

DATE	INVOICE NO.	COMMENT	AMOUNT	DISCOUNT	NET AMOUNT
10/25/2012	TYPEI-BMOD	TYPE I-B MODIFICATION-FACILITY PERMI	100.00	0.00	100.00
Check: 006663      10/26/2012    TREASURER, STATE OF NH			Ref:	<b>TOTAL</b>	100.00



ENVIRONMENTAL RESOURCE RETURN CORP.

59 STILES ROAD - SUITE #106  
SALEM, NH 03079  
603-894-9800 / Fax 603-894-9822



EMV® E232check™ Check Fraud Protection for Business

PAY  
\*ONE HUNDRED AND XX / 100

DATE  
10/26/2012

CHECK AMOUNT  
\*\*\*\*\* 100.00\*

TO THE ORDER OF  
TREASURER, STATE OF NH  
WASTE MANAGEMENT DIVISION  
PO BOX 95  
CONCORD, NH 03302-0095  
Environmental Resource Return Corp.

TWO SIGNATURES REQUIRED OVER \$5,000

*Jessie Denean*

AUTHORIZED SIGNATURE

Security features. Details on back.



⑈006663⑈ ⑆011401850⑆ 103387⑈



ENVIRONMENTAL RESOURCE  
RETURN CORPORATION

Environmental Resource Return Corp  
270 Exeter Rd.  
Epping, NH 03042

P: (603) 679-2626  
F: (603) 679-2526  
www.errco.com



October 19, 2012

Mr. Wayne Wheeler, PE  
NHDES  
Waste Management Division  
Permitting & Design Review Section  
29 Hazen Dr., P.O. Box 95  
Concord, NH 03302-0095

**Re: Environmental Resource Return Corp. (ERRCO), Epping, NH  
Permit No. DES-SW-SP-92-003  
Type I-B Permit Modification Application**

Dear Mr. Wheeler:

Enclosed please find three (3) original, signed copies of a Type I-B Permit Modification Application for a revised O&M Manual, Closure Plan and condition for the annual stockpile survey. Also enclosed please find a check for \$100 for the processing fee and copies of notifications sent to the Epping Board of Selectmen and Town Clerk and the Lamprey Regional Solid Waste Cooperative.

On May 18, 2011 you provided a letter with comments on the Draft of the Facility Operations Manual (O&M Manual). This final O&M Manual incorporates modifications to address these comments. One of those comments asked that outlet information be included in the O&M. We have incorporated an Appendix that includes our market outlets. However, we are submitting that information in a separate envelope for your information, but are asking that the information be considered confidential because it impact our competitive advantage in certain markets.

If you have any questions, please feel free to contact me. I am available by phone at 603-496-5175 or by e-mail at [CNelson@reenergygateway.com](mailto:CNelson@reenergygateway.com).

Very truly yours,

**ENVIRONMENTAL RESOURCE RETURN CORP.**

Charles V. Nelson, PE  
Environmental Compliance Officer

Enclosures

cc. Greg Leahey  
David Devito



**ERRCO**  
Recycling

ENVIRONMENTAL RESOURCE  
RETURN CORPORATION

Environmental Resource Return Corp  
270 Exeter Rd.  
Epping, NH 03042

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October 18, 2012

Linda Foley, Town Clerk  
157 Main Street  
Epping, NH 03042

Board of Selectmen  
c/o Gregory C. Dodge, Town Administrator  
157 Main Street  
Epping, NH 03042

Re: Environmental Resource Return Corporation: Notice of Filing of Type I-B Modification

Dear Clerk Foley and Mr. Dodge:

This letter is being provided to you and to the Board of Selectmen in accordance with New Hampshire Department of Environmental Services Solid Waste Rule Env-Sw 303.07. The purpose of the letter is to advise you that Environmental Resource Return Corporation ("ERRCO") intends to file a Type I-B permit modification application. ERRCO may file the application as soon as Monday, October 22, 2012, or as late as October 31, 2012. One copy of the application is enclosed with each letter for town use and public accessibility.

Attached is a Notice of Filing that provides the information required by Env-Sw 303.05(e).

If you have any questions regarding the enclosed Type I-B permit modification application, please contact either Charles Nelson or Wayne Wheeler at the telephone numbers listed on the Notice of Filing.

Very truly yours,

Charles V. Nelson, PE  
Environmental Compliance Officer

cc: NHDES

**Notice of Filing  
Type I-B Modification  
to Solid Waste Facility Permit No. DES-SW-SP-92-003  
Environmental Resource Return Corporation (ERRCO)  
270 Exeter Road  
Epping, New Hampshire**

Pursuant to RSA 149-M and New Hampshire Administrative Solid Waste Rules Env-Sw 315, a Type I-B Modification to Solid Waste Facility Permit will be filed within 30 days by ERRCO, 270 Exeter Road, Epping, New Hampshire with the New Hampshire Department of Environmental Services (NHDES) Waste Management Division (WMD). ERRCO is the Facility Owner and Operator as well as the Property Owner. ERRCO's mailing address is 89 Lowell Road, Salem, NH 03079.

The permit application is being submitted with an update of Operations & Maintenance Manual, an update of the Closure Plan and cost estimate, and a change in the annual stockpile survey to make it consistent with ERRCO's year end stockpile survey. There is no disposal of solid waste at this site.

The ERRCO Facility is designated as a Commercial Service Type facility with an unlimited service area and life expectancy. No increases in storage capacity are anticipated to be necessary for this permit modification.

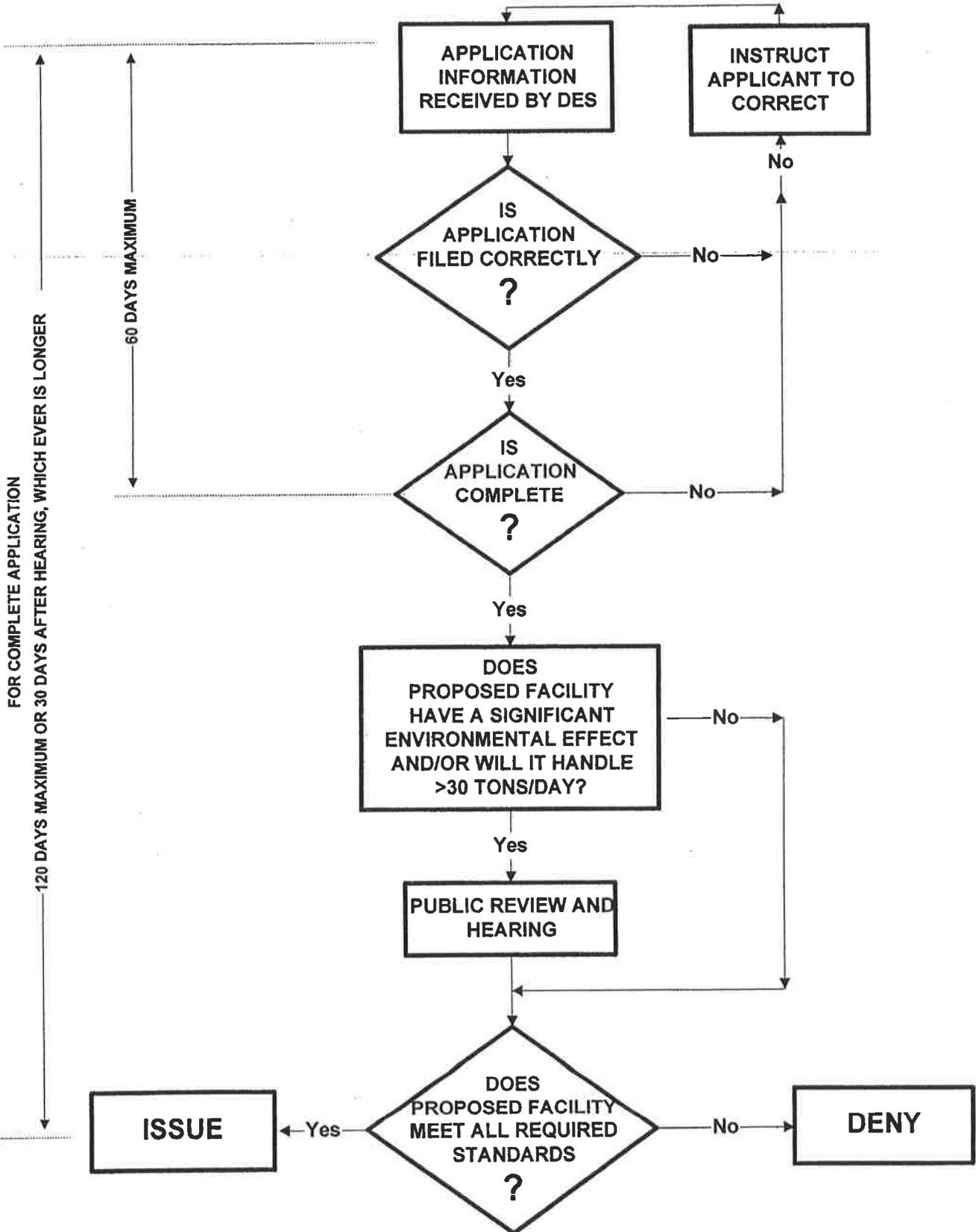
Copies of the Type I-B Modification may be reviewed at the offices of the Town of Epping Selectmen's Office and Town Clerk, Monday thru Thursday, 8:00 a.m. to 4:00 p.m., Friday 8:00 a.m. to 12:00 noon, closed Saturday and Sunday.

Inquiries during the application review process may be directed to the Applicant's Representative, Charles Nelson, P.E., ERRCO, 270 Exeter Road, Epping, NH (mailing address is 95 Stiles Road, Suite 106, Salem, NH 03079) telephone 603.496.5175 or Wayne Wheeler, NHDES, WMD, 29 Hazen Drive Concord, NH telephone 603.271.5185.

A copy of NHDES Standard Permit Application Processing Provisions is attached.



**STANDARD PERMIT APPLICATION PROCESSING PROVISIONS  
AS PROVIDED IN PARTS Env-Wm 303 - 305  
OF THE NEW HAMPSHIRE SOLID WASTE RULES**



## ACKNOWLEDGEMENT OF RECEIPT

I, Linda Foley, Town Clerk, hereby acknowledge that on October 23, 2012, I received the following documents:

1. Letter dated October 19, 2012, Re: Environmental Resource Return Corporation: Notice of Filing of Type I-B Modification; and
2. Application Form for Type I-B Modification to Solid Waste Facility Management Facility Permit for Environmental Resource Return Corporation, Permit Number DES-SW-SP-92-003, dated October 19, 2012.

*Linda Foley*

---

Linda Foley, Town Clerk  
Town of Epping, New Hampshire

## ACKNOWLEDGEMENT OF RECEIPT

I, Gregory C. Dodge, Town Administrator, hereby acknowledge that on October 23, 2012, I received the following documents on behalf of the Town of Epping Board of Selectmen:

1. Letter dated October 19, 2012, Re: Environmental Resource Return Corporation: Notice of Filing of Type I-B Modification; and
2. Application Form for Type I-B Modification to Solid Waste Facility Management Facility Permit for Environmental Resource Return Corporation, Permit Number DES-SW-SP-92-003, dated October 19, 2012.

  
Gregory C. Dodge, Town Administrator  
Town of Epping, New Hampshire



**ERRCO**  
Recycling

ENVIRONMENTAL RESOURCE  
RETURN CORPORATION

Environmental Resource Return Corp  
270 Exeter Rd.  
Epping, NH 03042

P: (603) 679-2626  
F: (603) 679-2526  
www.errco.com



October 18, 2012

Paul R. Deschaine, Chairman  
Lamprey Regional Solid Waste Cooperative  
Stratham Town Offices  
10 Bunker Hill Ave.  
Stratham, NH 03885

Re: Environmental Resource Return Corporation: Notice of Filing of Type I-B Modification

Dear Sir/Madam:

This letter is being provided to you in accordance with New Hampshire Department of Environmental Services Solid Waste Rule Env-Sw 303.07. The purpose of the letter is to advise you that Environmental Resource Return Corporation ("ERRCO") intends to file a Type III permit modification application. ERRCO may file the application as soon as Monday, October 22, 2012, or as late as October 31, 2012. One copy of the application is enclosed with this letter for the Cooperative's use and public accessibility.

Attached is a Notice of Filing that provides the information required by Env-Sw 303.05(e).

If you have any questions regarding the enclosed Type I-B permit modification application, please contact either Charles Nelson or Wayne Wheeler at the telephone numbers listed on the Notice of Filing.

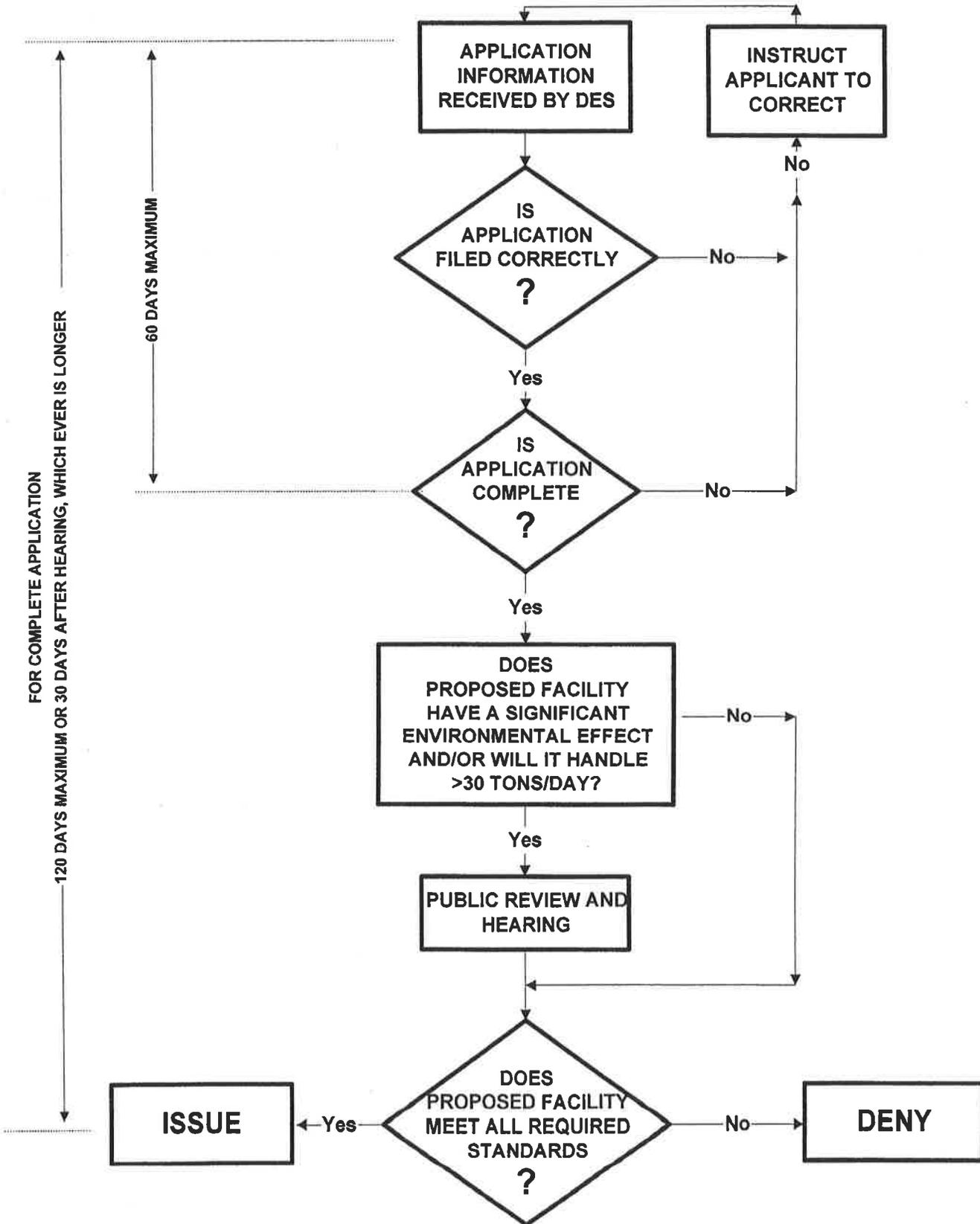
Very truly yours,

Charles V. Nelson, PE  
Environmental Compliance Officer

cc: NHDES



**STANDARD PERMIT APPLICATION PROCESSING PROVISIONS  
AS PROVIDED IN PARTS Env-Wm 303 - 305  
OF THE NEW HAMPSHIRE SOLID WASTE RULES**



## ACKNOWLEDGEMENT OF RECEIPT

I, STACEY GRELLA, hereby acknowledge that on October 22, 2012, I received the following documents on behalf of the Lamprey Regional Solid Waste Cooperative and its Chair:

1. Letter dated October 19, 2012, Re: Environmental Resource Return Corporation: Notice of Filing of Type I-B Modification; and
2. Application Form for Type I-B Modification to Solid Waste Facility Management Facility Permit for Environmental Resource Return Corporation, Permit Number DES-SW-SP-92-003, dated October 19, 2012.

  
\_\_\_\_\_  
Signature

STACEY GRELLA  
\_\_\_\_\_  
Printed Name



Waste Management Division

<b>For Office Use Only:</b>	
WMD Log #:	_____
Date Rec'd.:	_____
No. of Copies:	_____
Fee: \$	_____ /Check # _____

APPLICATION FORM FOR  
**TYPE 1 MODIFICATION  
TO SOLID WASTE MANAGEMENT  
FACILITY PERMIT**



pursuant to  
RSA 149-M and New Hampshire Administrative Solid Waste Rule Env-Sw 315

**SECTION I. FACILITY IDENTIFICATION**

(1)	Facility name: Environmental Resource Return Corporation
(2)	Functional classification: <input type="checkbox"/> collection/storage/transfer <input checked="" type="checkbox"/> processing/treatment <input type="checkbox"/> landfill
(3)	Mailing address: 95 Stiles Road, Suite 106, Salem, NH 03079
(4)	Permit number: DES-SW-SP-92-003
(5)	Location, by street address and municipality: 270 Exeter Road, Epping, NH 03042

**SECTION II. PERMITTEE IDENTIFICATION**

(1)	Permittee/applicant name: Environmental Resource Return Corporation		
(2)	Mailing address: 95 Stiles Road, Suite 106, Salem, NH 03079		
(3)	Telephone number: (603) 679-2626		
(4)	If different than above, identify the individual associated with and designated by the permittee/applicant to be the contact individual for matters concerning this application:		
	(a) Name: Charles V. Nelson, P.E.	(b) Title: Environmental Compliance Officer	
	(c) Mailing address: Gateway Enviroservices, LLC, 95 Stiles Road, Suite 106, Salem, NH 03079		
	(d) Telephone number: (603) 496-5175	(e) E-Mail: cnelson@reenergygateway.com	

**SECTION III. DESCRIPTION OF PROPOSED MODIFICATION**

Describe the proposed modification by answering each of the following questions. Use additional paper as necessary.

(1)	Provide a <b>BRIEF</b> description of the proposed modification. [Check box if response is provided on separate paper <input type="checkbox"/> Update Operations & Maintenance Manual, Update Closure Plan and Closure Cost Update and change the date of annual survey.		
(2)	Identify whether the proposed modification is a "type I-A" or "type I-B" modification. (If uncertain, use the worksheet provided with the instructions for this form): <input type="checkbox"/> Type I-A <input checked="" type="checkbox"/> Type I-B		
(3)	Identify, either below or on separate paper, each written permit condition that will require amendment to effect the proposed modification and provide draft language for the same. [Check box if response is provided on separate paper <input checked="" type="checkbox"/>		
(4)	Identify, below, each "last approved plan of record" identified in the permit which will be affected by the proposed modification and will therefore require amendment/revision:		
	<b>Check here if affected</b>	<b>TYPE OF PLAN</b>	<b>DES APPROVAL DATE</b>
	<input checked="" type="checkbox"/>	Facility design plans/specifications	11/29/2007
	<input checked="" type="checkbox"/>	Facility operating plan	11/29/2007
	<input checked="" type="checkbox"/>	Facility closure plan	10/21/2003
	<input type="checkbox"/>	Facility financial assurance plan	
			<b>WMD LOG #</b> (Find this number on your copy of the approval)
			200700133, 200700154, 200700172, 200700204
			200700133, 200700154, 200700172, 200700204
			200300183, 200300250, 200300275, 200300290, 200300304

	<input type="checkbox"/>	Other plan (specify):		

(5)	Submit, on separate paper, the proposed amendments/revisions for each document identified pursuant to (4) above, based on the below listed instructions. (Note: The revisions may be presented in the form of replacement pages ready for substitution into the last approved plan of record, each page being clearly marked to show the date of revision. In the event there is no last approved plan of record for any of the following, you must prepare and submit a full plan, including the proposed modification(s), in accordance with the applicable cited Rules.)	
	<input type="checkbox"/>	Facility design plans must be prepared in accordance with Env-Sw 1103.05.
	<input checked="" type="checkbox"/>	Facility operating plans must be prepared in accordance with Env-Sw 1105.11.
	<input checked="" type="checkbox"/>	Facility closure plans must be prepared in accordance with Env-Sw 1106.04.
(6)	Financial assurance plans must be prepared as specified in Env-Sw 1400 and must include all related draft financial assurance documents required to effect the proposed modification.	
	In order for DES to approve the proposed modification, the agency must be able to conclude from the information provided in this application that the proposed modification meets all applicable requirements of the Rules. Therefore, for any aspect of the proposed modification where it may not be self-evident that the proposed change meets all applicable requirements of the Rules, you should explicitly provide such information. Provide your response below and/or use separate paper as necessary. (Check box if response is attached on separate paper <input type="checkbox"/> )	
	None	

### SECTION IV. SCHEDULE

Provide a proposed schedule for implementing the modification. Use separate paper if necessary. (Check box if response is attached on separate paper )

Upon Approval
---------------

### SECTION V. STATEMENT OF NEED

Provide a statement of need describing why the proposed change is necessary or desirable. Use separate paper if necessary. (Check box if response is attached on separate paper )

Changing markets and processing technologies provide the opportunity to recycle or beneficially re-use more of the incoming waste constituents. These changes will allow ERRCO to continue to increase our recycling rate.
--

### SECTION VI. IMPACT EVALUATION

On separate paper, identify all impacts, both positive and adverse, which the proposed modification will have, including each of the below listed considerations.

- (1) The effect the modification will have on facility function, capacity, life expectancy, service type and service area.
- (2) The effect the modification will have on the environment, public health and safety.
- (3) The effect the modification will have on the state's ability to achieve the goals and objectives specified in RSA 149-M:2, namely achieving a 40% minimum weight reduction in the solid waste stream on a per capita basis by the year 2000 and avoiding the disposal of recyclable materials in a lined landfill with a leachate collection system.
- (4) The effect the modification will have on establishing and maintaining integrated waste management systems consistent with the hierarchy of waste management methods in RSA 149-M:3 [the methods, in descending order of preference as specified in RSA 149-M:3, are: source reduction; recycling and reusing; composting; waste-to-energy technologies (including incineration), incineration without resource recovery; and landfilling].
- (5) Consistency with the state solid waste management plan and the applicable district plan, pursuant to RSA 149-M:12, I(b). If necessary, contact the P&DRS at (603) 271-2925 for plan information.

### SECTION VII. PUBLIC BENEFIT DEMONSTRATION

Provide a "demonstration of public benefit" based on the below listed instructions. Check which one of the listed instructions applies to your particular application.

<input type="checkbox"/>	For a type I-A modification of a standard permit, provide a "demonstration of public benefit" in accordance with RSA 149-M:11 and in conformance with the provisions of Env-Sw 1005.05. Prepare and submit the demonstration on separate paper.
<input type="checkbox"/>	For a type I-A modification of an emergency permit or a research and development permit, or a permit-by-notification, there is a presumption of public benefit, provided that the proposed modification meets all requirements of the Rules. Therefore, you may skip this section and go to Section VIII.
<input checked="" type="checkbox"/>	For a type I-B modification, there is a presumption of public benefit, provided that the proposed modification meets all requirements of the Rules. Therefore, you may skip this section and go to Section VIII.



**SECTION VIII. OTHER PERMITS**

Complete the following table to identify and provide the status of all other permits or approvals necessary to effect the proposed modification.

Type of Permit/Approval Required	Date the Application was/will be Submitted	Status/Comments
None		

**SECTION IX. LEGAL NOTICES**

Submit proof of having provided certain legal notifications and filings, as follows:

- (1) You must send by certified mail, or deliver in hand, a complete copy of this application to the host municipality, host solid waste management district and other affected entities, with a "notice of filing," as specified by Env-Sw 303.
- (2) For a type I-A modification, you must send by certified mail, or deliver in hand, a "notice of filing" to each owner of property abutting the facility site, as specified by Env-Sw 303. If the applicant/permittee or the owner of the facility site owns any abutting parcel of land, the "notice of filing" must be sent to the owner(s) of the next parcel(s) not owned by the permittee/applicant or facility site owner.
- (3) You must also provide a "notice of filing" to the New Hampshire Department of Justice/Office of the Attorney General (NH DoJ/AGO) if, pursuant to Section X(2) of this form, you are required to submit business and personal disclosure information.
- (4) You must attach to this application "proof" that notification has been provided as required by (1) through (3) above. Therefore, attach a copy of the notice(s) of filing and the signature(s) of all required recipients, acknowledging receipt.

**SECTION X. CERTIFICATION OF COMPLIANCE/COMPLIANCE REPORT**

All applications for permit modification must be submitted with either certification of compliance or a compliance report, as follows:

- (1) If you are ABLE to certify that each of the statements numbered (1) - (8) below are true, do so by your signature.
- (2) If you are UNABLE to certify that each of the statements numbered (1) - (8) below are true, you must:
  - Prepare and submit a separate Compliance Report as specified by Env-Sw 303.15; and
  - If the proposed modification involves a change in organizational structure, or a change in individuals/entities holding 10% or more of the permittee's debt or equity, or a change in officers, directors, partners or key employees, none of which constitutes a change in operational control of the facility or a change in ownership per Env-Sw 315.02(f), also submit completed "business and personal disclosure forms" for each non-compliant individual and entity involved in the change. Obtain the required forms from the P&DRS at (603) 271-2925. Submit the completed forms, with the notice of filing referenced by Section IX(3) of this form and a copy of the Compliance Report, direct to the New Hampshire Department of Justice/Office of Attorney General, Environmental Protection Bureau, 33 Capitol Street, Concord, NH 03301-6397. [Note: Copies of the completed disclosure forms should NOT be attached to this application when it is submitted to DES or to the host municipality, host solid waste management district and other effected entities, pursuant to Section IX(1) above. Only the NH DoJ/AGO should receive copies of the disclosure forms].

**COMPLIANCE STATEMENT**

The applicant shall certify that each of the statements listed in (1)-(8) below are true for each of the following individuals and entities:

- The applicant, and
- The facility owner, and
- The facility operator, and
- All individuals and entities holding 10% or more of the applicant's debt or equity, and
- All of the applicant's officers, directors, and partners, and
- All individuals and entities having managerial, supervisory or substantial decision making authority and responsibility for the management of the facility operations or the activity(s) for which approval is being sought.

- (1) No individual or entity listed above has been convicted of or plead guilty or no contest to a felony in any state or federal court during the 5 years before the date of the application.
- (2) No individual or entity listed above has been convicted of or plead guilty or no contest to a misdemeanor for a violation of environmental statutes or rules in any state or federal court during the 5 years before the date of the application.
- (3) No individual or entity listed above has owned or operated any hazardous or solid waste facility which has been the subject of an administrative or judicial enforcement action for a violation of environmental statutes or rules during the 5 years before the date of the application.

- (4) No individual or entity listed above has been the subject of any administrative or judicial enforcement action for a violation of environmental statutes and rules during the 5 years before the date of the application;
- (5) All hazardous and solid waste facilities owned or operated in New Hampshire by any individual or entity listed above are in compliance with either.
  - (a) All applicable environmental statutes, rules, and DES permit requirements; or
  - (b) A DES approved schedule for achieving compliance therewith.
- (6) All individuals and entities listed above are in compliance with all civil and criminal penalty provisions of any outstanding consent agreement, settlement, or court order to which DES is a party.
- (7) All individuals and entities listed above have paid, or are in compliance with the payment schedule for any administrative fine assessed by DES.
- (8) All individuals and entities listed above are in compliance with all terms and conditions under every administrative order, court order or settlement agreement relating to programs implemented by DES.

Signature of the permittee/applicant certifying the above statements are true:

Permittee/Applicant Name (Print Clearly or Type) Gregory M. Leahey, President

Permittee/Applicant Signature *Gregory M Leahey*

Date 10/19/2012

### SECTION XI. PERMITTEE/APPLICANT SIGNATURE REQUIREMENTS

The permittee/applicant must sign the following statement prior to submitting this application. All copies of the application filed with DES must bear the permittee's/applicant's ORIGINAL signature. If the permittee/applicant is not an individual, an individual duly authorized by the permittee/applicant shall sign the application.

To the best of my knowledge and belief, the information and material submitted herewith is correct and complete. I understand that any approval granted by DES based on false and/or incomplete information shall be subject to revocation or suspension, and that administrative, civil or criminal penalties may also apply. I certify that this application is submitted on a complete and accurate form, as provided by DES, without alteration of the text.

Permittee/Applicant Name (Print Clearly or Type) Gregory M. Leahey, President

Permittee/Applicant Signature *Gregory M Leahey*

Date 10/19/2012

### SECTION XII. PROPERTY OWNER SIGNATURE

If the permittee and property owner are not the same, the property owner must also sign this form as follows. All copies of the application filed with DES must bear the property owner's ORIGINAL signature. If the property owner is not an individual, an individual duly authorized by the property owner shall sign the application.

(1) I hereby affirm that the permittee/applicant has the legal right to occupy and use the property on which the subject facility is or will be located for the purposes specified in this application.

(2) I hereby affirm that I shall grant access to the property for closure and post-closure monitoring of the subject facility and site as required by RSA 149-M and the New Hampshire Solid Waste Rules (Env-Sw 100 - 300 and Env-Sw 400 - 2000), as amended.

Property Owner Name (Print Clearly or Type) \_\_\_\_\_

Property Owner Signature \_\_\_\_\_

Date \_\_\_\_\_

**ATTACHMENT A**

**PROPOSED PERMIT MODIFICATIONS**

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## ATTACHMENT A

### Section III (3) Proposed Permit Modifications

1. Condition II(3)(d) of Solid Waste Permit DES-SW-SP-92-003 is hereby modified as follows:

Maximum Storage: Per Env-Wm 102.11, this facility's approved storage capacity shall be as follows:

i. Unprocessed Waste (lesser of the two values)

Mixed demolition debris	20,000 cubic yards or 5000 tons
Maximum time	6 months

ii. Processed Waste (lesser of the two values)

Recycled Wood Chips	20,000 cubic yards or 5000 tons
Dirt Fines (C&D Fines)	18,000 cubic yards or 18,000 tons
Aggregates	5,000 cubic yards or 5,000 tons
Metals	1,500 cubic yards or 1,500 tons
Processed shingles	8,000 cubic yards or 8,000 tons
Shingle Fines	500 cubic yards or 500 tons
CRT's/TVs	50 cubic yards or 5 tons
Tires	200 cubic yards or 40 tons
Processed Plant Aggregate (Intermediate)	1,000 cubic yards or 1,000 tons
Rigid Plastics	100 cubic yards or 10 tons
Maximum Time	6 months

iii. Residual/By-pass Waste (lesser of the two values)

Maximum Waste	200 cubic yards or 400 tons
Maximum time	1 week

2. Condition VII(4) of Solid Waste Permit DES-SW-SP-92-003 is hereby modified as follows:

(4) Stockpile Audits: The permittee shall ensure, by written agreement/contract, the availability of the services of an independent Professional Engineer/land surveyor licensed in the State of New Hampshire to survey all stockpiles at the facility, annually to verify compliance with the facility's authorized storage capacity. A

survey of all materials on site by type and location shall be conducted in **December** each year and the results shall be submitted to the Department with the annual facility report. Additional audits shall be required at the sole discretion of the Department if information is received which indicates the storage capacity may be exceeded. The permittee shall provide the authorized surveyors with access to the facility for the designated purpose and shall pay for such services.

**ATTACHMENT B**

**OPERATIONS & MAINTENANCE MANUAL**

# ERRCO

---

## FACILITY OPERATIONS MANUAL

**August 2012**

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**APPENDICES**

# ERRCO, INC.

## FACILITY OPERATIONS MANUAL

### I. FACILITY IDENTIFICATION

Facility Name: ERRCO, Inc.  
270 Exeter Rd.  
Epping, NH 03042

Mailing Address: 89 Lowell Rd.  
Salem, NH 03079

Permit Number: DES-SW-SP-92-003

Facility Type: Construction & Demolition Debris Processing Facility

Facility Capacity: The Facility has the permitted capacity to receive a maximum of 7,250 tons per week (tpw) (up to 250,000 tons per year) of acceptable materials. Most of the large plastic, sheetrock, bulky waste, metals and treated wood are removed prior to incorporating the incoming materials into the demolition debris processing intake pile. Therefore, the throughput design capacity for the processing system is 6,000 tpw. The processing system capacity is more than adequate to handle the permitted tonnage. The processing system is designed to process approximately 80 tons of material per hour of actual operation. A two-shift operation yields approximately 14 hours of effective operations per day. Remaining hours within the two-shift schedule when the Facility is not processing material are used for breaks, downtime, maintenance, and clean-up activities. As a result, the effective weekly capacity of the processing system is 6,000 tpw [Weekdays (5 days at 14 hours at 80 tons/hour) plus Saturday (5 hours at 80 tons per hour)].

Service Type: Unlimited Service

Service Area: Primarily Southern New Hampshire and Northeastern Massachusetts

Permittee: ERRCO, Inc.  
270 Exeter Rd.  
Epping, NH 03042  
Tel. (603) 679-2626

Owner: ERRCO, Inc.  
270 Exeter Rd.  
Epping, NH 03042  
Tel. (603) 679-2626

Operator: Same as Permittee

## **II. AUTHORIZED AND PROHIBITED WASTES**

**A. Pursuant to Permit No. DES-SW-SP-92-003, ERRCO is authorized to accept mixed construction and demolition debris and recyclable materials. These include, but are not limited to:**

- Treated and untreated wood
- Asphalt shingles
- Concrete and Brick
- Metal
- Insulation
- Wire
- Glass
- Carpet
- Sheetrock
- Cardboard
- Corrugated Container Board
- Similar wastes to those listed above in quantities generally incidental to the quantity of wood waste received
- Aluminum beverage can/containers
- Steel cans
- Paper
- Plastics
- Tires
- Televisions and CRTs
- Lead Acid Batteries
- Washers, dryers, refrigerators and other appliances/white goods
- Air conditioners

**B. Pursuant to Permit No. DES-SW-SP-92-003, Prohibited Wastes include:**

- Hazardous waste, as identified in the New Hampshire Hazardous Waste Rules Env-Wm 400 (as updated) or spent containers for the same, including intact or crushed drums
- Household Hazardous Waste
- Asbestos and asbestos containing wastes
- Petroleum or other contaminated soils
- Sludge or sewage
- Contained gaseous waste, unless collected for recycle
- Liquid waste
- Motor vehicles or motor vehicle wastes, as defined by RSA 149-M:1, X-b, and other automobile parts
- Laboratory wastes
- Hospital or medical waste, including infectious waste
- Batteries, except lead acid batteries
- Electrical components
- Radioactive waste
- Bottom ash or fly ash
- Source, special nuclear or by product material as defined by the Atomic Energy Act of 1954, as amended
- Residue from air pollution control facilities
- Mixed municipal solid waste
- Animal wastes, including carcasses and manure
- PCB wastes
- Any waste which, based on its quantity, consistency, size, shape, leaching characteristics, or other physical or analytical characteristics is determined by the operator or the Department to be unsuitable for management at this facility within the terms of this permit
- Any waste, which by its condition at time of delivery, is not readily recognizable or identifiable as to general type, including wastes that may be delivered in sealed containers, or in a chipped, shredded, pulverized, burned or densely compacted state and
- Any waste which can not or will not be processed into waste-derived products which meet the standard set forth in Section VII/condition (8) of the solid waste permit.

**III. ROUTINE OPERATIONS PLAN**

This document has been developed to provide the framework for operation of the ERRCO, Inc. construction and demolitions debris (C&D) processing facility at 270 Exeter Rd., Epping, NH. The **facility** is designed to accept in excess of 7,250 tons per

week of incoming C&D while the C&D processing system is designed to handle 6,000 tons per week.

The customer base includes individuals, demolition contractors and roll-off companies. Outgoing materials are delivered to a variety of markets primarily via 100 yard transfer trailers or 60 yard dump trailers.

### **A. Hours of Operation**

Normal incoming material delivery hours shall be 7:00 AM to 5:00 PM Monday thru Friday and 7:00 AM to 12:00 noon on Saturdays. The Processing Facility is permitted to operate Monday – Friday 7:00 a.m. to 11:00 p.m. and Saturday 7:00 a.m. to 12:00 noon .

### **B. Facility Access, Security and On-site Traffic Patterns**

The access driveway includes fencing and a gate. The gate is closed and locked whenever there is no one at the site. Further, the gate is normally closed when operations are occurring and the facility is not receiving incoming materials and is not shipping outgoing materials.

ERRCO has also installed several strategically located cameras to monitor the operations 24 hours per day. Cameras are motion sensitive and only record if there is activity (motion) within their line of sight.

All incoming and outgoing transport vehicles are directed to the scales to be weighed. Facility users are provided with ERRCO's Tipping Floor Procedures (See Appendix I) and are required to wear the personal protective equipment (PPE) specified therein.

Visitors (non-employees) must check in at the scale or the office and are not allowed beyond the scale/office area without appropriate PPE. Except for pre-approved consultants, contractors and town employees (fire and public works), non-employees are accompanied by ERRCO personnel.

ERRCO has two scales. Under normal operations, one scale is used for incoming vehicle and the other scale is used for outbound vehicles. Should one scale be down for maintenance and repairs, the other scale allows for continued receipt and shipment of materials. Both scales are licensed annually with the New Hampshire Department of Agriculture. They are operated by licensed weigh masters.

Signs are strategically located to help those unfamiliar with the facility. A separate bunker is set up for pickups and small tag -along trailers. This provides a safer environment for these vehicles which typically unload by hand.

### **C. Signs and Postings**

ERRCO maintains a sign that is placed at the intersection of the access drive and Exeter Road (Route 27). The sign includes the following:

- Facility name and Permit Number;
- Name, address and telephone number of permittee;
- The days and hours that the facility will be open to receive waste;
- Types of waste accepted; and
- A statement that unlawful dumping will be subject to fine and prosecution.

In addition to the above facility sign, a copy of the authorization page of the permit bearing the permit number and authorization signature is prominently displayed at the facility. Current operator certification certificates are also prominently displayed.

Numerous safety and traffic related signs are strategically located around the site.

ERRCO employees have on-site access to a complete copy of the permit, a complete copy of the most recently updated operating plan and a complete copy of the closure plan of record.

### **D. Operational Structure**

From the management perspective, ERRCO is structured as two functional groups with some personnel having responsibilities in both areas. They are the Administrative Group and the Operations Group. The Administrative Group has the following responsibilities:

- Sales, setting up commercial accounts and establishing fee schedules for incoming materials;
- Interacting with end markets to establish product specifications, rates and contracts for materials to be shipped (ERRCO is continually seeking and evaluating new markets for all its materials);
- Coordinating with the processing branch and the end use markets to assure timely shipping;
- Coordinating material pick-ups from commercial accounts and interacting with clients on quality and acceptability of materials delivered;
- Coordinating with the scale to assure a complete and accurate record of materials entering and leaving the property and maintaining paper copies of same;
- Processing payments from customers and tracking and following up on accounts receivable;
- Payments to vendors;
- Human Resources;
- OSHA, Stormwater and Solid Waste Operator Training (i.e., Lock-out/Tag-out, confined space, etc.)

The Operations Group is responsible for the following:

- Weighing and classifying all incoming materials and relaying that information to the scale operator for incorporation on the scale ticket;
- Rejecting materials that are not permitted or not acceptable;
- Overseeing users/customers as materials are discharged. This includes directing them to the proper location for discharge and, when appropriate, determining that all liquids have been removed and that there are no hazardous wastes concealed in the loads. (See more detailed description under *Weighing and Inspection of Incoming Materials*)
- Processing incoming materials to the specification of the end use markets.
- Coordinating with the administrative branch when sufficient quantities of materials are ready to ship to market.
- Loading outbound materials
- Equipment maintenance
- Implementation of storm water management practices and on-going inspection of related measures that have been implemented.
- Immediate response to any accidental releases of petroleum related products
- Implementing OSHA related plans (i.e. Lock-out/Tag-out, confined space, etc.)

#### **E. Weighing and Inspection of Incoming Materials**

All materials delivered to the ERRCO facility are weighed on State of New Hampshire certified scales by licensed weigh masters. As a customer enters the site, ERRCO has two Emery 10' X 70' 120000-Vehicle Scales, one for in-bound vehicles and one for out-bound vehicles. All weighing is done by a scale operator licensed by the State of New Hampshire. As part of the annual scale licensing, the scales are certified by an independent third party.

1. Based on the material that the driver reports he has in his load, the scale operator directs the delivery vehicle to the off-loading area. After being directed to the designated drop-off location, the hauler will release all doors or control systems to allow for material discharge. Off-loading will occur under the direct observation and supervision of an ERRCO inspector. Inspection is for all prohibited wastes with particular attention focused on asbestos, waste liquids, medical wastes, putrescible materials, lead or asbestos abatement materials, and potentially hazardous waste. If any materials are observed that may not conform to the definition of acceptable material, the authorized ERRCO inspector will reject the load or immediately contact the Shift Supervisor by radio requesting investigation or clarification of the acceptability of materials received. The haul vehicle bringing in the questionable material will not be allowed to leave until it has been determined that the material is acceptable. Depending on the material identified, the entire load can be rejected or the unacceptable material is rejected. If suspected friable asbestos is identified, the asbestos response plan is implemented (see Appendix II). Any unacceptable material

thought to be hazardous by the ERRCO inspector will be isolated for removal by a third party contractor and paid for by the hauler and/or generator. All materials that are determined or suspected to have hazardous properties will be managed and removed from the Facility in accordance with the procedures identified in the Facility contingency plan. ERRCO maintains an ongoing relationship with a licensed handler of hazardous materials for prompt action should be needed arise for handling materials that cannot be safely handled by Facility staff. An occurrence where material is removed through this procedure will be immediately reported to NHDES.

The yard inspectors are provided radios that report back to the scale. They will notify the scale attendant of out of the ordinary materials delivered or other special information that can be placed on the scale ticket. Once unloaded, the delivery vehicle is re-weighed to determine the weight of material delivered. When the vehicle is re-weighed, the driver is asked for the location where the load originated so that it can be enter into the scale records. The scale tickets are then signed by the individual delivering the materials.

#### **F. Processing – Wood Biomass Fuel and Pressed Board Feedstock**

Incoming loads that are primarily wood are directed to the “source separated” portion of the incoming demolition debris pile (west side). This pile is managed by use of an excavator. Once the materials have been dumped and inspected, the personnel assigned to the pile remove larger contaminants, recyclables and reusable’s including CCA wood, pentachlorophenol and creosote treated wood, plastics, shingles, ABC (asphalt, brick and concrete) wallboard and metals, as appropriate. The primarily clean wood material is then pre-sized for the processing equipment by the claw on the excavator and placed into the pile for processing. The materials that were separated are directed to the appropriate piles for further processing or shipment to recycling markets. Overflow source separated wood is stockpiled in a designated area south of the main receiving area. Incoming trailer loads of mixed demolition debris are directed to the northeast corner of the incoming demolition debris pile. After inspection, they are incorporated into the pile using a front end loader and an excavator.

Incoming roll-off containers with mixed demolition debris are directed to the pre-sort area adjacent to the southeast corner of the incoming demolition debris pile. After inspection and hand removal of small recyclables such as lead acid batteries and CRT’s, these loads are “kick-sorted” with an excavator to separate out bulky materials, sheetrock, CCA wood, pentachlorophenol and creosote treated wood, plastics, and metals. The remainder of the materials are incorporated into the incoming demolition debris pile.

All non-recyclables that are separated by “kick” sorting prior to the processing line are handled in accordance with **Section IV – RESIDUAL WASTE MANAGEMENT.**

The mixed demolition debris and source separated wood processing consists of the following:

1. Mixed demolition material is off-loaded into a staging stockpile at the main processing facility in-feed location. This material is then loaded into the in-feed conveyor by one of the Facility excavators;
2. The material is conveyed to and passes over a disc screen. Material that does not pass through the openings discharges to a conveyor to the first picking line;
3. The under-sized material drops through the spaces between discs and onto a conveyor belt for additional processing;
4. The over-sized material that passes over the initial disc screen is transferred to picking station A where hand separation of various materials will occur. Sorting and classification of non-recoverable material and recyclable material is done at this stage by picking belt personnel. Separate bins are located at the picking station for materials to be recycled further at other materials recovery facilities (i.e. metal, etc.). Self tipping containers are provided for non-recoverable materials to be transferred into containers on the site and then disposed of as residual waste. Large non-wood materials such as rocks and other clean aggregate will also be hand-picked and discharged from the area for storage;
5. The over-sized material then moves from picking station A by conveyor to a wood hog where it is sized-reduced. The material is then fed by conveyor under a magnet for removal of ferrous metal;
6. After passing under the magnet, the material is conveyed to picking station C for the removal of bulky waste, CCA pressure treated wood and metals. Material exiting picking station C is discharged to the float tank light fraction discharge conveyor;
7. The under-sized stream is conveyed to a magnet for metals removal and then screened. The fine material that passes through the screen drops onto a conveyor for transport and discharge outside the building as fines;
8. The larger processed material not dropping through the screens passes onto picking station B where the bulky waste, pressure treated wood and non-ferrous metals are manually separated and deposited into a self tipping residue container and later transferred into a roll-off container outside the processing building;
9. The wood-aggregate mix from picking station B is conveyed to a float tank where wood is floated across the top while the aggregate or heavy fraction sinks to the bottom of the tank;
10. The non-floating aggregate (or heavy) fraction is removed from the float tank by a discharge conveyor and passes a magnet for ferrous metal removal and conveyed outside the building as a process aggregate mix;
11. The wood (or floated) portion of the mix is transferred by screen conveyor to allow water to recycle back into the enclosed float tank. The wood fraction from picking station C discharges to this conveyor also. The wood (or floated) material is conveyed into a wood hog that shreds the material to the end users specified processed material size;
12. Wood chips exiting the wood hog pass under a magnet for ferrous metals removal prior to being conveyed to a screen;
13. The screen can be adjusted to manufacture various wood products to meet end-users specifications. A laborer provides quality control of the stockpile removing plastic, metals and other visible contaminants.

## **G. Shingle Processing**

ERRCO processes incoming shingles into a shingle fines material for use in hot mix asphalt pavement. This is accomplished under and in accordance with the requirements of a New Hampshire Certified Waste Derived Product (CWDP). Shingle loads that are source separated are directed to the shingle pre-sort area. A yard inspector looks at the load prior to and during discharge to determine that no unacceptable materials are part of the load. Once the shingles are discharged, an excavator and yard laborer(s) separate out any remaining contaminants, which are disposed of in accordance with Section IV of this plan. The shingles are then placed in 25 ton stockpiles for asbestos sampling. (This is the maximum size pile for sampling in accordance with the CWDP. Product end users may require additional asbestos sampling.) A minimum of eight (8) grab samples of shingle material are obtained, blended together and sent to a certified laboratory for asbestos analysis. Once the asbestos sample results are received, the material is incorporated into the shingle processing pile or, if the result is positive, sent to disposal at an approved asbestos disposal site. In some cases, the shipper of shingles obtains the asbestos sample in accordance with the above protocol. ERRCO then relies on those sample results.

Once the shingles are ready for processing, they are subject to a grinding process, and then screened. Once a sufficient quantity of material is generated, ERRCO moves the material to the C&D processing building for further processing. The shingles are introduced at an appropriate place in the processing line to allow for final screening and removal of plastics and nails. The overs (large fraction) from the screening are returned to the grinding process or are sent to market for recycling with other products. The fines are stockpiled until they can be shipped to a hot mix asphalt pavement plant that will incorporate them into the final hot mix.

## **H. Creosote Poles & Railroad Ties**

ERRCO accepts both creosote telephone poles and railroad ties. These are stockpiled in a designated area south of the processing building. When sufficient quantity is generated, a portable grinder is brought in and the creosote materials are ground into chip that can be shipped to a biomass power producer that is permitted to receive the materials.

## **I. Brush & White Wood**

ERRCO receives, stockpiles, and processes both brush and white wood. As long as both are actively managed, they are not subject to or a part of the NHDES Solid Waste Permit. They are stockpiled separately in designated areas south of the main processing building. When a sufficient quantity of brush is generated, an outside contractor is brought in to grind the material. The chip that is generated is shipped as a biomass fuel. The white wood is typically held and processed during the winter months when the incoming demolition debris stream is smaller. This chip is also shipped as a biomass fuel.

## J. Concrete, Brick and Asphalt (ABC)

ABC is accepted at ERRCO. It is stockpiled until sufficient quantity is available to make bringing in a portable crusher cost effective. ERRCO also ships some of this material off-site for recycling without any on-site processing. The concrete ERRCO gets normally comes from one of two sources. Concrete coming from large projects that may have contaminants of concern are required to provide documentation that required lead and asbestos abatements have been completed prior to shipping. If there is a question about a coating, laboratory analysis is required. Concrete that comes mixed in regular C&D loads is typically associated with brick and cement blocks that have not been coated or painted. Materials that are deemed to have low levels of contamination that might leach, are incorporated into ERRCO's beneficial reuse products that are used at a lined landfills.

## K. Product Stockpiles

ERRCO has fluid end use markets that require manufacture of end products to their specifications. Additionally, source separation at construction and demolition sites is becoming more common as LEED and other similar programs encourage recycling and reuse. This means that ERRCO is increasingly receiving segregated materials that were formerly mixed with other materials. As a result of changing and developing markets, these materials need further processing to create higher value recycled products, and in other cases they can be consolidated and shipped to market with minimal effort. The following components of C&D are stockpiled.

1. Light iron – There are several metal products that are created as a result of construction and demolition projects. Light iron is the major metal product generated during the front end kick sorting. It is also increasingly received as source separated material. This is either loaded directly into 100 yard trailers for shipping to market or stockpiled and processed further before shipping to market.
2. Miscellaneous metals – ERRCO receives and separates out #1 and #2 iron. It is prepared and shipped directly to larger metal recycling yards, normally in dump trailers. Shipping occurs as soon as a sufficient quantity is stockpiled to make a load.
3. Ferrous shred, cast iron and nails – These materials are generated as part of the C&D processing. They are stockpiled until a sufficient quantity is available to make a load. Typically it is shipped in dump trailers to other metal recyclers.
4. Non-ferrous shred – These materials are generated as part of the C&D processing. It is stockpiled until a sufficient quantity is available to make a

load. Typically it is shipped in 100 yard walking floor trailers to other metal recyclers.

5. Wire – Wire is generated as the C&D is processed. This is stockpiled until sufficient quantity is available to ship. It is shipped via roll-offs or 100 yard trailers.
6. Woodchip for energy or pressed board feedstock – Wood recovered from the incoming material is manufactured into a woodchip which meets the end user's specifications. The woodchip can be used as boiler fuel or as a feedstock in the manufacture of pressed board. This material consists of all the woodchip sized to the requirements of the end user. Shipment of woodchip to markets is normally done on a daily basis. Occasionally, when the end user is down for maintenance, the daily production has to be stockpiled until the maintenance is completed and shipping can resume.
7. Wood Fines – Wood fines are generated when processing. They are used by biomass markets as boiler feedstock. It is normally shipped daily in 100 yard transfer trailers.
8. Soil Fines Unders – Soil fines are generated when processing. They are currently beneficially re-used in shaping and grading projects at lined landfills. As other permitted uses are established, ERRCO will pursue these markets. The materials are stockpiled and normally shipped daily in 100 yard trailers.
9. Intermediate – This is a product that is generated from the float tank. It consists of brick, block, shingles and fine materials that are removed by the float tank. It is used as a landfill roadway construction material and is shipped daily.
10. Processed Shingles – ERRCO generates, stores and ships two processed shingle materials. The shingle fines that are produced are used in hot mix asphalt pavement. These are stockpiled until the end user picks them up. The second product is the shingle overs that are too large to be used in hot mix asphalt pavement. These are shipped to other recyclers that use them as roadway base products that are permitted.
11. Lead Acid Batteries – Lead acid batteries are received incidental to loads. These are collected and placed in a steel box. When a sufficient quantity is collected, the batteries are removed for recycling.
12. Air Conditioners/Refrigerators – Air conditioners, refrigerators and refrigerant recharge containers that are incidental to the loads are separated immediately upon discharge from the transporter and consolidated. When there are enough units, a licensed subcontractor comes to the site and recovers the CFCs and

places a sticker on the units that allow them to be sent on to recycle markets with our other metals.

13. CRTs/TVs – CRTs and TVs that are incidental to the loads are separated immediately upon discharge from the transporter and consolidated. As time allows, they are palletized and wrapped for shipping. When there are 10 to 15 pallets ready, they are shipped to a recycler.
14. Tires – Tires that are incidental to the loads are separated and stockpiled in a 100 yard trailer. When the trailer is full, the tires are shipped to one of several recycling markets.
15. Cardboard – Cardboard that is mixed with C&D when it is delivered is removed, stored in 30 or 40 yard roll-offs. Depending on the markets, the cardboard is baled or shipped loose.
16. Rigid Plastics – Rigid plastics, such as trash barrels, are separated, stored temporarily in a 100 yard trailer and baled for shipment to market.

Table I below provides the maximum stockpile limitations per the permit.

<b>TABLE I MAXIMUM PERMITTED STORAGE LIMITS</b>		
<i>WASTE TYPE</i>	<i>WEIGHT (TONS)</i>	<i>EST. VOLUME (cu. yds.)</i>
Unprocessed Waste		
C&D Waste	5,000	20,000
Processed Waste		
Recycled Wood Chips	5,000	20,000
Dirt Fines (C&D Fines)	20,000/18,000	20,000/18,000
Aggregates	13,000/5,000	13,000/5,000
Metals	800/1,500	800/1,500
Processed Shingles	8,000	8,000
Shingle Fines	500	500
CRT's/TVs	5	50
Tires	40	200
Plant Process Aggregate	1,000	1,000
Rigid Plastics	10	100
Residual/By-pass Waste	50/100	200/400

Since these stockpile categories were established prior to the development of multiple markets for the materials, the individual product/stockpiles listed above have to be

assigned to the storage category that they are most closely aligned with, i.e. woodchip for energy and the pressed board woodchip would fall under the Processed Waste – Recycled Wood Chips category. In order to stay current with higher-end use markets, volumes and tonnages may shift between categories from time to time in order to achieve the highest recycling rates possible. A confidential list of market contacts is found in Appendix III and is updated as needed.

#### **IV. RESIDUAL WASTE MANAGEMENT**

Residual waste consists of non-recyclables including contaminated sheetrock, plastic tarps, Styrofoam insulation, carpet, and other bulky items. ERRCO stockpiles this material and normally ships it to landfills in 100 yard trailers on a daily basis. Contracts are maintained with landfill operators to assure that the materials can be shipped on a timely basis.

#### **V. FACILITY MAINTENANCE, INSPECTION AND MONITORING PLAN**

ERRCO has both plant processing equipment and mobile equipment that needs regular maintenance. A Lock-Out, Tag-Out program has been established for the facility and is a stand alone document. In addition, ERRCO has a Haz-Com program that provides employees with information on the hazards of chemical and petroleum products that are used in maintenance activities. The mill is normally maintained by the staff assigned to the mill. They are supported by the ERRCO mechanics (who have primary responsibility for servicing the heavy equipment fleet) and outside contractors, as needed.

##### **A. Equipment List**

Mill equipment that needs regular maintenance includes the following:

- Hammermills and motors
- 2 Screen decks
- Feeder & Disc Screen
- 2 Cross belt magnets
- 1 Drum Magnet
- Several head pulley magnets
- Motor control starter
- Numerous conveyor belts
- Float Tank

##### **B. Daily Maintenance**

Daily maintenance includes:

- Greasing bearings

- Blowing dust and grit from pinch points
- Cut tapes off shafts and motors
- Clean areas inside machine guards
- Clean processing areas under all equipment (on-going throughout the day)
- At shutdown during cold weather, place wood or pipe between belts and shaker tables to prevent freezing
- Remove nails, etc. from belts
- Use pipe wrench to check that all rollers and belts are free prior to starting each day
- Cut tapes off and remove nails from cross feed magnet and grease fittings
- Scrape shaker screens by hand as needed
- Use air compressors to clean screen on shaker table at the end of each day
- Remove any rags, plastics or wires that have “hung up” on the shaker screens
- Electrical controller must be shut down and maintained every six months.

### C. Periodic Maintenance

Periodic maintenance includes:

- Painting equipment on an annual basis,
- See written Maintenance SOP

ERRCO maintains a fleet of heavy equipment to process and move materials. Equipment needs vary over time depending on the products that are being produced. ERRCO regularly replaces equipment. Currently the equipment includes:

- 6 excavators
- 4 skid steers
- 4 front end loaders
- 1 bulldozer
- 1 sweeper
- 1 water truck
- 1 plow truck with sander
- 1 portable screener
- 1 End dump
- 3 Yard trucks

Regular preventative maintenance and emergency repairs of rolling stock are performed by on-site mechanics. Major maintenance is typically completed by Caterpillar Tractor, either on-site or at their shop. Regular preventative maintenance includes:

- Circle check of equipment by the operator prior to each day’s operation,
- Operators required to grease equipment daily,

- Track engine hours and perform oil changes at regularly scheduled intervals,
- Check hoses for leaks and maintain hose O-rings as needed,
- Repair and replace windows, back-up alarms, tires and lights,
- Maintain heating and cooling systems,
- Monitor and repair cutting blades, buckets and grapples, and
- Weld minor cracks in equipment structures.

#### **D. Other Procedures**

Other maintenance, inspection and monitoring procedures are utilized to address the following nuisance, safety, and environmental factors:

1. Spontaneous combustion – Most of the metals and the soil fines that are stored on site are not combustible. However, the woodchip piles and the incoming demolition debris pile could be subject to spontaneous combustion. The woodchip piles can be ignited by metal objects that are heated in the mill. Additionally, if the woodchip markets are slow and the woodchips become tightly packed, sufficient heat can be generated to allow combustion. However, the probability of this occurring has been greatly reduced by regular shipments. When stockpiles become larger, it is important to ship older chip first and to monitor the pile closely. ERRCO has compost probes to monitor the temperature of the woodchip piles. If pile temperatures approach 180° F, ERRCO must “roll” the pile to release heat and prevent spontaneous combustion. The incoming pile could also be subject to spontaneous combustions. This can occur if a hot load is delivered and not detected or if non-permitted liquid waste (typically muriatic acid) is delivered and not found by the yard inspectors. In both cases, the yard inspector’s must remain alert and aware of the materials being delivered. They must also enforce a non-smoking requirement for employees and the general public who use the facility.
2. Other fire hazards – There are other potential sources of fire on the site. Gasoline and other highly flammable materials are stored in a specially designed cabinet. This minimizes the potential for oils and fluids necessary for equipment to ignite. Electrical fires are minimized by keeping covers on electrical fixtures and deactivating the energy when work on electrical components is required. Personnel using cutting torches are trained prior to use. Use of these torches around flammable materials is prohibited. Smoking is not allowed on the site except in designated areas.
3. On-site fire suppression equipment – ERRCO has fire extinguishers strategically located throughout the facility. A program is in place to have a third party provider annually check the fire extinguishers and replace them as needed. There are three bedrock production wells on-site that are used primarily for dust suppression. As such, there are fire hoses attached to these sources which can be used to douse a small fire or a “hot load”. A 5,000 gallon water truck is also used for dust suppression. This has pumps and can be used as a source of fire

suppression water. ERRCO has a fire pond with a dry hydrant specifically constructed for fire protection.

4. Vector production – By virtue of the materials permitted at the site, there is minimal food attraction for vectors. Despite the restriction, contractors do tend to place all their waste in roll-off containers, resulting in a small amount of waste that will attract vectors. ERRCO ships residual wastes on a daily basis. By actively managing stockpiles, vectors (such as skunks) are discouraged from taking up residence within the stockpiles.
5. Generation of hazardous or explosive gases – An awareness of reactivity of various metals prevents the generation of hazardous or explosive gases. Proper storage of batteries (in accordance with NHDES BMPs) prevents their breakage and the resultant potential for hazardous and explosive conditions.
6. Odors – The primary potential source of odors at ERRCO are related to sheetrock in the fines. If the fines are stockpiled for several weeks prior to shipping, hydrogen sulfide can be generated. Typically, any odor may be released when the fines are loaded for off-site delivery. ERRCO keeps odor control liquids on-site. As soon as odors are noted, odor control is initiated by assigning a laborer with a backpack sprayer to apply odor control agents prior to loading of the materials. The most effective odor control in this case is to continuously ship the soil fines off-site so that they do not have the opportunity to generate odor. Occasionally, a load of incoming material will have a strong odor. In these cases, the loads are rejected before they are discharged.
7. Dust – On dry days, a watering truck is used regularly to wet down driveway surfaces. ERRCO also has a well which is used for spraying concrete pads if dust is an issue. A sweeper is used on the driveway on a regular basis to minimize dust. In addition, the sweeper is used to clean the concrete areas in the yard at the end of each day. When needed, water is also applied to the waste being off loaded and/or fed into the processing system to minimize the creation of dust during the processing.
8. Windblown litter – Sheet plastic and paper can become windblown litter. Portable wind screens are the first line of defense. High mesh fences have also been constructed in critical locations adjacent to the operation. This minimizes windblown materials from migrating in that direction. Laborers are assigned daily to pick up windblown litter.
9. Leachate –By actively managing stockpiles and minimizing their size, ERRCO prevents the generation of leachate.
10. Volatile organic compounds – ERRCO has a Multi-Rae Plus on-site to screen loads that appear to or smell like they may contain hazardous volatile compounds. This is a multiple function detector that can also be used to check oxygen, lower explosive levels, carbon monoxide and hydrogen sulfide in confined spaces.
11. Spills – ERRCO has the potential for spills of petroleum products used in equipment and improperly delivered materials. ERRCO has prepared a SPCC

plan which specifies actions to be taken in the event of a release including immediate actions, clean-up and reporting. There are catch basins located off the concrete pad between the processing building and the easterly property line. Each catch basin is set up as an oil/water separator with oil absorbent padding floating on top. Padding is checked on at least a weekly basis and after each rainfall event.

## **VI. CONTINGENCY PLAN**

ERRCO is an active construction and demolition debris processor and recycler. As such, there are health and safety exposures related to both the employees and those delivering materials. An emergency contact list is included in Appendix VII. This list is also posted beside facility telephones. Key operators in the yard have Nextel's or cell phones that can be used to call emergency services or contact the scale house to call emergency services. This section defines the most likely, significant events that could occur and the course of action that will be pursued.

### **A. Process Line/Mill Accident**

Lock-out, Tag-out is critical to minimize the potential for accidents during maintenance of the processing line. All personnel involved in maintenance of equipment are trained in lock-out, tag-out and issued their own lock. A chart is posted in the electrical room that delineates which pieces of equipment must be de-energized and locked out in order to work on a given piece of equipment. Guarding is critical to prevent injuries during operation of the line. All guards are in place prior to energizing any piece of equipment.

### **B. Fall Protection**

Some maintenance activities require personnel to work off the ground. ERRCO has a lift with a work basket and OSHA approved staging. Harnesses are worn when working from a basket. All staging is set up with full planking and guard rails. ERRCO has added lanyards in critical locations so that workers can connect their harnesses for fall protection.

### **C. Excavator/Forklift Accident**

Only trained and qualified personnel are assigned to operate excavators and forklifts. Operation of this equipment is in areas where the general public can be present either in vehicles or off-loading materials. Safety training is completed and updated on a continuing basis.

### **D. Cutting torch accident**

Cutting torches are used to size larger metal items for market. Training on safety and operation of the torch is required prior to being assigned this task.

#### **E. Petroleum Product Releases**

Several petroleum products are used on-site or may arrive at the site in loads of demolition. ERRCO has signage that specifically states that petroleum products are not to be present in loads, but that does not prevent certain members of the public from trying to drop off inappropriate materials. ERRCO has a Spill Prevention Control and Countermeasures Plan and personnel are trained in accordance with this plan. All tipping is done on a concrete pad that prevents any liquid waste from entering the ground, thereby preventing contamination of soil and/or the groundwater. Clean-up is back charged to hauler/owner to discourage future delivery of un-permitted wastes.

#### **F. Asbestos and Hazardous Waste**

All incoming material is checked for asbestos containing materials and hazardous waste. These materials are rejected when found. ERRCO has a Multi-Rae Plus gas meter for use in detecting hazardous volatile organic compounds. If there is any question as to whether a waste is hazardous, the load is not to be accepted until documentation of non-hazardous materials is provided. Any sealed drum or pail is rejected because it is not known what it contains. The assumption is that it is liquid (which is not acceptable) and possibly hazardous.

#### **G. Fire and Explosion**

Petroleum related products and pressurized tanks of various gases have the potential to create fire or explosion. When encountered, pressurized gas cylinders are segregated and Best Management Practices for the particular gas are used (i.e. CCF's are evacuated by a certified subcontractor). The cylinders are then recycled. There is also the potential of fire and explosion from the fuel and cutting torch gases used at the site. Proper storage and use of these gases are followed. Ammunition and ordnance are occasionally encountered in demolition debris materials. If any ordnance or bomb resembling item is found, the facility will be evacuated and no one is allowed to re-enter until the area has been cleared by the appropriate expert.

### **VII. EMERGENCY RESPONSE PROCEDURES**

The purpose of this section is to provide the framework for responding to a variety of emergencies that could occur on the site. The information in this section will be part of the initial training provided to new employees.

A list of emergency telephone numbers (copy in Appendix IV) is posted in the office, adjacent to the scale computer and in the baler building. The Emergency Coordinator

and Alternate Emergency Coordinator for ERRCO are designated by the General Manager. The designee's telephone numbers are on the emergency telephone numbers list.

It is the responsibility of each employee to immediately assess the risk and determine his course of action in accordance with the following:

#### **A. Dangerous Conditions**

- Stop current activity,
- verbally warn other employees in the vicinity,
- if feasible, rectify the condition,
- immediately notify your supervisor,
- as soon as feasible, directly notify the Emergency Coordinator, and
- meet with your supervisor, the Emergency Coordinator and other key employees to determine how to prevent this condition from occurring again in the future.

#### **B. Personal Injury**

- If you have been trained to do so, deactivate any equipment that is involved. Otherwise, immediately notify your supervisor so he can deactivate or have deactivated the equipment.
- If no equipment is involved, immediately notify your supervisor and then follow his instructions. All employees not directed to become involved must clear the immediate area of the injury and emergency access routes and await further instructions.
- The supervisor will assess the situation and do (or direct) the following:
  - Call 911, if required
  - Notify the Emergency Coordinator of the following:
    - Nature of problem
    - Exact location of incident
    - Severity of problem
  - If trained, apply emergency first aid to reduce or stop bleeding
  - Not attempt to move the injured employee unless under the supervision/direction of a qualified medical professional
  - Assign an employee(s) to clear the access for emergency vehicles and direct them to the location of the injured party.
- The Emergency Coordinator will join the supervisor to assess the situation and assume the following duties:
  - Become the primary point of contact with emergency responders,
  - Interact with the public until the General Manager is available, and
  - Determine if the facility should be temporarily closed.
- Immediately upon resolution of the injury, all involved employees shall meet at the Emergency Coordinator's office to fill out incident reports.

- Within one week of the incident, all involved employees will meet with the Emergency Coordinator to discuss the incident, how it was handled, and whether there needs to be any changes in procedures or on-site equipment to minimize the probability of a recurrence.

### **C. Fire or Explosion**

- In the event of a fire or explosion at the facility, the Emergency Coordinator will immediately be notified. Based on the information available from that call, the Emergency Coordinator will call 911. (Small fires that can be put out with the available extinguisher will be put out.) **No fire fighting will be done at the risk of personal injury.** If personal injury is also involved, the Emergency Coordinator must be notified so that emergency responders can be notified.
- If necessary, the Emergency Coordinator will close the facility and notify the scale operator to clear the access ways for emergency equipment.
- Depending on the location of the fire, the public using the facility will be directed out of the facility via the ERRCO access. Supervisors in the yard are responsible for confirming their areas are clear of the public before exiting. If possible, all non-employees will be asked to wait at the ERRCO training center until it can be verified that all non-employees have been evacuated. (Scale operator is expected to know who is in the yard. He will clear members of the general public to leave.)
- All non-supervisory employees are to leave the site immediately and meet at the training center beside the ERRCO scale. Supervisory personnel are to join them immediately after the public has vacated their area.
- The Emergency Coordinator or designee will meet the emergency vehicle at the facility entrance to direct them to the incident location.
- Incident report forms are available at the ERRCO office and involved employees will fill them out before leaving.
- Within seven (7) calendar days of the incident, all involved parties will meet with the Emergency Coordinator to discuss the incident and determine if any changes in the response mechanisms are required.
- Additional information on emergency response to fires is found in Appendix V, Emergency Action Plan.

### **D. Severe Weather/Natural Disasters**

- Thunder storms are the most common severe weather condition that is encountered at ERRCO.
- Immediately take shelter. The scale, office and/or processing buildings are the best locations for shelter.

### **E. Petroleum Release**

- ERRCO maintains a Spill Prevention, Control and Countermeasures Plan (SPCC). Instructions for handling a petroleum release are found in that document.

## **F. Asbestos or Hazardous Waste**

If there is any question that the material delivered has friable asbestos or hazardous waste, immediately clear the area and notify the Emergency Coordinator. ERRCO has an asbestos management plan. It is found in Appendix II. Suspect hazardous materials include but are not limited to drummed liquid waste, ordinance, and materials specifically labeled as hazardous.

## **G. Medical (Red Bag) Waste**

If medical waste (typically in red bags labeled Bio Hazard) is found in a load, the load is to be rejected. If it is already discharged on the tipping floor, isolate the area and immediately notify the Emergency Coordinator. Do not allow the delivery vehicle to leave the site. Determine from the driver where the load originated from. Contact the hauling company's office to have them contact the source of the material. Depending on the condition of the Red Bags, a determination will need to be made as to whether the site must be shut down until appropriate personnel have removed the material and issued a clearance.

## **VIII. EMPLOYEE TRAINING PROGRAM**

ERRCO maintains an employee training program for all personnel. This training is geared toward health and safety requirements, NHDES Operator Certification requirements, and performance of the duties required of specific positions.

For NHDES Operator Certification requirements, all employees must submit applications to become certified within their first six months of employment. ERRCO is required to have at least one Level IV Certified Operator. Other operators are certified in accordance with their experience and the requirements of the position they hold. ERRCO is required to have at least one Level III or Level IV Certified Operators for every 5 employees. Employees are paid for the time and expenses of attending Certification training and becoming certified. The requirements for annual certification refresher training may be fulfilled by attending NHDES Operator Training sessions or other related training that is approved by the NHDES.

All new employees receive the following training which consists of both classroom and hands-on training:

- Company rules & regulations
- Human resources matters - employee handbook and policies
- Conveyor safety
- Lock-out, Tag-out
- Fall prevention

- Machine guarding
- HAZCOM
- Confined space entry
- Hearing protection
- Blood borne pathogens
- Spill prevention and storm water management
- Emergency Action Plan

Attendance at monthly training sessions is required of all Operations Group employees. They include such topics as:

- Baler maintenance and safety
- Conveyor maintenance and safety
- Personal Protective Equipment
- Slips, Trips and Falls
- Personal Safety
- Operating Safety
- Fire Prevention/Extinguisher Training

ERRCO also trains key individuals as First Aid Responders

Records on all training are kept on file.

## **IX. RECORDKEEPING AND REPORTING**

### **A. Facility Operating Records**

ERRCO shall compile and maintain records at the facility which document all aspects of the operation. At a minimum, this information shall include the following:

- Identification of the facility by name, street address, municipality and permit number.
- Identification of the permittee by name, address and telephone number.
- Identification of all facility operators by name, address, certificate number and dates of employment. All facility operators who do not hold certification as a Solid Waste Operator issued by the State of New Hampshire shall apply for such certification within 6 months of date of hire.
- Quantity, type, source and destination of all waste received by the facility.
- Quantity, type and destination of all waste generated by the facility, if any, including by-pass and residual waste.
- Quantity, type and destination of all certified waste-derived products produced at the facility (none at this time).

- Record of inspections, maintenance and repairs.
- Record of accidents, violations, remedial and emergency event response actions.
- Data from all environmental monitoring performed at or for the facility, whether required by the solid waste rules or the permit or undertaken voluntarily.
- Documentation of contact with the waste management district(s) served by the facility as required by Env-Sw 1105.12.
- Documentation as required by 40 CFR 258.
- Other record keeping information and documentation required by Env-Sw 400 thru 800, as applicable.
- Other information and documentation as required by the terms and conditions of the Solid Waste Permit.

Operating records shall be kept on-site during the active life of the facility unless approval is granted pursuant to the provisions for a Type V permit modification or a waiver to relocate or destroy the records.

Records shall be available to NHDES department inspectors and copies provided to the department upon request.

Operating records shall be maintained in an NHDES approved location subsequent to closure of the facility until approval is received to destroy them.

## **B. General Reporting Requirements**

ERRCO shall notify the NHDES, Waste Management Bureau in writing within 30 calendar days of any change in the facility address, telephone number, key certified operator and contact person(s).

ERRCO shall file an annual facility report by March 31 for the prior calendar year for each year that the facility operates and for each year the facility's post-closure monitoring and maintenance period, as follows:

- If waste was received within the reporting year, the report shall contain the information required by Env-Sw 1105.13, unless as provided by Env-Sw 1105.13(b)(3).
- If no waste was received within the reporting year, the report shall contain the information required by Env-Sw 1105.14, unless as provided by Env-Sw 1105.13(b)(3).

ERRCO shall report all changes in operational and ownership control in accordance with the provisions for a type III or type IV permit modification, as applicable.

ERRCO shall notify the department in writing prior to conducting the following activities at the facility not specifically authorized in the permit;

- Any activity not regulated by the solid waste rules but involving a waste listed in Env-Sw 101.03, and
- Any activity that is permit-exempt in Env-Sw 302.03.

For activities commencing at the facility site after permit issuance, written notice pursuant to the above shall include the following, compiled in the order shown:

- a. Facility name, location by street and municipality, and permit number;
- b. A description of the subject activity;
- c. A site plan showing the location of the subject activity in relation to the permitted facility activities;
- d. The date the subject activity will commence and the anticipated duration of the activity;
- e. Identification and status of other local, state and federal permits and approvals required to implement the subject activity; and
- f. Certification, signed by the permittee, that the activity shall not adversely affect the permitted construction, operation and closure of the facility as required by Env-Sw 1102.02.

### **C. Incident Reporting**

Situations that involve an imminent or substantial risk to human health, safety or the environment or which constitute a violation of the solid waste rules or facility permit shall be report verbally to the NHDES as soon as practicable. A follow-up report shall be prepared within five (5) working days of the time that ERRCO becomes aware of the incident or situation. The written follow-up shall include:

- The facility name, location by street and municipality and permit number;
- Permittee name (ERRCO, Inc.), mailing address and telephone number;
- Identification of all persons involved in the incident or situation, including name, title and affiliation;
- A description of the incident including:
  - The date and time of the incident or situation;
  - The quantity and types of wastes and material(s) involved in the incident or situation and in the clean-up activities;
  - The measures employed to contain releases caused by the incident or situation; and
  - An assessment of actual or potential hazards to the environment, safety and human health related incident; and
- Measures ERRCO has or intends to apply to reduce, eliminate and prevent a recurrence of the incident or situation.

#### **D. Universal Waste Large Quantity Handler**

ERRCO is a Universal Waste Large Quantity Handler based on the CRTs, TVs, lead acid batteries and used antifreeze for recycle that are stored and shipped from the facility. The following documentation is kept at the facility for a minimum of three (3) years:

- Records of each shipment of waste sent to recycle (shipping manifests) that include:
  - The date of each shipment
  - The Quantities of each shipment
  - The name and address of the handler or facility that the universal waste was shipped to.
- Complete and document weekly inspection of all universal waste storage areas.

#### **E. Complaints**

ERRCO shall report to the department, in writing, all credible complaints made by abutters or other third parties that involve the operating conditions or practices which have the potential to adversely affect human health, safety or the environment. This reporting includes any recurring or nuisance situation such as noise, litter, odor, dust or vectors. The report shall include the following:

- Facility name, location by street and municipality, and permit number;
- Permittee name, mailing address and telephone number;
- Name, mailing address and, if available, telephone number of the complainant;
- Nature of the complaint, date(s) of receipt by ERRCO complete description of the circumstances or situation giving rise to the complaint;
- A description of the ERRCO's response actions; and
- Other information required on Incident Reporting (found in Contingency Plan) if part of an incident.

**APPENDIX I**

**TIPPING FLOOR PROCEDURES**

## **ERRCO TIPPING FLOOR & UNLOADING POLICY**

It is the policy of Environmental Resource Return Corp. (ERRCO) to provide a safe and healthy working environment for our employees, customers, drivers and visitors entering our facility.

Please review and become familiar with the following requirements. They have been implemented specifically to assure that your visit to our site will not subject you, our employees and the facility to any type of physical hazard or regulatory non-compliance. It is essential that you comply fully with these requirements.

- Personal Protective Equipment (PPE): A driver must provide his own personal protective equipment. Any driver who fails to wear the proper PPE while on site may be subject to a ban from the site. At a minimum, this equipment shall include:
  1. Hard Hat
  2. Work boots with sufficient gripping sole and toe protection
  3. High Visibility Vest or clothing (ANSI standard)
  4. Gloves
- Site communications is via CB channel #1
- All drivers/visitors are required to respond to emergency situations as directed by any site supervisory staff.
- Drivers/visitors shall report all accidents or occurrences to site supervisory staff.
- Smoking or open flames ARE NOT permitted in any area other than specifically designated areas.
- Drivers are expected to remain in or near their vehicles except to scale in and out, untarp or perform activities necessary to unload their vehicles.
- All vehicles must come to a complete stop prior to proceeding on to the scale.
- All vehicles must STOP at the load inspection platform for load inspection and specific off loading directions.
- Drivers/visitors must observe and obey all posted safety and traffic signs along with following the instructions given by site personnel.
- Drivers are not to untarp or unsecure their load prior to entering the site. All vehicles are to be untarped in the designated area. No loads are to be hoisted/raised for draining purposes.
- Drivers must notify site personnel if they believe their load contains potentially dangerous/awkward pieces that could present a hazard while off-loading, and then follow site supervision.
- Maintain appropriate spacing distance between vehicles while off loading.
- Drivers must open their tailgate and safely secure it prior to unloading.
- All tailgates or similar closures must be secured prior to exiting the unloading area.
- Drivers must stay within 6 feet of their vehicles at all times. No other people are allowed out of the vehicle while in the unloading area. Never walk behind a vehicle while it's backing up.
- Use 3 points of contact while exiting and entering your vehicle. Watch for trip hazards.
- If you have a Frozen load: Always stay within 6 feet of your vehicle, get the attention of the heavy equipment operator. Explain the situation and follow their instructions.

## Authorized and Prohibited Wastes

LL&S is authorized to accept mixed demolition debris and recyclable materials. These include:

- Treated and untreated wood
- Asphalt shingles
- Concrete and Brick
- Metal
- Insulation
- Wire
- Glass
- Carpet
- Cardboard
- Corrugated Container Board
- Similar wastes to those listed above in quantities generally incidental to the quantity of wood waste received
- Aluminum beverage can/containers
- Steel cans
- Paper
- Plastics
- Tires
- Televisions and CRTs
- Lead Acid Batteries
- Washers, dryers, refrigerators and other appliances/white goods
- Air conditioners

Prohibited Wastes include:

- Hazardous waste, as identified in the New Hampshire Hazardous Waste Rules Env-Wm 400 (as updated) or spent containers for the same, including intact or crushed drums
- Household Hazardous Waste
- Asbestos and asbestos containing wastes
- Petroleum or other contaminated soils
- Sludge or sewage
- Contained gaseous waste, unless collected for recycle
- Liquid waste
- Motor vehicles or motor vehicle wastes, as defined by RSA 149-M:1, X-b, and other automobile parts
- Laboratory wastes
- Hospital or medical waste, including infectious waste
- Batteries, except lead acid batteries
- Electrical components
- Radioactive waste
- Bottom ash or fly ash
- Source, special nuclear or by product material as defined by the Atomic Energy Act of 1954, as amended
- Residue from air pollution control facilities
- Mixed municipal solid waste
- Animal wastes, including carcasses and manure
- PCB wastes
- Mercury added products
- Any waste which, based on its quantity, consistency, size, shape, leaching characteristics, or other physical or analytical characteristics is determined by the operator or the Department to be unsuitable for management at this facility within the terms of the permit

**APPENDIX II**

**ASBESTOS RESPONSE PLAN**

## **Environmental Resource Return Corp.**

# **ASBESTOS MONITORING, SCREENING AND ABATEMENT PROCEDURES**

### **Policy Statement**

ERRCO will not knowingly accept any loads of construction and demolition materials that contain friable or Category 1 and 2 non-friable asbestos materials since our permit excludes the acceptance of such materials. In addition, good health and safety practice requires that we keep asbestos and asbestos-containing materials (ACM) from entering our processing system as much as possible. All loads will be screened and inspected to verify that they do not contain friable or non-friable asbestos as well as other unacceptable materials. Because of the need to inspect all loads, deliveries will not be accepted after dark. Loads with suspected friable and Category 1 and 2 non-friable ACM will be managed as outlined in the following procedures.

### **Procedures (conventional demo, transfer station and container-based loads)**

1. All material loads received at the ERRCO facility will be inspected by one of ERRCO's certified inspectors to determine that it does not include friable or non-friable asbestos materials. To the degree possible, the inspection will occur at the time that the load is being discharged from the delivery vehicle.
2. All inspections of loads received at ERRCO will be completed before the driver has left the facility. Ownership of the received material will not pass to ERRCO until 1) the material has been inspected, 2) found to not contain ACM or other unacceptable material and 3) accepted for processing.
3. Asbestos abatement documentation will be requested for all demolition projects where it is required by law. The ERRCO marketing staff will be responsible for verifying that asbestos abatement documentation has been received prior to material delivery.
4. Asbestos abatement documentation will not be required for loads of material that are container-based or that originate from transfer stations. However, ERRCO will work closely with sources of these materials to verify that they are screening for asbestos content prior to shipment to ERRCO.
5. If there are no suspected asbestos materials observed in the load during any inspection, the load will be accepted by ERRCO and released for processing.

### **Loads With Suspected Friable Asbestos Material**

6. If it is determined upon inspection that a load contains suspected friable ACM, that load will be immediately isolated (i.e. no other loads will be placed next to the suspected load and a sample taken for testing by a certified laboratory).

7. ERRCO staff responsible for getting a sample of the suspected friable asbestos material will take all necessary safety precautions including the use of appropriate personal protective equipment during all operations involving and around the load with the suspected friable asbestos material.
8. After a sample of the suspected friable asbestos material has been extracted, the load that has been isolated for suspected friable asbestos will be wet down, covered with polyethylene and staked off with asbestos identifying tape or safety cones. From that point in time, the material will not be disturbed until remediation or a determination that the suspect material is not friable ACM.
9. If there are suspected friable asbestos materials in the load, the inspector will immediately notify the ERRCO sales and marketing staff who will in turn notify the customer of the issue and of the steps and timetable that may be necessary to correct the situation if the sample tests positive.
10. The following procedures will be followed in dealing with the customers who brought in the loads with suspected friable asbestos materials:
  - a. Notification to customer of potential friable asbestos situation will occur immediately after observation of the suspect material.
  - b. Notification to customer of testing results (including faxing of results from the testing lab) will occur immediately upon receipt of the results from the laboratory. This notification of a positive test will start the 3-day clock for the remediation of the load.
  - c. Upon receipt of verification that the sampled material is friable ACM, ERRCO will email NHDES with a report of the incident and the proposed utilization of a certified asbestos abatement firm.
  - d. The customer will have three working days to finalized abatement (defined as appropriate and safe removal of unacceptable material from our Facility).
  - e. ERRCO will recommend abatement companies to the customer or they can elect to utilize their own certified firm.
  - f. During the 1<sup>st</sup> day, ERRCO will notify its prime abatement vendor as to the potential need for their services on the 3<sup>rd</sup> day.
  - g. If, by the end of the 2<sup>nd</sup> day, ERRCO's customer has not arranged for the abatement to be completed by the end of the 3<sup>rd</sup> day, then ERRCO will ask our abatement vendor to perform the abatement on the 3<sup>rd</sup> day, and bill the customer directly with a "copy" to ERRCO.
  - h. ERRCO will maintain a business relationship with its certified abatement contractor assuring such vendor that if the customer does not pay within the terms of the invoice, that ERRCO will pay the invoice and seek reimbursement from the customer who brought in the load.
  - i. The standard NHDES approval of abatement plan will be followed. For the remediation of loads with confirmed friable asbestos material, the remediation

contractor will submit the plan to NHDES and receive their approval prior to remediation. ERRCO will obtain a copy of the approved plan for our records.

### **Loads With Suspected Non-friable Asbestos Material**

11. At the Operations Manager or designate's discretion, loads with suspected Category 1 or 2 non-friable ACM will be:
  - a. Set aside and isolated at the location where they are deposited or another location at the ERRCO site for testing and remediation;
  - b. Reloaded into the truck delivering the material to ERRCO for removal from the site.
    - i. Prior to bringing loads to ERRCO, a customer will execute a written disclaimer (See Attachment #1) that outlines their right and responsibilities relative to removal of unacceptable loads (including loads contaminated with non-friable asbestos containing materials) from the ERRCO facility site.
    - ii. If a load with suspected Category 1 or 2 non-friable asbestos material is reloaded into the delivery vehicle for removal from the ERRCO site, a written Contaminated Load Removal Log (See Attachment #2) identifying the removal process (truck, driver, time, date, and any other information relevant to the removal process) will be completed by ERRCO and a copy given to the driver of the vehicle removing the contaminated load. A copy of the Contaminated Load Removal Log will be immediately sent via fax to the customer responsible for the removal of the load.
12. Loads with suspected non-friable material may be set aside if requested by the customer for sampling and testing. Such loads will remain the property of the customer bringing the material to ERRCO until it has been determined that the suspected material is not Category 1 or 2 ACM or until the load has been remediated and all ACM removed. At that point, ERRCO, at its discretion, may accept the remediated load for processing.
13. A sample may be taken by ERRCO certified inspector for testing by a certified laboratory. All necessary health and safety precautions will be taken in deriving a sample of the material for testing. Identification of certain common ACM materials such as transite may not require laboratory testing for classification of the received material as a contaminated load.
14. To the degree possible, a load with any suspected Category 1 and 2 non-friable asbestos materials will be disturbed as little as possible.
15. The inspector will immediately communicate with the office any action taken in setting aside a load or a portion of the load or of the need to return a contaminated load to the delivery vehicle.
16. At the Operations Manager or designate's discretion, small amounts of suspected Category 1 and 2 non-friable asbestos materials may be manually separated by ERRCO's certified inspectors and placed in appropriate containers for eventual

disposal After removal of all ACM, the remainder of the load will be released for processing.

17. Loads with a significant amount of suspected Category 1 and 2 non-friable asbestos materials throughout the load such that the certified inspectors cannot effectively remove the material will be removed immediately from the ERRCO site by the customer delivering the load to the ERRCO site on the delivery truck that delivered the load.
18. Upon notification by the ERRCO certified inspector that the Category 1 and 2 non friable asbestos materials cannot be effectively and safely removed, a representative of sales will view the load with the ERRCO inspector so as to provide a first hand ability to explain the situation to the customer.
19. If suspected ACM materials such as transite are observed by ERRCO's inspectors, the customer or hauler will be advised to remove the contaminated load. The driver and customer will receive a copy of the Contaminated Load Removal Log documenting the incident. The Contaminated Load Removal Log will be completed prior to release of the contaminated load from the ERRCO site. A copy will be given to the driver prior to his/her leaving the site and faxed to the customer if they are not the same.
20. The customer will be charged for the cost of ERRCO's handling of the issue. If managed by ERRCO, the cost of remediation or disposal of the asbestos-containing material will be directly charged to the customer.
21. In operations, ERRCO will emphasize the practice of removing all tile, to the degree possible, from material on picking line A. The intent of this practice is to reduce the amount of tile material inadvertently reaching the primary shredder at the end of picking line A.
22. All removed tile will become part of ERRCO's residual material for eventual shipment to a licensed landfill.
23. Periodically, dust and air samples will be taken from the proximity of the processing line and tested at a certified laboratory for presence of asbestos. Equinox and the ERRCO Joint Loss Management Committee will review the results.
24. The ERRCO asbestos management program will be audited annually by a certified outside entity to verify the effectiveness of the program.

**APPENDIX III**

**MARKET CONTACTS**

**CONFIDENTIAL**

**APPENDIX IV**

**EMERGENCY CONTACTS**

**EMERGENCY CONTACTS  
ERRCO**

AGENCY/CONTACT	PHONE NUMBER
ERRCO – GIL SARNO, OPERATIONS MANAGER/INCIDENT COMMANDER	OFFICE (603) 679-2626 MOBILE (603) 396-1355
ERRCO - JIM DOYLE, HEALTH & SAFETY – BACK-UP INCIDENT COMMANDER	OFFICE (603) 679-2626 MOBILE (603) 833-7950
NHDES PETROLEUM SPILL RESPONSE (M-F, 8-4)	(603) 271-3644
NHDES HAZARDOUS MATERIAL (NON OIL SPILL) (M-F, 8-4)	(603) 271-3899
NH STATE POLICE HAZ MATERIAL RESPONSE (24 Hr.)	(603) 223-4381
POISON CONTROL CENTER	911
POLICE DEPARTMENT	911
FIRE DEPARTMENT	911
AMBULANCE/RESCUE	911
HOSPITAL/E.R./CLINIC (EXETER HOSPITAL – EXETER, NH)	1 (603) 778-7311
LOCAL/REGIONAL OSHA OFFICE	1 (617) 565-7164
STATE DEPARTMENT OF HEALTH	1 (800) 852-3345
EPPING HEALTH OFFICER – DENNIS PELLETTIER	(603) 679-1224, EXT 112
CYN ENVIRONMENTAL SERVICES	1 (800) 622-6365
CHEMTREC	1 (800) 424-9300

**APPENDIX V**

**EMERGENCY ACTION PLAN**

<p style="text-align: center;">ERRCO EMERGENCY ACTION PLAN August 30, 2012 Edition</p>
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## 1. PURPOSE OF PLAN

The purpose of this Emergency Action Plan (hereinafter "Plan") is to establish safe emergency evacuation and headcount procedures for employees, visitors, and contractors. The Plan meets the OSHA requirements of an "Emergency Action Plan." The safety of employees and the public is the number one objective of the Plan.

## 2. SCOPE

This Plan applies to the ERRCO Epping facility and its employees. Employees are not authorized to perform any rescue operations, or perform firefighting beyond incipient fire extinguisher use. Only trained and authorized employees may provide emergency medical services. This Plan applies to any type of emergency situation that may be hazardous to employees.

## 3. RESPONSIBILITIES

### *3.1 Operations Manager*

1. The Operations Manager is normally the Incident Commander. If he is not available, the Safety Officer is the Incident Commander.
2. Ensure that new employees receive emergency training, and all employees receive training whenever the Plan and/or their duties under the Plan change, and at least annually.
3. Develop, maintain, and post accurate evacuation diagrams in selected work areas.
4. Maintain safe means of egress, emergency lighting, signs and alarm systems.
5. Know how to safely shut off utilities.

### *3.2 Supervisors*

1. Train employees on building evacuation procedures during initial hire, and anytime thereafter when there is a change in the work environment or plan. Maintain documentation of the training.
2. Keep all egress routes open at all times.
3. Understand evacuation outdoor assembly area(s) and headcount procedures.
4. Ensure that employee head-counts are being performed at designated head count assembly areas during evacuations.
5. Inform the Incident Commander if any employees are thought to be missing.
6. Be responsible for the safe evacuation and head count of visitors and contractors from your work area.

### *3.3 Safety Officer*

1. Maintain an up to date list of office personnel and have it readily available to take outdoors for headcount determination.
2. Inform the Incident Commander that either all persons are accounted for or if any employees are thought to be missing

### *3.4 Employees*

1. Do not perform any rescue, emergency medical or fire fighting tasks. Fire extinguisher use on an incipient fire is authorized if the emergency alarm has already been activated, you are trained to use an extinguisher, and you feel safe attempting to extinguisher a fire.
2. Obey all emergency instructions.
3. Only perform emergency shutdown of equipment if it safe to do so.
4. Exit the building from the closest safe exit and report to the outdoor headcount area.

## 4. TRAINING & INFORMATION

### *4.1 Initial Training*

1. When an employee is hired to work at ERRCO emergency evacuation training needs be conducted that explains the procedures to be followed during an emergency, how to announce an emergency, primary and secondary evacuation routes, and the designated head count area and head count procedures.
2. Basic evacuation training needs to be conducted on the first day of work. Any additional training, such as specific emergency job assignments, needs to be conducted when those duties are assigned.

### *4.2 Plan or Responsibility Changes*

1. Whenever this Plan is modified employees need to be trained on the changes in the Plan.
2. Whenever an employee's responsibilities change under the Plan, the involved employees need to be trained on their new or modified duties.

### *4.3 Refresher Training*

3. Refresher training is required for all employees on an annual basis. Refresher training may be classroom or via plant postings.

### *4.4 Building Evacuation Information*

1. Building evaluation diagrams are posted in several areas.

## 5. EMERGENCY NOTIFICATION

### *5.1 Fire Alarms*

Manual pull stations are located inside of the control room and outside of the break room.

### *5.2 Fire Department Notification*

Calling "911" from any ERRCO telephone will contact Epping's emergency dispatch, which will then activate the Fire, Police and/or other emergency services appropriate for the emergency situation. Callers are to identify themselves, state where they are, and what the nature of the emergency is. The Shift Supervisor also needs to be notified so he can initiate the appropriate emergency response actions.

## 6. EVACUATION PROCEDURES

1. The facility siren alarm will be manually activated to inform employees to immediately evacuate their work area and building through the nearest safe emergency exit and report to the area next to the weigh scale. Emergency shutdown procedures can be performed if safe to do so.
2. All employees shall immediately proceed to their pre-designated evacuation headcount assembly area and report to their Supervisor. All employees are expected to evacuate the main processing building when the alarm sounds.
3. All employees are to remain in the head count area until the Incident Commander states that it is safe to reenter the building, or to relocate to another building.
4. Supervisors will report all missing employees to the Incident Commander, who will report them to the Epping Fire Department.
5. No employees are permitted to re-enter the main processing building until the all clear signal is given by the Incident Commander.
6. In the event of an outdoor emergency, employees may be instructed to assemble inside the main processing building or other building in a designated location.

## 7. EMERGENCY SHUT DOWN PROCEDURES

1. Employees are to shut off their machines and gas heaters only if it is safe to do so, and can be done quickly.
2. The electrical service to the main processing building can be shut off on the main panel in the plant electrical room.

## 8. EVACUATION ASSEMBLY LOCATIONS

1. The primary headcount location is the parking lot on the east side of the office building.
2. The secondary headcount location is the excavator parking area adjacent to the weigh scale.

## 9. EMERGENCY PLAN CONTACTS

The Operations Manager has overall responsibility for this Plan. He can be contacted for further information or explanation of duties under this Plan.

## APPENDIX A

### ERRCO INC. FIRE PREVENTION PLAN

#### A. POTENTIAL FIRE HAZARDS

The following ERRCO processes/locations are considered to be major potential fire hazards as they are either a source of fuel, accelerate a fire, or are heat producing sources:

1. LPG fueled open flame belt heaters used during the winter;
2. Maintenance Welding & Hot Work (brazing, cutting, grinding, etc.);
3. Liquefied Petroleum Gas (LPG) cylinders for forklifts;
4. Construction debris piles and accumulations in processing equipment and areas;

Each one of these potential fire hazards has been reviewed, and actions taken to minimize the potential for a fire. Specific operational and preventive maintenance information can be found in the departments the equipment is found in. A Hot Work Permit system is used for hot work performed outside of the designated hot work area in the Maintenance Shop.

#### B. TYPES OF FIRE PROTECTION

ERRCO has portable fire extinguishers, and water hoses that can be used in lieu of fire extinguishers. Approximately 20 strategically located fire extinguishers are mounted throughout the facility. These are inspected monthly by ERRCO employees, and annually by an authorized service contractor.

#### C. TITLES OF EMPLOYEES RESPONSIBLE FOR THE FIRE SYSTEMS

##### *OPERATIONS MANAGER*

The Operations Manager is responsible for overseeing the design of plant equipment, related fire safety features, and fire suppression. He also works closely with the loss control insurance company, fire protection service company, and the Epping Fire Department.

##### *MAINTENANCE DEPARTMENT PERSONNEL*

In the event of a fire, the following Maintenance Department personnel (by job title) need to perform the following duties if they are safe to do so. Utilities, especially fire water, should not be shut off until authorized by the Operations Manager.

##### NAME

##### FUNCTION:

Contract Electrician

Electrical Service, standby to shutdown

##### *ALL EMPLOYEES*

All ERRCO employees are responsible for operating the equipment as they were trained to do so and to not create any fire hazards. No smoking is allowed in the facility. Additional responsibilities can be found in Appendix A, Personnel Responsibilities.

## *SERVICE CONTRACTORS*

The following company listed below are authorized to service the listed equipment:

### *Fire Extinguishers*

All State Fire Equipment Seacoast Division  
350 Route 106  
Somersworth, NH  
603-330-1002

## D. EMPLOYEES RESPONSIBLE FOR CONTROL OF FUEL SOURCE HAZARDS

All employees are responsible for controlling fuel source hazards. Department Supervisors are responsible for their own departments to ensure that chemical storage and handling, and proper equipment use are being performed to minimize the potential for a fire. Specific storage and chemical handling procedures exist to minimize the potential for fire hazards. These procedures and the employees involved concerning them are communicated at the department level.

Additional responsibilities by Job Title can be found in Appendix A, Personnel Responsibilities. These responsibilities include controlling fuel sources. In addition, departmental policies exist for certain operations.

### *HOUSEKEEPING*

A high level of housekeeping is mandatory at ERRCO. All employees are responsible to maintain the high level of housekeeping maintained throughout the facility. Likewise, all employees take pride in maintaining the high level of housekeeping.

In addition, supervisors and their employees are responsible for maintaining safe housekeeping practices, including the accumulation of flammable and combustible waste materials and residues in a manner that does not contribute to a fire or hazardous materials emergency.

**APPENDIX VI**

**CERTIFIED WASTE DERIVED PRODUCT  
&  
BENEFICIAL USE DETERMINATIONS**

**MAINE BIOMASS BENEFICIAL USE DETERMINATION  
(ACTUAL BUD OBTAINED BY FUEL USER)  
C&D WOODCHIP**

- (8) If the beneficial use of ash is proposed, written permission from the owner of the property on which the ash is to be beneficially used must be submitted.
  - (9) If the beneficial use of ash as a construction material under paragraph B is proposed, documentation that the beneficial use is not within the watershed of a water body classified GP-A; or, if the beneficial use is in a class GP-A watershed, a phosphorus control plan that minimizes adverse affects to surface waters must be submitted.
6. **Fuel Substitution.** Any person proposing to beneficially use secondary materials as a fuel in a boiler or cement kiln designed to combust conventional fuels, including fossil or biomass fuels, must obtain a license pursuant to the requirements of this section and the general standards of section 3 of this rule. The substitution of secondary material(s) for conventional fuels used in a boiler or cement kiln shall not exceed 50% of total fuel by weight combusted on an average annual basis.

For the purpose of this rule, “wood from construction or demolition debris” or “CDD wood” means the wood component of solid waste resulting from construction, remodeling, repair and demolition of structures.

**A. Application Requirements.** The following information must be submitted to the Department in an application for a fuel substitution permit.

- (1) A description of the secondary material proposed for fuel use.
- (2) An Operations Manual in accordance with the requirements of this Section.
- (3) The most recent, full size U.S. Geological Survey topographic map (7.5 minute series, if available), or equivalent map of the area, showing the property boundary and location on that property of the boiler or cement kiln proposing the fuel substitution. GPS coordinates of the activity shall be provided in the project description.
- (4) A signed contract or letter of intent from a facility licensed to accept all residues and by-pass wastes.
- (5) A hazardous and special waste handling and exclusion plan in accordance with the provisions of Chapter 400, section 9 of these rules.
- (6) The results of a trial burn, unless such a burn is specifically waived by the Department, and any other appropriate information regarding the suitability of the waste for fuel use. Trial burns and the submission of related information shall be conducted in accordance with the following provisions:
  - (a) Prior to conducting a trial burn, the applicant shall notify the Department’s Bureau of Air Quality of the proposed test burn. The following information must be submitted to the Division of Solid Waste Management, as a Letter of Intent, a minimum of ten (10) working days prior to the start of the trial burn:
    - (i) The estimated maximum annual quantity of the secondary material proposed for combustion.

- (ii) Results of the characterization of the secondary material, including a minimum of one sample for each 100 tons of waste for the first 400 tons from each source for each proposed fuel or fuel blend proposed for study during the trial, and one sample for each 1,000 tons thereafter for the parameters below:
  - a. TCLP metals parameters;
  - b. total Arsenic, Lead, Asbestos and PCB;
  - c. physical characterization using Department approved methods; and,
  - d. other parameters as required by the Department.

For CDD wood fuel, each sample must be a composite of 20 one quart samples representative of the trial period, large particle size solid fuel must be pulverized and thoroughly mixed prior to sample reduction and analysis using a Department approved method. Enough fuel must be available to conduct a trial burn for each proposed fuel blend to allow sampling over an 8 hour period.

- (iii) Information outlining the objectives of the trial burn, how the secondary material waste will be transported, stored, and otherwise managed, the quantity of waste to be burned, the scheduled times and dates of the trial burn, and an ash testing program needed to adequately characterize ash constituents and levels of pollutants.
- (b) The trial burn will be conducted per the submitted Letter of Intent and approval obtained from the Bureau of Air Quality Control. .

**B. Operating Requirements.** Each licensee must comply with the following operating requirements.

- (1) Residue and Waste. The licensee shall maintain a valid contract or agreement with a solid waste facility approved to accept by-passed waste and/or residues from the boiler or cement kiln.
- (2) Dust, Litter and Odor Control. The licensee shall undertake suitable measures to control dust, litter (including fines from fuel and ash) and odors resulting from the use of secondary material as a fuel.
- (3) Storage Requirements.
  - (a) All fuel substitution licensed under this section must occur at a boiler or cement kiln designed and operated to collect, store and handle ash in enclosed buildings, or the equivalent (e.g., covered conveyors and transfer points, leak proof containers, tanks), to prevent fugitive dust emissions and to prevent direct exposure of the ash to the weather during collection, storage, handling and transport off site.
  - (b) Storage areas for secondary material for use as substitute fuel shall be clearly identified and public access excluded.

- (c) Secondary material that cannot be used as substitute fuel by the boiler or cement kiln shall be removed and disposed of at a licensed facility at least weekly unless other procedures have been reviewed and approved by the Department.
- (d) Licensees shall manage fuel according to a fuel management plan which shall be included in the Operations Manual for the facility. The fuel management plan shall include:
  - (i) A detailed description of the fuel storage area and its operation including: an asphalt or concrete base pad shown in plan view along with typical cross sections; provisions for leachate management, collection and disposal; and, control of wind blown fines;
  - (ii) For CDD wood fuel, limitation of the fuel pile size to no more than 8 weeks of fuel;
  - (iii) Description of fuel flow through the facility that provides for consumption of oldest fuel first and a plan view of the storage pad at a minimum scale of 1"=50' that depicts the sequence of fuel flow, oldest to newest, throughout the pad area;
  - (iv) Procedures for blending fuel;
  - (v) Procedure for the minimization of fuel stockpile volume and fuel fire risk for the duration of planned shutdowns;
  - (vi) For CDD wood fuel, a Fire Safety Action Plan that includes procedures for monitoring internal pile temperatures or the use of thermal imaging devices or other technology that provide for maintaining internal pile temperatures less than 185 degrees Fahrenheit. The Fire Safety Action Plan must describe procedures and equipment that will be used when internal pile temperatures meet or exceed 185 degrees F or in the event of a pile fire. The Fire Safety Action Plan shall be submitted to the local fire safety authority for its review. If that authority makes recommendations concerning the plan, those recommendations shall be included in the plan prior to submittal to the Department. The Department may waive the requirement for a Fire Safety Action Plan upon a showing that such a plan is not warranted due to small volumes of CDD wood fuel proposed to be stored and/or short residency times in storage.
  - (vii) For facilities that store fuel outside, an Environmental Monitoring Program designed and implemented in accordance with Chapter 405;
  - (viii) A storage pad inspection and maintenance program that provides for annual inspection and repair of the pad.
- (4) Acceptable Secondary Materials.
  - (a) General Standard. The licensee may beneficially use as a fuel substitute only the type and quantity of secondary material specifically licensed or allowed under this chapter.
  - (b) Prohibited Materials. A licensee may not accept CDD wood as a fuel unless the Quality Assurance / Quality Control Plan required by Section 6(B)(4)(d) specifically provides that the source(s) of the wood fuel has implemented a plan for the removal of arsenic and

pentachlorophenol treated wood (including but not limited to utility poles) prior to processing of the CDD wood into fuel.

- (c) Standards for CDD Wood Fuel. Sources of processed construction or demolition debris wood must be examined by the licensee and found to consistently produce a product that meets or exceeds the wood fuel quality standards in (i) below prior to blending with other fuels. The fuel quality standards in (ii) below must be met after any blending and prior to combustion. As used in this subsection, “source” means the facility where the processing of CDD wood into fuel occurs; and “publicly owned source” means a facility where the processing of CDD wood into fuel occurs that only accepts CDD wood that is generated in member municipalities, and that is owned by a municipality, a quasi-municipal entity, a county, a public waste disposal corporation under 38 MRA Section 1304-B, or a refuse disposal district under 38 MRSA Section 1701 et seq.

(i). Fuel Quality Standards for CDD Wood:

- |  |       |
|--|-------|
| a. non-combustible fraction exclusive of rocks, brick, and concrete                                    | <1%   |
| b. plastics  | <1%   |
| c. CCA (chromated copper arsenate) treated wood  | <1.5% |
| d. #4 minus fines (for publicly owned sources regulated under the Maine Solid Waste Management Rules ) | 20%   |
| e. #4 minus fines (for sources other than publicly owned)  | 10%   |
| f. asbestos  | <1%   |

(ii) Fuel Quality Standards for Blended Biomass Wood Fuel:

- |           |             |
|-----------|-------------|
| g arsenic | <50 mg/kg   |
| h lead    | <375 mg/kg  |
| i. PCB    | <0.74 mg/kg |

- (d) The licensee shall provide the Department with a Quality Assurance/Quality Control Plan for assuring that CDD wood fuel used by the facility will remain consistent with the standards above. The QA/QC plan shall be included in the Operations Manual for the facility. The plan shall include the following elements:

- (i) All work involved in certifying that the fuel meets standards in paragraph 4(c) of this section for CDD wood fuel must be done by a qualified third party, independent from the fuel source and the licensee. A minimum of 4 composite samples over a thirty day period per source is necessary to certify a new source . Annually thereafter, each source must be recertified. A minimum of 1 composite sample per 10,000 tons or if less than 40,000 tons is received from a source each year, 4 samples per year. Each sample must be a composite of a minimum of 20 one quart samples; Facilities that process fewer than 4 times per year must sample once per processing event.

- (ii) Sampling and analysis required by Section 6(B) shall be done using Department approved methods. Physical sampling and analysis must be done in conformance with procedures established in Chapter 405, section 6(C)(6).
- (iii) For each source, provide:
- a. the name, location and a detailed description of the fuel processing methodology;
  - b. the compliance history for the past five years;
  - c. the estimated tons per year of fuel the source generates;
  - d. the estimated tons per year of fuel that will be supplied to the licensee;
  - e. a determination that each source has a program equivalent to the licensee's Hazardous and Special Waste Exclusion Plan referenced in Section 6(A)(5) of this rule for the removal of hazardous waste, arsenic and pentachlorophenol treated, charred or burned wood prior to processing fuel;
  - f. a description of the method by which the facility will evaluate and accept or reject the fuel certification information provided by the third party fuel inspector.
  - g. documentation that each source supplies CDD wood fuel that meets or exceeds the standards in 6(B)(4)(c)(i) of this rule.
  - h. a description of the method to inspect and accept or reject each load of CDD fuel.
- (iv) On a monthly basis the boiler operator shall collect an 8-hour composite sample of the approved blended fuel from the conveyor feeding the boiler, combine 3 monthly composites for a quarterly composite, and analyze for chemical parameters listed in subsection 6(B)(4)(c)(ii) of this rule.
- (v) When the sampling conducted under sub-section 6(B)(4)(c)(iv) above detects fuel that fails to meet the CDD fuel standards the licensee shall:
- a. Retest within 7 days of receipt of notification of non-compliance with the standards and conduct: a statistical analysis in conformance with the approved QA/QC plan, of the data from the sampling and testing program; an evaluation of sources which may have caused or contributed to the possible deterioration of the fuel quality; and, an evaluation of possible errors, such as errors in sampling, analysis or mathematical problems with the test data;
  - b. Notify the Department of the results of the evaluation within 7 days of its completion;
  - c. If the evaluation confirms that the fuel does not meet the CDD fuel standards of Section (B)(4)(c), notify the source(s) of the substandard fuel;
  - d. Request submission of a report from the source(s) within 14 days of the notification provided pursuant to Section 6(B)(4)(d)(v)(c) above, for submission

to and review by the Department, describing and documenting correction of the circumstances or conditions that caused the fuel to become non-compliant with the CDD wood fuel standards; and,

- e. Cease acceptance of fuel from the source(s) if: the report requested pursuant to Section 6(B)(4)(d)(v)(d) above is not submitted to the Department within 14 days of the licensee's notification to the source(s); the report required pursuant to Section 6(B)(4)(v)(d) above is not approved by the Department; or the Department determines after review of the sampling and analytical results and the evaluation required in Section 6(B)(4)(d)(v)(b) above, that continued acceptance of the substandard fuel poses an unreasonable risk to public health or the environment.

(5) Boiler Operation

Facilities burning CDD wood fuel in their boilers shall:

- (a) comply with stack testing requirements as specified by the Bureau of Air Quality; and,
- (b) operate the boiler to meet all applicable emission standards and operate the particulate control device to Best Practical Treatment standards as specified by the Bureau of Air Quality.

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NOTE: Facilities burning secondary materials in their boilers must comply with all applicable licensing and operating requirements of the Bureau of Air Quality.

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**C. Operating Manual.** The licensee shall prepare and maintain an operating manual of current policies and procedures related to the beneficial use of the waste as a fuel substitute. The operating manual must include all information that would enable supervisory and operating personnel, and persons evaluating the beneficial use, to determine what sequence of operation, plans, diagrams, policies, procedures and legal requirements must be followed for orderly and successful operation on a daily and yearly basis. The manual must address all items contained in this Section. The licensee shall take whatever measures are necessary to familiarize all personnel responsible for beneficial use with relevant sections of the operating manual.

**7. Beneficial Use Licenses.** The requirements of this section apply to proposals for beneficial use of secondary materials which do not qualify for licensing under Sections 4, 5, or 6 of this rule.

**A. Pre-Application Requirements.** A person proposing to license the beneficial use of a secondary material under this section shall request a pre-application meeting with the Department. The pre-application meeting will include a discussion of the beneficial use proposal, and provide an opportunity for the applicant to receive guidance on risk assessment and/or risk management measures that may be required.

At least two weeks prior to the pre-application meeting, the applicant shall submit the following information to the Department.

- (1) A description of the secondary material and its proposed use. This must include sufficient information to demonstrate that the proposed project is a beneficial use.

**NEW HAMPSHIRE CERTIFIED WASTE DERIVED PRODUCT  
BY RULE  
SHINGLES FINES FOR HOT MIX ASPHALT PAVEMENT**



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



Thomas S. Burack, Commissioner

June 18, 2008

Charles Nelson, P.E.  
Chief Processing Engineer  
ERRCO  
270 Exeter Road  
Epping, New Hampshire 03042

Re: Certified Waste Derived Product Application  
Reclaimed Asphalt Roofing Shingles Incorporation In Hot Mix Asphalt  
WMD Log: 200800098

Dear Mr. Nelson:

The Department has reviewed the referenced application for a Certified Waste Derived Product. The application is to use reclaimed asphalt shingles that have been processed to 3/8 inch minus at the ERRCO Facility in Epping as an additive in hot mix asphalt in accordance with AASHTO specification, M2005A-TS-2 c- Provisional. In accordance with Solid Waste Rule Env-Sw-1503.07, a waste derived product that meets a published standard shall be deemed certified for distribution and use for the purpose prescribed in the published standard.

Accordingly, reclaimed asphalt shingles processed into a product that meets the AASHTO standard for use as an additive in hot mix asphalt is deemed certified for distribution and use as prescribed. As noted in section 5.2 of the AASHTO specification, post consumer asphalt shingles must be certified to be asbestos free.

If you have any questions or comments, you may contact me at 271-2936.

Sincerely,

Thomas Seigle  
Civil Engineer IV  
Solid Waste Management Bureau

## **Asbestos Testing Procedures Shingle Fines for Pavement**

Environmental Resource Return Corp. will produce a shingle fine that 100 percent of which passes through the 12.5 mm (0.5-inch) sieve. It will be used as an additive in hot mix asphalt. The source of shingles will be Post-Consumer asphalt shingles ("Tear-Off" shingles). Because some older asphalt shingles contain asbestos, an asbestos testing program is required to assure that there is no asbestos in the shingles that will be processed to generate the shingle fines. The testing program will consist of:

1. One random sample will be taken for each 25 tons of shingles to be processed and analyzed for asbestos using Bulk Sample Analysis, known as Polarized Light Microscopy. The sampler will split the sample into two pieces, one for analysis and one for reference should the sample be returned positive for asbestos.
2. Each 25 tons will be tested and stockpiled separately until the asbestos sample is analyzed and found to be free of asbestos.
3. Once cleared, the shingles will be incorporated into the processing stockpile and the reference sample discarded.

## M2005A-TS-2c - Provisional

### *Standard Specification For*

### **Use of Reclaimed Asphalt Shingle as an Additive in Hot Mix Asphalt**

#### **1. SCOPE**

1.1 This specification covers reclaimed asphalt shingle material used as an additive in hot mix asphalt (HMA). The use of reclaimed asphalt shingle in hot-in-place pavements, cold-in-place pavements, and cold recycled pavements is not included in this specification.

1.2 The values stated in SI units are to be regarded as the standard.

**Note 1 – Refer to “R-2005A TS-2c” “Standard Recommended Practice for Design Considerations when using Reclaimed Asphalt Shingles in New Hot Mix Asphalt” for information on mix design, determining shingle aggregate gradation and binder considerations, when designing HMA mixtures which incorporate reclaimed asphalt shingles as an additive.**

#### **2. DEFINITIONS**

2.1 The definition of coarse and fine aggregate in terms of bituminous paving mixtures is provided in AASHTO M 29, ASTM C 125, and D 692.

2.2 *Manufactured Shingle Waste* – For the purpose of this specification, shall mean rejected asphalt shingles or shingle tabs that are discarded in the manufacturing process of new asphalt shingles.

2.3 *Post-Consumer Asphalt Shingle* – For the purpose of this specification, shall mean asphalt shingles that are removed from the roofs of existing structures when the new roofs are being installed. Post-consumer asphalt shingle is often called “Tear-Off” shingle.

2.4 *Reclaimed Asphalt Shingle* – For the purpose of this specification, shall mean either manufactured shingle waste or post-consumer asphalt shingle that has been processed into a product that meets the requirements of this standard.

2.5 *Shingle Asphalt Binder* – For the purpose of this specification, shall mean the asphalt binder that is present in the reclaimed asphalt shingle.

2.6 *Shingle Aggregate* – For the purpose of this specification, shall mean mineral granules, sand, or other mineral matter present in the reclaimed asphalt shingle, excluding the shingle fiber content.

2.7 *Shingle Fiber* – For the purpose of this specification shall mean, glass felt, paper felt, foil, fabrics or films used as the structural basis of asphalt shingle and other asphalt roofing products.

2.8 *Virgin Asphalt Binder* – For the purposes of this specification, shall mean new performance graded asphalt binder to be used in the new hot mix asphalt.

2.9 *Final Blended Binder* – For the purpose of this specification, shall mean the mixture of virgin asphalt binder and shingle asphalt binder.

2.10 *Virgin Aggregate* – For the purpose of this specification shall mean coarse and fine aggregate introduced into new hot mix asphalt that is exclusive of the shingle aggregate.

2.11 *New Hot Mix Asphalt* – For the purpose of this specification shall mean hot mix asphalt manufactured using aggregates, recycled asphalt pavement (if used), virgin asphalt binder, and reclaimed asphalt shingle.

### 3. REFERENCED DOCUMENTS

#### 3.1 AASHTO Standards:

M 29 Fine Aggregate for Bituminous Paving Mixtures

T 2 Sampling of Aggregates

T 30 Mechanical Analysis of Extracted Aggregate

T 319 Quantitative Extraction and Recovery of Asphalt Binder from Hot Mix Asphalt  
Provisional Practice: R-2005A-TS2c

#### 3.2 ASTM Standards:

C 125 Terminology Relating to Concrete and Concrete Aggregates

D 692 Coarse Aggregate for Bituminous Paving Mixtures

### 4. ORDERING INFORMATION

4.1 The purchaser or specifier shall include the following information in the purchase order or contract documents:

4.1.1 Reference to this specification and year of issue,

4.1.2 Additional testing requirements, and

4.1.3 Any exceptions to this specification.

### 5. SOURCES AND SAMPLING

5.1 Reclaimed asphalt shingle may be derived from either manufactured shingle waste or from post-consumer asphalt shingle (see Note 2).

5.2 Post-consumer asphalt shingle shall be processed prior to use to meet the requirements of Section 8 of this specification and shall consist of asphalt roll roofing, cap sheets, and shingles, including underlayment, only. Roofing debris, including coal tar epoxy, rubber materials, or other undesirable components, shall not be used. Post-consumer asphalt shingle shall be certified to be asbestos free.

5.3 Manufactured shingle waste and post-consumer asphalt shingles shall not be blended for the production of new hot mix asphalt.

5.4 Reclaimed asphalt shingle samples collected and analyzed, for the purpose of identifying the properties of reclaimed asphalt shingle as defined in this specification shall be representative of the reclaimed asphalt shingle material that will be used in the full production run of new hot mix asphalt.

**Note 2** –Asphalt shingle material is construction debris and various state and local regulations may be applicable to its use. The user of this specification is advised to contact state and local

transportation departments and environmental agencies to determine what additional requirements may be necessary.

## 6. GRADATION OF RECLAIMED ASPHALT SHINGLE

6.1 Reclaimed asphalt shingle shall be processed so that 100 percent passes the 12.5 mm (0.5 inch) sieve, or as required by the specifying jurisdiction.

**Note 3** – The hot mix asphalt supplier may wish to uniformly blend fine aggregate with the reclaimed asphalt shingle as a method of preventing the agglomeration of reclaimed asphalt shingle particles. The fine aggregate so added must be considered in the final gradation of the new hot mix asphalt.

## 7. ADDITION RATES OF RECLAIMED ASPHALT SHINGLE

7.1 The addition rate of reclaimed asphalt shingle shall be such that the gradation of the new hot mix asphalt shall comply with the gradation requirements of M 323 (see Note 4).

**Note 4** – The gradation of the new hot mix asphalt shall account for the shingle aggregate as well as the virgin aggregate. The shingle aggregate gradation shall be determined in accordance with the procedures outlined in R-2005A TS-2c Section 5 or an equivalent method approved by M 323.

7.2 The addition rate of reclaimed asphalt shingle shall be such that the new hot mix asphalt shall comply with the volumetric mix design requirements of the specifying jurisdiction.

7.3 If the total available shingle asphalt binder content expressed as a fraction or percentage of the new hot mix asphalt content is greater than 0.75 percent (see Note 5), the virgin asphalt binder and shingle binder combination shall be further evaluated to ensure that the performance grade of the final blended binder complies with the performance grade requirements of M 323 (see Note 6).

**Note 5** – The total available shingle asphalt binder content, expressed as a fraction or percentage of the new hot mix asphalt, is the product of the percentage of reclaimed asphalt shingle introduced into the new hot mix asphalt ( $P_s$ ) and the percentage of shingle asphalt binder present in the reclaimed asphalt shingle ( $P_{sab}$ ).

**Note 6** – The performance grade and percentage of virgin asphalt binder introduced into the new hot mix asphalt shall be determined in accordance with the procedures outlined in R-2005A TS-2c Section 6 of the specification or an equivalent method approved by the specifying jurisdiction.

## 8. DELETERIOUS SUBSTANCES

8.1 Reclaimed asphalt shingle shall not contain extraneous waste materials. Lightweight extraneous materials (those having a density less than that of water, including such materials as paper, wood and plastics) shall not exceed 0.05 percent, as determined on material retained on the 4.75  $\Phi$ m (No. 4) sieve. Heavyweight extraneous materials (those having a density greater than that of water, including such materials as metals, glass, rubber, nails, soil, brick and tars) shall not exceed 0.5 percent as determined on material retained on the 4.75  $\Phi$ m (No. 4) sieve.

8.2 Reclaimed asphalt shingle shall contain less than the maximum percentage of asbestos fibers based on testing procedures and frequencies established in conjunction with the specifying jurisdiction and state or federal environmental regulatory agencies.

**9. METHODS OF SAMPLING AND TESTING**

9.1 Sample and test the reclaimed asphalt shingle with the following methods of the American Association of State Highway and Transportation Officials, except as otherwise provided in this specification.

9.1.1 Sampling T 2.

9.1.2 Extraction of Bitumen T 319.

9.1.3 Mechanical Analysis of Extracted Aggregate T 30

## R2005A-TS-2c - Provisional

### Standard Recommended Practice for

### Design Considerations when using Reclaimed Asphalt Shingles in New Hot Mix Asphalt

#### 1. SCOPE

This recommended practice provides guidance for designing new hot mix asphalt (HMA) which incorporates reclaimed asphalt shingles. Specific guidance includes design considerations, how to determine the shingle aggregate gradation, how to determine the virgin performance grade and percentage of the virgin asphalt binder and how to estimate the contribution of the shingle asphalt binder to the final blended binder.

NOTE 1: Refer to "M-2005A TS-2c" Standard Specification For Use of Reclaimed Asphalt Shingle as an Additive in Hot Mix Asphalt for information specifying the use of reclaimed asphalt shingle in HMA.

#### 2. REFERENCED DOCUMENTS

##### 2.1. AASHTO Standards:

- AASHTO R 30
- AASHTO R 35
- Provisional AASHTO M-2005A TS-2c
- AASHTO M 320
- AASHTO M 323
- AASHTO T 319
- AASHTO T 30
- AASHTO T164
- AASHTO T170

##### 2.2. ASTM Standards:

- ASTM D 228

#### 3. INTRODUCTION

3.1. Although the use of reclaimed asphalt shingle (RAS) has been used as an additive in hot mix asphalt in the United States for over 15 years, it remains a relatively new application. As a result there are design considerations that are not generally known to the specification user. Four separate areas are addressed by this recommended practice, with each elaborating on and providing recommendations relative to the following:

- Design Considerations When Using Reclaimed Asphalt Shingles in Hot Mix Asphalt
- Determining the Shingle Aggregate Gradation

- Estimating the Contribution of the Shingle Asphalt Binder to the Final Blended Binder in New Hot Mix Asphalt (Values of F)
- Determining the Virgin Performance Grade and Percentage of the Virgin Asphalt Binder in the New Hot Mix Asphalt

#### 4. Design Considerations When Using Reclaimed Asphalt Shingle in New Hot Mix Asphalt

- 4.1.1. The introduction of shingle aggregate from the reclaimed asphalt shingle will affect the gradation properties of the new hot mix asphalt. The designer must determine the particle size and fraction of shingle aggregate present and adjust the virgin aggregate composition, if necessary, to ensure that the new hot mix asphalt meets the appropriate gradation requirements.
- 4.1.2. The introduction of reclaimed asphalt shingle will affect virgin asphalt binder content requirements. The designer must determine the virgin asphalt binder content of the new hot mix asphalt as part of the volumetric design procedure.
- 4.1.3. During the production of the new hot mix asphalt, shingle asphalt binder present in the reclaimed asphalt shingle will mix with the virgin asphalt binder to produce a final blended binder. Since the properties of the shingle asphalt binder can be considerably different from those of virgin asphalt binder, if the quantity of shingle asphalt binder exceeds 0.75 percent by weight of the new hot mix asphalt, the properties (performance grade) of the final blended binder may be measurably different from the design performance grade of the binder as specified by the local jurisdiction. In addition, the size of reclaimed asphalt shingle can be expected to affect the fraction of shingle asphalt binder that contributes to the final blended binder. For example, material that is ground to a size passing a 12.5 mm (0.5 inch) sieve can be expected to release lower levels of available asphalt shingle binder (20 to 40 percent) than reclaimed asphalt shingle ground to a size passing a 4.75 mm (No. 4) sieve (as much as 95 percent available). The designer must be prepared to adjust the performance grade of virgin asphalt binder to compensate for this effect.
- 4.1.4. The release of shingle asphalt binder into the virgin asphalt binder can result in reduced virgin asphalt binder requirements. It is unlikely, however, that all of the shingle asphalt binder will dissolve and blend with the virgin asphalt binder. Particles of undissolved asphalt binder may act like aggregate particles that require more virgin asphalt binder to accomplish coating. Additionally, particles of shingle asphalt binder may absorb bituminous oils from the virgin asphalt binder. The fibrous material present in reclaimed asphalt shingle may also require additional virgin asphalt binder to accomplish coating. The location in a hot mix asphalt plant where reclaimed asphalt shingle is introduced into new hot mix asphalt can also affect the binder blending process. This point of introduction must minimize damage to the reclaimed asphalt shingle from excess heat and maximize the softening of shingle asphalt binder to facilitate the blending of the shingle asphalt binder with virgin asphalt binder.

#### 5. Determining the Shingle Aggregate Gradation

- 5.1.1. Collect a representative sample of reclaimed asphalt shingle and proceed in accordance with AASHTO T 319, AASHTO T 164 or AASHTO T T170, to extract the shingle asphalt binder. The size of the sample should be such that the amount of aggregate material recovered will meet the size requirements of the gradation procedure. An alternate

extraction method, when it is not necessary to retain the shingle asphalt binder, is provided in ASTM D 228, Sections 13 or 14.

- 5.1.2. To determine the shingle aggregate gradation, it is suggested that the shingle fiber present in the shingle be removed prior to testing the recovered aggregate in accordance with AASHTO T-30. Since the major portion of the shingle fiber will be retained on a 4.75 mm (No. 4) sieve, the fiber fabric can be removed by tweezers or other appropriate method prior to grading the shingle aggregate during the AASHTO T 30 test procedure.

**6. Estimating the Contribution of the Shingle Asphalt Binder to the Final Blended Binder in New Hot Mix Asphalt (Values of F)**

- 6.1.1. When reclaimed asphalt shingle is added to new hot mix asphalt there is uncertainty as to the exact amount of asphalt binder that is released from the shingle asphalt binder to blend with the virgin asphalt binder. There are many factors that control the blending of these two binders. Perhaps the most significant factor is the size to which the reclaimed asphalt shingle is ground. The finer the grind the greater the amount of the contribution of binder from the reclaimed asphalt shingle to the final blended binder. But there are other factors also. These include the location in the manufacturing process where the reclaimed asphalt shingle is added to the new hot mix asphalt, the temperature of the aggregates, the temperature of the virgin asphalt binder, and the length of mixing time.
- 6.1.2. A calculated initial estimate of the percentage of asphalt binder ( $F_c$ ) that is released from the reclaimed asphalt shingle and blends with the virgin asphalt binder may be made by subtracting the difference between the design binder content of a virgin mix without reclaimed asphalt shingle ( $P_{vav}$ ) and the design binder content of the new hot mix asphalt with reclaimed asphalt shingle ( $P_{var}$ ), and dividing this value by the total available asphalt shingle binder in the new hot mix asphalt. Expressed mathematically:

$$F_c = \frac{P_{vav} - P_{var}}{(P_s)(P_{sab})}$$

where  $F_c$  = a calculated estimate of the shingle asphalt binder availability factor.

Determine the value of  $\epsilon$ , defined as follows:

$$P_{vav} - P_{var} = \epsilon$$

Then:

$$F_c = \frac{\epsilon}{(P_s)(P_{sab})}$$

This initial estimate will underestimate the value of  $F_c$ . A corrected value of F used in Section 7.1.3 is defined as follows:

$$F = \frac{1 + F_c}{2}$$

**Comment [b1]:** Publications Staff:  
please put this into an equation text box.  
Thanks! Tom Baker

A discussion of the corrected value of F is presented in Section 7.1.9. More detailed descriptive instructions, which outline the steps in this procedure, are as follows:

- 6.1.3. Perform a volumetric mix design on the new hot mix asphalt combination that includes all of the components of the mixture except for the reclaimed asphalt shingle in accordance with the procedures set forth in AASHTO R 35. Select the design aggregate structure and prepare replicate mixtures in accordance with Section 10.1 of AASHTO R 35. Condition the mixtures according to AASHTO R 30. Determine the design binder content ( $P_{vav}$ ).
- 6.1.4. Perform a second volumetric mix design procedure with the same combination of materials but including the reclaimed asphalt shingle in the percentage desired for the new hot mix asphalt. The reclaimed asphalt shingle should be added at ambient temperature to the heated aggregate materials just prior to the addition of the heated virgin asphalt binder. Condition the mixtures according to AASHTO PP2. Determine the design binder content ( $P_{var}$ ).
- 6.1.5. If the value of  $\epsilon$  is positive, then the shingle asphalt binder is contributing to the final blended binder. If the value of  $\epsilon$  is negative, then coating recycled asphalt binder particles and absorption of virgin asphalt binder by reclaimed asphalt shingle particles resulting from the introduction of the reclaimed asphalt shingle is exceeding the amount of asphalt shingle binder contributing to the final blended binder. Additional virgin binder will then be required.
- 6.1.6. Multiply the percentage of asphalt binder in the reclaimed asphalt shingle ( $P_{sab}$ ) by the percentage of reclaimed asphalt shingle added to the mixture ( $P_s$ ). This value represents the total available shingle asphalt binder expressed as a fraction or percentage of the new hot mix asphalt.
- 6.1.7. Divide the value determined in Section 6.1.5 by the product of ( $P_s$ )( $P_{sab}$ ) determined in Section 6.1.6
- 6.1.8. Theoretically, the value of F can be represented by the equation

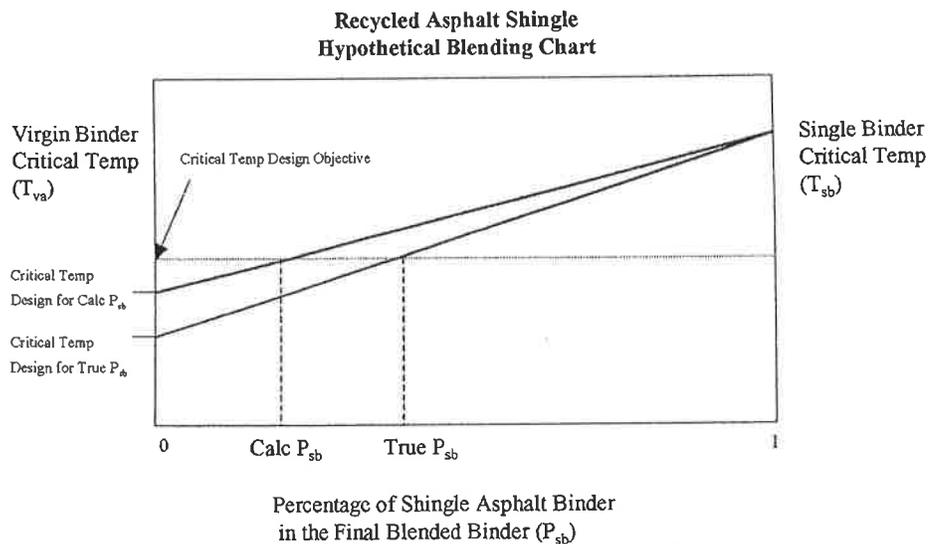
$$F_c = \frac{P_{vav} - P_{var}}{(P_s)(P_{sab})}$$

presented in Section 6.1.2. There are practical limitations, however, to this approach for estimating the value of F. These limitations are inherent in the assumption that  $\epsilon$  is the quantity of shingle asphalt binder that is contributing to the final blended binder. This is because the value of  $\epsilon$  is dependent on at least three factors, which include:

- The amount of shingle asphalt binder released into the mix
- Minus the additional absorption due to the reclaimed asphalt shingle present in the mix
- Minus the additional existing coating requirements due to the reclaimed asphalt shingle present in the mix.

As a result, the calculated value of F ( $\epsilon/(P_s)(P_{sab})$ ) will always be less than the true value of F, and the critical design temperature of the virgin asphalt will always be

overestimated. This is illustrated more clearly in the hypothetical reclaimed asphalt shingle blending chart shown below.



In the blending it can be observed that since the calculated value of  $P_{sb}$  will always be less than the true value, the calculated critical temperature will always be higher than the true critical temperature. In the design (selection of critical temperature/performance grade of the virgin binder) this must be taken into account, otherwise a harder asphalt will always be chosen.

Since the maximum value of  $F$  is theoretically equal to 1, the true value of  $F$  can be expected to lie between the value of  $F_c$  and 1, or expressed mathematically,  $F_c < F < 1$ . As a result, the best approximation of  $F$  can be expressed by the following equation:

$$F = \frac{1 + F_c}{2}$$

This value of  $F$  is used as input to calculate  $P_{sb}$  in Section 7.1.3.

**7. Determining the Virgin Performance Grade and Percentage of the Virgin Asphalt Binder in the New Hot Mix Asphalt**

- 7.1.1. Select the percentage of reclaimed asphalt shingle ( $P_r$ ) to be introduced into the new hot mix asphalt.
- 7.1.2. Determine the percentage of shingle asphalt binder ( $P_{sab}$ ) present in the reclaimed asphalt shingle in accordance with AASHTO T 319, AASHTO T 164 or AASHTO T T170 test procedures.

**Comment [b2]:** Publications Staff: please change the word "Recycled" to "Reclaimed" in this chart title. Thanks! Tom Baker

- 7.1.3. Determine the expected percentage of shingle asphalt binder ( $P_{sb}$ ) present in the final blended binder with the use of the following equation:

$$P_{sb} = \frac{F(P_s)(P_{sab})}{(P_{fbb})}$$

Where:

- $P_{sb}$  = percentage of shingle asphalt binder present in the final blended binder.  
 $P_s$  = percentage of reclaimed shingle asphalt in the new hot mix asphalt  
 $P_{sab}$  = percentage of shingle asphalt binder present in the reclaimed asphalt shingle determined in Section 6.1.2  
 $P_{fbb}$  = percentage of final blended binder present in the new hot mix asphalt  
 $F$  = shingle asphalt binder availability factor (determine using the procedure outlined in Section 6.1.8).

- 7.1.4. Establish the required performance grade (or critical temperature) for the virgin asphalt binder in accordance with AASHTO M 323, Appendix X1, "Procedures for Developing a Blending Chart." This can be accomplished by constructing a blending chart and plotting the critical temperature of the shingle asphalt binder for 100 percent shingle asphalt binder and the value of  $P_{sb}$  on the chart abscissa to determine the critical temperature of virgin asphalt binder that must be used in the new hot mix asphalt, or by utilizing the following equation, which is a mathematical representation of the blending chart:

$$T_{va} = T_{sb} - \frac{(T_{sb} - T_{fbb})}{(1 - P_{sb})}$$

Where:

- $T_{va}$  = critical temperature of the virgin asphalt binder  
 $T_{sb}$  = critical temperature of the shingle asphalt binder  
 $T_{fbb}$  = critical temperature of the final blended binder  
 $P_{sb}$  = percentage of shingle asphalt binder present in the final blended binder

- 7.1.5. To make use of the above-referenced equation,  $T_{sb}$  values for high, intermediate, and low critical temperatures for each of the defined properties in AASHTO M 320 must be determined by testing the extracted shingle asphalt binder from Section 6.1.2, above. The value for  $T_{fbb}$  is established based on the climatic conditions where the new hot mix asphalt will be used, while the value for  $P_{sb}$  is determined in Section 7.1.3. The equation may then be solved for  $T_{va}$ .
- 7.1.6. If the performance grade for virgin asphalt binder as determined in Section 7.1.4 is different from the grade used in Section 7.1.2, then an additional volumetric design for the new hot mix asphalt must be performed in accordance with AASHTO R 35, or an equivalent method approved by the specifying jurisdiction, and a revised design binder content ( $P_{var}$ ) in the new hot mix asphalt determined.

**MAINE BENEFICIAL REUSE FOR SOIL FINES**

Applicant



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STATE HOUSE STATION 17      AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

ENVIRONMENTAL RESOURCE	)	SOLID WASTE ORDER
RETURN CORPORATION (E.R.R.CO.)	)	
EPPING, NEW HAMPSHIRE	)	
BENEFICIAL USE OF A WASTE MATERIAL	)	
#S-021887-WL-A-N	)	NEW LICENSE

Pursuant to the provisions of Title 38 M.R.S.A. Sections 1301 et seq. and 06-096 CMR Chapters 400 and 418, et seq. Solid Waste Management Rules, effective November 2, 1998, the Department of Environmental Protection has considered the application of ENVIRONMENTAL RESOURCE RETURN CORPORATION (herein known as "ERRCO") with its supportive data and other related materials on file and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

- A. Application: ERRCO requests approval to utilize residual soil materials ("fines") generated from the storage and processing of construction and demolition debris, as an alternate daily and a closure material in lined Maine landfills.
- B. History: ERRCO is a processor of up to 600 tons per day of construction and demolition debris at the facility located at 270 Exeter Road in Epping, New Hampshire. The facility operates under New Hampshire Department of Environmental Services (NH DES) Solid Waste License #DES-SW-SP-92-001). On December 22, 1997, the facility obtained a license modification (#DES-SW-SP-92-003) from NH DES to allow the use of fines generated from the processing of construction and demolition debris at the facility for re-use as an alternative daily cover at permitted lined landfills within New Hampshire.
- C. Summary of Proposal: The applicant proposes to license for beneficial use as an alternate daily cover and a landfill shaping material in permitted lined landfills, fines generated from the processing of construction and demolition debris at the Epping, NH facility. The facility has submitted in support of this application, a summary of the facility operations manual defining sampling and monitoring procedures, the chemical results and statistical analysis of nine (9) monthly sampling events, a copy of the NH DES license modification to allow for the re-use of the material with

ENVIRONMENTAL RESOURCE	2	SOLID WASTE ORDER
RETURN CORPORATION (E.R.R.CO.)	)	
EPPING, NEW HAMPSHIRE	)	
BENEFICIAL USE OF A WASTE MATERIAL	)	
#S-021887-WL-A-N	)	NEW LICENSE

conditions, documentation of physical characteristics of the fines proposed for use, and statements from one landfill describing the actual use of the material as an alternative daily cover.

2. FACILITY DESCRIPTION

The ERRCO Solid Waste Processing Facility is currently operating within substantial compliance standards of NH DES license #DES-SW-SP-92-001 and as subsequently modified, at 270 Exeter Road in Epping, New Hampshire. The processing, storage, and removal of fines at the facility has been a compliance issue at the facility for a number of years. The facility is currently operating under a schedule of compliance order with the NH DES to remove the residual stockpiles of fines and residuals to approved disposal facilities, or to beneficially use the material within the next 24 months.

The facility is a C & D woodwaste processing facility utilizing various hog mills, chippers, and screens to produce an alternative fuel for Bio Mass boilers. The processing of this waste material produces an amount of fines as a waste product. Mixed with this material are varying amounts of plaster, mortar, concrete, brick, dirt, and similar materials.

3. MATERIAL CHARACTERIZATION

A. TESTING:

ERRCO has submitted analysis of nine sampling events of the fines material proposed for beneficial use. Analysis has been performed for the following parameters:

**Elemental Metals Analysis** prepared in accordance with US EPA SW-846 and tested utilizing method 3050B. **TCLP analysis** is performed for the same metal parameters on representative samples in accordance with US EPA SW-846. Metal parameters are:

Arsenic, Barium, Cadmium, Chromium, Mercury, Selenium, Silver and Lead

**Phenols** within the samples are determined utilizing US EPA Test Method 8270.

ENVIRONMENTAL RESOURCE	3	SOLID WASTE ORDER
RETURN CORPORATION (E.R.R.CO.)	)	
EPPING, NEW HAMPSHIRE	)	
BENEFICIAL USE OF A WASTE MATERIAL	)	
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B. SAMPLING

The following sampling procedure has been proposed by the applicant:

- (1) 8 Random grab samples (approximately ¼ gallon) taken from the conveyor each day the facility is in operation with sampling taken at approximately 2 hour intervals. These samples will be combined, mixed, and stored in a sealed container.
- (2) Each week the daily combined samples will be separated into a weekly composite sample of approximately 6 gallons.
- (3) At the end of the month the sample will be quartered until a 2 pound sample is obtained and tested by a qualified laboratory.

C. REPORTING

The applicant has proposed quarterly reporting of the daily/weekly/monthly sampling events to NH DES and with records to be retained at the facility.

D. TESTING RESULTS STATISTICAL SUMMARY

Statistical Analysis (as performed under the requirements of SW-846) indicates the following levels of the constituents may be expected for:

PARAMETER in mg/L	80% UCI in mg/L	REGULATORY THRESHOLD in mg/L
TCLP As	0.033	5
TCLP Ba	4.962	100
TCLP Cd	0.048	1
TCLP Cr	0.209	5
TCLP Pb	3.990	5
TCLP Hg	0.001	0.2
TCLP Se	0.000	1
TCLP Ag	0.000	5

ENVIRONMENTAL RESOURCE 4 SOLID WASTE ORDER  
 RETURN CORPORATION (E.R.R.CO.) )  
 EPPING, NEW HAMPSHIRE )  
 BENEFICIAL USE OF A WASTE MATERIAL )  
 #S-021887-WL-A-N ) NEW LICENSE

PARAMETERS in mg/kg	80 UCI in mg/kg	418 APPENDIX A in mg/kg
As	13.8	5.375
Ba	672.2	2000
Cd	1.8	10
Cr	29.3	97500
Pb	1552	375
Hg	2.4	1.2
Se	1.14	6.25
Ag	0.9	42.5

4. RISK MANAGMENT TECHNIQUES FOR THE PROPOSED USE OF THE MATERIAL

The proposed use of the material is as a secure lined landfill daily cover and as a landfill closure shaping material (contained under the closure cap) in lined secure landfills. This proposed use does not allow for the material to be dispersed to the environment or to allow the material to be available for ingestion or inhalation outside of the secure lined landfill setting.

No other risk management techniques have been proposed by the applicant.

BASED on the above Findings of Fact, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

The use of ERRCO fines as a landfill daily cover in secure lined landfills and as a landfill shaping material in secure lined landfills under the final closure cap as proposed by ENVIRONMENTAL RESOURCE RETURN CORPORATION, will not pollute any water of the state, contaminate any ambient air, constitute a hazard to health or welfare, or create a nuisance. Provided that:

1. The material proposed for beneficial use meets or exceeds the applicable generally accepted product specifications and standards for that product.
2. The beneficial use activity does not include the use of hazardous wastes identified pursuant to 06-096 CMR Chapter 405 and 850.
3. The amount and location of the material beneficially used as both landfill daily cover in secure lined landfills and as secure lined landfill shaping material is documented in the Beneficial Use annual report.

ENVIRONMENTAL RESOURCE	5	SOLID WASTE ORDER
RETURN CORPORATION (E.R.R.CO.)	)	
EPPING, NEW HAMPSHIRE	)	
BENEFICIAL USE OF A WASTE MATERIAL	)	
#S-021887-WL-A-N	)	NEW LICENSE

4. The fines material is continually characterized monthly and reported quarterly to the Department as described in the application.
5. The material will be transported to landfill sites by a licensed or exempt Non-Hazardous Waste Transporter, and by means of tightly fitting tarped trailer to ensure the material will not create a nuisance dust condition or to leak from the transportation device.
6. The use of the material in secure lined landfills as a risk management technique eliminates public and environmental exposures of the constituents of concern and thereby reduces the risk associated with those constituents.

THEREFORE, the Department APPROVES the above application of ENVIRONMENTAL RESOURCE RETURN CORPORATION TO UTILIZE PROCESS FINES GENERATED FROM THE PROCESSING OF CONSTRUCTION AND DEMOLITION DEBRIS AS AN ALTERNATIVE DAILY COVER AND LANDFILL SHAPING MATERIAL IN PERMITTED LINED SECURE LANDFILLS, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. The standard Conditions of Approval, a copy attached as Appendix A.
2. The transportation of process fines will be by a licensed or exempt Non Hazardous Waste Transporter in dump trailers with tight fitting tarps in a manner that will not create a nuisance fugitive dust condition or allow the material to leak from the transportation device.
3. The use of the material in lined and secure landfills will not allow fugitive dust from the material to escape for the confines of the secure landfill. This use meets the risk standards of 06-096 CMR 418.



## Appendix A

### SOLID WASTE LICENSE STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL. VIOLATIONS OF THE CONDITIONS UNDER WHICH A LICENSE IS ISSUED SHALL CONSTITUTE A VIOLATION OF THAT LICENSE, AGAINST WHICH ENFORCEMENT ACTION MAY BE TAKEN, INCLUDING REVOCATION.

1. This order is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposal and supporting documents is subject to the review and approval of the Board or the Commissioner prior to implementation.
2. The applicant shall secure and comply with all applicable Federal, State and local licenses, permits, authorizations, conditions, agreements and orders, prior to or during construction and operation as appropriate.
3. The applicant shall submit all reports and information requested by the Board or Department demonstrating that the applicant has complied or will comply with all conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
4. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.
5. No persons shall transfer a license for a solid waste disposal facility without first obtaining Board approval for the transfer of the ownership of the solid waste disposal facility. For a solid waste disposal facility, the Board, at its discretion, may require that the proposed new owner of the facility apply for a new license or may approve the transfer of the existing license upon a satisfactory showing that the new owner can abide by its terms and conditions and comply with the provisions of 38 M.R.S.A. Section 1310-Q. Public notice shall be provided in accordance with Chapter 400.4.D of the Solid Waste Management Rules.

6. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the Board of a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. Reapplications for approval shall state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of a new approval, if granted. Reapplications for approval may include information submitted in the initial application by reference.
7. If the approved development is not completed within five years from the date of the granting of approval, the Board may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances which may have occurred during the five-year period.
8. A copy of this approval must be included in or attached to all contract bid specifications for the development.
9. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.
10. All solid waste disposal facilities are required to accept only solid waste which is subject to recycling and source reduction programs at least as effective as those imposed by State law.
11. No solid waste facility licensee shall knowingly hire as an officer, director or key employee, or knowingly allow to acquire as equity interest or debt liability interest, any person having been found guilty of a felony or of a violation of environmental law or rules without first obtaining the approval of the Board.
12. Whenever any lot of land for solid waste disposal facilities is transferred by deed, the following shall be expressly stated in the deed:
  - A. The type of facility located on the lot and the dates of its establishment and closure.
  - B. A description of the location and the composition, extent, and depth of the waste deposited.If asbestos-containing waste or asbestos-contaminated waste has been disposed on a site, the location coordinates must be identified (refer to Chapter 405).

**MASSACHUSETTS BENEFICIAL USE DETERMINATION  
C&D FINES AS DAILY COVER AND PRE-CAPPING &  
CONTOURING MATERIAL**



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY  
Governor

KERRY HEALEY  
Lieutenant Governor

STEPHEN R. PRITCHARD  
Secretary

ROBERT W. GOLLEDGE, Jr.  
Commissioner

November 28, 2005

Greg Wirsen  
Green Seal Environmental, Inc.  
28 Route 6A  
Sandwich, MA 02563

Dear Mr. Wirsen:

This letter is in response to your request of September 6, 2005, on behalf of the Environmental Resource Recovery Corp. (ERRCO) of 270 Exeter Road Epping, NH 03042, seeking a determination on several requests for clarification and modification to its Beneficial Use Determination (BUD) issued August 25, 1999. You have indicated that Gateway Enviro Services, which is the parent company of LL&S Wastewood Processing (LL&S) of Salem, NH, has recently purchased the ERRCO facility. During review of the ERRCO and LL&S BUDs you noted two differences in requirements between the BUDs. These two differences include: 1) inspection of incoming loads (asbestos testing), and 2) organic content requirement of the C&D Fines.

Also, you have submitted a request for modification to the BUD for proposed changes to your C&D material processing line. MassDEP has reviewed your requests and made determinations concerning each of the specific items as follows:

1. Organic Content of Fines. ERRCO's current BUD limits the organic content of its C&D Fines to twenty-five percent (25%) by weight, but the LL&S C&D Fines organic limit is thirty-five percent (35%). MassDEP determines that for consistency, ERRCO may modify the organic content by increasing the organic limit of its C&D Fines to no more than thirty-five percent (35%). MassDEP has revised and attached the BUD which reflects this change.
2. MassDEP determines that ERRCO's modifications to its process line are acceptable and the revised process line modifications shall supercede the original process line identified in the BUD application approved in the August 25, 1999 BUD. MassDEP has revised and attached the BUD which reflects this change.
3. Inspection of Incoming Loads. ERRCO's current BUD requires potentially asbestos containing material to be sampled and tested once for every fifty (50) tons of incoming material. LL&S's BUD requires one sample of material to be tested per hour. Due to an

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.

on-going evaluation of the Department's asbestos testing protocol, MassDEP is not modifying any BUDs for asbestos sampling until the evaluation has been completed. In addition, the difference in sampling and testing between the LL&S BUD and the ERRCO BUD is minimal, therefore MassDEP denies the request for change at this time. ERRCO shall continue its current testing protocol for inspection of incoming loads which is unchanged in the attached modified BUD.

In conclusion, the changes listed above and reflected in the attached modified BUD shall supercede the ERRCO BUD (dated August 25, 1999). ERRCO shall keep this letter with the attached modified BUD. If you have any questions or need further information please contact Thomas Adamczyk at (617) 574-6867.

Sincerely,



Steven A. DeGabriele  
Division Director  
Business Compliance Division  
Bureau of Waste Prevention

Date: 11/28/05



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY  
Governor

KERRY HEALEY  
Lieutenant Governor

STEPHEN R. PRITCHARD  
Secretary

ROBERT W. GOLLEDGE, Jr.  
Commissioner

**MODIFICATION TO  
BENEFICIAL USE DETERMINATION -- BWP SW 13  
Environmental Resource Return Corporation  
Construction and Demolition Fines as Daily Cover and Pre-capping and Contouring  
Material  
Statewide Beneficial Use Permit  
Supercedes BUD issued on August 25, 1999**

Applicant Name: **Environmental Resource Return Corporation (ERRCO)**  
Mailing Address: **P.O. Box L  
Epping, NH 03042**

Name of Facility;  
Facility Address: **Environmental Resource Return Corporation  
270 Exeter Road  
Epping, NH 03042**

Operator: **Environmental Resource Return Corporation  
270 Exeter Road  
Epping, NH 03042**

DEP Office: **Department of Environmental Protection  
(the "Department" or "DEP")  
Business Compliance Division  
One Winter Street  
Boston, Massachusetts 02108**

**I. ORIGINAL PERMIT APPLICATION INFORMATION**

**A. Applicant Information for Beneficial Use Determination -- BWP SW 13**

Applicant Name: **Environmental Resource Return Corporation**  
Transmittal #: **203090**  
Date: **March 31, 1999**

Application Prepared by:

Lynnfield Engineering, Inc.  
199 Newbury Street, Suite 115  
Danvers, MA 01923  
Phone: (978) 777-7250

- B. Title of Submittal: BWP SW 13--Beneficial Use Determination--  
Major  
"Reuse of C&D fines as alternative daily cover material and pre-  
capping and contouring material"

C. Other Submittals:

1. Title of Submittal: Supplemental Transmittal – Beneficial Use Determination  
Dated: June 24, 1999
2. Title of Submittal: Comments on Draft – Beneficial Use Determination  
Dated: July 12, 1999
3. Title of Submittal: Comments on Draft – Beneficial Use Determination  
Dated: August 4, 1999

## II. MODIFICATION APPLICATION INFORMATION

A. Applicant Information for Beneficial Use Determination -- BWP SW 13

Applicant Name: Environmental Resource Return Corporation  
Transmittal #: 203090  
Date: September 6, 2005

Application Prepared by:

Greg Wirsen  
Green Seal Environmental  
28 Route 6A  
Sandwich, MA 02563  
Phone: (508) 888-6034

- B. Title of Submittal: BWP SW 13 -- Beneficial Use Determination  
– Major  
"Modification to Process Line and Organic Content Limit of BUD  
for the Reuse of C&D fines as alternative daily cover material and  
pre-capping and contouring material"

### III. MODIFIED BENEFICIAL USE PROPOSAL

ERRCO has requested modification of its current Beneficial Use Determination (BUD) in two areas. First, ERRCO requests a change of the limit on organic content of the C&D Fines material from twenty-five percent (25%) to thirty-five percent (35%). This change is effected in Section VIII.A. of this BUD. The second change proposed is to reflect changes in the process line. These changes are reflected in this section (Section III MODIFIED BENEFICIAL USE PROPOSAL) and are as follows:

C&D waste materials delivered to the facility are unloaded within the "tip" floor area of the facility. During the tipping activity the loads shall be inspected for the presence of unacceptable materials (i.e., hazardous waste and materials, municipal solid waste and asbestos waste and asbestos containing materials). Large bulk materials of aggregate, metal, bulk items (i.e., carpet, mattresses, etc.), and gypsum wallboard materials are removed from the incoming stream and staged into stockpiles for appropriate handling. The remaining material is stockpiled for subsequent loading into the initial screening process.

At this stage, a sample required by the BUD for testing shall be collected (i.e., incoming load inspections). ERRCO then implements their "Gypsum Removal Plan". ERRCO determines if large amounts of gypsum or "blowables" (i.e., paper, cardboard, or plastic) are present in incoming loads (in the truck at the gate). If large amounts of gypsum or blowables are present the entire load is tipped with the non-processable C&D waste, and disposed of directly without further processing. If there are not large amounts of gypsum/"blowables" the pile is sent to the tip floor for processing. If the material is tipped and then determined to be at high concentration for gypsum/blowables the material is pushed to the non-processable material for disposal.

At this point, the C&D material continues to an in-feed hopper for processing at the disc screener. At the disc screener the material is separated into three separate waste streams. The three streams are: 1.) 3/8 inch minus material is removed as the Fines fraction. 2.) Material that is 3/8 inch to 4 inch material which is sent via conveyor to an overband magnet and then to a secondary trommel screen to remove Fines for a second time. 3.) Material that is 4 inch plus is sent via conveyor to an elevated manual sort station. Prior to the manual sort it is recombined with the 3/8 inch to 4 inch minus material. At the manual sort station metal, ABC (asphalt, brick, concrete) material, cardboard, wood, and bulk items are separated out. The remaining material from the manual sort is then sent to a high-speed rotary grinder (hammer mill) that reduces the material to a size that is manageable to put through a float tank system (wood separation) and ferrous metal extraction.

At the float tank system, all the material is separated into a lighter fraction that floats (wood) and a heavier fraction that sinks (aggregate). The heavy fraction is stockpiled outside and the light fraction is ground into a 4 inch minus material used for boiler fuel.

Currently, the facility has a 4000 ton per week limit with approximately 50% of that material utilized as Fines and residuals material.

#### IV. ORIGINAL BENEFICIAL USE PROPOSAL

Environmental Resource Return Corporation (ERRCO) proposes to market up to three hundred and fifty (350) tons per day of construction and demolition debris fine material (C&D Fines) generated at their C&D recycling facility in Epping, New Hampshire for use as alternative daily cover material (ADCM) and pre-capping grading and contouring material (grading and shaping material) at Massachusetts landfills.

The Fines are composed of 3/8-inch diameter or smaller pieces of debris generated during handling of the incoming C&D waste stream. ERRCO primarily receives presorted C&D waste at a rate of approximately six hundred (600) tons per day. Materials received at the facility are screened, mechanically and manually sorted, crushed and separated into various product streams. In the first step bulky items, metals and non-recyclables are manually removed. Materials are then sent through a disc screen, with materials greater than 6" sent through a picking station to a crusher. Material exiting the crusher is passed under a magnet and then combined with the 6" minus material previously separated by the disc screen. The combined process stream is then sent through a trommel where the 3/8" minus material is removed. The 3/8" plus waste-stream is further processed by using a sink/float tank to separate rock/brick and wood. The rock/brick is screened for fines removal. Fines are removed and added to the trommel 3/8" minus stockpile. This material is the subject of this determination. Rock/brick remaining on the screen is conveyed to the rock/brick stockpile.

#### V. BENEFICIAL USE DETERMINATION

This application complies with the requirements of 310 CMR 19.000, "Solid Waste Management Facility Regulations," and was reviewed in accordance with section 19.060, Beneficial Use of Solid Wastes. The Department determines that the C&D Fines generated by ERRCO may be beneficially used for daily cover and grading and shaping material at landfills subject to the conditions listed below.

C&D material removed from demolition or construction-sites contains various construction materials such as asphalt, brick, concrete, metal, wood and gypsum. The Department believes that improved waste management procedures and market development may facilitate higher uses for materials, and encourages ERRCO to evaluate its current process to increase waste diversion alternatives.

#### VI. GENERAL PERMIT CONDITIONS

- A. A determination of beneficial use means the material is NOT classified as a solid waste ONLY when used in accordance with the requirements of this determination. The material shall not be handled or utilized in a manner that will result in the material becoming a solid waste.
- B. The beneficial use of this material shall be in compliance with other applicable state and federal laws and regulations.
- C. The Department reserves the right to rescind, suspend or modify this permit by the imposition of additional conditions based upon a situation of significant odor, dust,

- nuisance, or a determination of actual, or threat of, adverse impacts from the use of this material.
- D. ERRCO shall provide the Department, within a reasonable time, any information which the Department may request and which is deemed by the Department to be relevant in determining whether a cause exists to modify, revoke, or suspend this Beneficial Use Determination (BUD), or to determine whether ERRCO is complying with the terms and conditions of the permit.
  - E. *Personnel Training.* ERRCO shall instruct or give on-the-job training to personnel involved in any activity authorized by the permit. Such instruction or on-the-job training shall teach personnel how to comply with the conditions of the permit and to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare, or the environment.
  - F. Failure to comply with this determination shall be grounds for enforcement action, including, without limitation, permit suspension and revocation.
  - G. ERRCO must notify the Department of any changes in its process that may modify the physical or chemical nature of the material. A change in processing or use of the materials as presented in the beneficial use determination application will require additional review and approval.
  - H. A copy of this permit shall be supplied to any Massachusetts landfill intending to use ERRCO C&D Fines as daily cover or grading and shaping material. ERRCO shall obtain a signature from the landfill operator indicating that the landfill operator has received a copy of the permit and is aware of the permit conditions that relate to landfill requirements.
  - I. *Transfer of Permits.* Pursuant to 310 CMR 19.044, for a transferred permit to remain effective, written proof that the transfer has been completed must be provided to the Department within 30 days of the effective date of the transfer. If the transfer involves the conveyance of real estate, written proof that such conveyance has been duly recorded in the appropriate Registry of Deeds or land court must be provided.

## VII. FACILITY CONDITIONS

- A. ERRCO shall post a sign at the facility entrance identifying acceptable materials received at the facility. The sign must also indicate that asbestos waste and asbestos containing material (ACM) are not accepted at the facility.
- B. Personnel possessing asbestos inspector certification shall visually inspect all incoming loads for the presence of asbestos and/or asbestos containing materials. In addition to classroom certification, inspectors must have a minimum of forty (40) hours of on-the-job training in identifying potential asbestos containing materials and sampling protocols.
- C. *Inspection of Incoming Loads.* Personnel possessing asbestos inspector certification shall thoroughly inspect and sample incoming loads for unacceptable materials at a frequency of one (1) truckload per fifty (50) tons of demolition and renovation debris

received at the facility. C&D loads originating from locations where an asbestos survey and, if necessary, abatement were conducted before demolition are not subject to this requirement provided documentation of the survey/abatement is provided to and recorded by ERRCO. This inspection shall include one (1) sample of material that may potentially contain asbestos. ERRCO shall attempt to alternately sample the following examples of materials that may contain asbestos.

- All thermal insulation (pipe, boiler, etc.)
- Cement shingles
- Floor tiles
- Linoleum (sheet flooring)
- Plaster
- Cement pipes
- Cement Sheets (corrugated, decorative)
- Ceiling tile (1'X1', 2'X2', 2'X4')
- Cloth vibration dampers on ductwork
- Spray-on fire proofing
- Mastic on wood or cement Drywall

1. Any loads containing asbestos and/or asbestos containing waste shall not be processed at the facility. The load shall be considered asbestos waste and handled according to all applicable local, state, and federal regulations.
2. Incoming Load Asbestos Characterization.
  - a) Samples shall be analyzed utilizing Polarized Light Microscopy (PLM) testing methods.
  - b) The Department will consider revising sampling frequencies and parameters upon written request by the applicant after a minimum of six months of asbestos testing has been completed in compliance with this determination.

*D. Third Party Inspections.*

1. The facility shall be inspected once every two months by a qualified third party asbestos inspector experienced in the management of C&D waste and retained by ERRCO.
2. During the inspection the inspector shall:
  - a) Evaluate sampling and monitoring programs, including any approved modifications, as required by this determination. Identify any deviations from compliance conditions set forth in this determination.
  - b) Identify any modifications in the ERRCO process as compared to the beneficial use application. Identify any changes that may modify the physical or chemical nature of the C&D Fines or may present a situation of significant odor, nuisance, or threat of adverse impacts from the use of

this material.

- c) Sample a random truckload for asbestos from materials that may potentially contain asbestos. The sample shall be analyzed using PLM testing methods.

### VIII. C&D FINES CONDITIONS

- A. C&D fines material used as alternative daily cover or grading and shaping material shall be limited to material produced at ERRCO as described in the application and consist of fines removed by a 3/8" trommel screen. This material shall have a maximum organic content of 35% by weight.
- B. *Chemical Characterization.* All characterization shall be performed on representative samples of C&D Fines. A qualified environmental professional shall perform all sampling using approved ASTM or other recognized sampling methods. Composite samples shall be made up of at least eight aliquot samples taken at equal intervals throughout the day. Samples must be sent via chain-of-custody to a certified lab; or analyzed under alternative methods approved by the Department.
  1. **Metals and Total Petroleum Hydrocarbons.** The C&D Fines shall be sampled and analyzed quarterly for TPH and total metal concentrations to include: arsenic, cadmium, chromium, lead, and mercury. At least three composite samples shall be collected and analyzed. Where the total metal concentration in any sample is greater than 20 times the Toxicity Characteristic Rule standard, a Toxicity Characteristic Leaching Procedure analysis shall be performed.
  2. **Semi-Volatile Organic Compounds (SVOCs).** The C&D Fines shall be sampled and analyzed quarterly for SVOCs. At least three composite samples are required. Drying temperatures to reduce moisture prior to particle size distribution analysis shall not exceed 110°C.
  3. **Volatile Organic Compounds (VOCs).** The C&D Fines shall be sampled and analyzed for VOCs once every six months. One composite sample is required.
  4. **Loss on Ignition.** The C&D Fines shall be analyzed quarterly to determine the organic and inorganic fractions. At least three composite samples shall be collected and analyzed.
- C. *C&D Fines Daily Composite Asbestos Characterization.* A daily composite sample of C&D Fines shall be sampled and analyzed for the presence of asbestos. The daily composite shall be made up of at least four aliquot samples taken at equal intervals throughout the day. ERRCO shall adhere to approved ASTM sampling methods. Samples must be sent via chain-of-custody to a certified lab; or analyzed under alternative methods approved by the Department.

### IX. LANDFILL CONDITIONS - USE AS ALTERNATIVE DAILY COVER

- A. The landfill operator shall immediately take appropriate steps to abate any nuisance condition(s), including but not limited to, noise, dust and odor, resulting from activities associated with the use of C&D fines as alternative daily cover.

- B. The daily quantity of C&D Fines that may be used at a landfill shall not exceed the quantity necessary to meet the performance standards for daily cover specified at 310 CMR 19.130 (15). A quantity in excess of this amount is considered disposal. Furthermore, C&D Fines used as daily cover is limited to a quantity no greater than twenty (20) percent by weight of the amount of waste disposed in that day. C&D Fines used above this percentage is considered disposal.
- C. A minimum quantity of daily cover material, other than C&D Fines, sufficient for nine (9) working days of operation shall be stockpiled at the landfill or shall be readily available.
- D. Landfills using C&D Fines generated by ERRCO shall not stockpile more C&D Fines than can reasonably be used as alternative daily cover in a five (5) day period. Stockpiled C&D Fines shall be properly controlled to prevent runoff and nuisance conditions.

**X. LANDFILL CONDITIONS - USE AS GRADING AND SHAPING MATERIAL**

- A. C&D fines shall be used as grading and shaping material only if the landfill owner/operator applies for and receives approval from the appropriate Regional Office of the Department for its use as part of an approved closure plan for that facility.
- B. A copy of this permit and the application for modification of the closure plan as required in X.A. above shall be supplied to the Board of Health in the city or town where the landfill closure is taking place.
- C. The regional approval shall address site specific issues including, but not limited to, storage requirements (amounts and locations), quantity of material to be used, spreading and compacting requirements, length of time before exposed material is covered by other materials, amount of area that will have exposed C&D fines, erosion and storm water controls and dust and other nuisance control methods.
- D. C&D fines used as grading and shaping material shall be used in accordance with the standard operating procedures addressing record keeping, landfill operation practices and erosion control as stated below, or as those requirements may be modified by the regional approval required by X.A. above.
- E. Landfill Operating Practices. All C&D fines shall be stockpiled within the landfill footprint. The landfill shall not stockpile more material than can be spread in a five (5) day period. Stockpiled C&D fines shall be properly controlled to prevent runoff and nuisance conditions. All material shall be spread and compacted as soon as possible following receipt of the material. The material shall be placed in lifts not exceeding eighteen (18) inches and be compacted by a minimum of three (3) passes of landfill compaction equipment having a minimum equipment weight of twenty (20) tons. All C&D fines shall be covered with soil or other approved materials within seven (7) days unless another lift of C&D fines is placed within that time period. A minimum three (3) days stockpile of daily cover material, other than C&D fines, shall be maintained on site or be readily available should site conditions warrant its application.

- F. Erosion Control. Erosion control, consisting of hay bales and silt fencing, shall be installed within areas receiving C&D fines for grading and shaping to prevent migration of the material. In addition, hay bales and siltation fencing shall be installed around all material stockpiles on site. Following placement, all material shall be graded to minimize erosion. Inspection of erosion control measures shall be performed on a regular basis and maintenance performed on an as needed basis. Dust control on the site shall consist of regular maintenance of access and service roadways to minimize dust generation. In the event of nuisance dust generation from areas of the site receiving C&D fines material a six (6) inch layer of daily cover material shall be placed over the areas to minimize the generation of dust.
- G. The allowable amount of C&D fines to be used as grading and shaping material at a site shall be limited to that quantity necessary for grading and shaping to achieve pre-capping contours as specified in the facility's approved final closure plan. Placement of C&D fines in excess of what is needed to meet closure requirements shall be considered disposal and does not constitute beneficial use. The Department may initiate enforcement actions, including NONs, orders or penalties, and require removal of C&D fines material that is placed in violation of a valid approval.
- H. The Department shall be notified as soon as possible, but no later than twenty-four (24) hours, should conditions of nuisance odor occur at the site as a result of the Beneficial Use activities.

## **XI. RECORD KEEPING AND REPORTING**

- A. ERRCO shall retain all records and copies of applications, reports, and other documents required by this determination, which shall be readily available for inspection by the Department, for a period of three (3) years beyond the final distribution of ERRCO C&D Fines for use as alternative daily cover or grading and shaping material.
- B. All C&D fines shipped as alternative daily cover material or as grading and shaping material shall be transported with a material shipping record detailing, at a minimum, the generating facility, receiving facility, date of shipment, date received, truck identification and tonnage. The shipping and receiving facilities shall each maintain copies of the shipping record.
- C. Records retained shall include, but are not limited to, the following:
  - 1. Training; and,
  - 2. Daily records, including:
    - a) Tons of each shipment of C&D Fines used as daily cover or grading and shaping material;
    - b) C&D Fines product recipients, including date of deliveries;
    - c) Tons of C&D debris received at the facility;
    - d) Tons of C&D debris processed and the intended use;
    - e) Tons of C&D debris disposed.

- D. *Incoming Load Inspection Recording.* ERRCO shall record each inspection of incoming loads on a form that shall include, at a minimum, the following information:
1. The name of the person performing the inspection.
  2. The nature of the material brought to the facility.
  3. The amount of each load brought to the facility.
  4. Location of the facility being demolished.
  5. Name, address and telephone number of the transporting company bringing the demolition material to the handling facility.
  6. A description of any unacceptable materials identified and the course of action taken to adequately manage those materials.
- E. *Incoming Load Asbestos Characterization Reporting.*
1. ERRCO shall notify the DEP's Boston Office, Business Compliance Division, Waste Branch Chief in writing within fourteen (14) days of any load that tests positive for the presence of ACM and provide a completed inspection report as described below.
  2. If random sampling detects three (3) failed loads in a thirty (30) day period, ERRCO shall notify DEP's Boston Office, Business Compliance Division, Waste Branch Chief in writing within fourteen (14) days that this has occurred. ERRCO shall reevaluate its acceptance procedures to prevent asbestos from entering the facility. ERRCO shall provide written notification to DEP's Boston Office, Business Compliance Division, Waste Branch Chief in writing within fourteen (14) days of any modifications to acceptance procedures.
- F. *Third Party Inspection Reporting.* Following the inspection, ERRCO shall ensure that a third party inspection report is submitted to DEP's Boston Office, Business Compliance Division, Waste Branch Chief within fourteen (14) days of the third party inspection, that:
1. Provides a written evaluation of the ERRCO process as described in V. D. 2. above.
  2. Includes results of any analytical tests performed during the inspection.
  3. Provides recommendations, if necessary, to ensure that unacceptable materials do not enter the facility and that will prevent hazardous or nuisance conditions from occurring as a result of incoming materials.
  4. Is signed and dated by the inspector certifying that to the best of his/her knowledge all information is accurate and complete.
- G. *C&D Fines Daily Composite Asbestos Reporting.* If sampling detects asbestos twice in a thirty (30) day period, ERRCO shall notify DEP's Boston Office, Business

Compliance Division, Waste Branch Chief in writing within five (5) business days and provide an evaluation of why asbestos may have entered the facility in each circumstance, as well as, steps taken to prevent future occurrences.

- H. *Summary reporting.* The applicant, ERRCO, shall provide an annual summary, in tabular form, of the results of asbestos, metals, TPH and other C&D fines testing required by this BUD. Also included in the summary shall be the locations, amounts and use (daily cover, grading and shaping, disposal, other) of all C&D fines shipped to solid waste facilities in Massachusetts. The summary shall be submitted to the DEP's Boston Office, Business Compliance Division, Waste Branch Chief by February 15 of each calendar year.
- I. *Alternative Daily Cover Performance Reporting.* After six months of C&D Fines use at landfills as an alternative daily cover, ERRCO shall prepare a one-time report which documents the performance of the C&D Fines as an alternative daily cover. The report shall include landfill operator interviews and include performance information on all aspects of the C&D Fines use as a cover material as defined in the Landfill Regulations at 310 CMR 19.130 (15). This report shall be submitted to the DEP's Boston Office, Business Compliance Division, Waste Branch Chief within eight months of C&D Fines use at landfills as an alternative daily cover.

## **X. RIGHT OF APPEAL**

Any person aggrieved by the issuance or denial of this permit decision except as provided for under 310 CMR 19.037(4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, § 150A and c. 30A not later than 30 days following the receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the 30 day period.

Notice of Appeal. Any aggrieved person intending to appeal a grant or denial of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notice of intention shall include the Department file number and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Deputy Division Director of the Business Compliance Division at least five days before the filing of an appeal.

Office of General Counsel  
Department of Environmental Protection  
One Winter Street-Third floor  
Boston, MA 02108

Deputy Division Director  
Department of Environmental Protection  
Business Compliance Division  
One Winter Street  
Boston, MA 02108

No allegation shall be made in any judicial appeal of a permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in these regulations, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

If you have any questions regarding this matter, please contact Thomas Adamczyk of the Business Compliance Division at (617) 574-6867.

Very truly yours,



Steven A. DeGabriele  
Director  
Business Compliance Division  
Bureau of Waste Prevention

Date: 11/28/05

CC: Solid Waste Section Chiefs

**NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES  
CERTIFIED WASTE DERIVED PRODUCT NO. 20  
PROCESSED CONSTRUCTION & DEMOLITION DEBRIS  
FINES AND SOIL MIXTURE – GRADING MATERIAL  
FOR CLOSURE OF LINED AND UNLINED LANDFILLS**



State of New Hampshire  
DEPARTMENT OF ENVIRONMENTAL SERVICES

6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095  
(603) 271-2900 FAX (603) 271-2456



To: Interested Parties

From: Anthony Giunta, P.G., Director  
Waste Management Division  
Department of Environmental Services

Subject: Certified Waste-Derived Product No. <sup>20</sup>~~19~~, Processed Construction and  
Demolition Debris (C&D) Fines and Soil Mixture-Grading Material for  
Closure of Lined and Unlined Landfills

Pursuant to Env-Wm 3207.05 and Env-Wm 3208 of the New Hampshire Solid Waste Rules (Rules), the Department of Environmental Services, Waste Management Division (Department) has added Processed C&D Fines and Soil Mixture – Grading Material (product) for Lined and Unlined Landfills made with processed C&D fines (waste) and soil to the Department's list of certified waste derived products. Use of the waste must adhere to Env-Wm 2506.07 and Env-Wm 3202.04 of the Rules, which are designed to protect the public health and the environment. Before using the waste to produce the product, be sure to note any specifications or restrictions that have been placed on the use, storage, handling, and production of the waste and/or product. **Seven (7) specifications and/or restrictions are attached.**

This certification granted by the Department shall not affect the applicant's obligation to obtain all requisite federal, state, or local permits, licenses or approvals, or to comply with all other applicable federal, state, district or local permit, ordinances, laws or approvals or conditions pertaining to the approved activity.

For permitting information and questions, please call the Department's Permitting and Design Review Section at (603) 271-2935 for assistance.

cc: PDRS CWDP File

Certified Waste-Derived Product No. 19, Processed Construction  
and Demolition Debris (C&D) Fines and Soil Mixture-Grading  
Material for use at Lined and Unlined Landfills  
December 6, 2004



Certified Waste-Derived Product No. <sup>20</sup>~~19~~  
Processed C&D Fines and Soil Mixture-Grading Material for Closure  
of Lined and Unlined Landfills

Specifications and Restrictions

- (1) This product consists of a mixture of C&D fines and soil, the organic content of which shall not exceed 50% by volume, and is to be used as grading material for closure of Lined and Unlined Landfills;
- (2) The product shall possess the characteristics required to achieve the performance objectives of Env-Wm 2507.04(c) of the Rules, and 40 CFR 258.60;
- (3) The product shall be sampled on a quarterly basis and analyzed for:
  - (a) TCLP metals, the facility shall not accept any processed C&D which exceed the applicable TCLP threshold; and
  - (b) Asbestos, the facility shall not accept any processed C&D for use in the product if asbestos is detected;
- (4) Prior to use, the responsible party for the landfill closure shall ensure that its sources of product have on-site QA/QC procedures adequate to prevent the incorporation of refuse, friable and non friable asbestos containing materials, and select recyclables into the product; and
- (5) The landfill closure design documents shall contain a stockpile, placement, grading and burial plan that minimizes the potential generation and uncontrolled release of hydrogen sulfide gas.
- (6) The product shall only be stockpiled within the footprint of the landfill.

**Certified Waste-Derived Product No. 19, Processed Construction  
and Demolition Debris (C&D) Fines and Soil Mixture-Grading  
Material for use at Lined and Unlined Landfills  
December 6, 2004**

- (7) Any request to increase the permitted amount of stockpiled product at the site of generation shall be approved by the Department only after a certification has been received from the professional engineer in responsible charge of the landfill closure project attesting to the amount of product necessary to meet the design needs of the closure project. If approved, the approval shall only be for the quantity of product necessary to complete the closure project.

**ATTACHMENT C**

**CLOSURE PLAN**

**CLOSURE PLAN - REVISED**  
**ENVIRONMENTAL RESOURCE RETURN CORP.**  
**(To replace previous plan)**

The 1994 Permit application included a Closure Plan for the facility. It was last revised on June 1, 1995. The intent of this closure plan modification is to put the plan into the form currently required by Env-Sw 1106.04 (e) and to provide additional information related to the additional throughput. This revised closure plan will provide sufficient detail to allow a third party to implement and complete all required facility closure tasks in compliance with RSA 149-M, the permit and the solid waste rules without further explanation or guidance.

**Section 1 - Facility Identification**

Facility name: Environmental Resource Return Corp  
Mailing address: 59 Stiles Road, Suite 106  
Salem, NH 03079  
Location address: 270 Exeter Road  
Epping, NH 03042  
Permit number: DES-SW-SP-92-003

**Section 2 - Closure Schedule**

The facility has no scheduled closure date. Equipment will be replaced with equivalent or better equipment as its useful life is reached. Should the facility close for some unforeseen reason, the following schedule for closure will be followed:

	<b>Closure Activity Required</b>	<b>Duration of Activity</b>	<b>Completion Deadline</b>
1.	File a Notice of Intent to Close in accordance with Env-Wm 2806	15 days	Fifteen day before termination of receipt of waste
2.	Terminate all waste deliveries to the Facility	Zero Days	Immediately
3.	Remove all secondary products produced by the Facility and/or all recycled products produced by the facility	30 Days	One month after termination of receipt of waste
4.	Remove all wastes, including all bypass wastes and residuals, from the site to a permitted waste management	30 Days	One month after termination of receipt of waste
5.	Remove, dismantle or otherwise decommission all Facility Equipment	60 Days	Three months after termination receipt of waste
6.	Clean the Facility, in accordance with Env-Wm 312.06	15 Days	Three and one half months after termination of receipt of waste
7.	Perform all actions necessary, based on actual Facility performance and actual site conditions, to monitor and remediate any associated environmental damage.	120 Days	Six months after termination of receipt of waste

**Section 3 - Waste Identification**

- Municipal Solid Waste (MSW)**  
       putrescible wastes  
       glass  
       cans  
       paper & cardboard  
       plastics  
       Other (specify) \_\_\_\_\_
- X   **Recyclable Materials**  
  X   glass  
       aluminum cans  
       other cans (steel)  
       paper  
  X   HDPE plastics  
       PET plastics  
  X   tires (refer also to Env-Wm 2605)  
  X   motor vehicle batteries  
  X   Waste oil  
       Other (specify) \_\_\_\_\_
- X   **Demolition Debris**  
  X   untreated, unpainted wood  
  X   treated wood  
  X   asphalt shingles  
       asbestos (refer also to Env-Wm 2601)  
  X   concrete  
  X   brick  
       asphalt  
  X   metal  
  X   insulation  
  X   wire  
  X   glass  
  X   Other (specify) Screened fines for use as loam or topsoil  
  X   Other (specify) Carpet  
  X   Other (specify) Cardboard
- X   **Bulky Wastes**  
  X   stumps/brush  
  X   furniture  
  X   white goods (appliances)  
       automobile parts  
  X   Other (specify) CRTs & Cardboard

#### **Section 4 - Notifications**

Notification will be given to the users of the Environmental Resource Return Corp. (ERRCO) in the following manner:

- a) Letters will be sent to all users of record who have used the facility during the past year.
- b) Notification of termination of receipt of construction and demolition debris by the facility will be given by notices posted on the facility gates, public notice printed in the regional newspaper, and written notice will be mailed to all users who maintain contracts for construction and demolition debris and residuals disposal at/with the facility.
- c) Signs will be posted at the entrance clearly stating that no dumping is allowed at this site. The sign will also contain the following information: (1) ERRCO Facility Closure Project; (2) emergency telephone numbers; and the (3) penalty for unlawful dumping.

#### **Section 5 - Closure Requirements**

The procedure for closure of the facility will include removal and disposal of all stockpiled materials on site. Stockpiled materials are defined as unprocessed materials; residual stored on site and stockpiles of processed, recovered materials at the time of closure. All stockpiled material on site will be either delivered to market or transported to a permitted disposal facility, such as Turnkey Landfill in Rochester, New Hampshire for disposal.

The following steps will be taken to minimize human exposure and environmental impact at the ERRCO site. The design of the facility closeout considers the need to protect public health and safety and the environment.

- a) Health & Safety Plan. The Contractor will submit to the engineer for review a Health and Safety Plan prior to beginning closure work at the site. The Health and Safety Plan will be prepared in accordance with guidelines developed by the US Environmental Protection Agency.
- b) Security. The entrance to the facility site is controlled by a gate which will be normally closed during hours when the contractor is not working on site. The site is surrounded by a natural barrier of woodlands which screens the site from direct view from private residences.
- c) Fugitive dust, malodor and dust control. The Health & Safety plan will address these problems. During any necessary demolition, windblown dust will be controlled, if necessary, by sprinkling the work area with a water truck.
- d) The access road, within the property boundary, is maintained in all-weather usable condition and to prevent hazards, dust and excessive noise.
- e) On-site roads will be maintained in good condition. Potholes, clogged ditches and debris on the roads will receive immediate attention.

The Facility equipment will be removed, dismantled or otherwise decommissioned in the following manner:

- a) Disconnect electricity and other utilities.
- b) The processing area and machinery will be cleaned.
- c) Pump and transport holding tank wastewater for disposal.
- d) Remove any incidental construction and demolition debris from processing area of facility to be disposed of at an approved landfill.
- e) Where possible doors will be locked. Where no doors are present, the buildings will be secured by boarding up the doors or by installing doors. Windows will be boarded up to minimize vandalism.
- f) The site will be cleared of any windblown debris.
- g) The decommissioning of the facility will include demobilization and security of the plant equipment; clean up and security of the facility's buildings and grounds, as required to protect public health and safety and avoid public nuisance.
- h) The contractor will be responsible for obtaining and/or renting equipment necessary to preform the closure.
- i) The contractor will make shelter, communications and sanitary facilities available at the site during closure.

#### **Section 6 - Post Closure Requirement**

During closure, the Facility will be secured by locking the entrance gates to prevent access during the non-cleanup hours. The Facility fence will control the general public from entering. Locked gates will ensure access to the Facility will be minimized. Access will be similarly controlled during the post-closure testing, inspection, maintenance and monitoring.

- a) After completion of the Facility closure, maintenance to protect public health and the environment involves a continual process of monitoring the buildings and ground and surface water.

#### **Section 7 - Record Keeping and Reporting**

During closure, the following record keeping shall be implemented:

- a) Bi-weekly written status reports of all closure activities in progress will be prepared and provided to the NHDES by the Wednesday following the Friday ending the two week period.
- b) Required inspection reports and engineer's certifications shall be completed and provided to the NHDES.
- c) Place copies of all pertinent closure documents with the facility operating records.

Subsequent to closure, operating and closure records will be taken to a commercial file storage facility where they will be maintained for a period of 10 years.

### **Section 8 - Other Permits**

There will be no additional state, federal or local permits required to complete the closure. For post closure monitoring, the following permits will be in place and adhered to:

- a) The Facility has a Solid Waste Management Permit. Any post closure requirements specified in that permit will be completed in the required time frames.

### **Section 9 - Closure Cost Estimate**

A revised closure cost estimate prepared in accordance with the criteria in Env-Wm1403.02 is included in Appendix I. The cost estimate does not include any salvage value from the sale of facility structures, equipment or other assets. The cost estimate is based on a conservative assumption that, at closure, the waste and recyclable material will reach the maximum permitted storage capacity and will need disposal. The cost estimate has been prepared using unit rates used in the financial assurance cost estimate approved by the NHDES on March 31, 2012, along with new rates for stockpiled items that have not been included previously, and the following assumptions:

#### **9.1 C&D Waste Removal**

At closure the total amount of C&D waste will be at its maximum permit capacity of 5,000 tons

#### **9.2 Fine removal**

The maximum quantity of the fines that are permitted is 18,000 tons.

#### **9.3 Aggregate removal**

The maximum quantity of the aggregate that is permitted is 8,000 tons.

#### **9.4 Metal Removal**

The maximum quantity of the metal that will be on-site will be 1,500 tons. The market value of the metal will be greater than the cost of loading and hauling. Therefore the loading, hauling and disposal will be at no charge (as assumed in the previous cost estimates).

#### **9.5 Residual Waste Removal**

The maximum quantity of the residual waste that will be on-site will be 100 tons.

#### **9.6 Wood Chip Removal**

The quantity of wood chip that will be onsite will not change due to the modification and is calculated at the permitted weight of 5,000 tons as used in the previous cost estimate. The unit rate of loading will be \$1 per ton. There is no cost for hauling and disposal (assumes value of woodchip off-sets this cost).

#### 9.7 Plant Process Aggregate Removal

The quantity of plant process aggregate that will be on-site will not change due to the modification and is calculated at the permitted weight of 1,000 tons as used in the previous cost estimates.

#### 9.8 Processed Shingle Removal

Processed shingle product is considered to be the shingles that have been processed to the level that they can be shipped Commercial Paving. The quantity of the process shingles that will be on-site is 5,000 tons.

#### 9.9 Shingle Fines

Shingle fines are produced as a Certified Waste Derived Product that meets a published standard. The quantity of shingle fines that will be on-site is 500 tons. There is no cost for hauling and disposal (assumes value of the shingle fines off-sets this cost).

#### 9.10 Tires

Tires are received incidental to incoming C&D materials. The maximum quantity of tires stockpiled on-site will be 200 cubic yards or 40 tons.

#### 9.11 CRTs and TVs

The maximum quantity of CRTs and TVs that will be on-site is 5 tons. They are currently picked up by Winfield Alloys and delivered to their Massachusetts facility.

#### 9.12 Rigid Plastics

The quantity of rigid plastics that will be on-site is 100 cubic yards or 10 tons. These materials are shipped to LL&S, Inc., who bales and markets this material. The value of the rigid plastics off sets the cost of transporting.

#### 9.13 General Clean-Up

Electrical deactivation, waste oil, float tank wastewater and removal of residual remaining in the building must be completed. Additionally, site regarding and clean-up, project management and site security are part of the final closure tasks and costs. The cost of these items is shown under the Site Cleanup and Miscellaneous Closure Work sections of the Cost Estimate Form for Financial Assurance.

For purposes of financial assurance, ERRCO annually reviews and updates the costs for each of the closure tasks listed above. This estimate also includes a contingency cost, calculated based on 10 percent of the above item costs. ERRCO's Financial Assurance Mechanism (FAM) are to be prepared and submitted for NHDES Approval annually to assure that the funds available will be at least as great as the current estimated closure costs.

**APPENDIX I**

**CLOSURE ESTIMATE FORM**

**FOR FINANCIAL ASSURANCE**





August 9, 2012

LL&S Wastewood Processing, Inc.  
87 Lowell Road  
Salem, NH 03079

Attention: Mr. Charles Nelson, Environmental Manager

**Subject: Proposal for Engineering Services  
Closure Oversight and Management  
Environmental Resource Return Corporation (ERRCO)  
270 Exeter Road  
Epping, New Hampshire  
LEI No. 2012-26**

Dear Mr. Nelson:

In accordance with your request, Lynnfield Engineering, Inc. (LEI) has prepared this proposal to provide engineering services for Environmental Resource Return Corporation (ERRCO), Epping, New Hampshire.

**SCOPE OF SERVICES:**

**1.0 CLOSURE OVERSIGHT AND MANAGEMENT**

- 1.1 Complete inventory of onsite materials including incoming material stockpiles, finished product stockpiles, oil and hazardous materials, and recycled materials stockpiles.
- 1.2 Prepare report to document inventory observed under Task No. 1.1 including type of material, quantities, and locations within the site.
- 1.3 Provide oversight for decommission of the facility including, but not limited to, coordination of contractors removing materials from the site, and documenting quantities removed including disposal location.
- 1.4 Complete final inspection of facility and prepare a written inspection report certifying conditions observed at the site at the time of the inspection.
- 1.5 Prepare final report documenting work completed under Tasks Nos. 1.1, 1.2, 1.3 and 1.4 for submission by ERRCO to state and local regulatory authorities. A total of six copies has been budgeted.

## 2.0 TOTAL BUDGETED COST

The budgetary fee for the above-indicated services is Fifteen Thousand Dollars (\$15,000.00). Work under Task No. 1.0 shall be billed on an hourly basis consistent with the attached Fee Schedule. Additional services, if requested, shall be billed on an hourly basis consistent with attached Fee Schedule. If this Agreement is acceptable, please execute both copies of this proposal and return one executed copy for our records. Your execution of this Agreement also indicates receipt and acceptance of the attached Standard Contract Terms.

Very truly yours,  
Lynnfield Engineering, Inc.



Richard Barthelmes, P.E.

---

Charles Nelson  
Environmental Manager

---

Date

**LYNNFIELD ENGINEERING, INC.**

**2012 STANDARD FEE SCHEDULE**

**(Through August 2013)**

<b><u>PROFESSIONAL SERVICES</u></b>	<b><u>HOURLY RATE</u></b>
Senior Engineer	\$140.00
Project Engineer	\$90.00
Engineer I	\$80.00
Engineer II	\$75.00
CADD Technician	\$65.00
Technical Administrator	\$65.00
Field Technician	\$55.00
Expert Witness and Testimony	\$250.00
One Person Survey Crew	\$140.00
Two Person Survey Crew	\$170.00

**EXPENSES**

Direct expenses shall be billed at cost. Direct expenses shall include transportation, delivery, long distance telephone calls, job supplies, printing costs, consultants, and similar costs directly applicable to each job.

## STANDARD CONTRACT TERMS

The following Standard Contract Terms, together with the attached proposal, constitute the terms of the Agreement between **Lynnfield Engineering, Inc.** (Engineer) and **LL&S Wastewood Processing, Inc.** (Owner) with respect to performance of the scope of services and any additional services.

### 1. Scope of Services

Engineer, as representative of the Owner, shall perform the engineering services described in the attached proposal.

Engineer shall provide for Owner professional engineering services in all phases of the Project to which this Agreement applies as hereinafter provided. These services will include serving as Owner's professional engineering representative for the Project, providing professional engineering consultation and advice and furnishing customary civil and environmental engineering services customary thereto.

If Engineer's services include the performance of any services during the construction phase of the project, it is understood that the purpose of any such services (Including any visits to the site) will be to enable Engineer to better perform the duties and responsibilities assigned to and undertaken by it as an experienced and qualified design professional, and to provide the Owner with a greater degree of confidence that the completed work of the Contractor(s) will conform generally to the Contract Documents and that the integrity of the design concept as reflected in the Contract Documents has been implemented and preserved by Contractor(s). Engineer shall not, during such visits or as a result of any observations of construction, supervise, direct or have control over Contractor's(s') work nor shall Engineer have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by the Contractor(s) or safety precautions and programs incident to the work of Contractor(s) or for any failure of Contractor(s) to comply with laws, rules, regulations, ordinances, codes or orders applicable to Contractor(s) furnishing and performing its (their) work. Engineer does not guarantee the performance of the construction contract by the Contractor(s), and does not assume responsibility for Contractor's(s') failure to furnish and perform its (their) work in accordance with the Contract Documents.

If Engineer's contract with the Owner so requires, Engineer shall review (or take other appropriate action in respect of) Shop Drawings, samples and other data which Contractor(s) is (are) required to submit, but only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Such review or other actions shall not extend to means, methods, techniques, sequences or procedures of manufacture (including the design of manufactured products) or construction, or to safety precautions and programs incident thereto. Engineer's review or other actions, as described above, shall not constitute approval of an assembly or product of which an item is a component, nor shall it relieve the Contractor(s) of (a) its (their) obligations regarding review and approval of any such submittals; and

(b) its (their) exclusive responsibility for the means, methods, sequences, techniques and procedures of construction, including safety of construction.

### 2. Owner's Responsibilities

Owner shall do the following in a timely manner so as not to delay the services of Engineer:

2.1 Designate in writing a person to act as Owner's representative with respect to the services to be rendered under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define Owner's policies and decisions with respect to Engineer's services for the Project.

2.2 Provide all criteria and full information as to Owner's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which Owner will require to be included in the Drawings and Specifications.

2.3 Assist Engineer by placing at Engineer's disposal all available information pertinent to the Project including previous reports and any other data relative to design or construction of the Project.

2.4 Furnish to Engineer, as required for the performance of Engineer's Basic Services, the following:

2.4.1 data prepared by or services of other, including without limitation borings, probings and subsurface explorations, hydrographic surveys, laboratory tests and inspections of samples, materials and equipment;

2.4.2 appropriate professional interpretations of all of the foregoing;

2.4.3 environmental assessment and impact statements;

2.4.4 property, boundary, easement, right-of-way, topographic and utility surveys;

2.4.5 property descriptions;

2.4.6 zoning, deed and other land use restriction; and,

2.4.7 other special data or consultations,

all of which Engineer shall be entitled to use and rely upon with respect to the accuracy and completeness thereof, in performing services under this Agreement.

2.5 Acquire all necessary easements, rights of way, land takings and arrange for access to and make all provisions for Engineer and his subconsultants to enter upon public and private property as required for Engineer to perform his services.

## STANDARD CONTRACT TERMS

2.6 Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by Engineer; obtain advice of an attorney, insurance counselor and other consultants as Owner deems appropriate for such examination; and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of Engineer.

2.7 Secure and maintain all necessary approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

2.8 Provide such accounting, independent cost estimating and insurance counseling services as may be required for the Project, and such legal services as Owner may require or Engineer may reasonable request with regard to legal issues pertaining to the Project.

2.9 Give prompt written notice to Engineer whenever Owner observes or otherwise becomes aware of any development that affects the scope of timing of Engineer's services.

2.10 Furnish, or direct Engineer to provide, necessary Additional Services.

2.11 Bear all costs incident to compliance with the requirements of this Section 2.

### 3. Reimbursable Expenses

Normal reimbursable expenses are in addition to the fee for services and shall be billed at cost. Reimbursable expenses include expenses associated with the project such as: travel including transportation, meals and lodging; printing, copying and handling of documents; renderings and models; film and processing; telephone calls and other communications charges; postage and delivery; equipment and labor for tests; consultants and computer charges not considered part of the basic fee; and all costs involved in securing approval of authorities having jurisdiction over the project and not specified as part of the fee.

### 4. Payment and Terms: Suspension of Services

Invoices are sent to Owner monthly for the prior month and payment is due within 30 calendar days of the invoice date. If payment is not made within 30 calendar days of the invoice date, the amounts due shall include an interest assessment at the rate of 1 1/2% monthly commencing on the 30th day. If the Owner fails to make payment when due Engineer for services and reimbursable expenses, Engineer may, upon seven days' written notice to Owner, suspend performance of services under this Agreement. Unless payment in full is received by Engineer within seven days of the date of the notice, the suspension shall take effect without further notice. In the event of a suspension of services, Engineer shall have no liability to Owner for delay or damage caused by Owner because of such suspension of services.

Owner agrees to pay Engineer any and all costs of collection occasioned by Owner's failure to pay invoices when due, including, but not limited to, reasonable attorney's fees, court costs, travel, and lost time.

### 5. Limitation of Liability

The Owner agrees to limit Engineer's liability to the Owner for or on account of all claims and/or damages of any nature whatsoever caused by or arising out of Engineer's performance of its services, such that the total aggregate liability of Engineer for any and all claims and/or damages of any nature whatsoever, arising out of the performance of Engineer's services on the Project, shall not exceed \$50,000 or Engineer's total fee for basic services rendered on the Project, whichever is greater.

### 6. Hazardous Waste/Asbestos/Contaminants/Pollutants

In consideration of the limited availability of professional liability insurance for claims involving or relating to the actual or threatened release, escape or discharge of hazardous waste, asbestos and/or other contaminants and pollutants, it is agreed that the Owner, to the fullest extent permitted by law, shall release and indemnify and hold harmless Engineer and its consultants, agents and employees, from and against all claims, damages, losses and expenses, direct and indirect, including but not limited to attorneys' fees and defense costs, arising out of or resulting from the performance of any services by Engineer, or claims against Engineer related to, involving or arising out of hazardous waste, asbestos or other contaminants or pollutants.

### 7. Termination

This agreement may be terminated by either party seven days following receipt of written termination notice from one party to the other. In either case, all amounts for services and reimbursable expenses due as of the date of receipt of cancellation notice shall be paid to Engineer within 30 days from the date of Engineer's final invoice following notice of termination.

### 8. Ownership and Use of Documents

All documents including drawings and specifications prepared or furnished by Engineer under this Agreement are instruments of service in respect of the Project. Engineer shall retain the ownership and property interest in those instruments of service whether or not the Project is completed; however, if the Project is completed, the Owner may retain copies solely for information and record reference purposes in connection with the completed Project. These documents are not intended or represented to be suitable for reuse by Owner or others in connection with (a) the completion of the Project if Engineer's agreement has been terminated or Engineer otherwise is not involved in the Project; (b) extensions of the Project; and/or (c) any other project. Any reuse without written verification or adaptation by Engineer for the

## STANDARD CONTRACT TERMS

specific purpose intended will be at Owner's sole risk and without any liability or legal exposure to Engineer or its consultants. The Owner shall indemnify and hold harmless Engineer, and its consultants, from any and all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle Engineer to further compensation at rates to be agreed upon by Owner and Engineer.

### 9. Estimates and/or Options of Cost

Any estimates or opinions of project or construction costs are provided by Engineer on the basis of Engineer's experience and qualifications as an engineer and represent its best judgment as an experienced and qualified engineer familiar with the construction industry. Since Engineer has no control over the cost of labor, materials, equipment or services furnished by others or over competitive bidding or market conditions, it cannot guarantee that proposals, bids or actual project costs or construction costs will not vary from any estimates or opinions of costs prepared by Engineer. Similarly, since Engineer has no control over operation and/or maintenance costs, Engineer can not and does not guarantee that the actual system operating or maintenance costs will not vary from any estimates given by Engineer. No fixed limit of construction cost is established as a part of this agreement.

### 10. Restart

If the Project is stopped for a period greater than 90 days, a restart fee will be required to compensate Engineer for any necessary premium time, and for remobilization of staff and materials. Depending on the duration of the stoppage, an additional adjustment may be necessary to cover wage increases and general escalation.

Restart fee will be 10% of fee earned to date of stoppage, unless Owner and Engineer agree on a different amount.

### 11. Services Made Necessary by Lack of Contractor Performance; Indemnification

It is the Owner's responsibility to hire the Contractor, and it is the Contractor's responsibility to install and complete fully operable systems. The Owner agrees to pay Engineer 2.5 times Direct Personnel Expense for all its trouble-shooting work due to Contractor's inability to achieve satisfactory operation.

Owner shall hold harmless, defend and indemnify Engineer, its officers, agents, employees and consultants, from any and all liabilities, claims, damages and suits arising out of the negligence of the Owner or its agents, or liability due to the negligence of any Contractor(s) performing any portion of the work and supplying any materials, or any other parties, except for any liability of Engineer, or its consultants.

### 12. Effective Date

This Agreement will be come effective upon Engineer's receipt of authorization to proceed.

### 13. Waiver of Subrogation

The Owner and Engineer waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, but only to the extent covered by any property or other insurance. The Owner and Engineer shall each require similar waivers from their contractors, consultants and agents.

### 14. Certifications/Assignment

The proposed language of certificates, affidavits or certifications requested of Engineer or Engineer's consultants shall be submitted to Engineer for review and approval at least 14 days prior to execution. The Owner shall not request certifications and/or affidavits that would require knowledge or services beyond the scope of these Standard Contract Terms and/or beyond the professional qualifications and engineering expertise of Engineer.



**TRADEBE™**

UNITED INDUSTRIAL SERVICES

47 GRACEY AVENUE, MERIDEN, CT 06451  
TOLL FREE: (888) 276-0887

us.csne@tradebe.com

October 16, 2012

Charles V. Nelson  
LL & S Inc.  
87 Lowell Road  
Salem, NH 03079

Quote: 3178

Dear Charles V. Nelson:

United Industrial Services is pleased to provide the following quote for the decontamination costs of materials, tanks and drums at your facility in Epping, New Hampshire:

**Part I Disposal of Oils**

Off Road Diesel Tanks (one 940 gallon tank and one 1,000 gallon tank)  
Waste Oil Storage Tanks (One 1,000 gallon tanks and three 275 gallon tank)

<u>Profile</u>	<u>General/Material</u>	<u>Price</u>
PENDING	Diesel Fuel / Waste Oils	\$0.38 / Gallon
<u>Item</u>	<u>Comments</u>	<u>Price</u>
Transportation:	4,000 gallon Vacuum Truck	\$85.00 / Hour Portal to Portal, 4 hour minimum
Fuel Surcharge:	Applies to transportation	Market, Currently 28%
Manifest Fee:		\$20.00 / Each
<b>Part I Subtotal:</b>		<b>\$1,575.00</b>

**Part II Tank Removal**

Field Service Crew to cut, clean and remove storage tank, clean enclosure area and remove additional drums from site.

Labor and Equipment:

Price Includes Service Crew, Service Van, Pressure Washer and 4,000 gallon vacuum truck (estimated 8 hours)

<u>Profile</u>	<u>Generator/Material</u>	<u>Price</u>
PENDING	Oil and Rinse Water	\$0.48 / Gallon (estimated 500 gallons)
GENERIC	1,000 gallon tank	\$1075.00 / Tank
GENERIC	940 gallon tank	\$1075.00 / Tank
GENERIC	450 gallon tank	\$850.00 / Tank
GENERIC	275 gallon tank	\$500.00 / Tank
PENDING	Virgin Oil	\$90.00 / Drum
PENDING	Antifreeze	\$90.00 / Drum
PENDING	RCRA Empty Pail	\$20.00 / Pail
PENDING	Virgin Gear Oil	\$90.00 / 55 Gallon Drum
<b>Part II Subtotal:</b>		<b>\$8,586.00</b>

**Part III Pond Areas**

Field Service crew to pump and clean pond areas and float tank located inside the building. These areas contain water, wood chips, silt and mud. Analysis will be required prior to start of the job.

Labor and Equipment:

Price Includes Service crew, Pressure Washer and Vacuum truck.

<u>Profile</u>	<u>Generator/Material</u>	<u>Price</u>
PENDING	Water, Wood Chips, Silt and Mud	\$0.30 / Gallon (Liquids) \$1.75 / Gallon (Solids)
Transportation:	5,000 gallon Vacuum Trailer	\$95.00 / Hour, Portal to Portal, 4 hour minimum
Manifest Fee:		\$20.00 / Each
Security and Recovery Fee:	<b>Part III Estimate:</b>	<b>\$20,617.00</b>
	Before taxes and state agency fees	12% of the total invoice
	<b>Total Estimated Job:</b>	<b>\$34,471.78</b>

**Qualifiers:**

- Customer to provide running water and electricity.
- Customer to provide lockout/tagout for systems dealing with ponds and float tank.

**Comments**

- Approval and pricing is based on the material being received at our facilities matching the waste profile. Customer will pay the cost of additional analysis and off specification charges if the material does not match the approved profile. Non-conforming waste will be processed or returned to you at our sole discretion. Tradebe's Companies also reserve the right and sole discretion to utilize alternate processes, within RCRA, to treat waste.
- Customers' characterization of the waste must be performed in accordance with 40 CFR 262.11, "Hazardous Waste Determination", or the state's regulatory equivalent.
- Product profiled as a liquid must be pumpable, leaving no residual left in the container(s).
- Pricing is based on work to be performed during normal business hours (weekdays 7am-5pm).
- Unless otherwise noted, taxes and fees will be added to the prices specified above.
- Surcharges for fuel, commodities, prevailing wage jobs and/or insurance may apply.
- Customer agrees to compensate Tradebe in accordance with Tradebe's published rate schedule for any litigation support or testimony provided by Tradebe in connection with the work performed by Tradebe.
- Minimum load charges may apply.
- Container(s) must be in DOT shippable condition.

**Credit Terms**

If services are COD until credit has been approved. Once approved, payments are due thirty (30) days from the date of invoice. Customer shall pay a service charge of 1.5% per month on any amount not paid when due. In the event of default, Customer will be responsible for all costs of collection including a reasonable attorneys' fee. Credit is subject to approval by our credit department.

To request that this work be scheduled, or if you have questions about this proposal or any of our services, please contact our Customer Service Department at (888) 276-0887. Prices quoted are valid for 30 days.

Sincerely,



Tom Claire  
Account Manager  
Tom.Claire@tradebe.com

This proposal must be signed by Customer and returned to United in order to schedule service. Your signature or a facsimile copy of this letter containing your authorized signature may be sent to Tom Claire by email at [us.csne@tradebe.com](mailto:us.csne@tradebe.com) or by fax to (203) 630-4415. Prices quoted are valid for 30 days.

Firm: \_\_\_\_\_

By: \_\_\_\_\_

Print/Type: \_\_\_\_\_

Date: \_\_\_\_\_

tc/de

[www.tradebe.com](http://www.tradebe.com) or [www.unitedindustrialservices.com](http://www.unitedindustrialservices.com)

Quote 3178 for LL&S Inc.



63 Jeremy Hill Road  
Pelham, NH 03076  
◆  
Phone 603-635-3700  
Fax 603-635-3377

August 2, 2012

Errco  
270 Exeter Road  
Epping, NH 03042  
Fax: 603-679-2526

**SUBJECT: Errco – Closure Estimate**

Dear David A. DeVlto:

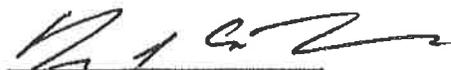
In response to your recent inquiry, we are pleased to submit the attached quotation for the electrical work at the Errco Plant in Epping, NH. All necessary labor and materials are included. Our total projected costs are \$535.00. Tasks are broken down as follows:

- ❖ Shut down and lockout all motorized equipment. All power conductors, equipment and wiring will remain in place for future restart. Items included in this estimate are the crushers, conveyors, screens, separators, belts, shakers, etc.

NOTE: Estimated cost should be good for two (2) years. The cost may change due to the cost of material/lockout equipment changes, labor changes, if more items are added to the facility, or if additional material and labor is required to complete the job due to unforeseen circumstances or problems after the job has started.

Sincerely,

Sacca Electric

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\_\_\_\_\_  
David Flanders



# Danley Demolition

P.O. Box 154 • Fremont, NH 03044

August 20, 2012

David DeVito, Facility Manager  
Environmental Resource Return Corp.  
P.O. Box 1  
270 Exeter Road  
Epping, NH 03042

Subject: Environmental Resource Return Corp - Estimated Cost of Various Facility Closure Activities.

Dear Mr. DeVito:

Pursuant to your request, the following is a detailed cost estimate for the Epping Resource Recycling Facility closure activities that you outline for me, that we may be requested by the NHDES to perform through August 20, 2014.

1. Load unprocessed mixed demolition debris into transportation vehicles.  
Quantity = 5,000 tons.  
Equipment = Excavator (325 CAT or equivalent) with operator @ \$2.00/ton.  
Subtotal = \$10,000.00.
2. Transportation of unprocessed mixed demolition debris to WMI's Turkey Facility.  
Quantity = 3,000 tons @ \$7.25/ton.  
Subtotal = \$36,250.00.
3. Loading processed mixed demolition derived woodchips into transportation vehicles.  
Quantity = 5,000 tons.  
Equipment = One loader (966 CAT or equivalent) with operator @ \$1.00/ton.  
Subtotal = \$5,000.00.
4. Loading clean aggregate into transportation vehicles.  
Quantity = 13,000 tons.  
Equipment = One loader (966 CAT or equivalent) with operator @ \$1.00/ton.  
Subtotal = \$13,000.00.
5. Loading plant processed aggregate into transportation vehicles.  
Quantity = 1,000 tons.  
Equipment = One loader (966 CAT or equivalent) with operator @ \$1.00/ton.  
Subtotal = \$1,000.00.
6. Transportation of plant processed aggregate to WMI's Turkey Facility.  
Quantity = 1,000 tons @ \$4.25/ton.  
Subtotal = \$4,250.00.

7. Loading dirtlines into transportation vehicles.  
Quantity = 20,000 tons.  
Equipment = One loader (966 CAT or equivalent) with operator @ \$1.00/ton.  
Subtotal = \$20,000.00.
  8. Loading scrap metal into transportation vehicles.  
Quantity = 800 tons.  
Equipment = One excavator (325 CAT or equivalent) with operator @ \$2.00/ton.  
Subtotal = \$1,600.00.
  9. Loading residual (by-pass waste) into transportation vehicles.  
Quantity = 50 tons.  
Equipment = One loader (966 CAT or equivalent) with operator @ \$1.00/ton.  
Subtotal = \$50.00.
  10. Transportation of residual (by pass waste) to WMI's Turnkey Facility.  
Quantity = 50 tons @ \$7.25/ton.  
Subtotal = \$365.00.
  11. Removal of miscellaneous residue in building & processing line.  
Equipment = 1 skid-steer tractor with operator @ \$45.00/hour.  
+ 2 Laborers @ \$35.00/hour.  
Days = 3 @ 9 hours/day.  
Subtotal = \$2,160.00.
  12. Transportation of miscellaneous residue in building and processing line to WMI's Turnkey Facility.  
Quantity = 35 tons @ \$7.25/ton.  
Subtotal = \$255.00.
  13. Regrading stockpile area.  
Estimated area = 7 acres.  
Equipment = D-5 Bulldozer with operator @ \$90.00/hour.  
Days = 3 @ 9 hours/day.  
Subtotal = \$2,430.00.
  14. Miscellaneous removal of debris blown around site perimeter, site entrance and roadway.  
Estimated time = 27 hours of labor @ \$17.50/hour.  
Subtotal = \$472.50.
  15. Cleaning of drainage swales.  
Equipment = 1 grade-all with operator @ \$90.00/hour.  
1 truck with operator @ \$60.00/hour.  
Days = 4 @ 9 hours/day.  
Subtotal = \$5,400.00.
- Total cost estimate for services outlined above = \$102,235.00

Sincerely,



Leo Danley  
President