste haul route to JRL that would be affected by the proposed increase in MSW volume. Essentially all truck traffic accesses JRL by way of Interstate 95 thereby minimizing congestion to state highways and secondary roads leading to the site. The Interstate 95 vehicle weight limit is 100,000 pounds. The distance traveled on Route 16 to the JRL access turnoff is 0.1 miles and is not subject to load limits during spring thaw periods.

**2.4.4 MEDOT Accident Inventory.** Accident records for the most recent available three-year period (i.e., 2008 through 2010) were obtained from the Crash Records Section of the Maine Department of Transportation (MEDOT) Traffic Engineering Division. A review of the accident summaries, outlined in Table 2-2, indicate that there were nine accidents during the study period. There are no locations in the study area (Route 16 and the I-95 interchange) classified

as “High Crash” locations (HCLs) using MEDOT criteria. MEDOT defines a HCL as an intersection or roadway link that *both* experiences more than eight accidents over a three-year period and exhibits a critical rate factor (CRF) of 1.0 or more over a three-year period. The CRF is a statistical measure of an intersection or link’s accident experience as compared to locations with similar geographic, traffic, and geometric characteristics. A copy of the MEDOT accident data is presented in Attachment 5.

**TABLE 2-2  
ACCIDENT RATE SUMMARY**

Location		Number of Collisions	CRF	HCL
<b>Link</b>				
41324-39199	Route 16 (I-95 to 1.20 miles west)	3	0.00	No
65215-64506	Route 16 (I-95 Overpass)	3	1.41	No
41214-65214	I-95 NB Off Ramp	2	5.78	No
64502-41323	I-95 SB On Ramp	1	1.39	No

2.4.5 Sight Distances. Available sight distance from the JRL access drive at Route 16 to the west exceeds 1,000 feet and the available site distance to the east exceeds 1,000 feet. The posted speed limit on Route 16 is 40 miles per hour. The minimum desired sight distance is 360 feet, measured 10 feet from the existing edge of pavement utilizing a height of eye of 42 inches and a height of the approaching object of 51 inches. Normal practice for driveways serving a significant amount of truck traffic is to increase the minimum sight distance by approximately 50 percent, thereby resulting in a minimum desirable sight distance of 540 feet. On previous site development projects (e.g., the 2003-4 vertical increase amendment), the MEDOT has determined that an entrance permit is not required for the JRL roadway entrance on to Route 16. Since there are no changes in the use nor are any physical changes to the entrance proposed, a MEDOT entrance permit should not be required.

2.5 No Unreasonable Adverse Effect on Air Quality

The proposed MSW change is not expected to have an adverse effect on air quality. NEWSME has active measures in place to control gas and odor at the JRL. The proposed disposal of

increased volume of MSW at JRL will not result in emissions greater than what was projected as part of the 2003-4 Amendment application. Section 4.9 of this Application addresses the anticipated changes in landfill gas generation due to the proposed change. Currently the landfill gas emissions are collected and controlled using candle stick flares. The site and the flares are approved by the MEDEP Air Bureau.

JRL's air license is currently being amended to permanently license existing Flare #4 at a new location on site and the existing two backup flares (Flares #2 and #3) at their current locations. These flares minimize odors by combusting the landfill gas which contains total reduced sulfur compounds (TRS). The combustion process converts TRS to sulfur dioxide, which is significantly less odorous than TRS. The air license amendment will require JRL to install and operate additional TRS emissions control equipment to reduce SO<sub>2</sub> emission rates from the existing Flares. As part of the air license amendment application process, JRL submitted modeling results using EPA-approved models demonstrating that SO<sub>2</sub> emissions from the flares at the proposed licensed rates will not cause or contribute to ambient air quality impacts above health-based ambient air quality standards, including EPA's new NO<sub>2</sub> and SO<sub>2</sub> standards promulgated in 2010 and EPA's new CO standard promulgated in 2011.

The flares also oxidize the methane present in the landfill gas resulting in reduced GHG emissions from the facility. A comparison of the emission rates between MEI and low emission landfills such as JRL indicates that overall emissions from the landfill are lower than from the waste to energy facility. The analysis that supports this conclusion is contained in Attachment 9.

CWS and its subsidiary Ecogas LLC are currently in the process of developing an approximately seven mile pipeline to transport the gas to the University of Maine Orono campus where it will be used as a heating fuel, displacing fossil fuel use on campus. This will further reduce emissions at the facility.

## 2.6 Recycling and Source Reduction

Although 38 M.R.S. § 1310-N(5-A) (recycling and source reduction determination) is not applicable to this application (since this application is not for a new landfill or expansion of an existing landfill), during the original amendment application review to address public comments on the need for additional recycling rather than additional disposal capacity, NEWSME submitted a summary of the recycling initiatives included in the RFP and OSA. Additional information on both the recycling efforts for both CWS/NEWSME and the SPO was included in the recent applications for public benefit determination for the proposed expansion of the JRL (SPO 2011). This information is incorporated by reference.

An update on CWS' and NEWSME's recycling and source reduction programs and initiatives are discussed here. The 2004 DEP amendment license (p. 50) found that JRL would accept only solid waste that is subject to recycling and source reduction programs at least as effective as those imposed by State law. This proposed amendment is consistent with this finding, and the commitment made by CWS in the OSA to use its best efforts to operate JRL consistent with the recycling and source reduction provisions of State law, and in accordance with the State's solid waste management hierarchy.<sup>6</sup>

First and foremost, the closure of MEI will mean that approximately 170,000 tons of out-of-state MSW will remain out-of-state because it will no longer be brought to MEI to be processed. This is a significant waste source reduction benefit for Maine.

Second, the 14 Tri-County municipalities which have contracts with MEI for waste disposal all currently have in-place recycling programs that handle various materials contained in MSW. Each community addresses recycling in its waste handling ordinance. A description of the material each community recycles is contained in Attachment 6. These programs reduce the amount of MSW currently incinerated at MEI and, once MEI is closed, that will be disposed at

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<sup>6</sup> The Applicants note that in its March 3, 2011 decision denying the PERC/MRC appeal of the Commissioner's decision allowing MSW bypass for the JRL soft layer, the Board of Environmental Protection found that "the hierarchy is a policy that guides decisions on waste management planning and implementation; the hierarchy is not a regulatory standard that is applied to individual waste facility licensing decisions of a technical nature." Id at p. 18.



JRL. The acceptance of these communities' residual MSW at the JRL will not affect these programs and there is no contract language in their agreements with CWS that limit their ability to continue to expand their recycling programs. In fact, CWS is expanding some of their programs, and its recycling assets to promote additional recycling in the State as described below.

Third, consistent with the commitment made by CWS in the OSA, CWS has developed and continues to implement state-of-the-art-recycling, source separation, and beneficial re-use programs in the State to address both the recycling and source reduction goals of the State. In 2011, CWS facilities and programs recycled, beneficially reused, or composted, a total of 490,400 tons of waste materials over a broad spectrum of waste types and at numerous geographic locations in Maine. This recycling and re-use includes: 145,300 tons of recyclables related to processing construction and demolition debris at its KTI facility in Lewiston Maine; 235,400 tons from programs managed by New England Organics including its Hawk Ridge Compost Facility in Unity, Maine, and 109,500 tons of MSW recyclables from Maine businesses and communities. CWS subsidiary Pine Tree Waste, Inc. (PTW) was the first Maine-based business approved by the MEDEP as an electronic waste consolidator, and continues consolidation activities and residential drop-off services at nine owned and/or operated locations throughout the State. These efforts ensure that waste accepted at JRL has been subject to recycling and reuse efforts to the maximum practical extent.

Fourth, in its agreement with Biddeford relating to the sale of MEI, CWS or its subsidiary will be initiating its Zero Sort® recycling program in Biddeford to increase the MSW recycling rate in that City. The Biddeford program will be similar to other programs CWS has implemented in 37 communities within the State. Casella's Zero-Sort™ system allows residents and businesses to commingle all recyclable materials such as glass, paper, plastic, and metal, requiring no source separation. All sorting and baling is conducted at the materials recovery facilities by automated equipment. CWS has found the benefits of Zero Sort® recycling include: increased ease and convenience to residents due to lack of sorting; reductions in disposal costs; increases in the range of materials (particularly grades of plastic) that can be recycled; and faster collection of materials, resulting in collection and transportation savings. All of these advantages encourage more people to participate in recycling, and ultimately give communities the opportunity to

recycle larger amounts and more items, reducing the amount of MSW which must be managed by alternate means, such as incineration or land-filling. For example in the Town of Brunswick, where CWS subsidiary Pine Tree Waste, Inc. operates a Zero Sort® collection program, the Town has seen a 30+ percent reduction in the MSW disposal volumes taken to its landfill because of the Zero Sort® program. Examples of the amount of MSW diverted by the Zero Sort® recycling programs in a number of Maine and New England communities is shown on the graph contained in Attachment 6. They typically are in the range of 40 percent.

Fifth, CWS is currently working to expand its Zero-Sort® program and is in direct negotiations with several Maine communities in this regard. At this time, CWS has constructed and operates single stream recycling and consolidation operations at its West Bath and Waterville transfer stations, at the Old Town transfer station, which CWS operates for the City of Old Town, and at its Casella Recycling (formerly FCR Goodman) facility in Scarborough (which will ultimately be relocated to the Westbrook Transfer Station). CWS also owns and operates fully automated collection vehicles in South Portland, Scarborough, and Westbrook to handle single stream recycling in the communities served by ecomaine. In 2011, CWS handled about 13,300 tons of single-stream recyclables through those four facilities, and collected about 9,600 tons of single-stream recyclables for ecomaine's operations. The materials collected at the CWS facilities are shipped to its Casella Recycling processing facility in Charlestown, Massachusetts.

Sixth, CWS is currently negotiating with the City of Lewiston to construct a Zero Sort® processing facility in the City. This facility would handle the recycled materials currently sent to Charlestown, and be the catalyst to further expand the recycling effort in the State of Maine and assist the State in achieving its recycling goals. The project represents a capital investment of approximately \$4million, would create 25 new jobs with an annual payroll of about \$1 million.

Finally, in addition to the Zero-Sort® recycling programs, CWS also collects and handles source-separated recyclables for a number of communities and over 1,100 commercial customers in the State. The communities for which CWS is currently providing recycling services are included in Table 2-3.

**TABLE 2-3**

**COMMUNITIES WHERE CASELLA PROVIDES RECYCLING SERVICES**

<b>Communities</b>	<b>Communities</b>
Abbott	Lisbon
Albany	Long Island
Alfred	Mechanic Falls
Alna	Milford
Arundel	Mount Desert Area
Andover	Newfield
Auburn	North Yarmouth
Bath	Northport
Bethel/Newry/Hanover	Orrington
Bingham	Otisfield
Bowdoin	Phippsburg
Bowdoinham	Pownal
Brewer	Raymond
Brunswick	Richmond
Casco/Naples	Sabattus
Chebeague Island	Scarborough
Cumberland	Sebago
Demark	South Portland
Dresden	Stoneham
Durham	Thomaston Area
Falmouth	Topsham
Frye Island	Waterford
Gray	West Bath
Greenwood/Woodstock	West Paris
Holden	Westbrook
Hermon	Westport Island
Hampden	Windham
Islesboro	Wiscasset
Lamoine	Woolwich
Lewiston	

CWS also provides Zero-sort recycling services at the University of Maine Orono campus.

CWS handled a total of about 109,500 tons of recyclables from these communities, businesses and institutions in 2011. These programs and activities all result in a reduction in the amount of MSW wastes taken to JRL and other disposal facilities in Maine.

With these programs, NEWSME has kept its commitment to the State to operate JRL to be consistent with local, regional, and State waste collection, storage, and transportation.

The acceptance of this additional MSW at JRL will not interfere with the existing agreements CWS and its affiliates have with PERC. In these agreements, CWS has agreed that neither it nor its affiliates shall deliver to or accept at any CWS landfill any commercial or residential MSW

from any PERC Equity Charter Municipality, or any other municipality represented by the Municipal Review Committee, except in the event of a bypass event. In addition, the Agreement prohibits CWS from directly or indirectly diverting or causing to be diverted any MSW from any Charter Municipality anywhere other than PERC. CWS is also obligated to supply PERC with additional guaranteed annual tonnages of MSW. None of these obligations will be altered by approval of this amendment.

With these programs, NEWSME has kept its commitment to the State to manage JRL consistent with the recycling and source reduction provisions of State law and in accordance with the State's solid waste management hierarchy.

### 2.7 Hazardous and Special Waste Exclusion Plan

Only non-hazardous solid waste permitted by MEDEP is accepted for handling at JRL. In order to assure that only non-hazardous waste is delivered to the facility, NEWSME complies with applicable federal and state laws regarding the detection and identification of special waste, biomedical waste, and hazardous waste. NEWSME maintains a Waste Characterization and Acceptance Plan (Plan) for the detection, identification, handling, storage, transportation, and disposal of any and all wastes that may be delivered to the facility. The Plan identifies the types of wastes that have a blanket permit approved for disposal at JRL, the testing requirements and frequency of testing. MSW is an approved waste category contained in the Plan. The Plan is contained in Appendix E of the JRL's Operation Manual.

### 2.8 Criminal and Civil Disclosure

Pursuant to Chapter 400, Section 12, a Criminal and Civil Disclosure Statement has been prepared for NEWSME, and BGS, and are included as Attachment 7.

### **3.0 DESIGN CONSIDERATIONS**

Sevee & Maher Engineers, Inc. (SME), and Sanborn Head and Associates (SHA) have evaluated the applicable technical components of the proposed amendment and conclude that implementing the proposed reallocation of waste type percentage to allow MSW to replace existing MEI waste streams will not compromise the physical integrity and/or function of the JRL and its systems, as described in amendment license #S-020700-WD-N-A. The liner, leachate, and gas containment and control systems were all designed in conformance with the criteria contained in the MEDEP's Regulations for landfills that accept MSW, or co-mingle MSW with other special wastes such as MSW incinerator ash. Considered as part of this evaluation was the: waste geotechnical behavior as it relates to landfill cell development, waste slope configuration, landfill capacity consumption, leachate generation, and gas management. Other aspects of JRL siting and development, such as landfill base and final grades, and site monitoring, will not change as a result of the acceptance of additional MSW.

#### **3.1 Liner Design and Configuration**

The JRL liner system consists of the following components:

- an 80-mil HDPE textured geomembrane;
- a geosynthetic clay liner (GCL); and
- one foot of compacted clay with a maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec.

This liner system meets the liner design standard specified in Chapter 401.2.D.1.a of the Regulations for landfills accepting both MSW and special wastes. Beneath this liner system is an additional foot of compacted clay with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec. The additional foot of clay is included in the design, as an extra layer of conservatism to meet and exceed the time of travel performance standard specified in Chapter 401.1.C.1.c of the Regulations. This proposed amendment changes none of the criteria used to establish the current liner system. As identified in Chapter 401.4.C.1.a.i since the JRL liner system complies with the design requirements specified by the Regulations, and JRL has a Waste

Characterization Plan, the facility meets the requirements for co-disposing MSW ash and MSW within the landfill.

### 3.2 Waste Geotechnical Property Assessment

Replacing the currently accepted MEI-related wastes with additional MSW at JRL will not affect the landfill cell development plans, slope configurations, final waste grades, or closure design for JRL as currently licensed. The original amendment application for JRL included an evaluation of slope stability for the approved landfill final waste grades (Wardwell 2003). Updated stability evaluations have also been included with each detailed cell design report submitted to MEDEP since 2003 to comply with Condition 15.A of the amendment license. The most recent evaluation was submitted to support the Cell 8 design (SME 2012).

The landfill and individual cell configurations will not change as result of the proposed revision. The 2003 slope stability evaluation included initial landfill operations that involved mixing sludge previously disposed in JRL by its prior owner, Fort James. That analysis assumed a mixed waste density of 74 pounds per cubic foot (pcf) and shear strength of 30 degrees. That analysis supported the overall amended landfill final grading plan. The subsequent stability evaluations completed for each detailed cell design report uses a waste density of 74 pcf and shear strength of 32 degrees. The results of these stability evaluations showed that MEDEP required minimum slope stability regulatory safety factors were met or exceeded for the waste deposit. No signs of slope instability have been detected at JRL since SPO/NEWSME received the amendment license to operate in 2004. Since MSW has typical strength and density properties which are consistent with the values that have been used to support both the original license amendment and the individual cell development plans, this proposed minor change in the overall waste percentages, as shown on Table 1-2, will not require changes in the landfill configuration to maintain landfill stability in conformance with the requirements of Chapter 401.2.F.(1). Consistent with the current practice, the Design Report that is submitted with the detailed design of each cell will contain an updated stability analysis using shear strengths and densities reflective of the waste placed in the landfill.

### 3.3 Landfill Capacity Consumption

The proposed change in the overall waste percentages will not have a significant change on the in-place waste density and hence the landfill capacity consumption. Table 3-1 compares the weighted-average waste density for the current waste percentages to the proposed waste percentages using individual waste types and unit weights. This analysis is conservative since it doesn't account for the commingling of wastes, waste consolidation associated with load, and secondary composition of the wastes, all which result in higher in-place waste densities than shown on this table and discussed below.

**TABLE 3-1  
COMPARISON OF WEIGHTED-AVERAGE WASTE DENSITY**

Waste Stream	2011 Wastes to JRL			Estimated Future Wastes to JRL including MEI In-State MSW		
	Tons	In-place Waste Density (lbs/cu yd)	Calculated Cubic Yard Consumed	Tons	In-place Waste Density (lbs/cu yd)	Calculated Cubic Yard Consumed
Construction and Demolition Debris (CDD)	149,800	1,000	299,600	149,800	1,000	299,600
Front-End Process Residue (FEPR)	103,300	1,500	137,733	60,500	1,500	80,667
MSW Incinerator Ash	105,500	1,200	175,833	55,600	1,200	92,667
Oversized Bulky Wastes	98,900	800	247,250	97,800	800	244,500
Municipal Solid Waste (MSW) Bypass and Soft Layer	22,400	1,500	29,867	22,400	1,500	29,867
MSW				89,400	1500	119,200
Fines for Cover	125,300	1000	250,600	125,300	1000	250,600
Other Wastes & Operation Materials	98,800	1000	197,600	98,800	1000	197,600
<b>TOTAL</b>	<b>704,000</b>		<b>1,338,483</b>	<b>699,600</b>		<b>1,314,701</b>
<b>Weighted-Average Waste Density (Tons/cu yd)</b>	<b>0.53</b>			<b>0.53</b>		

The actual 3-year running average in-place waste density at JRL in the active fill area is about 0.91 tons per cubic yard, which is above of 0.86 tons per cubic yard that SPO has used in its evaluation of remaining JRL capacity. As the above analysis demonstrates, the proposed change in the overall waste composition from this amendment application would result in similar weighted average waste densities. Hence, no appreciable changes would be anticipated in the

current in-place waste density. Given that the remaining permitted capacity at the site at the end of 2011 was approximately 5,867,000 cubic yards, the remaining landfill life at the end of 2011 would be 7.6 years or until the middle of 2019. This would require new expansion capacity to be built by 2018 to be available for disposal by mid-year 2019<sup>7</sup>.

### 3.4 Leachate Management

In 2011, the total amount of leachate generated at the facility was 10,916,259 gallons. This amount of leachate was collected from approximately 42 acres of landfill cells. The leachate generated at the facility is collected using four separate leachate sumps inside the operational cells. From the sumps, the leachate is pumped to an on-site leachate storage tank. From the tank, the leachate is hauled to the Old Town Fuel and Fiber treatment plant in Old Town, Maine for treatment. The Brewer, Maine wastewater treatment plant is a back-up facility to treat the leachate. The proposed change in the waste percentages is not anticipated to change the leachate generation rates, or quality. It will also not change the leachate management system piping or layout since the system is currently designed based on the properties of MSW.

3.4.1 Leachate Generation Estimates and Leachate Collection Systems Design. Leachate generation rates used to design the existing leachate piping layout have been based on leachate generation estimates developed using the U.S.EPA's Hydrologic Evaluation of Landfill Performance (HELP) Model Version 3. This model requires a number of input parameters such as the waste thickness and composition. For JRL, the models are completed assuming MSW waste properties. This provides a conservative assumption of the precipitation impingement rates for seepage through the waste and into the leachate collection layer located above the primary liner. This impingement rate is used to establish the leachate pipe spacing, and the hydraulic properties of the leachate collection layer. Since the waste properties of MSW have been used in this modeling, the proposed change in the tonnage of MSW accepted will not

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<sup>7</sup> This is 6 months later than estimated in the recent public benefit determination for the Expansion, which has existing JRL running out of capacity in approximately 2017-18. This slight change in when the additional capacity will be needed can be attributed to the better than anticipated in-place densities achieved by NEWSME operational techniques, and capacity gained due to settlement.



change the design or function of the landfill's leachate collection system for the existing cells or any cell that will be constructed in the future.<sup>8</sup>

3.4.2 Leachate Quality. The additional MSW is not expected to change the leachate quality currently generated at JRL. Included in Table 3-2 is a comparison of the leachate quality of a typical MSW landfill with the leachate quality taken from Cell 4 pump station at JRL.

3.4.3 Leachate Disposal Location. Leachate generated at JRL is treated at the Old Town Fuel and Fiber, (OTFF) wastewater treatment plant with back up wastewater treatment capacity supplied by the Brewer, Maine wastewater treatment plant. Included in Attachment 8 are the Agreements in place that allow JRL to dispose of leachate at the OTFF facility, and JRL's Industrial Discharge Permit for the Brewer, Maine wastewater treatment plant. The leachate disposal and treatment will not be affected by the proposed change in the amount of MSW accepted at the facility.

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<sup>8</sup> These calculations are contained in the detailed design packages submitted to MEDEP to comply with Condition 15.A of the amendment license. The last package was submitted in March of 2012 for Cell 8.

TABLE 3-2

## SUMMARY OF LEACHATE TEST RESULTS

Parameter	Typical Concentration of MSW Landfill Leachate <sup>1</sup>	JRL Cell 4 (LT-C4L) Mean Value <sup>4</sup>
Ammonia (as N)	50 - 2,200	620
Arsenic	0.01 - 1	0.1
Barium	NR <sup>3</sup>	1.6
BOD	20 - 57,000	1,400
Cadmium	0.0001 - 0.4	0.0024
Calcium	10 - 7,200	930
Chloride	150 - 4,500	18,000
Chromium (total)	0.02 - 1.5	0.069
COD	140 - 152,000	3,500
Copper	0.005 - 10	0.015
Cyanide	NR <sup>3</sup>	0.008
DO	NR <sup>3</sup>	4
Iron	3 - 5,500	27
Lead	0.001 - 5	0.046
Magnesium	30 - 15,000	410
Manganese	0.03 - 1,400	3.7
Mercury	0.00005 - 0.16	0.0002
Nickel	0.015 - 1.3	0.11
Nitrate (as N)	0.1 - 10	18
pH	4.5-9.0	7.2
Phosphorus	0.1 - 23	0.99
Potassium	50 - 3,700	1,800
Selenium	NR <sup>3</sup>	0.016
Silver	NR <sup>3</sup>	0.028
Sodium	70 - 7,700	2,400
Vanadium	NR <sup>3</sup>	0.023
Specific conductance (mhos/cm)	2,500-35,000	25,000
Sulfate	8 - 7,750	150
TOC	30 - 29,000	880
Total Kjeldahl Nitrogen (as N)	2.6 - 945	790
Bicarb (CaCO <sub>3</sub> )	NR <sup>3</sup>	3,000
Total alkalinity (as CaCO <sub>3</sub> )	730 - 15,500	3,300
Total hardness (as CaCO <sub>3</sub> )	500 - 10,000 <sup>2</sup>	4,500
TDS	3,000 - 50,000 <sup>2</sup>	17,000
TSS	3,000 - 50,000 <sup>2</sup>	95
Zinc	0.03 - 1,000	0.33
Temperature	NR <sup>3</sup>	66.2
Eh (mv)	NR <sup>3</sup>	120
<b>Notes</b>		
1. Source: Kjeldsen, et. al.; "Present and Long-Term Composition of MSW Landfill Leachate: A Review; Critical Reviews in Environmental Science and Technology, 32(4): 297-336 (2002); unless otherwise noted. Units ppm unless noted.		
2. Values are those reported for "Total Solids," no TDS or TSS values were identified.		
3. NR indicates that No "Typical Range" was reported in reference document.		
4. Mean values incorporate available data through 2011. Units ppm unless noted.		

### 3.5 Gas Management

JRL has an active gas management system that collects and flares landfill gas generated by the landfilled waste. In 2011, a total of 1,019 million standard cubic feet at an average methane concentration of 41.6 percent of landfill gas was collected and treated. Projections and the basis for the design of the active gas collection system were included in the amendment license application. That analysis, performed by SHA, included an estimate of the maximum design landfill gas flow rate developed by way of using of the U.S.EPA's LandGem model (SHA 2003). This estimate has been used to size the landfill gas collection and transport systems. With the development of each detailed cell design, as required by Condition 15.A of the amendment license, SHA uses this design to prepare detailed gas management plans for each cell. The amendment license application identified a maximum design gas flow rate of 3,980 million scfm assuming a methane content of the gas of 50 percent.

Since that analysis was made, SHA has completed several additional landfill gas generation modeling efforts and has been able to compare actual gas flow rates at the facility to the original projections. Included in Attachment 9 is an updated evaluation of projected landfill gas generation rates for the landfill. This evaluation includes a projection of proposed maximum gas generation with the additional tonnage of MSW anticipated as a result of this amendment. The updated evaluation indicates the change in the waste composition is estimated to cause the maximum landfill gas generation rate to occur in 2018 at a rate of approximately 3,560 million scfm assuming a methane content of 50 percent.<sup>9</sup> Therefore, the percentage change in the composition of the waste mass will not affect the approach and procedures currently used to install the active gas collection system within the waste mass. The system will continue to consist of horizontal collection trenches followed by installation of vertical gas extraction wells. The spacing of the horizontal trenches and vertical wells will continue to be included in the detailed design packages submitted to MEDEP to comply with Condition 15.A of the

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<sup>9</sup> The 3560 scfm value represents the median value SHA calculated based on a number of assumptions for gas generation constants used in the modeling effort. SHA has determined from the comparison of actual flow rates to projected that the median value is the best approximation for estimating future generation rates. The 3560 projection is about 250 scfm higher than a projection without the proposed revision of the waste composition (see SHA report in Attachment 3).

amendment license. The last gas design package for JRL was submitted in March of 2012 for Cell 8.

## **4.0 LANDFILL OPERATIONS**

This section describes the various components of the landfill operations and an evaluation of the effect of the amendment on the various aspects of site operations. Where changes will be required to the Site's Operation Manual these changes will be made as part of the annual update to the manual, which are included with the JRL's Annual Report.

### **4.1 Acceptable Solid Waste and Waste Characterization**

Wastes accepted at JRL are covered under several broad categories, for which blanket permits or approvals have been granted by MEDEP. These materials include MSW, with current limitations placed on the source of the material (i.e., by-pass). There are also a number of individual permits issued for specific special wastes. A list of the generator, type of waste, and JRL permit number may be found in Appendix D of the Operations Manual.

### **4.2 Facility Access/Hours of Operations**

Access to the facility is achieved through a gated primary access road that enters the site from Route 16 in Alton, Maine. The paved access road is approximately 2 miles in length between Route 16 and the entrance into the permitted boundary of the Landfill. NEWSME has located a scale and attendant facilities at the entrance to the Landfill that is currently occupied seven days a week.

The gate at the entrance to the Landfill is closed and locked during extended periods when wastes are not being delivered to the facility. The access road is maintained by NEWSME personnel or its contractor and will remain passable at all times. Only authorized employees of NEWSME and certain contractors have unrestricted access to the Landfill facility. All others are required to receive clearance through NEWSME Administration or the Scale House Attendant. All required signs are posted at the entrance to the facility near the scale house. The normal hours of operation at the facility are:

- Monday through Friday 6:00 AM - 8:00 PM
- Saturday & Sunday 7:00 AM – 4:00 PM

Some waste streams (e.g., PERC ash) may require 24-hour per day disposal service. Delivery of these wastes, and minimum Landfill operations to place these wastes, may occur outside of the standard hours of operations.

NEWSME maintains the site's internal access roads to prevent the accumulation of dust, mud, and waste on public roads. Maintenance activities include applying water and/or calcium chloride to the internal gravel roadways to prevent dust generation and maintaining gravel roadway surfaces to prevent mud accumulation on public roads.

With the exception of trucks carrying C&D debris and MSW, only waste hauling vehicles with pre-approved manifests from the Environmental Compliance Manger will be allowed access to the Landfill. Waste hauling vehicles carrying C&D debris and MSW will be monitored by the scale house and Landfill operators upon entry to the Landfill and during off-loading in order to assure that no unacceptable wastes are in the C&D or MSW loads. Any unacceptable materials will be segregated and the EMC contacted on how to address the materials.

#### 4.3 Hot Loads

In the event that a hot load is delivered to the JRL, the waste will be managed in accordance with Chapter 401, Section 4 (C) (4) of the Maine Solid Waste Rules. A separate gravel or ash pad area will be sited within the confines of the operating Cell in order to properly manage hot loads. The material will be offloaded onto the pad then spread into a thin layer for cooling purposes. Burning material will be extinguished immediately by applying a water spray as necessary or covering with soil-based material to smother the flames. Once the material has cooled, it will be transferred to the active disposal area of the Cell to be co-mingled with the other wastes.

#### 4.4 Landfill Cell Development Plans

With the construction of Cell 8 during the 2012 construction season, all but 12 acres of the permitted JRL footprint will have been utilized. Cell 8 has capacity for 1,390,000 cubic yards. The proposed change in waste percentages is not expected to significantly alter the landfill capacity utilization rate since the overall tonnage accepted will remain similar to the amount currently accepted, and the wastes will be commingled. The other operational characteristics of the cells, such as waste lift height, temporary cover placement and sequence, and the installation of the gas management system will remain the same. The individual landfill cell development plans will continue to be prepared in the manner that has been the facility's practice of preparing them at the time the detail design drawings are completed for the cells. These plans will to be included in the detailed design packages submitted to MEDEP to comply with Condition 15.A of the amendment license. The most recent submittal occurred in March of 2012 for Cell 8.

#### 4.5 Waste Placement and Compaction

The MSW placement for the soft layer at JRL will be done in a manner similar to the current bypass MSW with the waste unloaded directly into JRL as directed by the landfill operator. Truck travel over the base of JRL is allowed only in areas where more than five feet of soft layer waste has been placed. As the active waste cell is filled, waste is placed in JRL in a manner that enables the operator to commingle the waste. Waste loads are evenly distributed throughout the working landfilling area. Wastes are placed and spread in layers one to two feet thick using solid waste compactors, bulldozers, and/or wheeled loaders to optimize waste density and compaction effort.

A minimum of three successive compactor passes are made over each waste lift. Additional passes are made if necessary to acquire the proper compaction. As waste is placed and compacted, the landfill sideslopes are created using appropriate stable waste. Outer sideslopes of the waste are graded at 2.5 feet horizontal to 1 foot vertical (2.5H:1V) using ash, fines or other approved material. Temporary interior waste sideslopes can be graded at 2 feet horizontal to 1 foot vertical (2H:1V) with ash and fines, or other fine grain materials placed on

the waste to minimize litter and odors. The operating procedures for placing the waste follow the outline in Section 7.7 of the JRL Operations Manual (JRL 2010). The proposed change in the waste composition will not change these procedures.

Upon delivery at JRL, the MSW will have a slightly lower truck density than the existing MEI residues that will be displaced. However, this lower truck density will not have a significant effect on overall capacity utilization rates as described above because: 1) the compaction by landfill equipment will increase the density of the MSW; 2) comingling of MSW with other waste streams (e.g., treatment sludge) fills the voids of the MSW, further increasing in-place density; and 3) decomposition of the MSW over time (which does not occur with ash and to only a limited extent with FEPR) will further reduce the volume of the MSW. The organic fraction of the MSW, initially in solid form (food waste, paper, wood) will decompose to methane and water, both of which will be collected from the landfill and not occupy capacity volume.

#### 4.6 Cover

Two types of cover are utilized at JRL as part of landfill operations, daily and intermediate. Prior to placement of any cover, the waste surface is inspected by the operator for proper compaction, grade, and ability to shed water. Waste surfaces not properly graded or compacted are corrected through additional compaction and regrading and/or by reinforcing soft areas by addition/mixing with drier, more stable waste. Prior to placement of intermediate cover, the final waste grade is sloped to promote runoff to the landfill's stormwater controls in order that the runoff is collected and conveyed from the waste area as quickly and efficiently as practical. JRL is constructed with stormwater diversion berms, diversion ditches, riprap down spouts, and lined ditches to control runoff and minimize erosion.

Daily Cover. Cover is placed daily over all areas receiving MSW, front-end process residue (FEPR), and other wastes with odor generating potential. The purpose of the daily cover is to control and minimize odors, windblown litter, and discourage attraction of birds. Daily cover used at JRL predominately consists of certain waste materials typically referred to as Alternate Daily Cover (ADC). ADC used at JRL includes, but is not limited to, ash, biomass fines, processed construction demolition debris (CDD), wood fines, wood chips, short-paper-fiber,



contaminated soil, or other approved soil-like materials. The amount of daily cover material needed in site operations has typically ranged between 30 and 35 percent of material placed in the landfill on a weight basis. With the proposed change in the waste percentages, assuming a total of approximately 203,000 tons of MSW, FEPR, and sludges needing daily cover applications, the amount of ADC required is between 61,000 to 72,000 tons annually. As shown on Table 1-2 adequate quantities of ADC exist to meet this demand. If on a short-term basis adequate ADCs are not available to cover the wastes, on-site soil materials, such as soil, can also be used as daily cover. NEWSME is also evaluating the effectiveness of using temporary tarps as an alternate daily cover if adequate quantities of ADC are not available. The daily covering will not be affected by the proposed change in waste percentages.

Intermediate Cover. Intermediate cover is placed on areas that have reached interim grades where no additional waste will be placed for a period of six months or longer. The intermediate cover used at JRL is geosynthetic membrane (typically 40-mil thickness). NEWSME has found this material to be very effective in controlling odors and minimizing air intrusion into the active gas collection system. Prior to placing this intermediate cover, NEWSME places a layer of fines over the outer waste surface as a bedding layer for the geomembrane. Typically, the membrane is booted to the gas extraction wells. Eighteen inches of soil-based material having a minimum of 35 percent fines and no rocks greater than four inches in diameter can also be used as intermediate cover. If soil is used, it is to be placed, compacted, seeded, and mulched in accordance with MEDEP BMPs. Intermediate cover will not be affected by the proposed change in waste percentages.

#### 4.7 Leachate Management

As described in Section 3.3 the additional MSW will have no impact on the site's leachate management systems since the systems are designed based on the characteristics of MSW. There are no changes proposed to these systems.

#### 4.8 Landfill Gas and Odor Control

Waste types received at JRL with the highest potential for gas generation and odor production are MSW, FEPR, organic wastewater sludge, and CDD. The increase in MSW volume will add to the volume of odor producing wastes. To manage odor at JRL, NEWSME employs a number of methods which have shown to be effective. These include operating the active gas collection system which collects and treats the gas by combustion with an on-site flare, and daily covering practices. In addition, the frequent placement of intermediate cover has proven to be very effective in conjunction with the gas collection system at controlling odors at the site. NEWSME also operates a fogging system to control odors around the active filling areas of JRL. The fogging system uses a fine mist of water mixed with a chemical odor control agent to mitigate odors that may be generated during active operations.

The active operating area will undergo little, if any, change as result of the additional MSW and thus will not diminish the effect of the in-place odor control procedures. Odor from FEPR, MSW, and sludge is also controlled through covering those materials with soil and soil-like material such as ash and wood fines. At the end of each operating day, any active filling surface not having received cover as part of the daily filling process is covered in order to further reduce odor potential. NEWSME works diligently to minimize the amount of open operational area at JRL in order to reduce the potential for odor production. The practice is given increased emphasis in the warm summer months when the potential for odor generation is typically at its highest. JRL maintains an odor complaint hotline and odor monitors around the site. These activities will remain in place to detect any site odor that may be generated during operations and aid in response to any odor complaints. Odor management practices have been highly effective as evidenced by a total of two odor complaints as of July 1st in calendar year 2012.

#### 4.9 Litter Control

NEWSME acknowledges that additional MSW has the potential to become an increased source of windblown litter at JRL. To minimize windblown litter, the MSW will be compacted as it is placed in JRL and then covered with either daily cover or other non-litter producing waste shortly thereafter. Litter control fencing is also placed at the perimeter of each cell. To date,

windblown litter at JRL has been a minor issue and has been effectively controlled with the procedures described. NEWSME is prepared to address the potential for increase in windblown litter associated with the additional MSW by using either portable or fixed litter control fencing directly in the vicinity of the working landfill face, if necessary. The fencing would be placed on the prevailing downwind side of the waste placement operations. NEWSME is also prepared to clean litter from the area surrounding the landfill on a regular basis.

#### 4.10 Environmental Monitoring

Included in Attachment H of the Operations Manual is the Environmental Monitoring Plan. The plan includes the sampling of 23 monitoring wells, 10 under drains, 5 surface water locations and one leachate location. These locations are described in Attachment 10. The purposes of the Landfill monitoring program are as follows:

- to routinely characterize and evaluate groundwater and surface water, in the vicinity of the Landfill;
- to evaluate the performance of the primary liner systems including routine characterization of the landfill cell's and leachate pond's underdrain water and the leachate pond's leak detection fluid (if present); and
- to routinely characterize and evaluate the quality and quantity of leachate generated at the site.

Leachate samples are collected three times a year (tri-annually) during the spring, summer, and fall seasons and tested for a suite of parameters as identified in Chapter 405 of the Regulations. The specific parameters included in the monitoring program as included in Attachment 10. The acceptance of additional MSW will not change the proposed environmental monitoring program.

#### 4.11 Vector Control

The acceptance of additional MSW increases the potential for vectors. The principal technique that will be used at the site to control vectors will be the diligent placement of daily and

intermediate cover. If this isn't adequate to control vectors such as seagulls, the site maintains a depredation permit and this technique will be used to control the birds. If necessary, JRL will also implement other techniques to control birds at the landfill such as installation of fencing and stringing overhead wires in the active operating areas. This technique deters birds from landing in the active filling areas. JRL also maintains a contract with Modern Pest Control to control the potential for rodents at the facility.

## **5.0 CONCLUSION**

This proposed increase in MSW tonnage at JRL results from the sale and closure of MEI pursuant to a landmark agreement reached between Maine Energy and the City of Biddeford whereby Maine Energy will sell the controversial facility to the City and decommission it. Approval of this proposed amendment to JRL's license will result in approximately 89,400 tons of MSW that is currently taken to MEI being redirected to JRL for disposal. Add to that the total number of bypass and soft layer MSW tons delivered to JRL in 2011 and the total MSW disposed of at the JRL will be approximately 111,800 tons.

Fortunately, the redirection of MSW from MEI to JRL will have *de minimis*, if any, measurable impacts, and it remains consistent with the State's solid waste management hierarchy.

First, the closure of MEI will leave approximately 170,000 tons of out-of-state MSW currently processed and combusted at MEI beyond Maine's borders, thereby resulting in significant source reduction for Maine's waste management system.

Second, the in-state MSW volume from the MEI communities is currently and will continue to be reduced to the maximum extent practicable by the aggressive recycling activities described in Section 2.6 of the application.

Third, the acceptance of this additional in-state MSW at JRL will not interfere with current agreements CWS has with PERC relating to MSW from Equity Charter Municipalities as described in Section 2.6.

Fourth, the proposed change in the quantity of MSW accepted at JRL will not result in a change in the design or operations of JRL. The additional MSW percentage will be offset by the reduction in the residuals generated by MEI, which are currently taken to JRL. The site truck traffic will slightly decrease as a result of this amendment. Although NEWSME recognizes that additional MSW has potential to generate odor, windblown litter, and to attract vectors, JRL effectively controls all three issues for the current landfill operation and the same odor, litter and

vector controls, with the modifications described in this application, are expected to mitigate and address any potential issues.

## **REFERENCES**

JRL 2010. Juniper Ridge Landfill Operations Manual, Revised May 2010.

REW, 2003. Evaluation of Waste Stability & Settlement West Old Town Landfill License Amendment Application Vertical Increase & Change in Operations, report prepared by Richard E. Wardwell, P.E., Ph.D., October 2003.

SHA, 2003. Design Report Active Landfill Gas Collection System West Old Town Landfill, Old Town, Maine, report prepared by Sanborn, Head & Associates, Inc., October 2003.

SME, 2003. West Old Town Landfill License Amendment Application Vertical Increase and Change in Landfill Operations, prepared by Sevee & Maher Engineers, Inc., October 2003.

SME, 2012. Design Report Juniper Ridge Landfill Cell 8 Construction and Landfill Operations Infrastructure Modifications, report prepared by Sevee & Maher Engineers, Inc.

SPO, 2011. Application for Public Benefit Determination for the Proposed Expansion of the Juniper Ridge Landfill in Old Town, Maine, submitted by State Planning Office, September 2011.

**ATTACHMENT 1**

**SITE DEEDS**



## Exhibit A

### Parcel Description

Four parcels located at **Old Town, Penobscot County, Maine**, and described as follows (individually referred to as "Parcel" and collectively referred to as "Parcels"):

**PARCEL ONE:** A certain parcel of land with any buildings thereon, situated on the northeast side of Route 43, 3.4 + miles west of the intersection of Route 43 and Route 95, in the city of Old Town, County of Penobscot, State of Maine and being more particularly described as follows:

- 1) **BEGINNING** at a 3/4 inch rebar located on the northeast side of Route 43, at the northwest corner of land now or formerly of Scott E. Bergquist as described in deed recorded at the Penobscot County Registry of Deeds in Book 3608, Page 247. Said rebar is also located at the southwest corner of the "Cadorette Parcel" as shown on plan entitled "Perkins & Cadorette Parcels, Standard Boundary Survey (with exceptions)" by Squaw Bay Corp. of Cumberland, Maine, June, 1995, Ronald M. Carpentier, PLS #2042, recorded at the Penobscot County Registry of Deeds, Plan Book D46-95, to which reference is hereby made;
- 2) **THENCE** South 82° 12' 30" East, 1445.38 feet along the land of said Bergquist to a cedar post and the land now or formerly of James River Paper Company, Inc. as described in the deed recorded at the Penobscot County Registry of Deeds in Book 4870, Page 200;
- 3) **THENCE** North 4° 27' 20" East, 809.31 feet along the land of said James River Paper Company, Inc. to a point;
- 4) **THENCE** North 5° 59' 05" East, 15.69 feet along the land of said James River Paper Company, Inc. to a 5/8 inch rebar with plastic survey cap marked "RMC NO. 2042" and the land now or formerly of Alfred Perkins and Florine Perkins as described in the deed recorded at the Penobscot County Registry of Deeds in Book 1448, Page 22;
- 5) **THENCE** North 82° 46' 26" West, 2014.87 feet along the land of said Perkins to a 5/8 inch rebar with plastic survey cap marked "RMC NO. 2042" and the sideline of Route 43;
- 6) **THENCE** South 29° 43' 31" East, 1013.29 feet along Route 43 to a 3/4 inch rebar and point of beginning.

The above-described parcel contains 32.4 acres.

Being the same premises described in a Warranty Deed given by Francis R. Cadorette and Rhonda B. Cadorette to James River Paper Company, Inc., dated June 13, 1995, and recorded in said Registry in Book 5878, Page 272.

**PARCEL TWO:** A certain parcel of land with any buildings thereon situated on the northeast side of Route 43, 3.4+ miles west of the intersection of Route 43 and Route 95, in the City of Old Town, County of Penobscot, State of Maine, and being more particularly described as follows:

**COMMENCING** at a 5/8 inch rebar with survey cap marked "RMC NO. 2042" located at the intersection of the northeast sideline of Route 43, and the southerly boundary line of land now or formerly of Alfred Perkins and Florine Perkins as described in deed recorded at the Penobscot County Registry of Deeds in Book 1448, Page 22. Said rebar is also located at the northwest corner of the "Cadorette Parcel" as shown on plan entitled "Perkins & Cadorette Parcels, Standard Boundary Survey (with exceptions)" by Squaw Bay Corp. of Cumberland, Maine, June, 1995, Ronald M. Carpentier, PLS #2042. to be recorded at the Penobscot County Registry of Deeds to which reference is hereby made. Thence South 82° 46' 26" East, 1485.52 feet along the Cadorette parcel to the point of Beginning.

- 1) **THENCE** from the Point of Beginning South 82°46'26" East, 529.45 feet along the Cadorette Parcel to a 5/8 inch rebar with plastic survey cap marked "RMC NO. 2042" and the land now or formerly of James River Paper Company, Inc., as described in the deed recorded at the Penobscot County Registry of Deeds in Book 4870, Page 200;
- 2) **THENCE** North 5° 59' 05" East, 828.72 feet along the land of said James River Paper Company, Inc. to a cedar post and the land of Alfred J. Meister as described in the deed recorded at the Penobscot County Registry of Deeds in Book 3738, Page 197;
- 3) **THENCE** North 84° 06' 52" West, 529.33 feet along the land of said Meister to a 5/8 inch rebar with plastic survey cap marked "RMC NO. 2042" and the land now or formerly of said Perkins;
- 4) **THENCE** South 5° 59' 05" West, 816.33 feet along the land of said Perkins to a 5/8 inch rebar with plastic survey cap marked "RMC NO. 2042" and the Point of Beginning.

The above-described parcel contains 10 acres.

Being the same premises described in a Warranty Deed given by Alfred K. Perkins and Florine J. Perkins to James River Paper Company, Inc. dated June 13, 1995, and recorded in said Registry of Deeds in Book 5878, Page 278.

**PARCEL THREE:** Lots 1 through 9 and 14 through 22, inclusive, as shown on the survey "Tyron Tree Farm" dated February 23, 1988, recorded in the Penobscot County Registry of Deeds in Plan file C26-88, together with a strip of land fifty (50) feet wide leading from Bennoch Road to the northerly line of Lot 11 on said plan, which strip was conveyed to Patten Corporation - Downeast by deed of Lyman B. Feero and Rosalita Feero, dated June 4, 1988, and recorded in said Registry in Book 4244, Page 5, and together with a right of way for all purposes over the roads fifty (50) feet wide, the centerlines of which are shown on said plan, leading from the northerly line of Lot 11 to the lots hereby conveyed. This right of way includes, but is not limited to, the right to install, use, maintain, repair and replace utility lines, poles and cables.

Together with all right, title and interest in and to that portion of the discontinued roadway lying northerly of the above described Parcel Three and southerly of the Town of Alton southerly line.

Being the same premises described in a Warranty Deed given by James River Corporation to James River Paper Company, Inc. dated July 10, 1991, and recorded in said Registry in Book 4870, Page 200.

#### Exceptions

The Parcels are conveyed subject to the following exceptions:

#### ALL PARCELS:

1. State of Maine, Department of Environmental Protection, Site Location Findings of Fact and Order, dated August 24, 1995, and recorded in the Penobscot County Registry of Deeds in Book 5939, Page 147.
2. Declarations of Covenants and Restrictions by James River Paper Company, Inc., dated December 20, 1993, recorded in said Registry in Book 5518, Page 67; Corrected Declaration of Covenants and Restrictions, dated January 20, 1994, recorded in said Registry in Book 5549, Page 162; and Amendment to Declaration of Covenants and Restrictions, dated November 30, 1995, recorded in said Registry in Book 6044, Page 118.

#### PARCELS ONE AND TWO ONLY:

1. Such state of facts as shown on the plan entitled "Cadorette House Lots, Route 43, Old Town, Maine," prepared by Squaw Bay Corp., dated June 1995, and recorded in said Registry in Plan 1996-59.
2. Such statement of facts as shown on the plan entitled "Perkins & Cadorette Parcels, Route 43, Old Town, Maine," prepared by Squaw Bay Corp., dated June 1995, recorded in said Registry in Plan D46-95.

PARCEL THREE ONLY:

1. Rights of way acquired by the University of Maine System by deeds dated July 27, 1989, and recorded in said Registry in Book 4490, Page 322 and Book 4490, Page 325.
2. Restrictions and conditions set forth in the deed from Pattern Corporation to James River Corporation recorded in said Registry in Book 4654, Page 310.
3. Rights of way reserved in the deed from Camillis G. Kidder to Napoleon Parady, dated January 10, 1910, and recorded in said Registry in Book 750, Page 407.
4. Order of the Grantee of Maine, Department of Environmental Protection, dated October 3, 1988, recorded in said Registry in Book 4345, Page 19.
5. Such statement of facts, including easements and rights of way, as shown on the plan entitled "Tryon Tree Farm, Patten Corporation-Downeast," prepared by Raymond S. Silsby, dated February 23, 1988, and recorded in said Registry in C26-88.

NOTICE OF SOLID WASTE DISPOSAL FACILITY

Pursuant to Maine Department of Environmental Protection Solid Waste Management Regulation, Chapter 400 Appendix C.11, Grantor provides the following notice:

The Premises contains an active secure solid waste disposal facility (the "Facility"). The Facility was licensed by the Maine Board of Environmental Protection on July 28, 1993. The Facility began operations on December 2, 1996. The Facility is 68 acres and is located southern quadrant of Parcel Three of the Premises. The following non-hazardous wastes have been placed in the Facility to a maximum depth of approximately 30 feet:

- pulp and papermill wastewater treatment plant sludge,
- lime wastes and grit,
- woodwastes and inert debris,
- small quantities of soil and sawdust contaminated with process chemicals that are non-hazardous,
- virgin oily contaminated debris,
- soil rags, oil filters, absorbent materials, crushed grease drums and waste grease,
- sand from sand filters,

- non-hazardous sand from sand blasting,
- multifuel fly ash and bottom ash from the Lincoln Pulp and Papermills, and
- wood ash from the City of Old Town

ORIGINAL IN VAULT  
1-14-08  
CR PALMER

Bk 11256 Pg 330 #578  
01-08-2008 @ 03:39P

**QUITCLAIM DEED  
With Right of First Refusal**

**THE STATE OF MAINE**, acting by and through its State Planning Office, with a mailing address of 38 State House Station, Augusta, Maine, 04333, for consideration, the receipt and sufficiency of which is hereby acknowledged, **RELEASES** to **UNITED CEREBRAL PALSY of NORTHEASTERN MAINE**, a nonprofit corporation having a place of business at Evergreen Woods, 700 Mount Hope Ave. Suite 320, Bangor, Maine 04401, pursuant to Resolves 2007, ch.117, sec. 1.

**THAT CERTAIN LOT OR PARCEL OF LAND, TOGETHER WITH ALL IMPROVEMENTS THEREON**, situated in the town of Old Town, County of Penobscot, State of Maine, bounded and described in Schedule A, attached hereto and incorporated herein (the Premises).

As a part of the consideration paid for the deed from Grantor to Grantee, the Grantee, its successors and assigns, do hereby grant a Right of First Refusal to purchase the Premises as described on Schedule A, attached hereto and incorporated herein, upon the following terms and conditions, to wit:

1. The Grantee agrees that no transfer or sale of the Premises or any interest therein to any third party will occur without first offering to sell the Premises to the Grantor for a price (hereinafter the "Offering Price") to be determined under the provisions of this Agreement.
2. At such time as Grantee receives a binding bona fide offer to purchase or acquire in any manner or means the Premises or any portion thereof or interest therein, which such offer Grantee has accepted, Grantee shall offer to sell the same to the Grantor upon the same terms and conditions.
3. Any offer made by the Grantee to the Grantor pursuant to this Agreement shall be carried out in accordance with the following procedures:
  - A. The Grantee shall provide to the Grantor: 1) written notice stating its intent to sell the Premises (hereinafter "Notice"); and 2) a true, correct and complete copy of the binding bona fide third party offer to purchase the Premises.
  - B. Upon receipt of Notice, the Grantor shall have (60) days to notify the Grantee in writing of Grantor's election to either purchase the Premises in accordance with the provisions of Paragraph 3.A, or to decline to purchase the Premises.
4. Nothing in this agreement shall be construed to prevent the Grantee from notifying the Grantor directly of Grantee's interest in transferring of the Premises to the Grantor, without the existence of any third party offer to purchase the Premises. If offered to the Grantor pursuant to this Paragraph 4, the purchase price shall be determined by an appraisal of the Premises to be conducted by an appraiser jointly selected by the Grantor and Grantee and to be paid for by the parties. The appraisal shall be completed within sixty (60) days of the date of determination of the appraiser by both parties and a copy thereof shall be provided by the appraiser to both parties within seven (7) days of completion. Upon receipt of the appraisal, Grantor and Grantee shall have thirty (30) days to accept the appraised value of the Premises as the purchase price or to otherwise mutually agree upon a purchase price. If either Grantor or Grantee do not accept the

appraised value of the Premises as the purchase price, Grantor shall not be obligated to purchase the Premises pursuant to this Paragraph.

5. In the event that the Grantor elects to purchase the Premises, the deed shall be delivered and the consideration paid at the offices of the Grantor in Augusta, Maine at 9 o'clock a.m. on or before the 45<sup>th</sup> day after the date of mailing of notice of election to purchase by the Grantor to the Grantee or, if a Saturday, Sunday or holiday, on the next business day thereafter, and the deed shall convey a good and clear record and merchantable title to the Premises free of all encumbrances, and the Premises shall be in the same condition as it was at the time of the acceptance of such offer and as otherwise, reasonable wear and tear and use thereof excepted. The date, time and place of the closing may be amended by written mutual agreement of the parties.

6. The Grantee may sell the Premises to the third party purchaser who has made the binding bona fide offer referred to in Paragraph 3 above (hereinafter "the Purchaser"), only in the event that the Grantor declines to match the third party purchaser's binding offer. Any transfer to the third party purchaser shall be in accordance with the terms of the binding bona fide offer.

7. Any notices required by this Agreement shall be in writing and shall be deemed delivered upon receipt if delivered in hand or mailed, postage prepaid by certified mail, or by any commercially available carrier or entity that requires a signed and dated receipt upon delivery, addressed as follows:

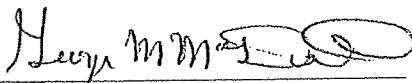
Grantor: State of Maine  
State Planning Office  
38 State House Station  
Augusta, Maine, 04333  
Attn: Director

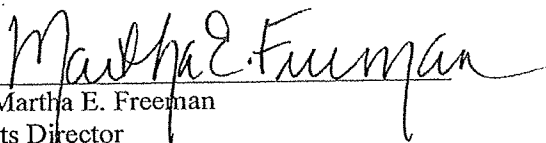
Grantee: United Cerebral Palsy of Northeastern Maine  
Evergreen Woods  
700 Mount Hope Ave. Suite 320  
Bangor, Maine 04401  
Attn: Executive Director

or at such other address as to which either party has provided notice to the other in accordance with this Agreement.

IN WITNESS WHEREOF, the STATE OF MAINE has caused the forgoing instrument to be executed this 11<sup>th</sup> day of December, 2007.

STATE OF MAINE  
State Planning Office

  
WITNESS

By:   
Martha E. Freeman  
Its Director

STATE OF MAINE  
Kennebec County, ss.

Date: December 11, 2007

Then personally appeared the above-named MARTHA E. FREEMAN and acknowledged the foregoing to be her free act and deed in her said capacity and the free act and deed of the State of Maine.

Before me,

*Linda C. LaPlante*

Print Name: Linda C. LaPlante

Notary Public/Attorney at Law

My Commission Expires: \_\_\_\_\_

Seal

CONTINUED NEXT PAGE

LINDA C. LAPLANTE  
Notary Public, Maine  
My Commission Expires September 13, 2009





BY ACCEPTANCE OF THIS DEED, the Grantee accepts the above covenants, restrictions, and terms of said Quitclaim Deed with Right of First Refusal, and said covenants, restrictions and Right of First Refusal shall be binding upon the Grantee, its successors and assigns.

UNITED CEREBRAL PALSY  
OF NORTHEASTERN MAINE

Henry M. [Signature]  
WITNESS

By: Bobbi Jo Yeager  
Print Name: Bobbi Jo Yeager  
Its: Executive Director

STATE OF MAINE

Penobscot, ss.

Date: 12/12/07

Then personally appeared the above-named Bobbi Jo Yeager and acknowledged the foregoing to be his/her free act and deed in his/her said capacity and the free act and deed of United Cerebral Palsy of Northeastern Maine.

Before me,

Debra S. Caswell  
Print Name: Debra S. Caswell  
Notary Public/Attorney at Law  
My Commission Expires: 5-18-2013  
Seal



**SCHEDULE A**

A certain lot or parcel of land with buildings and other improvements thereon, situate in the City of Old Town, County of Penobscot, State of Maine, being generally located on the northeasterly side of Route 43, so called, approximately 1.85 miles from the point where said Route 43 is intersected by the centerline of Interstate Route 95, so called, more particularly bounded and described as follows:

beginning at an iron rebar marked #2042 found in 2007 on the said northeasterly sideline of Route 43 at the northwesterly corner of PARCEL ONE described in a deed from Fort James Operating Company to The State of Maine, acting by and through its Executive Department, State Planning Office recorded at the Penobscot County Registry of Deeds in Volume 9188, Page 152, being also the southwesterly corner of land described in a deed to Alfred & Florine Perkins recorded at said registry in Vol. 1448, Page 22;

thence by and along said sideline of Route 43, S 48° 02' 10" E, a distance of 592.3 feet to a ¾" iron rebar with plastic cap marked PLS 1211 set in 2007;

thence, N 59° 15' 20" E, a distance of 490.3 feet to another ¾" iron rebar with plastic cap similarly marked set in 2007;

thence, N 48° 05' 00" W, a distance of 386.5 feet to another ¾" iron rebar similarly marked set in 2007 on the northerly line of said parcel described as PARCEL ONE in Vol. 9188, Page 152;

thence by and along the northerly line of said PARCEL ONE, being also along the southerly line of said Perkins, S 78° 53' 10" W, 585.2 feet to the point of beginning.

The above-described parcel encompasses 5.26 acres and is a portion of the premises described in said deed from Fort James Operating Company to the State of Maine recorded in Vol. 9188, Page 188.

Bearings referenced herein are oriented to grid north determined by GPS means during a survey in 2007 conducted by Plisga & Day, Land Surveyors, Bangor, Maine.

Also including in this conveyance any land held by the grantor existing between the southwesterly line of the above-described parcel and the centerline of said Route 43 where the sidelines are extended on the same bearings.

**Maine Real Estate  
Transfer Tax Paid**

PENOBSCOT COUNTY, MAINE  
*Susan F. Bulley*  
Register of Deeds

**ATTACHMENT 2**

**PUBLIC NOTICE, LIST OF JRL ABUTTERS AND OLD TOWN LANDFILL  
ADVISORY COMMITTEE MEMBERS, AND BGS AGENT LETTER**

## PUBLIC NOTICE OF INTENT TO FILE

Please take notice that the State of Maine, acting through the Department of Administrative and Financial Services, Bureau of General Services, 77 State House Station, Augusta, Maine 04333 (Tel: (207) 624-7360), and NEWSME Landfill Operations, LLC, 2828 Bennoch Road, Old Town, Maine 04446 (Tel: (207) 862-4200 ext. 225) are intending to file an application with the Maine Department of Environmental Protection (DEP) on or about September 10, 2012, pursuant to the provisions of 38 M.R.S. §§ 1301 et seq. and Maine's Solid Waste Management Regulations.

The application is for an amendment of the license for the Juniper Ridge Landfill located in Old Town, Maine to accept municipal solid waste from sources within the State of Maine as a result of the anticipated closure of the Maine Energy facility in Biddeford. The Juniper Ridge Landfill is owned by the State of Maine and operated by NEWSME Landfill Operations, LLC. The facility mailing address is 2828 Bennoch Road, Old Town, Maine 04468.

According to Department regulations, interested parties must be publicly notified, written comments invited and, if justified, an opportunity for a public hearing given. A request for a public hearing or for the Board of Environmental Protection to assume jurisdiction over this application must be received by the Department, in writing, no later than 20 days after the application is accepted by the Department as complete for processing.

The application and supporting documentation are available for review at the Department's Bureau of Remediation and Waste Management Bangor and Augusta offices during normal working hours. A copy of the application and supporting documentation may also be seen at the municipal offices in Old Town and Alton, Maine and at the Penobscot Indian Nation.

Send all correspondence to: Michael Parker ([michael.t.parker@maine.gov](mailto:michael.t.parker@maine.gov)), Maine Department of Environmental Protection, Solid Waste Program, 17 State House Station, Augusta, Maine 04333-0017 (Tel: 207-287-7704 or 1-800-452-1942).

August 29, 2012

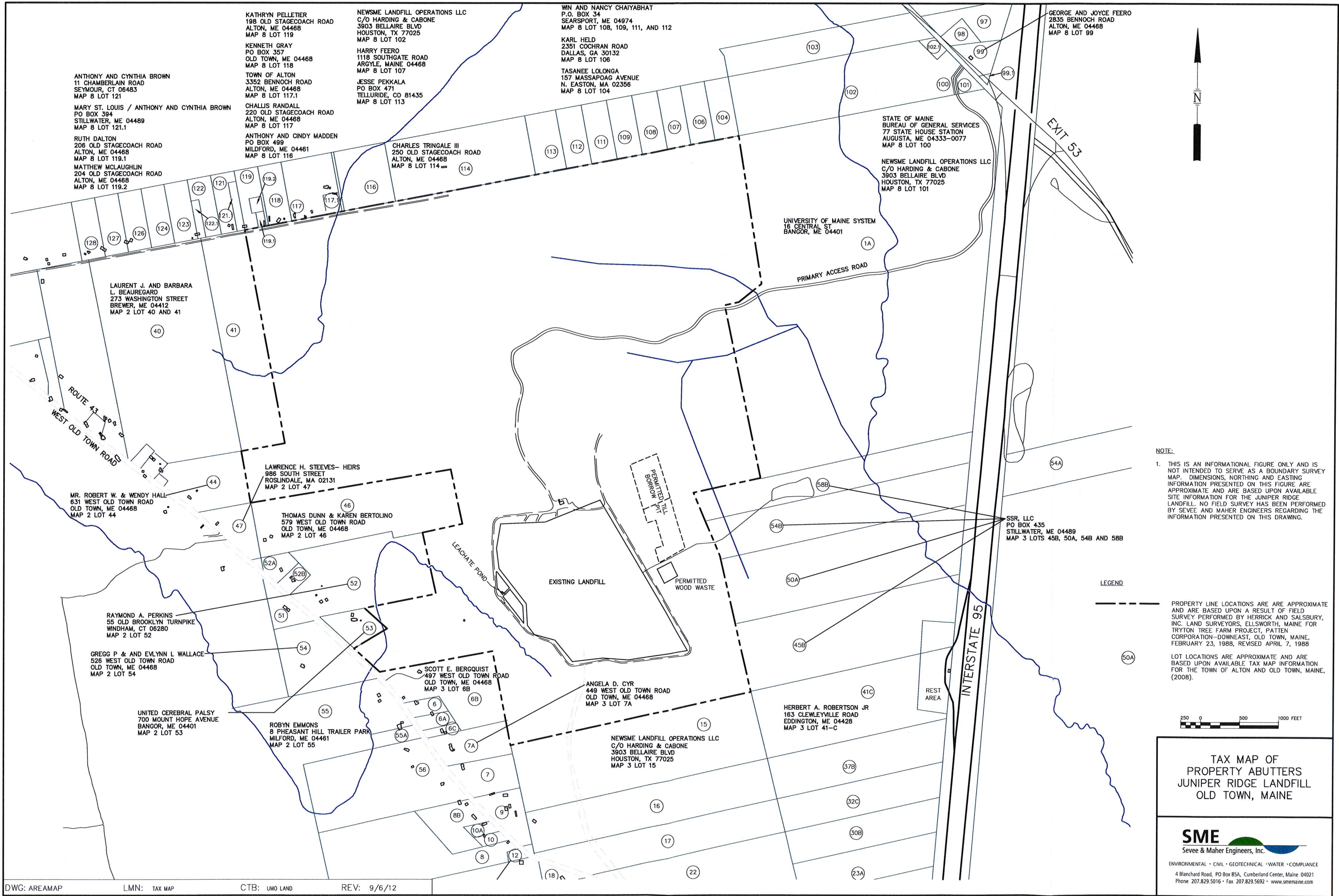
**JUNIPER RIDGE LANDFILL  
TAX MAP AND ABUTTERS LIST**

**TOWN OF ALTON**

Tasanee Lolonga 157 Massapoag Ave N. Easton, MA 02356 Map 8 – Lot 104	Mr. Charles Tringale III 250 Old Stage Coach Rd. Alton ME 04468 Map 8 – Lot 114	Kathryn Pelletier 198 Old Stage Coach Rd. Alton, ME 04468 Map 8 – Lot 119
Mr. Karl Held 2351 Cochran Road Dallas, GA 30132 Map 8 – Lot 106	Anthony and Cindy Madden P.O. Box 499 Milford, ME 04461 Map 8 – Lot 116	Anthony & Cynthia Brown 11 Chamberlain Road Seymour, CT 06483 Map 8 – Lot 121
Win & Nancy Chaiyabhat P.O. Box 34 Searsport, ME 04974 Map 8 – Lots 108, 109, 111, & 112	Town of Alton 3352 Bennoch Road Alton, ME 04468 Map 8 – Lot 117.1	NEWSME Landfill Operations LLC c/o Harding & Carbone 3903 Bellaire Blvd Houston, TX 77025 Map 8 – Lot 102
Harry Feero 1118 Southgate Rd. Argyle, ME 04468 Map 8 – Lot 107	Challis Randall 220 Old Stagecoach Road Aton, ME 04468 Map 8 – Lot 117	Ruth Dalton 206 Old Stagecoach Road Alton, ME 04468 Map 8 – Lot 119.1
Jesse Pekkala PO Box 471 Telluride, CO 81435 Map 8 – Lot 113	Mr. Kenneth Gray PO Box 357 Old Town, ME 04468 Map 8 – Lot 118	Mary St. Louis/ Cynthia and Anthony Brown P.O. Box 394 Stillwater, ME 04489 Map 8 – Lot 121.1
George and Joyce Feero 2835 Bennoch Road Alton, ME 04468 Map 8 – Lot 99	State of Maine Bureau of General Services 77 State House Station Augusta, ME 04333-0077 Map 8 – Lot 100	NEWSME Landfill Operations LLC c/o Harding & Carbone 3903 Bellaire Blvd Houston, TX 77025 Map 8 – Lot 101

**CITY OF OLD TOWN**

University of Maine System 16 Central Street Bangor, ME 04401 Map 3 – Lot 1A	Scott E Bergquist 497 West Old Town Road Old Town, ME 04468 Map 3 – Lot 6B	Thomas Dunn & Karen Bertolino 579 West Old Town Road Old Town, ME 04468 Map 2 – Lot 46
SSR, LLC PO Box 435 Stillwater, ME 04489 Map 3 – Lots 45B, 50A, 54B, 58B	Raymond A Perkins 55 Old Brooklyn Turnpike Windham, CT 06280 Map 2 – Lot 52	Gregg P & Evlynn L Wallace 526 West Old Town Road Old Town, ME 04468 Map 2 – Lot 54
Herbert A Robertson JR 163 Clewleyville Road Eddington ME 04428 Map 3 – Lot 41C	Robyn Emmons 8 Pheasant Hill Trailer Park Milford, ME 04461 Map 2 – Lot 55	
NEWSME Landfill Operations LLC c/o Harding & Carbone 3903 Bellaire Blvd Houston, TX 77025 Map 3 – Lot 15	Lawrence H Steeves – Heirs 986 South Street Roslindale, MA 02131 Map 2 – Lot 47	
Robert W & Wendy Hall 631 West Old Town Road Old Town, ME 04468 Map 2 – Lot 44	United Cerebral Palsy 700 Mount Hope Avenue Bangor, ME 04401 Map 2 – Lot 53	
Angela D Cyr 449 West Old Town Road Old Town, ME 04468 Map 3 – Lot 7A	Laurent J & Barbara L Beaugard 273 Washington Street Brewer, ME 04412 Map 2 – Lots 40 and 41	



ANTHONY AND CYNTHIA BROWN  
11 CHAMBERLAIN ROAD  
SEYMOUR, CT 06483  
MAP 8 LOT 121

MARY ST. LOUIS / ANTHONY AND CYNTHIA BROWN  
PO BOX 394  
STILLWATER, ME 04489  
MAP 8 LOT 121.1

RUTH DALTON  
206 OLD STAGECOACH ROAD  
ALTON, ME 04468  
MAP 8 LOT 119.1

MATTHEW MCLAUGHLIN  
204 OLD STAGECOACH ROAD  
ALTON, ME 04468  
MAP 8 LOT 119.2

LAURENT J. AND BARBARA L. BEAUREGARD  
273 WASHINGTON STREET  
BREWER, ME 04412  
MAP 2 LOT 40 AND 41

MR. ROBERT W. & WENDY HALL  
631 WEST OLD TOWN ROAD  
OLD TOWN, ME 04468  
MAP 2 LOT 44

RAYMOND A. PERKINS  
55 OLD BROOKLYN TURNPIKE  
WINDHAM, CT 06280  
MAP 2 LOT 52

GREGG P & AND EVELYNN L WALLACE  
526 WEST OLD TOWN ROAD  
OLD TOWN, ME 04468  
MAP 2 LOT 54

UNITED CEREBRAL PALSY  
700 MOUNT HOPE AVENUE  
BANGOR, ME 04401  
MAP 2 LOT 53

ROBYN EMMONS  
8 PHEASANT HILL TRAILER PARK  
MILFORD, ME 04461  
MAP 2 LOT 55

LAWRENCE H. STEEVES- HEIRS  
986 SOUTH STREET  
ROSLINDALE, MA 02131  
MAP 2 LOT 47

THOMAS DUNN & KAREN BERTOLINO  
579 WEST OLD TOWN ROAD  
OLD TOWN, ME 04468  
MAP 2 LOT 46

SCOTT E. BERGQUIST  
497 WEST OLD TOWN ROAD  
OLD TOWN, ME 04468  
MAP 3 LOT 6B

ANGELA D. CYR  
449 WEST OLD TOWN ROAD  
OLD TOWN, ME 04468  
MAP 3 LOT 7A

NEWSME LANDFILL OPERATIONS LLC  
C/O HARDING & CABONE  
3903 BELLAIRE BLVD  
HOUSTON, TX 77025  
MAP 3 LOT 15

KATHRYN PELLETIER  
198 OLD STAGECOACH ROAD  
ALTON, ME 04468  
MAP 8 LOT 119

KENNETH GRAY  
PO BOX 357  
OLD TOWN, ME 04468  
MAP 8 LOT 118

TOWN OF ALTON  
3352 BENNOCH ROAD  
ALTON, ME 04468  
MAP 8 LOT 117.1

CHALLIS RANDALL  
220 OLD STAGECOACH ROAD  
ALTON, ME 04468  
MAP 8 LOT 117

ANTHONY AND CINDY MADDEN  
PO BOX 499  
MILFORD, ME 04461  
MAP 8 LOT 116

NEWSME LANDFILL OPERATIONS LLC  
C/O HARDING & CABONE  
3903 BELLAIRE BLVD  
HOUSTON, TX 77025  
MAP 8 LOT 102

HARRY FEERO  
1118 SOUTHGATE ROAD  
ARGYLE, MAINE 04468  
MAP 8 LOT 107

JESSE PEKKALA  
PO BOX 471  
TELLURIDE, CO 81435  
MAP 8 LOT 113

CHARLES TRINGALE III  
250 OLD STAGECOACH ROAD  
ALTON, ME 04468  
MAP 8 LOT 114

WIN AND NANCY CHAIYABHAT  
P.O. BOX 34  
SEARSPORT, ME 04974  
MAP 8 LOT 108, 109, 111, AND 112

KARL HELD  
2351 COCHRAN ROAD  
DALLAS, GA 30132  
MAP 8 LOT 106

TASANEE LOLONGA  
157 MASSAPOAG AVENUE  
N. EASTON, MA 02356  
MAP 8 LOT 104

STATE OF MAINE  
BUREAU OF GENERAL SERVICES  
77 STATE HOUSE STATION  
AUGUSTA, ME 04333-0077  
MAP 8 LOT 100

NEWSME LANDFILL OPERATIONS LLC  
C/O HARDING & CABONE  
3903 BELLAIRE BLVD  
HOUSTON, TX 77025  
MAP 8 LOT 101

UNIVERSITY OF MAINE SYSTEM  
18 CENTRAL ST  
BANGOR, ME 04401

GEORGE AND JOYCE FEERO  
2835 BENNOCH ROAD  
ALTON, ME 04468  
MAP 8 LOT 99

SSR, LLC  
PO BOX 435  
STILLWATER, ME 04489  
MAP 3 LOTS 45B, 50A, 54B AND 58B

**NOTE:**  
1. THIS IS AN INFORMATIONAL FIGURE ONLY AND IS NOT INTENDED TO SERVE AS A BOUNDARY SURVEY MAP. DIMENSIONS, NORTHING AND EASTING INFORMATION PRESENTED ON THIS FIGURE ARE APPROXIMATE AND ARE BASED UPON AVAILABLE SITE INFORMATION FOR THE JUNIPER RIDGE LANDFILL. NO FIELD SURVEY HAS BEEN PERFORMED BY SEVEE AND MAHER ENGINEERS REGARDING THE INFORMATION PRESENTED ON THIS DRAWING.

**LEGEND**  
--- PROPERTY LINE LOCATIONS ARE APPROXIMATE AND ARE BASED UPON A RESULT OF FIELD SURVEY PERFORMED BY HERRICK AND SALSBURY, INC. LAND SURVEYORS, ELLSWORTH, MAINE FOR TRYTON TREE FARM PROJECT, PATTEN CORPORATION-DOWNEAST, OLD TOWN, MAINE, FEBRUARY 23, 1988, REVISED APRIL 7, 1988  
○ LOT LOCATIONS ARE APPROXIMATE AND ARE BASED UPON AVAILABLE TAX MAP INFORMATION FOR THE TOWN OF ALTON AND OLD TOWN, MAINE. (2008).



**TAX MAP OF  
PROPERTY ABUTTERS  
JUNIPER RIDGE LANDFILL  
OLD TOWN, MAINE**

**SME**  
Sevee & Maher Engineers, Inc.  
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE  
4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021  
Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

LANDFILL ADVISORY COMMITTEE

2012

Peter Dufour Chairman	230 West Old Town Road Old Town	827-2751 992-3324 hmgc@juno.com
Ted Shina	769 West Old Town Road Old Town	827-5655 745-8186 tshina@aol.com
Ralph Leonard	96 Sargent Drive Old Town	827-2442
Clyde Grant	181 Oak Street Old Town	827-7865
Laura Sanborn	2845 Bennoch Road Alton	745-8151 hlsanborn@aol.com
Dana Snowman	120 Old Stagecoach Road Alton	827-7344 ds824@midmaine.com
Bill Thompson P.I.N.	12 Wabanaki Way Indian Island	827-7776 Bill.Thompson@penobscotnation.org

**DOCUMENTATION OF DISTRIBUTION OF NOTICE  
AND APPLICATION SUBMITTALS**



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Legal Notices

**PUBLIC NOTICE OF INTENT TO FILE**

Please take notice that the State of Maine, acting through the Department of Administrative and Financial Services, Bureau of General Services, 77 State House Station, Augusta, Maine 04333 (Tel: (207) 624-7360), and NEWSME Landfill Operations, LLC, 2828 Bennoch Road, Old Town, Maine 04466 (Tel: (207) 862-4200 ext. 225) are intending to file an application with the Maine Department of Environmental Protection (DEP) on or about September 10, 2012, pursuant to the provisions of 38 M.R.S. §§ 1301 *et seq.* and Maine's Solid Waste Management Regulations.

The application is for an amendment of the license for the Juniper Ridge Landfill located in Old Town, Maine to accept municipal solid waste from sources within the State of Maine as a result of the anticipated closure of the Maine Energy facility in Biddeford. The Juniper Ridge Landfill is owned by the State of Maine and operated by NEWSME Landfill Operations, LLC. The facility mailing address is 2828 Bennoch Road, Old Town, Maine 04468.

According to Department regulations, interested parties must be publicly notified, written comments invited and, if justified, an opportunity for a public hearing given. A request for a public hearing or for the Board of Environmental Protection to assume jurisdiction over this application must be received by the Department, in writing, no later than 20 days after the application is accepted by the Department as complete for processing.

The application and supporting documentation are available for review at the Department's Bureau of Remediation and Waste Management Bangor and Augusta offices during normal working hours. A copy of the application and supporting documentation may also be seen at the municipal offices in Old Town and Alton, Maine and at the Penobscot Indian Nation.

Send all correspondence to: Michael Parker ( [michael.t.parker@maine.gov](mailto:michael.t.parker@maine.gov) ), Maine Department of Environmental Protection, Solid Waste Program, 17 State House Station, Augusta, Maine 04333-0017 (Tel: 207-287-7704 or 1-800-452-1942).

August 29, 2012  
Published August 30, 2012

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**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Scott Bergquist  
497 West Old Town Road  
Old Town, ME 04468

2. Article Number  
(Transfer from service label)

7012 1010 0002 1036 6178

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature  Agent Addressed  
*Scott Bergquist*
- B. Received by (Printed Name)  Date of Delivery  
SCOTT BERGQUIST 9-4-18
- C. Date of Delivery
- D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 Restricted Delivery? (Extra Fee)  Yes

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

George and Joyce Feero  
2835 Bennock Rd.  
Alton, ME 04468

2. Article Number  
(Transfer from service label)

7012 1010 0002 1036 6543

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature  Agent Addressed  
*George Feero*
- B. Received by (Printed Name)  Date of Delivery  
George Feero 9-4-18
- C. Date of Delivery
- D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 Restricted Delivery? (Extra Fee)  Yes

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Challis Randall  
220 Old Stagecoach Road  
Alton, ME 04468

2. Article Number  
(Transfer from service label)

7012 1010 0002 1036 6376

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature  Agent Addressed  
*William Randall*
- B. Received by (Printed Name)  Date of Delivery  
William Randall 9/4/18
- C. Date of Delivery
- D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 Restricted Delivery? (Extra Fee)  Yes

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Raymond Perkins  
55 Old Brooklyn Turnpike  
Wincham, CT 06280

2. Article Number  
(Transfer from service label)

7012 1010 0002 1036 6369

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature  Agent Addressed  
*Raymond Perkins*
- B. Received by (Printed Name)  Date of Delivery  
Raymond Perkins 9/4/18
- C. Date of Delivery
- D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 Restricted Delivery? (Extra Fee)  Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  Address   
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  Registered  Return Receipt for Merchandise  Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Herbert A. Robertson, Jr.  
163 Clewleyville Road  
Eddington, ME 04428

2. Article Number (Transfer from service label) 7012 1010 0002 1036 6363

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  Address   
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  Registered  Return Receipt for Merchandise  Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
SSR, LLC  
PO Box 435  
Stillwater, ME 04489

2. Article Number (Transfer from service label) 7012 1010 0002 1036 6505

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  Address   
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  Registered  Return Receipt for Merchandise  Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
University of Maine System  
16 Central Street  
Bangor, ME 04401

2. Article Number (Transfer from service label) 7012 1010 0002 1036 6536

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  Address   
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  Registered  Return Receipt for Merchandise  Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
United Cerebral Palsy  
700 Mount Hope Avenue  
Bangor, ME 04401

2. Article Number (Transfer from service label) 7012 1010 0002 1036 6529

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  Addressee  
X *Thomas J. Dunn*  
B. Received by (Printed Name) C. Date of Delivery  
*Thomas J. Dunn* *9/31/12*  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6291

Domestic Return Receipt  
PS Form 3811, February 2004

102595-02-M-1540

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Thomas Dunn Karen Bertolino  
579 West Old Town Road  
Old Town, ME 04458

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6277

Domestic Return Receipt  
PS Form 3811, February 2004

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  Addressee  
X *Wendy Hall*  
B. Received by (Printed Name) C. Date of Delivery  
*Wendy Hall* *8/31/12*  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6277

Domestic Return Receipt  
PS Form 3811, February 2004

102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  Addressee  
X *Laurent Bearegard*  
B. Received by (Printed Name) C. Date of Delivery  
*Laurent Bearegard* *8-31-12*  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6161

Domestic Return Receipt  
PS Form 3811, February 2004

102595-02-M-1540

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Laurent J. & Barbara L. Bearegard  
273 Washington Street  
Brewer, ME 04412

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6444

Domestic Return Receipt  
PS Form 3811, February 2004

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  Addressee  
X *Gregg P. Wallace*  
B. Received by (Printed Name) C. Date of Delivery  
*Gregg P. Wallace* *8/31/12*  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6444

Domestic Return Receipt  
PS Form 3811, February 2004

102595-02-M-15

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mary St. Louis / Cynthia and Anthony Brown  
 P.O. Box 394  
 Stillwater, ME 04489

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
*Mary St. Louis*  Addressee  
 B. Received by (Printed Name)  Date of Delivery  
*Mary St. Louis* *8/31/12*  
 C. Date of Delivery  
 D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
 (Transfer from service label)  
 7012 1010 0002 1036 6475

102595-02-M-1540

Domestic Return Receipt

PS Form 3811, February 2004

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Win & Nancy Chaiyabhat  
 PO Box 34  
 Searsport, ME 04974

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
*Win & Nancy Chaiyabhat*  Addressee  
 B. Received by (Printed Name)  Date of Delivery  
*Win & Nancy Chaiyabhat* *8-31-12*  
 C. Date of Delivery  
 D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
 (Transfer from service label)  
 7012 1010 0002 1036 6192

102595-02-M-1540

Domestic Return Receipt

PS Form 3811, February 2004

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Kenneth Gray  
 PO Box 357  
 Old Town, ME 04468

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
*Kenneth F. Gray*  Addressee  
 B. Received by (Printed Name)  Date of Delivery  
*Kenneth F. Gray* *8/31/12*  
 C. Date of Delivery  
 D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
 (Transfer from service label)  
 7012 1010 0002 1036 6260

102595-02-M-15

Domestic Return Receipt

PS Form 3811, February 2004

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Lawrence Steeves - Heirs  
 986 South Street  
 Roslindale MA 02131

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
*Lawrence Steeves*  Addressee  
 B. Received by (Printed Name)  Date of Delivery  
*STEEVES*  
 C. Date of Delivery  
 D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
 (Transfer from service label)  
 7012 1010 0002 1036 6420

102595-02-M-15

Domestic Return Receipt

PS Form 3811, February 2004

COMPLETE THIS SECTION ON DELIVERY

A. Signature **Tamy Feero**  Agent  Addressee  
B. Received by (Printed Name) **Tamy Feero**  Certified Mail  Express Mail  
C. Date of Delivery **8/31/12**  Registered  Return Receipt for Merchandise  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

1. Article Addressed to:  
**Tamy Feero**

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)  
**7012 1010 0002 1036 6246**

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-1540

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
**Anthony & Cindy Madden**  
**PO Box 499**  
**Milford, ME 04461**

2. Article Number  
(Transfer from service label)  
**7012 1010 0002 1036 6338**

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature **Anthony Madden**  Agent  Addressee  
B. Received by (Printed Name) **Anthony Madden**  Certified Mail  Express Mail  
C. Date of Delivery **9/1/12**  Registered  Return Receipt for Merchandise  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

1. Article Addressed to:  
**Anthony & Cindy Madden**  
**PO Box 499**  
**Milford, ME 04461**

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)  
**7012 1010 0002 1036 6338**

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature **Karl Held**  Agent  Addressee  
B. Received by (Printed Name) **Karl Held**  Certified Mail  Express Mail  
C. Date of Delivery **9/1/12**  Registered  Return Receipt for Merchandise  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

1. Article Addressed to:  
**Michael Held**  
**2351 Cochran Road**  
**Dallas, TX 75201**

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)  
**7012 1010 0002 1036 6284**

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-1540

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
**Bureau of General Services**  
**77 State House Station**  
**Augusta, ME 04330-0077**

2. Article Number  
(Transfer from service label)  
**7012 1010 0002 1036 6550**

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature **Karl Held**  Agent  Addressee  
B. Received by (Printed Name) **Karl Held**  Certified Mail  Express Mail  
C. Date of Delivery **08/31/12**  Registered  Return Receipt for Merchandise  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

1. Article Addressed to:  
**Michael Held**  
**2351 Cochran Road**  
**Dallas, TX 75201**

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number  
(Transfer from service label)  
**7012 1010 0002 1036 6550**

PS Form 3811, February 2004  
Domestic Return Receipt  
102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature *Laura Sanborn*  Agent  Addressee  
B. Received by (Printed Name) *Laura Sanborn* C. Date of Delivery *8/31/12*  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

Article Number *7012 1010 0002 1036 6390*  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
  
Ms. Laura Sanborn  
2845 Bennoch Road  
Alton, ME 04468

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
  
Mr. Ralph Leonard  
96 Sargent Drive  
Old Town, ME 04468

2. Article Number *7012 1010 0002 1036 6307*  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1541

COMPLETE THIS SECTION ON DELIVERY

A. Signature *Ralph E. Leonard*  Agent  Addressee  
B. Received by (Printed Name) *Ralph E. Leonard* C. Date of Delivery *8/31/12*  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

Article Number *7012 1010 0002 1036 6307*  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1541

COMPLETE THIS SECTION ON DELIVERY

A. Signature *Catherine H. Grant*  Agent  Addressee  
B. Received by (Printed Name) *CATHERINE H. GRANT* C. Date of Delivery *8-31*  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

Article Number *7012 1010 0002 1036 6253*  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
  
Mr. Clyde Grant  
181 Oak Street  
Old Town, ME 04468

2. Article Number *7012 1010 0002 1036 6499*  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-15

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
  
Mr. Bill Thompson  
Penobscot Indian Nation  
12 Wabanaki Way  
Indian Island, ME 04458

2. Article Number *7012 1010 0002 1036 6499*  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-15

COMPLETE THIS SECTION ON DELIVERY

A. Signature *Jillie Hanson*  Agent  Addressee  
B. Received by (Printed Name) *Jillie Hanson* C. Date of Delivery *8-31-12*  
D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:

3. Service Type  Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

Article Number *7012 1010 0002 1036 6499*  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-15

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
  
City of Old Town  
265 Main Street  
Old Town, ME 04468

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6451

3. Service Type  
 Certified Mail  
 Registered  
 Insured Mail  
 Express Mail  
 Return Receipt for Merchandise  
 C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature *[Signature]*  
B. Received by (Printed Name) Jobitha Keton  
C. Date of Delivery 8/31/12  
D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

1. Article Addressed to:  
  
Penobscot Indian Nation  
12 Wabanaki Way  
Indian Island, ME 04468

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6482

3. Service Type  
 Certified Mail  
 Registered  
 Insured Mail  
 Express Mail  
 Return Receipt for Merchandise  
 C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
  
Mr. Peter Dufour  
230 West Old Town Road  
Old Town, ME 04468

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6222

3. Service Type  
 Certified Mail  
 Registered  
 Insured Mail  
 Express Mail  
 Return Receipt for Merchandise  
 C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature *[Signature]*  
B. Received by (Printed Name) Peter Dufour  
C. Date of Delivery 8/31/12  
D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

1. Article Addressed to:  
  
Dana Snowman  
120 Old Stagecoach Road  
Alton, ME 04468

2. Article Number  
(Transfer from service label)  
7012 1010 0002 1036 6413

3. Service Type  
 Certified Mail  
 Registered  
 Insured Mail  
 Express Mail  
 Return Receipt for Merchandise  
 C.O.D.  
4. Restricted Delivery? (Extra Fee)  Yes



**U.S. Postal Service™  
CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee		\$2.95
Return Receipt Fee (Endorsement Required)		\$2.35
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$5.75

0021  
CUMBERLAND CENTER  
Postmark Here  
AUG 29 2012  
AUG 29 2012  
08/29/2012  
USPS-04021

Sent to Farrell's  
Street, Apt. No.,  
or PO Box No.  
City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

**U.S. Postal Service™  
CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee		\$2.95
Return Receipt Fee (Endorsement Required)		\$2.35
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$5.75

0021  
CUMBERLAND CENTER  
Postmark Here  
AUG 29 2012  
AUG 29 2012  
08/29/2012  
USPS-04021

Sent to Top Shina  
Street, Apt. No.,  
or PO Box No.  
City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

**U.S. Postal Service™  
CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee		\$2.95
Return Receipt Fee (Endorsement Required)		\$2.35
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$5.75

0021  
CUMBERLAND CENTER  
Postmark Here  
AUG 29 2012  
AUG 29 2012  
08/29/2012  
USPS-04021

Sent to Town of Aton  
Street, Apt. No.,  
or PO Box No.  
City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

**U.S. Postal Service™  
CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee		\$2.95
Return Receipt Fee (Endorsement Required)		\$2.35
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$5.75

0021  
CUMBERLAND CENTER  
Postmark Here  
AUG 29 2012  
AUG 29 2012  
08/29/2012  
USPS-04021

Sent to Charles  
Street, Apt. No.,  
or PO Box No.  
City, State, ZIP+4

**U.S. Postal Service™  
CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee		\$2.95
Return Receipt Fee (Endorsement Required)		\$2.35
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$5.75

0021  
CUMBERLAND CENTER  
Postmark Here  
AUG 29 2012  
AUG 29 2012  
08/29/2012  
USPS-04021

Sent to NEWSME LP Operations  
Street, Apt. No.,  
or PO Box No.  
City, State, ZIP+4

**U.S. Postal Service™  
CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee		\$2.95
Return Receipt Fee (Endorsement Required)		\$2.35
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$5.75

0021  
CUMBERLAND CENTER  
Postmark Here  
AUG 29 2012  
AUG 29 2012  
08/29/2012  
USPS-04021

Sent to VMA Inc System  
Street, Apt. No.,  
or PO Box No.  
City, State, ZIP+4

259 9601 2000 0101 2102

**U.S. Postal Service™  
CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$2.95
Certified Fee	\$	\$2.95
Return Receipt Fee (Endorsement Required)	\$	\$2.35
Restricted Delivery Fee (Endorsement Required)	\$	\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$5.75</b>

Postmark Here  
AUG 29 2012  
CUMBERLAND CENTER  
03  
ME 04468 PS 08/29/2012

Sent To Anty C. Brown  
Street, Apt. No., or PO Box No. \_\_\_\_\_  
City, State, ZIP+4 \_\_\_\_\_

PS Form 3800, August 2006 See Reverse for Instructions

5929 9602 2000 0100 2102

**U.S. Postal Service™  
CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee	\$	\$2.95
Return Receipt Fee (Endorsement Required)	\$	\$2.35
Restricted Delivery Fee (Endorsement Required)	\$	\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$5.75</b>

Postmark Here  
AUG 29 2012  
CUMBERLAND CENTER  
03  
ME 04468 PS 08/29/2012

Sent To Angela Syf  
Street, Apt. No., or PO Box No. \_\_\_\_\_  
City, State, ZIP+4 \_\_\_\_\_

PS Form 3800, August 2006 See Reverse for Instructions

8029 9602 2000 0100 2102

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Restricted Delivery Fee (Endorsement Required)	\$	\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$5.75</b>

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CUMBERLAND CENTER  
03  
ME 04468 PS 08/29/2012

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Street, Apt. No., or PO Box No. \_\_\_\_\_  
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**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee	\$	\$2.95
Return Receipt Fee (Endorsement Required)	\$	\$2.35
Restricted Delivery Fee (Endorsement Required)	\$	\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$5.75</b>

Postmark Here  
AUG 29 2012  
CUMBERLAND CENTER  
03  
ME 04468 PS 08/29/2012

Sent To Ruth Dalton  
Street, Apt. No., or PO Box No. \_\_\_\_\_  
City, State, ZIP+4 \_\_\_\_\_

PS Form 3800, August 2006 See Reverse for Instructions

5929 9602 2000 0100 2102

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For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee	\$	\$2.95
Return Receipt Fee (Endorsement Required)	\$	\$2.35
Restricted Delivery Fee (Endorsement Required)	\$	\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$5.75</b>

Postmark Here  
AUG 29 2012  
CUMBERLAND CENTER  
03  
ME 04468 PS 08/29/2012

Sent To Jas Talanga  
Street, Apt. No., or PO Box No. \_\_\_\_\_  
City, State, ZIP+4 \_\_\_\_\_

PS Form 3800, August 2006 See Reverse for Instructions

7229 9602 2000 0100 2102

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For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	\$0.45
Certified Fee	\$	\$2.95
Return Receipt Fee (Endorsement Required)	\$	\$2.35
Restricted Delivery Fee (Endorsement Required)	\$	\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$5.75</b>

Postmark Here  
AUG 29 2012  
CUMBERLAND CENTER  
03  
ME 04468 PS 08/29/2012

Sent To Jesse Peckala  
Street, Apt. No., or PO Box No. \_\_\_\_\_  
City, State, ZIP+4 \_\_\_\_\_

PS Form 3800, August 2006 See Reverse for Instructions

5429 9602 2000 0100 2102

Our records indicate that the following shipment has been delivered:

Invoice number: 12043  
Reference: 12043  
Ship (P/U) date: Sep 10, 2012  
Delivery date: Sep 11, 2012 11:15 AM  
Sign for by: K.DUNTON  
Delivery location: OLD TOWN, ME  
Delivered to: Receptionist/Front Desk  
Service type: FedEx Priority Overnight  
Packaging type: FedEx Pak  
Number of pieces: 1  
Weight: 2.00 lb.  
Special handling/Services: Deliver Weekday  
Tracking number: [798928678135](https://www.fedex.com/track/798928678135)

Shipper Information

Mike Booth  
Sevee & Maher Engineers,  
Inc.  
4 Blanchard Rd.  
P.O. Box 85A  
Cumberland  
ME  
US  
04021

Recipient Information

City of Old Town  
265 MAIN ST  
OLD TOWN  
ME  
US  
04468

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 10:24 AM CDT on 09/11/2012.

To learn more about FedEx Express, please visit our website at [fedex.com](http://fedex.com).

All weights are estimated.

Our records indicate that the following shipment has been delivered:

Invoice number: 12043  
Reference: 12043  
Ship (P/U) date: Sep 10, 2012  
Delivery date: Sep 11, 2012 11:18 AM  
Sign for by: J.HANSON  
Delivery location: INDIAN ISLAND, ME  
Delivered to: Receptionist/Front Desk  
Service type: FedEx Priority Overnight  
Packaging type: FedEx Pak  
Number of pieces: 1  
Weight: 2.00 lb.  
Special handling/Services: Deliver Weekday  
Tracking number: [798928545623](https://www.fedex.com/track/798928545623)

Shipper Information

Mike Booth  
Sevee & Maher Engineers,  
Inc.  
4 Blanchard Rd.  
P.O. Box 85A  
Cumberland  
ME  
US  
04021

Recipient Information

Penobscot Indian Nation  
Penobscot Indian Nation  
12 WABANAKI WAY  
INDIAN ISLAND  
ME  
US  
04468

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All weights are estimated.

Our records indicate that the following shipment has been delivered:

Door Tag number: DT103190512630  
Invoice number: 12043  
Reference: 12043  
Ship (P/U) date: Sep 10, 2012  
Delivery date: Sep 11, 2012 11:57 AM  
Sign for by: K.ROSSI  
Delivery location: OLD TOWN, ME  
Delivered to: Receptionist/Front Desk  
Service type: FedEx Priority Overnight  
Packaging type: FedEx Pak  
Number of pieces: 1  
Weight: 2.00 lb.  
Special handling/Services: Deliver Weekday  
Tracking number: [798928647971](https://www.fedex.com/track/798928647971)

Shipper Information

Mike Booth  
Sevee & Maher Engineers,  
Inc.  
4 Blanchard Rd.  
P.O. Box 85A  
Cumberland  
ME  
US  
04021

Recipient Information

Town of Alton  
Town of Alton  
3352 BENNOCH RD  
OLD TOWN  
ME  
US  
04468

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STATE OF MAINE  
DEPARTMENT OF ADMINISTRATIVE & FINANCIAL SERVICES  
BUREAU OF GENERAL SERVICES  
BURTON M. CROSS BUILDING  
4<sup>TH</sup> FLOOR, 77 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333-0077

PAUL R. LePAGE  
GOVERNOR

H. SAWIN MILLETT, JR.  
COMMISSIONER

DONALD L. McCORMACK  
DIRECTOR

August 24, 2012

Ms. Cynthia W. Darling  
Division of Solid Waste Management  
Bureau of Remediation and Waste Management  
Maine Department of Environmental Protection  
106 Hogan Road  
Bangor, Maine 04401

Re: Applications related to the Juniper Ridge Landfill

Dear Ms. Darling:

Please accept this letter as authorization for the Maine Department of Environmental Protection (the "Department") to accept NEWSME Landfill Operations, LLC, as the agent for the Bureau of General Services with regard to all applications submitted to the Department related to the Juniper Ridge Landfill. The contact at NEWSME is Don Meagher, whose home number is 207-862-4200 ext. 230 and mailing address is Pine Tree & Juniper Ridge Landfills, Casella Waste Systems, 358 Emerson Mill Road, Hampden, Maine 04444.

Please call 207-624-7314 if you have any questions regarding this letter.

Sincerely,

Donald L. McCormack, Director  
Bureau of General Services

**ATTACHMENT 3**

**DOCUMENTATION OF GOOD CORPORATE STANDING**

# State of Maine



## Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

*In testimony whereof*, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this twenty-seventh day of August 2012.



A handwritten signature in black ink, reading "Charles E. Summers, Jr.", written over a horizontal line.

*Charles E. Summers, Jr.*  
*Secretary of State*

### Additional Addresses

Legal Name	Title	Name	Charter #	Status
NEWSME LANDFILL OPERATIONS LLC	Registered Agent		20040538DC	GOOD STANDING
Home Office Address (of foreign entity )		Other Mailing Address		



**ATTACHMENT 4**

**NEWSME FINANCIAL CAPACITY**

April 25, 2012

Maine Department of Environmental Protection  
Bureau of Remediation and Waste Management  
17 State House Station  
Augusta, ME 04333

RE: NEWSME Landfill Operations, LLC / Casella Waste Systems, Inc.  
Financial Capability

Dear Sir / Madam:

We understand that you require a bank reference for Casella Waste Systems, Inc. (the "Company") and its wholly owned subsidiary, NEWSME Landfill Operations, LLC.

The Company has maintained a banking relationship with us since 1995. It is well known to us and has maintained its relationship with us in a satisfactory manner.

In addition, Bank of America, N.A. is the administrative agent for a secured credit facility of approximately \$227.5 million provided to the Company and its subsidiaries by a group of lenders (the "Credit Facility"). The amount available under the Credit Facility is currently approximately \$124.6 million. The Company may utilize the Credit Facility for direct borrowings and standby letters of credit subject to the conditions that (a) the Company not be in default under the terms of the Credit Facility and (b) the Company's representations and warranties contained in the agreement governing the Credit Facility be true and correct in all material respects as of the date of the borrowing.

Please note that the information set forth in this letter is subject to change without notice, and is provided in strict confidence, without any responsibility or liability on the part of Bank of America, N.A., its affiliates or any of its or its affiliates' directors, officers or employees. Bank of America, N.A. undertakes no responsibility to update the information set forth in this letter.

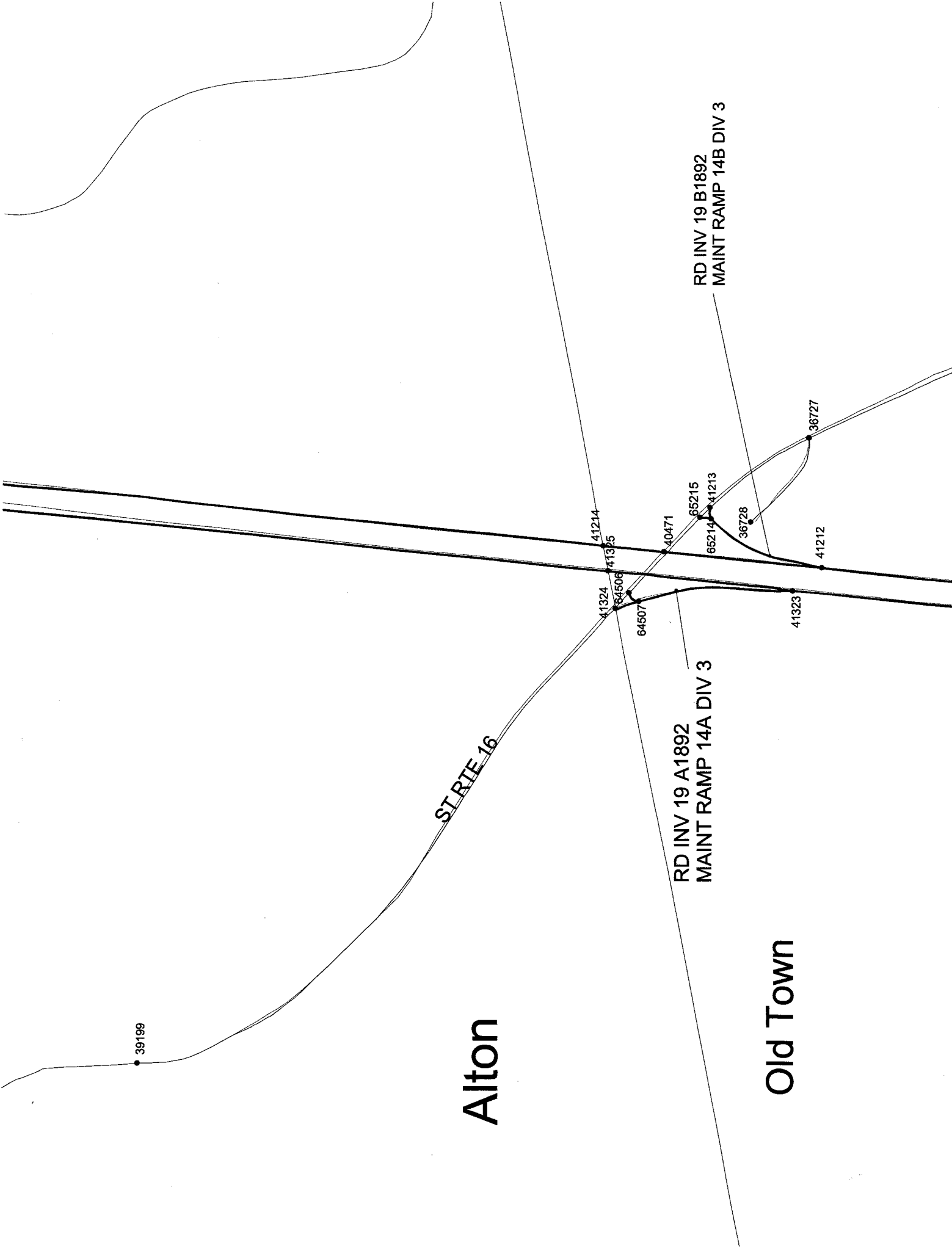
Very truly yours,

BANK OF AMERICA, N.A.



Maria F. Maia  
Managing Director

**ATTACHMENT 5**  
**MDOT ACCIDENT DATA**



Alton

Old Town

ST RIE 16

RD INV 19 A1892  
MAINT RAMP 14A DIV 3

RD INV 19 B1892  
MAINT RAMP 14B DIV 3

39199

41214

41325

41324

64506

64507

40471

65215

65214

41213

36728

41323

36727

41212

# Crash Summary Report

## Report Selections and Input Parameters

**REPORT SELECTIONS**

Crash Summary I     Section Detail     Crash Summary II     1320 Included     1320 & Driver Report Included

**REPORT DESCRIPTION**

Bennoch Rd area

**REPORT PARAMETERS**

Year 2008, Start Month 1 through Year 2010 End Month: 12

Route: **0016X**

Start Node: **39199**  
End Node: **41213**

Start Offset: **0**  
End Offset: **0**

Exclude First Node  
 Exclude Last Node

Route: **19A1892**

Start Node: **41324**  
End Node: **41323**

Start Offset: **0**  
End Offset: **0**

Exclude First Node  
 Exclude Last Node

Route: **3201740**

Start Node: **64506**  
End Node: **64507**

Start Offset: **0**  
End Offset: **0**

Exclude First Node  
 Exclude Last Node

Route: **19B1892**

Start Node: **41212**  
End Node: **41213**

Start Offset: **0**  
End Offset: **0**

Exclude First Node  
 Exclude Last Node

Route: **3201917**

Start Node: **65214**  
End Node: **65215**

Start Offset: **0**  
End Offset: **0**

Exclude First Node  
 Exclude Last Node

# Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	K	A	B	C	PD	Injury	Percent Inj	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
39199	0016X - 180.88	1906134 ALT.RTE 16,BROWN BR	1	0	0	0	0	0	0	0.0	0.0	1,002	0.00	0.40	0.00
												Statewide Crash Rate: 0.10			
41324	0016X - 182.08	TL - Alton, Old Town	1	0	0	0	0	0	0	0.0	0.0	0.996	0.00	0.17	0.00
												Statewide Crash Rate: 0.04			
64506	0016X - 182.11	Int of BENNOCH RD, RD INV 3201740	1	0	0	0	0	0	0	0.0	0.0	0.462	0.00	0.12	0.00
												Statewide Crash Rate: 0.04			
65215	0016X - 182.26	Int of BENNOCH RD, RD INV 3201917	1	0	0	0	0	0	0	0.0	0.0	0.608	0.00	0.15	0.00
												Statewide Crash Rate: 0.04			
41213	0016X - 182.28	Int of BENNOCH RD, RAMP OFF TO BENNOCH RD	1	0	0	0	0	0	0	0.0	0.0	0.920	0.00	0.17	0.00
												Statewide Crash Rate: 0.04			
64507	19A1892 - 0.03	Int of RAMP ON FROM BENNOCH RD, RD INV 3201740	1	0	0	0	0	0	0	0.0	0.0	0.478	0.00	0.12	0.00
												Statewide Crash Rate: 0.04			
41323	19A1892 - 0.22	Int of I 95 SB, RAMP ON FROM BENNOCH RD	1	0	0	0	0	0	0	0.0	0.0	2,183	0.00	0.16	0.00
												Statewide Crash Rate: 0.04			
64507	3201740 - 0.03	Int of RAMP ON FROM BENNOCH RD, RD INV 3201740	1	0	0	0	0	0	0	0.0	0.0	0.478	0.00	0.12	0.00
												Statewide Crash Rate: 0.04			
41212	19B1892 - 0	Int of I 95, RAMP OFF TO BENNOCH RD	1	0	0	0	0	0	0	0.0	0.0	1,971	0.00	0.17	0.00
												Statewide Crash Rate: 0.04			
65214	19B1892 - 0.16	Int of RAMP OFF TO BENNOCH RD, RD INV 3201917	1	0	0	0	0	0	0	0.0	0.0	0.296	0.00	0.02	0.00
												Statewide Crash Rate: 0.04			
<b>Study Years: 3.00</b>															
<b>NODE TOTALS:</b>				0	0	0	0	0	0	0.0	0.0	9,394	0.00	0.13	0.00

# Crash Summary I

## Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	K	A	B	C	PD	Injury Crashes	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
39199	41324	219447	0 - 1.20	0016X - 180.88 ST RTE 16	1.20	1	0	0	0	1	2	1	33.3 Statewide Crash Rate:	0.01282	78.00	293.52	0.00
1906134	ALT, RTE 16, BROWN BR														147.17		
64506	41324	2748137	0 - 0.03	0016X - 182.08 ST RTE 16	0.03	1	0	0	0	0	0	0	0.0 Statewide Crash Rate:	0.00028	0.00	629.60	0.00
Int of BENNOCH RD, RD INV 3201740															147.17		
65215	64506	2784225	0 - 0.15	0016X - 182.11 ST RTE 16	0.15	1	0	0	0	2	1	2	66.7 Statewide Crash Rate:	0.00139	721.36	511.53	1.41
Int of BENNOCH RD, RD INV 3201917															147.17		
41213	65215	2784224	0 - 0.02	0016X - 182.26 ST RTE 16	0.02	1	0	0	0	0	0	0	0.0 Statewide Crash Rate:	0.00018	0.00	572.56	0.00
Int of BENNOCH RD, RAMP OFF TO BENNOCH RD															147.17		
64507	41324	2748139	0 - 0.03	19A1892 - 0 RD INV 19 A1892	0.03	1	0	0	0	0	0	0	0.0 Statewide Crash Rate:	0.00007	0.00	-901.46	0.00
Int of RAMP ON FROM BENNOCH RD, RD INV 3201740															61.19		
41323	64507	2748138	0 - 0.19	19A1892 - 0.03 RD INV 19 A1892	0.19	1	0	0	0	0	1	0	0.0 Statewide Crash Rate:	0.00091	366.91	263.72	1.39
Int of I 95 SB, RAMP ON FROM BENNOCH RD															61.19		
64506	64507	2748141	0 - 0.03	3201740 - 0 RD INV 3201740	0.03	1	0	0	0	0	0	0	0.0 Statewide Crash Rate:	0.00007	0.00	-876.47	0.00
Int of BENNOCH RD, RD INV 3201740															61.19		
41212	65214	2784222	0 - 0.16	19B1892 - 0 RD INV 19 B1892	0.16	1	0	0	1	0	1	0	50.0 Statewide Crash Rate:	0.00047	1409.32	243.76	5.78
Int of I 95, RAMP OFF TO BENNOCH RD															61.19		
65214	41213	2784223	0 - 0.02	19B1892 - 0.16 RD INV 19 B1892	0.02	1	0	0	0	0	0	0	0.0 Statewide Crash Rate:	0.00003	0.00	-3380.83	0.00
Int of RAMP OFF TO BENNOCH RD, RD INV 3201917															61.19		
65214	65215	2784808	0 - 0.02	3201917 - 0 RD INV 3201917	0.02	1	0	0	0	0	0	0	0.0 Statewide Crash Rate:	0.00003	0.00	-3493.62	0.00
Int of RAMP OFF TO BENNOCH RD, RD INV 3201917															61.19		
<b>Study Years:</b>	<b>3:00</b>				<b>1.85</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>44.4</b>	<b>0.01625</b>	<b>184.58</b>	<b>265.97</b>	<b>0.69</b>
<b>Section Totals:</b>																	
<b>Grand Totals:</b>					<b>1.85</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>44.4</b>	<b>0.01625</b>	<b>184.58</b>	<b>301.18</b>	<b>0.61</b>

# Crash Summary

## Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes			Crash Report	Crash Date	Crash Mile Point	Injury Degree			
						K	A	B					C	PD	
39199	41324	219447	0 - 1.20	0016X - 180.88	3	0	0	0	1	2	2009-10890	05/06/2009	180.98	C	
											2008-7481	02/08/2008	181.08	PD	
											2009-7717	04/03/2009	181.38	PD	
64506	41324	2748137	0 - 0.03	0016X - 182.08	0	0	0	0	0	0	2009-26074	10/14/2009	182.13	C	
65215	64506	2784225	0 - 0.15	0016X - 182.11	3	0	0	0	2	1	2010-28181	12/06/2010	182.13	PD	
											2009-26073	10/14/2009	182.15	C	
41213	65215	2784224	0 - 0.02	0016X - 182.26	0	0	0	0	0	0					
64507	41324	2748139	0 - 0.03	19A1892 - 0	0	0	0	0	0	0					
41323	64507	2748138	0 - 0.19	19A1892 - 0.03	1	0	0	0	0	1	2009-2621	01/28/2009	0.20	PD	
64506	64507	2748141	0 - 0.03	3201740 - 0	0	0	0	0	0	0					
41212	65214	2784222	0 - 0.16	19B1892 - 0	2	0	0	1	0	1	2010-11363	06/08/2010	0.01	B	
											2008-14856	06/08/2008	0.02	PD	
65214	41213	2784223	0 - 0.02	19B1892 - 0.16	0	0	0	0	0	0					
65214	65215	2784808	0 - 0.02	3201917 - 0	0	0	0	0	0	0					
<b>Totals:</b>					<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>5</b>				



Maine Department Of Transportation - Traffic Engineering, Crash Records Section  
**Crash Summary II - Characteristics**

Crashes by Day and Hour

Day Of Week	Hour of Day												Un	Tot													
	AM						PM																				
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot	
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
MONDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
TUESDAY	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
WEDNESDAY	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	4
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FRIDAY	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	

Crashes by Year and Month

Month	2008	2009	2010	Total
JANUARY	0	1	0	1
FEBRUARY	1	0	0	1
MARCH	0	0	0	0
APRIL	0	1	0	1
MAY	0	1	0	1
JUNE	1	0	1	2
JULY	0	0	0	0
AUGUST	0	0	0	0
SEPTEMBER	0	0	0	0
OCTOBER	0	2	0	2
NOVEMBER	0	0	0	0
DECEMBER	0	0	1	1
<b>Total</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>9</b>

Vehicle Counts by Type

Unit Type	Total
1-2 Door	0
2-4 Door	4
3-Convertible	0
4-Station Wagon	0
5-Van	1
6-Pickup Truck	2
7-SUV	2
10-Truck Tractor Only (Bobtail)	0
12-School Bus	0
13-Motor Home	0
14-Motorcycle	1
15-Moped	0
16-Motor Bike	0
17-Bicycle	0
18-Snowmobile	0
20-2 Axle Single Unit with Dual Tires	0
21-2 Axle Tractor with Single Axle Semi	0
22-2 Axle Tractor with Tandem Axle Semi	0
25-2 Axle Tractor with Single Axle Semi & 2 Axle Trailer	0
30-3 Axle Single Unit	0
31-3 Axle Tractor with Single Axle Semi	0
32-3 Axle Tractor with Tandem Axle Semi	0
33-3 Axle Tractor with Tridem Axle Semi	0
35-3 Axle Tractor with Single Axle Semi & 2 Axle Trailer	0
36-3 Axle Tractor with Tandem Axle Semi & 2 Axle Trailer	0
37-5 Axle Semi; Split Trailer Tandem	0
38-6 Axle Semi; Split Trailer Tandem with Center Axle	0
39-6 Axle; Standard Trailer Tandem with Center Axle	0
40-4 Axle Single Unit	0
42-4 Axle Tractor with Tandem Axle Semi	0
50-Any Other Axle Configuration	0
60-Other Unit	0
70-ATV	0
81-2 Axle Bus	0
82-3 Axle Bus	0
98-Farm Vehicles / Tractors	0
99-Unknown	0
<b>Total</b>	<b>10</b>

Maine Department Of Transportation - Traffic Engineering, Crash Records Section  
**Crash Summary II - Characteristics**

**Crashes by Apparent Contributing Factor And Driver**

Apparent Contributing Factor	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Improper Action	5	1	0	0	0	0	6
Failure to Yield Right of Way	0	0	0	0	0	0	0
Illegal Unsafe Speed	1	0	0	0	0	0	1
Following Too Close	1	0	0	0	0	0	1
Disregard Traffic Control Device	0	0	0	0	0	0	0
Driving Left of Center Not Passing	0	0	0	0	0	0	0
Improper Passing, Overtaking	0	0	0	0	0	0	0
Improper Unsafe Lane Change	0	0	0	0	0	0	0
Improper Parking Start, Stop	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Unsafe Backing	0	0	0	0	0	0	0
No Signal or Improper Signal	0	0	0	0	0	0	0
Impeding Traffic	0	0	0	0	0	0	0
Driver Inattention, Distraction	1	0	0	0	0	0	1
Driver Inexperience	0	0	0	0	0	0	0
Pedestrian Violation Error	0	0	0	0	0	0	0
Physical Impairment	0	0	0	0	0	0	0
Vision Obscured, Windshield Glass	0	0	0	0	0	0	0
Vision Obscured, Sun, Headlights	0	0	0	0	0	0	0
Other Vision Obscurement	0	0	0	0	0	0	0
Other Human Violation Factor	0	0	0	0	0	0	0
Hit and Run	0	0	0	0	0	0	0
Defective Brakes	0	0	0	0	0	0	0
Defective Tire, Tire Failure	0	0	0	0	0	0	0
Defective Lights	0	0	0	0	0	0	0
Defective Suspension	0	0	0	0	0	0	0
Defective Steering	0	0	0	0	0	0	0
Other Vehicle Defect or Factor	1	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>

**Crashes by Apparent Physical Condition And Driver**

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Normal	9	1	0	0	0	0	10
Under the Influence	0	0	0	0	0	0	0
Had Been Drinking	0	0	0	0	0	0	0
Had Been Using Drugs	0	0	0	0	0	0	0
Asleep	0	0	0	0	0	0	0
Fatigued	0	0	0	0	0	0	0
ill	0	0	0	0	0	0	0
Handicapped	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>

**Driver Age by Unit Type**

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	1	0	0	0	0	1
20-24	3	0	0	0	0	3
25-29	1	0	0	0	0	1
30-39	0	0	0	0	0	0
40-49	2	0	0	0	0	2
50-59	2	0	0	0	0	2
60-69	1	0	0	0	0	1
70-79	0	0	0	0	0	0
80-Over	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
<b>Total</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>

## Crash Summary II - Characteristics

Fixed Object Struck		Total
1-Construction, Barricades Equipment, etc.	0	0
2-Traffic Signal	0	0
3-R.R. Crossing Device	0	0
4-Light Pole	0	0
5-Utility Pole (Tel. Electrical)	0	0
6-Sign Structure Post	0	0
7-Mail Boxes or Posts	0	0
8-Other Poles, posts or supports	0	0
9-Fire Hydrant/Parking Meter	0	0
10-Tree or Shrubbery	0	0
11-Crash Cushion	0	0
12-Median Safety Barrier	0	0
13-Bridge Piers (including protective guard rails)	0	0
14-Other Guardrails	4	4
15-Fencing (not median barrier)	0	0
16-Culvert Headwall	0	0
17-Embankment, Ditch, Curb	0	0
18-Building, Wall	0	0
19-Rock Outcrops or Ledge	0	0
20-Other	1	1
21-Gate or Cable	0	0
22-Pressure Ridge	0	0
<b>Total</b>		<b>5</b>

Traffic Control Devices		Total
1-Traffic Signals (Stop & Go)	0	0
2-Traffic Flashing	0	0
3-Overhead Flashers	0	0
4-Stop Signs - All Approaches	0	0
5-Stop Signs - Other	0	0
6-Yield Sign	0	0
7-Curve Warning Sign	0	0
8-Officer, Flagman, School Patrol	0	0
9-School Bus Stop Arm	0	0
10-School Zone Sign	0	0
11-R.R. Crossing Device	0	0
12-No Passing Zone	0	0
13-None	9	9
14-Other	0	0
<b>Total</b>		<b>9</b>

Road Character		Total
1-Level Straight	5	5
2-Level Curved	2	2
3-On Grade Straight	2	2
4-On Grade Curved	0	0
5-Top of Hill Straight	0	0
6-Top of Hill Curved	0	0
7-Bottom of Hill Straight	0	0
8-Bottom of Hill Curved	0	0
9-Other	0	0
<b>Total</b>		<b>9</b>

Injury Data		
Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	1	1
C	3	3
PD	5	0
<b>Total</b>	<b>9</b>	<b>4</b>

Light		Total
1-Dawn (Morning)	0	0
2-Daylight	5	5
3-Dusk (Evening)	0	0
4-Dark (Street Lights On)	1	1
5-Dark (No Street Lights)	3	3
6-Dark (Street Lights Off)	0	0
7-Other	0	0
<b>Total</b>		<b>9</b>

# Crash Summary II - Characteristics

## Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five Leg Intersection	Driveways	Bridges	Interchanges	Other	Total
Object in Road	2	0	0	0	0	0	2	0	0	4
Rear End / Sideswipe	0	0	0	0	0	0	0	0	0	0
Head-on / Sideswipe	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0
Ran Off Road	0	0	0	0	0	0	0	2	0	2
All Other Animal	0	0	0	0	0	0	0	0	0	0
Bike	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	1	0	1
Submersion	0	0	0	0	0	0	0	0	0	0
Rock Thrown	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0
Deer	2	0	0	0	0	0	0	0	0	2
Moose	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>9</b>

# Crash Summary II - Characteristics

## Crashes by Weather, Light Condition and Road Surface

Weather Light	Debris	Dry	Ice, Packed Snow, Not Sanded	Ice, Packed Snow, Sanded	Muddy	Oily	Other	Snow Slush, Not Sanded	Snow, Slush, Sanded	Wet	Total
<b>Blowing Sand or Dust</b>											
Dark (No Street Lights)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	0	0	0	0	0	0	0	0	0
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Clear</b>											
Dark (No Street Lights)	0	2	1	0	0	0	0	0	0	0	3
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	0	0	0	0	0	0	0	0	0
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	1	0	0	0	0	0	0	0	0	1
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Cloudy</b>											
Dark (No Street Lights)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	1	0	0	0	0	0	0	0	1
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	1	0	0	0	0	0	0	0	0	1
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Fog, Smog, Smoke</b>											
Dark (No Street Lights)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	0	0	0	0	0	0	0	0	0
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0

# Crash Summary II - Characteristics

## Crashes by Weather, Light Condition and Road Surface

Weather Light	Debris	Dry	Ice, Packed Snow, Not Sanded	Ice, Packed Snow, Sanded	Muddy	Oily	Other	Snow Slush, Not Sanded	Snow, Slush, Sanded	Wet	Total
<b>Other</b>											
Dark (No Street Lights)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	0	0	0	0	0	0	0	0	0
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Rain</b>											
Dark (No Street Lights)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	0	0	0	0	0	0	0	0	0
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	1	1
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Severe Cross Winds</b>											
Dark (No Street Lights)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	0	0	0	0	0	0	0	0	0
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Sleet, Hail, Freezing Rain</b>											
Dark (No Street Lights)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	0	0	0	0	0	0	0	0	0
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0

# Crash Summary II - Characteristics

## Crashes by Weather, Light Condition and Road Surface

Weather Light	Debris	Dry	Ice, Packed Snow, Not Sanded	Ice, Packed Snow, Sanded	Muddy	Oily	Other	Snow Slush, Not Sanded	Snow, Slush, Sanded	Wet	Total
<b>Snow</b>											
Dark (No Street Lights)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights Off)	0	0	0	0	0	0	0	0	0	0	0
Dark (Street Lights On)	0	0	0	0	0	0	0	0	0	0	0
Dawn (Morning)	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	1	0	0	0	1	0	0	2
Dusk (Evening)	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>9</b>

**ATTACHMENT 6**

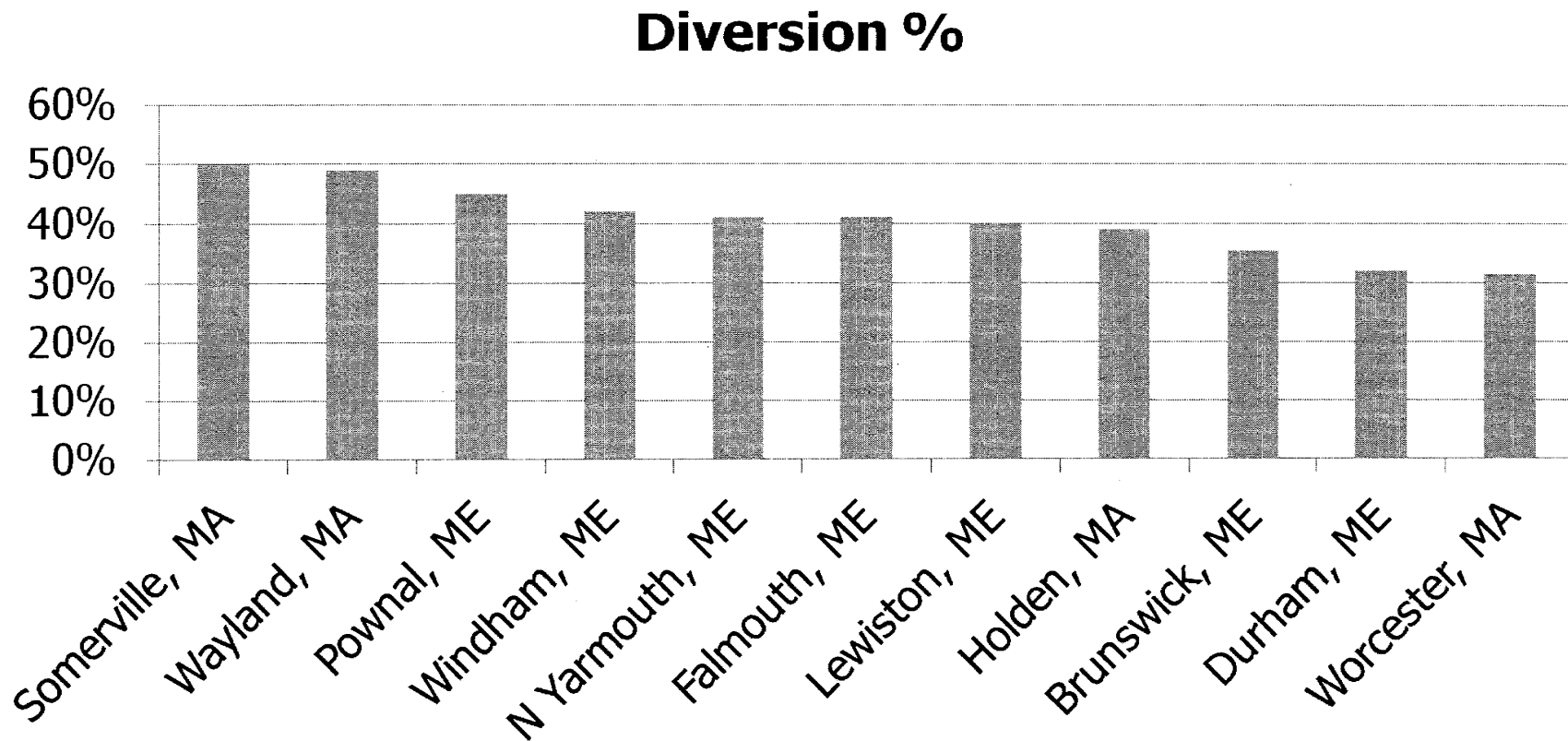
**SUMMARY OF TRI-COUNTY RECYCLING PROGRAMS AND  
CWS SUMMARY OF WASTE DIVERSION RATES FOR COMMUNITIES  
THAT HAVE ZERO-SORT® RECYCLING PROGRAMS**



### Summary of Tri-County Recycling Efforts

Community	Recycling Program	RECYCLED MATERIALS - NO LONGER IN WASTE STREAM
Acton	YES	CORRUGATED CARDBOARD, NEWSPAPER, MAGAZINES, GLASS, METAL, ALUMINUM, TIN, HIGH DENSITY POLYETHYLENE PLASTICS, POLYETHYLENE TERAPHTHELATE PLASTICS, OTHER MATERIALS, TIRES
Alfred	YES	PLASTIC #1-7, GLASS , TIN, ALUMINUM, CORRUGATED CARDBOARD, NEWSPAPER & MAGAZINE, MIXED PAPER, PRESSBOARD, FLOURESCENT TUBES, WOOD
Biddeford	YES	RECYCLING CENTER - PAPER, CARDBOARD, MILK JUGS, PLASTIC # 1 & 2, TIN CANS, GLASS, STEEL, AUTOMOTIVE BATTERIES, BRUSH, LEAVES, GRASS, TIRES, OIL. TRANSFER STATION - LARGE ITEMS, DEMO DEBRIS
Buxton	YES	METAL CANS, ALUMINUM, GLASS, OPAQUE #2 PLASTIC, COLORED #2 PLASTIC, NEWSPAPER & MAGAZINE, CORRUGATED CARDBOARD, BOXBOARD, OFFICE PAPER &JUNK MAIL
Cornish	YES	CORRUGATED CARDBOARD, NEWSPAPER, RESIDENTIAL MIXED PAPER, METAL, ALUMINUM, TIN CANS, OTHER MATERIALS
Dayton	YES / SINGLE SORT	CARDBOARD, NEWSPAPER, BOOKS, SHOPPING BAGS, PLASTIC # 1-7, CANS, POTS & PANS, GLASS, FOIL, AEROSOL CANS, UNIVERSAL WASTE, FUEL, PAINT, ANTIFREEZE
Kennebunk	YES / TWO SORT	CARDBOARD, PAPER, BOOKS, MAGAZINES, PLASTIC # 1-7, GLASS, TIN CANS, ALUMINUM
Kennebunkport	YES / SINGLE SORT	PAPER, METAL TIN & ALUMINUM CANS, PLASTIC # 1-7, GLASS
North Berwick	YES	GLASS, TIN CANS, ALUMINUM CANS, NEWSPAPER & PHONE BOOKS, CORRUGATED CARDBOARD, WASTE OIL, SCRAP METAL, MIXED PAPER, MAGAZINES, BOOKS, BULKY WASTE
Old Orchard Beach	YES	CORRUGATED CARDBOARD, NEWSPAPER, GLASS, METAL, TIN, OTHER MATERIALS, YARD WASTE, CONSTRUCTION/DEMOLITION DEBRIS, TIRES, WOOD WASTE
Sanford	YES / SINGLE SORT	ALL PAPER, PLASTIC # 1-7, TIN CANS, ALUMINUM, POTS & PANS, GLASS
Shapleigh	YES	OFFICE PAPER, CORRUGATED CARDBOARD, NEWSPAPER, RESIDENTIAL MIXED PAPER, GLASS, METAL.
South Berwick	YES	PLASTIC # 1-7, ALUMINUM CANS, TIN CANS, GLASS, CARDBOARD, MIXED PAPER, METAL, WOOD, BRUSH, CONSTRUCTION/DEMOLITION DEBRIS
Wells	YES	CARDBOARD, PAPER, BOTTLES & CANS, PLASTIC # 1-7, OIL, GRASS, LEAVES, WOOD PALLETS

# Examples of Recycling Rates



Recycling has reduced the overall disposal costs of solid waste management in all the communities we serve.

**ATTACHMENT 7**  
**CIVIL AND CRIMINAL DISCLOSURE**

**State of Maine**  
**Department of Environmental Protection**  
**Disclosure Statement for NEWSME Landfill Operations LLC**

**August 2012**

Applicant: NEWSME Landfill Operations LLC.  
Immediate/Ultimate Parent Company: New England Waste Services of ME, Inc.

Criminal and Civil Record Disclosure is required by owner, operator or any person having a legal interest in the applicant or the facility and shall disclose whether said owner, operator or person has been convicted of any criminal law or adjudicated or otherwise found to have committed any civil violation of environmental laws or rules of the State, other states, the United States or another country. Such an adjudication or finding can be by means of a court order or consent decree, or by means of an administrative order or agreement.

Disclosure is required by:

Officers, Directors, Partners

All persons or business concerns having managerial or executive authority *and* having more than 5 percent of the equity in or debt of that business.

All persons or business concerns having a 25 percent or greater financial interest in the applicant.

Managerial person with operational responsibility of the facility

**Corporate Disclosure:**

A disclosure concerning the applicant is attached hereto.

**Officers, Directors and Partners of NEWSME Landfill Operations LLC:**

**DIRECTORS**

John W. Casella Director	Douglas R. Casella Director	Edwin Johnson Director
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**OFFICERS**

John W. Casella President	Edwin Johnson Vice President
Secretary	Treasurer

Douglas R. Casella  
Vice President

PERSONS with MANAGERIAL / EXECUTIVE AUTHORITY:

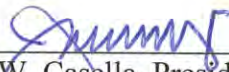
Regional Vice President: Brian Oliver

EQUITY / DEBT OWNERSHIP:

One Hundred Percent of the Equity in NEWSME Landfill Operations LLC is held by New England Waste Services of ME, Inc. A disclosure form is attached with respect to New England Waste Services of ME, Inc.

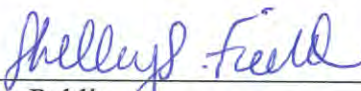
Submitted to the Department of Environmental Conservation for the State of Maine, as required by the General Provisions of Chapter 400 of the Maine Department of Environmental Protection Regulations.

Dated this 27<sup>th</sup> day of August, 2012

  
\_\_\_\_\_  
John W. Casella, President and Secretary  
NEWSME Landfill Operations LLC

STATE OF VERMONT  
COUNTY OF RUTLAND

On the 27<sup>th</sup> day of August, 2012, personally appeared John W. Casella, President and Secretary of NEWSME Landfill Operations LLC and acknowledged the foregoing to be his free act and deed and the free act and deed of NEWSME Landfill Operations LLC.

  
\_\_\_\_\_  
Notary Public





**Maine Disclosure Form**

Name	<b>NEWSME Landfill Operations LLC</b>	
Business Address	358 Emerson Mill Road, Hampden, ME	
Home Address (if app.)	Not Applicable	
Date of Birth	Incorporated September 18, 2003	
Social Security or Tax ID	20-0735025	
Criminal Convictions	No	* If yes – Give date and explanation of conviction, together with the State in which the conviction occurred
	xxxxx	
Civil Violations	Explain any adjudicated civil violation(s) of environmental laws or rules administered by the State, other states, the United States or another country in the 5 years immediately preceding the filing of this application.	
Explanation	<b>None Adjudicated</b>	
Consent Decrees and Administrative Orders	List and explain administrative orders and consent decrees entered into by or administrative orders for violations of environmental laws administered by the Department, the State, other States, the United States or another country in the 5 years immediately preceding the filing of this application.	
	<b>None.</b>	
Other Proceedings	List and explain any ongoing court proceeding, administrative consent agreement negotiation, or similar ongoing administrative enforcement action not already provided in which disclosing entity or person is a party and which concerns environmental laws administered by the Department or State.	
Civil Proceedings:	<b>None.</b>	
Other Information	List any agencies outside the State of Maine that have regulatory responsibilities over the applicant in connection with its collection, transportation, treatment, storage or disposal of solid or hazardous wastes and any other information required by the Department of the Attorney General that relates to the enforcement history or character of the applicant.	
	<b>Army Corps of Engineers U.S. Environmental Protection Agency</b>	
Entities in Which Person or Entity Executing Disclosure has 5% or Greater Equity Interest	<b>None.</b>	

**State of Maine**  
**Department of Environmental Protection**  
**Disclosure Statement for New England Waste Services of ME, Inc.**

**August 2012**

Applicant: NEWSME Landfill Operations LLC

Criminal and Civil Record Disclosure is required by owner, operator or any person having a legal interest in the applicant or the facility and shall disclose whether said owner, operator or person has been convicted of any criminal law or adjudicated or otherwise found to have committed any civil violation of environmental laws or rules of the State, other states, the United States or another country. Such an adjudication or finding can be by means of a court order or consent decree, or by means of an administrative order or agreement.

Disclosure is required by:

Officers, Directors, Partners

All persons or business concerns having managerial or executive authority *and* having more than 5 percent of the equity in or debt of that business.

All persons or business concerns having a 25 percent or greater financial interest in the applicant.

Managerial person with operational responsibility of the facility

**Corporate Disclosure:**

A disclosure concerning the applicant is attached hereto.

**Officers, Directors and Partners of New England Waste Services of ME, Inc:**

DIRECTORS

John W. Casella Director	Douglas R. Casella Director
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OFFICERS

John W. Casella President Secretary	Brian Oliver Vice President	Edwin Johnson Vice President Treasurer	Jay Kilbourn Vice President
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Douglas R. Casella  
Vice President

PERSONS with MANAGERIAL / EXECUTIVE AUTHORITY:

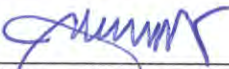
Regional Vice President: Brian Oliver

EQUITY / DEBT OWNERSHIP:

One Hundred Percent of the Equity in New England Waste Services of ME, Inc. is held by Casella Waste Systems, Inc. A disclosure form is attached with respect to Casella Waste Systems, Inc.

Submitted to the Department of Environmental Conservation for the State of Maine, as required by the General Provisions of Chapter 400 of the Maine Department of Environmental Protection Regulations.

Dated this 27th day of August, 2012

  
\_\_\_\_\_  
John W. Casella, President and Secretary  
New England Waste Services of ME, Inc.

STATE OF VERMONT  
COUNTY OF RUTLAND

On the 27th day of August, 2012, personally appeared John W. Casella, President and Secretary of New England Waste Services of ME, Inc. and acknowledged the foregoing to be his free act and deed and the free act and deed of New England Waste Services of ME, Inc.

  
\_\_\_\_\_  
Notary Public

**SHELLEY S. FIELD**  
Notary Public, State of Vermont  
My Commission Expires Feb. 10, 2015



**Maine Disclosure Form**

Name	<b>New England Waste Services of ME, Inc.</b>	
Business Address	135 Presumpscot Street, Unit #1, Portland, ME 04102	
Home Address (if app.)	Not Applicable	
Date of Birth	Incorporated October 11, 1974	
Social Security or Tax ID	01-0329311	
Criminal Convictions	No	* If yes – Give date and explanation of conviction, together with the State in which the conviction occurred
	xxxxx	
Civil Violations	Explain any adjudicated civil violation(s) of environmental laws or rules administered by the State, other states, the United States or another country in the 5 years immediately preceding the filing of this application.	
Explanation	<b>None Adjudicated</b>	
Consent Decrees and Administrative Orders	List and explain administrative orders and consent decrees entered into by or administrative orders for violations of environmental laws administered by the Department, the State, other States, the United States or another country in the 5 years immediately preceding the filing of this application.	
	<b>None</b>	
Other Proceedings	List and explain any ongoing court proceeding, administrative consent agreement negotiation, or similar ongoing administrative enforcement action not already provided in which disclosing entity or person is a party and which concerns environmental laws administered by the Department or State.	
Civil Proceeding	<b>Please see attached</b>	
Other Information	List any agencies outside the State of Maine that have regulatory responsibilities over the applicant in connection with its collection, transportation, treatment, storage or disposal of solid or hazardous wastes and any other information required by the Department of the Attorney General that relates to the enforcement history or character of the applicant.	
	<b>Army Corps of Engineers</b> <b>U.S. Environmental Protection Agency</b> <b>Pennsylvania Department of Environmental Protection</b> <b>New York State Department of Environmental Conservation</b> <b>Vermont Agency of Natural Resources</b> <b>New Hampshire Department of Environmental Services</b> <b>Massachusetts Department of Environmental Protection</b> <b>Rhode Island Department of Environmental Management</b> <b>Connecticut Department of Environmental Protection</b> <b>The Department of Motor Vehicles in the following states: PA, NY, VT, NH, MA, RI, CT</b>	
Entities in Which Person or Entity Executing Disclosure has 5% or Greater Equity Interest	<b>New England Waste Services of ME, Inc. is the owner of:</b> <b>NEWSME Landfill Operations LLC (Applicant) and</b> <b>EcoGas</b> <b>25 Greens Hill Lane</b> <b>Rutland, VT 05701</b>	

Maine Disclosure Form

Name	Douglas R. Casella	
Business Address	25 Greens Hill Lane, Rutland, Vermont 05701	
Home Address (if app.)	3 Stone Hollow Road Mendon, Vermont 05701	
Date of Birth	06/23/1956	
Social Security or Tax ID	009-44-9325	
Criminal Convictions	No	* If yes – Give date and explanation of conviction, together with the State in which the conviction occurred
	xxxxx	
Civil Violations	Explain any adjudicated civil violation(s) of environmental laws or rules administered by the State, other states, the United States or another in the 5 years immediately preceding the filing of this application.	
Explanation	No Violations	
Consent Decrees and Administrative Orders	List and explain administrative orders and consent decrees entered into by or administrative orders for violations of environmental laws administered by the Department, the State, other States, the United States or another country in the 5 years immediately preceding the filing of this application.	
	None	
Other Proceedings	List and explain any ongoing court proceeding, administrative consent agreement negotiation, or similar ongoing administrative enforcement action not already provided in which disclosing entity or person is a party and which concerns environmental laws administered by the Department or State.	
	None	
Other Information	List any agencies outside the State of Maine that have regulatory responsibilities over the applicant in connection with its collection, transportation, treatment, storage or disposal of solid or hazardous wastes and any other information required by the Department of the Attorney General that relates to the enforcement history or character of the applicant.	
	See Applicant Disclosure	
Entities in Which Person or Entity Executing Disclosure has 5% or Greater Equity Interest	No interest equal or exceeding 5% of any entity that collects, transports, treats, stores or disposes of solid or hazardous waste, per Chapter 400, Maine Department of Environmental Protection Regulations.	
	8/30/2012	Douglas R Casella
	Date	Signature
		Douglas R. Casella

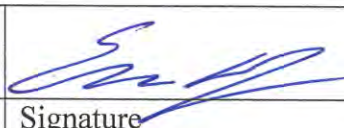
STATE OF VERMONT  
COUNTY OF RUTLAND

On the 30<sup>th</sup> day of August, 2012, personally appeared Douglas R. Casella personally appeared and acknowledged the foregoing to be his free act and deed.

Ang L Colvett  
Notary Public  
My Commission Expires 2/2015

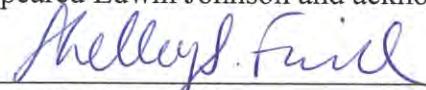


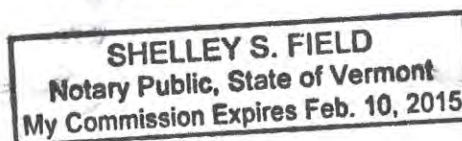
Maine Disclosure Form

Name	Edwin Johnson	
Business Address	25 Greens Hill Lane, Rutland, Vermont 05701	
Home Address (if app.)		
Date of Birth	09/01/1956	
Social Security or Tax ID	263-27-8396	
Criminal Convictions	No	* If yes – Give date and explanation of conviction, together with the State in which the conviction occurred
	xxxxx	
Civil Violations	Explain any adjudicated civil violation(s) of environmental laws or rules administered by the State, other states, the United States or another in the 5 years immediately preceding the filing of this application.	
Explanation	None	
Consent Decrees and Administrative Orders	List and explain administrative orders and consent decrees entered into by or administrative orders for violations of environmental laws administered by the Department, the State, other States, the United States or another country in the 5 years immediately preceding the filing of this application.	
	None	
Other Proceedings	List and explain any ongoing court proceeding, administrative consent agreement negotiation, or similar ongoing administrative enforcement action not already provided in which disclosing entity or person is a party and which concerns environmental laws administered by the Department or State.	
	None	
Other Information	List any agencies outside the State of Maine that have regulatory responsibilities over the applicant in connection with its collection, transportation, treatment, storage or disposal of solid or hazardous wastes and any other information required by the Department of the Attorney General that relates to the enforcement history or character of the applicant.	
	See Applicant Disclosure	
Entities in Which Person or Entity Executing Disclosure has 5% or Greater Equity Interest	No interest equal or exceeding 5% of any entity that collects, transports, treats, stores or disposes of solid or hazardous waste, per Chapter 400, Maine Department of Environmental Protection Regulations.	
	8/27/2012	
	Date	Signature
		Edwin Johnson

STATE OF VERMONT  
 COUNTY OF RUTLAND

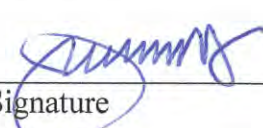
On the 27<sup>th</sup> day of August, 2012, personally appeared Edwin Johnson and acknowledged the foregoing to be his free act and deed.

  
 Notary Public



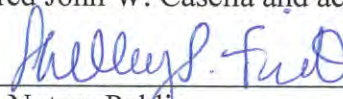


Maine Disclosure Form

Name	John W. Casella	
Business Address	25 Greens Hill Lane, Rutland, Vermont 05701	
Home Address (if app.)	67 Ives Avenue, Rutland, Vermont 05701	
Date of Birth	12/05/1950	
Social Security or Tax ID	008-40-4460	
Criminal Convictions	No	* If yes – Give date and explanation of conviction, together with the State in which the conviction occurred
	xxxxx	
Civil Violations	Explain any adjudicated civil violation(s) of environmental laws or rules administered by the State, other states, the United States or another in the 5 years immediately preceding the filing of this application.	
Explanation	None	
Consent Decrees and Administrative Orders	List and explain administrative orders and consent decrees entered into by or administrative orders for violations of environmental laws administered by the Department, the State, other States, the United States or another country in the 5 years immediately preceding the filing of this application.	
	None	
Other Proceedings	List and explain any ongoing court proceeding, administrative consent agreement negotiation, or similar ongoing administrative enforcement action not already provided in which disclosing entity or person is a party and which concerns environmental laws administered by the Department or State.	
	None	
Other Information	List any agencies outside the State of Maine that have regulatory responsibilities over the applicant in connection with its collection, transportation, treatment, storage or disposal of solid or hazardous wastes and any other information required by the Department of the Attorney General that relates to the enforcement history or character of the applicant.	
	See Applicant Disclosure	
Entities in Which Person or Entity Executing Disclosure has 5% or Greater Equity Interest	No interest equal or exceeding 5% of any entity that collects, transports, treats, stores or disposes of solid or hazardous waste, per Chapter 400, Maine Department of Environmental Protection Regulations.	
	8/27/2012	
	Date	Signature
		John W. Casella

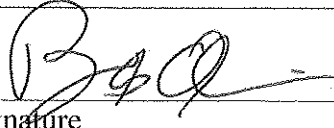
STATE OF VERMONT  
COUNTY OF RUTLAND

On the 27th day of August, 2012, personally appeared John W. Casella and acknowledged the foregoing to be his free act and deed.

  
Notary Public

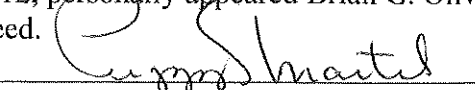
**SHELLEY S. FIELD**  
Notary Public, State of Vermont  
My Commission Expires Feb. 10, 2015

Maine Disclosure Form

Name	Brian G. Oliver	
Business Address	110 Main Street, Suite 1308, Saco, Maine 04072	
Home Address (if app.)	10 Dunn Estates Drive, Scarborough Maine 04074	
Date of Birth	07-23-1961	
Social Security or Tax ID	008-48-5376	
Criminal Convictions	No	* If yes – Give date and explanation of conviction, together with the State in which the conviction occurred
	xxxxx	
Civil Violations	Explain any adjudicated civil violation(s) of environmental laws or rules administered by the State, other states, the United States or another in the 5 years immediately preceding the filing of this application.	
Explanation	None	
Consent Decrees and Administrative Orders	List and explain administrative orders and consent decrees entered into by or administrative orders for violations of environmental laws administered by the Department, the State, other States, the United States or another country in the 5 years immediately preceding the filing of this application.	
	None	
Other Proceedings	List and explain any ongoing court proceeding, administrative consent agreement negotiation, or similar ongoing administrative enforcement action not already provided in which disclosing entity or person is a party and which concerns environmental laws administered by the Department or State.	
	None	
Other Information	List any agencies outside the State of Maine that have regulatory responsibilities over the applicant in connection with its collection, transportation, treatment, storage or disposal of solid or hazardous wastes and any other information required by the Department of the Attorney General that relates to the enforcement history or character of the applicant.	
	See Applicant Disclosure	
Entities in Which Person or Entity Executing Disclosure has 5% or Greater Equity Interest	None	
	8/29/12	
	Date	Signature
		Brian G. Oliver

STATE OF MAINE  
COUNTY OF YORK

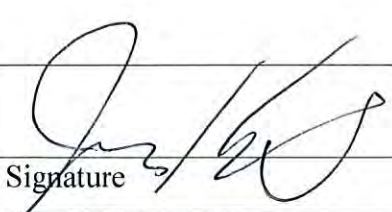
On the 29<sup>th</sup> day of August 2012, personally appeared Brian G. Oliver and acknowledged the foregoing to be his free act and deed.

  
Notary Public

Peggy S. Martel, Notary Public  
State of Maine  
My Commission Expires on 4/18/2017



Maine Disclosure Form

Name	Jonathan Kilbourn	
Business Address	13 Presumpscot Street, Unit #1, Portland, Maine 04103	
Home Address (if app.)	14 Bourne Street, Kennebunk, Maine 04043	
Date of Birth	05/08/1954	
Social Security or Tax ID	019-36-9320	
Criminal Convictions	No	* If yes – Give date and explanation of conviction, together with the State in which the conviction occurred
	xxxxx	
Civil Violations	Explain any adjudicated civil violation(s) of environmental laws or rules administered by the State, other states, the United States or another in the 5 years immediately preceding the filing of this application.	
Explanation	None	
Consent Decrees and Administrative Orders	List and explain administrative orders and consent decrees entered into by or administrative orders for violations of environmental laws administered by the Department, the State, other States, the United States or another country in the 5 years immediately preceding the filing of this application.	
	None	
Other Proceedings	List and explain any ongoing court proceeding, administrative consent agreement negotiation, or similar ongoing administrative enforcement action not already provided in which disclosing entity or person is a party and which concerns environmental laws administered by the Department or State.	
	None	
Other Information	List any agencies outside the State of Maine that have regulatory responsibilities over the applicant in connection with its collection, transportation, treatment, storage or disposal of solid or hazardous wastes and any other information required by the Department of the Attorney General that relates to the enforcement history or character of the applicant.	
	See Applicant Disclosure	
Entities in Which Person or Entity Executing Disclosure has 5% or Greater Equity Interest	None	
	August 29, 2012	
	Date	
		Jonathan Kilbourn

STATE OF MAINE  
COUNTY OF YORK

On the 29th day of August 2012, personally appeared Jay Kilbourn and acknowledged the foregoing to be his free act and deed.

  
Notary Public

My commission expires  
November 26, 2016

**New England Waste Service of ME, Inc.  
5 Year Environmental Compliance History**

Name of Entity Cited	Location of Alleged Violation	Name of Citing Entity	Type of Notice	Date of Inspection or Incident	Date of Violation/Order	Nature of Violation/Alleged Violation	Disposition	Penalty
Casella Waste Management, Inc. dba New England Organics (should be <b>New England Waste Services of ME, Inc.</b> )	Roberts Farm Field, Weathersfield, VT	VTDEC Environmental Enforcement Division	Enforcement Action	November 12, 2007	March 4, 2009	NEO brokered certified granulated biosolid pelletized fertilizer generated by New England Fertilizer Company (NFCO) in Quincy, MA to the Roberts Farm in Weathersfield, VT. On November 12th ANR responded to odor complaints and allege that NEO "unlawfully disposed of solid waste outside a certified facility and caused a nuisance to the public".	NEWSME/NEO contacted ANR counsel on March 12, 2009 to discuss and request to meet. On March 19, 2009, ANR forwarded Investigation file. NEWSME/NEO met with ANR on June 9, 2009; NEO is to provide ANR with additional information in writing. On October 7, 2009 we received a letter from ANR that no further action will be taken.	None
New England Waste Services of ME, Inc. (aka Pinetree Landfill)	Pinetree Landfill, Hampden, ME	Town of Hermon, Maine	Administrative Show Cause Order	Not Applicable	July 23, 2009	On July 23, 2009 the Town of Hermon, Maine issued an Administrative Show Cause Order to Pinetree Landfill alleging that the facility was in violation of the Wastewater Discharge Permit #S018 and the Sewer Use Ordinance of the Town of Hermon.	On August 26, 2009 PTLF representatives met with the Town of Hermon and Bangor WWTF to discuss concerns about impacts to the sewer system, including; flows, concentrations of H2S at Odlin Rd Pump Station and cost of maintenance. PTLF met with Hermon and Bangor WWTF again on October 26, 2009. The Town worked with PTLF to develop BMPs and entered into a MOU to resolve the matter; PTLF agreed to pay for sewer system improvements.	None
New England Waste Services of ME, Inc. (aka Pinetree Landfill)	Pinetree Landfill, Hampden, ME	Town of Brewer, Maine WWTF	Notice of Violation	February 1, 2010	April 1, 2010	NOV issued to PTLF for leachate analysis above allowable arsenic level	Analysis level was 0.102 mg/L which was 0.002 mg/L above the limit of 0.1 mg/L, although the overall average was 0.0951 mg/L. We responded in writing on April 6, 2010; within 10 days of issuance as required in the NOV.	None anticipated.
New England Waste Services of ME, Inc. (aka Pinetree Landfill)	Pinetree Landfill, Hampden, ME	Bangor WWTF	Notice of Violation	June 22, 2012	June 29, 2012	Notice of Violation was issued by the Bangor WWTF to NEWSME for releasing a load of tank bottom sludge from the leachate storage tank during routine leachate tank cleaning June 20-21, 2012.	Response submitted. See Response to July 9, 2012 Administrative Order below.	Resolution Pending
New England Waste Services of ME, Inc. (aka Pinetree Landfill)	Pinetree Landfill, Hampden, ME	Town of Hermon, Me	Administrative Order	May 2, 2011	July 9, 2012	Administrative Order (AO) issued to NEWSME (Pinetree Landfill) by the Town of Hermon for allegedly releasing a slug of tank bottom sludge during routine leachate tank cleaning. Leachate from the landfill is piped to the Bangor WWTF via Hermon sewer system.	Response was submitted on July 20, 2012 - PTL disagreed with the allegations outlined in the AO; no maintenance activities resulted in any release of sludge. Any discharge to the Hermon WWTF was landfill leachate, any and all sludge from the cleaning was disposed of at the Juniper Ridge Landfill. Copies of disposal tickets were provided with the response. The Town of Hermon responded stating that they disagreed with the PTL's position that the conditions of the AO remain fully active; they requested that the submission of the Standard Operating Procedures that indicates how any release will be prevented during future maintenance activities be submitted by August 10th, 2012. PTL staff met with the Town of Hermon on August 6th, 2012.	Resolution Pending

Criminal or Civil Record for the Bureau of General Services

August 24, 2012

*All applicants for a new or amended license, or transfer of a solid waste license, shall submit, at the time of application, a disclosure statement with the Department containing information, as described in Maine Department of Environmental Protection's Solid Waste Management Rules, Chapter 400, Section 12.*

1. The facility, known as Juniper Ridge Landfill, is owned by the State of Maine, through the Bureau of General Services, 77 State House Station, Augusta, Maine 04333-0077. The State's Federal Employer Identification number is 016000001. The Director of the Bureau of General Services is Donald McCormack, 77 State House Station, Augusta, Maine 04333-0077
2. The Bureau of General Services does not hold an equity interest in any company which collects, transports, treats, stores or disposes of solid or hazardous waste.
3. The Bureau of General Services has no felony conviction or criminal convictions of environmental laws of any state or county.
4. The Bureau of General Services has no adjudicated civil violations of environmental laws.
5. The Bureau of General Services is not a party to any ongoing court proceedings, consent agreements or enforcement actions concerning environmental laws administered by the DEP or the State.
6. The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency have regulatory responsibility over the Agency in connection with the disposal of solid waste at the Juniper Ridge Landfill site.
7. Neither the DEP nor the Maine Attorney General's Office has requested information, other than listed here, relating to the character of the Bureau of General Services.
8. The applicant has not entered into any administrative consent agreements or consent decrees for violations of environmental laws.



**ATTACHMENT 8**

**LEACHATE TREATMENT AGREEMENTS AND PRETREATMENT  
STANDARDS FOR THE CITY OF BREWER MAINE**

AMENDMENT TO LEACHATE  
DISPOSAL AGREEMENT

This Amendment to Leachate Disposal Agreement ("Amendment"), made and entered into as of this 2nd day of November, 2006 by and between RED SHIELD ENVIRONMENTAL, LLC, a Delaware limited liability company ("Red Shield"), and NEW ENGLAND WASTE SERVICES OF ME, LANDFILL OPERATION COMPANY, LLC ("NEWSMELOC"), a Maine limited liability company with a place of business in Saco, Maine.

WITNESSETH:

WHEREAS, NEWSMELOC and Fort James Operating Company ("FJ") entered into a Leachate Disposal Agreement (the "Agreement"), dated as of February 5, 2004;

WHEREAS, FJ has ceased operation of the WTP (as defined in the Agreement) and, on or about this date, is conveying the WTP and certain other assets of FJ located in Old Town, Maine to the State of Maine, acting by and through the Maine Rural Development Authority (the "State"), which in turn, on or about this date, is conveying such assets to Red Shield; and

WHEREAS, in order to induce Casella Waste Systems, Inc., an affiliate of NEWSMELOC, to enter into certain agreements in connection with such asset transfers, all of FJ's rights and obligations under the Agreement have been assigned to and assumed by Red Shield, under an assignment and assumption agreement of near or even date herewith, to which assignment and assumption NEWSMELOC hereby consents; and

WHEREAS, the parties are willing to agree to certain amendments to the Agreement;

NOW, THEREFORE, in consideration of the terms and conditions of this Amendment and the mutual benefits to be derived, the parties hereto agree as follows:

1. The recitals and identification of the parties to this Amendment set forth above are incorporated by this reference as though fully set forth herein.
2. The Agreement is hereby amended to cause all references to "leachate" to mean "the liquid or semi-solid residue from waste deposited at the Landfill and (i) either collected within a liner system to be installed at the Landfill, or (ii) otherwise collected at the Landfill for disposal."

3. The first recital of the Agreement is hereby amended and restated in its entirety as follows:

WHEREAS, FJ owns and intends in the future to operate a certain Wastewater Treatment Plant located at the FJ paper mill in Old Town, Maine (the "WTP"), that is intended to provide for the treatment and disposal of wastewater pursuant to duly issued and valid licenses and permits; and

4. The definition of Landfill Sale Agreement is hereby amended to mean the Amended and Restated Agreement Regarding Solid Waste Disposal Facility Acquisition and Operation dated February 5, 2004, as amended by the First Amendment to the Amended and Restated Agreement Regarding Solid Waste Disposal Facility Acquisition and Operation of near or even date herewith.

5. The fifth recital of the Agreement is hereby amended by deleting the words "to the WTP" therefrom.

6. Section 1.1 of the Agreement is hereby amended and restated in its entirety as follows:

1.1 During the term of the capacity commitments under Section 5.1 of the Landfill Sale Agreement, FJ or its successors and assigns or successor owners, shall provide at least one source for treatment of leachate produced at the Landfill (the "Source" or "Sources"), for a five-year rolling average of up to fifteen million (15,000,000) gallons of leachate per year (the "Disposal Average"), which may include by way of example and not in limitation, processing at its WTP subject to the conditions specified herein, processing at the Old Town waste water treatment facility, and/or processing at the Brewer waste water treatment facility; provided, however, that in no event shall FJ be obligated to provide one or more sources of treatment for more than seventeen million five hundred thousand (17,500,000) gallons of leachate in any single year.

The Disposal Average will be calculated over a rolling five-year period. At the end of each five-year period, any unused capacity shall be credited to NEWSMELOC for the following rolling five-year period, and FJ shall bill NEWSMELOC for the disposal of any leachate in excess of the Disposal Average for the cost incurred by FJ with respect to such excess.

7. Section 1.2 of the Agreement is hereby amended and restated in its entirety as follows:

1.2 Each owner and/or operator of a Source shall only be required to receive and treat leachate from the Landfill at such Source in accordance with all applicable laws, regulations, permits, approvals and the provisions set forth herein during the term of this Agreement.

8. Section 1.3 of the Agreement is hereby amended by replacing the word "WTP" with the following: "Source designated by FJ from time to time and at any time, at NEWSMELOC's sole cost and expense, subject, however, to the reimbursement provisions hereof,".

9. Section 1.4 of the Agreement is hereby amended and restated in its entirety as follows:

1.4 NEWSMELOC shall exercise its best and most diligent efforts to cooperate with FJ to establish a leachate disposal agreement with the City of Old Town as one of the Sources.

10. Section 3.1 of the Agreement is hereby amended to read in its entirety as follows:

3.1 There shall be no fee for the treatment of Landfill leachate at the WTP. Effective as of the earlier of (a) the Start Date (as defined in a certain "Old Town Leachate Agreement" by and among Red Shield, NEWSMELOC, and the City of Old Town, of near or even date hereof), or (b) fifty-six (56) days following the date hereof, FJ shall reimburse NEWSMELOC for the cost of disposal fees assessed to, and incurred by NEWSMELOC for the disposal of leachate at the other Sources designated by FJ, not including transportation costs, testing costs, costs of pretreating leachate, or other costs (the "Additional Costs"); provided, however, that in the event the Additional Costs at Sources other than WTP exceed the Additional Costs NEWSMELOC would incur to dispose of leachate at the WTP, under the terms of this Agreement, FJ shall reimburse NEWSMELOC for the difference within thirty (30) days after receipt of NEWSMELOC's invoice thereof. For the year ending on the first anniversary of the Start Date, the disposal fee for which FJ shall reimburse NEWSMELOC shall not exceed \$300,000 plus fifty percent (50%) of any incremental disposal costs (in excess of \$300,000) and any Additional Costs incurred by NEWSMELOC that exceed the Additional Costs NEWSMELOC would incur to dispose of leachate at the WTP.

11. Articles 4, 5 and 6 of the Agreement shall only apply to the disposal of leachate at WTP.

12. Section 4.4.8 of the Agreement is hereby deleted in its entirety.

13. The Agreement is hereby amended by inserting Article 6A after Article 6 as follows:

**ARTICLE 6A. RULES AND REQUIREMENTS AT OTHER SOURCES**

NEWSMELOC shall comply with, observe and perform at its sole cost and expense, subject to section 3.1 of the Agreement, as amended hereby, the requirements of each other Source regarding leachate disposal procedures, limitations on leachate, and leachate sampling and monitoring requirements, including, without limitation, any chemical pretreatment of the leachate.

14. Section 7.3 of the Agreement is hereby amended by replacing the words "accept and treat leachate from NEWSMELOC" in the third line with the following "dispose, or cause to be disposed, leachate from NEWSMELOC, at any and all Sources,".

15. The Agreement is hereby amended by inserting the following section:

12.3 Either party may terminate this Agreement in the event that NEWSMELOC is recirculating all of the leachate produced at the Landfill, and has obtained all permits, licenses, and approvals necessary in order to do so.

16. Section 14.7 of the Agreement is hereby amended to read in its entirety as follows:

14.7 This Agreement shall not be assigned by either party without the written consent of the other, which consent shall not be unreasonably withheld or delayed. Notwithstanding the preceding sentence, however, this Agreement may be assigned by NEWSMELOC without consent to any entity controlling, controlled by, or under common control with NEWSMELOC, provided, however, that such entity shall by virtue of such assignment assume all of the liabilities, obligations and commitments of NEWSMELOC hereunder and provided further that NEWSMELOC shall not be relieved of any such liabilities, obligations and commitments hereunder.

17. The Agreement is hereby amended by deleting in its entirety the "Acknowledgement of Arbitration" provision therefrom.

18. Notwithstanding anything in the Agreement to the contrary, Red Shield shall have the unrestricted right to mortgage and pledge its rights under the

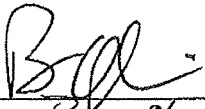
Agreement without the State's consent, and encumber the Agreement with any type of security interest to secure debt, or other similar instrument creating a lien or other encumbrance on Red Shield's interest in the Agreement, regardless of the priority thereof (hereinafter, "Security Interest," and each lender with a Security Interest, a "Lender"), any assignment thereof and any modification or amendment of any of the terms thereof, including, without limitation, any extension, renewal or refinancing of any indebtedness secured thereby or an additional advance secured by any Security Interest or any additional Security Interest given to secure the same. A Lender, or its designee, or any purchaser in foreclosure proceedings (including, without limitation, an entity formed by a Lender) may become a legal owner of Red Shield's interest under the Agreement through such foreclosure proceedings or by assignment of Red Shield's interest under the Agreement in lieu of foreclosure. A Lender may enforce its rights under its Security Interest and acquire title to Red Shield's interest in the Agreement in any lawful way. The parties agree that nothing in the Agreement shall be deemed to impose any liability or obligation on (i) any mortgagee or secured party that may at any time hold a mortgage lien on or a security interest in the Agreement, or (ii) any party that becomes a mortgagee in possession, secured party in possession or receiver with respect to the Agreement. With respect to a party that is assigned the rights under the Agreement through a mortgage foreclosure, secured party sale or deed or bill of sale in lieu thereof, such party shall assume the obligations and liabilities under the Agreement first arising as of the date of such assignment.

19. In all other respects, the Agreement shall remain in full force and effect in accordance with its terms.


[Signature page follows]

IN WITNESS WHEREOF, the undersigned have caused this Amendment to be executed and delivered by their duly authorized representatives as of the day and year first above written.

NEW ENGLAND WASTE SERVICES  
OF ME, LANDFILL OPERATING  
COMPANY, LLC

By:   
Name: Brian Oliver  
Title: Authorized Agent

RED SHIELD ENVIRONMENTAL, LLC

By:   
Name: Edward T. Pastawski  
Title: Chairman



**ASSIGNMENT AND ASSUMPTION OF LEASES AND CONTRACTS**

THIS ASSIGNMENT AND ASSUMPTION OF LEASES AND CONTRACTS (“Agreement”) is made effective as of this 31<sup>st</sup> day of October, 2008 (“Effective Date”), by and among **Red Shield Environmental, LLC**, a Delaware limited liability company (“Red Shield”), **RSE Pulp & Chemical, LLC**, a Delaware limited liability company (together with Red Shield, “Assignors”), and **Red Shield Acquisition, LLC**, a Delaware limited liability company (“Assignee”).

**RECITALS**

WHEREAS, Assignors filed a voluntary petition for relief under Chapter 11 of the Bankruptcy Code on June 27, 2008 and, since that time, Assignors have remained in possession of their property and continued to operate their businesses pursuant to Sections 1107 and 1108 of the Bankruptcy Code; and

WHEREAS, Assignors, intending to sell substantially all of their business assets and to assign certain of their contractual and Lease obligations to Assignee, entered into an Asset Purchase Agreement, dated as of October 22, 2008, by and among Assignors and Assignee (the “Asset Purchase Agreement”); and

WHEREAS, pursuant to the Asset Purchase Agreement, Assignors desire to assign to Assignee their entire interest in and to the Assumed Contracts and the Leases listed on Schedule 2.1(a) of the Asset Purchase Agreement as of the Closing (the “Assumed Leases”), all of which are further described on Exhibit A attached hereto and made a part hereof, and Assignee desires to accept such assignment and to assume all liabilities and obligations of each Assignor under the Assumed Contracts and Assumed Leases, in each case only to the extent arising and relating to the period from and after the Effective Date, consistent with the terms of the Asset Purchase Agreement; and

WHEREAS, capitalized terms used herein without definition shall have the meanings ascribed to such terms in the Asset Purchase Agreement.

NOW, THEREFORE, in consideration of the covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Assignment. Assignors, for themselves, their successors and assigns, hereby irrevocably convey, sell, assign, set over and transfer unto Assignee as of the Effective Date, all of Assignors’ right, title and interest in and to the Assumed Contracts and Assumed Leases, the receipt and delivery of each of which is expressly acknowledged by Assignee; such assignment is being made pursuant to the terms of, and subject to the limitations set forth in, the Asset Purchase Agreement.

2. Assumption. In accordance with the Asset Purchase Agreement and the Assumed Contracts and Assumed Leases, Assignee, for itself, its successors and assigns, hereby assumes and agrees to observe, keep, carry out, perform and satisfy all Assumed Liabilities under the Assumed Contracts and Assumed Leases from and after the Effective Date (the “Assumed”).



Obligations”). Assignee and Assignors hereby covenant and agree that Assignee shall be directly liable under each Assumed Contract and Assumed Lease for the payment, performance, observance and satisfaction of all of the Assumed Obligations when and in the manner required by each Assumed Contract and Assumed Lease in the same manner as if Assignee had originally been named as an original party under each Assumed Contract and Assumed Lease and had executed and delivered the same. Without limiting the foregoing, Assignee acknowledges that, to the extent any payments are required to cure defaults under the Assumed Contracts and Leases in accordance with 11 U.S.C. § 365, Assignee shall be solely responsible for the making of such payments.

3. Indemnification. Assignee shall defend, indemnify and hold Assignors harmless from and against any and all damages, losses, liabilities, judgments, suits, actions, causes of action, equitable proceedings, claims, demands, costs and expenses (including, without limitation, reasonable attorneys’ fees and charges) arising out of, as a result of or incidental to any failure by Assignee for whatever reason to observe, keep, carry out, perform and satisfy any or all of the Assumed Obligations as, with and in the manner required by the Assumed Contracts and Assumed Leases.

4. Further Assurances. Assignors, at Assignee’s expense, agree to execute all papers and perform such other acts, as Assignee may deem necessary to secure for Assignee the rights herein assigned.

5. Headings. The headings used herein are inserted for convenience of reference only and shall not define, limit, extend or describe the scope of this Agreement or affect the construction or interpretation hereof.

6. Binding Effect. This Agreement shall be binding upon, and shall inure to the benefit of and be enforceable by, the parties hereto and their respective successors and permitted assigns.

7. Complete Agreement; Purchase Agreement Controls. This Agreement and the Asset Purchase Agreement set forth the entire agreement by and between Assignors and Assignee concerning the subject matter hereof; provided, however, nothing in this Agreement shall expand upon or limit any right, benefit, responsibility, liability or obligation of Assignee or Assignors arising under the Asset Purchase Agreement, which Asset Purchase Agreement shall govern as to the representations and warranties of the parties with respect to the Assumed Contracts and Assumed Leases transferred pursuant to this Agreement. In the event of a conflict between the provisions of this Agreement, on the one hand, and the provisions of the Asset Purchase Agreement, on the other hand, the provisions of the Asset Purchase Agreement shall control.

8. Governing Law; Jurisdiction. This Agreement shall be governed, construed and interpreted by, and in accordance with, the laws of the State of Maine, excluding choice of law rules or rulings. This Agreement is subject to any order of the Bankruptcy Court applicable hereto.

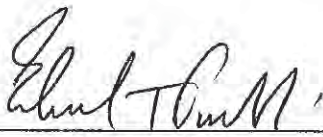
9. Counterparts; Facsimile Signatures. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall

constitute one and the same instrument. This Agreement may be executed and delivered by facsimile.

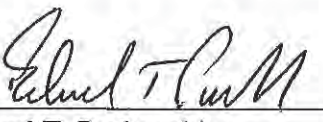
[Signatures are on the following page]

IN WITNESS WHEREOF, this Agreement has been duly executed by each of the parties hereto with the intention that this Agreement be effective as of the Effective Date.

RED SHIELD ENVIRONMENTAL, LLC

By:   
Name: Edward T. Paslawski  
Title: Manager

RSE PULP & CHEMICAL, LLC

By:   
Name: Edward T. Paslawski  
Title: Manager

RED SHIELD ACQUISITION, LLC

By: \_\_\_\_\_  
Name: Lynn Tilton  
Title: Sole Manager

IN WITNESS WHEREOF, this Agreement has been duly executed by each of the parties hereto with the intention that this Agreement be effective as of the Effective Date.

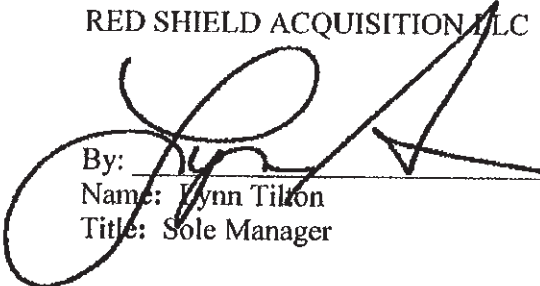
RED SHIELD ENVIRONMENTAL, LLC

By: \_\_\_\_\_  
Name: Edward T. Paslawski  
Title: Manager

RSE PULP & CHEMICAL, LLC

By: \_\_\_\_\_  
Name: Edward T. Paslawski  
Title: Manager

RED SHIELD ACQUISITION, LLC

By:  \_\_\_\_\_  
Name: Lynn Tilton  
Title: Sole Manager



## EXHIBIT A

### ASSUMED CONTRACTS AND ASSUMED LEASES

1. Labor Agreement between Red Shield Environmental, LLC (Old Town, Maine) and United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (USW) — AFL-CIO, CLC, on behalf of its Local Union #4-0080 (November 2, 2006 – September 30, 2011).
2. NEWSME, LLC (Landfill)
  - A) Amendment and Restatement of Agreement Regarding Solid Waste Disposal Facility Acquisition and Operation, dated February 5, 2004, as amended from time to time.
  - B) Fuel Supply Agreement, dated as of November 2, 2006.
  - C) Old Town Leachate Disposal Agreement, dated as of November 2, 2006.
  - D) Leachate Disposal Agreement, dated as of February 5, 2004, as amended by Amendment to Leachate Disposal Agreement, dated as of November 2, 2006.
3. Central National Gottesman, Inc.  
Woodpulp Sales Agency Agreement, dated as of April 13, 2007.
4. Linde Inc./BOC (Oxygen)  
Product Agreement, dated by last signature as of August 14, 2007.
5. Nalco Company (Waste Treatment)  
Recovery Boiler Leak Indication Agreement, dated September 7, 2007.
6. PP&L Great Works, LLC (Water and Power)  
Facilities Agreement dated as of March 2, 2000 as amended from time to time.  
  
No defaults; no cure costs.  
Related Agreements (Non-Executory) being conveyed to Purchaser:  
Separation Agreement dated as of March 2, 2000.  
Reciprocal Easement Agreement dated February 28, 2000.
7. PPL EnergyPlus, LLC  
  
Standby Facilities Use Agreement dated November 2, 2006.
8. Independent Consultant Agreement between The Net Works and Red Shield Environmental, LLC dated December 7, 2006.

9. The Net Works Statement of Work for WSI EmailPlus between Red Shield Environmental, LLC and The Net Works dated December 7, 2006.
10. Consent to Software License Assignment and Release Letter Agreement between ABB Inc., Georgia-Pacific Corporation and Red Shield Environmental, LLC dated November 1, 2006.
11. Telecommunications Service Agreement between Red Shield Environmental, LLC and Mid-Maine Communications.
12. Contract for the Acquisition and Implementation of SAP Business One between N'ware Technologies, Inc. and RSE Pulp & Chemical, LLC dated March 27, 2007.
13. License Upgrade for SAP Business One between N'ware Technologies and RSE Pulp & Chemical, LLC dated October 29, 2007.
14. SAP Business One Software License Agreement between SAP America, Inc. and RSE Pulp & Chemical, LLC dated May 31, 2007.
15. End user Software License Agreement and Maintenance Agreement between Ceecom, Inc. and RSE Pulp & Chemical, LLC.
16. Software License Agreement, dated March 4, 2008, by and between Capstone Technology Corporation and Sellers.

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

In accordance with the provisions of the Sewer and Pretreatment Ordinance, Chapter 31 of the City Ordinances:

**NEWSME, LLC**  
**2828 Bennoch Road**  
**Alton, ME 04468**

is hereby authorized to discharge leachate from the above identified facility into the City of Brewer's Water Pollution Control Facility in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this permit.

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of this permit.

This permit shall become effective on March 3, 2008 and shall expire at midnight on March 2, 2013.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application must be filed for reissuance of this permit a minimum of 90 days prior to the above expiration date. If the permittee makes timely application for reissuance, but the City does not reissue a permit prior to the expiration date, the permittee shall have the right to continue to discharge under the terms and conditions of the most recent expired permit for a period of time not to exceed 90 days.

This permit may be appealed to the Brewer City Council within 30 days of the date of issue.

By: Kenneth W. Locke  
Director of Environmental Services

Kenneth W. Locke

Lucien J. Colburn  
Pretreatment Coordinator

Lucien J. Colburn

Issued this Third day of March, 2008.

Industry Name NEWSME, LLC

Permit No. 37-2679-07

Part 1 - APPLICABLE EFFLUENT LIMITATIONS

SECTION 1 - EFFLUENT DISCHARGE LIMITS

- A. The City of Brewer's Treatment Facility will be considered as the ~~primary~~ secondary discharge location.
- B. During the effective period of this permit, the permittee is required to contact the City of Brewer's Water Pollution Control Facility for **authorization** from the Director or his representative to discharge leachate into the designated disposal point at the City of Brewer's Water Pollution Control Facility. The leachate will have to be sampled and analyzed by the City of Brewer the first day that leachate is trucked to the Water Pollution Control Facility.

Description of Designated Disposal Point:

The leachate will be discharged into the #1 Primary Clarifier at the head end of the treatment facility. A permanent 6" line is installed in the Clarifier launder to discharge leachate below the water surface to help eliminate odors during receiving of leachate. The disposal point may be changed by the Water Pollution Control Facility when it deems necessary. (At the discretion of the Brewer WPCF, delivery of leachate may be stopped at any time due to excess municipal flow, operational problems that may cause interference or passthrough, or any leachate condition that may jeopardize the biological system. (ie: excess volume, high ammonia content, toxicity due to odor control chemicals, etc.)

**Any other discharge is prohibited**

- C. During the effective period of this permit, the discharge from designated disposal point shall not exceed the following effluent limitations. In addition, the discharge shall comply with all other applicable regulations and standards contained in Chapter 31 of the City Ordinances and all current EPA pretreatment requirements for Industrial users.

Industry Name NEWSME, LLC

Permit No. 37-2679-07



## EFFLUENT LIMITATIONS

### LOCAL LIMITS

<u>Parameter</u>	<u>Discharge Limits</u>
Arsenic	<u>0.10</u> mg/l
Cadmium	<u>0.14</u> mg/l
Chromium	<u>2.64</u> mg/l
Copper	<u>2.59</u> mg/l
Cyanide	<u>0.25</u> mg/l
Lead	<u>0.26</u> mg/l
Mercury	<u>0.02</u> mg/l
Molybdenum	<u>0.77</u> mg/l
Nickel	<u>2.59</u> mg/l
Selenium	<u>10.01</u> mg/l
Silver	<u>0.66</u> mg/l
Zinc	<u>MAHL</u>

D. The permittee shall not discharge leachate into the designated disposal point;

(1) Having a pH lower than 5.5 or higher than 11.0, or having any other corrosive property capable of causing damage or hazards to structures, equipment or personnel of the sewer system. (If at any time, an odor masking or eliminating agent (ex. Shock) is used in any application, the Brewer WPCF will be notified prior to shipping any leachate. The Brewer WPCF will also receive prior notification any time caustic or acid is used to clean leachate collection lines, equipment, or tank on the truck or at the landfill.)

(2) Having a temperature higher than 105°F

(3) Causing interference with the Brewer Water Pollution Control Facility. Interference shall mean a discharge which alone or in conjunction with a discharge or discharges from other sources, both (1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and (2) therefore is a cause of a violation of any requirements of the POTW's MEPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State and local regulations): Section 405 of the Clean Water Act, The Solid Waste Disposal Act (SWDA) (also referred to as RCRA, and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the (SWDA), the Clean Air Act, the

Toxic Substances Control Act, and the Marine Protection,  
Research and Sanctuaries Act.

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Industry Name NEWSME, LLC

Permit No. 37-2679-07

- (4) Causing a Pass Through of the Brewer Water Pollution Control Facility. A Pass Through shall mean a discharge that exits the POTW into the receiving waters in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's MEPDES permit (including an increase in the magnitude or duration of the violation).
- (5) Containing petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through.
- (6) Containing any pollutant including oxygen demanding pollutants (e.g., BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference or pass through.
- (7) Containing pollutants which result in the presence of toxic gases, vapors or fumes within the Brewer WPCF in a quantity that may cause acute worker health and safety problems.
- (8) Containing any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquids, solids or gases, and any material having a flash point of 140°F or below.
- (9) Containing any grease or oils of petroleum origin, whether emulsified or not, in excess of 100 mg/l or containing substances which may solidify or become viscous between 32°F and 140°F.
- (10) Containing any sand, shavings, metal, glass, rags, plastics, wood, or any other substance capable of causing obstructions or interference with the operation of the treatment facility.

Industry Name NEWSME, LLCPermit NO. 37-2679-07

## PART 2 - MONITORING AND REPORTING REQUIREMENTS

SECTION 1 - MONITORING REQUIREMENTS

A. For the effective period of this permit the permittee shall monitor leachate for the following:

<u>Parameter</u>	<u>(units)</u>	<u>Location</u>	<u>Frequency</u>	<u>Type</u>	<u>Notes</u>
Conductance	(umhos/cm)	(1)	X 3 months	Comp	(2)
Flow	(gpd)	(1)	X 3 months		(7)
pH	(stu)	(1)	X 3 months	Grab	(2) (3)
BOD	(mg/l)	(1)	X 3 months	Comp	(2)
COD	(mg/l)	(1)	X 3 months	Comp	(2)
Hardness	(mg/l)	(1)	X 3 months	Comp	(2)
TDS	(mg/l)	(1)	X 3 months	Comp	(2)
TSS	(mg/l)	(1)	X 3 months	Comp	(2)
Oil & Grease	(mg/l)	(1)	X 3 months	Grab	(2) (4)
Alkalinity	(mg/l)	(1)	X 3 months	Comp	(2)
Arsenic	(mg/l)	(1)	X 3 months	Comp	(2)
Barium	(mg/l)	(1)	X 3 months	Comp	(2)
Cadmium	(mg/l)	(1)	X 3 months	Comp	(2)
Calcium	(mg/l)	(1)	X 3 months	Comp	(2)
Chloride	(mg/l)	(1)	X 3 months	Comp	(2)
Chromium	(mg/l)	(1)	X 3 months	Comp	(2)
Copper	(mg/l)	(1)	X 3 months	Comp	(2)
Cyanide	(mg/l)	(1)	X 3 months	Grab	(2) (5)
Iron	(mg/l)	(1)	X 3 months	Comp	(2)
Lead	(mg/l)	(1)	X 3 months	Comp	(2)
Magnesium	(mg/l)	(1)	X 3 months	Comp	(2)
Manganese	(mg/l)	(1)	X 3 months	Comp	(2)
Mercury *	(mg/l)	(1)	X 3 month	Comp	(2)
Molybdenum	(mg/l)	(1)	X 3 months	Comp	(2)
Nickel	(mg/l)	(1)	X 3 months	Comp	(2)
Phosphorus	(mg/l)	(1)	X 3 months	Comp	(2)
Selenium	(mg/l)	(1)	X 3 months	Comp	(2)
Silver	(mg/l)	(1)	X 3 months	Comp	(2)
Sodium	(mg/l)	(1)	X 3 months	Comp	(2)
Sulfate	(mg/l)	(1)	X 3 months	Comp	(2)
Vanadium	(mg/l)	(1)	X 3 months	Comp	(2)
Zinc	(mg/l)	(1)	X 3 months	Comp	(2)
EPA 624	(mg/l)		X 3 months	Comp	(2)
Volatile Organics		(1)		Comp/	(6)
EPA 625	(mg/l)		X 36 months	Grab	
Semi-Volatile Organics		(1)	X 36 months	Grab	(6)

Industry Name NEWSME, LLC Permit No. 37-2679-07

Ammonia Nitrogen (mg/l)	(1)	X 3 months	Grab (2)
Organic Nitrogen (mg/l)	(1)	X 3 months	Grab (2)
TKN (mg/l)	(1)	X 3 months	Grab (2)

Notes:

- (1) Samples are collected from the leachate storage tank as it is pumped to the tank truck before it is delivered to the treatment plant. One quarterly sample will be collected by Brewer WPCF personnel in conjunction with NEWSME Landfill Operations, LLC (to be paid for by NEWSME Landfill Operations, LLC) during the annual inspection of the site. (Only if leachate is hauled into Brewer during any calendar year)
  - (2) Definitions of sample types can be found in Part 4 Section 1 of this permit.
  - (3) The pH will be sampled for each tanker and recorded.
  - ~~(4) The Oil & Grease is a quarterly test.~~
  - (4) Mercury samples will be collected using EPA Method 1669, and tested using EPA Method 1631.
  - (5) A grab sample for Cyanide will be randomly be collected from one tanker.
  - (6) These parameters will be monitored ~~quarterly~~ semi-annually.
  - (7) The combined volume of the tankers delivered will be totaled to provide the calculated flow for the sampling period.
  - (8) Volatile Organics and Semi-Volatile Organics ~~may~~ will be tested ~~decreased from 4x/yr to 2x/yr. if results in the first year of the permit are Non-detect, or below water quality standards.~~
- B. All handling and preservation of collected samples and laboratory analysis of samples shall be performed in accordance with 40 CFR, Part 136 and amendments thereto unless specified otherwise in the monitoring conditions of this permit.

SECTION 2 - REPORTING REQUIREMENTS

A. Monitoring Reports

Quarterly reports are required for all parameters listed. Reports are due on the 15th day of the month following the end of the quarter. The reports are due on April 15, July

15, October 15 and January 15. (If leachate is hauled to the Brewer WPCF, the last two testing quarter lab analyses will be sent to Brewer for review, prior to leachate acceptance.)

- B. ~~The City of Brewer Water Pollution Control Facility will accept analytical results collected from one of the quarterly analysis that the permittee is required to complete.~~

(If deemed necessary by the WPCF, the Permittee will assess the need for compliance schedules in accordance with 40 CFR 403.8 (f)(1)(iv).

(If deemed necessary by the WPCF, the Permittee will assess the need for a slug control plan in accordance with 40 CFR 403.8 (f)(2)(v).

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Industry Name NEWSME, LLC

Permit NO. 37-2679-07

- C. If the permittee monitors any pollutants more frequently than required by this permit and such monitoring is performed using testing and sampling procedures approved hereunder, the results of such monitoring shall be submitted to the City's Water Pollution Control Facility with the next quarterly report after the results become available.

- D. All reports required by this permit shall be submitted to the City of Brewer's Water Pollution Control Facility at the following address, or such other person and address as the City may designate:

City of Brewer Water Pollution Control Facility  
Attn.: Lucien Colburn, Pretreatment Coordinator  
37 Oak Street  
Brewer, Maine 04412

or City of Brewer Water Pollution Control Facility  
Attn.: Kenneth Locke, Director of Environmental Services  
37 Oak Street  
Brewer, Maine 04412

### Part 3 - SPECIAL CONDITIONS

#### SECTION 1 - ADDITIONAL/SPECIAL MONITORING REQUIREMENTS

- A. Forward a copy of the existing or modified spill prevention and control plan to the Brewer WPCF Director.
- B. If results indicate that a violation has occurred of

pollutants that are limited in the permit the permittee must notify the City of Brewer's WPCF Director within 24 hours of becoming aware of the violation. The permittee must repeat the sampling and pollutant analysis and submit, in writing, the results of this second analysis within 30 days of becoming aware of the violation.

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Industry Name NEWSME, LLC

Permit No. 37-2679-07

PART 4 - STANDARD CONDITIONS

SECTION 1 - DEFINITIONS

Unless the context indicates otherwise, the meaning of the terms and abbreviations used in this permit shall be as defined in the City's Sewer and Pretreatment Ordinance, Chapter 31 of the City of Brewer Ordinances and as it may be amended from time to time. Terms not defined by the City of Brewer's Sewer and Pretreatment Ordinance shall be as defined in the Pretreatment Regulations of the U.S. EPA, found in CFR 40, Part 403. Terms not defined by either of the above-described sources shall have their customary dictionary meaning.

- A. Grab sample, for monitoring requirements, is defined as an individual sample which is taken from a Wastestream(s) on a one time basis without regard to the flow in the Wastestream(s) and without consideration of time.
- B. Composite sample: The sample resulting from the combination of individual wastewater samples taken at selected intervals based on an increment of either flow or time.
- C. Daily maximum effluent limit is defined as the maximum allowable discharge of pollutant during a calendar day. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the flow weighted average measurement of the pollutant derived from all measurements taken that day.
- D. Monthly average effluent limit is defined as the arithmetic average of all daily determinations of concentration made during a calendar month.
- E. Sanitary Sewage (same as Domestic Sewage) is defined as water and water-carried wastes normally discharged into

sanitary sewers from dwellings, including single family homes, multi-family homes and motels, from office buildings, factories and institutions, but not including storm water drainage or surface water drainage and not including industrial wastes as defined in the Sewer/Pretreatment Ordinance (Chapter 31) and as same may be amended from time to time.

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Industry Name NEWSME, LLC

Permit No. 37-2679-07

SECTION 2 - GENERAL CONDITIONS

A. Duty to Comply

The permittee must comply with all conditions of this permit. Failure to comply with the requirements of these regulations will be grounds for administrative action, or enforcement proceedings including civil or criminal penalties, as the same may be provided by law, injunctive relief, termination of sewer service and summary abatements.

B. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment from noncompliance with this permit, including additional monitoring to determine the impact of the discharge.

C. Permit Action

This permit may be modified, revoked and reissued, or terminated for causes including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation;
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge;
- d. Information indicating that the permitted discharge poses a threat to human health or welfare;
- e. Upon the request of the permittee, provided such request does not create a violation of any existing applicable

requirements, standards, laws, or rules and regulations;

- f. Material or substantial alterations or additions to the discharger's operation or level of production which were not covered in the effective permit;
- g. To incorporate any existing, new or revised Federal, State, or Local Pretreatment Standards or requirements which the City is required to incorporate into this permit by any State and/or Federal agency.

Page 10 of 15

Industry Name NEWSME, LLC

Permit No. 37-2679-07

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Property and Contract Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.

E. Termination

This Industrial Wastewater Discharge Permit shall be subject to the terms and conditions of a contract between the parties, as well as the terms and conditions of the permit.

F. Limitation on Transfer

This permit is not transferable to any other owner without the written approval of the Superintendent of the City of Brewer's Water Pollution Control Facility. Application for discharge permit must be submitted by the new owner within thirty (30) days of transfer of ownership.

G. Dilution

The permittee shall not in any way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

SECTION 3 - OPERATION & MAINTENANCE OF POLLUTION CONTROLS



A. Proper Operation & Maintenance

The permittee shall at all times properly operate and maintain all systems of treatment and control which are used by the permittee to achieve compliance with the conditions of this permit.

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Industry Name NEWSME, LCC

Permit No. 37-2679-07

B. Duty to Halt or Reduce Activity

Upon reduction, loss or failure of any pretreatment equipment, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until operation of the equipment is restored or an alternate, equally effective method of pretreatment is used. The permittee shall notify the POTW prior to any alternate method used. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

C. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of pretreatment shall be disposed of in accordance section 405 of the Clean Water Act and subtitles C and D of the Resource Conservation Recovery Act. When requested, the permittee shall submit a plan for such disposal to the Director of the Water Pollution Control Facility within 30 days of said request.

SECTION 4 - MONITORING AND RECORDS

A. Representative Sampling

Samples and measurements shall be representative of the leachate and shall be done on a day of normal to maximum process operation. All samples shall be taken at the monitoring point specified in this permit.

B. Inspection and Entry

The permittee shall allow the Director of the Brewer Water Pollution Control Facility, or an authorized representative, to:

Enter upon the permittee's premises where a regulated facility or activity is located, or where records must be kept under the conditions of this permit;

Have access to and copy any records that must be kept under the conditions of this permit;

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Industry Name NEWSME, LLC

Permit No. 37-2679-07

Inspect facilities, equipment, practices, or operations regulated or required under this permit;

Sample or monitor, for the purpose of assuring permit compliance, any substances or parameters at any location;

Inspect any production, manufacturing, fabricating or storage area where pollutants, regulated under this permit, could be discharged to the sewer system or POTW.

C. Retention of Records

1. The permittee shall retain the records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings, copies of all reports required by this permit, for a period of at least 3 years from the date of the sample, measurement or report. This period may be extended by written request of the Director of the Water Pollution Control Facility at anytime.
2. All records that pertain to matters that are the subject of enforcement activities brought by the City of Brewer of which the permittee receives written notice shall be retained and preserved by the permittee until all enforcement and any appeal activities have concluded.

D. Record Contents

Records of sampling information shall include:

- The date, exact place, time and methods of sampling or measurements, and sampling preservation;

- Who performed the sampling or measurements;
- The date(s) analyses were performed;
- Who performed the analyses;
- The analytical techniques or methods used; and
- The results of such analyses.

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Industry Name NEWSME, LLC

Permit No. 37-2679-07

E. Signatory Requirements

All reports and information submitted to the City of Brewer's Water Pollution Control Facility shall be signed and certified as indicated below.

1. All permit applications shall be signed as follows:
  - By a principal executive officer of at least the level of Environmental Compliance Manager.
2. All other correspondence, reports and self monitoring reports shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - The authorization is made in writing by the person described above.
  - The authorization specifies either an individual or person having responsibility for the overall operation of the regulated operation or facility.
3. Certification. Any person signing a document required by this permit shall make the following certification:

**"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those**

persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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Industry Name NEWSME, LLC

Permit No. 37-2679-07

F. Falsifying Information

Knowingly making any false statement on any report or other document required by this permit or knowingly rendering any monitoring device or method inaccurate, may result in punishment under criminal law proceedings as well as being subjected to civil penalties and injunctive relief, as the same may be permitted by law.

SECTION 5 - ADDITIONAL REPORTING REQUIREMENTS

A. Planned Changes

The permittee shall give notice to the Director of the Brewer Water Pollution Control Facility 90 days prior to any facility expansion or process modifications which result in a new or substantially increased discharge or a change in the nature of the discharge. A substantial change shall be defined as any 10 percent increment deviation from existing production or waste generation levels.

B. Duty to Provide Information

The permittee shall furnish to the City of Brewer Water Pollution Control Facility, within a reasonable time, any information requested by the Brewer WPCF to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

SECTION 6 - ENFORCEMENT

The permittee will be subject to Civil Penalties of up to \$1,000.00 dollars per day per permit violation. In addition, the permittee violating any of the provisions of this permit, or causing a deposit or obstruction, or causing or contributing to damage to or otherwise inhibiting the City of Brewer's Water Pollution Control system, or causing or contributing to a violation of the City's MEPDES permit shall be liable to the City of Brewer for any expense, loss, or damage caused or contributed to by such a violation or discharge. Refusal to pay the assessed costs shall constitute a violation of this permit. Any person who willfully or negligently violates permit conditions is subject to criminal penalties of a fine of up to \$10,000.00 dollars per violation, or by imprisonment, or both. The permittee may also be subject to sanctions under State and/or Federal law.

Page 15 of 15

NEWSME Landfill Operations, LLC hereby acknowledges that it's Environmental Compliance Manager has read and understands the Terms and conditions of this Industrial Wastewater Discharge Permit.

Date: 3/3/08

NEWSME Landfill Operations, LLC

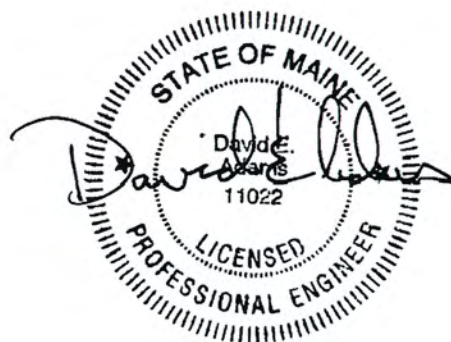
By: 

It's Environmental Compliance Manager  
Duly Authorized

**ATTACHMENT 9**

**LANDFILL GAS COLLECTION RATE SENSITIVITY ANALYSIS  
AND COMPARISON OF WTI EMISSIONS TO LANDFILL EMISSIONS**

**LANDFILL GAS COLLECTION RATE  
SENSITIVITY ANALYSIS  
JUNIPER RIDGE LANDFILL**  
*Old Town, Maine*



*Prepared for NEWSME Landfill Operations, LLC  
File No. 3151.00  
April 2012*

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## FIGURES

Figure 1	Landfill Gas Collection Rate Sensitivity Analysis: High, Median, & Low Estimates from Multiple Sets of Modeling Results
Figure 2	Median Estimates for LFG Collection Rates With and Without Waste Diverted from Maine Energy

## APPENDICES

Appendix A	Waste Acceptance Rates Summary
Appendix B	Landfill Gas Generation Rate Estimates
Appendix C	Landfill Gas Collection Rate Estimates



## EXECUTIVE SUMMARY

Sanborn, Head & Associates, Inc. performed a landfill gas (LFG) collection rate sensitivity analysis on behalf of NEWSME Landfill Operations, LLC for the Juniper Ridge Landfill (JRL) in Old Town, Maine. LFG generation rate estimates were developed using the USEPA's *Landfill Gas Emissions Model, Version 3.02* (LandGEM).

Modeling was based on the currently-permitted landfill capacity (approximately 10 million cubic yards or 8.6 million tons) and waste acceptance through 2018, assuming a change in the waste stream resulting from waste diverted to JRL from Maine Energy Recovery Company (Maine Energy) in Biddeford, Maine.

Based on data provided by Sevee & Maher Engineers (SME), we modeled an increase in the proportion of municipal solid waste (MSW) in the waste stream at JRL beginning in the fourth quarter of 2012. In this scenario, JRL would accept 120,000 tons per year of MSW, while the total waste accepted would not change significantly from the current waste acceptance rate of approximately 710,000 tons per year.

The median landfill gas projections indicate a maximum landfill gas collection rate of approximately 3,560 scfm of LFG with 50 percent methane during 2018. The results of the modeling are presented in Figure 1 and Table 1. Figure 2 shows a comparison of the modeling results with the projected LFG collection rates without the diverted Maine Energy waste.

Given the uncertainty associated with projecting LFG collection rates, Figure 1 presents a range of collection rates based on various modeling runs. Our analysis evaluated the sensitivity of the estimated landfill gas collection rates to changes in degradable waste composition; and to changes in the LandGEM input parameters: methane generation rate,  $k$ , and methane generation potential,  $L_0$ .

The high and low LFG collection rate estimates are useful for presenting a range of possible LFG collection rates, while the median estimates are typically considered the best set of projections for planning purposes. The sensitivity analysis demonstrates good correlation between the median modeled LFG collection rates and measured values at JRL from 2006 to 2011. The correlation between modeled and measured values strengthens the argument for using the median estimates for planning purposes, such as beneficial energy use options, permitting, or gas collection system pipe sizing.

This LFG collection rate sensitivity analysis is subject to change if there are changes to the waste acceptance projections or if leachate recirculation is implemented.



## 1.0 INTRODUCTION

On behalf of NEWSME Landfill Operations, LLC (NEWSME), Sanborn, Head & Associates, Inc. (Sanborn Head) prepared this landfill gas (LFG) collection rate sensitivity analysis for the Juniper Ridge Landfill (JRL) in Old Town, Maine. LFG generation rate estimates were based on modeling using the U.S. Environmental Protection Agency's (USEPA's) *Landfill Gas Emissions Model, Version 3.02* (LandGEM). These LFG generation rate estimates were combined with the estimated LFG collection efficiency to estimate LFG collection rates.

LandGEM uses the first order decay equation identified in 40 Code of Federal Regulations (CFR) Part 60.754 to estimate uncontrolled gas emissions from landfills. The equation is a function of waste acceptance rates, methane generation rate ( $k$ ), and methane generation potential ( $L_0$ ). For this analysis, Sanborn Head performed a limited sensitivity analysis of the LandGEM results to changes in degradable waste composition and to changes in the parameters  $k$  and  $L_0$ .

Waste acceptance rate records and projections for the JRL, presented in Table A-1, were provided by NEWSME and Sevee & Maher Engineers (SME). For this analysis, we considered some waste accepted at the JRL, such as ash, to be nondegradable. We input waste acceptance rates, both the waste in place and projected waste acceptance, to LandGEM for two waste acceptance scenarios: (1) Total waste accepted, and (2) Degradable waste accepted.

Sanborn Head reviewed various sets of LandGEM modeling parameters ( $k$  and  $L_0$ ) from different sources, as discussed below. These parameters were input to LandGEM for each waste acceptance scenario, resulting in multiple sets of LandGEM modeling results.

LFG generation rates were multiplied by the estimated LFG collection efficiency to estimate LFG collection rates. The landfill gas collection efficiency was estimated as discussed below.

## 2.0 FACILITY DESCRIPTION

The JRL is owned by the State of Maine and operated by NEWSME. The licensed footprint of the landfill, including accessory structures, is approximately 68 acres on a 780-acre parcel of land. The JRL is located on the western side of Interstate 95 in Old Town, Maine and is accessible from State Route 16 in Alton, Maine.

The Maine Department of Environmental Protection (Maine DEP) originally licensed JRL on July 28, 1993. At that time, the landfill was owned by the Fort James Operating Company, and was licensed as a 15-cell landfill for the disposal of pulp and papermaking residuals generated from a paper mill in Old Town, Maine. Under the current permit, JRL accepts approximately 2,000 tons per day of construction and demolition debris; residues and a limited quantity of municipal solid waste bypass from municipal solid waste incinerators located in the State of Maine; water and wastewater treatment plant sludge; and lesser amounts of miscellaneous non-hazardous wastes. Active filling in the 68-acre, 15-cell landfill area has been ongoing since November 1993, with current landfill operations



occurring in Cell 7. Intermediate and intermediate-final cover has been placed in Cells 1 through 6. The permitted capacity of JRL is approximately 10,000,000 cubic yards.

Although not required to do so by the New Source Performance Standard (NSPS) for municipal solid waste (MSW) landfills in 40 CFR Part 60, Subpart WWW, which has been adopted by the Maine DEP in Chapter 143 of its regulations, NEWSME has installed an active gas collection and control system (GCCS) at the JRL. The objectives of the GCCS are to reduce emissions of air toxics and to limit the potential for odors. The GCCS is designed to actively collect LFG while maintaining anaerobic conditions within the landfill by limiting air intrusion into the waste. The GCCS is monitored using equipment that measures and records the LFG volumetric extraction rate; and the concentration of methane, oxygen, carbon dioxide, and balance gases (primarily nitrogen) contained in the LFG.

The JRL GCCS is regularly expanded by adding gas extraction points and related infrastructure. LFG is currently managed in Cells 1 through 6 using horizontal gas collection trenches (GCTs) constructed in the waste. Gas flow through the GCTs is controlled by wellhead assemblies mounted on condensate traps located at the low points of each trench. Vertical extraction wells have also been installed, and the design intent is for additional vertical extraction wells to be installed as the outer slopes of the cells are filled to final grades. The vacuum applied at each extraction location may be adjusted with a manually controlled valve on the extraction location wellhead.

LFG in the GCCS is delivered to a 106.5 million British thermal units per hour (MMBtu/hr) utility flare (Flare No. 4). Flare No. 4 was approved by the Maine DEP in November 2008 to replace previously installed flares. Flares No. 2 and No. 3 operate as backup LFG control devices and do not operate simultaneously with Flare No. 4.

### 3.0 MODEL INPUTS

Inputs to the LandGEM model include waste acceptance rates (described above) and values for  $k$  and  $L_0$ . The various  $k$  and  $L_0$  values considered include the following:

- NEWSVT Landfill:  $k$  of 0.06 year<sup>-1</sup> and  $L_0$  of 130 cubic meters per megagram (m<sup>3</sup>/Mg);
- NCES Landfill:  $k$  of 0.08 year<sup>-1</sup> and  $L_0$  of 135 m<sup>3</sup>/Mg;
- SCS:  $k$  of 0.12 year<sup>-1</sup> and  $L_0$  of 110 m<sup>3</sup>/Mg;
- NSPS:  $k$  of 0.05 year<sup>-1</sup> and  $L_0$  of 170 m<sup>3</sup>/Mg;
- EMCON/OWT:  $k$  of 0.13 year<sup>-1</sup> and  $L_0$  of 100 m<sup>3</sup>/Mg;
- Crossroads:  $k$  of 0.10 year<sup>-1</sup> and  $L_0$  of 110 m<sup>3</sup>/Mg; and
- AP-42:  $k$  of 0.04 year<sup>-1</sup> and  $L_0$  of 100 m<sup>3</sup>/Mg.



Appendix B includes a narrative that summarizes the various sets of  $k$  and  $L_0$  values used for the two models, and provides references for where the values originated.

#### 4.0 GAS COLLECTION RATE ESTIMATES

LFG collection rate estimates are obtained through a two step process. The first step is to incorporate the waste acceptance rates, degradable waste fractions, and  $k$  and  $L_0$  values into LandGEM to obtain estimates of LFG generation. The second step is to apply an efficiency factor for LFG extraction.

LFG generation rate estimates and LandGEM model results are presented in Appendix B. Table B-1 presents the LFG generation rate estimates based on the total-waste-accepted scenario. Table B-2 presents the LFG generation rate estimates based on the degradable-waste-accepted scenario.

LFG collection rate estimates are presented in Appendix C. Appendix C also includes a brief review of typical collection efficiencies and the assumptions associated with the LFG collection efficiency estimate for the JRL. Tables C-1 and C-2 and Figures C-1 and C-2 present results of the individual modeling scenarios. Table C-1 presents the LFG collection rate estimates based on the total-waste-accepted scenario. Table C-2 presents the LFG collection rate estimates based on the degradable-waste-accepted scenario.

Figures C-1 and C-2 are graphical representations of the results presented in Tables C-1 and C-2, respectively.

Table 1 and Figure 1 present summaries of the results of the various modeling scenarios by presenting the yearly high, median, and low estimates for LFG collection rates. When applied to the total mass of waste accepted, values for  $k$  of  $0.07 \text{ year}^{-1}$  and  $L_0$  of  $85 \text{ m}^3/\text{Mg}$  appear to provide a good curve fit for the median estimates.

Figure 2 shows a comparison of the modeling results with the projected LFG collection rates without the diverted Maine Energy waste. Modeling based on diverting waste from Maine Energy increased the peak median estimate from 3,306 to 3,560 scfm of LFG with 50 percent methane.

#### 5.0 LIMITATIONS

Factors contributing to the uncertainty of LFG collection rate projections include:

- LandGEM modeling being a simplification of the waste degradation process (e.g., assuming a uniform waste stream [ $L_0$ ] and uniform rate of waste degradation [ $k$ ]);
- Potential changes to the estimated rate of future waste acceptance, and the types of waste to be accepted [ $L_0$ ];
- Potential changes to landfill operations (e.g., changes that could affect the moisture content of the waste, and therefore the rate of waste degradation [ $k$ ]); and

- Other factors that affect the rate of gas generation (e.g., microbial activity, weather).

Although the median estimates are typically considered the best set of projections for planning purposes, because of the uncertainty associated with projecting LFG collection rates, the high and low estimates are also generally considered useful for presenting a range of possible LFG collection rates.

This LFG collection rate analysis is subject to change should there be changes to the waste acceptance rate projections or the projected waste composition at the JRL. An alteration in the design capacity at the JRL, for example, would change the results of this analysis.

Also, if leachate recirculation were to be implemented at the JRL, we expect that there would be a significant increase in the methane generation rate, and our projections would be correspondingly affected. Studies performed at landfills that have added moisture to the waste, including leachate recirculation, could be used to perform an LFG collection rate analysis for a leachate-recirculation scenario at the JRL.

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## TABLES



**Table 1.**  
**Landfill Gas Collection Rate Sensitivity Analysis**  
**High, Median & Low Estimates from Multiple Sets of Modeling Results**  
**With Waste Diverted from Maine Energy**

**Juniper Ridge Landfill**  
**Old Town, Maine**

Year	High Estimate for LFG Collection Rate (scfm)	Median Estimate for LFG Collection Rate (scfm)	Low Estimate for LFG Collection Rate (scfm)
2006	592	376	143
2007	1,206	712	258
2008	1,683	958	352
2009	2,293	1,275	475
2010	2,719	1,494	573
2011	3,330	1,823	710
2012	3,869	2,099	838
2013	4,350	2,366	968
2014	4,779	2,648	1,108
2015	5,159	2,902	1,242
2016	5,497	3,143	1,370
2017	5,796	3,362	1,494
2018	6,061	3,560	1,613
2019	5,763	3,372	1,602
2020	5,320	3,090	1,539
2021	4,917	2,895	1,478
2022	4,677	2,713	1,420
2023	4,449	2,543	1,365
2024	4,232	2,385	1,311
2025	4,026	2,256	1,260
2026	3,830	2,091	1,210
2027	3,643	1,921	1,106
2028	3,465	1,778	971
2029	3,296	1,614	853
2030	3,135	1,467	749
2031	2,982	1,341	658
2032	2,837	1,234	577
2033	2,699	1,151	507
2034	2,567	1,073	445
2035	2,442	1,001	391

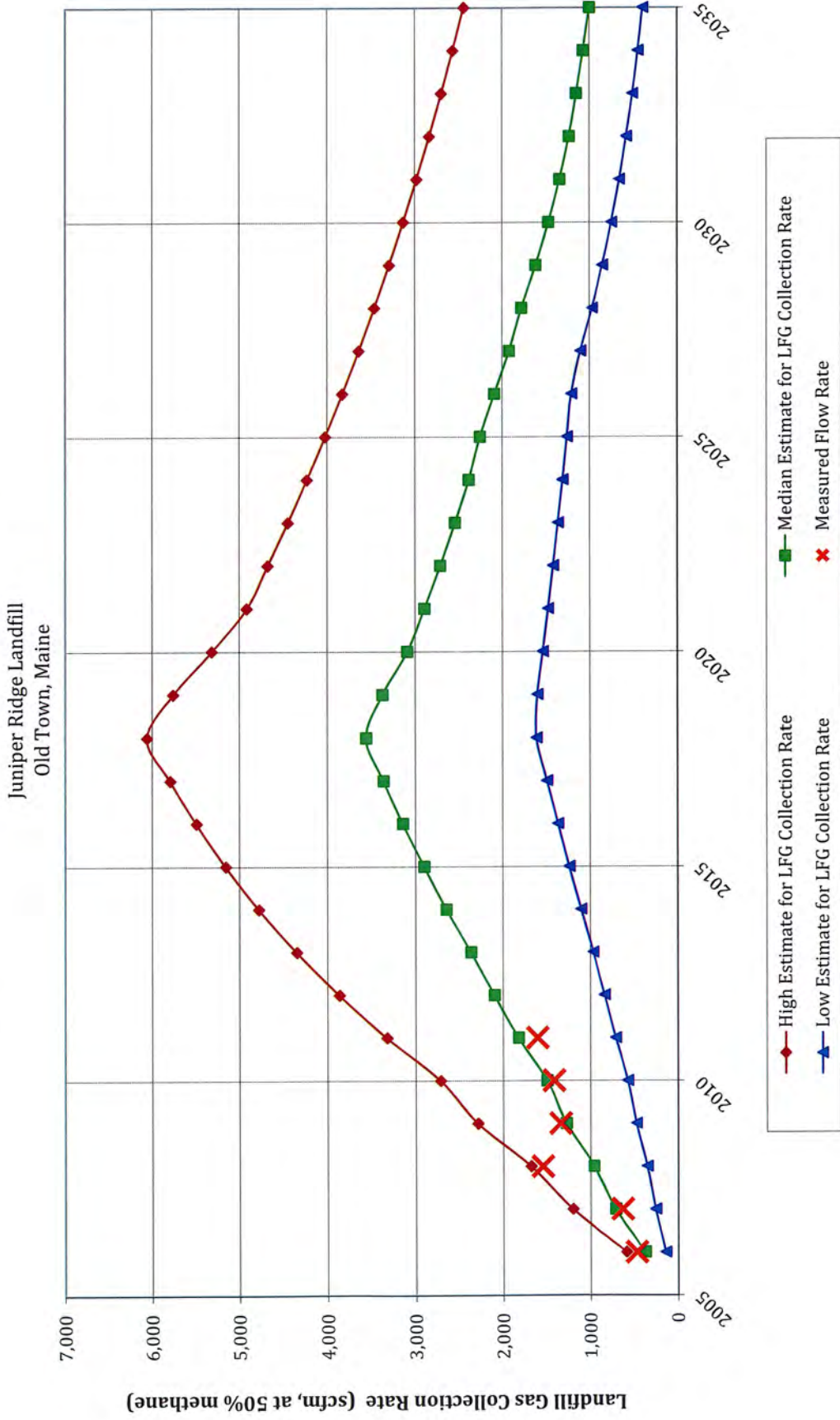
Notes:

1. Unless otherwise noted, gas generation rate estimates are based on the assumption that waste accepted at the JRL is degradable. It should also be noted that NEWSME considers some waste accepted at the site to be nondegradable. Gas generation rate estimates based both on including and excluding waste considered nondegradable by NEWSME were used to estimate gas collection rates presented in this table.
2. Yearly high, median, and low values are from multiple sets of modeling results based on various sets of LandGEM input parameters (i.e., sets of k & Lo) and two waste acceptance scenarios (total waste accepted and degradable waste accepted).
3. We assumed that with a properly designed and operated LFG extraction system, and adequate intermediate and/or final cover, 85 percent of the LFG generated at the JRL is collected.

## FIGURES



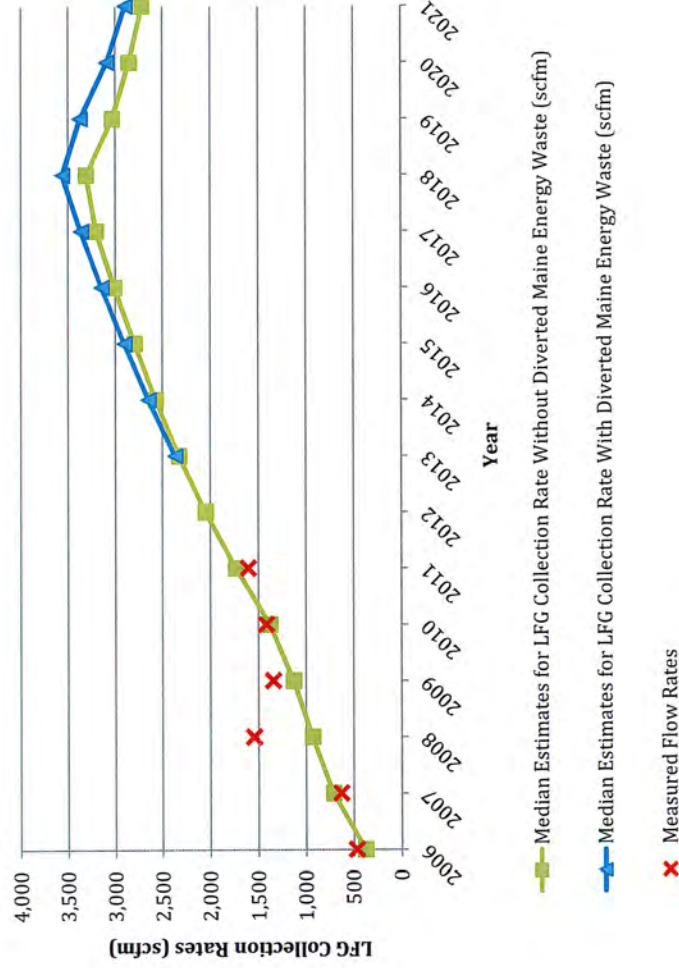
**Figure 1.**  
 Landfill Gas Collection Rate Sensitivity Analysis  
 High, Median & Low Estimates from Multiple Sets of Modeling Results  
 With Waste Diverted from Maine Energy



**Figure 2.**  
 Median Estimates for LFG Collection Rates  
 With and Without Waste Diverted from Maine Energy

Juniper Ridge Landfill  
 Old Town, Maine

Year	Median Estimates for LFG Collection Rate Without Diverted Maine Energy Waste (scfm)	Median Estimates for LFG Collection Rate With Diverted Maine Energy Waste (scfm)
2006	376	
2007	712	
2008	931	
2009	1,129	
2010	1,376	
2011	1,733	
2012	2,048	
2013	2,326	2,366
2014	2,572	2,648
2015	2,793	2,902
2016	3,007	3,143
2017	3,200	3,362
2018	3,306	3,560
2019	3,032	3,372
2020	2,855	3,090
2021	2,720	2,895



Notes:

1. LFG collection rate estimates without diverted Maine Energy Waste are from a study performed by Sanborn Head in 2007, and were included in the JRL Air License Application submitted in August 2011.
2. LFG collection rate estimates with diverted Maine Energy waste assume that JRL would accept 120,000 tons per year of MSW (diverted from Maine Energy), while the total waste accepted would not change significantly from the current waste acceptance rate of approximately 710,000 tons per year.

**APPENDIX A**  
**WASTE ACCEPTANCE RATE SUMMARY**

## APPENDIX A

### WASTE ACCEPTANCE RATES SUMMARY

Disposal records indicate that degradable and nondegradable wastes were placed in the Juniper Ridge Landfill (JRL). There is a provision in the NSPS for subtracting nondegradable solid waste from the total mass of waste in a landfill when estimating emissions.<sup>1</sup> Therefore, to consider a range of scenarios that may represent the site conditions, waste acceptance scenarios that include and exclude nondegradable waste were considered. The mass of waste received at the JRL through 2011 and projected waste receipts from 2012 through 2018 were considered.

Table A-1 provides a summary of the estimated actual and projected annual waste acceptance rates for the JRL. Table A-1 presents two waste acceptance scenarios:

- Total Waste Accepted; and
- Degradable Waste Accepted.

Both waste acceptance scenarios are used in LandGEM<sup>2</sup> to model landfill gas (LFG) generation rates. LandGEM estimates are greater when the total-waste-accepted scenario is used. Excluding the nondegradable waste reduces the estimate for LFG generation.

Annual waste acceptance data is maintained by NEWSME. For 1997 through 2002, Sanborn Head and Sevee & Maher Engineers, Inc. (SME) used waste acceptance records provided by NEWSME to estimate gas production potential. For 2003 and beyond, NEWSME provided waste acceptance records and projections.

Table A-1 includes a column that indicates the yearly estimated percentage of degradable waste.

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<sup>1</sup> Section 60.754 (a)(1) of the NSPS states, "The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for mass of solid waste in that section if documentation of the nature and amount of such waste is maintained."  
<sup>2</sup> LandGEM - U.S. Environmental Protection Agency's (USEPA's) *Landfill Gas Emissions Model, Version 3.02*.



**Table A-1.  
Annual Waste Acceptance Rates Summary  
With Waste Diverted from Maine Energy**

**Juniper Ridge Landfill  
Old Town, Maine**

Year	Waste Accepted (tons)	Waste Accepted (Megagrams)	Degradable Waste (%)	Degradable Waste (tons)	Degradable Waste (Megagrams)
1997	26,369	23,917	84.6	22,299	20,226
1998	32,525	29,500	81.0	26,339	23,890
1999	34,486	31,279	84.6	29,168	26,455
2000	41,549	37,685	77.7	32,286	29,283
2001	41,569	37,703	73.4	30,532	27,692
2002	47,690	43,255	81.5	38,846	35,233
2003	46,906	42,544	81.5	38,240	34,684
2004	53,905	48,892	55.5	29,917	27,135
2005	248,974	225,819	56.8	141,433	128,279
2006	525,758	476,863	56.4	296,271	268,718
2007	472,645	428,689	54.3	256,597	232,734
2008	617,782	560,329	54.2	334,726	303,597
2009	528,622	479,460	54.3	287,026	260,332
2010	708,303	642,431	55.4	392,579	356,069
2011	706,506	640,801	54.1	382,140	346,601
2012	708,124	642,268	56.5	400,000	362,800
2013	710,282	644,226	61.4	436,100	395,543
2014	710,282	644,226	61.4	436,100	395,543
2015	710,282	644,226	61.4	436,100	395,543
2016	710,282	644,226	61.4	436,100	395,543
2017	710,282	644,226	61.4	436,100	395,543
2018	206,876	187,636	61.4	127,100	115,280
<b>Total</b>	<b>8,600,000</b>	<b>7,800,200</b>	<b>--</b>	<b>5,045,998</b>	<b>4,576,720</b>

Notes:

1. Megagrams = 0.907 x tons.
2. JRL's permitted capacity is approximately 10,000,000 cubic yards. Based on estimated compaction density of 0.86 tons/cubic yard, the total waste that may be accepted in the JRL is 8,600,000 tons.
3. The 1997 through 2002 waste acceptance rates and percent of each waste type accepted were provided to Sanborn Head by SME.
4. The 2003 through 2011 waste acceptance rates and percent of each waste type accepted were provided to Sanborn Head by NEWSME.
5. The projected waste acceptance rate for 2012 was estimated using the average of the waste acceptance rate from 2010 and 2011 for the first three quarters, and the projected waste acceptance rate for 2013 for the fourth quarter.
6. The projected waste acceptance rates for 2013 and beyond were provided to Sanborn Head by SME based on a scenario with waste diverted to JRL from the Maine Energy Recovery Company in Biddeford, Maine beginning in the fourth quarter of 2012.
7. The estimated percent of waste types accepted were used to estimate degradable waste portions at the JRL.

## **APPENDIX B**

### **LANDFILL GAS GENERATION RATE ESTIMATES**

## APPENDIX B

### LANDFILL GAS GENERATION ESTIMATES

Sanborn Head estimated potential landfill gas (LFG) generation rates for the Juniper Ridge Landfill (JRL) using LandGEM 3.02. LandGEM uses the first order decay equation identified in 40 Code of Federal Regulations (CFR) Part 60.754. Model inputs include:

- default or user-defined values for landfill gas concentrations (i.e., percent methane, etc.) and for model parameters (i.e., methane generation rate [k] and potential methane generation capacity [ $L_0$ ]); and
- site-specific information related to the type and amount of in-place waste and projected acceptance rates.

Default values and parameters are published in the New Source Performance Standard (NSPS) for MSW landfills (40 CFR 60, Subpart WWW) and in the USEPA's *Compilation of Air Pollutant Emission Factors, AP-42*. The USEPA developed two sets of available defaults (NSPS and AP-42) based on testing at landfills throughout the United States. Based on information included in the LandGEM User's Manual, the NSPS default values generally overestimate the volume of landfill gas generated during biodegradation of putrescible wastes. The LandGEM User's Manual also indicates that AP-42 default values more closely reflect actual expected emissions from a landfill. The LandGEM User's Manual states:

*The (NSPS) default values in the model provide emission estimates that would reflect the expected maximum emissions and generally would be used only for determining the applicability of the regulations to a landfill. To estimate actual emissions in the absence of site-specific data, a second set of default values (the AP-42 defaults) is provided in the model. ...The AP-42 default values provide emission estimates that should reflect typical landfill emissions and are the values suggested for use in developing estimates for state inventories.*

Sanborn Head used user-defined model values for k and  $L_0$  from several sources including calibration projects performed by Sanborn Head; a memorandum written by David Burns of the Maine Department of Environmental Protection (Maine DEP) to Steve Farrar of the Maine DEP entitled "West Old Town Landfill (WOTL), Gas Management System Design," dated December 19, 2003; and a paper by OWT/Emcon entitled "Landfill Gas Generation Modeling, A Reality Check," from the Solid Waste Association of North America's (SWANA's) 26th Annual Landfill Gas Symposium Proceedings, March 2003.

Two sets of user-defined model parameters were provided by Sanborn Head. Sanborn Head performed limited calibrations of LFG generation rates at the New England Waste Services of Vermont, Inc. (NEWSVT) Landfill in Coventry, Vermont (NEWSVT:  $k=0.06 \text{ yr}^{-1}$  and  $L_0=130 \text{ m}^3/\text{Mg}$ ) and the North Country Environmental Services, Inc. (NCES) Landfill in Bethlehem, New Hampshire (NCES:  $k=0.08 \text{ yr}^{-1}$  and  $L_0=135 \text{ m}^3/\text{Mg}$ ).



Two sets of user-defined model parameters derived from studies performed by SCS Engineers, Inc. (SCS) were reported in the memorandum from Mr. Burns. One set of parameters was derived from studies of landfills throughout New England (SCS, Northeastern U.S. Landfills:  $k=0.12 \text{ yr}^{-1}$  and  $L_0 = 110 \text{ m}^3/\text{Mg}$ ) and the second set was derived from a study of the Crossroads Landfill in Norridgewock, Maine (Crossroads-Phase 11:  $k=0.10 \text{ yr}^{-1}$  and  $L_0 = 110 \text{ m}^3/\text{Mg}$ ).

One set of model parameters was obtained from an OWT/Emcon technical paper. The paper reviewed data collected at three landfills in the U.S. The model parameters were developed to fit actual gas production at the landfill with the highest gas production rate of the three landfills (EMCON/OWT:  $k= 0.13 \text{ yr}^{-1}$  and  $L_0 = 100 \text{ m}^3/\text{Mg}$ ).

The following table summarizes the various sets of LandGEM model parameters used in this collection rate analysis.

Source	k (yr <sup>-1</sup> )	L <sub>0</sub> (m <sup>3</sup> /Mg)
NEWSVT Landfill <sup>2a</sup>	0.06	130
NCES Landfil <sup>2a</sup>	0.08	135
SCS, Northeastern U.S. Landfills <sup>2b</sup>	0.12	110
NSPS <sup>2c</sup>	0.05	170
EMCON/OWT <sup>2d</sup>	0.13	100
Crossroads - Phase 11 <sup>2b</sup>	0.10	110
AP-42 <sup>2c</sup>	0.04	100

Notes:

1. The landfill gas generation rates were estimated with the USEPA's LandGEM Version 3.02 using waste acceptance records provided by NEWSME for the JRL and the values shown for methane generation rate,  $k$  (year<sup>-1</sup>) and potential methane generation capacity,  $L_0$  (m<sup>3</sup>/Mg).
2. Model parameters used in LandGEM were obtained as follows:
  - a. NEWSVT Landfill and NCES Landfill values are from calibration projects performed by Sanborn Head.
  - b. SCS, Northeastern U.S. Landfills and Crossroads-Phase 11 values for  $k$  and  $L_0$  were included in information obtained from a memo written by David Burns of the Maine DEP to Steve Farrar of the Maine DEP entitled "West Old Town Landfill (WOTL), Gas Management System Design," dated December 19, 2003.
  - c. NSPS and AP-42 values for  $k$  and  $L_0$  are provided as default values in LandGEM.
  - d. EMCON/OWT values for  $k$  and  $L_0$  were obtained from "Landfill Gas Generation Modeling, A Reality Check," from SWANA's 26th Annual Landfill Gas Symposium Proceedings, March 2003.

NEWSME provided Sanborn Head with the waste acceptance rate data that was input to the LandGEM model for waste accepted at the JRL through 2011 and projected waste acceptance rates for 2012 through closure of the JRL. Waste acceptance rates can be found in Appendix A.

LandGEM estimates were prepared for the JRL facility based on two waste acceptance scenarios:

- Total Waste Accepted; and
- Degradable Waste Accepted.



The LFG generation rate estimates based on total waste accepted are presented in Table B-1. The LFG generation rate estimates based on degradable waste accepted are presented in Table B-2.

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**Table B-1.  
Landfill Gas Generation Rate Estimates  
Modeling based on Total Waste Accepted  
With Waste Diverted from Maine Energy**

**Juniper Ridge Landfill  
Old Town, Maine**

year	Various sources for modeling parameters k and L <sub>0</sub>						
	NEWSVT Landfill <sup>2a</sup>	NCES Landfill <sup>2a</sup>	SCS, Northeastern U.S. Landfills <sup>2b</sup>	NSPS <sup>2c</sup>	EMCON/OWT <sup>2d</sup>	Crossroads - Phase 11 <sup>2b</sup>	AP-42 <sup>2c</sup>
	scfm	scfm	scfm	scfm	scfm	scfm	scfm
1997	0	0	0	0	0	0	0
1998	24	33	40	27	39	34	13
1999	53	72	85	58	83	72	28
2000	82	110	128	90	125	110	43
2001	116	155	177	128	172	152	61
2002	147	196	220	164	213	191	79
2003	183	241	268	204	258	234	99
2004	216	282	309	242	297	272	117
2005	253	329	357	285	341	315	138
2006	469	620	696	523	672	605	252
2007	928	1,240	1,419	1,030	1,376	1,221	494
2008	1,311	1,745	1,980	1,459	1,915	1,711	701
2009	1,807	2,396	2,698	2,013	2,606	2,340	969
2010	2,191	2,883	3,199	2,451	3,079	2,795	1,185
2011	2,719	3,561	3,918	3,049	3,763	3,438	1,477
2012	3,214	4,184	4,552	3,616	4,361	4,016	1,758
2013	3,682	4,762	5,117	4,157	4,888	4,542	2,028
2014	4,125	5,298	5,622	4,674	5,354	5,021	2,288
2015	4,542	5,793	6,070	5,165	5,764	5,454	2,539
2016	4,935	6,250	6,467	5,633	6,123	5,845	2,779
2017	5,305	6,671	6,819	6,078	6,439	6,200	3,011
2018	5,654	7,061	7,131	6,501	6,716	6,521	3,233
2019	5,516	6,780	6,640	6,393	6,207	6,165	3,205
2020	5,195	6,259	5,889	6,082	5,450	5,579	3,079
2021	4,892	5,778	5,223	5,785	4,786	5,048	2,959
2022	4,607	5,334	4,633	5,503	4,202	4,567	2,843
2023	4,339	4,924	4,109	5,234	3,690	4,133	2,731
2024	4,086	4,545	3,644	4,979	3,240	3,740	2,624
2025	3,848	4,196	3,232	4,736	2,845	3,384	2,521
2026	3,624	3,873	2,867	4,505	2,498	3,062	2,422
2027	3,413	3,575	2,542	4,286	2,194	2,770	2,327
2028	3,214	3,300	2,255	4,077	1,926	2,507	2,236
2029	3,027	3,047	2,000	3,878	1,692	2,268	2,148
2030	2,851	2,812	1,774	3,689	1,485	2,052	2,064
2031	2,685	2,596	1,573	3,509	1,304	1,857	1,983
2032	2,529	2,397	1,395	3,338	1,145	1,680	1,905
2033	2,381	2,212	1,238	3,175	1,006	1,520	1,831
2034	2,243	2,042	1,098	3,020	883	1,376	1,759
2035	2,112	1,885	973	2,873	775	1,245	1,690

Notes:

1. Unless otherwise noted, gas generation rate estimates are based on the assumption that waste accepted at the JRL is degradable. It should also be noted that NEWSME considers some waste accepted at the site to be comprised of nondegradable waste. Gas generation rate estimates based on excluding nondegradable waste are not presented in this table.
2. The landfill gas generation rates were estimated with the USEPA's LandGEM Version 3.02 using waste acceptance records provided by NEWSME for the JRL and the following values for methane generation rate, k (year<sup>-1</sup>) and potential methane generation capacity, L<sub>0</sub> (m<sup>3</sup>/Mg):
  - a. NEWSVT Landfill: k=0.06 yr<sup>-1</sup> and L<sub>0</sub>=130 m<sup>3</sup>/Mg and NCES Landfill: k=0.08 yr<sup>-1</sup> and L<sub>0</sub>=135 m<sup>3</sup>/Mg. These values are from calibration projects performed by Sanborn Head.
  - b. SCS, Northeastern U.S. Landfills: k=0.12 yr<sup>-1</sup> and L<sub>0</sub> = 110 m<sup>3</sup>/Mg and Crossroads - Phase 11: k=0.10 yr<sup>-1</sup> and L<sub>0</sub>=110 m<sup>3</sup>/Mg. These values were included in information obtained from a memo written by David Burns of the Maine DEP to Steve Farrar of the Maine DEP entitled "West Old Town Landfill (WOTL), Gas Management System Design," dated December 19, 2003.
  - c. NSPS: k=0.05 yr<sup>-1</sup> and L<sub>0</sub>=170 m<sup>3</sup>/Mg and AP-42: k=0.04 and L<sub>0</sub>=100 m<sup>3</sup>/Mg. These values are provided as default values in LandGEM.
  - d. EMCON/OWT: k= 0.13 and L<sub>0</sub>=100 m<sup>3</sup>/Mg. These values were obtained from "Landfill Gas Generation Modeling, A Reality Check," from SWANA's 26th Annual Landfill Gas Symposium Proceedings, March 2003.

**Table B-2.**  
**Landfill Gas Generation Rate Estimates**  
**Modeling based on Degradable Waste Accepted**  
**With Waste Diverted from Maine Energy**

**Juniper Ridge Landfill**  
**Old Town, Maine**

year	Various sources for modeling parameters k and L <sub>0</sub>						
	NEWSVT Landfill <sup>2a</sup>	NCES Landfill <sup>2a</sup>	SCS, Northeastern U.S. Landfills <sup>2b</sup>	NSPS <sup>2c</sup>	EMCON/OWT <sup>2d</sup>	Crossroads - Phase 11 <sup>2b</sup>	AP-42 <sup>2c</sup>
	scfm	scfm	scfm	scfm	scfm	scfm	scfm
1997	0	0	0	0	0	0	0
1998	21	28	34	23	33	29	11
1999	44	60	70	48	69	60	23
2000	68	92	107	75	104	91	36
2001	94	126	144	104	140	124	50
2002	117	155	174	130	168	151	63
2003	146	192	214	163	206	187	79
2004	173	226	248	194	238	218	94
2005	191	247	266	215	254	236	105
2006	310	408	451	348	434	395	168
2007	566	752	852	631	824	737	304
2008	771	1,021	1,147	860	1,108	996	415
2009	1,036	1,367	1,528	1,157	1,473	1,330	559
2010	1,241	1,627	1,793	1,392	1,723	1,572	674
2011	1,532	2,000	2,189	1,721	2,100	1,926	836
2012	1,797	2,332	2,524	2,025	2,415	2,232	986
2013	2,062	2,661	2,849	2,331	2,719	2,533	1,139
2014	2,346	3,010	3,192	2,659	3,040	2,851	1,303
2015	2,613	3,332	3,496	2,971	3,321	3,139	1,461
2016	2,864	3,630	3,766	3,268	3,569	3,399	1,612
2017	3,101	3,905	4,005	3,551	3,786	3,635	1,758
2018	3,324	4,159	4,217	3,819	3,977	3,848	1,898
2019	3,248	4,000	3,934	3,762	3,682	3,645	1,884
2020	3,059	3,693	3,489	3,578	3,233	3,298	1,810
2021	2,881	3,409	3,095	3,404	2,839	2,984	1,739
2022	2,713	3,147	2,745	3,238	2,493	2,700	1,671
2023	2,555	2,905	2,434	3,080	2,189	2,443	1,606
2024	2,406	2,681	2,159	2,930	1,922	2,211	1,543
2025	2,266	2,475	1,915	2,787	1,688	2,000	1,482
2026	2,134	2,285	1,698	2,651	1,482	1,810	1,424
2027	2,010	2,109	1,506	2,522	1,301	1,638	1,368
2028	1,893	1,947	1,336	2,399	1,143	1,482	1,315
2029	1,783	1,797	1,185	2,282	1,003	1,341	1,263
2030	1,679	1,659	1,051	2,170	881	1,213	1,214
2031	1,581	1,532	932	2,064	774	1,098	1,166
2032	1,489	1,414	827	1,964	679	993	1,120
2033	1,402	1,305	733	1,868	597	899	1,076
2034	1,321	1,205	650	1,777	524	813	1,034
2035	1,244	1,112	577	1,690	460	736	994

Notes:

- Unless otherwise noted, gas generation rate estimates are based on the assumption that waste accepted at the JRL is degradable. It should also be noted that NEWSME considers some waste accepted at the site to be comprised of nondegradable waste. Gas generation rate estimates based on excluding nondegradable waste are presented in this table.
- The landfill gas generation rates were estimated with the USEPA's "Landfill Gas Emissions Model (LandGEM), Version 3.02," using waste acceptance records provided by NEWSME for the JRL and the following values for methane generation rate, k (year<sup>-1</sup>) and potential methane generation capacity, L<sub>0</sub> (m<sup>3</sup>/Mg):
  - NEWSVT Landfill: k=0.06 yr<sup>-1</sup> and L<sub>0</sub>=130 m<sup>3</sup>/Mg and NCES Landfill: k=0.08 yr<sup>-1</sup> and L<sub>0</sub>=135 m<sup>3</sup>/Mg. These values are from calibration projects performed by Sanborn Head.
  - SCS, Northeastern U.S. Landfills: k=0.12 yr<sup>-1</sup> and L<sub>0</sub> = 110 m<sup>3</sup>/Mg and Crossroads - Phase 11: k=0.10 yr<sup>-1</sup> and L<sub>0</sub>=110 m<sup>3</sup>/Mg. These values were included in information obtained from a memo written by David Burns of the Maine DEP to Steve Farrar of the Maine DEP entitled "West Old Town Landfill (WOTL), Gas Management System Design," dated December 19, 2003.
  - NSPS: k=0.05 yr<sup>-1</sup> and L<sub>0</sub>=170 m<sup>3</sup>/Mg and AP-42: k=0.04 and L<sub>0</sub>=100 m<sup>3</sup>/Mg. These values are provided as default values in LandGEM.
  - EMCON/OWT: k= 0.13 and L<sub>0</sub>=100 m<sup>3</sup>/Mg. These values were obtained from "Landfill Gas Generation Modeling, A Reality Check," from SWANA's 26th Annual Landfill Gas Symposium Proceedings, March 2003.

## **APPENDIX C**

### **LANDFILL GAS COLLECTION RATE ESTIMATES**



## **APPENDIX C**

### **LANDFILL GAS COLLECTION RATE ESTIMATES**

Landfill gas (LFG) collection rates are estimated for the Juniper Ridge Landfill based on the yearly estimates for LFG generation presented in Appendix B and on estimated LFG collection efficiency. The U.S. Environmental Protection Agency's (USEPA's) Compilation of Air Pollutant Emission Factors (AP-42) states that 75 percent is a commonly assumed LFG collection efficiency, and that higher collection efficiencies (e.g., 85 percent) may be achieved at sites designed to control gas emissions.

The USEPA's Federal Register for Mandatory Reporting of Greenhouse Gases, Volume 74, No. 209, Subpart HH indicates that for landfills with an active gas collection system, 75 percent collection efficiency may be used for areas with an intermediate soil cover and 95 percent may be used for areas with a final cover.

We have assumed that with a properly designed and operated LFG extraction system and adequate intermediate and/or final cover, 85 percent of the LFG generated at the JRL is collected.

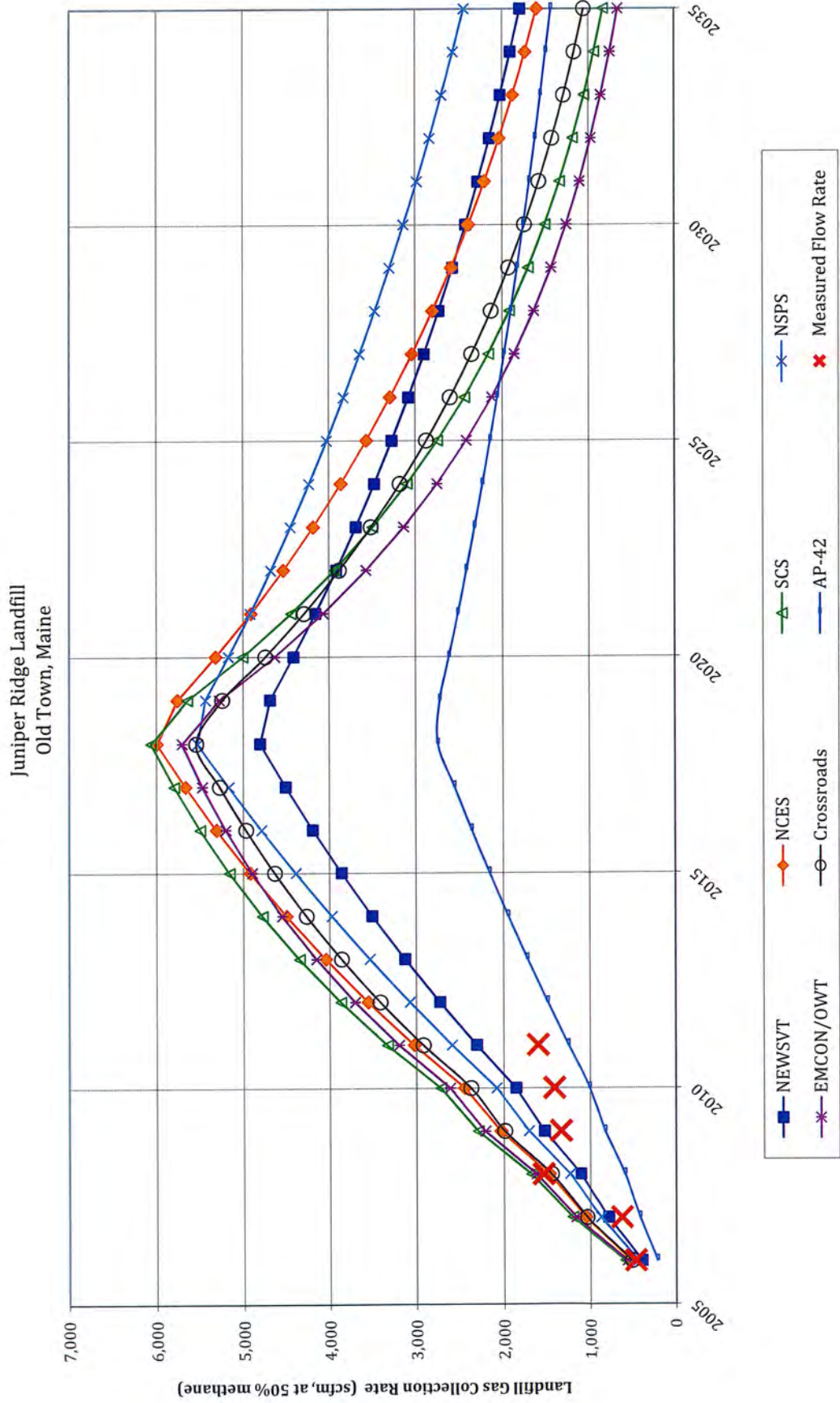
LFG collection rate estimates are calculated by multiplying the LFG generation rate estimates from the LandGEM model with the estimated 85 percent collection efficiency. The LFG collection rate estimates are presented in Table C-1 (Modeling based on Total Waste Accepted) and Table C-2 (Modeling based on Degradable Waste Accepted).

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**Figure C-1.**  
 Landfill Gas Collection Rate Estimates  
 Modeling based on Total Waste Accepted  
 With Waste Diverted from Maine Energy



**Table C-2.  
Landfill Gas Collection Rate Estimates  
Modeling based on Degradable Waste Accepted  
With Waste Diverted from Maine Energy**

**Juniper Ridge Landfill  
Old Town, Maine**

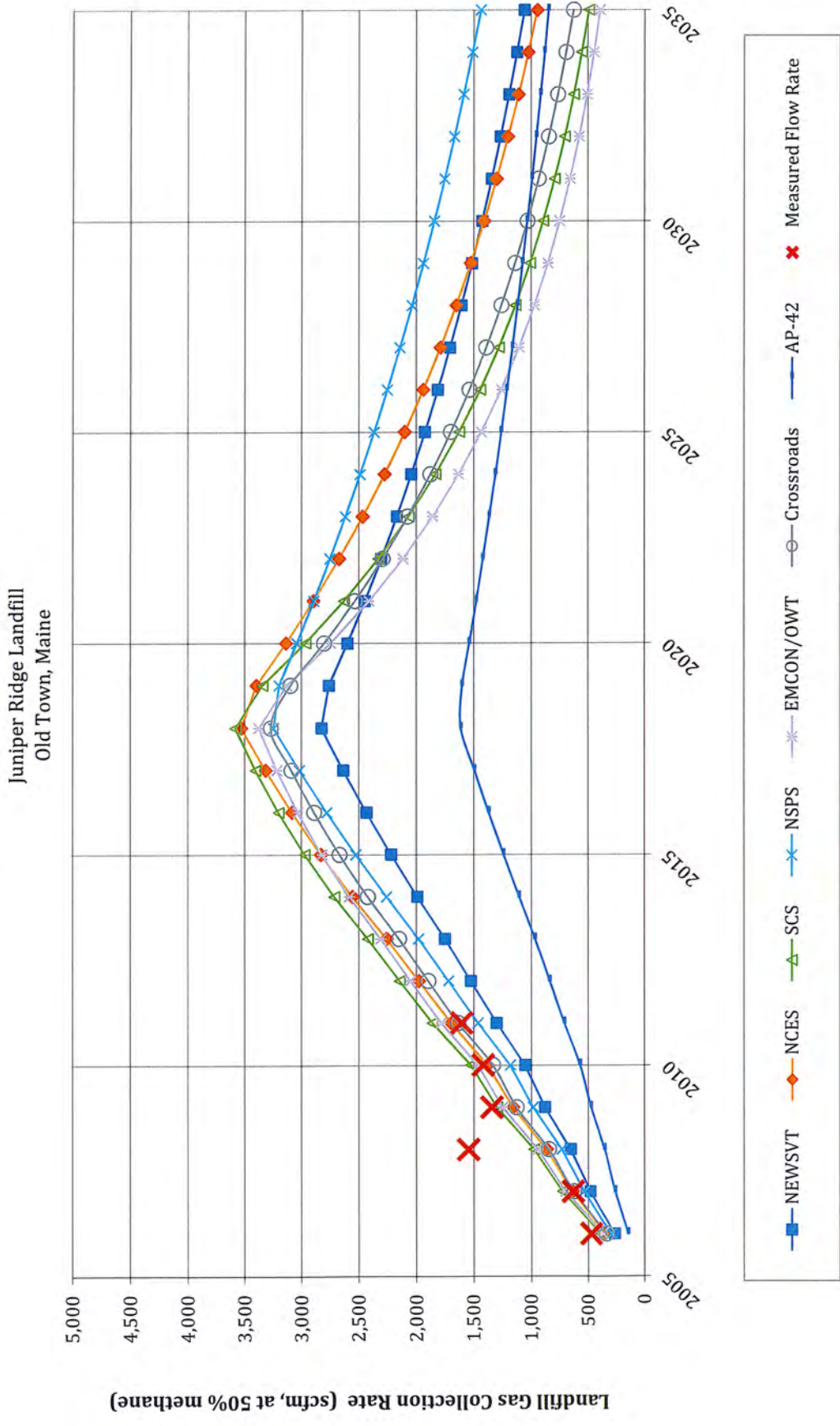
Year	Gas Collection & Control System Capture Efficiency (%)	Various sources for modeling parameters k and L <sub>0</sub>						
		NEWSVT Landfill <sup>2a</sup> (scfm)	NCES Landfill <sup>2a</sup> (scfm)	SCS, Northeastern U.S. Landfills <sup>2b</sup> (scfm)	NSPS <sup>2c</sup> (scfm)	EMCON/OWT <sup>2d</sup> (scfm)	Crossroads - Phase 11 <sup>2b</sup> (scfm)	AP-42 <sup>2c</sup> (scfm)
2006	85	264	346	384	296	369	335	143
2007	85	482	640	724	536	701	626	258
2008	85	655	867	975	731	941	846	352
2009	85	880	1,162	1,299	984	1,252	1,131	475
2010	85	1,055	1,383	1,524	1,183	1,464	1,336	573
2011	85	1,302	1,700	1,861	1,463	1,785	1,637	710
2012	85	1,527	1,982	2,146	1,721	2,053	1,897	838
2013	85	1,753	2,261	2,422	1,981	2,311	2,153	968
2014	85	1,994	2,558	2,713	2,260	2,584	2,423	1,108
2015	85	2,221	2,833	2,972	2,526	2,823	2,668	1,242
2016	85	2,435	3,086	3,201	2,778	3,033	2,889	1,370
2017	85	2,636	3,319	3,404	3,018	3,218	3,090	1,494
2018	85	2,825	3,535	3,585	3,246	3,380	3,271	1,613
2019	85	2,761	3,400	3,344	3,197	3,130	3,098	1,602
2020	85	2,600	3,139	2,966	3,041	2,748	2,803	1,539
2021	85	2,449	2,897	2,631	2,893	2,413	2,537	1,478
2022	85	2,306	2,675	2,333	2,752	2,119	2,295	1,420
2023	85	2,172	2,469	2,069	2,618	1,861	2,077	1,365
2024	85	2,045	2,279	1,835	2,490	1,634	1,879	1,311
2025	85	1,926	2,104	1,628	2,369	1,435	1,700	1,260
2026	85	1,814	1,942	1,444	2,253	1,260	1,539	1,210
2027	85	1,708	1,793	1,280	2,143	1,106	1,392	1,163
2028	85	1,609	1,655	1,136	2,039	971	1,260	1,117
2029	85	1,515	1,528	1,007	1,939	853	1,140	1,074
2030	85	1,427	1,410	893	1,845	749	1,031	1,031
2031	85	1,344	1,302	792	1,755	658	933	991
2032	85	1,266	1,202	703	1,669	577	844	952
2033	85	1,192	1,109	623	1,588	507	764	915
2034	85	1,122	1,024	553	1,510	445	691	879
2035	85	1,057	945	490	1,437	391	626	845

Notes:

- Unless otherwise noted, gas generation rate estimates are based on the assumption that waste accepted at the JRL is degradable. It should also be noted that NEWSME considers some waste accepted at the site to be comprised of nondegradable waste. Gas generation rate estimates based on excluding nondegradable waste were used to estimate gas collection rates presented in this table.
- The landfill gas generation rates were estimated with the USEPA's "Landfill Gas Emissions Model (LandGEM), Version 3.02," using waste acceptance records provided by NEWSME for the JRL and the following values for methane generation rate, k (year<sup>-1</sup>) and potential methane generation capacity, L<sub>0</sub> (m<sup>3</sup>/Mg):
  - NEWSVT Landfill: k=0.06 yr<sup>-1</sup> and L<sub>0</sub>=130 m<sup>3</sup>/Mg and NCES Landfill: k=0.08 yr<sup>-1</sup> and L<sub>0</sub>=135 m<sup>3</sup>/Mg. These values are from calibration projects performed by Sanborn Head.
  - SCS, Northeastern U.S. Landfills: k=0.12 yr<sup>-1</sup> and L<sub>0</sub> = 110 m<sup>3</sup>/Mg and Crossroads - Phase 11: k=0.10 yr<sup>-1</sup> and L<sub>0</sub>=110 m<sup>3</sup>/Mg . These values were included in information obtained from a memo written by David Burns of the Maine DEP to Steve Farrar of the Maine DEP entitled "West Old Town Landfill (WOTL), Gas Management System Design," dated December 19, 2003.
  - NSPS: k=0.05 yr<sup>-1</sup> and L<sub>0</sub>=170 m<sup>3</sup>/Mg and AP-42: k=0.04 and L<sub>0</sub>=100 m<sup>3</sup>/Mg. These values are provided as default values in LandGEM.
  - EMCON/OWT: k= 0.13 and L<sub>0</sub>=100 m<sup>3</sup>/Mg. These values were obtained from "Landfill Gas Generation Modeling, A Reality Check," from SWANA's 26th Annual Landfill Gas Symposium Proceedings, March 2003.
- We assumed that with a properly designed and operated LFG extraction system and adequate intermediate and/or final cover, 85 percent of the LFG generated at the JRL is collected.



**Figure C-2.**  
 Landfill Gas Collection Rate Estimates  
 Modeling based on Degradable Waste Accepted  
 With Waste Diverted from Maine Energy



# Low-Carbon Resource Management in Maine

The information below describes the potential for “low-carbon resource management” in the State of Maine. By minimizing carbon dioxide (CO2) and other greenhouse gas (GHG) emissions, the resource management industry can play an important role in helping to mitigate global climate change. The data provided here suggest that rigid adherence to a hierarchy that promotes waste-to-energy over landfills will not necessarily result in the best environmental solution. Furthermore, from a greenhouse gas mitigation perspective, the most significant aspect of resource management is recycling.

## In Maine, direct GHG rates are lower for landfills than for waste-to-energy

EPA’s recent publication of 2010 greenhouse gas reporting data allows comparisons that weren’t previously possible. Greenhouse gas emissions from the following five facilities are available through the EPA data portal. Using approximate annual tonnage data, we can see the difference in direct per ton emission rates between landfills and waste to energy facilities.

Facility	Location	GHG*	Disposal Tons**	GHG/Ton
<b>Crossroads Landfill</b>	Norridgewock	34,585	300,000	0.12
<b>Juniper Ridge Landfill (JRL)</b>	Old Town	69,653	708,198	0.10
<b>Regional Waste (ecoMaine)</b>	Portland	57,137	175,000	0.33
<b>Maine Energy (MERC)</b>	Biddeford	79,979	274,878	0.29
<b>Penobscot Energy (PERC)</b>	Orrington	101,742	300,000	0.34

\*GHG emissions are reported throughout this document in MgCO2e, the standard unit of measurement for greenhouse gas emissions

\*\*Disposal tons are based on best publicly available data

## Net GHG rates are also lower for landfills

Maine Energy recovers metal and generates energy, so its net greenhouse gas emission rate per ton is lower, as shown in the calculation below. Similarly, low emission landfills – with accelerated gas collection, state-of-the-art capping, and energy recovery – also realize a lower net emission rate.

	Maine Energy	Low Emission LF
Direct Emissions	0.291	0.109
Metal Recycling	-0.044	***
Energy Production	-0.167	-0.041
<b>Net GHG/Ton</b>	<b>0.080</b>	<b>0.068</b>

Note that the calculations presented above do not assume any on-site metal recovery at the landfill, yet the emission rate is still lower for the landfill.

## Non-GHG emissions are lower at landfills too

As we work to reduce GHG emissions, it is important to also monitor changes in other emissions such as nitrogen oxides (NOx) and carbon monoxide (CO), both of which contribute to the formation of smog. The table below indicates the degree to which WTE produces more NOx and CO than Juniper Ridge.

The UMO pipeline project – which will deliver LFG to the University of Maine Orono campus to be used as heating fuel – will further improve the JRL numbers, by displacing fossil fuel use on campus.

	NOx	CO
WTE creates __ times more emissions than JRL	45.6x	3.3x
WTE creates __ times more emissions than JRL-UMO	62.8x	15.0x

\*Data Source: The WTE values are from EPA’s Compilation of Pollutant Emission Factors, Table 2.1-8. For JRL, we used the AP-42 default value for the methane (CH4) generation potential of waste (100 m3/Mg) and the heat content of LFG at 50% CH4 (500 Btu/scf) to estimate the MMBtu/ton available from waste, and applied emission factors for the JRL flare and UMO Boiler.

## What do we mean by Low Emission Landfill?

The Low Emission Landfill (LELF) integrates a variety of technologies and operating standards to minimize emissions from disposed waste. One of the most important components of the LELF is comprehensive gas collection and control system, installed on an accelerated timeline to ensure effective coverage throughout the gas-generating life of the waste. Placement of geosynthetic cover helps to maximize collection and minimize emissions while also reducing leachate generation.

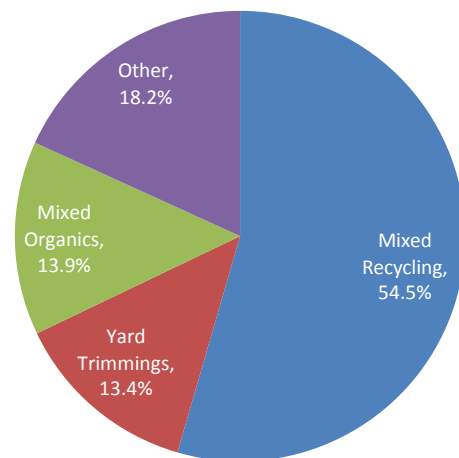
Juniper Ridge has other features to ensure optimal performance. For example, the facility’s proposed gas treatment system will include state-of-the art gas scrubbing technology to remove contaminants from the collected gas, offering a level of treatment that many landfill operators would find cost-prohibitive. Furthermore, given the proximity of the UMO campus, JRL is ideally situated with a productive end-use for the landfill gas it generates.

## Greatest emission reductions come from recycling

The difference between emission rates for landfills and waste-to-energy facilities is minor compared to the huge greenhouse gas benefits that can be realized through recycling. According to EPA, over 54% of Municipal Solid Waste (MSW) consists of potentially recyclable materials such as paper, glass, metal, and plastic.

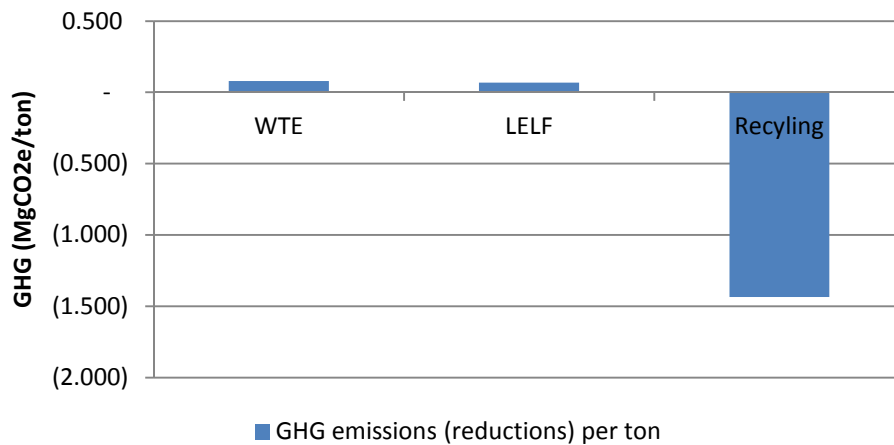
Using the EPA’s Waste Reduction Model (WARM), we see that achieving a 50% diversion rate can reduce GHG emissions by 1.435 MgCO2e. Compared to this, the 0.012 Mg difference between waste to energy and landfills is minimal.

The GHG benefit is large because recycling reduces the



need to extract, process, and transport virgin materials such as timber, metal ore, and other raw resources. Combined, these activities far exceed the energy required to fuel recycling vehicles and power material recovery facilities.

From the perspective of low-carbon resource management and mitigating global climate change, finding sustainable ways to develop recycling infrastructure and promote recycling behavior is much more significant than deciding which type of disposal infrastructure to employ.



In the coming months we will focus on expanding our Zero-Sort® service offerings in Maine. We take great pride in the effectiveness of our recycling platforms, which improves the environmental and economic efficiency of recycling and, most importantly, increases participation by making recycling simple and convenient. By switching to Zero-Sort and Pay-As-You-Throw, Brewer, Maine increased its recycling rate from 4% to 30%. Communities in Massachusetts have achieved up to 42% with Zero-Sort.

### Conclusion

Well-designed and -operated landfills are capable of achieving better greenhouse gas performance than waste-to-energy facilities. However even the best disposal facility will never attain the same level of GHG reduction as recycling. The most effective resource management hierarchy will leave the question of disposal technology up to local conditions, and focus primarily on the development of robust recycling infrastructure and markets.

**About Casella:** Casella has been committed to reducing GHG emissions from resource management since 2003, when we joined the EPA Climate Leaders program as the only charter member in our industry. Between 2005 and 2010 we **reduced our greenhouse gas emissions by 45%**. This is equivalent to taking 175,000 cars off the road or planting 192,000 acres of pine forest each year. In recognition of our achievement, we received a **2012 Climate Leadership Award** from the EPA, the Climate Registry, the Center for Climate and Energy Solutions, and the Association of Climate Change Officers. We have also been recognized as the **2008 EPA Landfill Methane Outreach Project Partner of the Year**. In 2010, we **diverted over 890,000 tons of recyclables and organics** from disposal.

**ATTACHMENT 10**

**SUMMARY OF ENVIRONMENTAL MONITORING PROGRAM**

represent groundwater in the soils at the base of the stream. Information on the geologic formation in which each monitoring well is screened, as well as the distance below ground of each screened interval, is listed in Table 2-1.

**TABLE 2-1**

**GROUNDWATER MONITORING LOCATIONS**

<b>Monitoring Well</b>	<b>Position Relative to Landfill</b>	<b>Screen Depth Interval (feet-BGS)</b>	<b>Geologic Formation Screened</b>
MW-204	Downgradient	13.8 – 18.8	Till
MW-206	Upgradient	15.0 – 20.0	Till
MW-207	Upgradient	25.0 – 30.0	Bedrock
MW11-207R	Upgradient	39.5 – 44.5	Bedrock
MW-212	Upgradient	12.0 – 17.0	Till
MW-223A	Downgradient	28.0 – 33.0	Bedrock
MW-223B	Downgradient	12.6 – 17.6	Till
MW-227	Downgradient	15.0 – 20.0	Till
MW-301	Downgradient	162.7 – 182.7	Bedrock
MW-302R	Side-gradient	19.5 – 29.5	Bedrock
MW-303	Upgradient	34.7 – 44.7	Till
MW-304A	Upgradient	29.5 – 39.5	Bedrock
MW-401A	Downgradient	98.8 – 108.8	Bedrock
MW-401B	Downgradient	10.0 – 20.0	Till
MW-402A	Downgradient	95.5 – 105.5	Bedrock
MW-402B	Downgradient	12.0 – 22.0	Till
DP-4	Downgradient (In proximity of leachate pond)	18.5 – 24.5	Till
P-04-02	Downgradient (In proximity of leachate pond)	(32.11 – 37.11) <sup>1</sup>	Till
P-04-04	Downgradient (In proximity of leachate pond)	(27.21 – 32.21) <sup>1</sup>	Till
MW04-102	Downgradient (In proximity of leachate pond)	10 – 15	Till
MW04-105	Downgradient (In proximity of leachate pond)	14.8 – 19.8	Till
MW04-109R	Downgradient (In proximity of leachate pond)	15.0 – 20.0	Till
MW-216BR	Downgradient	14.6 – 19.6	Till
MW09-901	Downgradient	15.0 – 20.0	Till
PWS10-1 <sup>2</sup>	Downgradient	about 12 to 18 inches	Stream Alluvium
PWS10-2 <sup>2</sup>	Downgradient	about 12 to 18 inches	Stream Alluvium
PWS10-3 <sup>2</sup>	Downgradient	about 12 to 18 inches	Stream Alluvium
<b>Note</b>			
1. Screened interval for P-04-02 and P-04-04 are from top of PVC well.			
2. New probes installed for each sample event.			

**TABLE 2-2**

**SURFACE WATER, LEACHATE, UNDERDRAIN, AND LEAK DETECTION MONITORING LOCATIONS**

<b>Location Designation</b>	<b>Water Body Description</b>	<b>Position Relative To Landfill</b>
SW-1	Unnamed tributary of Pushaw Stream	Downgradient
SW-2	Unnamed tributary of Pushaw Stream	Upgradient
SW-3	Unnamed tributary of Pushaw Stream	Downgradient
SW-DP1	Stormwater Detention Pond #1	Detention pond
SW-DP6	Stormwater Detention Pond #6	Detention pond
LF-UD-1	Cell 1 underdrain at MH #5	Underdrain
LF-UD-2	Cell 2 underdrain at MH #5	Underdrain
LF-UD-3A	Cell 3A underdrain at MH #5	Underdrain
LF-UD-3B	Cell 3B underdrain at MH #5	Underdrain
LF-UD-4	Cell 4 underdrain at MH #5	Underdrain
LF-UD-5-6	Cell 5 & Cell 6 Underdrain (combined flow)	Underdrain
LF-UD-6	Cell 6 Underdrain	Underdrain
LF-UD-7	Cell 7 underdrain at MH #5	Underdrain
LP-LD-1	Leachate pond leak detection at MH #1	Leachate pond leak detection
LP-UD-1	Leachate pond underdrain south end at MH #7	Leachate pond underdrain
LP-UD-2	Leachate pond underdrain north end at MH #7	Leachate pond underdrain
LF-COMP	Composite sample of LF-UD-1 and LF-UD-2 when water level in manhole covers both of these inlet pipes at MH #5	Underdrain
LP-COMP	Composite sample of LP-UD-1 and LP-UD-2 when water level in manhole covers both of these inlet pipes at MH #7	Underdrain
LT-C4L	Leachate – Cell 4 pump station	Leachate

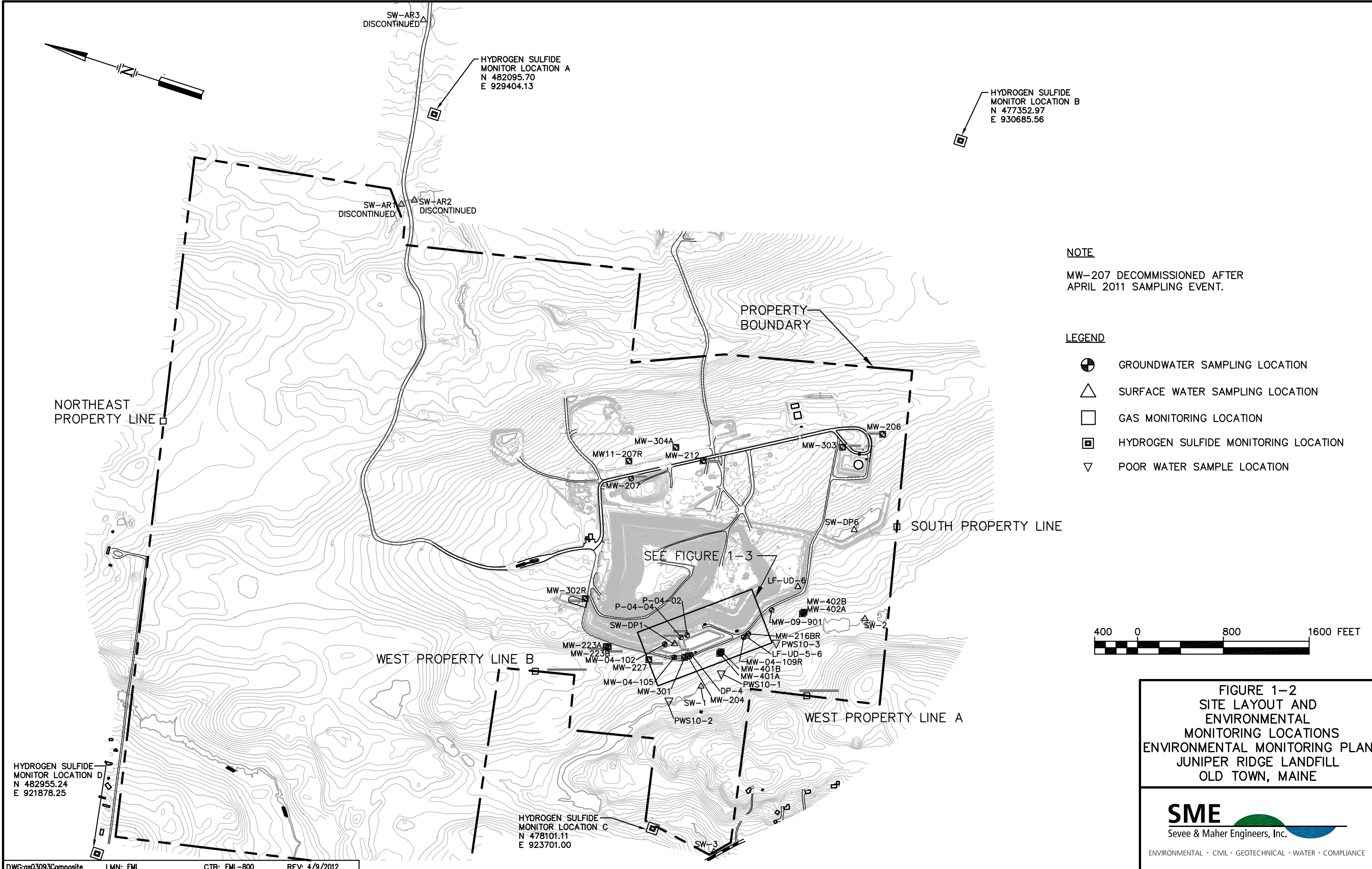
**2.3 Surface Water Locations**

Surface water samples were collected at five locations in 2011. SW-1, SW-2, and SW-3 are collected at the unnamed tributary to Pushaw Stream. SW-1 and SW-3 are located downgradient of the landfill while SW-2 is located upgradient of the landfill. SW-DP1 and SW-DP6 are collected at Detention Pond #1 and Detention Pond #6, respectively.

**2.4 Leachate Sample Location**

During 2011, leachate samples were collected from the Cell 4 leachate pump station designated as LT-C4L. The location of LT-C4L is shown on Figure 1-3. Use of the leachate pond as the primary onsite leachate storage structure was discontinued with the construction of Cell 4 during the summer of 2008, resulting in elimination of the pond's pump station sampling





**NOTE**

MW-207 DECOMMISSIONED AFTER APRIL 2011 SAMPLING EVENT.

**LEGEND**

- ⊕ GROUNDWATER SAMPLING LOCATION
- △ SURFACE WATER SAMPLING LOCATION
- GAS MONITORING LOCATION
- ⊠ HYDROGEN SULFIDE MONITORING LOCATION
- ▽ POOR WATER SAMPLE LOCATION

**FIGURE 1-2  
SITE LAYOUT AND  
ENVIRONMENTAL  
MONITORING LOCATIONS  
ENVIRONMENTAL MONITORING PLAN  
JUNIPER RIDGE LANDFILL  
OLD TOWN, MAINE**



ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

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**TABLE 4-1**  
**2010 ANALYTICAL PROGRAM**

Water Quality Parameter	Method	PQL <sup>1</sup> (mg/l)
TDS	STM 2540C	10
TSS	STM 2540D	4
Tannins/Lignins	STM 5550B	0.2
Ammonia (NH <sub>3</sub> -N)	STM 4500 NH <sub>3</sub> E	0.5
Arsenic (As)	SW846/6010B/3010A	0.005
Calcium (Ca)	SW846/6010B/3010A	0.3
Iron (Fe)	SW846/6010B/3010A	0.05
Magnesium (Mg)	SW846/6010B/3010A	0.3
Manganese (Mn)	SW846/6010B/3010A	0.05
Potassium (K)	SW846/6010B/3010A	0.3
Sodium (Na)	SW846/6010B/3010A	0.3
Total Organic Carbon (TOC)	SW846/9060A	2.0
Chloride (Cl <sup>-</sup> )	SW846/E300/9056	1.0
Sulfate (SO <sub>4</sub> )	SW846/E300/9056	2.0
Nitrate (NO <sub>3</sub> -N)	SW846/E300/9056	0.3
Bicarbonate (HCO <sub>3</sub> )	STM 2320B	1.5
Volatile Organic Compounds (VOCs) <sup>3</sup>	U.S.EPA 8260B	0.001 – 0.01
Chemical Oxygen Demand (COD)	Hach 8000	10
Sulfide <sup>8</sup>	SW846/9030B	2.5
Total Kjeldahl Nitrogen (TKN) <sup>4</sup>	STM 4500 NH <sub>3</sub> E	0.5
Total Phosphorous <sup>5</sup>	U.S.EPA 365.3	0.04
BOD <sup>6</sup>	STM 5210B	5
Cadmium (Cd)	SW846/6010B/3010A	0.0006
Copper (Cu)	SW846/6010B/3010A	0.003
Nickel (Ni)	SW846/6010B/3010A	0.005
<b>Field Parameters</b>		
Groundwater Elevation	Field Measurement	NA
Specific Conductance	Field Measurement	NA
Dissolved Oxygen	Field Measurement	NA
pH	Field Measurement	NA
Temperature	Field Measurement	NA
Turbidity	Field Measurement (APHA 2130)	NA
Monitoring Well Pumping Rate	Field Measurement	NA
Surface Water Flow Rate	Field Measurement	NA
Field Observations	Field Observations	NA
Total Alkalinity	Field Measurement	5

**Notes:**

1. Practical Quantitation Limits (PQLs) have been defined by U.S.EPA as up to 10 times the method or instrument detection limit and therefore may vary between laboratories.
2. NA = Not Applicable.
3. VOCs are the 47 organic constituents listed in Appendix I of 40 CFR Part 258. PQLs for VOCs are reported as µg/L.
4. Monitoring wells and leachate only.
5. Surface waters and underdrain only.
6. Surface waters only (excluding detention ponds and underdrains).
7. During spring sample event, MW-401B, LF-UD-1, LF-UD-2, LF-UD-3, LF-UD-3B, LF-UD-4, LF-UD-5, LP-UD-1, LP-UD-2, DP-4, P-04-02, and MW-204 are analyzed for VOC compounds. Leachate is analyzed for VOC compounds during all three monitoring events.
8. Sulfide is done on leachate only in May.

**Method Reference:** The analytical methods selected are presented in Test Methods for Evaluating Solid Waste, OSWER, SW-846, Third Edition, as revised; Methods for Chemical Analysis of Water and Wastes, EMSL, EPA-600/4-79-020, revised March 1983; and Standard Methods for the Examination of Water and Wastewater, APHA, 19th Edition, 1995. Equivalent and appropriate analytical methods may be substituted with Juniper Ridge Landfill approval, e.g. manual for automated and vice versa.