Form # P 04

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

Permit Number: 101279

Please Read Application And Notes, If Any, Attached

This is to certify that CITY OF PORTLAND /City of Portland /Trades Division

has permission to Build a 42' x 100' ~~temp~~ fabric building w/ a 2' x2' x6' concrete waste blocks stacked three high foundation

AT 910 RIVERSIDE ST Steel truss/ CBL 357 A001001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.	Notification of inspection must be given and written permission procured before this building or part thereof is lathed or otherwise closed-in. 24 HOUR NOTICE IS REQUIRED.	A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. CAP'T. R. Hawkes

Health Dept. _____

Appeal Board _____

Other _____
Department Name

James Ponte 5/9/11
Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Issue Date:	CBL:
10-1279		357 A001001

Location of Construction:	Owner Name:	Owner Address:	Phone:
910 RIVERSIDE ST	CITY OF PORTLAND	389 CONGRESS ST	
Business Name:	**Contractor Name:** City of Portland /Trades Division	**Contractor Address:**	**Phone**
Lessee/Buyer's Name	**Phone:**	**Permit Type:** Commercial	**Zone:** I-Ma principle

Past Use:	Proposed Use:	Permit Fee:	Cost of Work:	CEO District:
Riverside Recycling Facility	Riverside Recycling Facility - Build a 42' x 100' ~~temp~~ steel truss/ fabric building w/ a 2' x2' x6' concrete waste blocks stacked three high foundation	$30.00	$40,000.00	5

FIRE DEPT: ☑ Approved ☐ Denied

Signature: KG

INSPECTION: Use Group: U Type: 2B

IBC-2003

Signature: AMB 5/9/11

Proposed Project Description:
Build a 42' x 100' ~~temp~~ steel truss/ fabric building w/ a 2' x2' x6' concrete waste blocks stacked three high foundation

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied

Signature: Date:

Permit Taken By:	Date Applied For:
ldobson	10/12/2010

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland within over 75' away	☐ Variance	☑ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone	☐ Conditional Use	☐ Requires Review
☐ Subdivision	☐ Interpretation	☐ Approved
☒ Site Plan #10-79900009	☐ Approved	☐ Approved w/Conditions
Maj ☐ Minor ☐ MM ☐ ok with condit	☐ Denied	☐ Denied
Date: 5/4/11	Date:	Date:

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Date Applied For:	CBL:
10-1279	10/12/2010	357 A001001

Location of Construction:	Owner Name:	Owner Address:	Phone:
910 RIVERSIDE ST	CITY OF PORTLAND	389 CONGRESS ST	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	City of Portland /Trades Division		
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Commercial	

Proposed Use:	Proposed Project Description:
Riverside Recycling Facility - Build a 42' x 100' steel truss/fabric building w/ a 2' x2' x6' concrete waste blocks stacked three high foundation for composting project	Build a 42' x 100' steel truss/fabric building w/ a 2' x2' x6' concrete waste blocks stacked three high foundation

Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Marge Schmuckal **Approval Date:** 05/04/2011

Note: **Ok to Issue:** ☑

1) Best Management Practices as outlined in our Ordinance and State guidelines SHALL be meet in their entirety.
2) The gas generator shall not exceed 70 dBAs between 7:00 am and 10:00 pm. Any complaints received will require mitigation methods to eliminate the violation.
3) Separate permits shall be required for any new signage.
4) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

Dept: Building **Status:** Approved with Conditions **Reviewer:** Jeanine Bourke **Approval Date:** 05/09/2011

Note: **Ok to Issue:** ☑

1) A stampled letter from the structural engineer indicating the foundation is in compliance with the approved plans shall be submitted prior to the issuance of the Certificate of Occupancy
2) A certificate of compliance from Calhoun Superstructures or their affiliates indicating the structure is in compliance with the approved plans for erection and anchoring shall be submitted prior to issuance of the Certificate of Occupancy
3) Separate permits are required for any electrical, plumbing, sprinkler, fire alarm HVAC systems, heating appliances, including pellet/wood stoves, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.
4) Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approrval prior to work.

Dept: Fire **Status:** Approved **Reviewer:** Capt Keith Gautreau **Approval Date:** 10/26/2010

Note: **Ok to Issue:** ☑

Comments:

10/15/2010-mes: DO NOT ISSUE UNTIL PLANNING GIVES AN OK FOR SITE PLAN REVIEW - The project is still going thru site plan review and I have a few outstanding zoning issues at this time, but will pass on for further codes review.

11/2/2010-jmb: Emailed Troy Moon for additional information

1/7/2011-jmb: Received via email structual plans for the building.

1/10/2011-jmb: Replied via email remaining items to be submitted.

Location of Construction:	Owner Name:	Owner Address:	Phone:
910 RIVERSIDE ST	CITY OF PORTLAND	389 CONGRESS ST	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	City of Portland /Trades Division		
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Commercial	

3/15/2011-jmb: Meeting at PS with Troy M., David M-P, Greg W. And Brett R. To review the stamped foundation plan. Note # 2 requires soils to be tested by others. Sent via email the pdf of the GeoTech Report from the project in 2007at the same location.

4/11/2011-jmb: Received email with pdf of stamped foundation plans, ok to issue pending site plan approval

5/3/2011-jmb: Received email from Phil For DRC approval

5/4/2011-jmb: Routed to Marge for zoning approval

5/5/2011-jmb: Received back from zoning. Emailed Greg W. For info on the membrane/liner specifications for noncombustible or NFPA 701 specs

5/9/2011-jmb: Received pdf on the membrane, it is not clear if it meets NFPA 701, but it does meet ASTM E84-00a class 1, which is flame spread and smoke index. Greg confirmed the height is less than 30' so IBC exempts the NFPA 701 requirement.

1/24/2011-jmb: Received email from Greg W. With the fabricators certification.

1/25/2011-jmb: I did some research on the certification company and responded via email to Greg as follows: Hi Greg,
Thank you for sending this certification document. Per Chapter 17 of the 2003 IBC, the building official can except the fabricators registration, however at the completion of the work the company shall submit a certificate of compliance that the work was performed in accordance with the code and the approved construction documents.

Keep in mind that this certification is limited to the fabrication process and that special inspections are still required for on site erection and anchoring of the structure and the applicable concrete foundation inspections.

2/14/2011-jmb: I sent the CASE form for the statement of special inspections to Greg W.

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the City of Portland Inspection Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months, if the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue with construction.**

___X___ **Footing/Building Location Inspection at preparation of soils or footing forms**

___X___ **Erection of foundation walls**

___X___ **Erection of structure and anchoring to foundation**

___X___ **Final/Certificate of Occupancy: Prior to any occupancy of the structure or use.**
NOTE: There is a $75.00 fee per inspection at this point.

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: Riverside Recycling Faality, 910 Riverside St. Portland ME 04103		
Total Square Footage of Proposed Structure/Area: 4,200	Square Footage of Lot: 522,720	
Tax Assessor's Chart, Block & Lot Chart# Block# Lot# 357 A001001	Applicant *must be owner, Lessee or Buyer* Name Troy Moon Address 55 Portland St City, State & Zip Portland, ME 04101	Telephone: (207) 232-5564
Lessee/DBA (If Applicable) N/A	Owner (if different from Applicant) Name Address N/A City, State & Zip	Cost Of Work: $ < $40,000 C of O Fee: $ Total Fee: $ < $40,000 Waiver

Current legal use (i.e. single family) Municipal Transfer Station
If vacant, what was the previous use?
Proposed Specific use: Compost manufacturing
Is property part of a subdivision? No If yes, please name
Project description:
See attachment

emailing PDF

Contractor's name: City of Portland, Department of Public Services
Address: 55 Portland Street
City, State & Zip Portland, ME 04101 Telephone: 232-5564
Who should we contact when the permit is ready: Troy Moon Telephone: 232-5564
Mailing address: Same as above

Please submit all of the information outlined on the applicable Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

RECEIVED
OCT 12

Signature: Date: 10/12/2010

This is not a permit; you may not commence ANY work until the permit is issue.

Dept. of Building Inspections
City of Portland Maine

City of Portland / Maine Waste Solutions
General Building Permit Application
Submitted on October 12, 2010

Location/Address of Construction: City of Portland Riverside Recycling Facility, 910 Riverside Street, Portland, Maine 04103

Total Square Footage of Proposed Structure/Area: 4200 sq ft

Square Footage of Lot: 522,720 sq ft

Tax Assessor's Chart, Block & Lot: 357 A001001

Applicant Name / Address: Troy Moon, City of Portland Department of Public Services, 55 Portland Street, Portland, Maine 04101

Cost of Work: <$40,000
C of O Fee: The City of Portland's Department of Public Services, as the applicant, respectfully requests a waiver on any and all fees related to this application due to the multiple benefits this initiative provides the City in directly addressing key municipal and state solid waste management goals.
Total Fee: <$40,000

Current Legal Use: Municipal Transfer Station
Proposed Specific Use: Compost manufacturing
Is property part of subdivision? No

Project Description:
The City of Portland (COP), in conjunction with Maine Waste Solutions (MWS), a joint venture between CPRC Management, LLC and Organic Alchemy Composting, LLC, will develop and operate a food waste composting facility at COP's Riverside Recycling Facility (RRF). Composting provides a sustainable solid waste management solution for Portland's commercial food waste generators. This new development at the RRF falls under COP's Minor Site Plan Review procedure. The RRF is located on 39 acres of City-owned land, which includes the Riverside Municipal Golf Course. The RRF is 12 acres in size and is completely enclosed by a fence that precludes unauthorized access. The proposed composting facility will encompass approximately two acres.

This general building permit application is for a 42' x 100' temporary fabric structure to be located on approximately two acres at the rear of the RRF. The structure will house the initial stage of the composting process. The structure will be set on a foundation of 2' x 2' x 6' concrete waste blocks, stacked three high. Please see the attached cross section of the fabric structure (attachment 1) and aeration system and asphalt pad design (attachment 2).

Contractor's Name: City of Portland, Department of Public Services
Address: 55 Portland Street, Portland ME 04101
Telephone: (207) 232-5564
Who should we contact when the permit is ready: Troy Moon
Mailing Address: Same as above

Fire Department requirements.

The following shall be submitted on a separate sheet:

- ☑ Name, address and phone number of applicant **and** the project architect.
- ☑ Proposed use of structure (NFPA and IBC classification)
- ☑ Square footage of proposed structure (total and per story)
- ☑ Existing and proposed fire protection of structure.
- ☐ Separate plans shall be submitted for
    a) Suppression system
    b) Detection System (separate permit is required)
- ☐ A separate Life Safety Plan must include:
    a) Fire resistance ratings of all means of egress
    b) Travel distance from most remote point to exit discharge
    c) Location of any required fire extinguishers
    d) Location of emergency lighting
    e) Location of exit signs
    f) NFPA 101 code summary
- ☐ Elevators shall be sized to fit an 80" x 24" stretcher.

For questions on Fire Department requirements call the Fire Prevention Officer at (207) 874-8405.

Please submit all of the information outlined in this application checklist. If the application is incomplete, the application may be refused.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

Permit Fee: $30.00 for the first $1000.00 construction cost, $10.00 per additional $1000.00 cost

This is not a Permit; you may not commence any work until the Permit is issued.

City of Portland / Maine Waste Solutions General Building Permit Application
Fire Department Requirements
Submitted October 12, 2010

Name, address, phone number of applicant and project architect:
Troy Moon, Environmental Programs Manager, City of Portland
Address: Department of Public Services, 55 Portland Street, Portland ME 04101
Telephone: (207) 232-5564

Proposed use of structure:
The City of Portland (COP) and Maine Waste Solutions (MWS) to receive and process commercial and institutional food waste from the Greater Portland region.

Square footage and proposed structure:
The proposed temporary fabric structure will be 42 ft wide by 100 ft long.

Existing and proposed fire protection of structure
No fire protection plan is necessary per discussion with the City of Portland's Fire Department liaison and Review Committee on June 22, 2010. City of Portland Environmental Programs Manager Troy Moon, applicant for the proposed operation, and MWS principals met with Captain Keith Gautreau on June 22, 2010 to discuss the Minor Site Plan Review application. During the meeting, Capt. Gautreau stated that he was comfortable that there was no fire risk to personal property or safety and made no request for additional information.

Jeanie Bourke - 910 Riverside Street, Riverside Recycling Composting Facility - Building Permit

From: Philip DiPierro
To: Code Enforcement & Inspections
Date: 5/3/2011 4:33 PM
Subject: 910 Riverside Street, Riverside Recycling Composting Facility - Building Permit
CC: Fraser, Jean

Hi all, this project, site plan #10-79900009, the Riverside Recycling Composting Facility at 910 Riverside Street meets minimum DRC site plan requirements for the issuance of the Building Permit.

Please contact me with any questions. Thanks.

Phil

Public Services Department
Michael J. Bobinsky, Director

October 12, 2010

Jeanie Bourke
Code Enforcement Officer / Plan Reviewer
Planning & Urban Development Department
389 Congress Street
Portland, ME 04101-3509

Dear Ms. Bourke:

Please find the enclosed general building permit application to construct a temporary Calhoun Superstructure at the Riverside Recycling Facility (RRF). The proposed structure for the RRF is very similar to the Department of Public Services' (DPS) sand and salt storage tents located at DPS' 55 Portland Street facility. Jean Frasier is your liaison in the Planning Division.

The proposed structure will enhance the food waste composting facility being developed at the RRF. Composting provides a sustainable solid waste management solution for Portland's commercial entities and public institutions, including Portland Public Schools. Composting food waste residuals is a necessary step to advance the City of Portland's recycling goals.

Thank you very much for your timely attention to this application. Please do not hesitate to contact me with any questions.

Sincerely,

Troy Moon
Environmental Programs and Open Space Manager

CC: Michael Bobinsky, Director of Public Services

Jeanie Bourke - composting facility

From: Jeanie Bourke
To: Troy Moon
Date: 11/2/2010 9:55 AM
Subject: composting facility

Hi Troy,
I am reviewing the permit for the new 42' x 100' temporary fabric structure and I have the following requests:

1. Clarify the "temporary" classification of this structure. The building code deems structures erected a maximum of 180 days as temporary. Will this structure be in place longer than this? If so, it will be classified as a permanent structure and will need to meet the design loading requirements.
2. In addition to the submitted attachments (1 & 2), details and/or specifications are required for the roof loads, foundation design, the fabricated trusses, the fabric or membrane, the side (post) walls and the attachments and fastenings for all of the above.

Let me know if you have any questions
Thanks
Jeanie

Jeanie Bourke
CEO/Plan Reviewer

City of Portland
Planning & Urban Development Dept./ Inspections Division
389 Congress St. Rm 315
Portland, ME 04101
jmb@portlandmaine.gov
(207)874-8715

Applicant: Troy Moon MWF

Date: 6/9/10

Address: ~~910~~ 910 Riverside St

C-B-L: ~~267-A-5~~ 357-A-001

CHECK-LIST AGAINST ZONING ORDINANCE

Date -

Zone Location - I-M - ROS & RPZ Foodwaste 42'x 104'

Interior or corner lot - within Fabric structure "recycling facilities provided That all storage & recycling operations occur within a fully enclosed structure"

Proposed Use/Work - Composting operation

Sewage Disposal - 210' x 260' gravel pad ?

Lot Street Frontage - Berm New? 30' wide - 20' High

Front Yard - 25' setback req

Rear Yard - 25' setback req

Side Yard - 25' setback req

(over 100' to each)

Projections -

Width of Lot -

Height - 75' max - 25' shown

Lot Area -

Lot Coverage/ Impervious Surface - 75% req - Not changing The impervious

Area per Family -

Off-street Parking -

Loading Bays -

Site Plan - 10-79900009

needs to show → Shoreland Zoning/ Stream Protection - ? where is RPZ Zone - show on site plan - Shown

needs to show → Flood Plains - Panel 1 - Zone A8 & B & C much higher Than elevation 34

10' pavement setback req with

→ Best Management Practices

10/15/10 → Noise - on gas Generator 70 dBA between 7:00 AM & 10:00 pm ↑ submitted Than Seen

Planning & Urban Development Department
Penny St. Louis Littell, Director

Planning Division
Alexander Jaegerman, Director

November 15, 2010

Troy Moon
Public Services Department
55 Portland Street
Portland, ME 04101

Greg Williams
Organic Alchemy Composting LLC
24 Winter St.
Portland, ME 04102

Project Name: Riverside Recycling Facility Composting Operation
Project ID: 0-79900009
Address: 910 Riverside Street **CBL:** 267-A-005
Applicant: Troy Moon, Portland Public Services Department
Planner: Jean Fraser, Planner

Dear Troy:

On November 15, 2010, the Planning Authority approved a minor site plan for the Riverside Recycling Facility for a compost facility at 910 Riverside as submitted by Portland's Public Services Department and shown on the approved plan prepared by St. Germain-Collins and dated October 12, 2010 with the following conditions:

1. That the applicant shall revise the final plans for review and approval by the Planning Authority prior to the issuance of a building permit, to incorporate engineering details as outlined in the memo from Dan Goyette, P.E & Ashley Auger, EIT dated October 13, 2010 (included as Attachment 1) and e-mail from Michael Farmer, Department of Public Services dated October 20, 2010 (included as Attachment 2);

2 That the applicant shall operate the compost facility to comply with all State and local environmental standards, including the MDEP Solid Waste permit conditions;

3 That a vehicular access and circulation plan, to include designated routes and appropriate signage, shall be submitted for review and approval by the City Traffic Engineer and the Planning Authority. Until such time as this plan is approved, access to the compost facility site (ie the tent area, compost pad, berm and filtration system) shall be limited to City of Portland and Maine Waste Solutions (MWS) affiliated vehicles only;

4 That within 24 hours of any complaint from neighbors or City staff regarding odors that are attributable to the composting operation, the applicant shall take steps to reduce or eliminate the odor in accordance with the "Contingency Plan" forming part of the site plan application. Records of complaints and response actions shall be kept by the operator (MWS) and a copy of each such record shall be provided to Troy Moon, City of Portland DPS Environmental Programs Manager, or his designee. In the event that odors are not controlled, the City's Environmental Programs Manager may order that the odorous material be removed from the site in accordance with the "Contingency Plan".

5. That the applicant shall revise the final site plan to show the installation of a sidewalk(s) along the frontage of the Riverside Recycling Facility that abuts Riverside Street. The sidewalk(s) shall comply with the City of Portland Technical Standard except that the existing pine trees may not be removed and if any shrubs need to be removed they shall be replaced in kind.

6. That the applicant shall prepare a written vermin control plan to meet the IM zone requirement that the outdoor storage of materials shall be done in such a manner as to prevent the breeding and harboring of insects or vermin. The control plan shall be submitted to the Planning Authority for review and approval prior to the issuance of a certificate of occupancy.

The approval is based on the submitted site plan. You or anyone aggrieved may appeal the decision to the Planning Board within ten (10) days of the decision being rendered. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.

STANDARD CONDITIONS OF APPROVAL

Please note the following standard conditions of approval and requirements for all approved site plans:

1. **Develop Site According to Plan:** The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Modification of any approved site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.

2. **Separate Building Permits Are Required:** This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Inspection Division.

3. **Site Plan Expiration:** The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval. Requests to extend approvals must be received before the one (1) year expiration date.

4. **Final Plan Meeting Conditions of Approval:** Seven (7) final sets of plans must be submitted to and approved by the Planning Division and Public Services Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans. If you need to make any modifications to the approved plans, you must submit a revised site plan application for staff review and approval.

5. **Inspection Fee:** An Inspection Fee of $300 is required for the site inspections conducted by the Planning Division.

6. **Preconstruction Meeting:** Prior to construction, a pre-construction meeting shall be held at the project site. This meeting will be held with the contractor, Development Review Coordinator, Public Service's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan. The site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.

7. **Department of Public Services Permits:** If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

8. **As-Built Final Plans:** Final sets of as-built plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning Division at 874-8632. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Jean Fraser at (207) 874- 8728.

Sincerely,

Alexander Jaegerman

Alexander Jaegerman
Planning Division Director

Attachments:
1. Memo, Dan Goyette, October 13, 2010
2. E-mail, Michael Farmer October 20, 2010

Electronic Distribution:
Penny St. Louis Littell, Director of Planning and Urban Development Department
Alexander Jaegerman, Division Director, Planning
Barbara Barhydt, Development Review Services Manager, Planning
Jean Fraser, Planner
Philip DiPierro, Development Review Coordinator, Planning
Marge Schmuckal, Zoning Administrator, Inspections Division
Tammy Munson, Plan Reviewer, Inspections Division
Lannie Dobson, Administration, Inspections Division
Michael Bobinsky, Director, Public Services
Katherine Earley, Engineering Services Manager, Public Services
Bill Clark, Project Engineer, Public Services
David Margolis-Pineo, Deputy City Engineer, Public Services
Michael Farmer, Project Engineer, Public Services
Jane Ward, Administration, Public Services
Capt. Keith Gautreau, Fire Department
Jeff Tarling, City Arborist, Public Services
Tom Errico, P.E., T.Y. Lin Associates
Dan Goyette, P.E., Woodard & Curran
Assessor's Office
Approval Letter File

Att. 1

COMMITMENT & INTEGRITY
DRIVE RESULTS

www.woodardcurran.com T 207.774

MEMORANDUM

WOODARD &CURRAN

TO: Jean Fraser
FROM: Dan Goyette, P.E. & Ashley Auger, E.I.T.
DATE: October 13, 2010
RE: Minor Site Plan – Riverside Recycling Facility

Woodard & Curran has reviewed the Development Review Application for the Minor Site Plan for the Recycling Facility located on 910 Riverside Street, Portland, Maine. The project proposes a City of Portland/Maine Waste Solutions (MWS) composting operation on the city-owned Riverside Recycling Facility.

Documents Reviewed

- Development Review Application Revisions and attachments dated October 12, 2010, submitted by Portland's Public Services Department
- Engineering Plans, Sheets C-100, C-101, and C-301, dated September 29, 2010, prepared by St. Germain - Collins

Comments

- Please provide an Erosion Control Blanket detail.
- In accordance with Chapter 7 of Volume III of the BMPs Technical Design Manual, a minimum of one test pit should be excavated in the area of the vegetated underdrain soil-filter to determine depth to groundwater and bedrock; please provide this information. Additionally, the underdrain pipe should be bedded in 12 inches of washed ¾ inch crushed stone, the outlet should be a maximum of eight inches in diameter, the 18-inch soil-filter media should have 20-25% by volume shredded bark or wood fiber mulch, and there should be one line of underdrain pipe for every eight feet of filter width (a 20 foot wide filter therefore requires three underdrains). The vegetated underdrain soil-filter detail provided does not meet these requirements. Furthermore, the underdrain pipe should be slotted, rigid schedule 40 PVC or SDR35. The detail provided does not specify this requirement.
- Please provide the soil type for the vegetated underdrain soil-filter.
- The City of Portland recommends six inches of crushed stone pipe bedding below pipes in a trench, a minimum of nine inches of cover on the sides of the pipe, and 12 inches of cover above the pipe. The typical trench detail provided does not specify these dimensions.
- The City of Portland recommends that the aggregate base course be crushed type "B". The pavement section detail provided does not meet this requirement.
- Please provide casco trap dimensions.

Please contact our office if you have any questions.

Jean Fraser - 910 Riverside Street - Food Waste Composting Facility

From: Michael Farmer
To: Fraser, Jean
Date: 10/20/2010 4:16 PM
Subject: 910 Riverside Street - Food Waste Composting Facility
CC: Margolis-Pineo, David

Jean:

I offer the following comments.

I have a concern about the discharge from the vegetated filter and its potential for erosion. What is the design discharge rate for runoff from the compost pad? Does the existing channel down stream from the discharge point have adequate capacity to handle the design discharge? Is the existing channel stable so it will withstand the erosive force of the discharge flow?

The "Vegetated Underdrain Soil Filter" detail seems to have an incomplete specification for the soil material in the 6-inch transition layer. The detail states the material is to be "MDOT Type B Underdrain," which sounds like a type of underdrain pipe. I think the intent is to require this layer to be constructed with Underdrain Backfill Material that meets the requirements of Section 703.22 of the MDOT Standard Specifications. Can this be clarified on the plans?

We suggest that a note be added to sheet C-101 stating that the vegetated soil filter is not to be used as a snow storage area or snow dump.

Michael Farmer, Project Engineer
Dept. of Public Services
55 Portland Street
Portland, ME 04101
phone: 207-874-8845
fax: 207-874-8852

comments submitted

10/13/10

City of Portland
Development Review Application
Planning Division Transmittal form

Application Number: 10-79900009 **Application Date:** June 8, 2010
Revisions: October 12, 2010

Project Name: RECYCLING FACILITY

Address: ~~190~~ 910 Riverside St **CBL:** ~~267-A-005-001~~ 357-A-1

Project Description: Riverside Street - 910; Recycling Facility; Riverside Recycling Facility

Zoning: IM

Other Reviews Required:

Review Type: MINOR SITE PLAN

Applicant:
Public Services Dept.
55 Portland Street
Portland Me 04101

Representative:
Troy Moon, Public Services Department
55 Portland Street
Portland Me 04101

Distribution List:

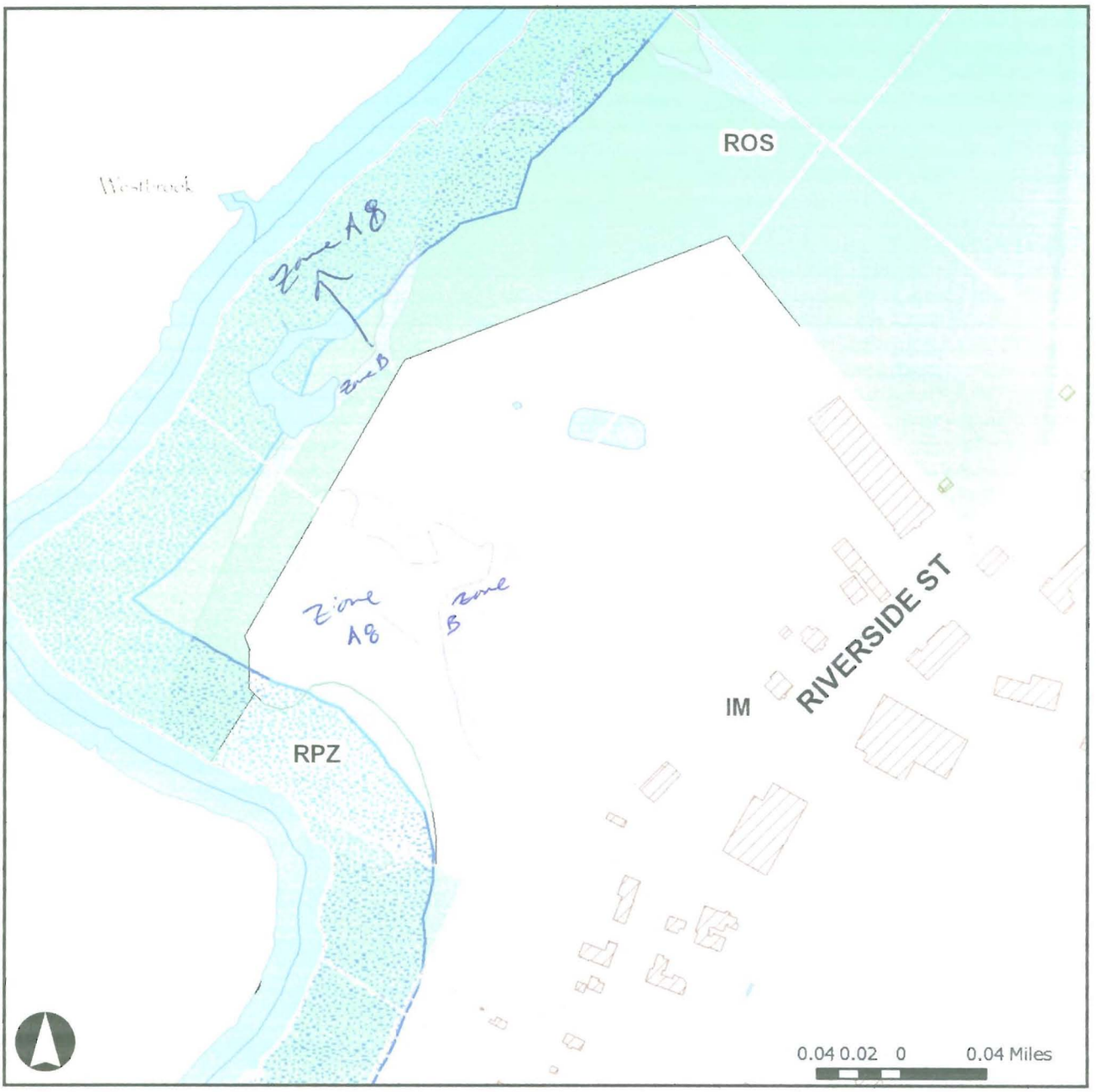
☐ Planner	Jean Fraser	☐ Parking	John Peverada
☒ ZoningAdministrator	Marge Schmuckal	☐ Design Review	Alex Jaegerman
☐ Traffic	Tom Errico	☐ Corporation Counsel	Danielle West-Chuhta
☐ Stormwater	Dan Goyette	☐ Sanitary Sewer	John Emerson
☐ Fire Department	Keith Gautreau	☐ Inspections	Tammy Munson
☐ City Arborist	Jeff Tarling	☐ Historic Preservation	Deb Andrews
☐ Engineering	David Margolis-Pineo	☐ Outside Agency	
		☐ DRC Coordinator	Phil DiPierro

Revised plans and further information as requested in June, 2010 and discussed with some reviewers at a meeting on Oct 6, 2010.

Comments needed by: Wednesday, October 20th, 2010

Panel 1

Map



Interstate

Streets

Buildings

Building

Out Building

Parcels

Shoreland Overlay Zone

Stream Overlay Zone

Stream_protection

Island Zoning

C43

I-B

I-TS

Zoning (continued)

R1 Residential

R2 Residential

R3 Residential

R4 Residential

R5 Residential

R6 Residential

ROS Recreation Open

Zoning (continued)

C25

C26

C27

C28

C29

C30

C31

MEMORANDUM

To: Jean Fraser, City of Portland, Department of Urban Planning & Development
From: City of Portland Department of Public Services / Maine Waste Solutions
Date: October 12, 2010
Re: "Action agreed at yesterday's meeting" Email of October 7, 2010

The following is a list of responses (in bold) to the email chain entitled as shown above. This memo offers City of Portland Department of Public Services / Maine Waste Solutions responses to issues discussed during the October 6, 2010 meeting with Review Committee members. Enclosed with this memorandum are seven hard copies of items provided. MWS is confident that, coupled with the Maine Department of Environmental Protection license for the proposed composting facility and previous submissions and discussions regarding the details of the proposal, this latest submission fulfills the Review Committee's questions and due diligence.

1) Short narrative addressing performance standards in I-M zone, particularly re odor control and vectors (contact Marge Schmuckal - 874 8695 - for advice on this if needed)

The proposed City of Portland/ Maine Waste Solutions (MWS) composting operation will be sited on the city-owned Riverside Recycling Facility (RRF) within the I-M zone. MWS will manufacture compost. Consistent with Section 14-248 of the City of Portland Code of Ordinances, MWS's manufacturing activity is a permitted land use within the I-M zone. The facility is not located within the one hundred year floodplain.

MWS will manage the compost manufacturing process to prevent undue adverse environmental impacts, substantial diminution of the value or utility of neighboring structures, or significant hazards to the health or safety of neighboring residents. Under the supervision of the City of Portland's Department of Public Services (DPS), MWS will fulfill the performance-based requirements of the I-M zone by controlling noise levels, emissions, traffic, odor, and vectors. MWS will proactively execute the following compost manufacturing best practices to eliminate potential for odors and vectors.

1. **<u>High-Quality Compost Recipe.</u> MWS' process begins with well-balanced ratios of feedstocks to strike the optimum balance of carbon and nitrogen, moisture, pH, and aerobic conditions. MWS' compost recipe will facilitate ideal thermophilic composting conditions to eliminate odors and repel vectors.**

2. **<u>Immediate mixing of food waste residuals.</u> Composting residuals will be immediately mixed on MWS' asphalt pad and covered with dry, carbonaceous amendment upon arrival at the RRF. Immediate mixing of food waste creates the optimal carbon-to-nitrogen balance, absorbs moisture, and facilitates effective aerobic composting.**

3. **<u>Biofilter layer to cover mixed and amended compost recipe.</u> All fully mixed compost piles will be covered with a dry biofilter consisting of additional carbonaceous amendment or fully cured, finished compost. The biofilter eliminates any potential odors that might attract vectors.**

4. **Aeration of mixed piles to facilitate optimal aerobic conditions.** **MWS will introduce oxygen to the fully mixed and biofiltered compost piles. Creating aerobic condition in compost piles is a best management practice to eliminate odors that attract vectors. MWS will use small electric blowers to force air to the compost piles via trenches embedded in the asphalt pad.**

5. ***Compostex* compost covers layered over biofilter.** **MWS will use compost covers as another protective layer. Compost covers will filter any unwanted odors that escape through the biofilter from fully mixed piles and aerated piles.**

6. **Initial composting under cover in a sheltered environment.** **MWS will manage the active phase of the composting process under cover in a temporary fabric structure for approximately 10-15 days. The fabric structure will shelter the composting piles from prevailing winds.**

2) Qualifications of Compost Facility Managers

MWS facility managers Brett Richardson, Greg Williams, and Jim Hiltner, as well as city staff member Troy Moon, each successfully completed the State of Maine's esteemed Maine Compost School certifying their technical ability to effectively and responsibly operate a composting facility. The certification school is taught by the Maine Department of Environmental Protection, University of Maine Cooperative Extension, and the Maine State Planning Office.

In addition to the facility managers' qualifications, MWS will benefit from consulting services from a national composting expert. MWS gained research and development funds from the Maine Technology Institute (MTI) to retain the consultant. The consultant's resume was vetted by the distinguished MTI review committee. MWS is not at liberty to share the consultant's resume due to confidentiality provisions of the consulting contract.

3) "Contingency Plan" for possibility of problematic odors/vectors, to include process (who to contact etc) and what actual steps would be taken on site (short note; can refer to Operations Handbook)

See attached *Environmental Stewardship & Contingency Plan* document.

4) Details of soil filter and aeration system within the "tent" building

See details of soil filter and aeration system included separately in this submission package Four 115-Volt squirrel cage electric blowers will be housed at the center of the asphalt pad inside the fabric structure. The blowers will be powered on an intermittent basis by a gas generator.

5) Revised Site Plan at scale - to include zone lines, context info (river; Golf course; Trail; nearest buildings)

See Plan 101 included in this submission package.

6) Re Plan 301 Include 3 at-scale copies and 4 at 11X17 for the sake of completeness.

Plan 301 is included in this submission package.

The following is a list of suggested action items from Deputy City Engineer David Margolis-Pineo, followed by MWS responses in bold:

1. Please indicate on the catch basin detail a minimum 3' sump.

See Plan 301 included in this submission package.

2. Show pipe size on the soil filter discharge. Since the riser is 12" I assume the discharge is also but it is not indicated. Also you may want to consider a "Bee Hive" trash rack on the 12" outlet riser. Not required but it wouldn't hurt. Also, what is the elevation of the 12" outlet riser compared to the elevation of the emergency spillway?

See Plan 301 included in this submission package.

3. Please show blower locations and since I assume they are electric blowers you will need to show the power feed and any necessary utility poles.

Four 115-Volt squirrel cage electric blowers will be housed at the center of the asphalt pad inside the fabric structure. The blowers will be powered on an intermittent basis by a gas generator. No other power feeds or utilities are proposed. For blower and generator locations, see aeration system detail included in this submission package.

4. Do you intend to drain the leachate to the tote washout tank? If so you should show how it gets there. Piping? What size?

See the enclosed Composting Pad and Aeration Trench specifications prepared and stamped by Acorn Engineering.

Leachate will be managed in a closed loop system located inside the fabric structure and not be connected to the tote wash station. Therefore, no piping will be necessary to connect the two. The following is a summary of MWS' strategy for managing potential leachate:

<u>Managing Potential Leachate.</u> MWS is confident it has developed a high-quality compost recipe that will produce a nutrient-rich soil amendment and generate minimal, if any, leachate during the active composting period. However, in the event that some leaching

from piles does occur, MWS is well prepared to proactively and effectively manage this valuable resource to ensure product integrity and maintain a nuisance-free operation. MWS' innovative facility design and routine housekeeping will preempt potential odor and vector nuisances through effective containment and collection of leachate inside the fabric structure, as well as regular cleaning of the trench system.

Innovative Facility Design. MWS will capture potential leachate using a cement trench system located in the 42' x 100' asphalt composting pad. Consistent with DPS and standard engineering design criteria for sewer drains, the trench (which also will be used to provide aeration to the piles) will be graded at a 1% slope from the center of the pad toward the mouths of the fabric structure. The slope will effectively promote flow toward the end of the trench, making it easy for MWS facility managers to isolate and collect the leachate. Plywood grates used to cover the trenches will be easily removed to provide full access during leachate collection. Facility managers will use a commercial Shop-Vac ® or alternative method to collect leachate and clean debris from the trenches. Once collected, the leachate may be reapplied to the active composting material to ensure a nutrient-rich product.

Routine Housekeeping. During daily operations, MWS facility managers will conduct routine housekeeping to ensure a clean and odor-free site. Such duties will include the cleaning of the trenches on a regular basis. As piles are moved, sections of the trenches will become accessible, providing an opportunity to scrub clean the floor and walls and remove any debris.

Zoning Administrator Marge Schmuckal
October 15, 2010

I received further submissions and response to my June 22, 2010 comments and revised plans on October 13, 2010.

I have further considered the use that is being proposed. I do not believe that the use can really be considered a recycling operation. The large scale composting operation can be considered under the "Performance Based Uses", section 14-248. The applicant has made an argument addressing the standards of 14-248. I have determined that the proposed composting meets the standards under 14-248. The proposed composting use is allowable.

The submitted plans outline the current underlying zones on the property. All of the proposed use falls within the I-M Zone. The text of the response states that the operation will not be located within any floodplain. However, my copy of the floodplain map, panel #1 indicates that outside windrows will indeed be within an A8 flood zone. The applicant must show this on their plans as originally requested. There shall be steps taken so that the product does not enter the watershed by means of the floodplain areas.

I had previously requested that the applicant show and describe how Best Management Practices will be employed. I have seen no such information. This required information is even more critical based on part of the windrows being located within the FEMA floodplain.

The applicant has also stated that there will be a gas generator(s) to power blowers within the tent/rubb building is being proposed. The I-M Zone has performance standards that have maximum noise requirements. The maximum 70 dBAs allowed within the I-M Zone shall not be exceeded between the hours of 7:00 am and 10:00 pm.

The applicant has applied for a building permit on October 12, 2010. I have noticed that there are no structural details submitted on the tent/rub building. The code reviewers will require further structural information before they can approve the plans. I cannot sign off on Zoning for this project until after I can approve the site plan application. I cannot do that at this time. I will allow fire and building code reviewers to do their review prior to zoning sign off.

ZONING ADMINISTRATOR
MARGE SCHMUCKAL
June 22, 2010

This property is very large and has several zones encumbering it: I-M Industrial Zone, ROS Recreation Open Space and RPZ Resource Protection Zone. I believe that where the proposed composting/recycling operation is located is within an I-M Zone.

It is noted that staff has the wrong information inputted for this site plan. The address is 910 Riverside Street with a CBL of 357-A-001. It should be corrected in the record.

The I-M Zone does allow recycling facilities, ***"... provided that all storage and recycling operations occur within a fully enclosed structure."*** The proposal does not appear to be fully enclosed. This would be a violation of the use.

The submitted plan also does not delineate where the RPZ Zone and ROS Zone and I-M Zone is located. All the Zones shall be delineated on the site plan. Done

I think it is in it per mg

The site plan shall also show where the FEMA flood zones are located compared to the activity proposed. ?

Because of the project is in the vicinity of Shoreland, Zoning, the applicant shall show and describe how Best Management Practices shall be employed. ?

Separate permits shall be required for building permits for the "fabric structure". It is recommended that the applicant meet with Inspection Services and Fire Prevention for guidance on this structure and what requirements would be needed. — permit application applied for on 10/12/10 — looks like it is lacking structural info

Environmental Stewardship & Contingency Plan

MAINE WASTE SOLUTIONS

Riverside Recycling Facility Compost Operation

Contact: (207) 370 – 4769
Greg Williams
Brett Richardson

Overview. Maine Waste Solution's composting facility offers many economic, environmental, and community benefits for the City of Portland. Composting reduces waste to the landfill, and creates a valuable soil enhancer for gardeners, landscapers, and farmers. MWS' operation at the Riverside Recycling Facility is supervised by City of Portland staff. Composting is a proven waste management technique with successful best management practices and the MWS management team is committed to being a good neighbor.

Commitment to Riverside Neighbors. MWS will proactively monitor for and eliminate potential nuisances as the highest operational priority. Riverside neighbors are invited to contact MWS with questions about the compost operation or composting generally.

Management Team. All composting managers at the Riverside Recycling Facility possess Certificates of Technical Ability from the State of Maine for composting. Staff from the City of Portland's Department of Public Services (DPW) ensure that all recycling activities at the Riverside Recycling Facility comply with established environmental regulations. MWS is developing a high-quality facility and will proactively manage the natural composting process to ensure high performance.

Environmental Stewardship. MWS' composting process produces high-quality compost, while proactively eliminating the conditions that can create potential odors and other environmental nuisances. High-performance composting relies upon the optimal balance of ingredients, regular monitoring and data collection for temperature and moisture, good air flow to piles to create aerobic conditions, and regular facility housekeeping. MWS diligently implements these best practices to be a good neighbor on Riverside Street.

Contingency Plan. If odors are detected by or reported to MWS, compost facility managers will:

1. Immediately inspect on-site compost piles to identify and isolate any offending pile;
2. Analyze composting process performance data for isolated pile;
3. Implement the appropriate corrective best management practice to eliminate the nuisance;
4. Continually monitor the isolated pile over the following 36-48 hours to ensure the nuisance is eliminated, or take additional corrective steps as necessary.

If MWS or DPW detect nuisance odor from the isolated pile for up to 48 hours, MWS will remove the pile and the nuisance odor from the Riverside Recycling Facility to the appropriate waste disposal facility.

instantaneous sound pressure varies essentially as a simple sinusoidal function of time.

b. Impulse sounds are defined as sound events characterized by brief excursions of sound pressure, each with a duration of less than one (1) second.

2. *Measurement:* Sound levels shall be measured with a sound level meter with a frequency weighting network manufactured according to standards prescribed by the American National Standards Institute (ANSI) or its successor body. Measurements shall be made at all major lot lines of the site, at a height of at least four (4) feet above the ground surface. In measuring sound levels under this section, sounds with a continuous duration of less than sixty (60) seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of sixty (60) seconds or more shall be measured on the basis of the energy average sound level over a period of sixty (60) seconds (LEQ_1).

3. *Maximum permissible sound levels:* The maximum permissible sound level of any continuous, regular or frequent source of sound produced by an activity shall be as follows:

a. Seventy (70) dBA between the hours of 7:00 a.m. and 10:00 p.m.

b. Fifty-five (55) dBA between the hours of 10:00 p.m. and 7:00 a.m., as measured at or within the boundaries of any residential zone.

In addition to the sound level standards established above, all uses located within [illegible]

(h) Indoor amusement or recreational centers.

(i) Plant and tree nurseries, including associated recycling activities.

(j) Lumber yards.

(k) Commercial kitchens or other food preparation, provided that the food is not prepared for service on the premises.

(l) Recycling facilities, provided that all storage and recycling operations occur within a fully enclosed structure.

(m) Food and seafood processing for human consumption.

(n) Municipal or regional solid waste disposal facilities, provided that all disposal activities are carried out within an enclosed structure.

(o) Day care facilities, provided that:

1. Proof of licensing with the Maine Department of Human Services is submitted to the city prior to issuance of a certificate of occupancy;

2. Off-street parking shall be provided, with one (1) parking space per employee, plus one (1), based upon the number of employees required through state licensing for potential maximum capacity of such facility;

3. Off-street loading shall be located in a safe location;

4. There shall be an on-site outdoor play area with seventy-five (75) feet of land area per child; and

5. The outdoor play area shall be fenced and screened with a landscaped buffer.

(p) Dairies.

(q) Utility substations.

(r) Correctional prerelease facilities for up to twelve (12) persons, plus staff, serving a primary clientele of

on arterials or collectors. The I-Mb zones are similarly located on the peninsula. These locations provide for direct access onto arterials, thereby protecting residential neighborhoods from drive-through traffic.

The I-M, I-Ma and I-Mb industrial zones are intended to provide for larger industrial buildings and for the limited or controlled use of areas outside of structures for storage of materials and machinery. These facilities often require large volumes of imported materials and products which result in large volumes of shipping and receiving. Often uses may be highway-oriented and transportation-related, thus relying on citywide and regional transportation infrastructure.

Industrial uses in the moderate impact industrial zones may require separation from higher impact uses, which should be directed to the high impact industrial zone.
(Ord. No. 164-97, § 7, 1-6-97)

Sec. 14-247. Permitted uses.

The following uses are permitted whether provided by private or public entities in the I-M moderate impact industrial zone, the I-Ma and the I-Mb zone:

(a) Low impact industrial uses, including but not limited to bakeries, breweries, bottling, printing and publishing, pharmaceuticals, machine shops, musical instruments, precision instruments, watchmakers, toys and sporting goods, wood products, jewelry, assembly of electrical components, tool and die shops and the packaging of food.

(b) Research and development and back office uses.

(c) Building contractors and construction and engineering services.

(d) Wholesale trade.

(e) Warehousing and distribution facilities, including outdoor storage.

(f) Intermodal transportation facilities and transportation terminals.

(g) Repair services, including all types of automotive repair services.

Map

Leslie Lagner GIS

Parcels
Parcels
Interstate
Streets
Buildings
Building
Out Building
Parcels
Traveled Ways
Stream
Wetland
swamp
Lake/Pond
under_road
waterbody
Jetport
FEMA Flood Zones
A
AE
AO
VE
X500
County Streets
A15
A21
A31
ME Towns
Land
Water Body
Ocean

GIS flood zones

910 riverside st (11)

Parcels (11)

OBJECTID_1	OBJECTID	Id	CBL	LEAD_CBL	no_cbl	Shape_Leng	dissolve	Shape_Le_1	sde.PORTGIS.parcels.Shape	PropData.OBJECTID	ACCOUNT_NO	OWNER_NAME_1	OWNER_NAME_2	MA
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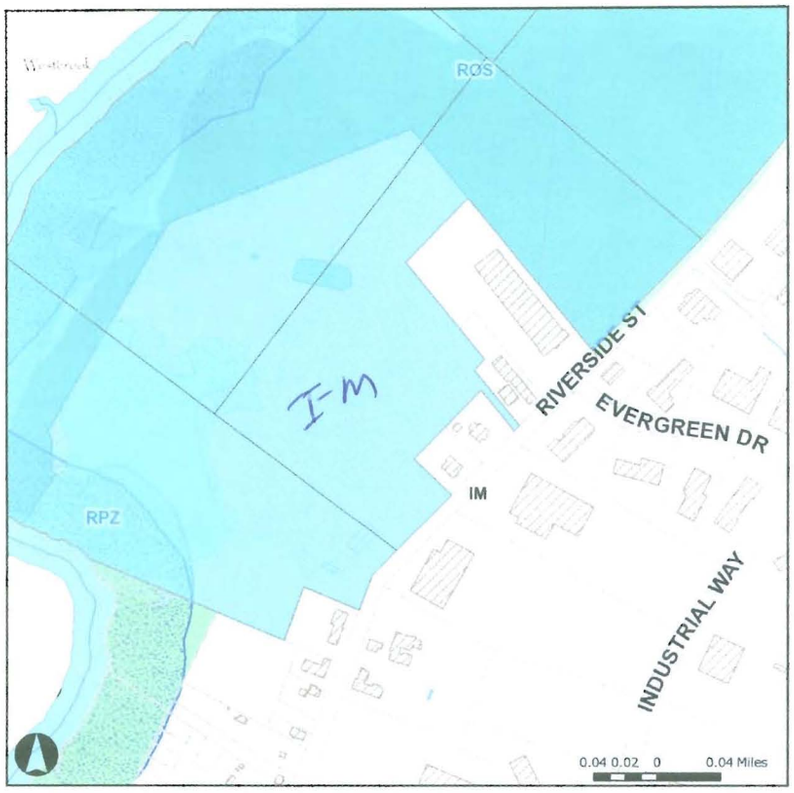
25665	30867	0	364 A001	357 A001	cbl	4716.303764	0	4716.303764	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
26366	31128	0	366 A001	357 A001	cbl	3796.716746	0	3796.716746	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
26749	26095	0	359 A001	357 A001	cbl	4687.616658	0	4687.616658	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
28335	27821	0	358 A001	357 A001	cbl	4670.317345	0	4670.317345	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
30182	30044	0	360 A001	357 A001	cbl	6350.729822	0	6350.729822	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
30466	30362	0	362 A001	357 A001	cbl	4739.419116	0	4739.419116	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
30883	30779	0	363 A001	357 A001	cbl	4517.294662	0	4517.294662	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
30899	30833	0	357 A001	357 A001	cbl	3885.828062	0	3885.828062	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
31021	30989	0	365 A001	357 A001	cbl	4838.27912	0	4838.27912	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389
31194	31196	0	367 A001	357 A001	cbl	3592.493476	0	3592.493476	Polygon	21834	357 A001001	CITY OF PORTLAND	null	389

Map



Parcels

Parcels

Parcels

Interstate

Streets

Buildings

Building

Out Building

Parcels

Traveled Ways

Stream

Wetland

swamp

Lake/Pond

under_road

waterbody

Jetport

FEMA Flood Zones

A

AE

AO

VE

X500

Coastal Bluff

H - Highly Unstable

U - Unstable

Overlay Zones

DEOZ

FH

Helistop Overla

R-7

USM

Shoreland Overlay Zone

Stream Overlay Zone

Stream_protection

Island Zoning

C43

I-B

I-TS

I-R1

I-R2

I-R3

ROS

RPZ

Zoning

AB Airport Business

EWPZ

C44

C45

B7

B1 Neighborhood Business

B1b Neighborhood Business

B2 Business Community

B2b Business Community

B3* Downtown Business

B3c Downtown Business

Zoning (continued)

IL Industrial - Low Impact

ILb Industrial - Low Impact

IM Industrial - Moderate Impact

IMb Industrial - Moderate Impact

OP Office Park

R1 Residential

R2 Residential

R3 Residential

R4 Residential

R5 Residential

R6 Residential

ROS Recreation Open Space

RP Residential Professional

RPZ Resource Protection

WCZ* Waterfront

WPDZ Waterfront

WSUZ Waterfront

C1

C2

C3

C5

C7

C8

C9

C10

C11

C13

Zoning (continued)

C21

C22

C23

C24

C25

C26

C27

C28

C29

C30

C31

none

B2c

C32

C33

C34

C35

C36

B6

C37

C38

C39

C40

C41

C12

County Streets

A15

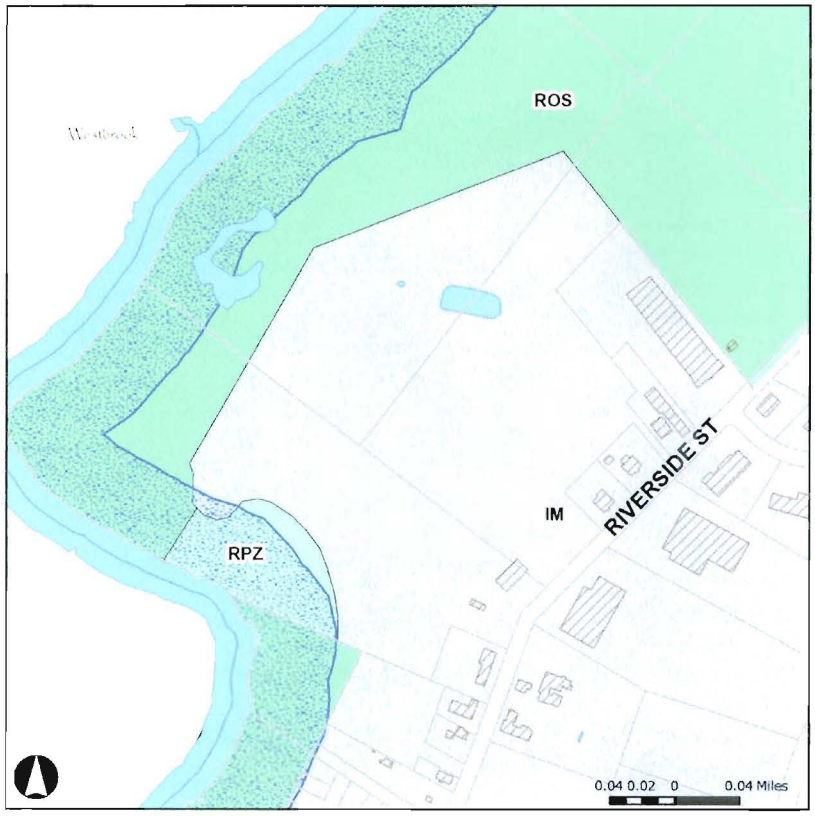
A21

A31

ME Towns

Land

Map



Parcels

Parcels

Interstate

Streets

Buildings

Building

Out Building

Parcels

Traveled Ways

Stream

Wetland

swamp

Lake/Pond

under_road

waterbody

Jetport

Coastal Bluff

H - Highly Unstable

U - Unstable

Overlay Zones

DEOZ

FH

Helistop Overla

R-7

USM

Shoreland Overlay Zone

Stream Overlay Zone

Stream_protection

Island Zoning

C43

I-B

I-TS

I-R1

I-R2

I-R3

ROS

RPZ

Zoning

AB Airport Business

EWPZ

C44

C45

B7

B1 Neighborhood Business

B1b Neighborhood Business

B2 Business Community

B2b Business Community

B3* Downtown Business

B3c Downtown Business

B4 Commercial Business

B5 Urban Commercial

B5b Urban Commercial

IH Industrial - High Impact

It. Industrial - Low

Zoning (continued)

OP Office Park

R1 Residential

R2 Residential

R3 Residential

R4 Residential

R5 Residential

R6 Residential

ROS Recreation Open Space

RP Residential Professional

RPZ Resource Protection

WCZ* Waterfront

WPDZ Waterfront

WSUZ Waterfront

C1

C2

C3

C5

C7

C8

C9

C10

C11

C13

C14

C15

C16

C17

C18

C19

C20

Zoning (continued)

C23

C24

C25

C26

C27

C28

C29

C30

C31

none

B2c

C32

C33

C34

C35

C36

B6

C37

C38

C39

C40

C41

C42

County Streets

A15

A21

A31

ME Towns

Land

Water Body

Ocean

This page contains a detailed description of the Parcel ID you selected. Press the **New Search** button at the bottom of the screen to submit a new query.

Services

Applications

Doing Business

Maps

Tax Relief

Tax Roll

Q & A

browse city services a-z

browse facts and links a-z

Current Owner Information:

CBL	357 A001001
Land Use Type	GOVERNMENTAL
Property Location	910 RIVERSIDE ST
Owner Information	CITY OF PORTLAND 389 CONGRESS ST PORTLAND ME 04101
Book and Page	
Legal Description	357-A-1 358-A-1 359-A-1 360-A-1 361-A- 2 362- & 363 & 364 & 365 & 366 & 367-A-1
Acres	272.87

Current Assessed Valuation:

TAX ACCT NO.	37926	OWNER OF RECORD AS OF APRIL 2009 CITY OF PORTLAND
LAND VALUE	$5,457,400.00	389 CONGRESS ST
BUILDING VALUE	$1,692,810.00	PORTLAND ME 04101
PORTLAND, CITY OF	($7,150,210.00)	
NET TAXABLE REAL ESTATE	$0.00	
TAX AMOUNT	$0.00	

Any information concerning tax payments should be directed to the Treasury office at 874-8490 or e-mailed.

Building Information:

Card 1 of 3

Year Built	1966
Style/Structure Type	CLUB HOUSE
# Units	1
Building Num/Name	1 - CLUB HOUSE/CART BLDG
Square Feet	11850

View Sketch View Map View Picture

Card 2 of 3

Year Built	1999
Style/Structure Type	WAREHOUSE
# Units	1
Building Num/Name	1 - NEW MAINT./ PUMP
Square Feet	6634

View Sketch View Map View Picture

Card 3 of 3

Year Built	1960
Style/Structure Type	WAREHOUSE
# Units	1
Building Num/Name	1 - HAMLIN BLDG
Square Feet	5850

View Sketch View Map View Picture

Exterior/Interior Information:

Card 1

Levels	B1/B1
Size	4410
Use	RESTROOMS/LOCKERS
Height	8
Heating	HOT AIR
A/C	CENTRAL

Card 1

Levels	01/01
Size	2205
Use	TAVERN/BAR
Height	8

Marge Schmuckal - Composting Project Mtg and update

From: Jean Fraser
To: Gautreau, Keith; Goyette, Dan; Schmuckal, Marge; Tarling, Jeff
Date: 6/11/2010 4:31 PM
Subject: Composting Project Mtg and update
CC: Barhydt, Barbara; Margolis-Pineo, David
Attachments: COMPOST FACILITY - RIVERSIDE RECYCLING.doc

1. MEETING CONFIRMED FOR **TUESDAY JUNE 22 1:30pm Planning Conference Room 4th floor City Hall; Keith and Dan at least to attend and any others as appropriate**

2. David Margolis-Pineo has reviewed the application and feels it needs alot more detail (see attached). He will discuss these direct with Troy Moon early next week (Troy goes off to Russian on Thurs) and any residual issues can be included in the meeting.

3. I won't be at Dev Rev on Wed so could someone pl take note of any further comments etc so I can follow up at the end of next week. Dave was wondering about Public health/environmental Health issues.....

In haste, Jean

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Penny St. Louis Littell, Director of Planning and Development
Marge Schmuckal, Zoning Administrator

Meeting Information

DATE: 6/22/10 ZONE: I-M

LOCATION: 910 Riverside

PEOPLE PRESENT: Jean - Marge - Capt Keith Gautreau - Greg - Jim Wiltner → CPRC Group

DISCUSSION: A Pilot Program
Food WASTE - mixing with other Dry waste
10-Day Composting → brought out into Windrows - covered
6' high - 10' wide - 250' long -
6-9 months for the entire process - Odor on site (
Both ends of the structure are open
Odor Concerns
methane Gasses - Oxygen produced not methane Gasses
If it doesn't work - can be broken down with 2 days
Capt K.G → Not concerned about the fabric -
No lighting - No utilities in the structure -
All abutters have been Notified → 7 or 8 months ago -

Please note: this meeting is not an pre-approval of any ordinances. No project can be approved without going thru the appropriate reviews. This meeting is only to outline the City processes to go through based on the information given at this meeting. Any changes to that information may change the process requirements. Please check ordinances that are on-line for further information at www.portlandmaine.gov.

Marge Schmuckal - Mtg to be 10.6 2pm Fwd: Re: Meeting Request - Composting at Riverside

From: Jean Fraser
To: Barhydt, Barbara; Margolis-Pineo, David; Schmuckal, Marge; Tarling, Jeff
Date: 9/24/2010 3:43 PM
Subject: Mtg to be 10.6 2pm Fwd: Re: Meeting Request - Composting at Riverside
Attachments: Re: Meeting Request - Composting at Riverside

Please put this meeting in for:

Wed OCTOBER 6th
2pm-3pm at least (might be more than an hour?)

Planning Conference Room

Thanks

MEMORANDUM

To: Jean Fraser, City of Portland, Department of Urban Planning & Development
From: City of Portland / Maine Waste Solutions
Date: October 4, 2010
Re: Riverside Recycling Facility – Minor Site Plan Review Application for a Compost Facility
City of Portland / Maine Waste Solutions Responses to Jean Fraser "RRF Composting Project - f/u to yesterday's meeting" Email of June 23, 2010

This memorandum offers supporting details and clarifying information for the City of Portland (COP)/Maine Waste Solutions (MWS) Minor Site Plan Review application for a food waste composting operation at the Riverside Recycling Facility (RRF). This initiative is a minor amendment to the site's historic and current uses as a commercial and residential recycling, transfer, and processing facility. Since 1995, the City has held a Maine Department of Environmental Protection (MDEP) license to compost up to 30,000 cubic yards of leaf and yard waste annually at the RRF. On June 15, 2010, the MDEP issued a "reduced procedures" license to COP and MWS to compost up to 400 cubic yards of food waste monthly and 750 cubic yards of seafood processing waste annually. The following is the information requested, including a site plan of the composting area (See Attachment 1), in the email cited above, followed by COP / MWS responses in bold.

Formatted

1. Copy of MDEP (approved) Permit under 06-096; please clarify at what point the MDEP would re-review this (eg after pilot stage) since the MDEP approval is under "reduced procedures".

- **A copy of the MDEP license to COP is included in this submission package as Attachment 2. The City of Portland / Maine Waste Solutions' successful Maine Department of Environmental Protection (MDEP) "reduced procedures" application and MWS Operations Manual have been submitted to the city for internal planning staff review. The MDEP "reduced procedures" license is effective into perpetuity and does not require future revisiting. However, it does establish a ceiling on volumes received that cannot be exceeded. If in the future COP and MWS, as the license holders, choose to seek approval for greater site capacity, a new application for a general permit will be submitted to MDEP, triggering a new review process.**

2. Drainage and potential run off contamination: Both the site plan and MDEP applications relied on a 2.25.2010 letter from St Germain & Assoc which asserts there is no change to the existing conditions. This does not address the question of potential impact on water quality nor the apparent existing run off impacts on the golf course.

Please submit an engineered plan (stamped by a PE) and associated calculations that show where drainage from the composting site would flow (and how directed) and what amount would be to and through the vegetated soil filter and the basis for the design and sizing/location of the soil filter (including where/how the filter discharges). The MDEP application and the MWS Operating Manual do not appear to include info on how the physical design of the facility and windrows would

prevent leaching/pollution (ie prevent sheet flow water runoff from surrounding area to flow into and under the compost)- so further info would be helpful.

DPS staff have commented: "I note that the runoff from the Riverside Recycling Facility has contributed to a severe erosion problem on the Riverside nine-hole golf course during the past year. It appears that the runoff rates from the Recycling Facility are much greater than the historical runoff rates from Recycling Facility area, and that the increased runoff rates were a contributing factor to this erosion problem. Golf Course personnel have addressed the runoff problem; but, I don't know if they have completely solved the problem" Review staff need to understand what has/is being done to address this issue.

The engineering plans should also indicate how the berm will impact the drainage and show revised contours etc. and erosion control measures [It was noted that a yearly inspection and maintenance plan would also need to be submitted]. Although BMPs are stated to already be in use, these need to be spelled out and confirmed re this application.

- **Existing RRF Site Design & Management: The RRF as built is in compliance with state and city permits, including stormwater management provisions. Consistent with established best management practices, all drainage ways at the RRF have been sized to handle runoff generated from up to a 25-year storm. The existing sediment pond has been designed and upgraded in recent years to effectively manage stormwater from the RRF site. A vegetated buffer strip between the RRF and Riverside Municipal Golf Course will continue to be maintained for erosion control.**

- **Proposed Composting Site Design & Management: The existing RRF stormwater management plan and infrastructure was designed and constructed to manage stormwater from the both 1) the area currently utilized for commercial and residential recycling, and 2) the back portion of the site where the composting operation will be located. Therefore, as stated in the 2.25.2010 letter from St Germain & Assoc., there will be no change to the existing conditions. The DEP-licensed composting site is situated at the rear of the RRF site, and is elevated from surrounding existing uses. Therefore, run-on from other areas of the RRF site to the composting pad will not occur. MWS will grade the composting site in a manner to adequately direct runoff into the existing sufficient drainage ways without causing erosion elsewhere at the RRF. Windrows will be situated to promote unobstructed passage of stormwater carrying any potential leachate from the pad to the vegetated soil filter, where it will be filtered and ultimately discharged into existing permitted drainage areas. Precipitation falling in the vicinity of the fabric structure will be directed toward the center-rear of the site, consistent with existing sheet flow drainage.**

COP/MWS are committed to being good neighbors and environmental stewards. MWS will conduct intermittent monitoring throughout the year to ensure the effectiveness of drainage and filtration practices. An annual inspection and maintenance report will be made available at the RRF site.

3. Zoning: Need further discussion and a more specific, detailed narrative that shows how the proposals meet zoning requirements. Also need zone lines accurately on the site plan (available from Leslie Gaynor in DPS) showing where I-M and RPZ zones plus FEMA flood zones.

- **The proposed COP / MWS composting operation will be sited on city-owned property within the I-M zone. MWS' solid waste recycling activity is consistent with the permitted uses of this zone. COP / MWS will proactively execute extra processing steps that surpass State of Maine regulations to mitigate nuisances. MWS will manage the operation so that it will prevent undue adverse environmental impacts, substantial diminution of the value or utility of neighboring structures, or significant hazards to the health or safety of neighboring residents. MWS will fulfill the requirements of the IM zone by controlling noise levels, emissions, traffic, and odor. The facility is not located within the one hundred year floodplain.**

4. Berm: A section showing construction materials, design and surface treatment and erosion control aspects. Site plan (and Landscape Plan) to show final intended location of the berm.

CPRC, which manages the RRF on behalf of COP, will construct a 16' high berm around the perimeter of the composting site to serve as a visual buffer between the RRF and the Riverside Municipal Golf Course. The berm will be designed so as not to interfere with existing sheet flow drainage at the RRF. Consistent with established best management practices used on the existing berms at the RRF, appropriate seed mix will be applied to the berm to prevent erosion.

- **See Attachment 3: Details of berm and vegetated soil filter**

5. Water tank for cleaning totes: Please describe the filtration system indicating how it will avoid generating odors; include details (location) of electrical and water feeds.

- **As part of regular operations, food waste collection bins will be periodically rinsed in a designated area of the RRF composting facility. The tote washing station will include a 1000 gallon capacity holding tank with a sump-pump and power washer. Water used during the cleaning process will be diverted to the holding tank.**
- **MWS will mitigate potential odors by screening all solids and by adding clean water as deemed necessary during regular monitoring. The screened solids will be composted. The wash station will be approximately 12'x 12' in size and will have a 2 percent grade in a bowl-shape in order to capture rain water. The captured precipitation will help to purify and recharge the station's water supply.**
- **Water from the tank will be recycled in a closed loop system using the sump pump. Water from the holding tank may be applied to active piles to increase moisture content as regular monitoring suggests. The tote washing station will be regularly maintained to ensure leachate control and proper operation.**
- **No additional electrical or water feeds are proposed.**

6. Traffic: Please confirm info provided at the meeting regarding the fact that only the site managers will be bringing in vehicles plus initial and potential numbers of truck deliveries; on plan add location of drive access to the fabric building; also width of access road. How many employees and where will they park/turn?

- **There will be no significant changes in traffic to current operations at the RRF and MWS will receive materials in a manner consistent with the RRF's existing approved operations manual. Addition of food waste composting at the RRF will add no more than 15 additional vehicle trips per day. MWS currently has two employees who will oversee daily site operations. All initial food waste collection trips to the site will be made by MWS' two site managers, an MWS management designee, or a third-party hauler. All current and future MWS employees will park at an existing designated parking area at the RRF.**

- **A paved road accesses the RRF from Riverside Street. A road adequate in width to accommodate truck traffic will be delineated within the compacted gravel and will form the entire composting area.**

7 Potential odors: Please send information re effectiveness of the proposed measures from similar operations elsewhere? How far away would the "earthy" smell be detected?

- **MWS has carefully planned and budgeted for a four-step compost processing that will preempt environmental nuisances, including the mitigation of odors: 1) High-quality recipe development, 2) Immediate mixing of food waste residuals with appropriate amendment, 3) Initial composting under cover in a sheltered environment, and 4) Use of windrow covers for all composting residuals.**

- **MWS' four step process go above and beyond State of Maine regulations and most composting enterprises and are the result of ongoing consultation with composting experts around the US and regulators in Maine, including the Maine Compost School, a collaboration of the Maine Department of Environmental Protection, Maine State Planning Office, and the Maine Department of Agriculture.**

- **<u>MTI Grant Funding To Test Forced Aeration During Phase 3:</u> Organic Alchemy Composting (OAC) has obtained grant funding from the Maine Technology Institute to test the effectiveness of forced aeration during the third stage of its four-stage composting process. Effective aeration holds the potential to enhance aerobic conditions within compost piles, which is a best management practice for reducing potential odor concerns. MWS will use small electric blowers to force air into the compost piles via perforated piping embedded in the asphalt pad.**

    - **Dr. Will Brinton, President of Woods End Laboratory in Mt. Vernon, Maine, will oversee the design of the aeration system, and will consult with MWS to establish a testing regime that enables it to identify and analyze varying aeration schedules on key process performance benchmarks, including pile temperature, oxygen content, and pH.**

- **Well-managed compost windrows as proposed by MWS do not generate odors. When fully composted, the material generates an inoffensive earthy smell signaling high quality and full maturity. Still, MWS will keep the windrows under cover in order to preempt potential odors from escaping.**
    - **See Attachment 4: Composting Success Stories. Each of the referenced successful food waste composting operations uses a windrow system similar to the management process developed by MWS.**
    - **See Attachment 5: McGill University study showing effectiveness of windrow covers in mitigating potential nuisances, including odors and leachate from piles**

8. Vectors: This needs further discussion.

- **In addition to MWS' proven four-step composting process, good housekeeping and site management are the first line of defense against potential nuisances, including vectors. No food waste residuals will remain exposed for any length of time. All food waste will be immediately mixed and managed undercover in the fabric building and Compostex windrow covers. MWS will implement a vector control plan if it is deemed necessary by the two facility managers.**

9. Landscaping: Needs to have a Landscape Plan (if room and readable, can be on Site Plan) showing planting and screening and revised location of the berm; since Jeff Tarling was not at this meeting I will follow up on this point.

- **The described composting operations will be integrated into the RRF's existing industrial operation. A 16' high berm will be built around the perimeter of the composting site to serve as a visual buffer between the RRF site and Riverside Municipal Golf Course. The berm will be seeded with appropriate planting mix to prevent erosion.**

10. Lighting: Please confirm there will be no external lighting for the project.

- **There will be no additional external lighting for this project**

Marge Schmuckal - Re: Meeting Request - Composting at Riverside

From: Greg Williams <organicalchemy@gmail.com>
To: Jean Fraser <JF@portlandmaine.gov>
Date: 9/23/2010 11:22 AM
Subject: Re: Meeting Request - Composting at Riverside
CC: Jim Hiltner <jhiltner@cprcgroup.com>, "brett.richardson" <brett.richards...

Jean,

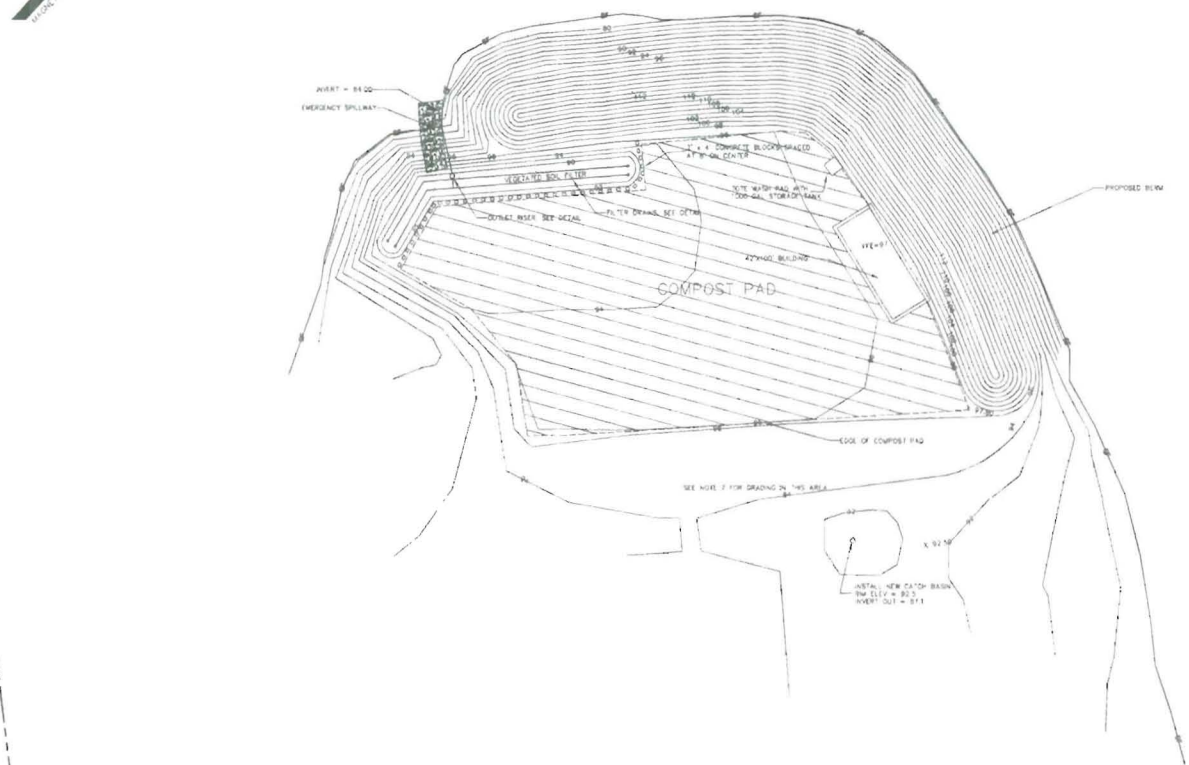
Thanks for making yourself available that week. We'd like to address all city staff's questions regarding stormwater management, and composting and landscaping best practices. To that end, we're preparing a memo which we'll share with you well in advance of the meeting. We'll be happy to address any follow up questions your colleagues may have at the meeting.

Wednesday, Oct. 6 is best for us, but we will make ourselves available to meet the scheduling needs of the group.

Best regards,
Greg

On Thu, Sep 23, 2010 at 9:26 AM, Jean Fraser <JF@portlandmaine.gov> wrote:

> Hello Greg,
> I am OK that week for afternoons on Mon/Tues/Wed and anytime Thursday or Friday.
> However, I think I need to have some of my colleagues there (who would be reviewing the information)- "who" depends on what you want to discuss and then I would need to check their availability. I am thinking Marge Schmuckal Zoning Administrator (unless you have resolved that issue direct with her); David Margolis-Pineo re drainage and Jeff Tarling re landscape. Barbara Barhydt might want to sit in as she has more experience re the odor issue.
> So maybe you could indicate the issues you would like to discuss and suggest 3-4 preferred dates/times and I will canvas the appropriate colleagues to get a final date/time.
> Thanks
> Jean
>
> >>> Greg Williams <organicalchemy@gmail.com> 9/22/2010 1:50 PM >>>
>
> Jean -
>
> Troy suggested we contact you to schedule a meeting to address questions regarding composting at Riverside. We're close to having the information you've requested and would like to discuss.
>
> What is your availability during the week of Oct. 4? Please let us know at your earliest convenience.
>
> Best regards,
>
> Greg
>
> --
> Greg Williams
> Organic Alchemy Composting LLC



LEGEND:

EXISTING		PROPOSED
	PROPERTY/ROW	
	BUILDING	
	SIGN	
	EDGE PAVEMENT	
	GRAVEL ROAD	
	TREELINE	
	CONTOURS	100
	OVERHEAD	
	ELEC. & TEL.	
	LIGHT POLE	
	UTILITY POLE	
	HYDRANT	
	CULVERT	
	CHAIN LINK FENCE	
	STOCKADE FENCE	
	TREE	
	COMPOST PAD	

NOTES:

1. BASE INFORMATION, TOPOGRAPHY, FENCE LOCATION, STORMWATER FEATURES, BUILDING LOCATIONS ON SITE AND ABUTTING PROPERTY INFORMATION TAKEN FROM PLAN ENTITLED "SITE OPERATIONS PLAN OF RIVERSIDE STREET RECYCLING FACILITY" BY SEBAGO TECHNICS, DATED 09-27-01, REVISION 8. SITE TOPOGRAPHY VERIFIED BY FIELD SURVEY BY BOUNDARY ENGINEERING SURVEY TECHNOLOGY, INC. SEPTEMBER 2010.

2. EXISTING UTILITY LOCATIONS ARE APPROXIMATE BASED ON UTILITY OWNERS RECORDS AND STATE R.O.W. MAPS. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH "DIG SAFE" REQUIREMENTS.

3. ALL DISTURBED AREAS OUTSIDE OF THE COMPOST PAD AND BUILDING THAT ARE NOT SCHEDULED FOR ANOTHER FORM OF SURFACE TREATMENT WILL BE LOAMED AND SEEDED. LOAM SHALL BE PLACED A MINIMUM OF 4" THICK. ALL SLOPES STEEPER THAN 3 TO 1 WILL BE STABILIZED WITH EROSION CONTROL BLANKET.

4. METHODS AND MATERIALS USED IN CONSTRUCTION SHALL CONFORM TO THE CURRENT CITY OF PORTLAND CONSTRUCTION STANDARDS AND SPECIFICATIONS.

5. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL AS DEPICTED AND IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES.

6. THE PROPERTY SHOWN ON THIS PLAN MAY BE DEVELOPED AND USED ONLY AS DEPICTED ON THIS APPROVED PLAN. ALL ELEMENTS AND FEATURES OF THE PLAN AND ALL REPRESENTATIONS MADE BY THE APPLICANT CONCERNING THE DEVELOPMENT AND USE OF THE PROPERTY WHICH APPEAR IN THE RECORD OF THE PLANNING DEPARTMENT ARE CONDITIONS OF APPROVAL. NO CHANGE FROM THE CONDITIONS OF APPROVAL IS PERMITTED WITHOUT RESUBMITTAL TO THE PLANNING DEPARTMENT.

7. THE AREA BETWEEN THE PROPOSED COMPOST PAD AND THE RATRON DROP OFF AREA WILL BE GRADED GENERALLY AS SHOWN WITH GRAVEL TO PROVIDE STOCKPILE SPACE AND DRAINAGE AWAY FROM THE COMPOST PAD.

0 25 50 100
SCALE IN FEET

SITE PLAN

COMPOST FACILITY
910 RIVERSIDE STREET
PORTLAND, MAINE

CPRC GROUP
70 PLEASANT HILL ROAD
SCARBOROUGH, MAINE 04074

PRELIMINARY

REV.	DATE	REVISION DESCRIPTION	DRAWN	CHK'D
DATE: 9.29.10	SCALE: 1"=50'	PROJECT NO.: 2780	FILE: C-101 Site Plan	

St. Germain Collins

C-101

245 MAIN ST., SUITE 3, WESTBROOK, ME 04092 TEL (207) 591-7000 WWW.STGERMAINCOLLINS.COM

EROSION AND SEDIMENTATION CONTROL NOTES & DETAILS

TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDE THE USE OF SEDIMENT BARRIER, EROSION CONTROL MIX, STONE CHECK DAMS, HAY BALE BARRIERS, CATCH BASIN INLET BARRIERS, CATCH BASIN SEDIMENT COLLECTION BAGS, EROSION CONTROL BLANKET, AND TEMPORARY SEEDING AND MULCHING AS REQUIRED. PERMANENT DEVICES INCLUDE THE USE OF RIP RAP AT EXPOSED STORM DRAIN AND CULVERT INLETS AND OUTLETS, RIP RAPPED SLOPES, AND PERMANENT VEGETATION.

A GENERAL

1 IT IS ANTICIPATED THAT CONSTRUCTION WILL BEGIN AS SOON AS POSSIBLE FOLLOWING RECEIPT OF NECESSARY PERMITS.

2 THE PROJECT SHALL CONFORM TO THE STANDARDS OF THE MAINE CONSTRUCTION GENERAL PERMIT.

3 ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES (BMP) PUBLISHED BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MAY 2003, OR AS CURRENTLY REVISED.

4 ANY ADDITIONAL EROSION AND SEDIMENTATION CONTROL DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) PERSONNEL AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.

5 THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.

6 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF ACCEPTABLE PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:

A FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS 90% COVERAGE OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

B FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

C FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH MULCH. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE BMP APPLICATION RATES AND LIMITATIONS.

D FOR AREAS STABILIZED WITH RIP RAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIP RAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIP RAP. STONE MUST BE SIZED APPROPRIATELY.

E FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.

F FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIP RAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN CUTTING OF THE CHANNEL.

B EROSION AND SEDIMENTATION CONTROL MEASURES

1 PRIOR TO THE BEGINNING OF CONSTRUCTION, THE STABILIZED CONSTRUCTION ENTRANCE AND TEMPORARY SEDIMENT BARRIER SHALL BE INSTALLED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. IT IS THE INTENT THAT SEDIMENT BARRIERS BE INSTALLED DOWN GRADIENT OF ALL DISTURBED AREAS OF THE SITE. SEDIMENT BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS WILL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE SEDIMENT BARRIERS. THIS SEDIMENT WILL BE SPREAD AND STABILIZED IN AREAS OF THE SITE NOT SUBJECT TO EROSION. SEDIMENT BARRIERS SHALL BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, THEY WILL BE REPLACED WITH A TEMPORARY CRUSHED STONE CHECK DAM.

2 ALL CATCH BASINS, NEW OR EXISTING, THAT MAY RECEIVE RUNOFF FROM DISTURBED AREAS MUST BE PROTECTED DURING CONSTRUCTION. INSPECT & CLEAN OUT AS NECESSARY. LEGALLY DISPOSE OF SEDIMENT & REMOVE FLOATABLES WITH OIL ABSORBENT PAD AS APPLICABLE.

3 REMOVAL OF SOD, TREES, BUSHES AND OTHER VEGETATION AND SOIL DISTURBANCE WILL BE KEPT TO A MINIMUM WHILE ALLOWING PROPER SITE DEVELOPMENT.

4 GRUBBINGS AND ANY UNUSABLE TOPSOIL SHALL BE STRIPPED AND REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN AN APPROVED MANNER.

5 ANY SUITABLE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR REUSE IN FINAL GRADING. TOPSOIL WILL BE STOCKPILED IN A MANNER SUCH THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE WILL RESULT. IF A STOCKPILE IS NECESSARY, THE SIDE SLOPES OF THE TOPSOIL STOCKPILE WILL NOT EXCEED 2:1. TOPSOIL STOCKPILES WILL BE TEMPORARILY SEEDED WITH AROOSTOOK RYE, ANNUAL OR PERENNIAL RYE GRASS (DEPENDING ON DATE SEEDED) WITHIN 7 DAYS OF FORMATION, OR TEMPORARILY MULCHED IF SEEDING CANNOT BE DONE WITHIN THE RECOMMENDED SEEDING DATES.

6 TEMPORARY DIVERSION BERMS AND DRAINAGE SWALES SHALL BE CONSTRUCTED AS NECESSARY.

7 TEMPORARY STABILIZATION SHALL BE CONDUCTED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOILS, PRIOR TO ANY RAIN EVENT, AND PRIOR TO ANY WORK SHUT DOWN LASTING MORE THAN ONE DAY. TEMPORARY STABILIZATION INCLUDES SEED, MULCH, OR OTHER NON-ERODABLE COVER. AREAS WITHIN 75 FEET OF WETLANDS SHALL BE TEMPORARILY STABILIZED WITHIN 48 HOURS OR PRIOR TO RAIN EVENT.

8 APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRE, AND ANCHOR AS NECESSARY.

9 TEMPORARY SEEDING SPECIFICATIONS. WHERE THE SEED BED HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 4 INCHES BEFORE APPLYING FERTILIZER, LIME, AND SEED. APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND 10-10-10 (N-P2O5-K2O) FERTILIZER AT A RATE OF 600 LBS. PER ACRE (13.8 LB. PER 1,000 SQUARE FEET). UNIFORMLY APPLY SEED AT THE RECOMMENDED SEEDING RATES AND DATES. APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRE AND ANCHOR AS NECESSARY.

RECOMMENDED TEMPORARY SEEDING DATES AND APPLICATION RATES ARE AS FOLLOWS:

AROOSTOOK RYE: RECOMMENDED SEEDING DATES: 8/15 – 10/1
APPLICATION RATE: 112 LBS./ACRE

ANNUAL RYE GRASS: RECOMMENDED SEEDING DATES: 4/1 – 7/1
APPLICATION RATE: 40 LBS./ACRE

PERENNIAL RYE GRASS: RECOMMENDED SEEDING DATES: 8/15 – 9/15
APPLICATION RATE: 40 LBS./ACRE

10 IF THE AREA WILL REMAIN UNWORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO STABILIZATION USING VEGETATION THROUGH PLANTING, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH OR RIP RAP. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS. AMEND AREAS OF DISTURBED SUBSOIL WITH TOP SOIL OR OTHER ORGANIC AMENDMENTS. PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS, AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT.

11 PERMANENT SEEDING SPECIFICATION. IF A LANDSCAPE PLAN HAS BEEN PREPARED FOR THE PROJECT, SOIL PREPARATION AND SEEDING SPECIFICATIONS OF THAT PLAN SHALL SUPERSEDE THESE GENERAL PERMANENT SEEDING SPECIFICATIONS. IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND AUGUST 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1 SHALL BE SEEDED WITH AROOSTOOK RYE OR MULCHED AT RATES PREVIOUSLY SPECIFIED. SEE WINTER CONDITIONS NOTES FOR SEEDING STABILIZATION AFTER NOVEMBER 1.

A APPLY TOPSOIL TO A MINIMUM DEPTH OF 8 INCHES. MIX TOPSOIL WITH THE SUBSOIL TO A MINIMUM DEPTH OF 8 INCHES.

B APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND GRANULAR, COMMERCIAL-GRADE, 10-10-10 (N-P2O5-K2O) FERTILIZER AT A RATE OF 800 LBS. PER ACRE (18.4 LBS. PER 1,000 SQUARE FEET).

C UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES. APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRE AND ANCHOR AS NECESSARY.

D THE SEED MIXTURE FOR LAWN AREAS SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:

10 % CREEPING RED FESCUE
30 % KENTUCKY BLUEGRASS
60 % PERENNIAL RYE GRASS

E THE SEED MIXTURE FOR WET AREAS SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:

50 % REED CANARY GRASS
25 % RED TOP
15 % CREEPING RED FESCUE
10 % PERENNIAL RYE GRASS

12 MULCH ALL AREAS SEEDED SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH.

13 DITCH LININGS, STONE CHECK DAMS, AND RIP RAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF CULVERT.

14 RIP RAP REQUIRED AT CULVERTS AND STORM DRAIN INLETS AND OUTLETS SHALL CONSIST OF FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. STONES SHALL WEIGH FROM 10 LBS. TO 200 LBS. AND 60% OF THE STONES BY VOLUME SHALL EXCEED A UNIT WEIGHT OF APPROXIMATELY 50 LBS.

15 EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 3:1, IN THE BASE OF DITCHES NOT OTHERWISE PROTECTED, AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (I.E. WETLANDS AND WATER BODIES). EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

16 TEMPORARY CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

C WINTER CONDITIONS

1 "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 15. IF AREAS WITHIN THE CONSTRUCTION ACTIVITY ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS. NO MORE THAN ONE ACRE OF THE SITE MAY BE WITHOUT STABILIZATION AT ONE TIME.

2 AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

3 HAY MULCH SHALL BE APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE AT THE END OF EACH CONSTRUCTION DAY. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

4 AFTER NOVEMBER 1 OR THE FIRST KILLING FROST FOR THE REGION AND BEFORE SNOW FALL, ALL EXPOSED AND DISTURBED AREAS NOT TO UNDERGO FURTHER DISTURBANCE ARE TO HAVE DORMANT SEEDING. THE DORMANT SEEDING METHOD: PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED PERMANENT SEED MIXTURE AT DOUBLE THE REGULAR SEEDING RATE, AND MULCH AND ANCHOR. DORMANT SEEDINGS NEED TO BE ANCHORED EXTREMELY WELL ON SLOPES, DITCH BASES AND AREAS OF CONCENTRATED FLOWS. DORMANT SEEDING REQUIRES INSPECTION AND RESEEDING AS NEEDED IN THE SPRING. ALL AREAS WHERE COVER IS INADEQUATE MUST BE IMMEDIATELY RESEEDED AND MULCHED AS SOON AS POSSIBLE.

5 ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE.

6 MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

D HOUSEKEEPING

1 SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORM WATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.

2 GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS, ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.

3 FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL.

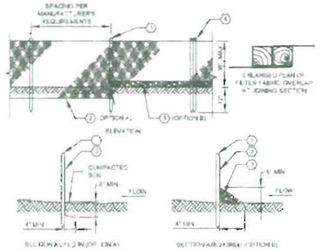
4 DEBRIS AND OTHER MATERIAL. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

5 TRENCH OR FOUNDATION DE-WATERING. TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOTE AREAS THAT ARE SPECIFICALLY DESIGNATED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFER DAM SEDIMENTATION BASIN.
AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE.

E INSPECTION AND MAINTENANCE

1 INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORM WATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER STORM EVENTS, PRIOR TO COMPLETION OF PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION AND STORM WATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT AND ANY DEP OR MUNICIPAL COMPANION DOCUMENTS, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

2 AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME AND QUALIFICATIONS OF THE PERSON PERFORMING THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPS THAT NEED TO BE MAINTAINED, LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF THE INSPECTION. FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.



NOTES:

1 1.25" X 1.25" OAK STAKES EMBEDDED A MINIMUM OF 12" INTO THE GROUND.

2 FILTER FABRIC TO BE SEDIMENTATION CONTROL FABRIC MIRAFI 100X OR EQUIVALENT.

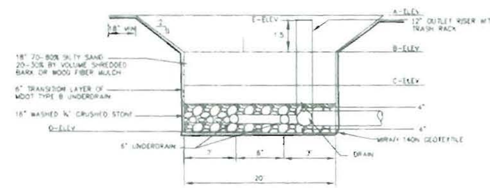
3 1" CRUSHED STONE ANCHORING MATERIAL.

4 OVERLAP AT JOINING SECTION AS SHOWN. A COUPLER CAN BE AN ACCEPTABLE DEVICE USED TO TIE THE OAK STAKES TOGETHER.

5 INSTALLATION/PLACEMENT OF THE PERIMETER SILT FENCE SHALL BE IN ACCORDANCE WITH MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION BEST MANAGEMENT PRACTICES AND SOIL EROSION & SEDIMENT CONTROL PLAN.

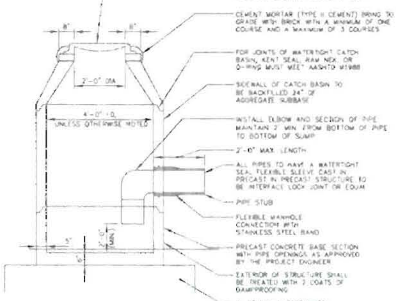
SILT FENCE
NOT TO SCALE

		ELEVATION TABLE			
ELEV	A	B	C	D	E
FILTER	VARIES	90.00	88.50	86.67	91.5

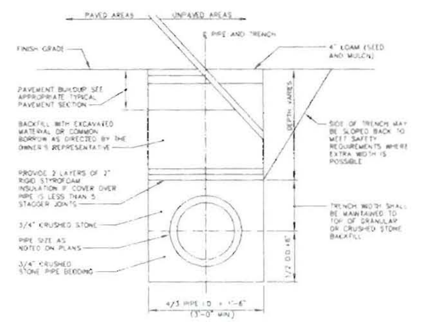


CONSTRUCTION OVERSIGHT:
INSPECTION OF THE FILTER BASIN SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE DEP.
AT A MINIMUM, INSPECTIONS WILL OCCUR:
- AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA;
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED;
- AFTER ONE YEAR TO INSPECT THE HEALTH OF THE VEGETATION AND MAKE CORRECTIONS; AND
- ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

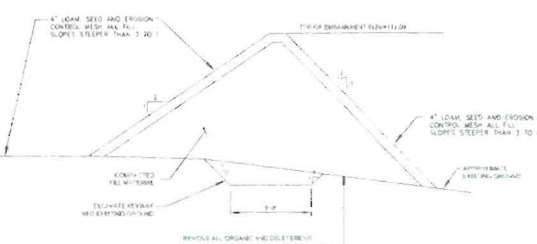
VEGETATED UNDERDRAIN SOIL-FILTER
NOT TO SCALE



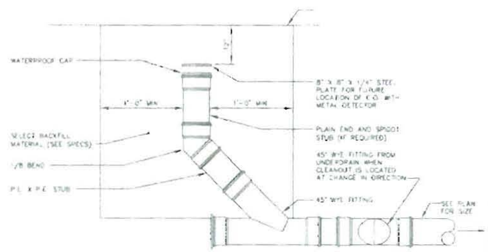
CATCH BASIN – CONCENTRIC CONE
NOT TO SCALE



TYPICAL TRENCH SECTION
NOT TO SCALE



BERM DETAIL
NOT TO SCALE



CLEANOUT – BURIED
NOT TO SCALE

SOIL EROSION & SEDIMENT CONTROL PLAN & DETAILS

COMPOST FACILITY
910 RIVERSIDE STREET
PORTLAND, MAINE

CPRC GROUP
70 PLEASANT HILL ROAD
SCARBOROUGH, MAINE

PRELIMINARY

St. Germain · Collins

C-301

REV	DATE	REVISION DESCRIPTION	DRAWN	CHK'D

DATE: 09/29/2010 | SCALE: AS SHOWN | PROJECT NO.: 2786.3 | FILE: 2786.3 C-301 DETAILS

846 MAIN ST., SUITE 3, WESTBROOK, ME 04092 TEL 207-591-7000 WWW.STGERMAINCOLLINS.COM

COVERING COMPOSTING WINDROWS: EFFECTS ON THE PROCESS AND THE COMPOST

By

Monique Paré
Timothy C. Paulitz
Katrine S. Stewart
McGill University
Macdonald Campus, Ste-Anne-de-Bellevue, Quebec, Canada

ABSTRACT: Composting trials were undertaken to study the feasibility of using crucifer or carrot residues with sawdust or straw for composting. Geotextile covers were tested for their influence on different parameters. Two complete composting cycles were monitored. Measurements were taken for compost temperature, moisture, and leachate. Physico-chemical analyses were performed on compost samples. Phytotoxicity tests were done with compost leachate samples. The results showed that the temperature of the covered compost (CC) decreased more slowly during late fall and early winter than that of the non-covered compost (NC). In addition, CC did not freeze as deep over the winter, and it warmed up sooner and faster than NC in the spring. The moisture content of CC was significantly lower than in NC at the end of both composting cycles. CC had a higher mineral content than NC in both cycles, and nitrogen, phosphorus and potassium levels were significantly higher in CC of the second cycle. The carbon/nitrogen (C/N) ratio of CC showed a more important decrease earlier in the cycles observed. The quantity of leachate from CC was significantly reduced compared to NC in the second cycle. Compost leachate showed a high level of phytotoxicity in the first part of the composting cycle and this phytotoxicity disappeared sooner in CC of the first cycle. However the leachate in the second cycle became non-phytotoxic at the same sampling time in both CC and NC. The effects of geotextile covers included a favorable influence on compost temperature in late fall and in spring in a northern climate; a higher retention of mineral elements; an earlier maturation of the compost, and a reduction in the quantity of compost leachate generated. The use of these covers by agricultural producers or other composting operations could result in a better quality compost while releasing smaller amounts of leachate in the environment.

INTRODUCTION

Vegetable cropping systems yield large quantities of food material per surface area and generate considerable volumes of plant waste both in the field and as a result of processing. In order to minimize the environmental impact from improper waste disposal and to turn these plant residues into a valuable resource, some Quebec vegetable producers wanted to investigate the composting option. Several systems are available for composting: open systems with periodically turned piles or with static piles having forced ventilation; closed systems using vertical reactors which have continuous or discontinuous mass of materials, or horizontal reactors where materials are either static or periodically turned (de Bertoldi and Zucconi, 1987). In Quebec, open systems are most often used for farm residue composting (Sauvesty and Tabi, 1995)

Fruit and vegetable wastes are classified as a moderate to wet type of material with a moderate to low C/N ratio depending upon the nature of the waste (Rynk *et al.*, 1992). They are considered to have a poor to fair structure which means that standing piles of these wastes quickly collapse into a wet mess if nothing is done to process them. According to Rynk *et al.* (1992), the moisture content of a compost is particularly critical due to the risk of anaerobic conditions accompanied by odor problems and slow decomposition. In this project, it was expected that the carbonaceous material combined with the vegetable wastes would compensate for the high moisture in the vegetables. Due to a concern about groundwater contamination by compost leachate derived from precipitation water, the research project included the use of geotextile covers on compost windrows. Compost leachate initially results from the decomposition of the organic materials, then subsequently from percolation of precipitation and from runoff along the surface of the piles. There is little work which specifically addresses the phenomenon of leaching. Most of the work done has been concerned with nitrogen leaching (Ballestero and Douglas, 1996; Dewes, 1995; Ulen, 1993). Nitrogen leaching is very dependent on the form of waste being composted and its initial characteristics (Ballestero and Douglas, 1996). The application of plastic sheet covers on compost piles did not reduce total nitrogen losses since

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

DEPARTMENT ORDER

IN THE MATTER OF

CITY OF PORTLAND	)	SOLID WASTE ORDER
PORTLAND, CUMBERLAND CTY, MAINE	)	
REDUCED PROCEDURES COMPOST FACILITY)		
#S-021417-CF-G-E	)	NEW LICENSE
(APPROVAL WITH CONDITIONS)		

Pursuant to the provisions of the *Maine Hazardous Waste, Septage and Solid Waste Management Act*, 38 M.R.S.A. §§ 1301 to 1319-Y, the *Solid Waste Management Rules: Composting Facilities*, 06-096 CMR 410 (effective February 18, 2009), and the *Solid Waste Management Rules: Agronomic Utilization of Residuals*, 06-096 CMR 419 (last amended December 19, 1999), the Department of Environmental Protection (Department) has considered the application of THE CITYOF PORTLAND (COP or applicant) with its supportive data and other related materials on file and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

A. Application: : The applicant, in conjunction with Maine Waste Solutions (MWS), a joint venture between CPRC Management, LLC and Organic Alchemy Composting, LLC, proposes to develop and operate a food waste composting facility at COP's Riverside Recycling Facility (RRF or Riverside.)

B. History: On March 13, 1996, the Department issued Order # S-021417-WH-A-N which approved a transfer station located off 510 Riverside Street in Portland. This Order approved the composting of up to 30,000 cubic yards of Type 1A waste.

C. Summary of Proposal: MWS proposes to compost up to 400 cubic yards of Type 1B residual and up to 200 cubic yards of Type 1C residual monthly, amended with leaves, horse bedding and wood chips, or other Type 1A residual, not to exceed 750 cubic yards of Type 1C residual annually.

2. TITLE, RIGHT, OR INTEREST

The existing Riverside facility is owned by the City of Portland. COP has submitted supporting documentation from the City Assessor's office.

The Department finds that the applicant has sufficient title, right or interest to the property on which the proposed facility will be located.

3. FINANCIAL CAPACITY AND TECHNICAL ABILITY

A. Financial Capacity: Most of the proposed facility already exists and is owned by the applicant. Organic Alchemy has financed the clear span building and necessary equipment. Ongoing operations will be funded by tipping fees and revenue from compost sales.

B. Technical Ability: The applicant has overseen operations at RRF since 1974 when it was licensed as a Land Reclamation Project. Organic Alchemy Composting, LLC facility managers include Greg Williams and Brett Richardson, who received Certificates of Technical Ability from the Maine Compost School in June 2009. Organic Alchemy proposes to use funding from the Maine Technology Institute seed grant to hire Woods End Laboratories, Inc. of Mount Vernon, Maine to provide recipe development and compost analysis. Woods End is recognized by the Maine Compost School as an international leader in all aspects of compost research and practice.

The Department finds that the applicant has the financial capacity and technical ability to develop and operate the project in a manner consistent with State environmental standards.

4. TRAFFIC

The applicant states that RRF is in compliance with the traffic standards found in 06-096 CMR 400(4)(D)(2) and that activities at the proposed compost facility will add no more than 15 vehicle trips per day.

The Department finds that the applicant has made adequate provisions for the safe and uncongested movement of traffic of all types into, out of, and within the solid waste facility.

5. SETBACKS AND BUFFERS

The proposed location for the compost facility operation will be within the existing licensed RRF transfer facility. The proposed facility is not located within a 100-year floodplain, within 100 feet of a protected natural resource, nor in, on, over or immediately adjacent to a protected natural resource. The proposed facility will be located more than 100 feet from public roadways, 100 feet from the nearest property boundary, 300 feet from the nearest off-site water supply well, 500 feet from the nearest residence, and 10,000 feet from the nearest airport runway. The proposed facility is

Y OF PORTLAND
PORTLAND, CUMBERLAND CTY, MAINE
REDUCED PROCEDURES COMPOST FACILITY
#S-021417-CF-G-E
(APPROVAL WITH CONDITIONS)

within 100 feet of the solid waste boundary of a closed landfill. The applicant was granted a variance to this siting standard in Department Order # S-021417-WH-A-N.

The Department finds that the proposed facility meets the siting standards in 06-096 CMR 410(2)(A).

6. EXISTING USES AND SCENIC CHARACTER

The site is located in a mixed industrial/residential setting. The proposed facility is located at an active Solid Waste Transfer Station. The noise generated by the facility will not be significantly different from other activities already taking place on the property, and in the surrounding area, such as heavy equipment operation. The project does not involve any significant alterations to the existing topography nor does the applicant propose a substantial change in existing operations.

The Department finds that the proposed facility will have no unreasonable adverse effect on existing uses and scenic character.

7. AIR QUALITY

A. Odor: MWS has submitted a composting plan that intends to prevent nuisance odors by maintaining an aerobic, thermophilic process consistent with methods promoted by the Maine Compost School. As a further means to prevent nuisance odors, MWS proposes to construct a 20 foot high earthen berm to shield activities from the prevailing wind. In addition, MWS proposes to conduct the most active phase of the composting process under a fabric structure to further intercept prevailing winds and to help maintain ideal moisture content. MWS has submitted an operations manual that includes procedures for detecting and addressing nuisance odors should they occur. In addition, the manual provides a form to document nuisance odor events and the remedial steps taken.

B. Dust: The applicant's operations manual dictates that roadways on site shall be misted with water to control dust and that windrows should be maintained to at least 40 % moisture prior to turning.

The Department finds that the proposed facility will have no unreasonable adverse effect on air quality provided that the applicant or MWS should immediately notify the Department if an odor complaint is received by MWS or the City of Portland and the response measures taken.

management measures are necessary. The Department finds that leachate and leachate contaminated storm water must not be discharged from the filter system, or from any other point at the site.

The Department finds that the proposed facility will control run-on and run-off; and retain water falling on the facility during a storm of intensity up to and including a 25-year/24-hour duration rainfall such that the rate of flow of stormwater from the facility after construction does not exceed the rate of flow of stormwater from the facility prior to construction. The Department further finds that the proposed facility will have no unreasonable adverse effect on surface water quality provided that storm water is managed such that it does not mix with residuals and that leachate and leachate contaminated storm water are not discharged from the filter system or from any other point at the site.

B. Erosion and Sediment Control: Minimal additional development of the site is necessary, including slope grading, site stabilization and construction of a 20-foot high earthen berm.

The Department finds that the proposed facility will not cause unreasonable sedimentation or erosion of soil provided that the applicant employ erosion and sedimentation control measures in accordance with the *Maine Erosion and Sediment Control BMPs (March 2003).*

9. COMPOST FACILITY OPERATION

The proposed facility will accept waste and operate in accordance with 06-096 CMR 410(6).

A. Residual Characterization: The facility will accept up to 400 cubic yards of Type 1B residuals and up to 200 cubic yards of Type 1C residuals monthly. The facility will accept no more than 750 cubic yards of Type 1C residuals annually. MWS proposes to collect representative samples of Type 1B residuals from the waste generators expected to provide waste to the facility. Samples will be analyzed by Woods End Laboratories to determine a suitable compost recipe. The Department finds that MWS should maintain records of the residual type (1A, 1B or 1C), the method used to determine residual type, and monthly quantities for all generators and that these records should be kept on site and made available for inspection. The Department also finds that the applicant should not accept any liquid waste, as defined in 06-096 CMR 400(1)(DDDD).

B. Covered Asphalt Pad: All incoming Type 1B and Type 1C residuals will be received under cover on the asphalt pad. A base layer of sorbent carbonaceous material including leaves and horse bedding will be formed. The base layer will

remain in place approximately one week prior to residuals being added. Residuals will be mixed with amendment using either a bucket loader or tub grinder and will be placed on the base layer. A one to two foot layer of horse bedding or other suitable amendment will cap the mixture and the material will be monitored for at least 10 days. Pile temperatures will be measured and recorded in accordance with the approved monitoring plan and the piles will be turned as necessary to facilitate aerobic composting.

C. Windrow Composting on Gravel Pad: Following the initial period under the fabric structure, composting residuals will be formed into windrows on the gravel pad measuring up to 200 feet long by 10 feet wide by 6 feet high. MWS will monitor pile temperature and moisture content to determine the frequency of turning and to maintain thermophilic conditions of 131 to 145 degrees Fahrenheit for up to 7 to 10 weeks. If temperatures rise and remain above 145 degrees, the representative windrow section will be turned. All temperature monitoring will be conducted in accordance with the approved monitoring plan. After a windrow section has completed the thermophilic composting process, the representative material will be moved to an area designated for curing on the MWS pad.

D. Temperature Monitoring Plan: MWS has submitted a temperature monitoring plan that includes a form for recording temperatures at 1-foot and 3-foot depths for each 25-foot span of a windrow. MWS states that data will be entered into a spreadsheet to be made available upon request. This plan is intended to demonstrate compliance with the Pathogen Reduction (PR) and Vector Attraction Reduction (VAR) standards found in 06-096 CMR 419, Appendix B, reiterated in 06-096 CMR 410(C)(3). The Department finds that MWS should maintain records on site that indicate whether windrow sections have or have not achieved compliance with PR/VAR standards and any remedial measures taken if standards are not met.

E. Curing: Compost will be placed on a designated area of the gravel pad for a curing period of up to six months prior to screening and distribution. The Department finds that compost destined for bulk distribution for direct agricultural uses or blending with other residuals must be cured until the equivalent of a Dewar's stability class of III or greater is achieved and the final C:N ratio of the finished compost is less than 25:1. The Department further finds that compost that is destined for bagging or high-end horticultural purposes must be cured until the equivalent of a Dewar's stability class of IV or greater is achieved, the final C:N ratio is less than 25:1 and the total NH_3-N is less than 800 parts per million.

F. Compost Sampling and Analysis: MWS states that a representative sample of the finished compost will be collected annually and analyzed for pH, % Dry Solids,

Total Volatile Solids, Total Kjeldahl Nitrogen, Organic Nitrogen, Ammonia Nitrogen, Nitrate, Nitrite, Total Phosphorus, Total Potassium, Calcium, Magnesium, Iron, Chloride, Sodium, Organic Matter, C:N ratio, Salmonella and Compost Stability.

G. Environmental Monitoring: The applicant does not propose any environmental monitoring at the site. Nitrogen containing residuals will be received, mixed and initially composted on an impervious surface under cover. After the materials are moved onto the gravel pad, Compostex® windrow covers, or a similar brand, will be used to cover all active windrows in order to minimize leachate formation. Any leachate generated will be collected and reincorporated into the pile. Storm water runoff that may carry fugitive leachate will be directed to a 25 square foot vegetated filter patch. The Department finds that environmental monitoring is not necessary at this site at this time.

H. Access Control: Access to the RRF is via gated entrance and the facility is completely enclosed by a fence. The applicant states that the entrance gate is closed and locked outside the hours of operation.

I. Tote Washing Station: The applicant proposes to construct a station to rinse food waste collection bins. The station will consist of a 1,000-gallon holding tank with a sump pump and power washer. Waste water will be filtered and directed to the holding tank. Water will be recycled in a closed loop system, and may be applied to active compost windrows to increase moisture content as needed. The Department finds that the tote washing station should be situated on an impervious surface and that all waste water should be collected and contained. The Department further finds that if wastewater cannot be utilized at the facility, it should be transported by a licensed transporter to a licensed waste water treatment facility for disposal.

10. COMPOST QUALITY AND DISTRIBUTION

A. The applicant proposes to sell finished compost to garden centers, household gardeners, landscapers and farmers. The Department finds that this is appropriate provided that representative sampling has indicated that the compost has achieved the Stability/Maturity standards stated in Section 9(E) of this Order.

B. Contingency: Compost that does not meet PR and VAR standards or stability standards will be reprocessed. Waste materials generated during the compost process, such as municipal solid waste from screening, will be disposed at a licensed disposal facility.

11. OPERATIONS MANUAL

The applicant has developed an operations manual that meets the standards in 06-096 CMR 410(4)(A).

12. RECORD KEEPING AND REPORTING

A. Record Keeping: The applicant proposes to record compost pile temperatures and moisture content. All records related to items required by 06-096 CMR 410(6)(C)(6) will be maintained and available for review during normal business hours.

B. Reporting: An annual report that meets the requirements of 06-096 CMR 410(4)(H) must be submitted to the Department by February 28th of each year. The annual report must summarize the facility's activities for the previous year and include the volume of residual received at the facility, the volume of compost produced, the volume of compost distributed off site, the volume of material remaining on site at the end of the calendar year, and a summary of odor or other complaints received by the facility.

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

1. The proposed project will not pollute any water of the State, contaminate ambient air, constitute a hazard to health or welfare, nor create a nuisance, provided:

A. The applicant or MWS immediately notifies the Department if an odor complaint is received by MWS or the City of Portland and the response measures taken;

B. Storm water is managed such that it does not mix with residuals and that leachate and leachate contaminated storm water are not discharged from the filter system or from any other point at the site;

C. The applicant employs erosion and sedimentation control measures in accordance with the *Maine Erosion and Sediment Control BMPs (March 2003)*;

D. The applicant maintains records on site and makes those records available for inspection of the residual type (1A, 1B or 1C), the method used to determine residual type, and monthly quantities for all generators;

E. The applicant does not accept liquid waste, as defined in 06-096 CMR 400(1)(DDDD);

F. The applicant maintains records on site that verify compliance with pathogen reduction and vector attraction reduction standards found in 06-096 CMR 419, Appendix B, and reiterated in 06-096 CMR 410(3) for all compost intended for distribution;

G. Compost destined for bulk distribution for direct agricultural uses or blending with other residuals is cured until the equivalent of a Dewar's stability class of III or greater is achieved and the final C:N ratio of the finished compost is less than 25:1. Compost that is destined for bagging or high-end horticultural purposes is cured until the equivalent of a Dewar's stability class of IV or greater is achieved, the final C:N ratio is less than 25:1 and the total NH_3-N is less than 800 parts per million., and;

H. The tote washing station is situated on an impervious surface and all waste water is collected and contained, and if wastewater cannot be utilized at the facility, it is transported by a licensed transporter to a licensed waste water treatment facility for disposal.

2. The applicant has the financial capacity and technical ability to develop and operate the project in a manner consistent with State environmental standards.

3. The applicant has made adequate provisions for traffic movement of all types into, out of and within the site.

4. The proposed facility fits harmoniously into the existing natural environment and will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities.

5. The proposed facility will be on soil types suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment, nor inhibit the natural transfer of soil.

6. The proposed facility will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.

7. The applicant has made adequate provisions for utilities including water supplies, sewerage facilities, solid waste disposal and roadways required for the project, and the proposed facility will not have an unreasonably adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services.

8. The activity will not unreasonably cause or increase the flooding of the area or adjacent properties nor create an unreasonable flood hazard to any structure.

THEREFORE, the Department APPROVES the above noted application of THE CITY OF PORTLAND, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

CITY OF PORTLAND
PORTLAND, CUMBERLAND CTY, MAINE
REDUCED PROCEDURES COMPOST FACILITY
#S-021417-CF-G-E
(APPROVAL WITH CONDITIONS)

10 SOLID WASTE ORDER
)
)
) NEW LICENSE

1. The Standard Conditions of Approval, a copy attached as Appendix A.

2. The applicant shall immediately notify the Department if an odor complaint is received by MWS or the City of Portland and the response measures taken.

3. The applicant shall manage storm water such that it does not mix with residuals.

4. The applicant shall manage leachate and leachate contaminated storm water such that they are not discharged from the filter system or from any other point at the site.

5. The applicant shall employ erosion and sedimentation control measures in accordance with the *Maine Erosion and Sediment Control BMPs (March 2003).*

6. The applicant shall maintain records on site and make those records available for inspection of the residual type (1A, 1B or 1C), the method used to determine residual type, and monthly quantities for all generators.

7. The applicant shall not accept liquid waste, as defined in 06-096 CMR 400(1)(DDDD).

8. The applicant shall maintain records on site that verifies compliance with pathogen reduction and vector attraction reduction standards found in 06-096 CMR 419, Appendix B, and reiterated in 06-096 CMR 410(3) for all compost intended for distribution.

9. The applicant shall ensure that compost destined for bulk distribution for direct agricultural uses or blending with other residuals shall be cured until the equivalent of a Dewar's stability class of III or greater is achieved and the final C:N ratio of the finished compost is less than 25:1. Compost that is destined for bagging or high-end horticultural purposes shall be cured until the equivalent of a Dewar's stability class of IV or greater is achieved, the final C:N ratio is less than 25:1 and the total NH_3-N is less than 800 parts per million.

10. The applicant shall ensure that the tote washing station is situated on an impervious surface and that all waste water is collected and contained. All wastewater that cannot be utilized at the facility shall be transported by a licensed transporter to a licensed waste water treatment facility for disposal.

CITY OF PORTLAND
PORTLAND, CUMBERLAND CTY, MAINE
REDUCED PROCEDURES COMPOST FACILITY
#S-021417-CF-G-E
(APPROVAL WITH CONDITIONS)

11 SOLID WASTE ORDER
)
)
) NEW LICENSE

11. The applicant shall submit a year end report, as specified by 06-096 CMR 410(4)(H), to the Department by February 28th for the previous calendar year.

DONE AND DATED AT AUGUSTA, MAINE, THIS 15TH DAY

OF JUNE, 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for
David P. Littell, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE APPEAL PROCEDURES.

Date of initial receipt of application: 12/28/09

Date of application acceptance: 1/20/10

Date filed with Board of Environmental Protection:

FILED
JUN 16 2010
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

This Order prepared by Michael S. Clark, Bureau of Remediation and Waste Management

XMC71229/dlb

STANDARD CONDITIONS TO ALL SOLID WASTE FACILITY LICENSES

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITONS 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. Approval of Variations from Plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed by the license. Any consequential variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

2. Compliance with All Applicable Laws. The licensee 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. Compliance with All Terms and Conditions of Approval. The licensee shall submit all reports and information requested by the Department demonstrating that the licensee has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

4. Transfer of License. The licensee may not transfer the solid waste facility license or any portion thereof without approval of the Department.

5. Initiation of Construction or Development Within Two Years. If the construction or operation of the solid waste facility is not begun within two years of issuance or within 2 years after any administrative and judicial appeals have been resolved, the license lapses and the licensee must reapply to the Department for a new license unless otherwise approved by the Department.

6. Approval Included in Contract Bids. A copy of the approval must be included in or attached to all contract bid specifications for the solid waste facility.

7. Approval Shown to Contractors. Contractors must be shown the license by the licensee before commencing work on the solid waste facility.

8. Background of key individuals. A licensee may not knowingly hire as an officer, director or key solid waste facility employee, or knowingly acquire an equity interest or debt interest in, any person convicted of a felony or found to have violated a State or federal environmental law or rule without first obtaining the approval of the Department.

9. Fees. The licensee must comply with annual license and annual reporting fee requirements of the Department's rules.

ADDITIONAL STANDARD CONDITIONS FOR SOLID WASTE DISPOSAL FACILITIES

10. Recycling and Source Reduction Determination for Solid Waste Disposal Facilities. This condition does not apply to the expansion of a commercial solid waste disposal facility that accepts only special waste for landfilling.

The solid waste disposal facility shall only accept solid waste that is subject to recycling and source reduction programs, voluntary or otherwise, at least as effective an those imposed by 38 MRSA Chapter 13.

11. Deed Requirements for Solid Waste Disposal Facilities. Whenever any lot of land on which an active, inactive, or closed solid waste disposal facility is located is being transferred by deed, the following must 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.

C. The disposal location coordinates of asbestos wastes must be identified.

SOLID WASTE
ANNUAL LICENSE & ANNUAL REPORT FEE
INFORMATION SHEET

ANNUAL LICENSE FEE

All licensed solid waste facilities are required to pay an annual license fee. These fees assist in supporting the costs associated with the Department's ongoing license compliance activities. A facility's annual license fee is due on the anniversary date of the license (i.e., the date that the license was signed).

To simplify the payment process for annual license fees, invoices will be sent out quarterly to all facilities with an anniversary date falling within that quarter. The amount of the annual license fee is variable dependent upon the type of facility being operated. A fee sheet is attached for your information. To determine the fee that your facility will be assessed on an annual basis, locate the type of facility for which you are licensed in the left-hand column. Follow across to the middle column headed "License Fee" to locate the amount of the fee. If you hold multiple solid waste facility licenses from the Department, you will be assessed the appropriate fee for each facility license at the time of the license anniversary date.

EXAMPLE: Facility X is issued a license on February 10, 2010. Fee will be due annually beginning on March 31, 2011.

ANNUAL REPORT FEE

Solid waste facilities which have been licensed or relicensed under applicable rules valid on or after May 24, 1989 are eligible to forgo relicensing. As an alternative to relicensing, facilities are required, in part, to comply with annual facility reporting rules and beginning 5 years after the license issue date to pay the associated annual report fee. The annual report fee assists in supporting the Department's solid waste licensing and annual report review activities.

The annual report fee is to be paid at the time the annual report is submitted. The amount of the annual report fee is equal to 20% of the amount that would have been paid for a relicensing fee. A fee sheet is attached for your information. To determine the annual report fee that your facility will be assessed on an annual basis beginning 5 years after the license issue date, locate the type of facility for which you are licensed in the left-hand column. Follow across to the far right-handed column headed "Report Fee" to locate the amount of the fee. If you hold multiple solid waste facility licenses from the Department, you will be required to submit the appropriate fee for each facility license with an annual report.

EXAMPLE: Facility X is issued a license in 2010 in accordance with rules valid on or after May 24, 1989. Submission of the first annual report will be required in accordance with the rules. No fee is due with the report until 2015 - five years after the license issuance date.

Please note that these fees are subject to change by the Legislature. The DEP will notify you if these fees change.

Solid Waste Division Fee Schedule Effective November 1, 2009 to October 31, 2010

ATS Code	Description	Appl Process Fee	Appl Lic Fee / Annual	Total Application Fee - New	Annual Report Fee**
BRWM - SOLID WASTE					
WB	Existing Non-Secure Municipal Landfill <15,000 people	$ 4,945	$ 1,413*	$ 6,358	$ 777
WC	Non-Secure Municipal Landfill >15,000 people	$ 4,945	$ 4,945*	$ 9,890	$ 1,454
WD	Secure Landfill	$ 7,065	$ 12,010*	$ 19,075	$ 3,108
WD	Minor Revision for Secure Landfill	$ 793	$ 132	$ 925	
WE	Secure Landfill -Woodwaste, Landclearing/Demolition Debris	$ 3,967	$ 6,612*	$ 10,579	$ 1,719
WE	Minor Revision for Secure Landfill -Woodwaste Landclearing/Demolition	$ 396	$ 132	$ 528	
WF	Non-Secure Landfill -Woodwaste, Landclear/DemoDebris <6acres	$ 925	$ 1,060*	$ 1,985	$ 305
WN	Closing Plan for Secure Landfill	$ 2,118	$ 2,118	$ 4,236	
WO	Closing Plan for Non-Secure Landfill	$ 705	$ 705	$ 1,410	
W1	Alternative Approval of a Municipal Landfill Closing Plan	$ 352	$ 352	$ 704	
WQ	Landfill-Preliminary Information Reports	$ 247	$ 247	$ 494	
WR	Landfill License Transfers	$ 705	$ 247	$ 952	
W5	Public Benefit Determination	$ 231	$ 231	$ 462	
W5	Landfill - Post-Closure Report	$ 231	$ 231	$ 462	
WG	Incineration - MSW/Special Waste	$ 4,945	$ 7,065*	$ 12,010	$ 1,902
WW	Incineration - License Transfers	$ 247	$ 247	$ 494	
W2	Incineration-Municipal own/operate w/License Cap <10 ton/day	$ 4,944	$ 1,412*	$ 6,356	$ 777
WH	Reduced Procedure for Transfer Station - Storage Facility	$ 780	$ 247*	$ 1,027	$ 127
WH	Transfer Station - Storage Facility	$ 1,060	$ 247*	$ 1,307	$ 155
WI	Tire Storage Facility	$ 565	$ 635*	$ 1,200	$ 184
WK	Processing Facility NOT MSW Composting or Residuals	$ 988	$ 988*	$ 1,976	$ 296
WV	Beneficial Use-Fuel Substitution	$ 925	$ 661*	$ 1,586	$ 225
WL	On-Going Beneficial Use NOT Utilization wo/Risk-Assessment	$ 925	$ 264*	$ 1,189	$ 145
WM	On-Going Beneficial Use NOT Utilization with/Risk-Assessment	$ 1,851	$ 661*	$ 2,512	$ 317
W3	One-Time Beneficial Use NOT Utilization wo/Risk-Assessment	$ 925	$ 264	$ 1,189	
W4	One-Time Beneficial Use NOT Utilization with Risk-Assessment	$ 1,851	$ 661	$ 2,512	
W7	Beneficial Use NOT Utilization - Reduced Procedure	$ 510	$ 127*	$ 637	$ 76
WS	Special Waste Disposal - 1 time =/< 6 cubic yards	$ 70	$ 70	$ 140	
WT	Special Waste Disposal - 1 time > 6 cubic yards	$ 141	$ 141	$ 282	
WU	Special Waste Disposal - Routine	$ 424	$ 424	$ 848	
WX	License Transfer Other Than Landfill or Incineration	$ 141	$ 141	$ 282	
W2	Solid Waste Facility Pilot Permit	$ 70	$ 70	$ 140	
98	362-A Experiments - All Bureaus	$ 247	$ 247	$ 494	
	permit by rule for on-going activities	$ 134	$ 134*	$ 268	$ 40
	permit by rule for one-time activities	$ 134	$ 134	$ 268	
	license transfer of a permit by rule	$ 134		$ 134	
	All minor revisions other than landfills	$ 264		$ 264	

BRWM - SEPTAGE					
S1	Municipal Septage Management Compliance -Septage Designation	$ 70	$ 35	$ 105	
S2	Septage Non-Utilization Site (Disposal)	$ 727	$ 352*	$ 1,079	
S3	Septage Utilization Site	$ 727	$ 352*	$ 1,079	
S4	Septage Storage Site	$ 70	$ 105*	$ 175	

AFS Code	Description	Appl Process Fee	Appl Lic Fee / Annual	Total Application Fee - New	Annual Report Fee**
BRWM - SLUDGE & RESIDUALS					
BB	Utilization Prog Lic-Indus/Papermill/Short-PaperFiber Sludge	$ 565	$ 565*	$ 1,130	$ [illegible]
BF	Utilization W/PrgLic-Indus/Papermill/Short-PaperFiber Sludge	$ 211	$ 352*	$ 563	$ [illegible]
BC	Utilization Prog License-Biosolids, Sewage/Municipal Sludge	$ 424	$ 388*	$ 812	$ [illegible]
BI	Utilization W/PrgLic-Biosolids, Sewage/Municipal Sludge	$ 105	$ 282*	$ 387	$ [illegible]
BD	Utiliz Prog Lic-Bicash/CKD/LimeMud/Other Ash or Liming Agent	$ 424	$ 388*	$ 812	$ [illegible]
BL	Utiliz W/PrgLic-Bioash/CKD/LimeMud/Other Ash or Liming Agent	$ 105	$ 282*	$ 387	$ [illegible]
BE	Utilization Program License - Wood Ash	$ 424	$ 105*	$ 529	$ [illegible]
BK	Utilization With a Program License - Wood Ash	$ 70	$ 177*	$ 247	$ [illegible]
BF	Utilization Program License-Food Waste, Food/Fish By-Product	$ 424	$ 105*	$ 529	$ [illegible]
BL	Utilization W/PrgLic-Food Waste, Food/Fish By-Product	$ 70	$ 177*	$ 247	$ [illegible]
BG	Utilization Program License - Other Wastes	$ 424	$ 247*	$ 671	$ [illegible]
BM	Utilization With a Program License - Other Wastes	$ 70	$ 177*	$ 247	$ [illegible]
BT	Agronomic Utilization Storage <3,500 cubic yards	$ 269	$ 236*	$ 505	$ [illegible]
BU	Agronomic Utilization Storage >= 3,500 cubic yards	$ 539	$ 236*	$ 775	$ [illegible]
BV	Agronomic Utilization-Other	$ 424	$ 246*	$ 670	$ [illegible]
BX	Agronomic Utilization-License Transfer	$ 141	$ 141	$ 282	
BY	Agronomic Utilization-One Time	$ 70	$ 70	$ 140	
BE	Agronomic Utilization-Pilot Project	$ 70	$ 70	$ 140	
	permit by rule for on-going activities	$ 134	$ 134*	$ 268	$ 40
	permit by rule for one-time activities	$ 134	$ 134	$ 268	
	license transfer of a permit by rule	$ 134		$ 134	

COMPOST					
CB	Compost Facility-Type IA/Leaf & Yard Waste	$ 211	$ 211*	$ 422	$ 63
CF	Compost Facility-Type IB/IC Residual <750 cy/yr	$ 211	$ 211*	$ 422	$ 63
CG	Compost Facility-Type IB/IC Residual >750 cy/yr	$ 211	$ 211*	$ 422	$ 63
CH	Compost Facility-Type II (sludge meets DEP req) <3500 cy/yr	$ 925	$ 661*	$ 1,586	$ 225
CI	Compost Facility-Type II (sludge meets DEP req) >3500 cy/yr	$ 1,851	$ 1,124*	$ 2,975	$ 410
CJ	Compost Facility-Type III(sludge not meet DEP req)<3500cy/yr	$ 925	$ 661*	$ 1,586	$ 225
CK	Compost Facility-Type III(sludge not meet DEP req)>3500cy/yr	$ 1,851	$ 1,124*	$ 2,975	$ 410
CL	Other Septage & Residual Processing <750 cy/yr	$ 494	$ 494*	$ 988	$ 145
CM	Other Septage & Residual Processing >750 cy/yr	$ 988	$ 988*	$ 1,976	$ 296
CX	Compost & Residual Processing - License Transfer	$ 132	$ 132	$ 264	
CZ	Compost & Residual Processing - Pilot Project	$ 66	$ 66	$ 132	
	permit by rule for on-going activities	$ 132	$ 132*	$ 264	$ 40
	permit by rule for one-time activities	$ 132	$ 132	$ 264	
	license transfer of a permit by rule	$ 132		$ 132	

* Denotes amount for both application licensing and annual license fees.
Annual license fees are due annually beginning one year after license issuance.
**Annual report fees are due annually beginning 5 years after license issuance.
Annual report fees = 1/5(annual fee plus 1/2 processing fee).
The fee for amendments is one half the processing fee plus one half the licensing fee.
The fee for renewals is one half the processing fee plus the full licensing fee.
The fee for all Condition Compliance is $133

DEP INFORMATION SHEET

Appealing a Commissioner's Licensing Decision

Dated: May 2004 Contact: (207) 287-2811

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) in an administrative process before the Board of Environmental Protection (Board); or (2) in a judicial process before Maine's Superior Court. This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

DEP's *General Laws*, 38 M.R.S.A. § 341-D(4), and its *Rules Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 CMR 2.24 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner and the applicant a copy of the documents. All the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

The materials constituting an appeal must contain the following information at the time submitted:

1. *Aggrieved Status.* Standing to maintain an appeal requires the appellant to show they are particularly injured by the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.

5. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.

6. *New or additional evidence to be offered.* The Board may allow new or additional evidence as part of an appeal only when the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or show that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2, Section 24(B)(5).

Other Considerations in Appealing a Decision to the Board

1. *Be familiar with all relevant material in the DEP record.* A licensing file is public information made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.

3. *The filing of an appeal does not operate as a stay to any decision.* If an applicant proceeds with a project pending the outcome of an appeal, it runs the risk of the decision being reversed or modified as a result of the appeal.

What to Expect Once You File a Timely Appeal with the Board

The Board will formally acknowledge initiation of the appeals procedure; including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing. The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff. Parties filing appeals and interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision. The Board will notify parties to an appeal and interested persons of its decision.

II. Appeals to Maine Superior Court

Maine law allows aggrieved persons to appeal final Commissioner licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2.26; 5 M.R.S.A. § 11001; & MR.Civ.P 80C. Parties to the licensing decision must file a petition for review within 30 days after receipt of notice of the Commissioner's written decision. A petition for review by any other person aggrieved must be filed within 40-days from the date the written decision is rendered. The laws cited in this paragraph and other legal procedures govern the contents and processing of a Superior Court appeal.

Additional Information

If you have questions or need additional information on the appeal process, contact the DEP's Director of Procedures and Enforcement at (207) 287-2811.

Note: The DEP provides this FACT SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

Marge Schmuckal - Site Plan Review of Composting Proposal at RRF

From: Jean Fraser
To: Errico, Thomas; Gautreau, Keith; Goyette, Dan; Tarling, Jeff
Date: 6/18/2010 3:34 PM
Subject: Site Plan Review of Composting Proposal at RRF
CC: Barhydt, Barbara; Bobinsky, Michael; Earley, Katherine; Margolis-Pine...

Hello all:

Please see below re meeting that has been arranged for 6.22.10 to get necessary info re this project.

Troy Moon is away until July 6th and asked me to progress this project with Greg Williams of MWS. David Margolis-Pineo is away all next week but I understand that he spoke with Troy early this week so that Greg and Jim had some idea of the questions being asked. So there is no DPS rep at the meeting (Jim Hiltner is attending) but Dan Goyette will cover for David re drainage and engineering issues and Tom Errico will join the meeting after the regular DPS meeting.

My intention is to clarify the proposals and likely impacts- the neighboring businesses are concerned at debris that currently floats across Riverside from the RRF and therefore looking for conditions on this "expansion" that require monitoring, especially re odor.

The following is also being sent to the "applicant" including Troy Moon.

Site Plan reviewers need additional information in order to progress the site plan review and so to avoid delay a meeting has been arranged for **Tuesday, June 22, 2010 1:30 Planning Conference Room** to run through the questions and issues that have been identified by reviewers and also raised by neighbors (2 businesses nearby have contacted me)- **these are summarized below** and will be used to structure the discussion. The main purpose of the meeting is to obtain information so that reviewers can prepare formal comments.

The meeting will be attended by:

Applicant:
Greg Williams, Maine Waste Solutions
Jim Hiltner, CPRC (?plus St Germain engineer?)

Site Plan Reviewers:
Keith Gautreau, Fire Department (Site Plan reviewer)
Dan Goyette, Development Review Engineering consultant
Jeff Tarling, City Arborist and Development Review Landscape reviewer
Tom Errico, Development Review Traffic Engineering consultant
Jean Fraser, Planner

If any questions, please contact me.

Jean

Jean Fraser, Planner
City of Portland
874 8728

SUGGESTED FOR DISCUSSION AT MEETING:

Potential Impacts

- **Odors –Potential extent of odors eg in summer? Evidence of effective control from similar operations elsewhere?**
- **Odors from different sources eg vehicles bringing waste, stage 1, stage 2, run off water?**
- **Generation of gases at any stage?**
- **Pollution of run off/treatment via soil filter adequate?**
- **Type and # and maneuvering plan re trucks bringing and taking away materials and employees/ "amendments"?**
- **How dealing with rodents and birds?**
- **Other environmental health issues eg mold?**

Physical infrastructure

- **Fabric building – fire issues and appearance?**
- **Fire access?**
- **Drainage details for compost gravel area?**
- **Drainage details for tote wash area?**
- **Possible need to redirect existing drainage around the composting area?**
- **Erosion control measures?**
- **Purpose and design of berm?**
- **New access road- why gravel? and dimensions?**
- **Internal traffic control at internal intersections?**
- **Landscaping/screening from trail, golf course etc?**
- **Where will packaging for sale take place?**
- **Some tote cleaning water/filtered solids goes into sewer- does sewer have capacity?**
- **Utilities and lighting to be shown.**
- **Need for detailed and engineered plans plus inspection and maintenance plan for soil filter.**

City of Portland
Development Review Application
Planning Division Transmittal form

6/9/10

Application Number: 10-79900009 **Application Date:** June 8, 2010

Project Name: RECYCLING FACILITY 357-A-001

Address: ~~190~~ Riverside St **CBL:** ~~267 - A-005-001~~

910

Project Description: Riverside Street - ~~910~~ 910; Recycling Facility; Riverside Recycling Facility

Zoning: IM

Other Reviews Required:

Review Type: MINOR SITE PLAN

Applicant:
Public Services Dept.
55 Portland Street
Portland Me 04101

Representative:
Troy Moon, Public Services Department
55 Portland Street
Portland Me 04101

Distribution List:

☐ Planner	Jean Fraser	☐ Parking	John Peverada
☐ ZoningAdministrator	Marge Schmuckal	☐ Design Review	Alex Jaegerman
☐ Traffic	Tom Errico	☐ Corporation Counsel	Danielle West-Chuhta
☐ Stormwater	Dan Goyette	☐ Sanitary Sewer	John Emerson
☐ Fire Department	Keith Gautreau	☐ Inspections	Tammy Munson
☐ City Arborist	Jeff Tarling	☐ Historic Preservation	Deb Andrews
☐ Engineering	David Margolis-Pineo	☐ Outside Agency	
		☐ DRC Coordinator	Phil DiPierro

Preliminary Comments needed by: Wednesday, June 16, 2010

Final Comments needed by: Wednesday, June 23, 2010

PORTLAND MAINE

Strengthening a Remarkable City. Building a Community for Life www.portlandmaine.gov

Public Services Department
Michael J. Bobinsky, Director

June 4, 2010

Barbara Barhydt
City of Portland, Department of Planning and Urban Development
389 Congress Street
Portland, ME 04101

Dear Ms. Barhydt:

Please find the enclosed proposal to develop and operate a food waste composting facility at the City's Riverside Recycling Facility (RRF). Composting provides a sustainable solid waste management solution for Portland's commercial entities and public institutions, including Portland Public Schools. This new development at the RRF falls under the City's Minor Site Plan Review procedure.

Composting food waste residuals is a necessary step to advance the City of Portland's recycling goals. Furthermore, this venture presents an opportunity to educate and engage Portland residents in a proven environmental solution. The proposed facility is designed to achieve this important objective in concert with the complimentary waste management practices at the Riverside Recycling.

Thank you very much for your attention to this application. Please do not hesitate to contact me with any questions or if you need any additional information.

Sincerely,

Troy Moon
Environmental Programs Manager

CC: Michael Bobinsky, Director of Public Services

- **Well-managed compost windrows as proposed by MWS do not generate odors. When fully composted, the material generates an inoffensive earthy smell signaling high quality and full maturity. Still, MWS will keep the windrows under cover in order to preempt potential odors from escaping.**
    - **See Attachment 4: Composting Success Stories. Each of the referenced successful food waste composting operations uses a windrow system similar to the management process developed by MWS.**
    - **See Attachment 5: McGill University study showing effectiveness of windrow covers in mitigating potential nuisances, including odors and leachate from piles**

8. Vectors: This needs further discussion.

- **In addition to MWS' proven four-step composting process, good housekeeping and site management are the first line of defense against potential nuisances, including vectors. No food waste residuals will remain exposed for any length of time. All food waste will be immediately mixed and managed undercover in the fabric building and Compostex windrow covers. MWS will implement a vector control plan if it is deemed necessary by the two facility managers.**

9. Landscaping: Needs to have a Landscape Plan (if room and readable, can be on Site Plan) showing planting and screening and revised location of the berm; since Jeff Tarling was not at this meeting I will follow up on this point.

- **The described composting operations will be integrated into the RRF's existing industrial operation. A 16' high berm will be built around the perimeter of the composting site to serve as a visual buffer between the RRF site and Riverside Municipal Golf Course. The berm will be seeded with appropriate planting mix to prevent erosion.**

10. Lighting: Please confirm there will be no external lighting for the project.

- **There will be no additional external lighting for this project**

Attachments

1. **Site Plan of Composting Area (see separate attachment)**
2. **MDEP License (see separate attachment)**
3. **Details of Berm and Vegetated Soil Filter (see separate attachment)**
4. **Composting Success Stories (see below)**
5. **McGill University Study (see separate attachment)**

Attachment 4: Composting Success Stories

Cornell University Waste Management Institute – Ithaca, NY
http://compost.css.cornell.edu/Cornell.html

- Large-scale windrow composting system
  - No windrow covers or structure
- Manages food waste from university dining halls, and all on-campus farm waste

Cayuga Compost – Tompkins County, NY
http://www.recycletompkins.org/editorstree/view/177

- Owner operated since 2000
- Large-scale windrow composting system
- Manages commercial food waste from Greater Ithaca region

Kinney Compost – Knox ME
http://kinneycompost.com/

- Owner operated since 1990
- Large-scale windrow composting system
  - Windrow covers used; no structure
- Manages seafood processing and farm wastes, and Common Ground Fair food waste

Sandy River Recycling Association – Farmington, ME
http://www.sandyriverrecycling.org/home.shtml

- Owned by 21 member municipalities; in operation since 1990
- Small-scale windrow composting system
  - Windrow covers used; no structure
- Manages food waste from University of Maine at Farmington dining hall

Chittenden Solid Waste District/Intervale Compost Products – Burlington, VT
http://www.cswd.net/facilities/intervale_compost.shtml

- Created in 1987; owned by Chittenden Solid Waste District
- Large-scale windrow composting system
  - No windrow covers; no structure
- Close to residential area
- Manages commercial/residential food waste from Greater Burlington region

Earth Tenders – Farmington, NH
http://www.earthtenders.org/intro.html

- Owner operated since 2001
- Large-scale windrow composting system

- No windrow covers or structure
- Manages yard and food waste from southern NH

COVERING COMPOSTING WINDROWS: EFFECTS ON THE PROCESS AND THE COMPOST

By

Monique Paré
Timothy C. Paulitz
Katrine S. Stewart
McGill University
Macdonald Campus, Ste-Anne-de-Bellevue, Quebec, Canada

ABSTRACT: Composting trials were undertaken to study the feasibility of using crucifer or carrot residues with sawdust or straw for composting. Geotextile covers were tested for their influence on different parameters. Two complete composting cycles were monitored. Measurements were taken for compost temperature, moisture, and leachate. Physico-chemical analyses were performed on compost samples. Phytotoxicity tests were done with compost leachate samples. The results showed that the temperature of the covered compost (CC) decreased more slowly during late fall and early winter than that of the non-covered compost (NC). In addition, CC did not freeze as deep over the winter, and it warmed up sooner and faster than NC in the spring. The moisture content of CC was significantly lower than in NC at the end of both composting cycles. CC had a higher mineral content than NC in both cycles, and nitrogen, phosphorus and potassium levels were significantly higher in CC of the second cycle. The carbon/nitrogen (C/N) ratio of CC showed a more important decrease earlier in the cycles observed. The quantity of leachate from CC was significantly reduced compared to NC in the second cycle. Compost leachate showed a high level of phytotoxicity in the first part of the composting cycle and this phytotoxicity disappeared sooner in CC of the first cycle. However the leachate in the second cycle became non-phytotoxic at the same sampling time in both CC and NC. The effects of geotextile covers included a favorable influence on compost temperature in late fall and in spring in a northern climate; a higher retention of mineral elements; an earlier maturation of the compost, and a reduction in the quantity of compost leachate generated. The use of these covers by agricultural producers or other composting operations could result in a better quality compost while releasing smaller amounts of leachate in the environment.

INTRODUCTION

Vegetable cropping systems yield large quantities of food material per surface area and generate considerable volumes of plant waste both in the field and as a result of processing. In order to minimize the environmental impact from improper waste disposal and to turn these plant residues into a valuable resource, some Quebec vegetable producers wanted to investigate the composting option. Several systems are available for composting: open systems with periodically turned piles or with static piles having forced ventilation; closed systems using vertical reactors which have continuous or discontinuous mass of materials, or horizontal reactors where materials are either static or periodically turned (de Bertoldi and Zucconi, 1987). In Quebec, open systems are most often used for farm residue composting (Sauvesty and Tabi, 1995).

Fruit and vegetable wastes are classified as a moderate to wet type of material with a moderate to low C/N ratio depending upon the nature of the waste (Rynk *et al.*, 1992). They are considered to have a poor to fair structure which means that standing piles of these wastes quickly collapse into a wet mess if nothing is done to process them. According to Rynk *et al.* (1992), the moisture content of a compost is particularly critical due to the risk of anaerobic conditions accompanied by odor problems and slow decomposition. In this project, it was expected that the carbonaceous material combined with the vegetable wastes would compensate for the high moisture in the vegetables. Due to a concern about groundwater contamination by compost leachate derived from precipitation water, the research project included the use of geotextile covers on compost windrows. Compost leachate initially results from the decomposition of the organic materials, then subsequently from percolation of precipitation and from runoff along the surface of the piles. There is little work which specifically addresses the phenomenon of leaching. Most of the work done has been concerned with nitrogen leaching (Ballestero and Douglas, 1996; Dewes, 1995; Ulen, 1993). Nitrogen leaching is very dependent on the form of waste being composted and its initial characteristics (Ballestero and Douglas, 1996). The application of plastic sheet covers on compost piles did not reduce total nitrogen losses since

the covers enhanced NH_3 exhalation to such an extent that total nitrogen losses increased (Dewes, 1995). Fleece blankets placed over a compost windrow kept the level of nitrate-nitrogen in leachate consistently lower than when the blankets were removed and the site exposed to rainfall. (Lufkin *et al.*, 1995) Bidlingmaier (1992) noted an increase in the percentage of leachate relative to the rainfall as the compost matured and temperature decreased; this relative increase in leaching was attributed to a decrease in the rate of evaporation of the composting mass.

The parameters studied in relation to the use of the geotextile covers included compost temperature, compost moisture, physico-chemical characteristics of the compost, as well as the volumes and the quality of compost leachate. It is important to follow the temperature evolution in a compost windrow: a high temperature (55-60°C) is desirable for 2-3 days in the first stage, to sanitize the materials, but the rates of microbial activity and drying are greater at temperatures of 38-55°C (Hoitink and Fahy, 1986). In the case of vegetable residues, plant pathogens could be present in this material and should be exposed to adequate temperatures to destroy them.

The objectives of this research project were: to monitor the composting process of vegetable wastes in an intermittently-turned windrow system; to examine the effect of geotextile covers on compost temperature, compost leachate, and compost quality; and to assess the survival of important plant pathogens in a compost made from vegetable wastes (not discussed in this paper).

MATERIALS AND METHODS

The composting trials were run on the Macdonald Campus of McGill University (Ste-Anne-de-Bellevue, Quebec, Canada). This site is in a climatic zone where precipitation averages 940 mm (37 in.) annually, and the temperature ranges from -35°C (-31°F) to +35°C (95°F). Twelve composting platforms were built to provide conditions where leachate could be recovered and measured. Each platform measured 3.5 meters wide by 4.6 meters long; they were arranged in three rows 4 meters apart, with an in-row spacing of 2-2.5 meters between platforms. The randomized block design included 3 blocks of 4 platforms, with 2 replicates within each block. The design was a 2 x 2 factorial experiment (covered/non-covered and with/without pathogens). The organic material used included cauliflower wastes and sawdust (1:1 v/v) the first year; crucifer wastes and wheat straw (9:1(compressed) v/v) the second year. The compost material was mixed and partially shredded with a manure spreader before piling it onto each platform to a height of about 1.5 meters. Only 6 platforms were used in the first year of the project because of a shortage of vegetable residues due to the late start. Starting dates were November 15 in 1994, and October 12 in 1995. The complete cycle lasted 271 days the first year and 288 days the second year.

The geotextile covers (Compostex® by Texel Inc., St-Elzéar, Québec) applied in the covered treatment were made of non-woven fibers (polyester and/or polypropylene), 1.6 mm thick. This material was permeable to air and gas, but water-repellent. They were left on the compost throughout the cycle, being removed only for turning operations. Half of the compost windrows were inoculated with infected plant material representing three phytopathogens: there was a total of 28 samples per pathogen that were distributed in each inoculated windrow. The pathogens samples were either in a fixed determined position or placed at random in the compost windrow.

The temperature was read three times a week at two depths (30 and 60 cm) in two locations for each platform. Moisture was measured from composite samples taken at about 30 cm depth, every 1-2 weeks (except for winter time). The samples were weighed before and after oven-drying. Sampling for physico-chemical analyses was done at the beginning of the cycle (fall), before turning in spring time, and at the end of the cycle. Leachate was collected and measured after each precipitation. Samples of leachate were taken at six different times during the composting cycle for phytotoxicity tests. A germination index was calculated with a cress germination test (Zucconi *et al.*, 1981) performed with the collected leachate samples. Leachate from the first 10-12 days of composting was not included in comparing volumes for the two treatments, since most of this leachate was not a consequence of precipitation. Physico-chemical analyses were done for leachate samples taken at the beginning and at the end of the two cycles.

The temperature and moisture data were analyzed using a spatio-temporal or temporal repeated measures analysis of variance (ANOVAR) (Dutilleul, 1997) in order to check for interactions between time, depth and treatments. The second year data for leachate volume were submitted to an ANOVA after being log-transformed for normality.

requirements. Results from the cress germination tests were submitted to ANOVA, checking for treatment main effects at each dilution level within each sampling date.

RESULTS AND DISCUSSION

COMPOST TEMPERATURE

At the beginning of both cycles, temperatures above 55°C were recorded at 30 cm and 60 cm depths, in both CC and NC. CC stayed above 55°C slightly longer than NC (11-14 days vs. 8-10 days) in the two cycles. During the initial thermophilic period of the second cycle, temperatures above 70°C were recorded at the 60 cm depth for both CC and NC treatments. Such conditions are detrimental to the composting process. Microbial activity starts to decline at temperatures above 60°C because even thermophiles no longer have optimum conditions (Miller, 1993). The time required to perform the retrieval and insertion of pathogen samples (for the other aspect of the experiment) reduced the flexibility of the experiment in terms of timing the turning operations. That is why temperatures went above desirable levels before turning could be done.

A significant interaction of time and treatment was identified for the fall (days 15-65) and spring (days 158-189) periods of the first cycle (Figures 1-A and 1-B). This interaction reflected the difference in rates of cooling in the fall and the rates of warming in the spring between the two treatments. The temperatures recorded for the first 47 days (fall period) of the second cycle consistently showed a significant difference between treatments (Figure 2-A). The early spring temperatures for that cycle (first 20 days) also showed that CC was significantly warmer than NC (Figure 2-B). As in the first cycle, there was again an interaction of time with treatment for these same periods. The added protection from the covers prevented the compost mass from freezing down to the center like the non-covered one did, particularly in the second winter. The frozen NC delayed the compost turning operations of the second spring (1996) by nearly 20 days. Although larger size windrows may not be subject to similar freezing problems, this observation underlines the protective effect of the covers against cold conditions. During the summer period when the composts were reaching the maturation phase, the geotextile covers had no significant influence on compost temperatures in both cycles.

The more limited number of replicates in the first cycle did not allow us to obtain statistically significant differences in compost temperatures, with a few exceptions. However, the results showed a definite trend in the effect of the covers on this parameter. The presence of covers not only kept the compost warmer, but it also affected the rate at which the compost cooled in the fall, and warmed in spring time.

COMPOST MOISTURE

Moisture levels were close to 70% at the beginning of each composting cycle. There were no significant differences between treatments for the fall period in either year. In both years, CC did not remain as moist as NC as the cycle advanced. In the first cycle, CC was significantly drier over the period starting on day 174 (May 9) until the end of the cycle (August 14) with one exception (Figure 3-A). A similar moisture pattern was obtained in the second cycle, where CC showed moisture levels significantly lower than NC for the period starting on day 223 (May 21) to the end of the cycle (July 25) with one exception (Figure 3-B).

The factors that could have contributed to better drying of CC include a more prolonged active period in the fall with warmer temperatures in the compost, and the water-repellent action of the covers preventing precipitation water from permeating the compost. As Finstein *et al.* (1992) observed, the heat generated by the decomposition of organic materials vaporizes water, and the vaporization causes drying of the compost. Water vaporization is not impeded by the porous material of the geotextile covers. Drying of the compost is not desirable in the earlier stages of composting, but the time at which lower moisture was observed corresponded more or less to the maturation phase where actinomycetes and fungi are more predominant and more tolerant of lower moisture levels (Zucconi and deBertoldi, 1987). However, moisture levels below 40% will slow down microbial activity and result in a reduction in terms of diversity and numbers of organisms in the compost. Therefore low moisture levels should only be targeted for the maturation phase of a compost, so that the moisture level does not become a limiting factor in the composting process. This research did not provide the opportunity to verify the influence of the geotextile covers on moisture levels of a compost that would be started at a different time of the year, e.g. early summer start. However, it seems

that, given an adequate moisture level at the initial stage, a covered compost would remain moist enough for the active degradation of materials until the maturation phase.

PHYSICO-CHEMICAL ANALYSES OF THE COMPOST

Analyses of the finished composts indicated higher levels of nitrogen (N), phosphorus (P) and potassium (K) in CC for both cycles (Figure 4). The difference was statistically significant in the second cycle only. In both years, the micronutrient levels were all slightly higher in CC, with one exception (copper in the first cycle). The nitrate content of CC was higher than in NC at the end of both cycles and this difference was significant in the second year.

The apparent losses in N and K particularly, from NC demonstrated the influence of precipitation in affecting the nutrient content of a compost. Based on analyses done earlier (spring), it appears that a greater nutrient loss occurred earlier in the cycle before the compost material had reached a certain level of stabilization.

The relative drop in C/N ratio for each treatment showed similar patterns in both cycles. In the first one, after starting with a C/N of 46.3, the compost analyses in spring showed a C/N of 24.7 and 34.9 for CC and NC respectively; these ratios were further reduced to 13.7 and 16.6 by the end of the cycle. This illustrates the effect of the covers in advancing the maturation process of the compost. This fact was confirmed by the higher nitrate content of CC. The presence of nitrates is also an indicator of maturity. As the compost matures, the form of mineral N shifts from ammonia to nitrate (Mustin, 1987).

COMPOST LEACHATE

The volumes of leachate recovered in the first cycle showed more noticeable differences between the two treatments in the first part of the cycle (up to day 163), where CC yielded lower volumes of leachate. In the second cycle, the fall period leachate volumes were not significantly different although NC yielded more leachate. The results for the spring and the summer periods indicate a significantly lower ($P<0.01$) leachate volume from CC (Figure 5). The geotextile covers contributed to a reduction of 79.6% and 63.1% of the compost leachate volume for the spring and summer periods, respectively. Physico-chemical analyses performed on leachate at the beginning and at the end of the cycle did not show any consistent trend in mineral content. More frequent analyses would be required to monitor the nature and concentration of elements that may be present at any particular stage.

The apparent lack of response to the covered treatment in the late spring/summer period of the first year could be explained by the experimental setup. The special platform setup for collecting the leachate included an impermeable membrane that covered a given surface area. While the mass of composting materials was reduced in volume as the composting process advanced, the platform area remained the same. This resulted in having part of the platforms area not being occupied by compost, leaving wide edges exposed. Unless the geotextile covers were pulled tight outside the complete platform area, precipitation water diverted by the covers could still end up being collected as leachate after reaching the ground within the platform area. In the second year, more attention was given to prevent non-leachate water from reaching the collection system in both CC and NC, as the compost mass diminished. The geotextile covers edges were also pulled outside the platform collecting area as much as possible. Therefore, the results of the second cycle are more representative of the effect of the geotextile covers in reducing the occurrence of leachate. The leachate collected in the first stages of composting are somewhat difficult to evaluate, since part of it may be attributed to the water derived from the initial decomposition of the fresh organic materials. Liquid collected in the first 10-12 days of the composting cycle were not included in the statistical analyses since no major precipitation had occurred during that time. Nevertheless, the difference between treatments may have been attenuated in the remainder of the fall period due to the potential contribution of the organic materials to the leachate collected.

The phytotoxicity tests performed with the compost leachate gave variable results. In the first year, leachate from NC resulted in a lower germination index than that from the covered composts. The differences between the two treatments tended to become more significant at higher concentrations. CC leachate at 100% concentration reached the safe threshold (germination index >60) in the samples of May 1995 (day 183), while the NC leachate had reached that stage only at the last sampling date. In the second year, no significant differences were found between treatments at any given concentration or date of sampling. The threshold for absence of phytotoxicity was reached by the third sampling date (day 107) for both treatments. The difference in characteristics of the compost leachate between the

two cycles may reflect some of the modifications that were made after the first cycle. The platform base collecting the leachate was changed from a fine sand base to a two-layer base of gravel and coarse sand. This would have affected the flow and content of leachate going through. The nature of the carbonaceous material was also different: sawdust in the first cycle and wheat straw in the second cycle. However, the trends observed demonstrated that early leachate is highly phytotoxic unless diluted to 10-30%. It is likely that the substrates used and the rate of decomposition will play a role in determining the characteristics of leachate. It was not clear whether geotextile covers influenced the quality of leachate in that respect.

CONCLUSIONS

The application of geotextile covers on compost windrows presents several potential benefits. The protection offered by these covers can allow a producer to start a composting cycle in late summer or fall with the expectation that temperatures will be adequate in the windrows, despite cold air temperatures. The prolongation of warm temperatures within the compost in the fall and spring can result in an earlier maturation of the compost. A covered compost can present a lower moisture content as it nears maturation, making the handling of the material easier. However, the moisture content of a covered compost would have to be monitored to insure that it does not become too dry too soon in the composting cycle. The reduction in leachate volumes results in better retention of mineral elements in the compost, and at the same time, less risks of groundwater contamination. Even in situations where the leachate is recovered for treatment or disposal, the reduction in volumes to handle is also advantageous.

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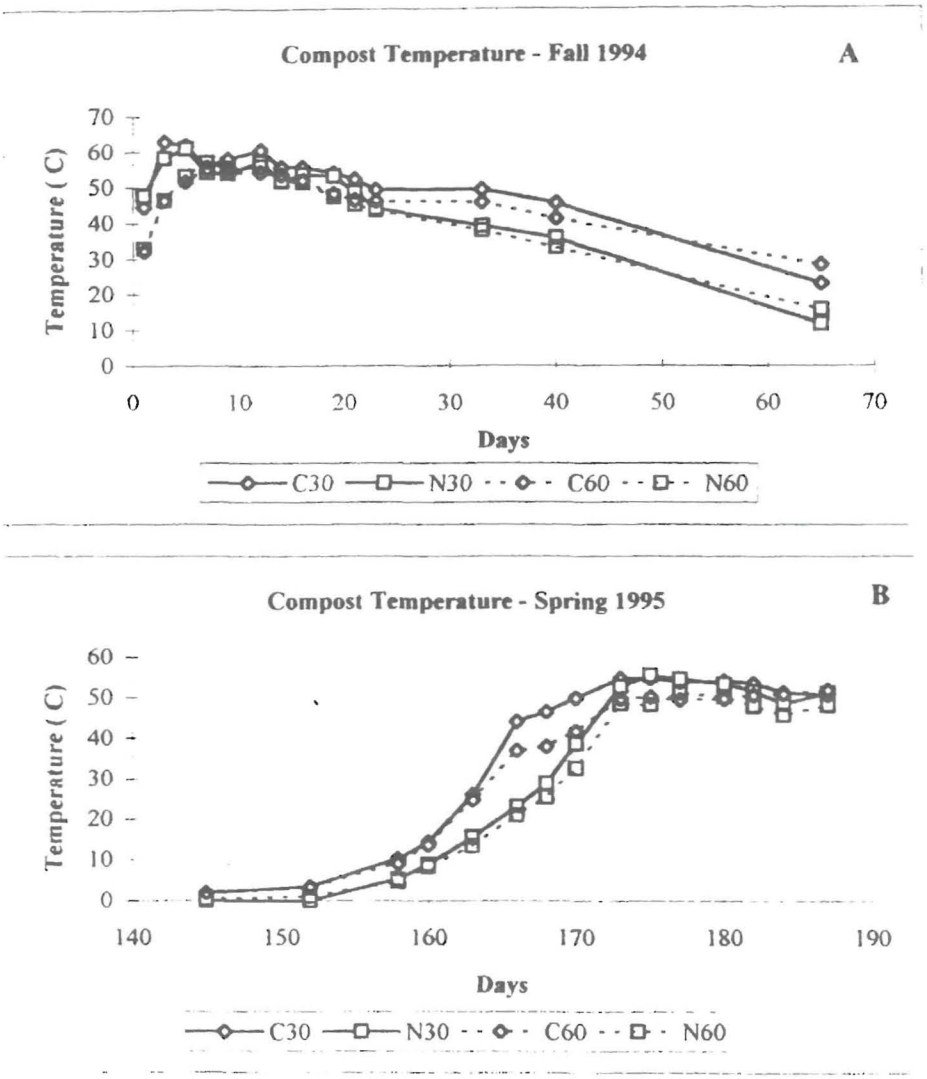


FIGURE 1 - 1994-1995 Effect of covering on the temperature of compost piles at depths of 30 and 60 cm Each point represents the mean temperature of 3 windrows Time intervals are as follows (A) 17.11.94 to 25.01.95, (B) 05.04.95 to 25.05.95 (C30 and C60 are for covered compost at 30 cm and 60 cm depths, N30 and N60 are for non-covered compost at 30 cm and 60 cm depths)

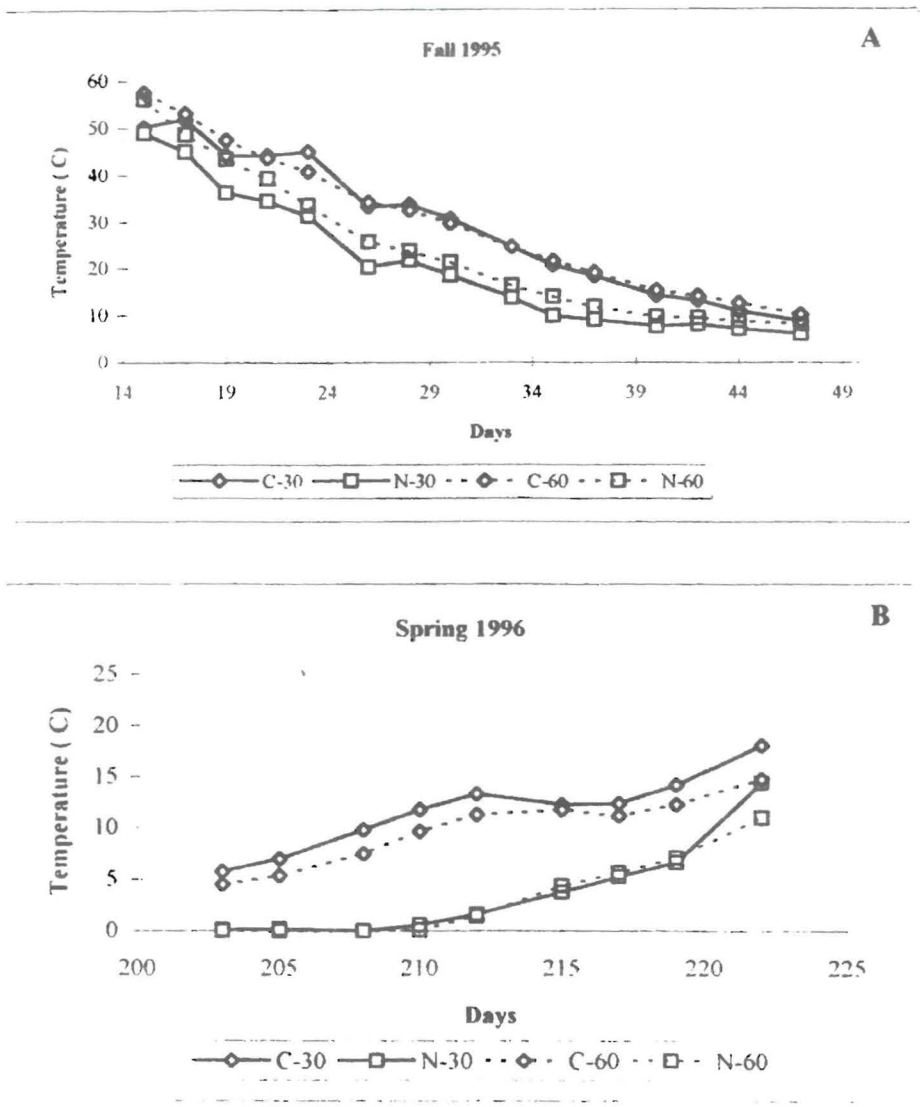


FIGURE 2 - 1995-1996 Effect of covering on the temperature of compost piles at depths of 30 and 60 cm. Each point represents the mean of six windrows. The time periods for each graph are as follows: (A) 25.10.95 to 29.11.95, (B) 28.04.96 to 23.05.96 (C30 and C60 are for the covered compost at depths of 30 and 60 cm; N30 and N60 are for the non-covered compost at 30 cm or 60 cm depths)

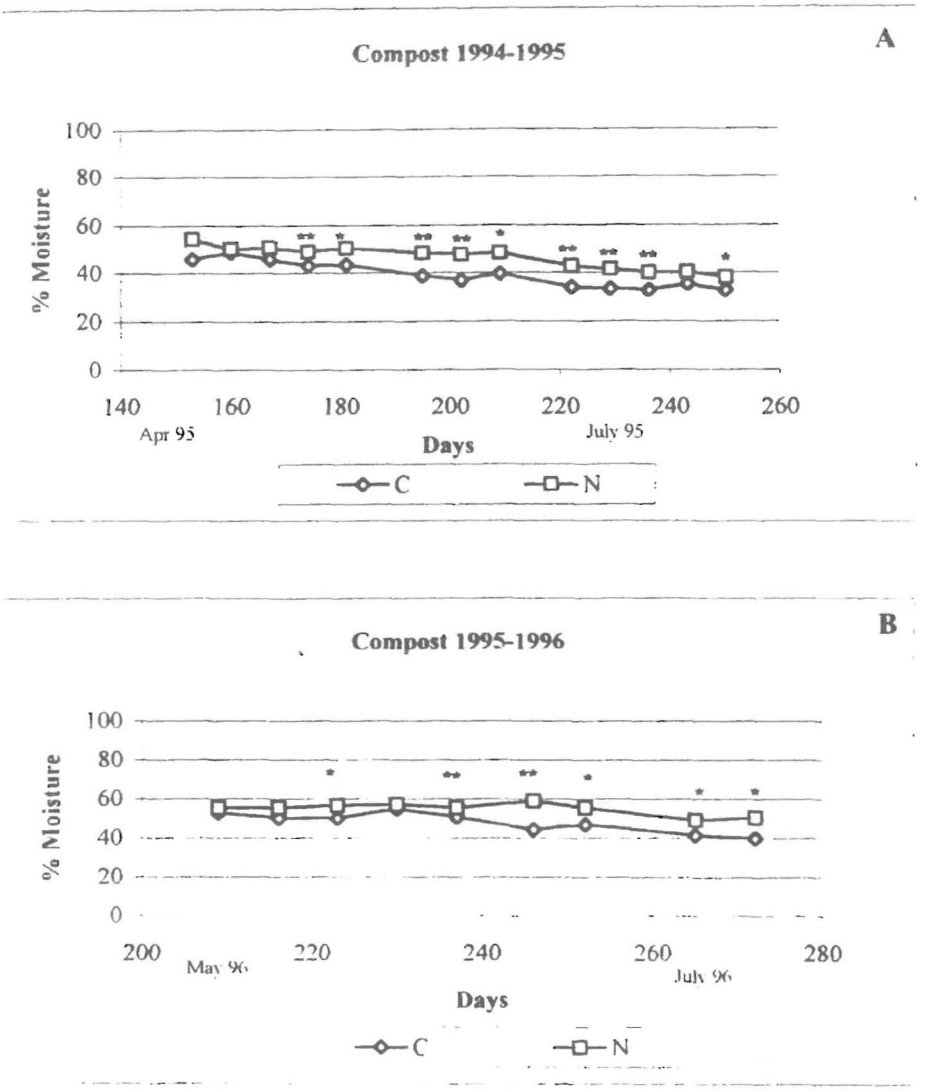


FIGURE 3 - Compost moisture content for the spring and summer seasons of (A) 1995 and (B) 1996. Data points represent the mean of 3 windrows in (A) and of 6 windrows in (B) for covered compost (C) and non-covered compost (N). Significant differences are indicated with * ($p < 0.05$) or with ** ($p < 0.01$) for each date where they occurred

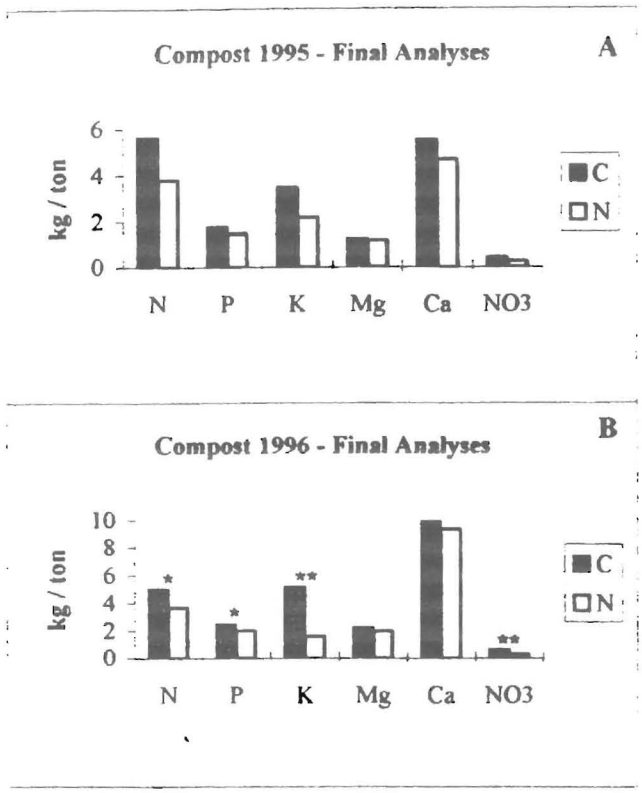


FIGURE 4 - Final physico-chemical analyses results for composts in covered windrows (C) and non-covered windrows (N) in 1995 (A) and 1996 (B). Data represent the mean of three windrows in (A) and of six windrows in (B). Significant differences are indicated with * ($P < 0.05$) or ** ($P < 0.01$).

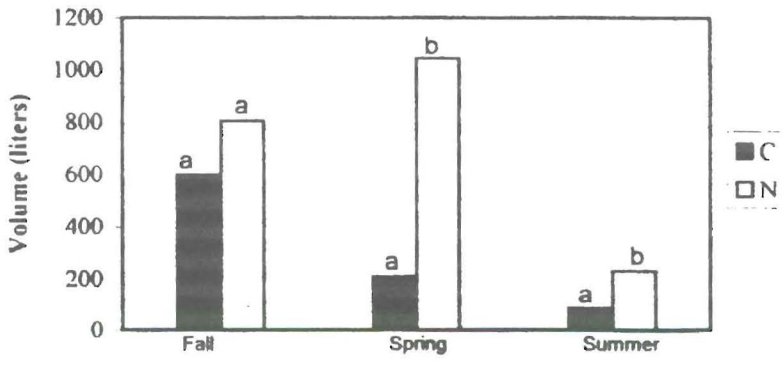


FIGURE 5 - Compost leachate volumes for the year 1995-1996 from covered compost (C) and non-covered compost (N). Data represent the mean of cumulative volumes per platform for each treatment in each of three seasons. Treatments with a different letter differed significantly ($P < 0.01$) within a given season.

Site Plan Checklist

Portland, Maine

Department of Planning and Urban Development, Planning Division and Planning Board

Riverside Recycling Facility Composting Operation
Project Name, Address of Project

Application Number

(The form is to be completed by the Applicant or Designated Representative)

Check Submitted		Required Information	Section 14-525 (b,c)
Applicant	Staff		
✓		Standard boundary survey (stamped by a registered surveyor, at a scale of not less than 1 inch to 100 feet and including:	1
✓		Name and address of applicant and name of proposed development	a
✓		* Scale and north points	b
✓		* Boundaries of the site	c
✓		* Total land area of site	d
✓		* Topography - existing and proposed (2 feet intervals or less)	e
✓		Plans based on the boundary survey including:	2
✓		* Existing soil conditions	a
✓		* Location of water courses, wetlands, marshes, rock outcroppings and wooded areas	b
✓		* Location, ground floor area and grade elevations of building and other structures existing and proposed, elevation drawings of exterior facades, and materials to be used	c
✓		* Approx location of buildings or other structures on parcels abutting the site and a zoning summary of applicable dimensional standards (example page 11 of packet)	d
✓		* Location of on-site waste receptacles	e
✓		* Public utilities	
✓		* Water and sewer mains	e
✓		* Culverts, drains, existing and proposed, showing size and directions of flows	e
✓		* Location and dimensions, and ownership of easements, public or private rights-of-way, both existing and proposed	f
✓		* Location and dimensions of on-site pedestrian and vehicular access ways	g
✓		* Parking areas	
✓		* Loading facilities	g
✓		* Design of ingress and egress of vehicles to and from the site onto public streets	g
✓		* Curb and sidewalks	g
✓		Landscape plan showing:	h
✓		* Location of existing vegetation and proposed vegetation	h
✓		* Type of vegetation	h
✓		* Quantity of plantings	h
✓		* Size of proposed landscaping	h
✓		* Existing areas to be preserved	h
✓		* Preservation measures to be employed	h
✓		* Details of planting and preservation specifications	h
✓		* Location and dimensions of all fencing and screening	i
✓		Location and intensity of outdoor lighting system	j
✓		Location of fire hydrants, existing and proposed (refer to Fire Department checklist – page 11)	k
✓		Written statements to include:	c
✓		* Description of proposed uses to be located on site	c1
✓		* Quantity and type of residential, if any	c1
✓		* Total land area of the site	c2
✓		* Total floor area, total disturbed area and ground coverage of each proposed Building and structure	c2
✓		* General summary of existing and proposed easements or other burdens	c3
✓		* Type, quantity and method of handling solid waste disposal	c4
✓		* Applicant's evaluation or evidence of availability of off-site public facilities, including sewer, water and streets (refer to the wastewater capacity application – page 12)	c5
✓		* Description of existing surface drainage and a proposed stormwater management plan or description of measures to control surface runoff.	c6

✓	____	* An estimate of the time period required for completion of the development	7
✓	____	* A list of all state and federal regulatory approvals to which the development may be subject to. the status of any pending applications, anticipated timeframe for obtaining such permits, or letters of non-jurisdiction.	8
✓	____	* Evidence of financial and technical capability to undertake and complete the development including a letter from a responsible financial institution stating that it has reviewed the planned development and would seriously consider financing it when approved.	
✓	____	* Evidence of applicant's right title or interest, including deeds, leases, purchase options or other documentation	
✓	____	* A description of any unusual natural areas, wildlife and fisheries habitats, or archaeological sites located on or near the site.	
✓	____	A jpeg or pdf of the proposed site plan, if available.	
____	____	Final sets of the approved plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.	

Note: Depending on the size and scope of the proposed development, the Planning Board or Planning Authority may request additional information, including (but not limited to).

- drainage patterns and facilities
- erosion and sedimentation controls to be used during construction
- a parking and/or traffic study
- a wind impact analysis
- an environmental impact study
- a sun shadow study
- a study of particulates and any other noxious emissions
- a noise study

APPLICATION FEE:

Check all reviews that apply. Payment may be made in cash or check to the City of Portland.

Major Development (more than 10,000 sq. ft.) ___ Under 50,000 sq. ft. ($500.00) ___ 50,000 - 100,000 sq. ft. ($1,000.00) ___ Parking Lots over 100 spaces ($1,000.00) ___ 100,000 - 200,000 sq. ft. ($2,000.00) ___ 200,000 - 300,000 sq. ft. ($3,000.00) ___ Over 300,000 sq ft. ($5,000.00) ___ After-the-fact Review ($1,000.00 plus applicable application fee)	**Plan Amendments** ___ Planning Staff Review ($250.00) ___ Planning Board Review ($500.00) **Subdivision** ___ Subdivision ($500.00) + amount of lots____ ($25.00 per lot) $_____ + (applicable Major site plan fee)
Minor Site Plan Review ___ Less than 10,000 sq. ft. ($400.00) ___ After-the-fact Review ($1,000.00 plus applicable application fee)	**Other Reviews** ___ Site Location of Development ($3,000.00) (except for residential projects which shall be $200.00 per lot_____) ___ Traffic Movement ($1,000.00) ___ Storm water Quality ($250.00) ___ Section 14-403 Review ($400.00 + $25.00 per lot) ___ Other_____

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submissions shall include seven (7) packets with folded plans containing the following materials:

1. Seven (7) full size site plans that must be folded
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
5. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 100 feet.
6. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
7. Copy of the checklist completed for the proposal listing the material contained in the submitted application.
8. One (1) set of plans reduced to 11 x 17.

Refer to the application checklist (page 9) for a detailed list of submittal requirements.

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14), which includes the Subdivision Ordinance (Section 14-491) and the Site Plan Ordinance (Section 14-521). Portland's Land Use Code is on the City's web site: www.portlandmaine.gov Copies of the ordinances may be purchased through the Planning Division.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit

This application is for site review only; a Performance Guarantee, Inspection Fee, Building Permit Application and associated fees will be required prior to construction.

Signature of Applicant:	Date:
	6/4/2010

Riverside Recycling Facility Composting Permit Application

Minor Site Plan Review Application

Project Name. Riverside Recycling Facility Composting Operation

Proposed Development Address. Riverside Recycling Facility, 910 Riverside St, Portland, ME 04103

Project Description.

The City of Portland (COP), in conjunction with Maine Waste Solutions (MWS), a joint venture between CPRC Management, LLC and Organic Alchemy Composting, LLC, will develop and operate a food waste composting facility at COP's Riverside Recycling Facility (RRF). Composting provides a sustainable solid waste management solution for Portland's commercial food waste generators. This new development at the RRF falls under COP's Minor Site Plan Review procedure.

The proposed project is a minor amendment to the site's historic and current uses, and MWS anticipates approval by the Maine Department of Environmental Protection (DEP) under license S-007542-CF-F-E. The RRF serves COP as a recycling, transfer, and processing facility. The RRF is managed on behalf of COP by CPRC Management, LLC and operated under DEP permit #S-21417-WH-A-N. The RRF's DEP permits enables composting of up to 30,000 yards of Type 1A yard waste annually, which will be used to effectively manage Type 1B food and 1C seafood residuals. MWS will operate the proposed composting facility on behalf of COP.

The RRF is located on 39 acres of City-owned land, which includes the Riverside Municipal Golf Course. The RRF is 12 acres in size and is completely enclosed by a fence that precludes unauthorized access. The proposed composting facility will encompass approximately three acres.

The RRF composting facility development and operations are compatible with existing site conditions and use, and do not create any additional burden on existing utilities or infrastructure:

- MWS anticipates Maine DEP approval of the composting facility under license S-007542-CF-F-E
- No permanent structures or additional disturbed ground coverage are proposed.
- There will be no change in the impervious surface area at the RRF
- There will be no change in the volume or rate of stormwater leaving the RRF site, and the existing stormwater infrastructure is adequate.
- There will be no significant changes in traffic volume or flow from Riverside Street from current operations at the RRF
- The operation poses no risk to surrounding natural areas or habitats.
- The facility will be greater than 500 feet from the nearest occupied building not owned by the applicant.
- Composting operations are carefully planned to be good neighbors and environmental stewards.

COP has successfully overseen waste management at 910 Riverside Street for more than 30 years. CPRC Management, Inc. has successfully managed operations and permit compliance at the RRF on behalf of COP since 2005. MWS, acting in partnership with COP, is committed to being a good neighbor and environmental steward, and has designed its operation to surpass Maine DEP regulations.

MWS is benefiting from a Maine Technology Institute Seed Grant obtained by Organic Alchemy Composting LLC, which provided resources and scientific analysis to develop the high-quality composting recipe and process described below The fully processed and cured compost will be screened in preparation for sale. The RRF will generate compost that will be marketed as a soil amendment to household gardeners, landscapers, garden centers, and farmers.

Chart / Block / Lot.
Contact Information.

APPLICANT
Name: City of Portland, Department of Public Services
Address: 55 Portland Street, Portland, Maine
Zip Code: 04101
Work #: (207) 874-8801
Fax #: N/A
E-mail: thm@portlandmaine.gov

BILLING ADDRESS
Name: City of Portland, Department of Public Services
Address: 55 Portland Street, Portland, Maine
Zip Code: 04101
Work #: (207) 874-8801
Fax #: N/A
E-mail: thm@portlandmaine.gov

PROPERTY OWNER
Name: City of Portland
Address: 389 Congress Street, Portland, Maine
Zip Code: 04101
Work #: (207) 874-8801
Fax #: N/A
E-mail: thm@portlandmaine.gov

AGENT/REPRESENTATIVE
Name: Troy Moon
Address: 55 Portland Street, Portland, Maine
Zip Code: 04101
Work #: (207) 874-8801
Fax #: N/A
E-mail: thm@portlandmaine.gov

ENGINEER
Name: St. Germain & Associates
Address: 846 Main Street, Westbrook, Maine
Zip Code: 04092
Work #: (207) 591-7000
Fax #: (207) 591-7329
E-mail: info@stgermain.com

ARCHITECT
Name: N/A
Address:
Zip Code:
Work #:
Fax #:
E-mail:

CONSULTANT
Name: N/A
Address:
Zip Code:
Work #:
Cell #:
Fax #:
E-mail:

SURVEYOR
Name: N/A
Address:
Zip Code:
Work #:
Cell #:
Fax #:
E-mail:

ATTORNEY
Name: N/A
Address:
Zip Code:
Work #:
Fax #:
E-mail:

Project Data.

Total Site Area: 522,720 sq ft (12 acres)

Proposed Total Disturbed Area of the Site: +/- 0 sq feet

IMPERVIOUS SURFACE AREA
Proposed Total Paved Area: +/- 4,000 sq ft
Existing Total Impervious Area. 522,720 sq ft
Proposed Total Impervious Area. 522,720 sq ft
Proposed Impervious Net Change: 0 sq ft

BUILDING AREA
Existing Building Footprint: 7586 sq ft
Proposed Building Footprint: There are no new permanent structures proposed.
Proposed Building Footprint Net Change: 0
Existing Total Building Floor Area: 12586 sq ft

ZONING
Existing: IM (Impact Moderate)
Proposed, if applicable: No new zoning proposed.

LAND USE
Existing: Solid waste management
Proposed: Solid waste management

RESIDENTIAL (IF APPLICABLE)
Not applicable. No residential units are proposed.

PARKING SPACES
Existing Number of Parking Spaces. N/A
Proposed Number of Parking Spaces: N/A
Number of Handicapped Parking Spaces: N/A
Proposed Total Number of Parking Spaces: N/A

BICYCLE PARKING SPACES
Existing Number of Bicycle Parking Spaces. N/A
Proposed Number of Bicycle Parking Spaces: N/A
Total Bicycle Parking Spaces: N/A

ESTIMATED COST OF PROJECT

The City of Portland's Department of Public Services, as the applicant, respectfully requests a waiver on any and all fees related to this application due to the multiple benefits this initiative provides the City in directly addressing key municipal and state solid waste management goals.

Site Plan Checklist.

Project Name. Riverside Recycling Facility Composting Operation

Project Address. Riverside Recycling Facility, 910 Riverside Street, Portland, Maine 04103

Application Number.

Required Information: *See RRF Site Plan, Attachment I, for the following information.*

1. **Standard boundary survey**
2. **Name and address of the applicant and name of the proposed development**
   a. Scale and north points;
   b. Boundaries of the site;
   c. Total land area of the site;
   d. Topography
3. **Plans based on the boundary survey, including:**
   a. Existing soil conditions
   b. Location of watercourses, wetlands, rock outcroppings and wooded areas within the project site, etc
   c. Location, ground floor area and grade elevations of building and other structures existing in the location
   d. Approximate location of buildings or other structures on parcels abutting the site
   e. Location of on-site waste receptacles
   f. Public utilities
   g. Water and sewer mains
   h. Culverts, drains, existing and proposed, showing size and directions of flow
   i. Location and dimensions of on-site pedestrian and vehicular access ways
   j. Parking areas
   k. Loading facilities
   l. Design of ingress and egress of vehicles to and from the site onto public streets
   m. Curb and sidewalks
4. **Landscape Plan.** The described composting operations will be integrated into the RRF's existing industrial operation. No watercourses, wetlands, rock outcroppings, wooded areas, are within the project area and no sensitive natural resources are impacted by the proposed minor site amendment.
5. **Location and intensity of outdoor lighting system.** No new outdoor lighting is required or proposed.
6. **Location of fire hydrants, existing and proposed.** No new fire hydrants are proposed for this project. Two existing hydrants accessible to the RRF are located next to the entrance and across from the commercial truck exit on Riverside Street.

Written statements to include:

1. **Description of proposed uses to be located on site.**

MWS will use a carefully-planned and proven composting process that advances recycling and sustainable waste management in Greater Portland by transforming food residuals to a valuable soil amendment. MWS has designed a two-stage windrow management system for the RRF facility to be a good neighbor and environmental steward. Stage 1 will take place inside an approximately 42'x 96' temporary fabric structure, which protects new compost feedstocks from the prevailing winds and any

precipitation *(See Attachment IV).* The food residuals will be received, ground for optimal sizing of material and immediately mixed inside the fabric structure with Type 1A leaves and Type 1A horse bedding and other appropriate amendments in a well-designed compost recipe.

Stage 2 will take place on a 210' x 260' gravel composting pad, located adjacent to the fabric structure. A small bucket loader and/or other appropriate equipment will be used to mix, move, and manage the compost materials. Active composting materials will be covered at all times with *Compostex* windrow covers, which eliminate leachate runoff and nuisance odors. Following the active thermophyllic phase, the fully composted product will be allowed to cure for three to six months. A bucket loader or other appropriate equipment will be used to mix, move, and manage the compost materials. The fully cured compost will be screened in preparation for sale. The end product will be marketed as a soil amendment to household gardeners, landscapers, garden centers, and farmers.

Consistent with the State of Maine's Solid Waste Management Rules (SWM) Chapter 410, Section 6.B., MWS will compost appropriate amounts of Type 1B food waste and limited amounts of Type 1C seafood waste, which will be amended with Type 1A leaves, Type 1A horse bedding and other appropriate amendment ("Amendment") in a well-designed, analysis-driven compost recipe developed in partnership with a highly-qualified composting consultant.

MWS has carefully planned and budgeted for four compost processing steps that will preempt environmental nuisances, including the mitigation of odors and leachate runoff: **1)** High-Quality Recipe Development, **2)** Immediate mixing of food waste residuals with appropriate amendment, **3)** Initial composting under cover in a sheltered environment, and **4)** Use of windrow covers for all composting residuals.

1 **High-Quality Recipe Development**. The compost recipe used at the RRF is being developed in advance by Organic Alchemy Composting, LLC in partnership with a highly qualified consultant with funding provided by the Maine Technology Institute seed grant. A well-planned composting recipe is important because it ensures that MWS' process begins with well-balanced ratios of feedstocks to strike the optimum balance of carbon and nitrogen, moisture, pH, and aeration. MWS' recipe will eliminate potential nuisances.

2. **Immediate mixing of food waste residuals with appropriate amendment**. The food and seafood residuals will be immediately ground and mixed on an asphalt pad upon arrival at MWS' facility. Immediate mixing of food waste with carbonaceous amendment effectively absorbs excess moisture and facilitates decomposition in a controlled and well-managed natural process. Immediate mixing is important because it eliminates potential nuisances associated with open and uncovered decomposition of food waste.

3. **Initial composting under cover in a sheltered environment**. The initial phase of MWS' composting process will be managed under cover in a temporary fabric structure for approximately 10 days, or a period otherwise deemed appropriate by the operator. The fabric structure will ensure that the composting food residuals are sheltered from the prevailing winds and precipitation until the food waste fully breaks down and is absorbed in the dry, carbonaceous amendment. Initial composting in a sheltered environment is important because it protects the mixed composting residuals from wind and precipitation during the critical phase of initial decomposition.

4. **Use of compost windrow covers for all composting and curing residuals**. MWS will use *Compostex* brand windrow covers to shelter its compost piles. Compost covers are waterproof and will protect MWS' compost from unwanted moisture. Compost covers also

help to filter unwanted odors that can create nuisances or attract vectors. Using windrow covers is an important step to preempt nuisances with composting windrows.

2. **Quantity and type of residential, if any.** Not applicable. No residential units are proposed.

3. **Total land area of the site.**

   The RRF is located on 39 acres of City-owned land, and is 12 acres in size. The active composting facility will be +/- three acres in size.

4. **Total floor area, total disturbed area and ground coverage of each proposed Building and structure.**

   No permanent structures or additional disturbed ground coverage are proposed. The new composting operation will be incorporated into the existing, permitted uses at the RRF site. An approximately 42'x 96' x 17' temporary fabric structure that can be easily disassembled will house the initial stage of the composting process. Similar fabric structures are commonly used by the City of Portland's Public Services Department at 55 Portland Street. (*See attachment IV*)

5. **General summary of existing and proposed easements or other burdens.**

   There are no existing or proposed easements or other burdens on the composting site.

6. **Type, quantity and method of handling solid waste disposal.**

   MWS will expand the suite of recycling opportunities for Portland's private businesses and public institutions by accepting and effectively managing organic wastes for which there currently is no recycling option. Unwanted waste materials will be minimal and include non-compostables like plastic packaging, tin cans, and silverware. Non-compostable wastes that are inadvertently accepted by MWS will be aggregated in a designated area of the composting facility and transported to a Maine DEP licensed solid waste disposal facility (i.e. *Ecomaine, Crossroads Landfill, Juniper Ridge Landfill, et al),* for ultimate disposal.

7. **Applicant's evaluation or evidence of availability of off-site public facilities, including sewer, water and streets (refer to the wastewater capacity application – page 12).**

   Consistent with the RRF's DEP permit, COP has provided for adequate utilities at the RRF, and the utilities have no adverse effects on the existing or proposed utilities in the municipality or areas served by those utilities. None of the described activities will cause an undue burden on existing utilities. Utilities include adequate water and sewer access.

   The RRF is in compliance with traffic standards identified in SWM Chapter 400, Section 4.D (2).

   - Movement: There will be no significant changes in traffic from past operations at the RRF. Addition of food waste composting at the RRF will add no more than 15 additional vehicle trips per day. A paved road accesses the RRF from Riverside Street. A gravel road will be added to provide access from the existing facilities to the composting facility.

   - Control: The only access to the RRF runs through the gated entrance, and the facility is completely enclosed by a fence. The RRF gates are closed and locked outside hours of operation. Material will be only accepted consistent with an appropriate operations manual or with prior notification to the applicant.

8. **Description of existing surface drainage and a proposed stormwater management plan or description of measures to control surface runoff.**

The RRF has adequate stormwater and erosion and sedimentation controls in compliance with the standards identified in SWM Chapter 400, Sections 4.G and 4.J. There will be no change in runoff quantity or rate from the existing to the proposed conditions. The existing storm water conveyance system and erosion control measures are adequate to handle the site runoff.

The site is occupied by a compacted gravel pad used to manage and store processed construction and demolition (C&D) debris. The site is in the middle of the existing RRF. Runoff from the composting site flows via sheet flow towards the rear of the facility, down a slope to drainage ways and through the drainage to the Presumpscot River. The drainage ways cross the city-owned Riverside municipal golf course. As an extra contingency toward managing stormwater runoff from the pad, a vegetated soil filter, as described below, will be located at the NW corner of the composting site.

The only change to the facility will be the addition of the fabric building. Storm water runoff will flow as it does in the existing condition to the slope at the rear of the site. The quantity and rate of runoff will not be affected by the proposed composting site. The proposed fabric building will shed runoff in the same direction and at the same rate as the existing gravel pad. Erosion and sedimentation control best management practices are used during normal daily operations and will be utilized to control erosion during and after construction.

- Runoff Filtration. MWS will take the extra step of constructing at the NW corner of the pad a 25' x 25' vegetated underdrained soil filter for additional control of stormwater runoff leaving the composting site. Consistent with established best management practices, the filter system will consist of an 18" soil media filter topped by an 18" vegetated depression consisting of appropriate native plantings. The filter will be constructed of a mixture of loam, sand, and organic matter (bark mulch or a suitable substitute). The soil filter will retain stormwater for a period of 24 to 48 hours before slowly discharging the decontaminated water. MWS will periodically monitor the effectiveness of this system to determine if additional adaptive management measures are necessary

- Tote Washing Station. As part of regular operations, food waste collection bins will be periodically rinsed in a designated area of the RRF composting facility. The tote washing station will include a 1000 gallon capacity holding tank with a sump-pump and power washer. Water used during the cleaning process will be diverted to the holding tank with any solids sufficiently filtered. Water from the tank will be recycled in a closed loop system using the sump pump to wash bins as needed. Additionally, water from the holding tank may be applied to active piles to increase moisture content as needed for the active composting phase of material production. The tote washing station will be regularly maintained and kept free of snow during winter months to ensure leachate control and proper operation. *(See Attachment V).*

9. **An estimate of the time period required for completion of the development.**

MWS anticipates completing the proposed development within two months of commencing site work. Prior to completion, the following will be installed: 1) gravel road providing access from the existing facilities to the composting facility; 2) three-acre gravel pad built in accordance with

state regulations; 3) an approximately 42'X96' asphalt mixing pad; and 4) a temporary fabric structure (to be placed on asphalt pad).

10. **A list of all state and federal regulatory approvals to which the development may be subject to, the status of any pending applications, anticipated timeframe for obtaining such permits, or letters of non-jurisdiction.**

    COP anticipates obtaining a permit from the Maine Department of Environmental Protection under Section 6, Chapter 410 – State of Maine Solid Waste Management Rules – to conduct the described activities. COP awaits no other permits or approvals for this amended use.

11. **Evidence of financial and technical capability to undertake and complete the development including a letter from a responsible financial institution stating that it has reviewed the planned development and would seriously consider financing it when approved.**

    The applicant and/or its designee have adequate resources to successfully complete the proposed minor development. The City of Portland Public Services Department has successfully overseen waste management at 910 Riverside Street for over 30 years. CPRC Management, Inc. has successfully managed operations and permit compliance at the RRF on behalf of COP since 2005. Facility managers for MWS Greg Williams and Brett Richardson successfully completed the Maine Compost School in June 2009 and received Certificates of Technical Ability, which qualifies them to develop and operate a composting facility in the State of Maine. A nationally-renowned compost consultant has been retained to provide expert services for feedstock analysis, compost recipe development, and process refinements.

12. **Evidence of applicant's right title or interest, including deeds, leases, purchase options or other documentation.** *See Attachment III.*

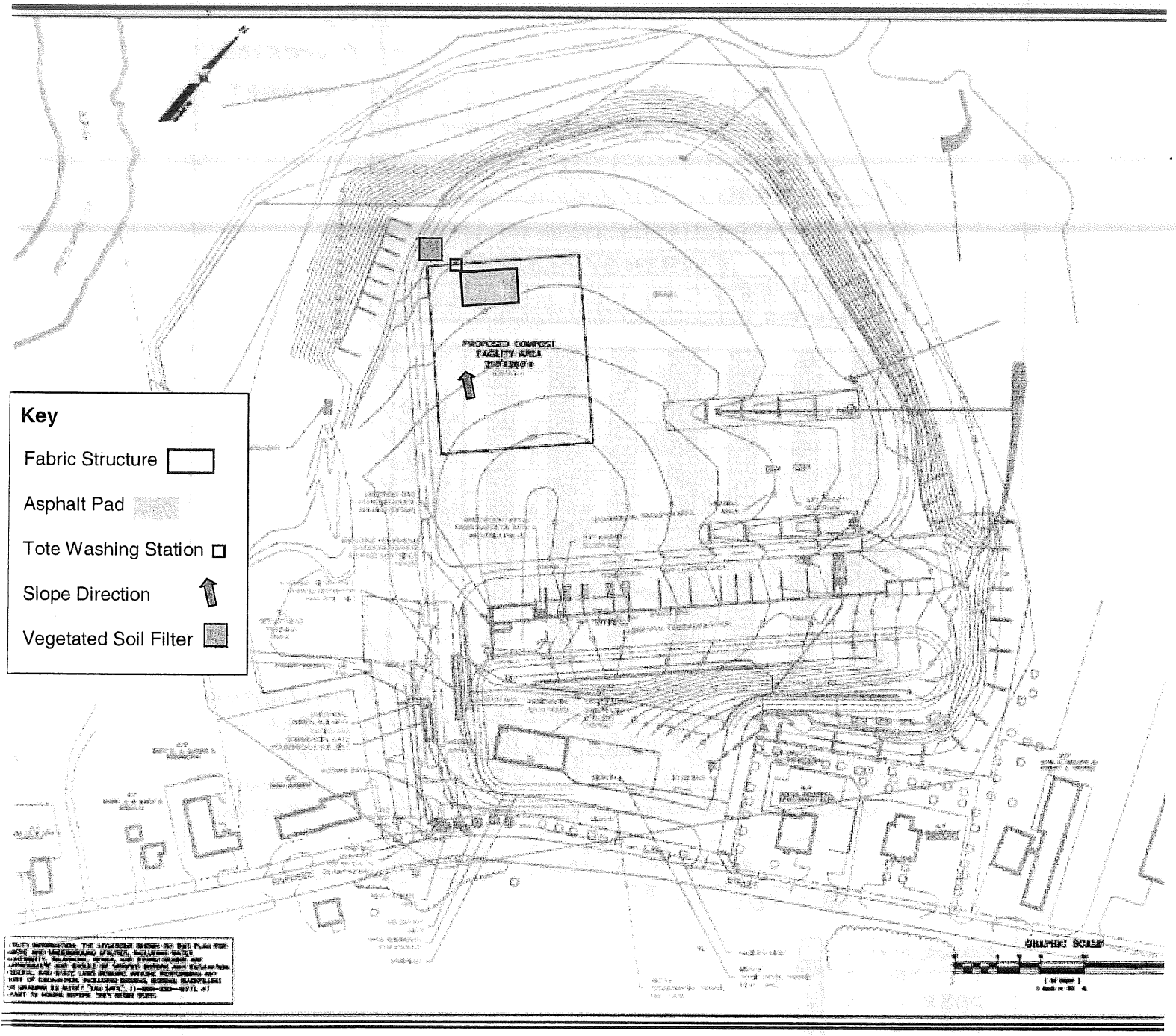
13. **A description of any unusual natural areas, wildlife and fisheries habitats, or archaeological sites located on or near the site.**

    Consistent with current operations at the RRF, the composting facility will not have an unreasonably adverse effect on other natural resources in the municipality or in neighboring municipalities.

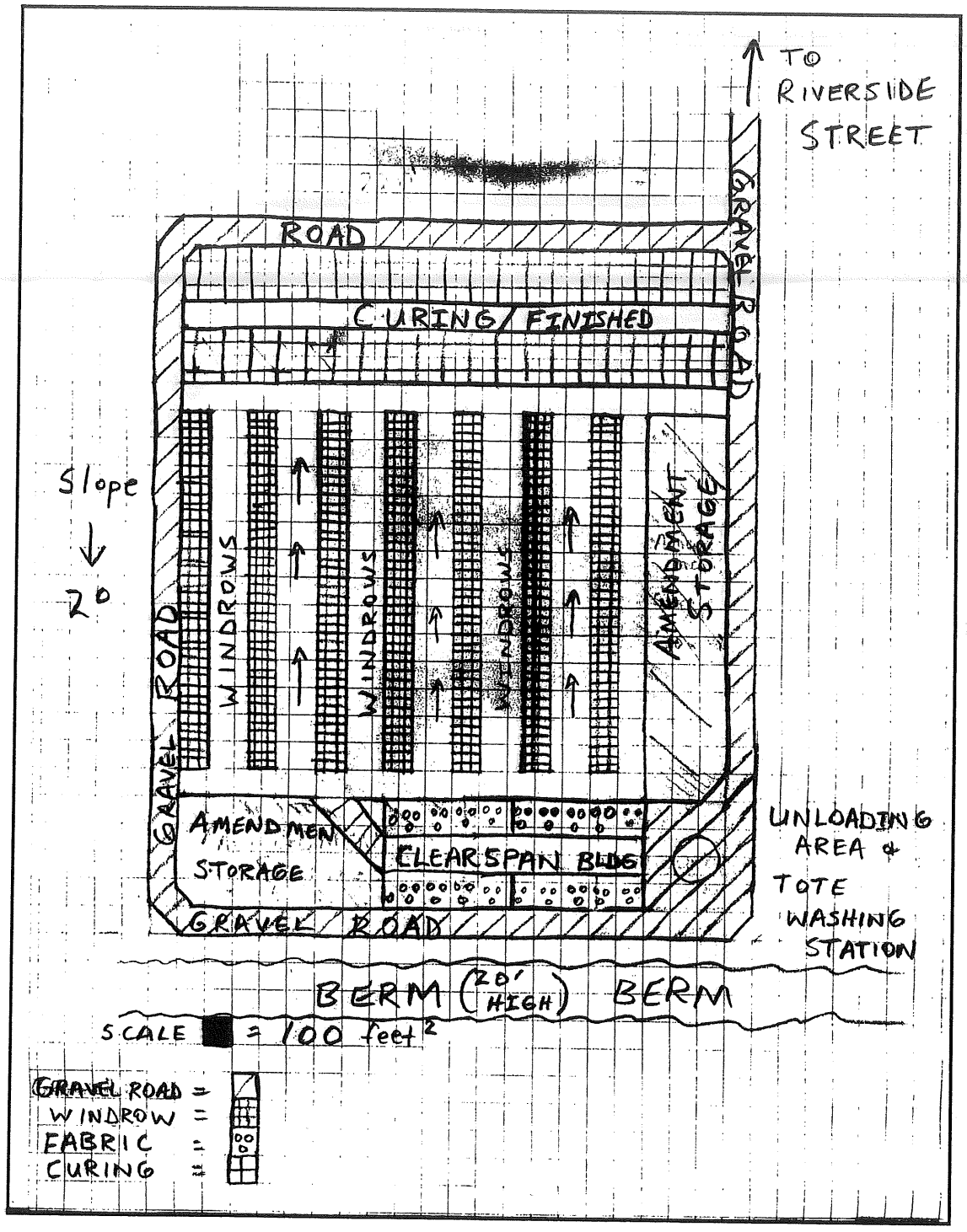
14. **A jpeg or pdf of the proposed site plan, if available.**

15. **Final sets of the approved plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*,dwg), release AutoCAD 2005 or greater.**

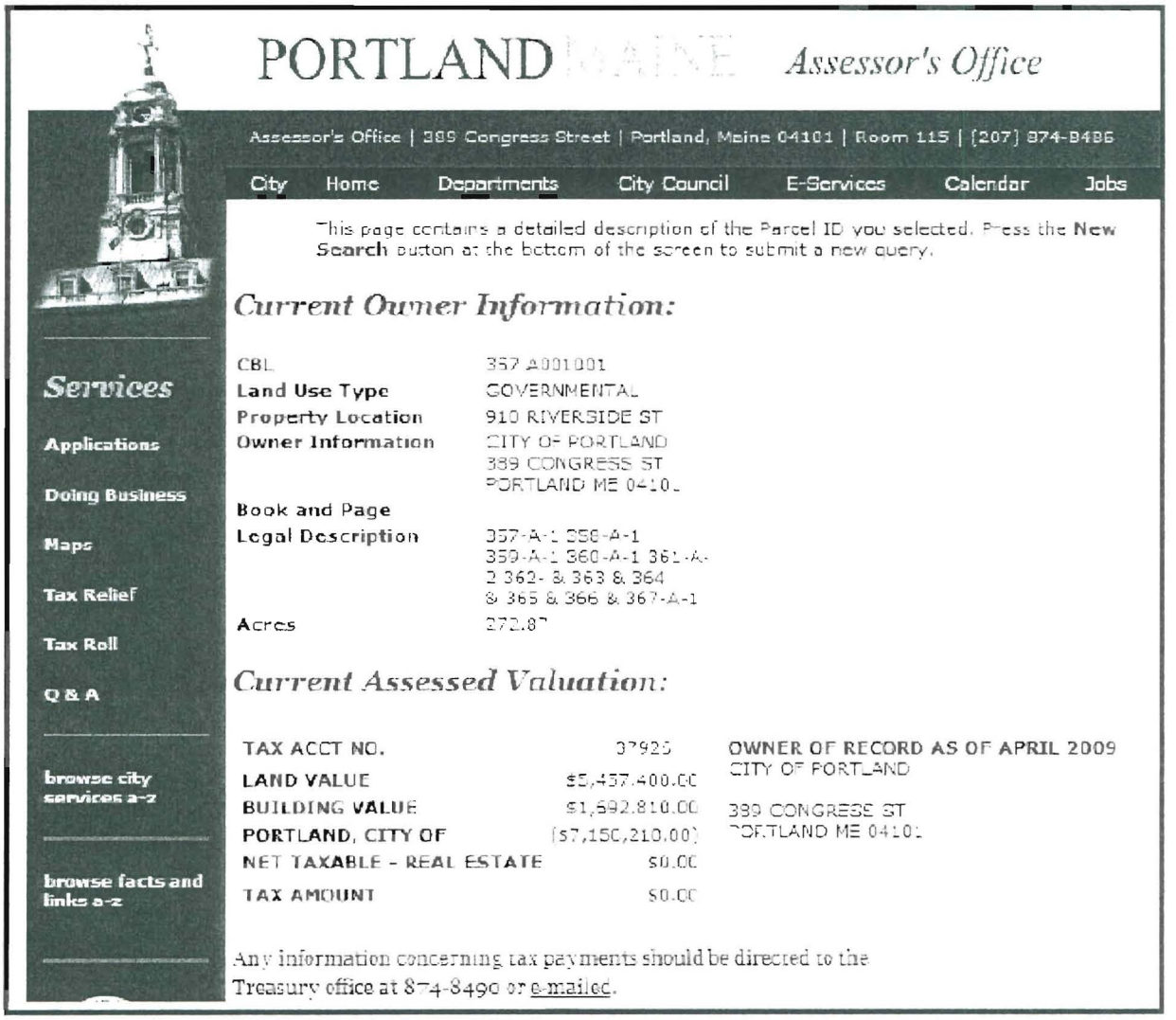
Attachment I: RRF Site Plan



Appendix II. Composting Operation Site Sketch



Attachment III: Evidence of applicant's right title or interest, including deeds, leases, purchase options or other documentation.



PORTLAND MAINE *Assessor's Office*

Assessor's Office | 389 Congress Street | Portland, Maine 04101 | Room 115 | (207) 874-8486

City Home Departments City Council E-Services Calendar Jobs

Services

Applications

Doing Business

Maps

Tax Relief

Tax Roll

Q & A

browse city services a-z

browse facts and links a-z

This page contains a detailed description of the Parcel ID you selected. Press the **New Search** button at the bottom of the screen to submit a new query.

Current Owner Information:

CBL	357 A001001
Land Use Type	GOVERNMENTAL
Property Location	910 RIVERSIDE ST
Owner Information	CITY OF PORTLAND 389 CONGRESS ST PORTLAND ME 04101
Book and Page	
Legal Description	357-A-1 358-A-1 359-A-1 360-A-1 361-A- 2 362- & 363 & 364 & 365 & 366 & 367-A-1
Acres	272.87

Current Assessed Valuation:

TAX ACCT NO.	37925
LAND VALUE	$5,457,400.00
BUILDING VALUE	$1,692,810.00
PORTLAND, CITY OF	($7,150,210.00)
NET TAXABLE - REAL ESTATE	$0.00
TAX AMOUNT	$0.00

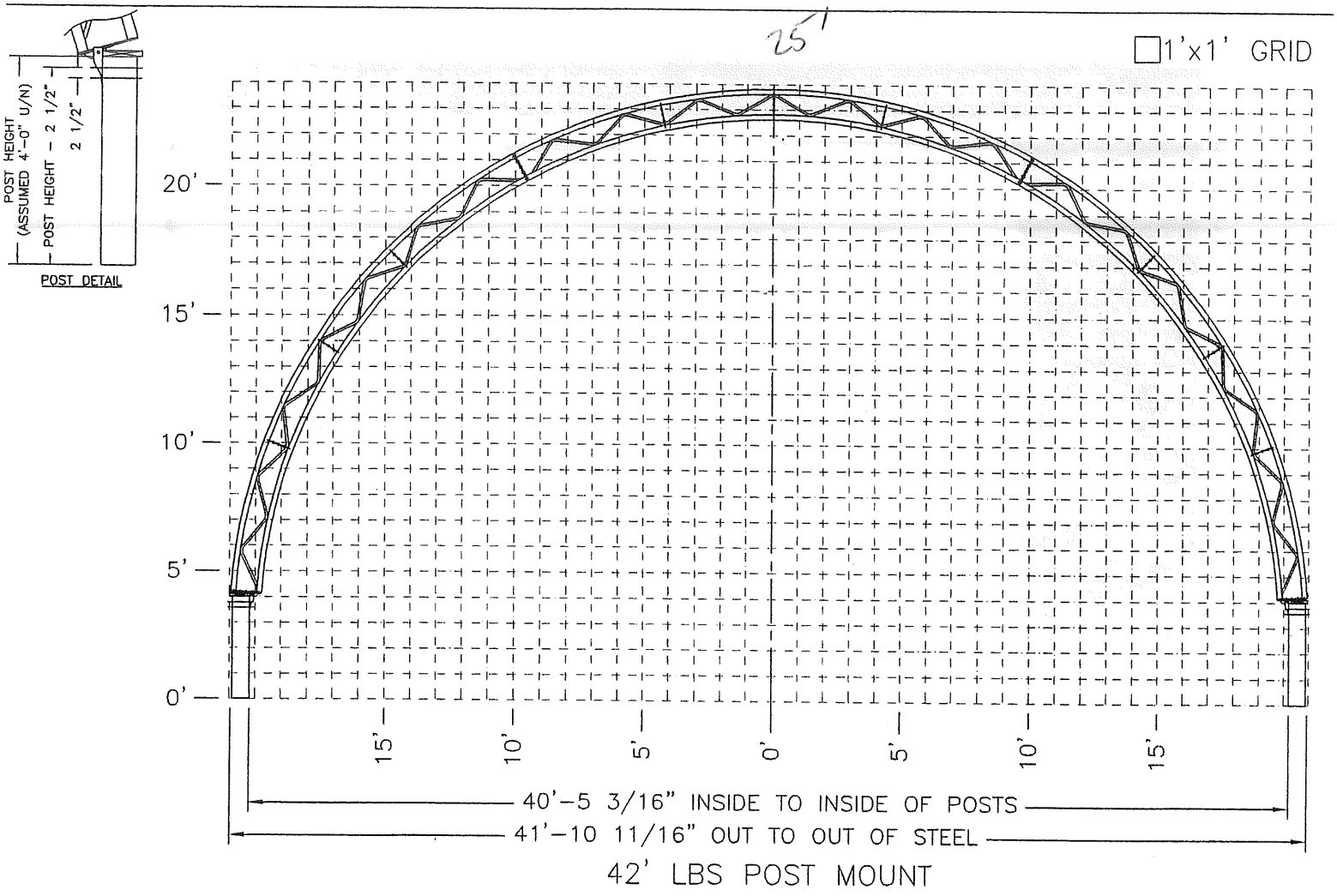
OWNER OF RECORD AS OF APRIL 2009
CITY OF PORTLAND

389 CONGRESS ST
PORTLAND ME 04101

Any information concerning tax payments should be directed to the Treasury office at 874-8490 or e-mailed.

Attachment IV. Plan Views of the Structures and Utilities.

Fabric Structure



REV.	DESCRIPTION	BY	DATE
2	REVISED POST DETAIL	AB	08 MAR 04
1	RELEASED	AB	25 NOV 03

DEALER:

CUSTOMER:

PROJECT:

PROJECT ID: ORDER ID:

DRAWN BY: AB DATE: 25 NOV 03

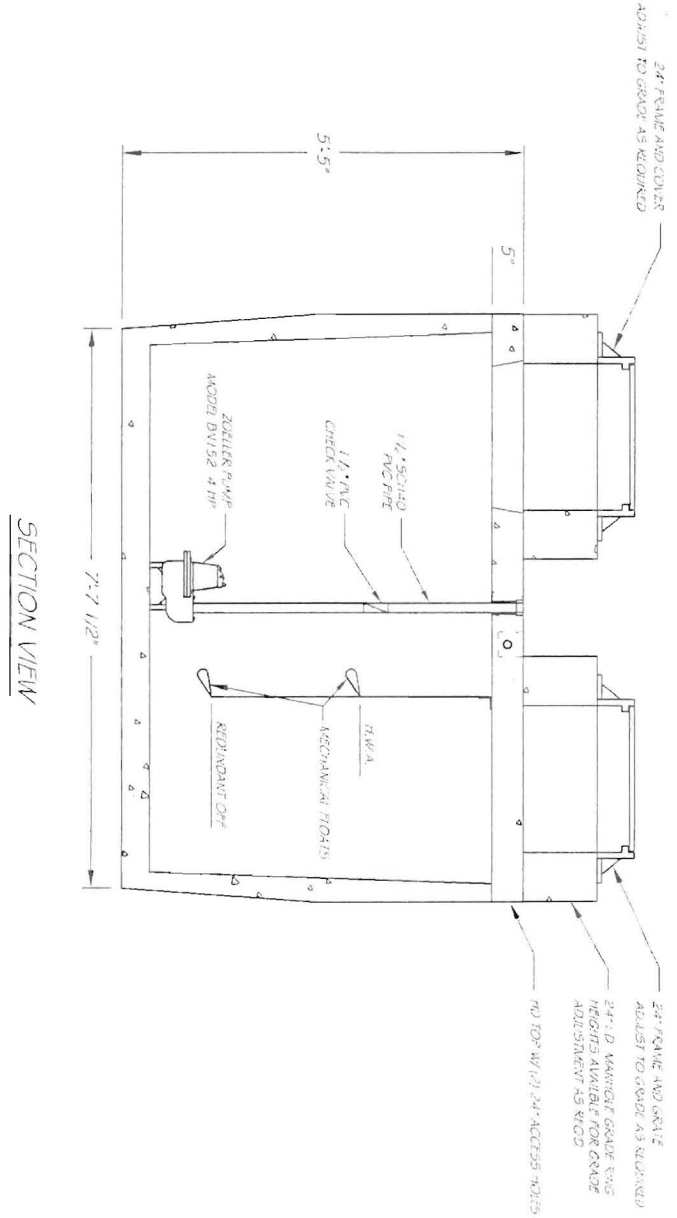
CHECKED BY: DATE:

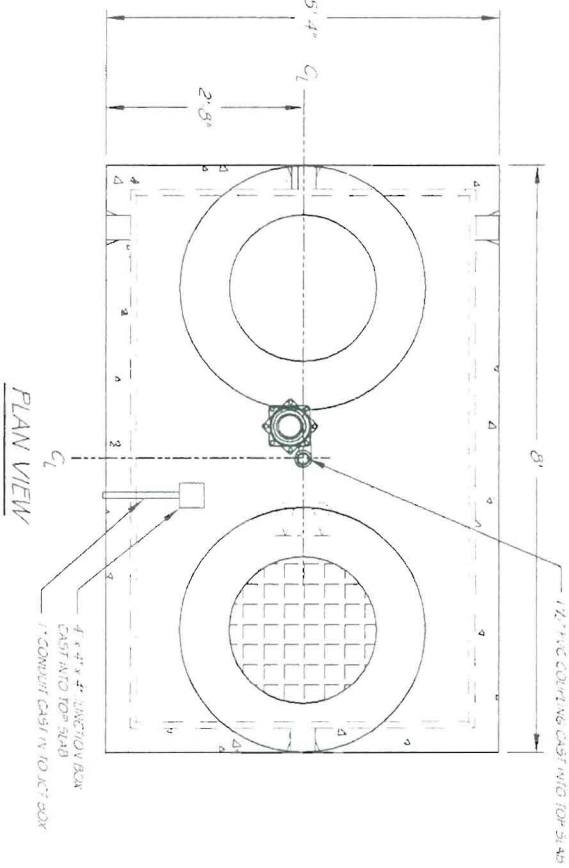
SCALE: NTS

COVER-ALL BUILDING SYSTEMS
3015 WANUSKEWIN RD, SASKATOON, SASKATCHEWAN,
PH: 1-306-657-2888 FAX: 1-306-
WEBSITE: www.coverall.net

TITLE: LBS12 42PM GRID PROFILE SHEET

Attachment V. Tote Washing Station





846 Main St., Suite 3
Westbrook, Maine 04092
Telephone 207-591-7000
Facsimile 207-591-7329
info@stgermain.com

ST. GERMAIN & ASSOCIATES, INC.

February 25, 2010

Jim Hiltner
CPRC Group
70 Pleasant Hill Road
Scarborough, Maine 04074

Re: Storm Water Management Review
Food Waste Composting Facility
Riverside Recycling Facility
St.Germain Project No.: 2766.1

Dear Jim,

St.Germain & Associates, Inc. (St.Germain) has prepared this letter report summarizing proposed storm water management measures for the City of Portland's proposed Food Waste Composting Facility located at the Riverside Recycling Facility on Riverside Street in Portland. This report summarizes our review of existing and proposed conditions and recommendations.

Project

The proposed project consists of constructing a food Waste Composting Facility on an existing gravel pad (composting site) at the Riverside Recycling Facility. The composting site will include a 4,000 +/- square foot clear span building and a gravel composting pad measuring 200 feet by 250 feet.

Location

The Riverside Recycling Facility is located on the northwest side of the Riverside Street and is abutted by commercial property to the north and South, Riverside Street to the east and a golf course to the west.

Existing Conditions

The site is occupied by a compacted gravel pad used to manage and store processed construction and demolition (C&D) debris. The site is in the middle of the existing Riverside Recycling Facility. Run off from the composting site flows via sheet flow towards the rear of the facility, down a slope to drainage ways and through the drainage to the Presumpscot River. The drainage ways cross a golf course that is also owned by the City of Portland.

Proposed Conditions

The only change to the facility will be the addition of the clear span building. Storm water runoff will flow as it does in the existing condition to the slope at the rear of the site and on to the Presumpscot River

Summary of Storm Water Runoff

The quantity and rate of runoff should not be affected by the proposed composting site. The proposed building and gravel pad are expected to shed runoff in the same direction and at the same rate as the existing gravel pad.

Erosion and Sedimentation Control

Erosion and sedimentation control best management practices are used during normal daily operations and will be utilized to control erosion during and after construction.

Conclusion

There will be no change in runoff quantity or rate from the existing to the proposed conditions. The existing storm water conveyance system and erosion control measures appear adequate to handle the site runoff.

Sincerely,

ST.GERMAIN & ASSOCIATES, INC.

Peter Dalfonso, PE
Senior Project Engineer

Marge Schmuckal - Fwd: RRF Composting Project- f/u to yesterday' s meeting

From: Jean Fraser
To: Errico, Thomas; Goyette, Dan; Margolis-Pineo, David; Schmuckal, Marge...
Date: 6/25/2010 11:47 AM
Subject: Fwd: RRF Composting Project- f/u to yesterday' s meeting
CC: Alex Jaegerman ; Barhydt, Barbara; Farmer, Michael; Gautreau, Keith
Attachments: CityofPortland_DEP_Permit_Application_Final.pdf; MWS_Ops_Manual_6_2.pdf

To all site plan reviewers:

On June 22 I met with the applicants but Troy Moon could not be there as he is away on business until July 6th; I followed up with the attached e-mail (copied to Troy Moon and Jim Hiltner). Overall my impression is that the project has been thought through and appears to include best practice based on similar operations around the country. However, there are inherent impacts of such an operation (and it does depend on great care being taken to follow BMPs) and they appreciate we need have clear documentation on the review issues and the need for conditions that give comfort to neighbors.

I am researching similar operations elsewhere in addition to requesting info from them.

At the end of the meeting they agreed to send me the MDEP Compost License application and the MWS Operating Manual (both attached) as they considered that these would answer most of our questions. Those documents (attached) appear to cover much of the same ground as already submitted or (in the case of the manual) be reactive rather than proactive re problems- so this e-mail reiterates several of the questions (which are based on your comments). I am not sure when revised plans and further information will be submitted.

At the meeting further detailed info was given on some of these topics so I have annotated in green the other info so that you are all "up to speed" on this project.

Thanks
Jean

E-mail sent as follow up to 6.22.2010 meeting to Greg Williams of MWS, who is designated as applicant contact in Troy Moon's absence:
>>> Jean Fraser 6/23/2010 4:34 PM >>>
Greg,

Since Troy Moon and a couple of the reviewers were not able to join us at yesterday's meeting, this e-mail is intended to summarize the information that the Planning Division has requested so that we can progress the site plan review (as based on the June 22 meeting and the info submitted today re MDEP application and MWS Operating Manual).

A formal letter with review comments will be sent about a week-10 working days after receiving all of the information/revised plans.

1. Copy of **MDEP (approved) Permit** under 06-096; please clarify at what point the MDEP would re-review this (eg after pilot stage) since the MDEP approval is under "reduced procedures". In eyes of MDEP this is a "pilot" altho if successful is permanent in planning terms.

2. **Drainage and potential run off contamination:** Both the site plan and MDEP applications relied on a 2.25.2010 letter from St Germain & Assoc which asserts there is no change to the existing conditions. This does not address the question of potential impact on water quality nor the apparent existing run off impacts on the

golf course (see Mike Farmers comments quoted below re this- DPS needs to give more info to Troy; I assume there is liaison with Golf Course).

Please submit an engineered plan (stamped by a PE) and associated calculations that show where drainage from the composting site would flow (and how directed) and what amount would be to and through the vegetated soil filter and the basis for the design and sizing/location of the soil filter (including where/how the filter discharges). [this is based on DM-P comments which I understand were discussed with Troy last week] The MDEP application and the MWS Operating Manual do not appear to include info on how the physical design of the facility and windrows would prevent leaching/pollution (ie prevent sheet flow water runoff from surrounding area to flow into and under the compost)- so further info would be helpful. [Greg Williams explained that during the first stage the raw waste does not touch the ground and that during the second stage the windrow covers would be held to the ground and this would stop water flowing under- and the Manual addresses "leaks"....]

DPS staff have commented: "*I note that the runoff from the Riverside Recycling Facility has contributed to a severe erosion problem on the Riverside nine hole golf course during the past year. It appears that the runoff rates from the Recycling Facility are much greater than the historical runoff rates from Recycling Facility area, and that the increased runoff rates were a contributing factor to this erosion problem. Golf Course personnel have addressed the runoff problem; but, I don't know if they have completely solved the problem*". Review staff need to understand what has/is being done to address this issue.

The engineering plans should also indicate how the berm will impact the drainage and show revised contours etc. and erosion control measures [It was noted that a yearly inspection and maintenance plan would also need to be submitted]. Although BMPs are stated to already be in use, these need to be spelled out and confirmed re this application.[Note berm location will be revised]

3. **Zoning:** Need further discussion and a more specific, detailed narrative that shows how the proposals meet zoning requirements. Also need zone lines accurately on the site plan (available from Leslie Gaynor in DPS) showing where I-M and RPZ zones plus FEMA flood zones.[The I-M zone contains a number of requirements and whether this project meets those requires some interpretation- hence need for further analysis]

4. **Berm:** A section showing construction materials, design and surface treatment and erosion control aspects. Site plan (and Landscape Plan) to show final intended location of the berm. [Jim Hiltner confirmed that the location of the berm on the submitted site plan is incorrect and that it is proposed to extend much farther to the north to screen from golf course]

5. Water tank for cleaning totes: Please describe the filtration system indicating how it will avoid generating odors; include details (location) of electrical and water feeds. [It was explained that there are a number of filters and that what was filtered out would be added to the "raw waste" stage 1 to be dealt with]

6. **Traffic:** Please confirm info provided at the meeting regarding the fact that only the site managers will be bringing in vehicles plus initial and potential numbers of truck deliveries; on plan add location of drive access to the fabric building; also width of access road. How many employees and where will they park/turn? [I was advised that initially there will be one box truck per day bringing in the raw food wastes and it will turn off the gravel road and drive into the fabric structure; no one except those running the compost operation will go on the gravel road; the sale of finished product will take place near the front of the site where other items are sold].

7. **Potential odors:** Please send information re effectiveness of the proposed measures from similar operations elsewhere? How far away would the "earthy" smell be detected? [While they confirmed that they would close down the operation if any bad odors were created, clearly there needs to be some condition that clarifies at what point the odors are not acceptable; we need to discuss this further and ideally the lease from the City should also address this; two business neighbors have contacted me re this and I suggested at the meeting that it might be a good idea for the applicants to explain to neighbors what was involved etc - as this is "minor" a Neighborhood Meeting is not required]

8. **Vectors:** This needs further discussion [See manual].

9. **Landscaping:** Needs to have a Landscape Plan (if room and readable, can be on Site Plan) showing planting and screening and revised location of the berm; since Jeff Tarling was not at this meeting I will follow up on this point. [At meeting I commented that planting that was required when RRF expanded is still not done]

10. **Lighting:** Please confirm there will be no external lighting for the project. [They indicated there would be no external lighting]

I think this covers the main questions. It would be helpful if the info could be packaged up in groups with a cover letter/e-mail so that we can keep track of it since reviewers are currently reviewing many projects. The revised Site Plan/Landscape Plan(s) and Engineering Plans need to be submitted as 7 paper "full size" copies, at scale, of each and then I will circulate.

Please call if any questions.

Jean

Jean Fraser, Planner
City of Portland
874 8728

MWS

SOLID WASTE COMPOSTING FACILITY

OPERATIONS MANUAL

June 2010

TABLE OF CONTENTS

FACILITY OPERATIONS

1. The hours of operation of the Maine Waste Solutions, LLC composting facility are:
   Monday – Saturday, 7 AM to 5 PM, 52 weeks/year
   Gates are closed and locked outside of operating hours

2. Points of contact for MWS are:

   Greg Williams Cell: (207) 669 -2457

   Brett Richardson Cell: (207) 272 - 0896

3. In case of emergencies, contact:
   a. Fire
      1. Emergency 911
      2. Non-Emergency: City of Portland Fire & Rescue, (207) 874-8300
   b. Medical
      1. Emergency 911
      2. Non-Emergency: Maine Medical Center, (207) 871-2381
   c. Police
      1. Emergency 911
      2. Non-Emergency: City of Portland Police Department, (207) 874-8300
   d. Clean Harbors Environmental Services, (207) 799-8111
   e. Commercial Paving & Recycling Company (CPRC), (207) 883-3325
   f. City of Portland Department of Public Services, (207) 874-8801

4. Inclement Weather Procedures:
   a. Snow: In the event of significant snowfall (i.e. more than 3-4"), facility operations will be suspended. Check with the office in the mornings to see if the facility will be closed.
   b. Rain: operations will continue as normal, except that screening operations will be suspended. Employees will inspect and maintain runoff drainage systems to ensure proper operation and to minimize erosion.
   c. Heavy wind (i.e. more than 35 mph): Screening operations and activities involving moving dry product will be suspended.
   d. Cold (i.e. below 20° F.): operations will continue as normal. Employees will increase temperature monitoring of windrows to ensure maintenance of proper temperatures and to take corrective action (i.e. covering windrow with blanket of insulating finished compost) as needed.

FEEDSTOCK MANAGEMENT

Proper management of the feedstocks at the MWS facility is very important to minimize nuisance concerns and to make housekeeping easier. The facility permit allows for an unlimited volume of Type 1A, up to 400 yards of Type 1B, and/or up to 200 yards of Type 1C waste monthly. All feedstocks entering the facility are to be visually inspected for contaminants. Any loads containing unwanted contaminants are to be sent away at the waste generator's expense. Following is a brief description of MWS's primary feedstocks and how they are to be managed:

Type 1A: Leaf / Yard Waste and Horse Bedding

Type 1A residuals will be residential leaf and yard waste, and horse bedding from area horse stables collected by MWS or delivered by adequately insured haulers. This waste is to be stored on the asphalt pad inside the fabric building immediately as space allows upon arrival to keep dry. Excess amendment is to be stored temporarily on the adjacent gravel pad until processing space is available. A limited volume of wood chips will be used in the process to provide aeration and variety in particle size. Wood chips will be re-used during several active composting cycles until they break down.

Type 1B: Food Waste

Type 1B residuals will be food waste from southern Maine hospitality and institutional food waste generators collected by MWS or delivered by adequately insured haulers. Incoming loads of food waste are to be taken directly to the mixing/receiving pad and amended with Type 1A feedstocks to begin the active composting process.

Type 1C: Seafood Waste

Type 1C residuals will be delivered or collected by MWS from small-scale seafood processors as appropriate for MWS's compost mixing recipe. Incoming loads of seafood waste are to be taken directly to the mixing/receiving pad and amended with Type 1A feedstocks to begin the active composting process.

General rules for all incoming wastes:

1. Visually inspect materials coming in as they are being unloaded. If you see something in the material you think will jam up or damage the equipment, notify MWS Management immediately.

2. Monitor the various bulking amendment piles as you go about your work at the composting facility. Learn to tell the difference between steam and smoke, and if you think you see smoke rising from one of the amendment piles, notify MWS Management immediately.

MIXING AND PROCESSING UNDER COVER

MWS will manage its Type 1A, 1B, and 1C feedstocks under cover as the first step in its composting process. Type 1A amendments will be allowed to process and pre-heat for up to one week prior to the addition of Type 1B food waste. Following the addition of food waste, piles will be allowed to process for an additional 9 days before being moved to the gravel windrow pad.

Receiving & Preparing Amendment Feedstocks

1. All trucks bringing in Type 1A wastes, including leaves or horse bedding, will be directed to the appropriate amendment storage area for off-loading.
2. As soon as space is available in composting areas in the fabric structure, form a 4-to-6 inch base layer of leaves (in uniform pile footprints measuring 3' wide by 10' long to facilitate consistent recipe development), and top with a layer of horse bedding measuring 3'-4' high.
3. Add appropriate amounts of nitrogen-rich materials to the initial pile to jumpstart heating in preparation for the addition of Type 1B food waste.
4. Appropriate timing for laying out base layers may vary, so consult MWS Management regularly on how and when to establish these base layers.

Receiving Mixing Food Waste Residuals

Use the following procedure to mix the Type 1B and 1C residuals with Type 1A wastes the day that they arrive at the facility.

1. All trucks bringing in 1B and 1C waste materials to the MWS facility must be routed directly to the receiving/mixing pad inside the fabric structure.
2. Use the bucket loader to fill the tub grinder with 1 bucket of horse bedding, 1 bucket of leaves, and ¼ bucket of wood chips for every three buckets of food waste.
3. Use the tub grinder as necessary to reduce food waste to a uniform particle size and thoroughly mix it with the appropriate ratios of amendment (see #1 above) before adding it to the pre-established base layers of leaves and horse bedding.
4. Mix the appropriate feedstock ratios in the tub grinder. When the feedstocks are thoroughly ground and mixed, use the bucket loader to add these to the pre-heated piles stored inside the fabric structure.
5. Use the bucket loader to add a one-to-two foot layer of horse bedding on top of the amended food waste layer to cap the pile.

WINDROW FORMATION & MANAGEMENT

Windrows at the MWS facility will be approximately 10 feet wide, six feet high, and 130 feet long. A 15 feet alley will separate windrows at all times to provide ample space to maneuver equipment. The windrows will be managed for eight to 10 weeks. Temperature and moisture monitoring will demonstrate when windrows should be turned. Approximately once per week, windrows are to be turned by moving the composting materials approximately 16 feet forward. Follow the steps below to form and manage windrows.

Windrow Formation

1. Form the mixed feedstocks into active piles within the fabric structure for up to 10 days each.
2. After 10 days, use the bucket loader to move the material onto the composting pad. Continue this process until the windrow has reached the desired length (approximately 200').

Recordkeeping

1. Assign identification number for every pile that is mixed
2. Denote whether pile contains 1C and/or 1B residuals
3. Enter identification number and residual type into pile monitoring spreadsheet

Windrow Turning

1. Windrows on the composting pad should not be turned for 48-72 hours after initial mixing and formation to allow temperatures to rise.
2. Once windrow temperatures have reached a minimum of 131° F., and maintained at that temperature for 3-to-7 days, use the bucket loader to move the windrow to an adjacent location on the composting pad.
3. Once you start moving a windrow, continue without interruption until the entire windrow has been reformed.
4. Move each windrow as determined by temperature and moisture monitoring until it has reached the other end of the composting pad.
5. When a windrow has crossed the pad, move it to the curing area of the pad. Curing piles should be approximately 12'-15' high. Each pile will remain in the curing area for up to six months.

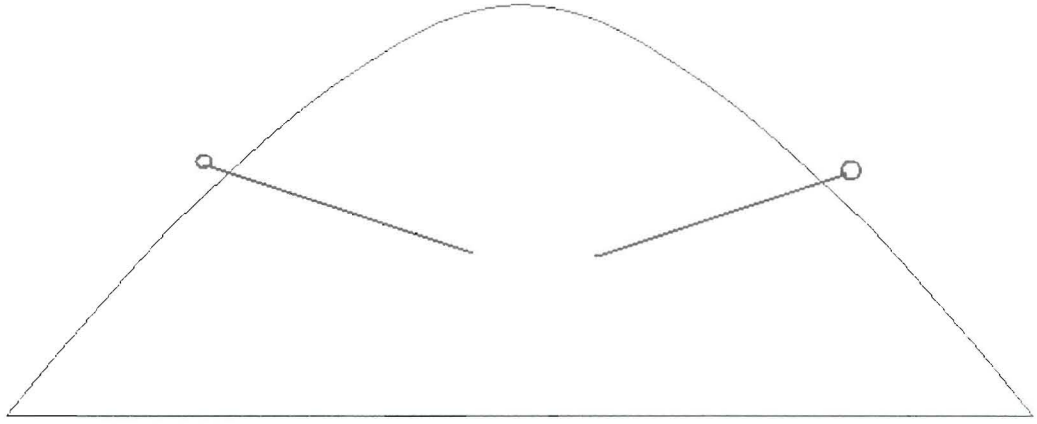
Process Monitoring

Monitoring the composting process is extremely important to ensure good product quality for our customers and to ensure MWS meets all regulatory requirements for compost manufacturing. Two parameters that must be monitored are temperature and moisture content.

Temperature

1.

Windrow Temperature Monitoring Locations



Windrow: 16 feet wide, 10 feet high
Temperatures monitored every 25'

t
emperature is one of the most important process control parameters in composting. Monitoring temperature is needed to verify that internal compost pile temperatures reach levels (above 131° F. or 55° C.) to ensure destruction of pathogens and the vast majority of weed seeds.

2. Using the Compost Thermometer, measure the temperature of each windrow as described below:
    a. Equipment Needed: 36" dial-type thermometer
    b. Place thermometer into compost pile so that tip is at least two (2) feet into the pile, but not so far that the tip reaches the bottom of the pile (see diagram below).
    c. Allow 3-5 minutes for the temperature reading to stabilize and record on the Compost Process Control Sheet (see below).

3. If any temperature readings during the 15-day period fail to reach 131° F., flag the location of the lower temperature reading and notify MWS Management immediately.
4. Ensure that all temperature readings exceed 104° F. and check to see if the average temperature of the windrow exceeds 113° F. This is the Federal requirement known as Vector Attraction Reduction (40 CFR Part 503).

Moisture

1. Moisture content of a compost mix is important because the microorganisms responsible for biodegradation of the waste need water to survive and grow. The desired moisture content of a compost mix is between 50% and 60%. MWS will use the "squeeze" test to monitor moisture content.
2. Monitor moisture content of each windrow at least weekly using the "squeeze" test described below:

3. Squeeze test: Field Measurement of Pile Moisture Percent
    a. Mix moisture percent can be approximated by squeezing a handful of material as follows:
        1) Reach into the pile and take a handful of material
        2) Squeeze the handful of material firmly
        3) Release your grip and inspect the material you squeezed in your hand.
    b. Interpretation of results:
        1) If the material you squeezed is crumbly and doesn't stick together, and your hand is dry, the material is about 40% moisture or less.
        2) If the material you squeezed sticks together, and your hand is moist, the material is around 50% moisture
        3) If the material you squeezed sticks together and drips, and your hand is wet and dripping, the material is around 60% moisture or more.
    c. With practice you can distinguish 55% moisture, from 50% and 60% moisture.

Dust, Pathogens / Vectors, and Odor Control

Dust

1. If weather conditions are unusually dry, dust generation can be a significant problem to our neighbors. Minimize dusting during extremely dry periods by:
    a. Misting down the roadways on site
    b. Ensuring moisture content of windrows is at least 40% before turning windrows; if not, moisten windrows before turning.

Pathogens / Vectors

1. It is essential that MWS complies with State of Maine standards for pathogen treatment and vector attraction reduction. To do so, the following steps shall be taken:
    a. Maintain windrows containing Type 1C residuals at a temperature of 55 degrees Celsius or higher for fifteen (15) days or longer
    b. Turn piles a minimum of five (5) times during this 15-day period

2. Vectors are organisms, such as rodents and insects, that can spread disease by carrying and transferring pathogens. Most of the compostable feedstocks we handle at MWS do not have human pathogens, nonetheless, professional composting management calls for control of possible vectors.
3. If you see flies around a windrow, immediately cover the windrow surface with 3-4" layer of finished compost or fresh horse bedding from the product storage pile.
4. If you see rats, raccoons, foxes or other rodents or mammals, notify MWS Management immediately, who will direct you to take the necessary control measures (trap or exterminate). Cover the windrow(s) where you see these creatures with a 3"-4" layer of finished compost.

Odors

1. Composting is not odor-free. You should learn to distinguish between malodors (such at rotten eggs or decaying fish smells) that signal something is wrong with the windrow, and normal compost odor, which is a rich, earthy smell.
2. If you detect a malodor, review the monitoring records for that windrow to be sure moisture, temperature and carbon dioxide levels are appropriate. If not, notify MWS Management, who will develop a corrective action plan. That plan might involve one or more of the following steps:
    a. Turn the windrow
    b. Cover the windrow with 3-4" of finished compost
    c. Tear down the windrow and remix the contents with fresh incoming materials and build a new windrow.
    d. Add lime to neutralize the pH
3. Upon receipt of a formal complaint regarding a potential odor nuisance, MWS shall take the following steps:
    a. Notify MWS management
    b. Investigate windrows to identify potential odors
    c. Undertake adaptive management measures as deemed appropriate by MWS management
    d. Notify Mike Clark, Maine Department of Environmental Protection, of the complaint and adaptive management measures taken

Product Testing

Proper compost product sampling and testing is important to ensure that MWS's product complies with regulations of the Maine DEP and to ensure our customers that we are manufacturing a high-quality product.

Sampling Procedures

1. Collect samples from areas of the compost pile that are representative of the general appearance, and avoid collecting atypically moist samples (> 60% moisture, wet basis). If balls form during the process of blending and mixing of point-samples, the compost sample is too wet. Excessively moist compost will cause unreliable physical and biological evaluation.
2. A representative compost sample must be collected from appropriate sampling locations and consist of no less than 15 point-samples. Sampling locations along the perimeter of the compost pile where compost point-samples will be extracted and the vertical distances from the ground or composting pad surface should be determined at random, and should be representative of the compost In the windrow.
3. Mix all point-samples together in a 5-gal plastic bucket and use that mix for subsequent testing.

Compost Stability Testing

1. After 50-60 days in a windrow, compost should be tested with a Solvita® test to monitor product stability. Solvita® test kits, developed by Woods End Labs, are available at the MWS facility.
2. Compost stability and maturity are important considerations for knowing when compost is ready to be used as a soil amendment. Stability refers to the degradation of the organic wastes used to make compost. Stable compost means the wastes have decomposed and no longer resemble the original material used in the mix.
3. Solvita® is based on a gel-colorimetry technology in which respiration gases from composts are captured and accurately indicated in a color-coded system calibrated to a wide range of known conditions. The test measures carbon dioxide (CO_2) respiration and ammonia (NH_3) volatilization.
4. Use the following procedure to test for stability:
    a. Fill the Solvita® jar to the indicated line with compost.
    b. Leave the top of the jar off and allow the sample to equilibrate for one (1) hour.
    c. Put the marked colorimetric paddles (one for CO_2 and one for NH_3) in the jar at the designated locations.
    d. Put the lid on the jar and set aside (out of direct sunlight).
    e. After 4 hours, measure the color of the paddles against the color chart provided.
    f. Record the results of the test on the jar lid in the indicated spaces.

Compost Product Testing

Representative compost samples are to be periodically tested for heavy metals content and for biologicals (specifically fecal coliform, *Salmonella*, and *Ascaris* ova. Each type of analysis must be done by a laboratory approved by MWS Management. MWS contracts with Woods End Laboratories in Mount Vernon, Maine to test its compost product. Testing procedures are as follows:

1. Samples for biologicals testing will be "grab" samples taken once per month. Samples for heavy metals testing will be a composite of four (4) weekly grab samples taken on Fridays. All samples should be taken of screened compost produced on the day of sampling. Monthly and weekly samples should be collected for each different compost recipe.

2. Any compost samples targeted for biological testing should be chilled immediately upon collection.
3. Samples for heavy metal testing should be placed in the composite sample container in the soils building and the label marked with the date of the grab sample. Every four (4) weeks, a composite sample will be assembled from the weekly grab samples and sent off for heavy metals testing.
4. When plastic containers are acceptable, use double Ziploc®-type 4-8 L (1-2 gal) bags marked on the exterior with a marking pen with insoluble ink. Samples meant for biologicals testing should be placed with several cool-packs in a large polystyrene cooler or similar insulated container.
5. Ship the samples for heavy metals testing to the laboratory for delivery within 48 hours or less. Hand deliver the biologicals sample within 4 hours of sampling to Woods End Laboratories.

For biologicals testing, the Woods End Laboratories will test for the following components:

- Total Solids
- pH
- Density
- Salinity
- C:N ratio
- Total-Nitrogen
- Solvita;Cation Anion run to include ammonium and nitrate and other important soluble constituents
- Fecal coliform/E. coli test (EPA method) to ascertain compliance with required and desired hygiene
- Plant bioassay, cress and clover for general absence of phtyto toxicity and absence of herbicide residues

All laboratory test results are to be stored in the office.

Nonconforming Product

1. If a compost analysis shows non-conformance with MWS's product quality standards, MWS Management will review the results and decide whether to re-process the non-conforming compost back through the composting process or whether to dispose of the compost at a permitted disposal facility. The decision will rest upon the nature of the non-conformance.
2. If notified by MWS Management that testing results on the compost do not meet minimum quality requirements, move the product pile from which the sample(s) were taken off to one side on one of the composting pad and mark that pile with a visible flag.
3. If appropriate, MWS Management will provide an updated composting mix recipe to utilize a portion of the non-conforming product as a feedstock to a fresh compost mix.
4. If directed by MWS Management, arrange for transport of the non-conforming product to an appropriate handling facility.

INSPECTIONS, REPORTING & RECORDKEEPING

Inspections

Either MWS Management or an assigned representative will inspect all aspects of the MWS facility at least once weekly. These inspections will include: composting pads (wear and tear), all equipment (operation and maintenance needs), composting pond and drainage ditches (in accordance with the MWS Storm Water Pollution Prevention Plan), safety equipment (to verify operational status), and housekeeping practices (to ensure the housekeeping procedures in this Operations Manual are followed).

If, in the course of your work at MWS you notice something that needs attention, notify MWS Management immediately. Do not wait for the weekly inspection to find something.

Employees should monitor all incoming loads for "unauthorized" wastes as they are unloaded onto the composting pad. Unauthorized wastes are those not specifically included in MWS's operating permit from the Maine DEP and must be managed in accordance with DEP regulations. If you see anything that looks like unauthorized waste, notify MWS management immediately.

Reporting & Recordkeeping

Record all composting process information collected on the Daily Compost Process Control Sheet. Be sure to turn it in to the office at the end of your shift. Please keep in mind that these Process Control Sheets are an important piece of our regulatory compliance, so please be careful to keep the sheets clean, dirt-free, and dry.

MWS will follow State of Maine requirements for record keeping and reporting as stated in the Maine Solid Waste Management Rules, Chapter 410, Composting Facilities. They are:

> **Record Keeping.** The facility operator must maintain the following records and make the records available for Departmental inspection and copying for the duration of the facility operation and a minimum of two (2) years after facility closure:
>
> (1) When applicable, as-built engineering drawings of the facility;
>
> (2) Results of analyses required by this Chapter and/or facility license;
>
> (3) The Department-approved operations manual meeting the requirements of this section;
>
> (4) Copies of periodic and annual reports submitted to the Department; and
>
> (5) Operations Log: An operations log must be kept at any composting facility that is operated to reduce the pathogen content, reduce vector attraction properties, reduce putrescibility, reduce the carbon to nitrogen ratio, or otherwise stabilize a residual. The operations log must contain the source and volume of residuals received on a daily basis; the mixture of residuals composted at the facility; composting monitoring

data; date, time and type of samples obtained from the facility; and volume and type of residuals and finished compost distributed from the facility on a daily basis, including to whom the residuals and finished compost are distributed.

Periodic Reporting. Licensees must submit periodic reports to the Department containing the results of environmental monitoring, including waste characterization, and any other information required in accordance with the facility license. Reporting periods will be identified in the individual facility license.

Annual Report. By February 28th of each year, the facility operator must pay the annual facility reporting fee established in Maine law, and submit an annual report to the Department for review and approval. The annual report must include a summary of activity at the composting facility during the previous calendar year. The annual report must summarize the facility's activities, and at a minimum include the following:

(6) Volume, source and type of wastes received by the facility;

(7) Volume of compost produced;

(8) Volume of compost, raw feedstocks, waste and residue, including non-compostable compost screenings, distributed off-site, and the locations to which any such items were distributed;

(9) Volume of compost, raw feedstocks, waste, secondary material, and residue, including non-compostable compost screenings, stored on site as of December 31;

(10) A general summary of the composting operation including problems encountered and follow-up actions, changes to the facility operation, and a summary of odor or other complaints received by the facility during the previous year.

PRODUCT MANAGEMENT

Product Screening

MWS uses screening technologies to recover woody bulking agent from compost piles for reuse, and for screening cured compost for market. In composting applications, screens are used to enhance the market value of finished compost by separating large particles and non-degraded bulking agents such as wood chips from the organic fines. The fines are sold as high-quality compost and the bulking agent can be re-used.

The following procedures should be followed when screening material:

1. Start engine and let engine come to operating temperature before loading material into the screen hopper.
2. When loading hopper, do not drop a full bucket load directly into the hopper; shake the loader bucket while unloading to fill the hopper slowly.
3. While loading the hopper, watch for large, heavy objects hidden in the loader bucket entering the hopper. If any are seen, immediately shut down the screen and remove the object from the hopper.
4. Let the hopper empty out before reloading. While waiting for the hopper to empty, move screened product to the product storage pile and overs (screen rejects) to the overs pile.

MWS acknowledges that receipt of some unwanted solid wastes is inevitable. Contaminants will be screened out of finished compost and aggregated at the RRF in a refuse container(s) that complies with city code. Should you find contaminants from any waste generator, undertake the following steps:

1. Record offending generator and the characteristics of the contaminants
2. Submit this information to MWS management

Product Storage

1. Screened product should be moved away from the screening system discharge belt and moved to temporary storage on the Product Storage Pad.
2. Product should be stored in piles no larger than 15' high.
3. When building product storage piles, care should be taken to minimize compacting the product under the tires of the bucket loader.

Product Lines

1. MWS markets a high-quality compost product certified by the Maine Organic Farmers and Gardeners Association (MOFGA) as suitable for use on organic growing soils.

DRAINAGE MANAGEMENT

Leachate Management

1. Leachate can be a significant source of odors and can attract insect vectors like flies, so it is imperative that any observed leachate be cleaned up as quickly as possible.
2. Leachate formation can be minimized by following the proper Windrow Formation procedures in this manual, specifically, ensuring that initial mix moisture contents do not exceed 60%.
3. During your work at this facility, if you see leachate coming out from beneath a windrow, notify MWS Management immediately.

Erosion Control

1. Erosion of soil is a significant potential environmental problem, both to the MWS facility as well as to the environment at the Riverside Recycling Facility (RRF).
2. Should you observe the beginnings of a potentially severe erosion problem (i.e. the beginnings of small rills (or channels) carved into the earth), immediately fill in the small rill with loose gravel and pack it down firmly. Notify MWS Management as to where it occurred so that preventive measures can be taken to prevent the erosion from occurring again.

HOUSEKEEPING PROCEDURES

Good housekeeping practices are extremely important to the successful operation of the MWS composting facility, for three reasons: they help minimize Health and Safety issues, they help MWS stay in compliance with applicable regulations, and they convey a sense of professional pride to both neighbors and visitors. All employees are expected to take an active role in ensuring that good housekeeping practices are followed throughout the facility.

Spill Containment and Response

1. In the event of spillage of incoming waste materials from a truck or from a loader bucket, immediately clean it up. All spillage should be mixed with a suitable dry bulking agent and added to the windrow(s) under construction on that day.
2. In the event of spillage of compost product while loading outgoing trucks, or from any other source, immediately clean it up with the bucket loader and return the material to the storage area.
3. Spillage of diesel fuel during equipment fuel reloading operations must be kept to an absolute minimum. If spillage occurs, notify MWS Management immediately, and spread absorbent bulking agent over the spilled area. Shovel up the resulting mix, and put it in a secure waste receptacle. Do not smoke around any spilled fuels.

General Facility Housekeeping Procedures

Housekeeping is one of those chores that is easily left to the end of the shift and, if so, is rarely done well. Housekeeping is one of the most important ways to keep a composting facility odor-free and looking professional to our visitors.

Remember...this is as much <u>your</u> facility as it is the company's. Keeping the facility looking good is one way you can express your pride and keep your job!

1. Bucket loader tires (and other vehicles) can easily spread small amounts of waste around on gravelled roadways. If you see some, clean it up.
2. Do not throw trash on the ground ... put it in the trash can. Pick up other trash and debris when you see it. TIDINESS IN AND AROUND THE FACILITY IS EVERYONE'S RESPONSIBILITY!
3. Bucket loader tires must be cleaned and free of all loose bucket material.
4. The last shift of the day will park all equipment in the designated area.
5. Clean up loose materials from internal roadways, open pad areas (not covered by windrows), and other paved areas of the compost pad.

HEALTH & SAFETY

All aspects of the MWS facility have been developed with the health and safety of the facility's operating staff, customers and neighbors in mind. MWS Management will ensure the facility's health and safety program is consistent with good management practices and the applicable requirements of the Occupational Safety and Health Administration (OSHA).

Certain raw materials used in the composting process may contain pathogens and may pose health risks to facility staff. Each facility employee will go through annual Health & Safety training provided by MWS Management. All training shall be documented and attested to by signatures of trainer and trainee.

Following are existing requirements of MWS for employee health and safety:

Personal Hygiene

- Wash hands before eating, drinking or smoking
- Wear personal protective equipment if needed (as described below)
- Wash, disinfect and bandage ANY cut, no matter how small it is. Any break in the skin can become a source of infection
- Keep fingernails closely trimmed and clean to eliminate places that can harbor pathogens
- If you have breathing difficulties, do not operate equipment like the screening system that can create dust

Personal Protective Equipment

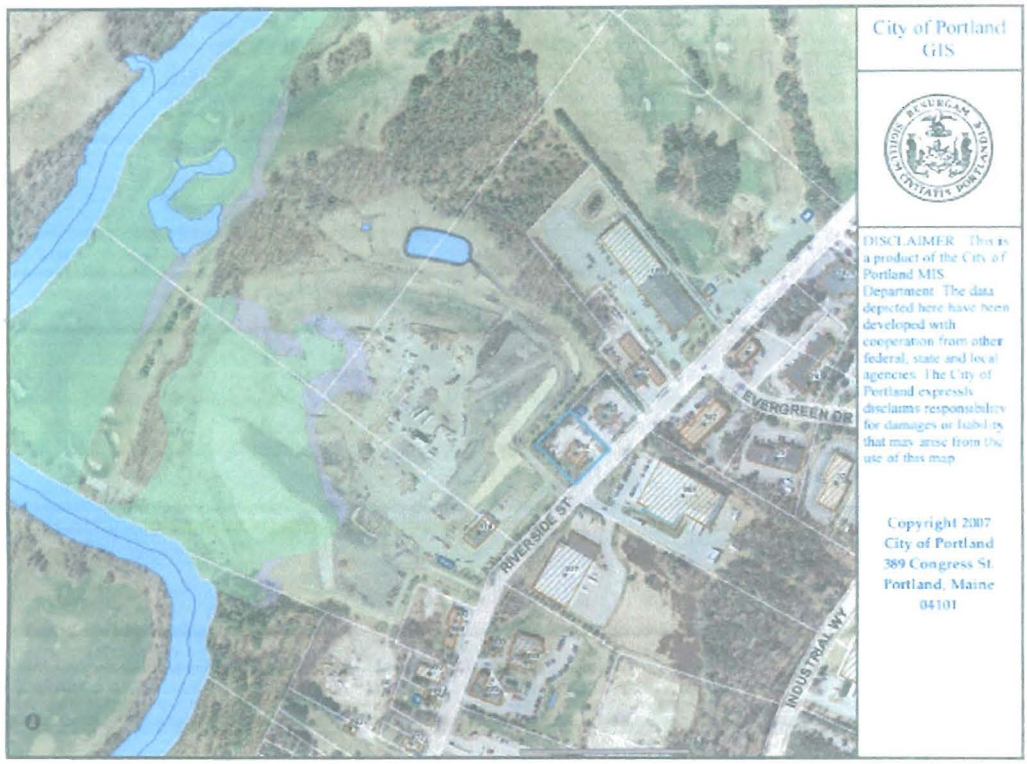
- Wear steel-toed safety shoes at all times when out in the composting facility
- Use noise-reduction protection (ear plugs) if working around any equipment with a high noise generation rate
- Wear dust filter masks when working around high dust potential areas (i.e. the screening system)

Mechanical Equipment Hazard Protection

- Ensure all safety equipment (horns, backup alarms, lights, etc.) are functional before starting up a piece of equipment
- DO NOT attempt to use a piece of equipment unless you have been properly trained in the operation of that equipment
- Review the equipment Operations & Maintenance guidelines before attempting any repairs to a piece of equipment

Attachment 13. Floodplain Map.

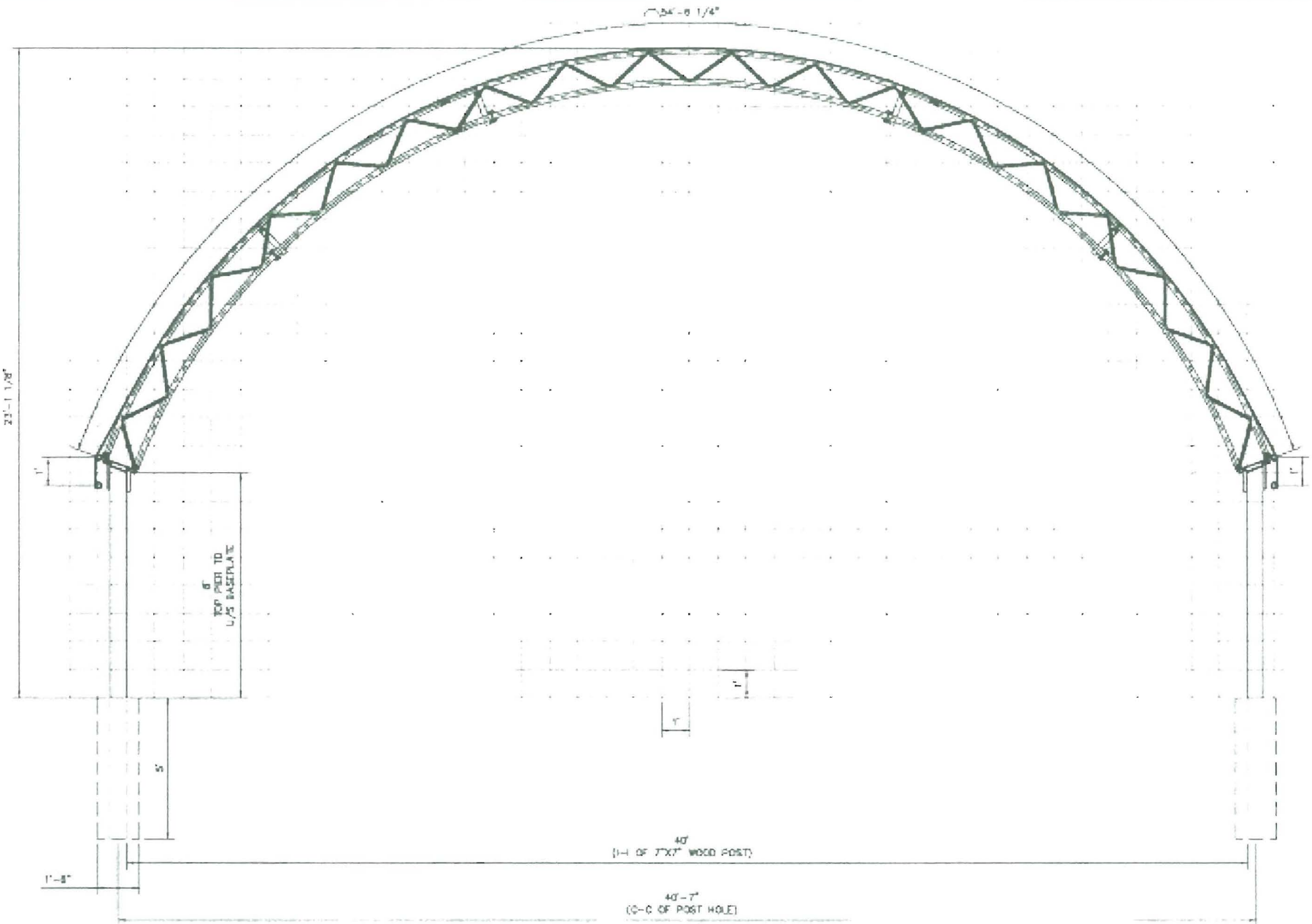
Federal Emergency Management Agency -- 1986



KEY

100-Year Floodplain

500-Year Floodplain



42'CC SERIES POST WALL

Jeanie Bourke - Re: (Requested Information) Riverside Composting Building Permit

From: Jeanie Bourke
To: Greg Williams
Date: 1/25/2011 10:01 AM
Subject: Re: (Requested Information) Riverside Composting Building Permit
CC: Jim Hiltner; Troy Moon; brett.richardson

Hi Greg,
Thank you for sending this certification document. Per Chapter 17 of the 2003 IBC, the building official can except the fabricators registration, however at the completion of the work the company shall submit a certificate of compliance that the work was performed in accordance with the code and the approved construction documents.

Keep in mind that this certification is limited to the fabrication process and that special inspections are still required for on site erection and anchoring of the structure and the applicable concrete foundation inspections.
Thanks
Jeanie

>>> Greg Williams <organicalchemy@gmail.com> 1/24/2011 11:45 AM >>>
Jeanie,

Please see the attached document provided by the building manufacturer, Calhoun Super Structures, showing that the company is A660 certified (dated Dec 2010). This aims to address points 1 and 3. We are working on a foundation plan for submission (point 2 below) and hope to get it to you in the coming days.

Please call me at 669-2457, or email, to discuss at your earliest convenience.

Best,
Greg

On Mon, Jan 10, 2011 at 9:11 AM, Jeanie Bourke <JMB@portlandmaine.gov> wrote:

> Greg,
> Thank you for the structural plans, these are my comments:
> 1. This application was submitted during the city adoption of the IBC 2003 code, these plans spec IBC 2006
> 2. As stated on theses plans, the foundation is designed by others, this design has not been submitted.
> 3. Please submit a comprehensive statement of special inspections per IBC 2003 Chapter 17.
> Let me know if you have any questions.
> Jeanie
> *Jeanie Bourke*
> *CEO/Plan Reviewer*
>
> **City of Portland**
> **Planning & Urban Development Dept./ Inspections Division**
> **389 Congress St. Rm 315**
> **Portland, ME 04101**
> **jmb@portlandmaine.gov**
> **(207)874-8715**

>>> Greg Williams <organicalchemy@gmail.com> 1/6/2011 1:18 PM >>>

Jeanie,

Please see the information attached and below to be submitted on behalf of the City of Portland's Department of Public Services and included in the Department's existing building permit application for the Riverside Recycling Facility (RRF) composting operation. Based on previous correspondence, it is our understanding that these items constitute the remaining information necessary for final approval from the Inspections Division. Please confirm at your earliest convenience.

Structural details for Calhoun Superstructure fabric building: Please see the attached stamped structural details provided by the manufacturer, Calhoun Superstructure. Please not that the fabric building will be used on site for a period exceeding 180 days, and therefore as defined by the City's building code should be considered permanent, rather than temporary. You will find the design loads at the bottom of page two in the attached document.

Compliance with IM Noise Ordinance: The composting operation has been designed in a manner that is consistent with the City's IM zone noise ordinance, and will not exceed the allowable noise levels at the RRF's property boundary. Equipment to be used include a Bobcat loader and small gas generator. Neither will significantly change the current operation. The generator to be used will be a Yamaha EF2000iS or similar model (http://www.yamahagenerators.com/yamaha_generator_ef2000is_c_1_p_1_pr_51.html). This generator has a decibel range of 51.5 to 61, which falls within the allowable decibel range in the IM zone.

Thanks again, Jeanie, for your time and attention. Please do not hesitate to contact me by email or at 669-2457.

Regards,
Greg

--
Greg Williams
Organic Alchemy Composting LLC
(207) 669 - 2457
www.organicalchemycompost.com

Jeanie Bourke - Re: (Requested Information) Riverside Composting Building Permit

From: Jeanie Bourke
To: Greg Williams
Date: 1/10/2011 9:11 AM
Subject: Re: (Requested Information) Riverside Composting Building Permit
CC: Jim Hiltner; Troy Moon; brett.richardson

Greg,
Thank you for the structural plans, these are my comments:

1. This application was submitted during the city adoption of the IBC 2003 code, these plans spec IBC 2006
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3. Please submit a comprehensive statement of special inspections per IBC 2003 Chapter 17.

Let me know if you have any questions.
Jeanie

Jeanie Bourke
CEO/Plan Reviewer

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(207)874-8715

>>> Greg Williams <organicalchemy@gmail.com> 1/6/2011 1:18 PM >>>
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Thanks again, Jeanie, for your time and attention. Please do not hesitate to contact me by email or at 669-2457.

From: Greg Williams <organicalchemy@gmail.com>
To: Jeanie Bourke <jmb@portlandmaine.gov>
CC: "brett.richardson" <brett.richardson@maine.edu>, Troy Moon <thm@portland.
Date: 4/11/2011 4:26 PM
Subject: Fwd: (Design Confirmation) Calhoun Superstructure
Attachments: OA_CONSTRUCTION_ACORN_3_11.pdf

Jeanie,

Please see below. Per your email on March ~~22~~ 16, the attached plan is structurally sufficient. Per our previous discussion with you and Dave Pineo, please confirm that this completes the building permit application process, and that we can commence site work.

Thanks very much for your help. We're excited to partner with the City to move Portland's recycling rate toward 50 percent.

Best regards,
Greg

---------- Forwarded message ----------
From: <GRileyPE@aol.com>
Date: Fri, Apr 8, 2011 at 1:16 PM
Subject: Re: Question regarding Calhoun Superstructure
To: organicalchemy@gmail.com
Cc: brett.richardson@maine.edu

Greg

I spoke with Will Savage, Professional Engineer, earlier today. Based upon the Acorn Engineering foundation plan and my conversation with him, it appears that the proposed foundation will adequately support the structure for it's intended use. However, building settlement and differential movement will most likely occur due to the underlain soil conditions. Per the proposed building use as I understand it, the building should be useable with this movement in mind.

Thanks

Greg Riley, P.E., P.Eng.
Structural Engineering Consultant
805 630 6619

Jeanie Bourke - Soils report for Riverside site

From: Jeanie Bourke
To: Greg Williams
Date: 3/16/2011 9:07 AM
Subject: Soils report for Riverside site
CC: David Margolis-Pineo; Troy Moon; brett.richardson
Attachments: Geotech Rvrsd.pdf

Good Morning Greg,
This report was relatively easy to find from the 2007 project. Please share this with the engineer to verify the proposed design is structurally sufficient.

Please also share with him that in lieu of a complete statement of special inspections, a stamped letter will be required prior to the final inspection, indicating oversight of the foundation preparation and erection, and verification it is in compliance with the submitted design.

If the design changes and concrete is specified, this will add some testing requirements and probably rebar inspections.
Thanks,
Jeanie

Jeanie Bourke
CEO/Plan Reviewer

City of Portland
Planning & Urban Development Dept./ Inspections Division
389 Congress St. Rm 315
Portland, ME 04101
jmb@portlandmaine.gov
Direct: (207) 874-8715
Office: (207) 874-8703

Jeanie Bourke - Re: membrane/liner specs

From: Jeanie Bourke
To: Greg Williams
Subject: Re: membrane/liner specs
CC: brett.richardson

Ok Greg,
The membrane meets the flame spread and smoke index for inherent fire retardant information. I'm not sure how this relates to NFPA 701 as I do not have that code, but since the height of the structure is under 30 feet, the membrane is exempt from meeting NFPA 701 per the IBC.

I will prepare the permit for issuance and send it to Troy Moon at PS.
Thanks for your patience,
Jeanie

>>> Greg Williams <organicalchemy@gmail.com> 5/9/2011 10:17 AM >>>
Hi Jeanie -

The total height of the structure from grade will be approximately 21 ft, including the height of the foundation.

Thanks,
Greg

On Mon, May 9, 2011 at 7:15 AM, Jeanie Bourke <JMB@portlandmaine.gov> wrote:

> Ok....but what is the total height of the structure from grade?
>
> >>> Greg Williams <organicalchemy@gmail.com> 5/6/2011 4:05 PM >>>
> Jeanie,
>
> It is my understanding that the membrane meets the ASTM E84-00a (Class 1) requirements as referenced on the spec sheet under FR performance.
>
> The structure will be installed on a 5-ft high wall.
>
> Greg
>
> On Fri, May 6, 2011 at 2:19 PM, Jeanie Bourke <JMB@portlandmaine.gov> wrote:
>
> > Greg,

I realize this was an oversight on my part, but the IBC 2009 Sec. 3102 is the jurisdiction that states the code compliance stated below for membrane structures not used for human occupancy. Are you saying that the manufacturer is says this product does not meet these standards? Is the membrane noncombustible? I would think they could give you some specs on this.
What is the total height of the structure?
Thanks
Jeanie

>>> Greg Williams <organicalchemy@gmail.com> 5/6/2011 10:37 AM >>>

Jeanie,

During our June 22, 2010 site plan meeting, Fire Capt. Keith Gautreau stated that he's fully comfortable with our plan. Following multiple subsequent DRC meetings no other concerns were brought to our attention. We have therefore proceeded with our purchasing with that in mind.

Thank you,
Greg

On Fri, May 6, 2011 at 7:20 AM, Jeanie Bourke <JMB@portlandmaine.gov> wrote:

> Greg,
> It doesn't appear to address NFPA 701 for fire propagation performance criteria and the manufacturer's test protocol. See if you can get some more detailed information.
> Thanks,
> Jeanie
>
> >>> Greg Williams <organicalchemy@gmail.com> 5/5/2011 5:41 PM >>>
>
> Jeanie,
>
> Attached is the spec sheet on the fabric membrane as requested. Please confirm that it meets city code.
>
> Thanks
> Greg
>
> On Thu, May 5, 2011 at 9:13 AM, Jeanie Bourke <JMB@portlandmaine.gov> wrote:
>
> > Hi Greg,
> > I have received approval from DRC, Phil DiPierro for the site plan. I can issue the permit, but I have one more item that I overlooked.
> > Can you please provide information on the membrane/liner material? I do not

find this information with any of the documents. Code requires this to be either noncombustible or meet the fire propagation performance criteria of NFPA 701, unless it is plastic under 20 mil.
Thank you
Jeanie

Jeanie Bourke
CEO/Plan Reviewer

City of Portland
Planning & Urban Development Dept./ Inspections Division
389 Congress St. Rm 315
Portland, ME 04101
jmb@portlandmaine.gov
Direct: (207) 874-8715
Office: (207) 874-8703

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Greg Williams
Organic Alchemy Composting LLC
(207) 669 - 2457
www.organicalchemycompost.com

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Autograph Foliages

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Fire Retardant Info.
Product Assembly
Request a Catalog

Product Line Links
Christmas Items
New Items
Product Assembly
Closeout Index
More Custom Trees

Downloads
2010-2011 Christmas Catalog

Inherent Fire Retardant Information

ASTM E84-00A
American Society for Testing and Materials (ASTM), Committee E-5 on Fire Standards
Standard Test Method for Surface Burning Characteristics of Building Materials
(ANSI 2.5, NFPA 255, UBC 8-1, UL 723)
Test performed on PVC material with passing scores (Class 1 or Class A) for flame spread and smoke indexes.

ASTM E84-00a
American Society for Testing and Materials (ASTM), Committee E-5 on Fire Standards
Standard Test Method for Surface Burning Characteristics of Building Materials
(ANSI 2.5, NFPA 255, UBC 8-1, UL 723)
Test performed on Artificial Foliage with passing scores (Class 1 or Class A) for flame spread and smoke indexes.

ASTM E84-07
American Society for Testing and Materials (ASTM), Committee E-5 on Fire Standards
Standard Test Method for Surface Burning Characteristics of Building Materials
(ANSI 2.5, NFPA 255, UBC 42-1, UL 723)
Test performed on Artificial Foliage with passing scores (Class 1 or Class A) for flame spread and smoke indexes.

BS 476; PART 7
Method for Classification of the Surface Spread of Flame of Products
Test performed on Artificial Foliage with passing scores (Class 1 or Class A)

BS 476; PART 6
Method for Classification of the Surface Spread of Flame of Products
Test performed on Artificial Foliage with passing scores (Class 0)
Class 0 is the highest national product performance classification for lining materials.

NF X 70-100(1986) Method
Analysis of Pyrolysis and Combustion Gases
Evaluation of Toxic Fumes Generated from Material Sample During Burning
Samples of Artificial Foliage passed:
The above analytical toxic fume results generated from the sample were below the IDLH Value of the listed gases (the concentration of the gas in the atmosphere which for an exposure time of 30 minutes is immediately Dangerous to Life or Health) in the NIOSH Guide.

CALIFORNIA STATE FIRE MARSHAL
Expires 6/30/2010
Registered Flame Resistant Product Identified in Section 13115
Test performed on Artificial Foliage with passing scores

NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 701
Small Scale Test (NFPA 701)
IFR Fabric Foliages
Test performed on Artificial Foliage with passing scores

ENGINEERED COATED PRODUCTS

Nova-Shield® II with ArmorKote™ RU88X-6 (4 mil)

DATA SHEET

Heavyweight fabric for applications such as membrane structures and alternate daily landfill covers. The scrim is produced in a special weaving pattern to enhance thickness, flatness, abrasion resistance, and tear properties. The proprietary coating is used to enhance abrasion resistance, flex resistance, seam strength, UV resistance and longevity.

FABRIC SPECIFICATIONS

WEAVE	Woven clear HDPE scrim
COATING	4.0 mil average, two sides LDPE (94 g/m^2, two sides LDPE)
COLOUR	Natural (clear), white, blue, green, yellow, red, beige
WEIGHT	12.0 oz/yd^2 (407 g/m^2) +/- 5%
THICKNESS	20 mils(0.50mm) ASTM D5199

PERFORMANCE

GRAB TENSILE	Warp 370 lb 1664 N	Weft 345 lb 1532 N	ASTM D5034-95
STRIP TENSILE, lb/inch(N/5cm)	Warp 275 (2444)	Weft 245 (2178)	ASTM D5035-95
TRAPEZOIDAL TEAR	Warp 90 lb 400 N	Weft 90 lb 400 N	ASTM D4533-04
TONGUE TEAR	Warp 115 lb 510 N	Weft 110 lb 489 N	ASTM D2261-96
MULLEN BURST	675 psi 4658 kPa		ASTM D3786-01
ACCELERATED UV WEATHERING[1]	>90 % strength retention after 2000 hrs exposure @ 0.77 W/m^2/nm, or 1200 hours exposure @ 1.35 W/m^2/nm.		ASTM G151-00 ASTM G154-04
ACCELERATED NATURAL WEATHERING	>80 % strength retention after 5 Florida Standard Years[2]		ASTM G90-98
LOW TEMPERATURE BEND	-60 °C		ASTM D2136-94

[1] Q.U.V. [A-340 Lamps]: 8 hrs UV @ 60° C; 4 hrs condensation @ 50° C [2] 1333 MJ

FR PERFORMANCE

This product meets the requirements of ASTM E84-00a(Class 1).

ROLL SPECIFICATIONS

CORES	4 inch (101.6 mm) or 5 inch (127 mm) I.D.
WIDTH	Up to 150 inches (-0 , + 0.5) as ordered, 3.81 m (-0, +12 mm)
LENGTH	Minimum 250 yds/roll (229 m); up to 1000 yds/roll (914 m)

These values are typical data and are not intended as limiting specifications.

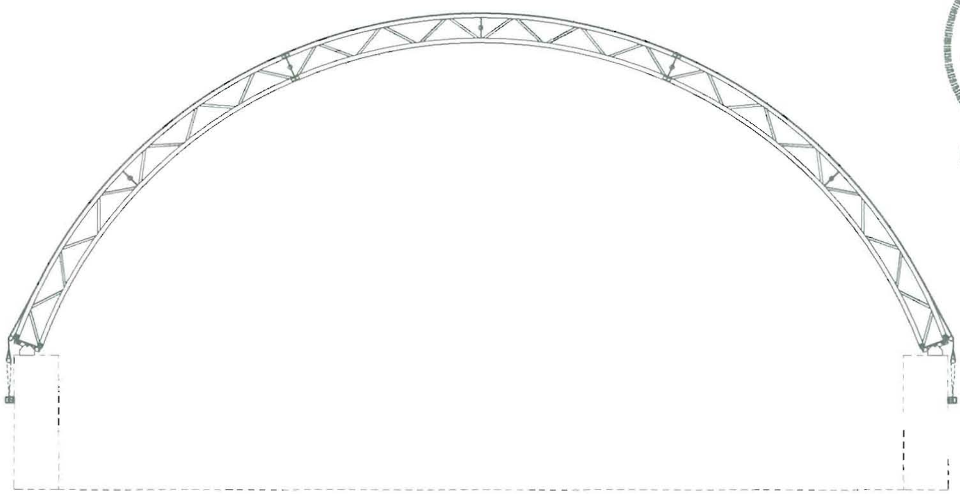
DS2005(RU88X-6AK4mil)
Rev 5 03/16/2010

Engineered Coated Products

Brantford, ON 1-888-353-9421
Langley, BC 1-888-894-67
Truro, NS 1-800-565-2000

C:\Users\daalton\appdata\local\temp\AcPublish_5420\401988 42X100 R1.dwg
Nov 23, 2010 - 9:28am

42' CC SUPERSTRUCTURE



STATE OF MAINE
Gregory Leo Riley 9628
LICENSED PROFESSIONAL ENGINEER
Expires 12.31.11

SITE LOCATION

LAT / LONG	43°42'29.25"N, 70°19'13.44"W
SITE LOCATION	910 RIVERSIDE ST., PORTLAND, 04103
PROV./STATE	MAINE

PROJECT DESCRIPTION

OWNERS NAME	GREG WILLIAMS
DEALERS NAME	GREG LUSSIER
STRUCTURE TYPE	42'X100' CC, 10' FRAME SPACING, 6' CONCRETE WALL (DESIGNED & SUPPLIED BY OTHERS)
USE AND OCCUPANCY	COMMERCIAL / LOW HAZARD
SNOW LOAD	60 PSF
WIND LOAD	100 MPH "C"

DRAWING INDEX

RECEIVED
JAN 10 2011
Dept. of Building Inspections
City of Portland Maine

PDF ✓

No.	DESCRIPTION	DATE
1	ENGINEER APPROVAL	10/29/10

REVISION / ISSUE

Calhoun Superstructure Ltd.
3702 Bruce Rd #10
Tara, Ontario, Canada
N0H 2N0
800-265-3884
www.calhounsuperstructure.com

	NAME	DATE
DRAWN	W H T	10/29/10
CHECKED	D P D	10/29/10
ENG. APPR.	G R	10/29/10

CALHOUN SUPERSTRUCTURE

TITLE SHEET
42' CC SERIES
401988 42X100 R1

SIZE: D | DWG. NO. TS1
SCALE: N T S | SHEET 1 OF 8

C:\Users\dalton\appdata\local\temp\AcPublish_5420\401988 42X100 R1.dwg
Nov 23, 2010 - 9:26am

GENERAL
DESIGN

1. These drawings have been prepared by the engineer of record (EOR) primarily to safeguard against major structural damage and loss of life, not to limit damage or maintain function as per requirements of the current accepted building code as listed in the basis for design.

2. Professional standards of care normally exercised under similar circumstances by reputable engineers in this area or similar localities have been used or exceeded in these drawings.

3. Design of non-structural elements (such as stairs, railings, non-load bearing walls, veneers, curtain walls, etc) and their attachments are not included and must be provided by others unless specifically noted on these drawings.

4. Design of prefabricated structural products (such as wood trusses, steel joists, or concrete pre-cast elements, etc) is not included and must be provided by others unless specifically noted on these drawings.

5. Specification references (such as ASTM, ACI, AWS, CWB etc) shall be the latest accepted version where noted on these drawings.

7. Any structural elements designed by others and attached to any portion of the main structure shall be approved by the EOR prior to construction.

CONSTRUCTION

6. An experienced licensed contractor with a working knowledge of applicable codes and industry accepted standard practices shall perform the work depicted in these drawings.

7. All work shall conform to the minimum standards of the current accepted building code found in the basis for design and other codes, industry specific specifications and standards listed herein. The contractor shall comply with requirements of all regulatory agencies with authority over any portion of the work. Work not explicitly shown on these drawings shall conform to all applicable codes and accepted standard practices.

8. The contractor shall verify all dimensions, elevations and conditions on these drawings with architectural and all other disciplines drawings prior to start of construction. Notify architect or EOR in writing before the start on construction regarding discrepancies, omissions or variations, or they shall become the sole responsibility of the contractor. Notes and the specific details on these drawings take precedence over general structural notes and typical details.

9. Construction methods are not explicitly included on these drawings. General sequences are shown for reference only. The contractor shall be solely responsible for all methods, sequences and procedures of construction. The contractor shall provide adequate shoring, bracing, framework, etc. as required for the protection of life and property during construction.

10. Excavation procedures including sharing and protection of adjacent property, structures, streets and utilities shall be performed in compliance with local building codes, regulations and safety requirements and shall be the contractor's responsibility.

11. Construction materials shall be spread out uniformly on structural systems such that design live loads are not exceeded.

12. Openings, pockets, etc. larger than 6 inches shall not be placed in structural members unless specifically detailed on these drawings. When drawings by others show items in structural members not shown on the structural drawings, notify the engineer in writing to determine correct deposition.

13. Site visits by the EOR are a resource for the contractor and shall not be considered as special inspections.

BASIS FOR DESIGN	
GOVERNING BUILDING CODE	IBC 2006
ROOF LOADS	
DEAD LOAD	1.25 PSF
COLLATERAL LOAD	0.25 PSF
LIVE LOAD	20 PSF
SNOW LOAD	60 PSF
IMPORTANCE FACTOR	0.80
Ct	1.2
Ce	0.9
pf	36.29 PSF
WIND DESIGN	
BASIC WIND SPEED	100 mph
WIND EXPOSURE	C
BASIC PRESSURE	16.07 PSF
IMPORTANCE FACTOR	0.87
ROOF HEIGHT	21'-3.75"
DESIGN ENCLOSURE	ENCLOSED
OCCUPANCY STANDARD	I

STRUCTURAL STEEL
MATERIALS

1. Structural steel members shall conform to the following ASTM (CSA G-40.21) with the following grades and material properties U.N.O.

SHAPE	CSA G40.21 DESIGNATION	ASTM DESIGNATION (SAE GRADE)	YEILD STRENGTH MPa (ksi)	TENSILE STRENGTH MPa (ksi)
STANDARD STEEL SHAPES	300 W	A36/44W	300 (44)	450-620 (65-80)
ROLLED WIDE FLANGE SECTIONS	350 W	A992	350 (50)	450 (65)
BARS AND PLATES	300 W	A36/44W	300 (44)	450-620 (65-80)
PIPES	---	A53	240 (35)	414 (60)
HSS SHAPES	350 W	500 GRADE C	350 (50)	450-650
MECHANICAL TUBING	---	787-05	380 (55)	---
STRUCTURAL BOLTS	---	A307 GR.A (GRADE 5.2)	---	724-827 (60)
	---	A325 TYPE 3 (GRADE 5.2)	---	724-827 (105-120)
	---	A354 GR. BD (GRADE 8)	---	827 (120)
	---	A490 (GRADE 8.1)	---	1034 (150)
ANCHOR BOLTS	---	F1554 GR 36	248 (36)	400-558 (58-80)
	---	F1554 GR 55	380 (55)	517-655 (75-95)
	---	F1554 GR 105	724 (105)	125-150 (125-150)

2. Structural steel shall be fabricated and erected in accordance with AISC specifications for the design fabrication and erection of structural steel buildings.

INSTALLATION

3. Welders shall be AWS certified where required by juristictional authority. All welding shall use E70 series low hydrogen electrodes. All welding shall conform to the latest American Welding Society standards; welds on drawings are shown as shop welds. Contractor may shop weld or field weld at his discretion. All full penetration welds shall be tested and certified by an independent testing laboratory.

4. All bolts shall be installed as bearing-type connections with threads excluded from shear plane (type "x" connection), UNO. High-strength bolts shall be snug tightened using any AISC approved method and do not require special inspections unless noted otherwise. All bolts in slotted or oversize holes and all high-strength bolts shall be installed with washers.

5. All expansion or epoxy bolts shall have current approved rating (ICC, ES or equivalent) for material into which installation occurs. Headed studs shall conform to all requirements of the latest edition of the "recommended practices for stud welding" and the "structural welding code" published by AWS. All bolts, anchor bolts, expansion bolts, etc. shall be installed with steel washers at face of wood.

6. Grout beneath column bases or bearing plates shall be 5000psi (35MPa) minimum non-shrink flow-able grout or dry-pack. Install grout under bearing plates before framing member is installed. At columns, install grout under base plates after column has been plumbed but prior to floor or roof installation. Grout depth shall be sufficient to allow grout or dry pack to be placed beneath plate without voids.

7. All misc. welds not noted, including stiffeners, misc. plates, etc. shall be per AISC manual table J2.4 or in a AWS certified shop.

LIGHT GAUGE STEEL FRAMING
MATERIALS

1. All products to be manufactured by the current members of the steel stud manufacturers association. All galvanized studs and joist shall be formed from steel that corresponds to the minimum requirements of the latest addition of the AISI Standards. All structural members shall be designed in accordance with the American Iron and Steel Institute (AISI) specification for the design of cold-formed steel structural members (latest edition).

2. Structural drawings show only the primary structural framing elements of the system, and the contractor shall provide all accessories required for the complete and proper installation, and as recommended by the manufacturer for the steel members used.

3. All welding shall be performed by welders experienced in light gauge structural steel framing work. All welds per AWS D1.3

FRAMING

4. Prior to fabrication of framing, the contractor shall submit shop drawings to the architect or EOR to obtain approval.

5. All framing components shall be cut squarely for attachment to perpendicular members or as required for an angular fit against abutting members.

6. Temporary bracing where required, shall be provided until erection is complete.

COMPONENT SCHEDULE					
MARK	DESCRIPTION	CHORDS	WEBS	BOLTS	COMMENTS
CCT	CC SERIES TRUSS COMPONENT	2-3/8"ø X 14 GA 55 KSI	U 1.5"X1.25"X14GA 50 KSI	1/2"ø GR 5	ALL STEEL HOT DIP GALVANIZED TO MIN. G90 PER ASTM A123-09

7. Fastening of the components shall be with self-drilling screws or welding. Screws or welds shall be of sufficient size to insure the strength of the connection. All welds of galvanized steel shall be touched up with paint. Wire tying of components shall not be permitted.

8. Screws shall be self-tapping pan head, hex head, or wafer head sheet metal screws. Screws which are removed shall be replaced by a screw of a larger diameter where the replacement is made into an existing hole. Replace all screws which strip out material. Screws shall be spaced no closer than 5/8" o.c. and with a minimum free edge distance of ½". Screws No. 8 and larger shall have a minimum head size of 5/16".

9. All welding shall be performed by welders experienced in light gauge structural steel framing work.

FOUNDATION

1. Foundations were designed per minimum requirements of the current accepted building code as listed in the basis for design. A Geotechnical Engineer should be commissioned to provide a soils report prior to the completion of the structural design for this project. The engineer will not assume any liability beyond the minimum code requirements in the event that a Geotechnical Report is not provided.

2. Footings and Foundations:
Minimum allowable soil bearing pressure: 1500 psf U.N.O

3. Cantilever Post walls:
Active Soil Pressure (eq. fluid weight) = 35 pcf
Passive Soil Pressure (eq. fluid weight) = 250 pcf
Sliding Resistance (friction) = 0.3

4. Footing excavations shall be clean and free from loose debris, standing water, or un-compacted material at the time of concrete placement.

5. Trenches and excavations under or adjacent to foundations or slabs shall be properly backfilled and compacted. Utility trenching parallel to the foundation shall be located a minimum distance equal to the depth of the trench from the foundation. The trench may approach the foundation at 90 degrees to the structure and may not exceed two and one half feet (0.76m) wide. The trench approach to the foundation my not be located closer than 8 feet (2.44m) from a corner of the structure.

6. All forms shall be properly braced to withstand the placement of fresh concrete.

7. Do not backfill against foundation walls more than 3 feet (0.914m) in height until after the top of the wall is braced by the completed interior floor systems and all elements have reached their design strength.

STANDARD ABBREVIATIONS

A.C.I.	AMERICAN CONCRETE INSTITUTE	ksi	KIPS PER SQUARE INCH
A.I.S.C.	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	L.L.H.	LONG LEG HORIZONTAL
A.I.S.I.	AMERICAN IRON AND STEEL INSTITUTE	L.L.V.	LONG LEG VERTICAL
A.N.S.I.	AMERICAN NATIONAL STANDARDS INSTITUTE	MFR.	MANUFACTURER
ARCH'L	ARCHITECTURAL PLANS AND SPECIFICATIONS	MAX	MAXIMUM
ALT	ALTERNATE	MIN	MINIMUM
A.S.T.M.	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MISC.	MISCELLANEOUS
A.W.S.	AMERICAN WELDERS SOCIETY	N.T.S.	NOT TO SCALE
B.O.D.	BOTTOM OF DECK	O.C.	ON CENTER
B.O.F.	BOTTOM OF FOOTING	OPP	OPPOSITE
C.A.N.	CANADIAN	psf	POUNDS PER LINEAR FOOT
C.S.A.	CANADIAN STANDARDS ASSOCIATION	psf	POUNDS PER SQUARE FOOT
C.W.S.	CANADIAN WELDERS SOCIETY	psi	POUNDS PER SQUARE INCH
C.W.B.	CANADIAN WELDING BUREAU	SIM	SIMILAR
C.J.	CONTROL JOINT	SPEC.	SPECIFICATION
CONT.	CONTINUOUS	STD	STANDARD
DIA	DIAMETER	T&G	TONGUE AND GROOVE
E.F.	EACH FACE	T.O.	TOP OF
E.O.R.	ENGINEER ON RECORD	T.O.D.	TOP OF DECK
EQ.	EQUAL	T.O.F.	TOP OF FOOTING
E.W.	EACH WAY	T.O.J.	TOP OF JOIST
F.F.E	FINISH FLOOR ELEVATION	T.O.L.	TOP OF LEDGER
ft	FOOT	T.O.M.	TOP OF MASONRY
GA	GAUGE	T.O.S.	TOP OF STEEL
GLB	GLULAM BEAM	T.O.W.	TOP OF WALL
G.S.N.	GENERAL STRUCTURAL NOTES	TYP	TYPICAL
HSS	HOLLOW STRUCTURAL SECTION	U.B.C.	UNIFORM BUILDING CODE
I.B.C.	INTERNATIONAL BUILDING CODE	U.N.O.	UNLESS NOTED OTHERWISE
k	KIP (1,000 LBS)	VERT	VERTICAL
K.O.	KNOCKOUT		

STRUCTURE REACTIONS				
BASIC LOAD CASE	WINDWARD / SIDE A		LEEWARD / SIDE B	
	HORIZONTAL (kip)	VERTICAL (kip)	HORIZONTAL (kip)	VERTICAL (kip)
DEAD LOAD	0.21	0.40	-0.21	0.40
COLLATERAL LOAD	0.03	0.05	-0.03	0.05
ROOF LIVE LOAD	1.29	2.48	-1.29	2.48
BALANCED SNOWLOAD	3.05	4.62	-3.05	4.61
UNBALANCED SNOWLOAD	1.98	1.74	-2.03	4.67
WIND PERP +CP +IP	-2.10	-2.30	0.08	-2.60
WIND PERP -CP +IP	-2.10	-2.30	0.08	-2.60
WIND PERP +CP -IP	-2.03	-1.03	0.01	-1.32
WIND PERP -CP -IP	-2.03	-1.03	0.01	-1.32
WIND PAR +IP	-0.19	-3.24	0.19	-3.24
WIND PAR -IP	-0.14	-1.97	0.14	-1.97
WIND POST	----	----	----	----

THE FOLLOWING SHOULD BE ADDED TO THE PARALLEL WIND CASE FOR FRAMES WITH HORIZONTAL FORCE PARALLEL TO BUILDING LENGTH: GRIDLINES 1-3, 9-11	HORIZONTAL (kip)	VERTICAL (kip)	MAX. CABLE FORCE (kip)
	0.62	2.37	2.45

FRAME SPACING AND REACTIONS ASSUME LATERAL DEFLECTION LESS THAN 1/4" AT TOP OF WALL FOR COMBINED LOADING. FOUNDATION WALL DEFLECTION SHALL BE A MAXIMUM OF L/600.

FOUNDATION DESIGNED AND SUPPLIED BY OTHERS

STATE OF MAINE
Gregory
Leo
Riley
9628
LICENSED
PROFESSIONAL ENGINEER
Expires 12.31.11

No.	REVISION / ISSUE	DATE
1	ENGINEER APPROVAL	10/28/10

Calhoun Superstructure Ltd.
3702 Bruce Rd #10
Tara, Ontario, Canada
N0H 2N0
800-365-3064
www.calhounsuperstructure.com

	NAME	DATE
DRAWN	W H T	10/28/10
CHECKED	D P D	10/28/10
ENGL. APPRL.	D R	10/28/10

CALHOUN SUPERSTRUCTURE

G S N
42' CC SERIES
401988 42X100 R1

DWG. NO. GS1.1
SCALE: N T S
SHEET 2 OF 8

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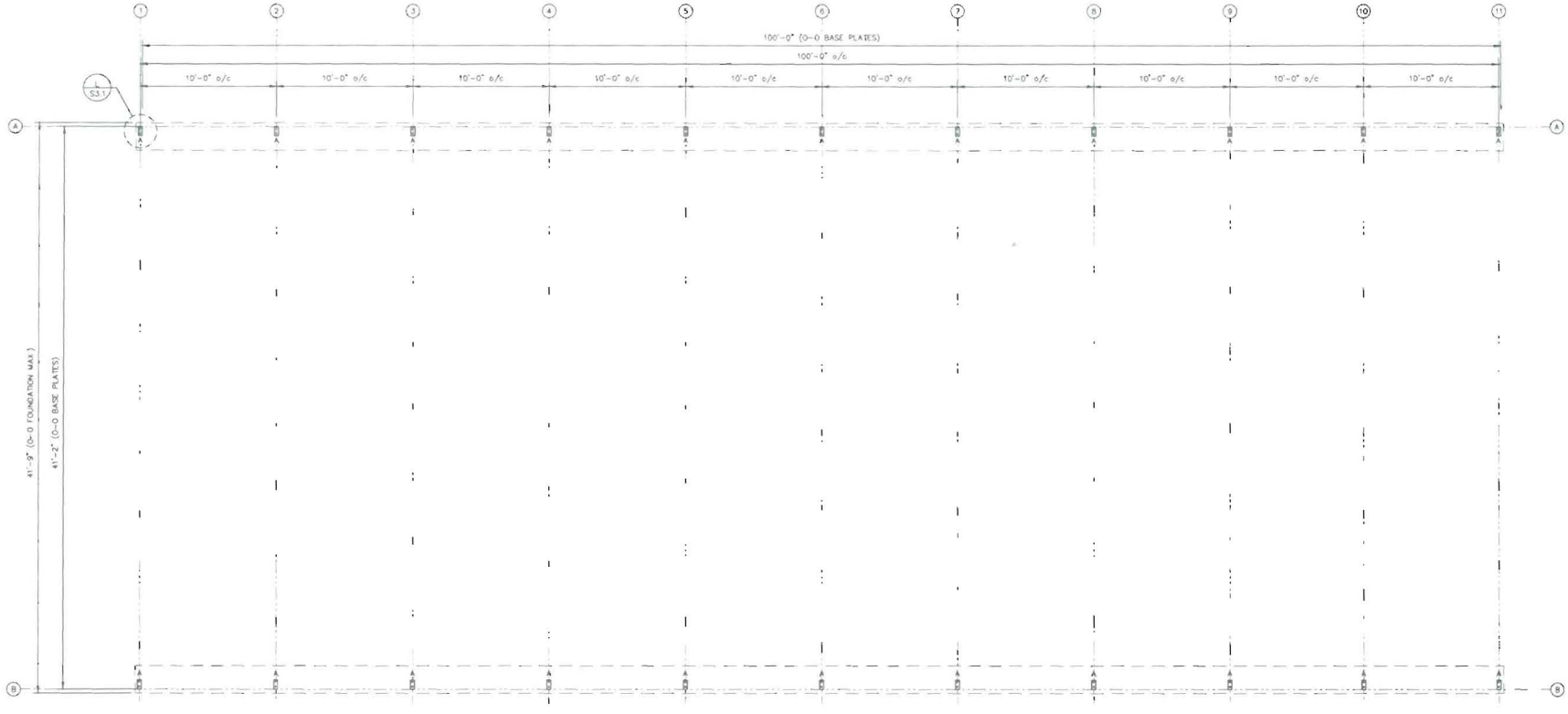
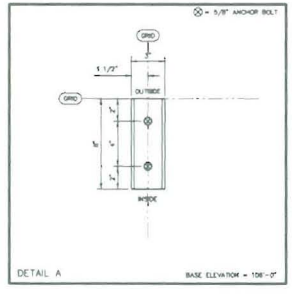
Nov 23 2010 - 9:20am





STATE OF MAINE
Gregory
Leo
Riley
9628
LICENSED
PROFESSIONAL ENGINEER

Expires 12.31.11

FOUNDATION DESIGNED AND SUPPLIED BY OTHERS

GENERAL NOTES

1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. RESOLVE DISCREPANCIES WITH THE BUILDING SUPPLIER.
2. FINISHED FLOOR ELEVATION THIS SHEET = 100'-0" U.N.O.
3. ALL CONCRETE COMPONENTS ARE DESIGNED AND SUPPLIED BY OTHERS

NO.	DESCRIPTION	DATE
1	ENGINEER APPROVAL	10/29/10

REVISION / ISSUE

Calhoun Superstructure Ltd.
3702 Bruce Rd #10
Tara, Ontario, Canada
N0H 2N0
800-385-3984
www.calhounsuperstructure.com

	NAME	DATE
DRAWN	W H T	10/29/10
CHECKED	D P D	10/29/10
ENG. APPR.	D R	10/29/10

CALHOUN SUPERSTRUCTURE

FOUNDATION PLAN
42' CC SERIES
401988 42X100 R1

SIZE D | DWG. NO. S2.1
SCALE 1/4"=1' | SHEET 3 OF 8

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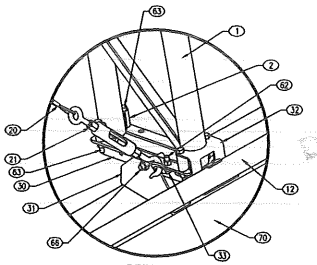
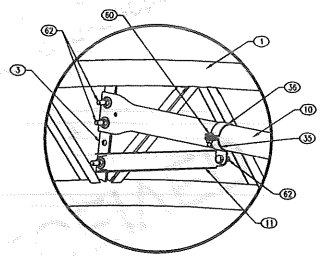
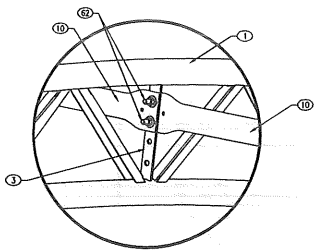


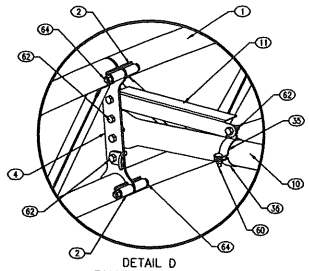
DETAIL A
CONCRETE WALL ANCHOR BOOT



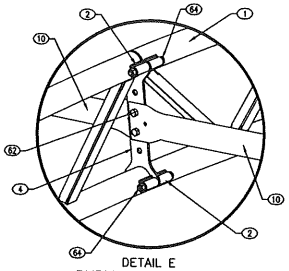
DETAIL B
PURLIN AT RIDGE/END



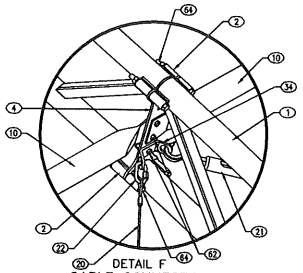
DETAIL C
PURLIN AT RIDGE



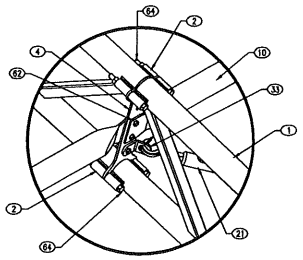
DETAIL D
PURLIN AT END



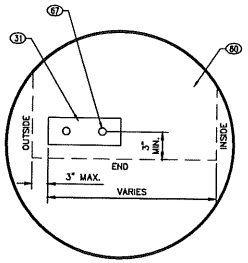
DETAIL E
PURLIN CONNECTION



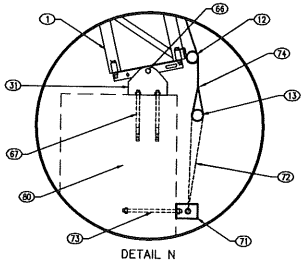
DETAIL F
CABLE CONNECTION



DETAIL G
CABLE CONNECTION



DETAIL L
CONCRETE WALL BOOT MOUNT



DETAIL N
CONCRETE WALL MOUNT

COMPONENT SCHEDULE (AS OCCURS)

ITEM No.	DESCRIPTION	PART No.	COMMENT
TRUSSES			
1	TRUSS SECTION		SEE SCHEDULE – SHEET S4.1
2	COMPRESSION COUPLING	101	TRUSS TO TRUSS CONNECTION
3	WELD-IN BRACKET	PU5026P	PURLINS/CABLES TO TRUSS CONNECTION
4	BOLT-IN TRUSS BRACKET	PU5025P	PURLINS/CABLES TO TRUSS CONNECTION
PURLINS			
10	TYPICAL PURLIN		TYPICAL PURLIN – ALL BAYS
11	BRACE PURLIN	PU5029P	DIAGONAL PURLIN – CABLE BRACED BAYS ONLY
12	STANDOFF TUBE	SP0001P	CONTINUOUS FABRIC STANDOFF TUBE
13	SLEEVE PIPE	SP0001P	CONTINUOUS FABRIC SLEEVE PIPE
CABLES			
20	3/16"ø GALV. 7X19 WIRE ROPE		CABLE BRACING
21	3/8" TURNBUCKLE		CABLE ASSEMBLY
22	QUICK LINK		CABLE ASSEMBLY
BRACKETS			
30	TRUSS BASE BRACKET	BP5006P	TRUSS TO WALL BOOT CONNECTION
31	WALL BOOT	BP6000P	TRUSS BASE BRACKET TO WALL CONNECTION
32	STANDOFF TUBE HANGER	SP5007A	STANDOFF TUBE TO TRUSS CONNECTION
33	CABLE HOOK – SINGLE	CA5045P	CABLE ASSEMBLY TO TRUSS CONNECTION
34	CABLE HOOK – DOUBLE	CA5046P	CABLE ASSEMBLY TO TRUSS CONNECTION
35	BRACE PURLIN BRACKET	PU5031A	BRACE PURLIN TO TYPICAL PURLIN CONNECTION
36	BRACE PURLIN BACK BRACKET	CA5001P	BRACE PURLIN TO TYPICAL PURLIN CONNECTION
37	UPRIGHT TRUSS BRACKET		UPRIGHT TO TRUSS CONNECTION
38	UPRIGHT BASE BRACKET	EW0001P	UPRIGHT TO FOUNDATION CONNECTION
39	UNIVERSAL BRACKET	EW0002P	DOOR HEADER TO UPRIGHT CONNECTION
40	CEE CHANNEL BRACKET	EW5006P	CEE CHANNEL UPRIGHT/DOOR HEADER CONNECTION
41	COLUMN ANCHOR PLATE – LAT	EW0005A	UPRIGHT TO FOUNDATION AT O/H DOOR
END WALL			
50	HSS UPRIGHT		SEE SCHEDULE – SHEET S4.2
51	HSS DOOR HEADER		SEE SCHEDULE – SHEET S4.2
52	CEE CHANNEL		SEE SCHEDULE – SHEET S4.2
HARDWARE			
60	3/8"X1" CARRIAGE BOLT	FA0098P	BRACE PURLIN BRACKET CONNECTION
61	3/8"X5" HEX BOLT	FA0070P	UNIVERSAL BRACKET TO UPRIGHT HSS
62	1/2"X1-1/2" HEX BOLT	FA0011P	PURLIN/CABLE HOOK CONNECTION
63	1/2"X3-1/2" HEX BOLT	FA0006P	TRUSS TO TRUSS BASE BRACKET CONNECTION
64	1/2"X5" HEX BOLT	FA0010P	COMPRESSION COUPLING CONNECTION
65	1/2"X5-1/2" HEX BOLT	FA0080P	UPRIGHT BASE BRACKET TO HSS CONNECTION
66	5/8"X4" GR5 HEX BOLT	FA0055P	TRUSS BASE TO BASE PLATE CONNECTION
67	CONCRETE ANCHOR		DESIGNED AND SUPPLIED BY OTHERS
68	3/8" U-BOLT		UPRIGHT BRACKET TO TRUSS CONNECTION
69	3/8" SQUARE U-BOLT		UPRIGHT BRACKET TO HSS CONNECTION
70	TEK SCREW	FA0085P	UNIVERSAL BRACKET TO DOOR JAMB/HEADER
71	LARGE RATCHET	MI0002P	SLEEVE PIPE TENSIONING
72	2" WEBBING	MI0002P	SLEEVE PIPE TENSIONING
73	5/8" ANCHOR / THREADED ROD		RATCHET TO FOUNDATION ANCHOR – BY OTHERS
74	FABRIC		FABRIC COVER
75	1/2"X5-1/2" CARRIAGE BOLT		UPRIGHT TRUSS BRACKET TO TRUSS
FOUNDATION			
80	FOUNDATION		DESIGNED AND SUPPLIED BY OTHERS

STATE OF MAINE
Gregory
Leo
Riley
9628
LICENSED
PROFESSIONAL ENGINEER
Expires 12.31.11

OUNDATION DESIGNED
SUPPLIED BY OTHERS

NO.	DESCRIPTION	DATE
1	ENGINEER APPROVAL	10/28/10

REVISION / ISSUE

Calhoun Superstructure Ltd.
3702 Bruce Rd #10
Tara, Ontario, Canada
N0H 2N0
800-265-3961
www.calhounsuperstructure.com

	NAME	DATE
DRAWN	W H T	10/28/10
CHECKED	D P D	10/28/10
ENG. APPR.	D R	10/28/10

CALHOUN SUPERSTRUCTURE

DETAILS
42' CC SERIES
401988 42X100 R1

SIZE: D | DWG NO.: S3.1
SCALE: N T S | SHEET 4 OF 8

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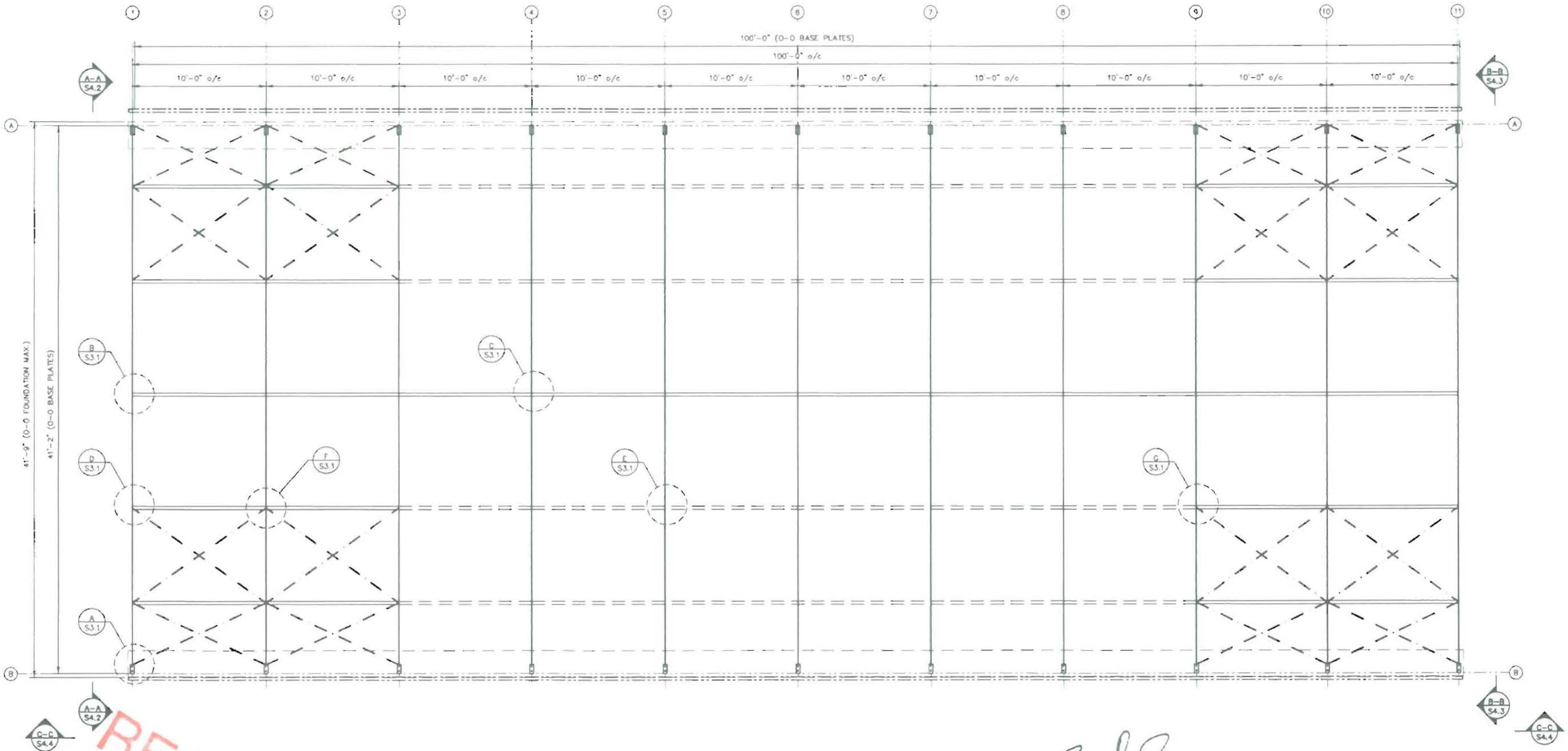
Nov 23, 2010 - 9:28am



GENERAL NOTES

1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. RESOLVE DISCREPANCIES WITH THE BUILDING SUPPLIER.
2. FINISHED FLOOR ELEVATION THIS SHEET = 100'-0" U.N.O.
3. CONCRETE WALLS, SLAB, ETC. ARE DESIGNED AND SUPPLIED BY OTHERS

FRAMING SCHEDULE

LEGEND	DESCRIPTION	SECTION	GAUGE	COMMENTS
══ ══ ══	TYPICAL PURLIN	2-3/8"ø	13	UNBRACED BAYS
═════	TYPICAL PURLIN	2-7/8"ø	14	BRACED/RIDGE BAY
═ :: ═ :: ═	STAND-OFF/SLEEVE PIPE	2-3/8"ø	14	ALL BAYS
— — —	BRACE CABLE DIAGONAL	3/16"ø GALVANIZED 7X19 WIRE ROPE	---	HAND TIGHT PLUS 5-1/4 TURNS AND LOOSEN TO SLACK THEN HAND TIGHT PLUS 1-3/4 TURNS

3/16"ø BRACE CABLE, PRE TENSION TO 600 LBF. ALL TURNBUCKLE ASSEMBLIES SHALL BE HAND TIGHT PLUS SPECIFIED TURNS USING A CHEATER BAR OR WRENCH.

10 oz. WOVEN POLYETHYLENE TARP c/w UV PROTECTION (FLAME SPREAD INDEX = 25/ SMOKE DEVELOPED = 22). PRE-TENSION TARP TO 100 PLF - SEE TARP PRE-TENSION SCHEDULE THIS SHEET.

TARP PRE-TENSION SCHEDULE

FRAME SPACING	SPACER TUBE SIZE	TUBE DEFLECTION AT CENTER
6'	2-3/8"ø	1/4"
8'	2-3/8"ø	1/2"
10'	2-3/8"ø	1"
12'	2-3/8"ø	2-1/4"
12'	2-7/8"ø	1-1/4"

END BAYS ONLY. FOR INTERIOR BAYS, VISUAL AND PHYSICAL INSPECTION OF TARP REQUIRED

STATE OF MAINE
Gregory Leo Riley
9628
LICENSED
PROFESSIONAL ENGINEER
Expires 12.31.11

FOUNDATION DESIGNED AND SUPPLIED BY OTHERS

No.	DESCRIPTION	DATE
1	ENGINEER APPROVAL	10/29/10

REVISION / ISSUE

Calhoun Superstructure Ltd.
3702 Bruce Rd #10
Tara, Ontario, Canada
N0H 2N0
800-265-3994
www.calhounsuperstructure.com

	NAME	DATE
DRAWN	W.H.T.	10/29/10
CHECKED	D.P.S.	10/29/10
ENG. APPR.	G.R.	10/29/10

CALHOUN SUPERSTRUCTURE

FRAMING PLAN
42' CC SERIES
401988 42X100 R1

SIZE: D
DWG NO.: S4.1
SCALE: 3/8"=1'
SHEET: 5 OF 8

PDF ✓

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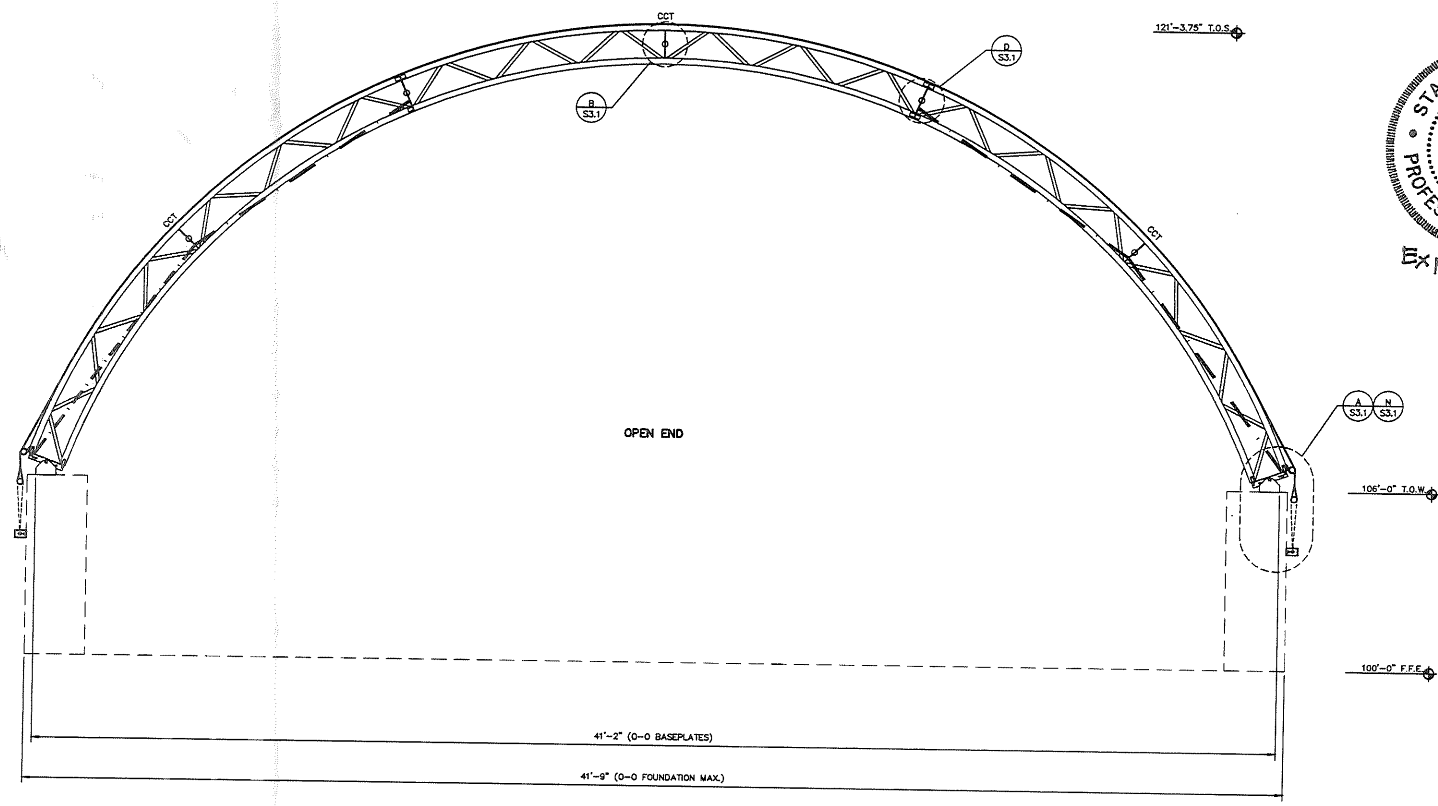
Nov 23, 2010 - 9:28am



GRIDLINE 1

STATE OF MAINE
Gregory Leo Riley 9628
LICENSED
PROFESSIONAL ENGINEER
Expires 12.31.11

FOUNDATION DESIGNED AND SUPPLIED BY OTHERS

GENERAL NOTES

1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. RESOLVE DISCREPANCIES WITH THE BUILDING SUPPLIER.
2. FINISHED FLOOR ELEVATION THIS SHEET = 100'-0" U.N.O.
3. CONCRETE WALLS, SLAB, ETC. ARE DESIGNED AND SUPPLIED BY OTHERS

No.	DESCRIPTION	DATE
1	ENGINEER APPROVAL	10/29/10

REVISION / ISSUE

Calhoun Superstructure Ltd.
3702 Bruce Rd #10
Tara, Ontario, Canada
N0H 2N0
800-265-3994
www.calhounsuperstructure.com

	NAME	DATE
DRAWN	W H T	10/29/10
CHECKED	D P D	10/29/10
ENG. APPR.	G R	10/29/10

CALHOUN SUPERSTRUCTURE

ELEVATION A-A
42' CC SERIES
401988 42X100 R1

SIZE: D
DWG. NO.: S4.2
SCALE: 1/2"=1'
SHEET: 6 OF 8

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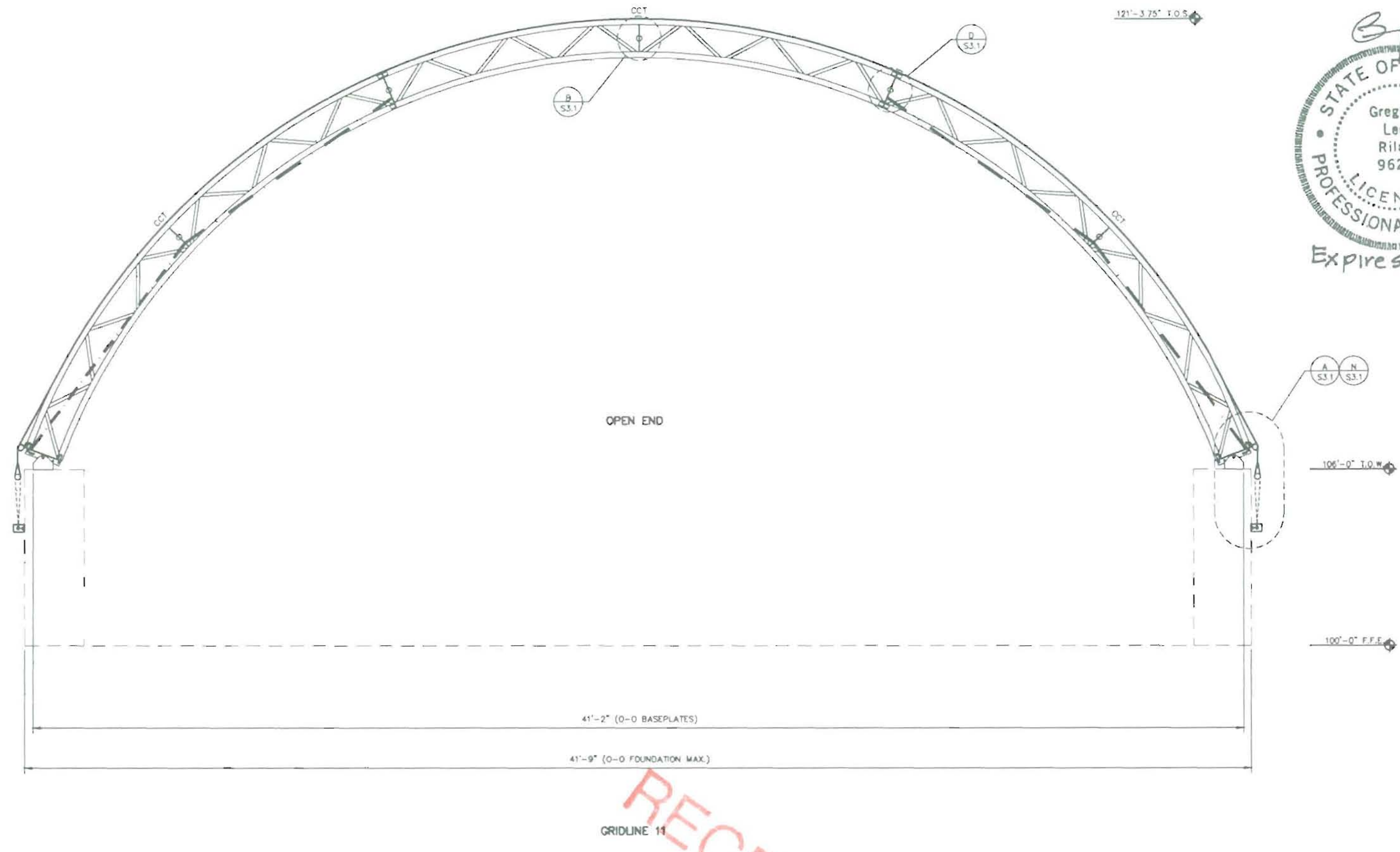

STATE OF MAINE
Gregory Leo Riley 9628
LICENSED
PROFESSIONAL ENGINEER
Expires 12.31.11

FOUNDATION DESIGNED AND SUPPLIED BY OTHERS

GENERAL NOTES

1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. RESOLVE DISCREPANCIES WITH THE BUILDING SUPPLIER.
2. FINISHED FLOOR ELEVATION THIS SHEET = 100'-0" U.N.O.
3. ALL CONCRETE COMPONENTS ARE DESIGNED AND SUPPLIED BY OTHERS

No.	DESCRIPTION	DATE
1	ENGINEER APPROVAL	10/29/10

REVISION / ISSUE

Calhoun Superstructure Ltd.
3702 Bruce Rd #10
Tara, Ontario, Canada
N0H 2N0
800-265-3994
www.calhounsuperstructure.com

	NAME	DATE
DRAWN	W H T	10/29/10
CHECKED	D P D	10/29/10
ENG. APPR.	G R	10/29/10

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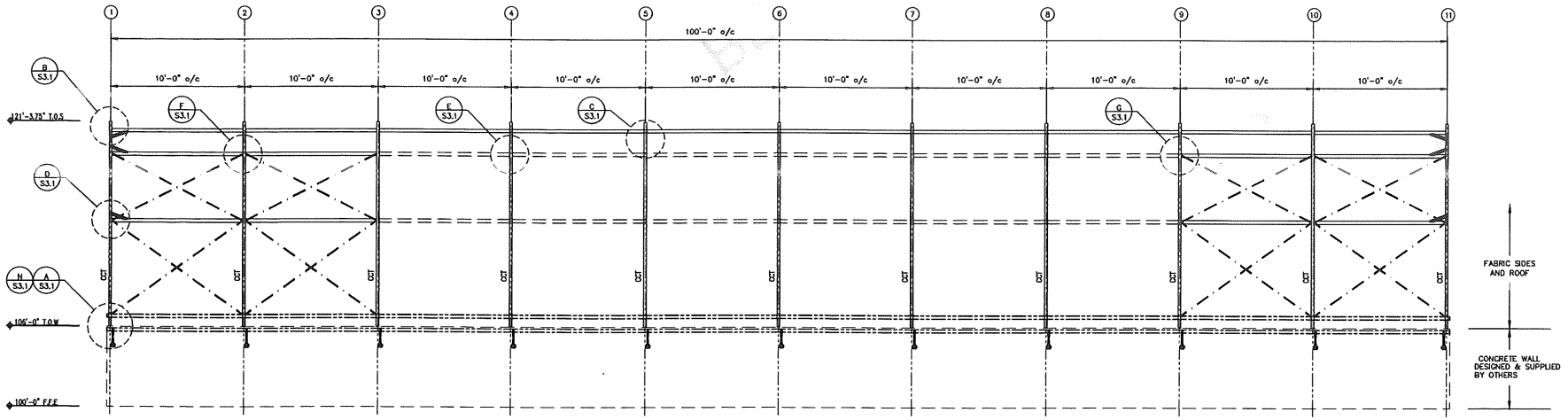
CALHOUN SUPERSTRUCTURE

ELEVATION B-B
42' CC SERIES
401988 42X100 R1

SIZE D
DWG. NO. S4.3
SCALE 1/2"=1'
SHEET 7 OF 8

PDF✓



FRAMING SCHEDULE				
LEGEND	DESCRIPTION	SECTION	GAUGE	COMMENTS
═══	TYPICAL PURLIN	2-3/8"ø	13	UNBRACED BAYS
═══	TYPICAL PURLIN	2-7/8"ø	14	BRACED/RIDGE BAY
═══	BRACE PURLIN	U 2"X2"	11	BRACE BAYS ONLY
═══	STAND-OFF/SLEEVE PIPE	2-3/8"ø	14	ALL BAYS
- - - -	BRACE CABLE DIAGONAL	3/16"ø GALVANIZED 7X19 WIRE ROPE	----	HAND TIGHT PLUS 5-1/4 TURNS AND LOOSEN TO SLACK THEN HAND TIGHT PLUS 1-3/4 TURNS
3/16"ø BRACE CABLE, PRE TENSION TO 600 LBF. ALL TURNBUCKLE ASSEMBLIES SHALL BE HAND TIGHT PLUS SPECIFIED TURNS USING A CHEATER BAR OR WRENCH.				
10 oz. WOVEN POLYETHYLENE TARP c/w UV PROTECTION (FLAME SPREAD INDEX = 25/ SMOKE DEVELOPED = 22). PRE-TENSION TARP TO 100 PLF - SEE TARP PRE-TENSION SCHEDULE THIS SHEET.				

TARP PRE-TENSION SCHEDULE		
FRAME SPACING	SPACER TUBE SIZE	TUBE DEFLECTION AT CENTER
6'	2-3/8"ø	1/4"
8'	2-3/8"ø	1/2"
10'	2-3/8"ø	1"
12'	2-3/8"ø	2-1/4"
12'	2-7/8"ø	1-1/4"
END BAYS ONLY, FOR INTERIOR BAYS, VISUAL AND PHYSICAL INSPECTION OF TARP REQUIRED		

GENERAL NOTES

1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. RESOLVE DISCREPANCIES WITH THE BUILDING SUPPLIER.
2. FINISHED FLOOR ELEVATION THIS SHEET = 100'-0" U.N.O.
3. CONCRETE WALLS, SLAB, ETC. ARE DESIGNED AND SUPPLIED BY OTHERS

STATE OF MAINE
Gregory
Leo
Riley
9628
LICENSED
PROFESSIONAL ENGINEER
Expires 12.31.11

FOUNDATION DESIGNED AND SUPPLIED BY OTHERS

No.	DESCRIPTION	DATE
1	ENGINEER APPROVAL	10/28/10
	REVISION / ISSUE	

Calhoun Superstructure Ltd.
2702 Bruce Rd #12
Tara, Ontario, Canada
N0H 2N0
800-265-5994
www.calhounsuperstructures.com

	NAME	DATE
DRAWN	W H T	10/28/10
CHECKED	D P D	10/28/10
ENG. APPR.	G R	10/28/10

CALHOUN SUPERSTRUCTURE

ELEVATION C-C
42' CC SERIES
401988 42X100 R1

SIZE D | DWG. NO. S4.4
SCALE 1/4"=1' | SHEET 8 OF 8

Certificate of Registration

This is to certify that **QUASAR** *has certified:*

Calhoun Super Structures

Design Office: 3702 Bruce Road # 10, Tara, ON N0H 2N0
Plants: RR # 1, 7453 Wellington Road # 18, Elora, ON N0B 1S0 / Anchor Industries Inc., 1100 Burch Drive, Evansville, IN 47725-1700

to the Certification Standard:

CAN/CSA A660-10

"Certification of Manufacturers of Steel Building Systems"

Initial Registration	Date of Issue	Date of Expiry	Certificate Number
10 December 2010	10 December 2010	10 December 2011	WELLI0

Scope: Design and manufacture of steel building systems

QUASAR

Registrar

Registered by QUASAR

Refer to www.cwbgroup.org for current certification status.

QUASAR, A Division of the CWB Group, 8260 Park Hill Drive, Milton, Ontario, Canada, L9T 5V7, Tel: 1-800-844-6790 / (905)-542-1312, Fax: (905) 542-1318, Web: www.cwbgroup.org

THE CANADIAN WELDING BUREAU

COURSES

Welding Supervisor Course - Steel
Edmonton, AB
1/10/2011

Welding Supervisor Course - Steel
Milton, ON
1/17/2011

Welding Inspector Level 1
Saskatoon, SK
11/17/2011

The QUASAR Advantage

QUASAR Systems > The QUASAR Advantage

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- Sixteen years of professional service
- Broad Spectrum of industries
- Unparalleled expertise
- Business optimization and growth
- Client focused and supportive auditing

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- *ISO 14001:2004: Environmental Management System
- OHSAS 18001:2007 Health and Safety Management Systems
- CSA A660-10: Ont. Reg. 22/04: Electrical Distribution Safety Certification of Manufacturers of Steel Building Systems
- *CAN3-Z299: Quality Assurance Programs
- CISC Quality Guideline: Quality certification program for the Canadian Institute of Steel Construction

*These services are accredited by the Standards Council of Canada (SCC)

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- Manufacturing
- Structural steel
- Construction
- Transportation equipment
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- Shipbuilding
- Electricity supply
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Whether tool or die, chemical products, mining equipment or software development, QUASAR draws on its experience and knowledge network, ensuring that each client's specific needs are integrated into an optimized system solution.

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SUMMIT

ENVIRONMENTAL CONSULTING • GEOTECHNICAL ENGINEERING • CONSTRUCTION MATERIALS TESTING

Geotechnical Report

Proposed Building
Riverside Transfer Station
Portland, Maine

Prepared for:

St. Germain and Associates, Inc

Prepared by:

Summit Geoengineering Services
Project #17183
April 2007

From BLDG Permit!
07-0520
910 Riverside St.
CBL: 357-A-001

Lewiston:
640 Main Street • Lewiston, ME 04240
Tel: (207) 795-6009 • Fax: (207) 795-6128

Bangor:
8 Harlow St., Suite 4A • Bangor, ME 04401
Tel: (207) 262-9040 • Fax: (207) 262-9080

Augusta:
434 Cony Road • Augusta, ME 04330
Tel: (207) 261-8334 • Fax: (207) 626-9094

Portland:
1 Industrial Way, Suite 7 • Portland, ME 04103
Tel: (207) 221-6360 • Fax: (207) 221-6146

SUMMIT

ENVIRONMENTAL CONSULTING • GEOTECHNICAL ENGINEERING • CONSTRUCTION MATERIALS TESTING

April 10, 2007
Summit #17183

Mark St. Germain
St. Germain and Associates, Inc.
846 Main Street, Suite 3
Westbrook, Maine 04092

Reference: Geotechnical Services
Proposed Building, 910 Riverside Transfer Station, Portland, Maine

Dear Mark;

We have completed the geotechnical investigation in connection with the construction of a new building at the Riverside Transfer Station located Portland, Maine. Our scope of services included observing a test pit at the site and preparing this letter summarizing our findings and geotechnical recommendations.

1.0 Project and Site

The project will consist of constructing a new transfer station building with an approximate footprint of 22 by 58 feet located within the Riverside Transfer Station in Portland, Maine. Currently the site is underlain by reclaim soil overlying a thin clay later overlying approximately 80 feet of trash/debris fill as a former dump site. In general, the building location is a relatively flat area. An approximate 6 to 8 foot retaining wall was previously construction adjacent to the proposed building footprint. Summit previously provided geotechnical recommendations for the design and construction of this wall.

Based on our conversations with MacLeod Structural Engineers, we understand the proposed building will be a wood framed structure supported on a reinforced slab-on-grade. We further understand the following:

- Maximum slab loads of 150 psf or less
- Exterior foundation wall loads 700 lb/ft or less
- Building supported by a 12-inch thick reinforced concrete slab-on-grade
- Building is generally considered to an unheated structure
- No proposed underground utilities expect for possible power

2.0 Exploration

The subsurface conditions were explored by performing one test pit within the vicinity of the proposed building footprint. Test pit TP-1 was performed to a depth of 7 feet using a Volvo EC 210B provided and operated by the facility management. Summit was on site to coordinate and observe the exploration. A log of the test pit is included at the end of this report

3.0 Subsurface Conditions

The soil at the site consisted of 7 feet of bituminous ***fill/reclaim***, overlying former bituminous pavement. Explorations below this depth were not made available. In general, we understand the subgrade conditions beneath the former bituminous pavement consist of imported granular fill (1 to 2 feet) overlying stiff to firm silty clay (4 to 5 feet) overlying trash and debris fill (estimated to be up to 80 feet in thickness).

The ***fill/reclaim*** encountered generally consisted of black to dark brown sand with little gravel and little silt and is visually classified as SM soil in accordance with the Unified Soil Classification System (USCS). The fill/reclaim was generally compact to loose, damp to slightly moist and contained occasional organics and bituminous pavement debris.

Bedrock was not encountered within the test pit exploration. The Bedrock Geologic Map by the Maine Department of Conservation indicates that the bedrock within the site location is part of the Vassalboro Formation (SOv) consisting of calcareous sandstone, interbedded sandstone and impure limestone.

Groundwater seepage was not encountered with the test pit exploration. In general, groundwater is anticipated to reside beneath the exiting fill/reclaim section within the proposed building footprint.

4.0 Evaluation

The foundation for the proposed building will consist of a structural slab-on-grade at or near the existing grade. Based on the relatively light building loads and minimal site fill required beneath the building footprint, the depth and magnitude of loading imposed by the building and fill is considered to be minimal. We also understand that no underground utilities, expect power, is planned for the building. Due to these conditions, the structure will be somewhat tolerable to higher total and differential settlement levels then conventional building foundations.

The building footprint will be located within a recently filled section overlying trash and debris fill. Composition and existing condition of the trash and debris fill is not fully known. Explorations for the underlying trash and debris fill were not considered feasible for this project. Based on this, it should be noted that the proposed building footprint area as a unit could potentially be subjected to settlement caused by creep/decay of the underlying trash and debris fill over time. The magnitude and time associated for this settlement is considered relatively unknown. In general, differential settlement realized by the structure is anticipated to be tolerable provided the settlement occurs relatively uniform over time.

5.0 Foundation Recommendations

A. General

In general, the foundation soils explored to a depth of 7 feet are suitable to support the proposed foundation as planned. Recommendations for frost protection and set back requirements for retaining wall protection are detailed below. It should be noted that the building footprint area as a complete unit might be subjected to settlement caused by creep/decay of the underlying trash and debris fill over time. Potential damage to the proposed building structure from this condition could result depending on the magnitude of total and differential settlement realized.

B. Foundation Design Recommendations

We recommend that the structural slab be designed using a maximum total contact pressure of 150 psf or less and a subgrade modulus of 100 pci. We further recommend the following:

- The structural slab is constructed at a minimum setback of 4 feet horizontally from the back of the existing retaining wall.
- The structural slab does not exceed a maximum contact pressure of 150 psf or have an exterior line load exceeding 700 lb/ft.
- The structural slab is constructed on a 24-inch thick layer of Structural Backfill.
- The existing ground surface is proof rolled beneath the building footprint prior to placing Structural Backfill. Proof rolling should consist of a minimum of three passes in a north-south direction and then three passes in an east-west direction using a small vibratory roller or large vibratory plate compactor.
- Fill required beneath the structural slab does not exceed 2 feet in thickness.

We recommend that the Structural Backfill be placed along and below the exterior perimeter of a reinforced slab and have a maximum particle size limited to 6 inches and meet the following gradation specifications passing the 3-inch sieve:

STRUCTURAL BACKFILL	
Sieve Size	**Percent finer**
3 inch	100
1/4 inch	25 to 70
No. 40	0 to 30
No. 200	0 to 5

Reference: MDOT Specification 703.06, Type C

The Structural Backfill should be placed in 6 to 12-inch lifts and should be compacted to 95 percent of its maximum dry density determined in accordance with ASTM D1557. Any debris and/or organic mater encountered during excavation or subgrade preparation beneath the building footprint should be removed and replaced with compacted Structural Backfill.

C. Frost Protection

The frost penetration depth based on a design air-freezing index of 1,250 degree days for the Portland area is 4 feet. In general, the subgrade soils beneath the proposed building slab will consist of granular material having fair to good permeability. Groundwater within the building slab footprint is anticipated to be below frost depth. Based on this, we recommend that the building slab be constructed on 24-inches of Structural Backfill for a minimum protection of 50% the design air-freezing index.

D. Groundwater Control

Groundwater is anticipated to be below exterior slab depths for the proposed building. Based on this, perimeter underdrains are not strictly necessary. We recommend that exterior grades slope away from the addition to reduce runoff water from infiltrating the Structural Backfill.

6.0 Earthwork Consideration

Based on our field observation, the existing granular fill/reclaim encountered beneath the proposed building at the site will likely contain too high fines content to meet Structural Backfill gradation requirements. It should be removed from beneath the building slab and replaced with Structural Backfill as described above.

Excavations performed near the existing retaining wall should be performed with care to prevent damage to existing geogrid reinforcement. We recommend that a minimum soil cover thickness of 6 inches be maintained at all times between the bottom of excavation and top of geogrid layer.

We recommend that a qualified geotechnical consultant be retained to monitor and test soil materials used during construction. Summit would welcome the opportunity to provide this service.

7.0 Closure

Our recommendations are based on professional judgment and generally accepted principles of geotechnical engineering and project construction information provided by others. Some changes in subsurface conditions from those presented in this report may occur. Should these conditions differ materially or should foundation and earthwork construction or design conditions change from those described in this report, Summit should be notified so that we can re-evaluate our recommendations.

Due to the unknown composition of the trash and debris fill underlying the proposed building, Summit cannot guarantee the long-term performance of the foundation even if the recommendations in this report are followed.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or additional information is required, please do not hesitate to call.

Sincerely yours,
Summit Geoengineering Services,

Craig W. Coolidge, E.I.T.
Geotechnical Engineer

William M. Peterlein, P.E.
Principal Geotechnical Engineer

TEST PIT LOG

SUMMIT GEOENGINEERING SERVICES 640 Main Street Lewiston, Maine 04240	TEST PIT LOG Project: Riverside Transfer Station Proposed Building Portland, Maine	Test Pit # TP-1 Project #: 17183 Groundwater: None Encountered

Contractor:	Waste Management	Ground Surface Elevation:	Not Available		
Equipment:	Volvo EC 210B	Reference:	Not Available		
Summit Staff:	Craig Coolidge E.I.T.	Date:	3/28/2007	Weather:	Sunny

Depth (ft)	DESCRIPTION	
	ENGINEERING	GEOLOGIC/GENERAL
1.0	Compact to loose, black to dark brown SAND, little Gravel and Silt, trace organics and bituminous pavement debris, damp to slightly moist, SM	FILL/RECLAIM
2.0		
3.0		
4.0		
5.0		
6.0		
7.0		
8.0	End of exploration at 7', top of former pavement section	7'
9.0		
10.0		
11.0		
12.0		
13.0		
14.0		
15.0		
16.0		
17.0		
18.0		
19.0		
20.0		

8. SURFACE WATER QUALITY

A. Stormwater and Leachate Management:

(1) Storm Water Volume: The applicant has submitted a letter from St. Germain & Associates dated February 25, 2010 which states that there will be no change in stormwater runoff or rate from the proposed site changes, and that the existing storm water conveyance and erosion control measures appear adequate to handle the runoff. The Department finds that there will be a slight increase in the volume of runoff from the new 4,400 square foot impervious surface (fabric structure over asphalt) compared to the compacted gravel that it is replacing, however the quantity is not likely to exceed the design capacity of the permitted storm water conveyance.

(2) Leachate Prevention: The applicant proposes to use the fabric structure to cover all composting materials during the mixing phase and the initial stages of the active composting phase. The applicant states that material will be managed under the cover for approximately ten days, or for a period otherwise deemed appropriate for effective leachate management. After the materials are moved onto the gravel pad, Compostex® windrow covers, or a similar brand, will be used to cover all active windrows. The applicant states that these covers will significantly reduce leachate to minimal levels and will ensure that storm water reaching the RFF storm water conveyance structures is free from leachate. The Department finds that there will be an undetermined amount of storm water generated from the use of semi-impervious windrow covers and that this storm water must be managed such that it does not mix with residuals and convey leachate off site.

(3) Leachate Control: The applicant states that any fugitive leachate will be covered with dry amendment material and reincorporated into the nearest active windrow. As a final measure, the applicant proposes to construct a 25-foot by 25-foot vegetated underdrained soil filter in the northwest corner of the gravel pad to receive any leachate or storm water mixed with leachate that has not been absorbed and reincorporated into the composting windrows. The filter system will consist of an 18-inch soil media filter topped by an 18-inch vegetated depression consisting of appropriate native plantings. The filter will be constructed of loam, sand and organic matter such as bark mulch and will retain storm water and leachate for a period of 24 to 48 hours before discharging decontaminated water. The applicant proposes that MWS will monitor and evaluate the effectiveness of the system to determine if additional adaptive leachate

Marge Schmuckal - Mtg to be 10.6 2pm Fwd: Re: Meeting Request - Composting at Riverside

From: Jean Fraser
To: Barhydt, Barbara; Margolis-Pineo, David; Schmuckal, Marge; Tarling, Jeff
Date: 9/24/2010 3:43 PM
Subject: Mtg to be 10.6 2pm Fwd: Re: Meeting Request - Composting at Riverside
Attachments: Re: Meeting Request - Composting at Riverside

Please put this meeting in for:

Wed OCTOBER 6th
2pm-3pm at least (might be more than an hour?)

Planning Conference Room

Thanks

June 11, 2010

To: Jean Fraser
Barbara Barhydt
From: David Margolis-Pineo
Re: Public Services Review Comments
Riverside Compost Facility

Since I will not be in attendance at the scheduled meeting with the applicant, I have listed several questions or concerns, some which fall outside my field of expertise but feel they should be addressed.

I will forward these comments to Troy Moon and will meet to discuss the first of next week.

The Department of Public Services has the following comments.

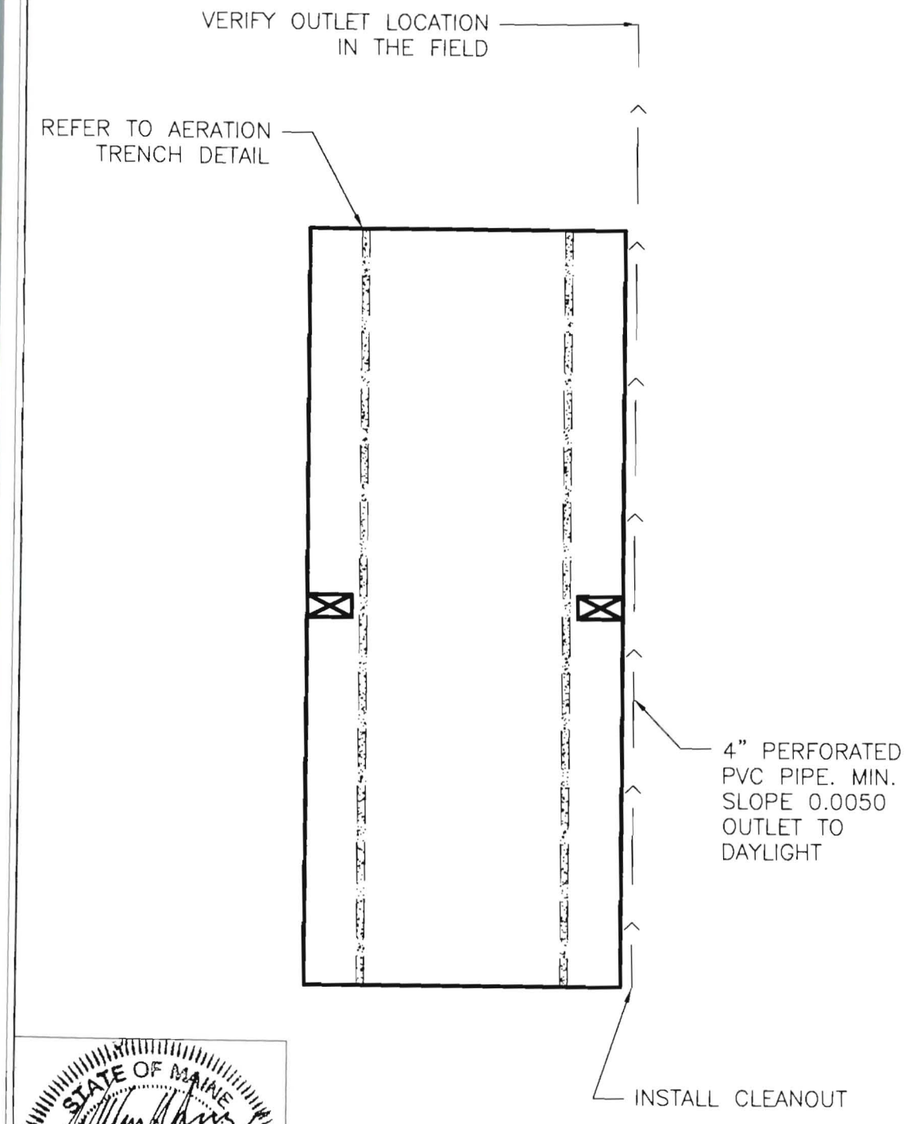
1. The drawings are not stamp by a professional.
2. I feel the applicant needs to better define the drainage in and around the site. Should drainage be directed around the proposed composting location to avoid contact with the compost? Will the proposed berm impound drainage? Applicant should show proposed contours. Show how site drainage gets to the soil filter. What are the details to the soil filter? Piping? How is it sized? Where does it discharge? Does is infiltrate?
3. A yearly inspection and maintenance plan needs to be submitted for the soil filter.
4. What is the berm made of? What are the slopes of the sides? Is the berm prone to erosion? Are erosion control measures necessary? If so please show. Does the berm need to be loamed and seeded. Show a cross section of the berm.
5. Please show utility pole or underground conduit for power feed to the wash station pump. I assume there will be a water feed to wash out the containers, where is the water line located?
6. Is any landscaping proposed or is any necessary?
7. Rodents. Is there a plan to deal with rodents if that becomes an issue?
8. Do we wait for the DEP permit approval before we issue approval?
9. It appears that more definition needs to be given to the traffic flow, backing with trailers, turn a rounds, etc

NOTES:

1. THE CONTRACTOR SHALL REFER TO THE APPROVED PLANS PREPARED BY CALHOUN SUPERSTRUCTURE LTD.

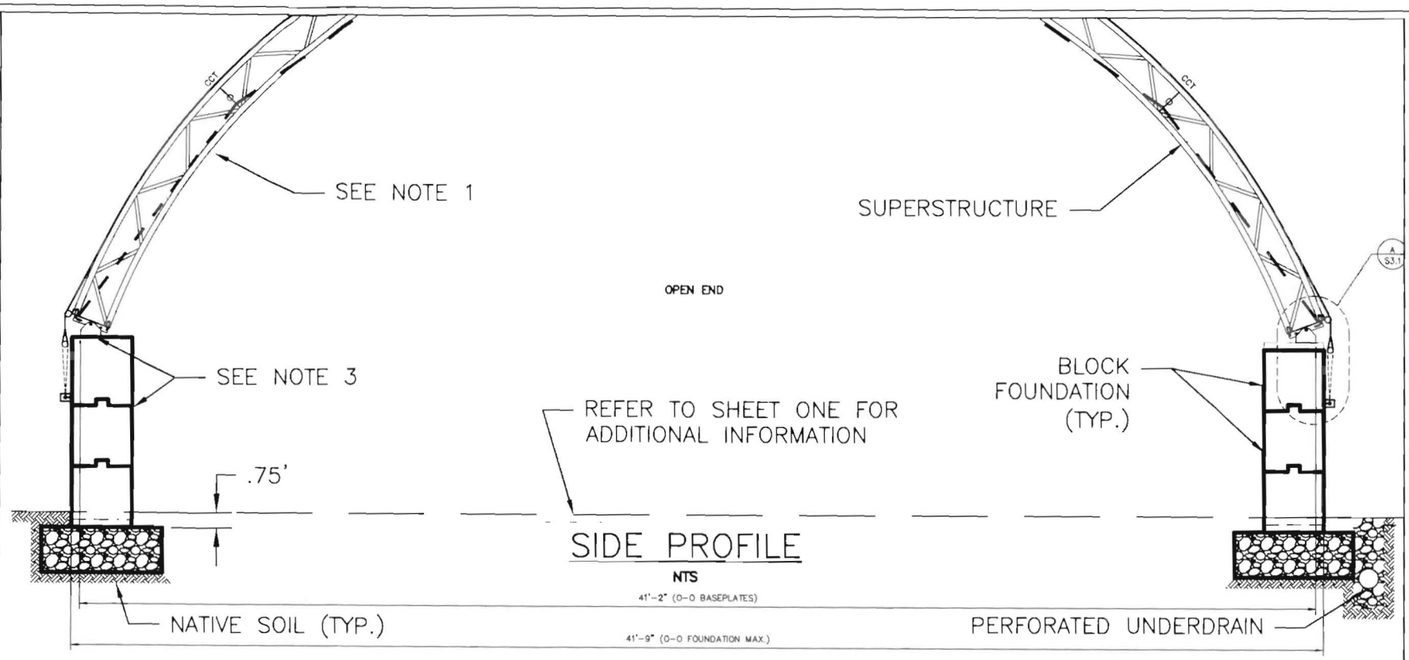
2. THE BEARING CAPACITY OF THE NATIVE SOILS SHALL BE DETERMINED BY OTHERS AND PROVIDED TO ACORN ENGINEERING, INC. ACORN ENGINEERING, INC. DOES NOT ASSUME LIABILITY FOR NATIVE SOIL CHARACTERIZATION.

3. THE DESIGN OF THE CONNECTION BETWEEN THE SUPERSTRUCTURE AND BLOCK FOUNDATION AND THE ANALYSIS OF THE SHEAR FORCES IN THE FOUNDATION SHALL BE BY OTHERS.



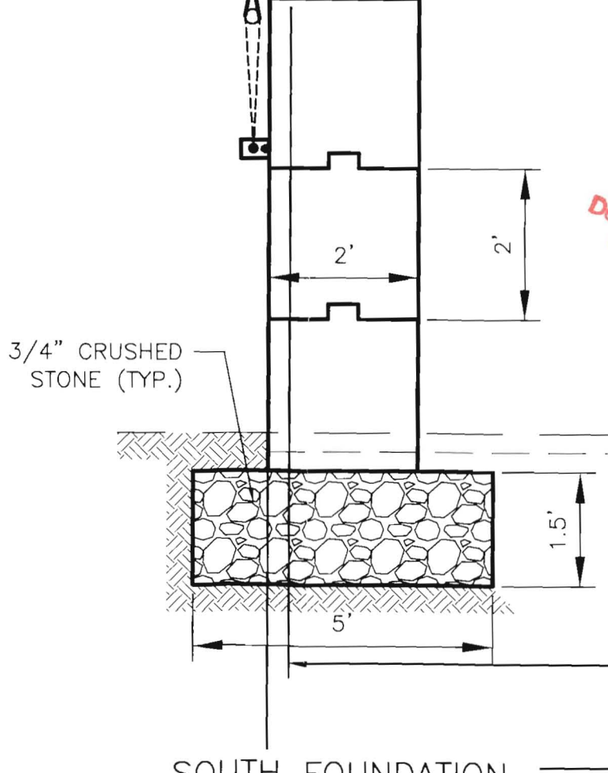
COMPOST PAD OVERVIEW

SCALE: 1"=20'



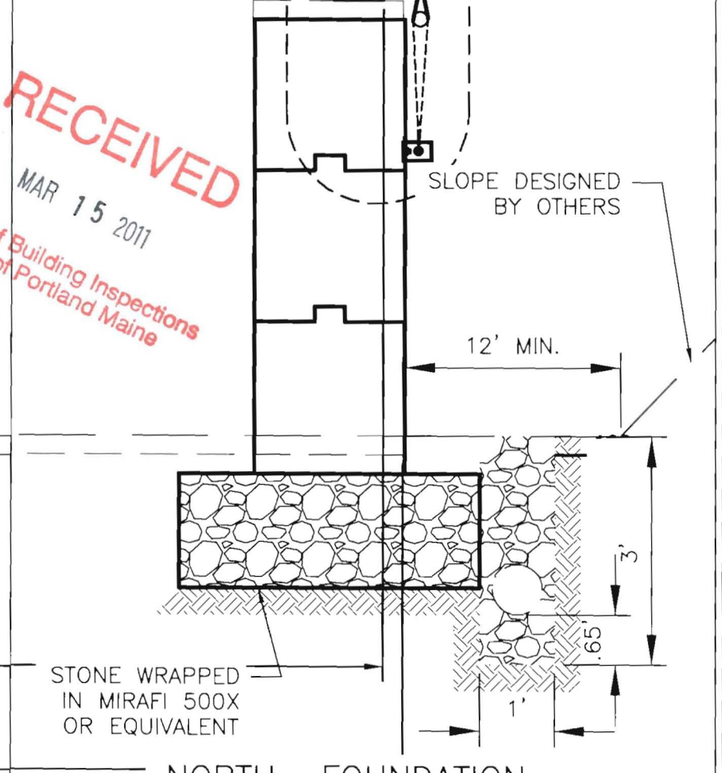
SIDE PROFILE

NTS



SOUTH FOUNDATION

NTS



NORTH FOUNDATION

NTS

RECEIVED
MAR 15 2011
Dept. of Building Inspections
City of Portland Maine

STATE OF MAINE
WILLIAM H SAVAGE
No. 11419
3-10-11
LICENSED PROFESSIONAL ENGINEER

ACORN ENGINEERING, INC.

TITLE: ORGANIC ALCHEMY COMPOSTING, LLC

PROJECT NAME: COMPOST FACILITY

ISSUED FOR: CONSTRUCTION

JOB #: 1029

DATE: 03/11/2011

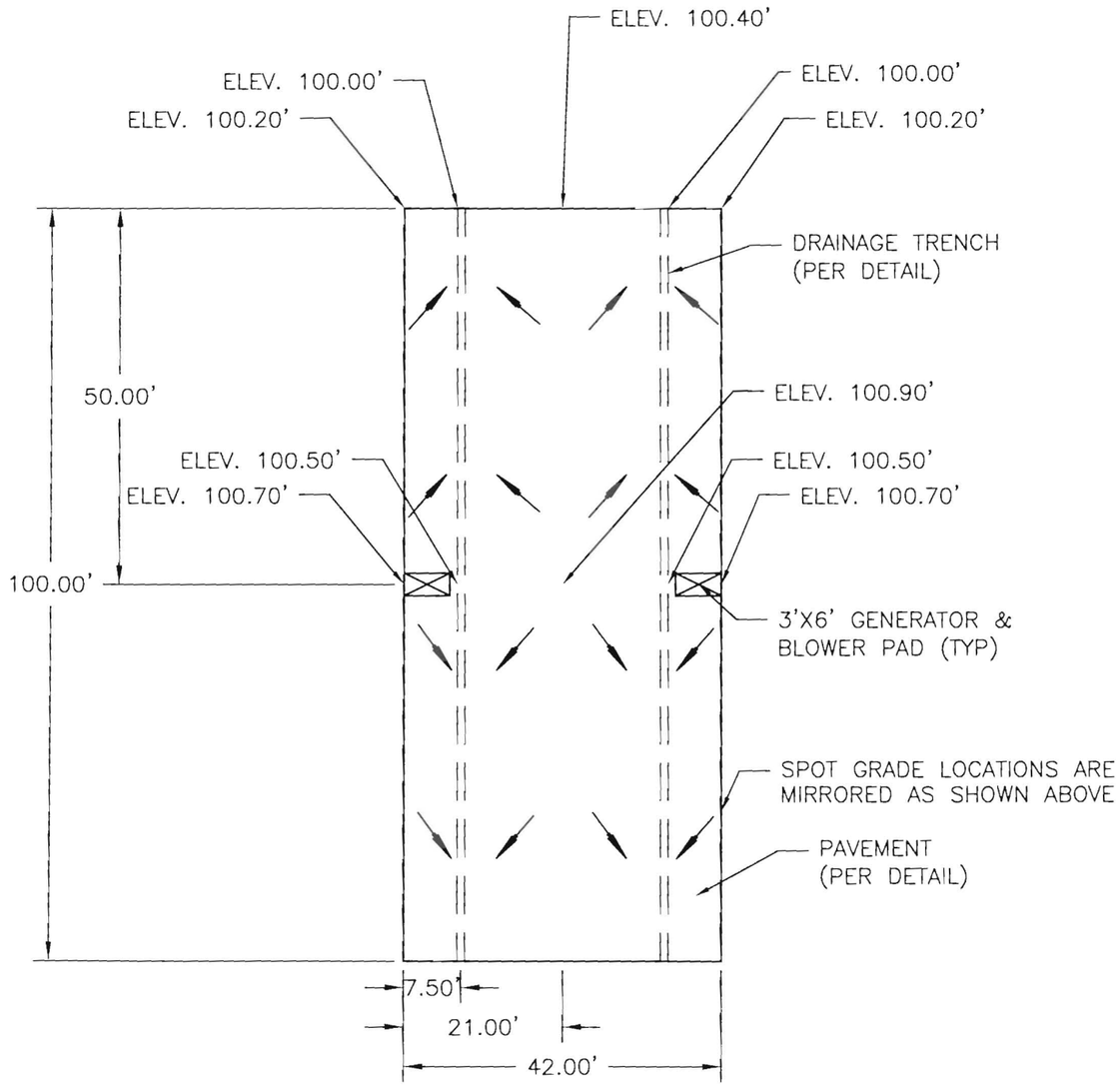
DWN BY: WHS

SCALE: 1"=20'

SHEET #: 2

NOTES:

1. TOPOGRAPHIC SPOT GRADES SHOWN ARE TO USED AS A REFERENCE ELEVATION. THE CONTRACTOR SHALL CORRELATED THE SPOT GRADES WITH THE FIELD ELEVATIONS.

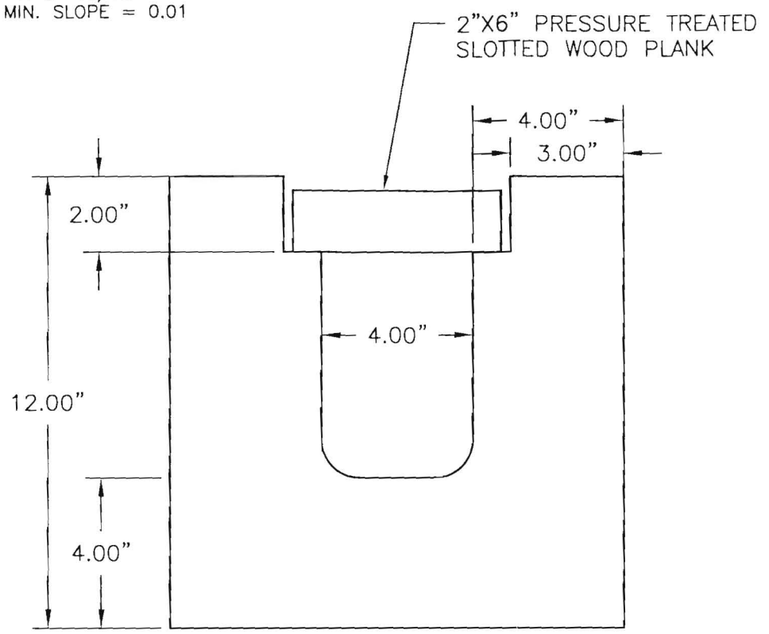


COMPOST PAD OVERVIEW

SCALE: 1"=20'

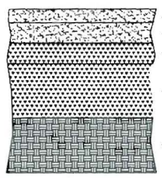
NOTES:

1. CONCRETE SHALL HAVE A MINIMUM 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. REINFORCE WITH 6" X 6" 10/10
3. DRAINAGE TRENCH MIN. SLOPE = 0.01



AERATION TRENCH

N.T.S.



NOTE: COMPACT SUBGRADE TTO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

PAVEMENT SECTION DETAIL

NOT TO SCALE

PROJECT NOTES:

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STATE OF MAINE
WILLIAM H. SAVAGE
No. 11419
10-12-10
LICENSED
PROFESSIONAL ENGINEER

ACORN ENGINEERING, INC.

TITLE: ORGANIC ALCHEMY COMPOSTING, LLC

PROJECT NAME: COMPOST FACILITY

ISSUED FOR: PERMITTING

JOB #: 1029

DATE: 10/7/2010

DWN BY: WHS

SCALE: 1"=20'

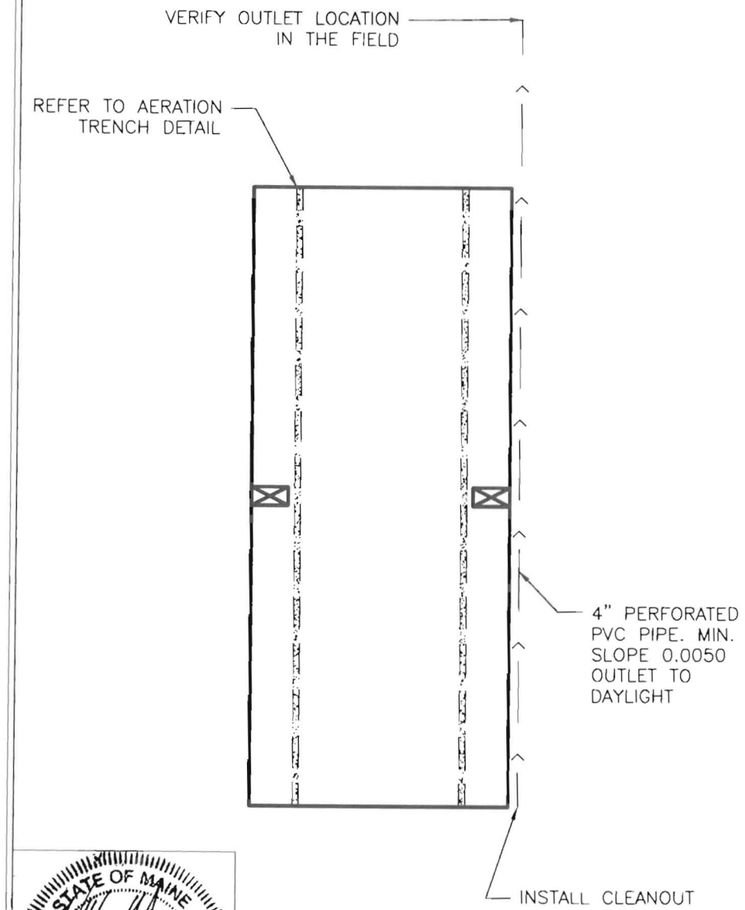
SHEET #: 1

NOTES:

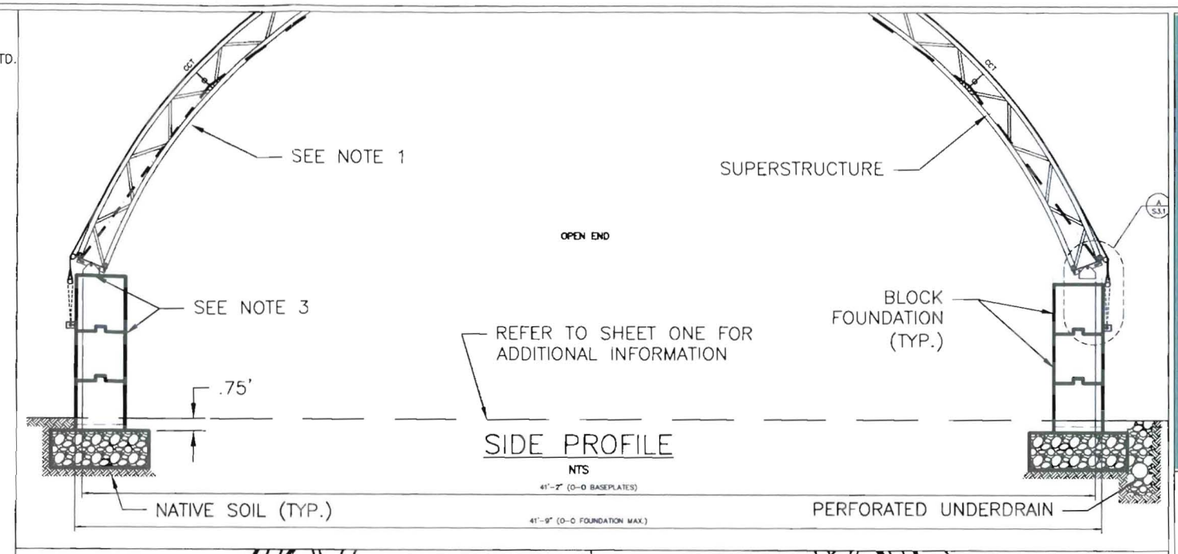
1. THE CONTRACTOR SHALL REFER TO THE APPROVED PLANS PREPARED BY CALHOUN SUPERSTRUCTURE LTD.

2. THE BEARING CAPACITY OF THE NATIVE SOILS SHALL BE DETERMINED BY OTHERS AND PROVIDED TO ACORN ENGINEERING, INC. ACORN ENGINEERING, INC. DOES NOT ASSUME LIABILITY FOR NATIVE SOIL CHARACTERIZATION.

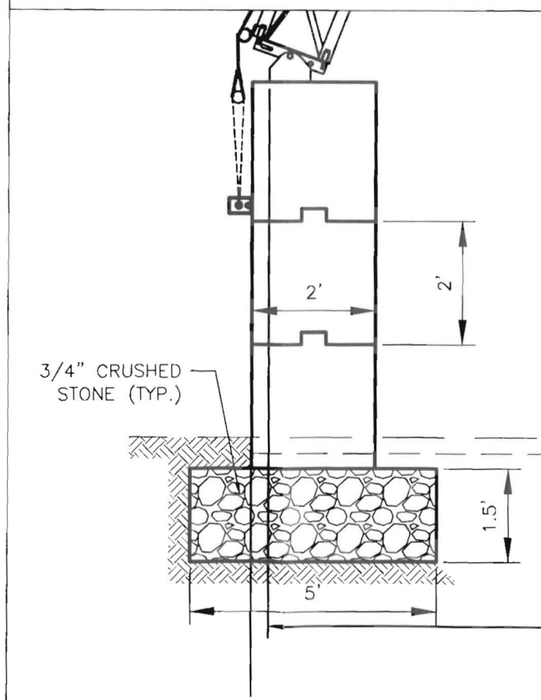
3. THE DESIGN OF THE CONNECTION BETWEEN THE SUPERSTRUCTURE AND BLOCK FOUNDATION AND THE ANALYSIS OF THE SHEAR FORCES IN THE FOUNDATION SHALL BE BY OTHERS.



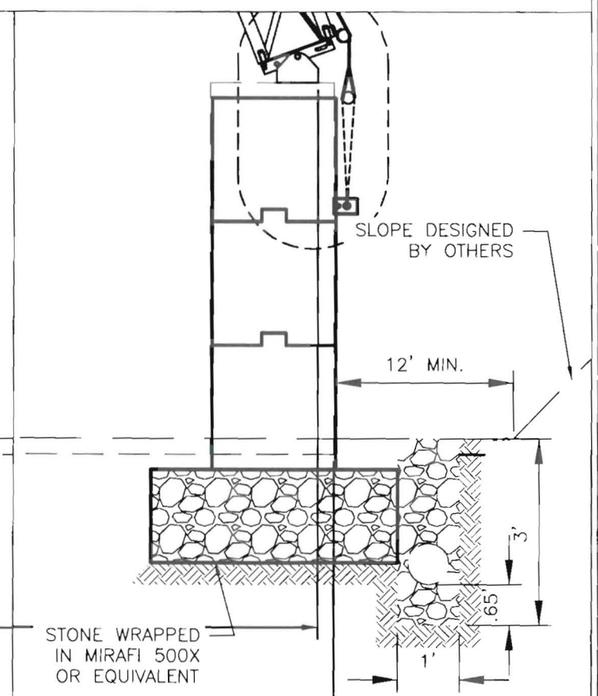
COMPOST PAD OVERVIEW
SCALE: 1"=20'



SIDE PROFILE
NTS



SOUTH FOUNDATION
NTS



NORTH FOUNDATION
NTS

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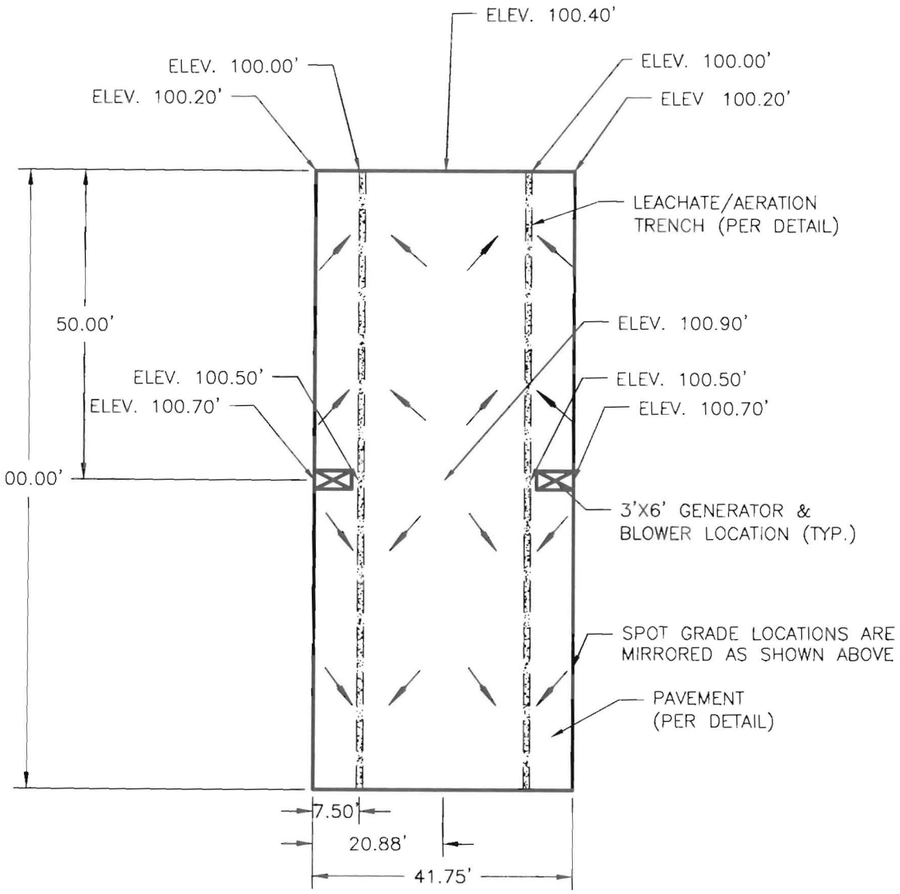
3-10-11
LICENSED PROFESSIONAL ENGINEER

ACORN ENGINEERING, INC.

TITLE: ORGANIC ALCHEMY COMPOSTING, LLC
PROJECT NAME: COMPOST FACILITY
ISSUED FOR: CONSTRUCTION
JOB #: 1029
DATE: 03/11/2011
DWN BY: WHS
SCALE: 1"=20'
SHEET #: 2

NOTES:

1. TOPOGRAPHIC SPOT GRADES SHOWN ARE TO USED AS A REFERENCE ELEVATION. THE CONTRACTOR SHALL CORRELATED THE SPOT GRADES WITH THE PAD ELEVATION PROVIDED BY ST. GERMAIN COLLINS.

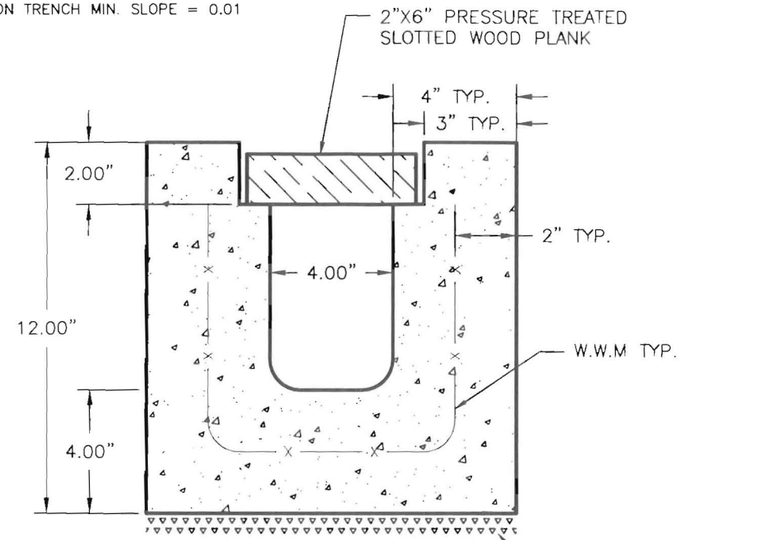


COMPOST PAD OVERVIEW

SCALE: 1"=20'

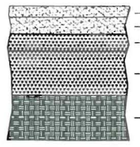
NOTES:

1 CONCRETE SHALL HAVE A MINIMUM 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. REINFORCE WITH 6" X 6" 10/10 W.W.M.
3. LEACHATE/AERATION TRENCH MIN. SLOPE = 0.01



LEACHATE/AERATION TRENCH

N.T.S.



NOTE: COMPACT BASE & SUB-BASE GRAVEL TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

PAVEMENT SECTION DETAIL

NOT TO SCALE

PROJECT NOTES:

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PROJECT NAME: COMPOST FACILITY

ISSUED FOR: CONSTRUCTION

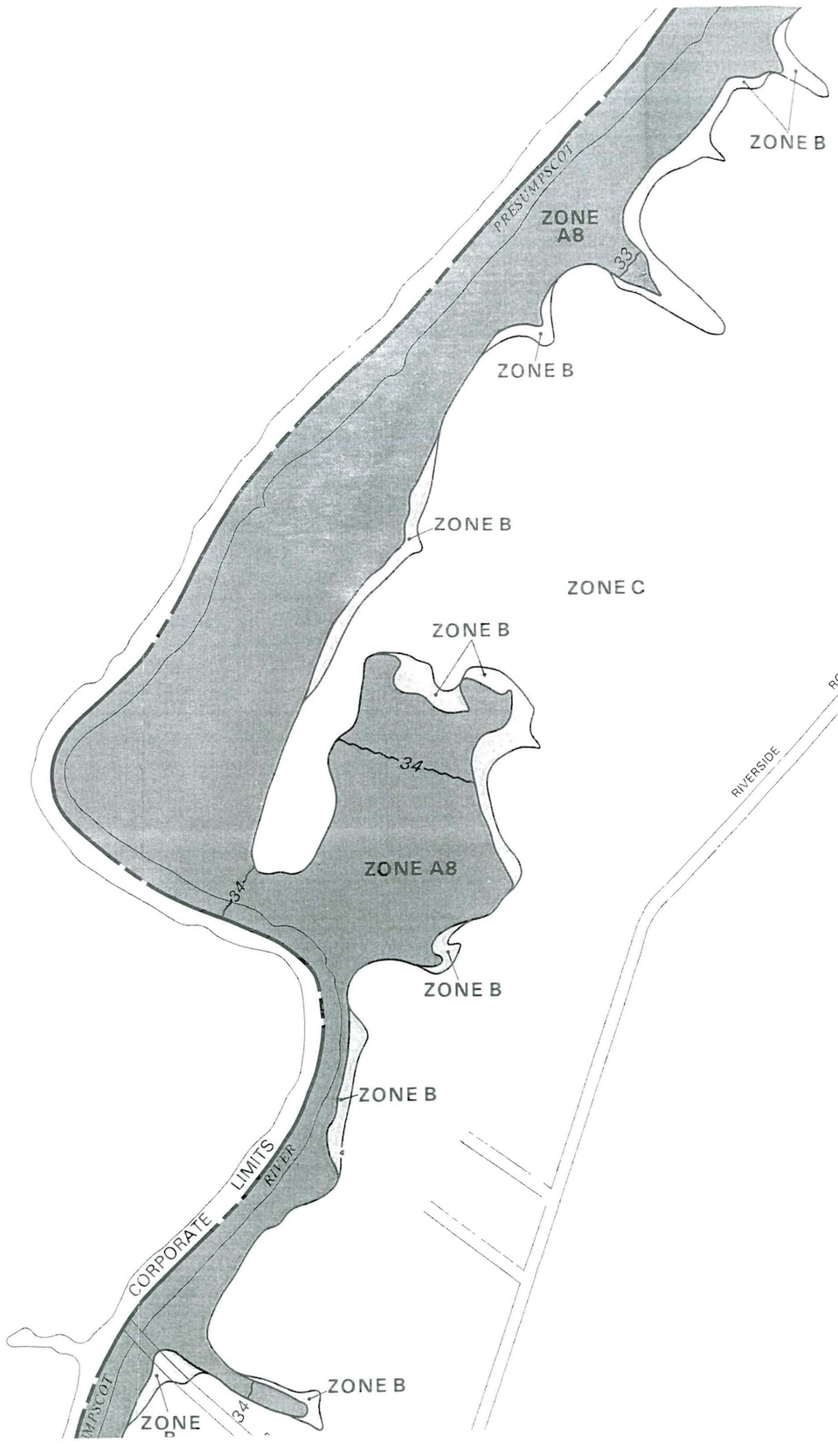
JOB #: 1029

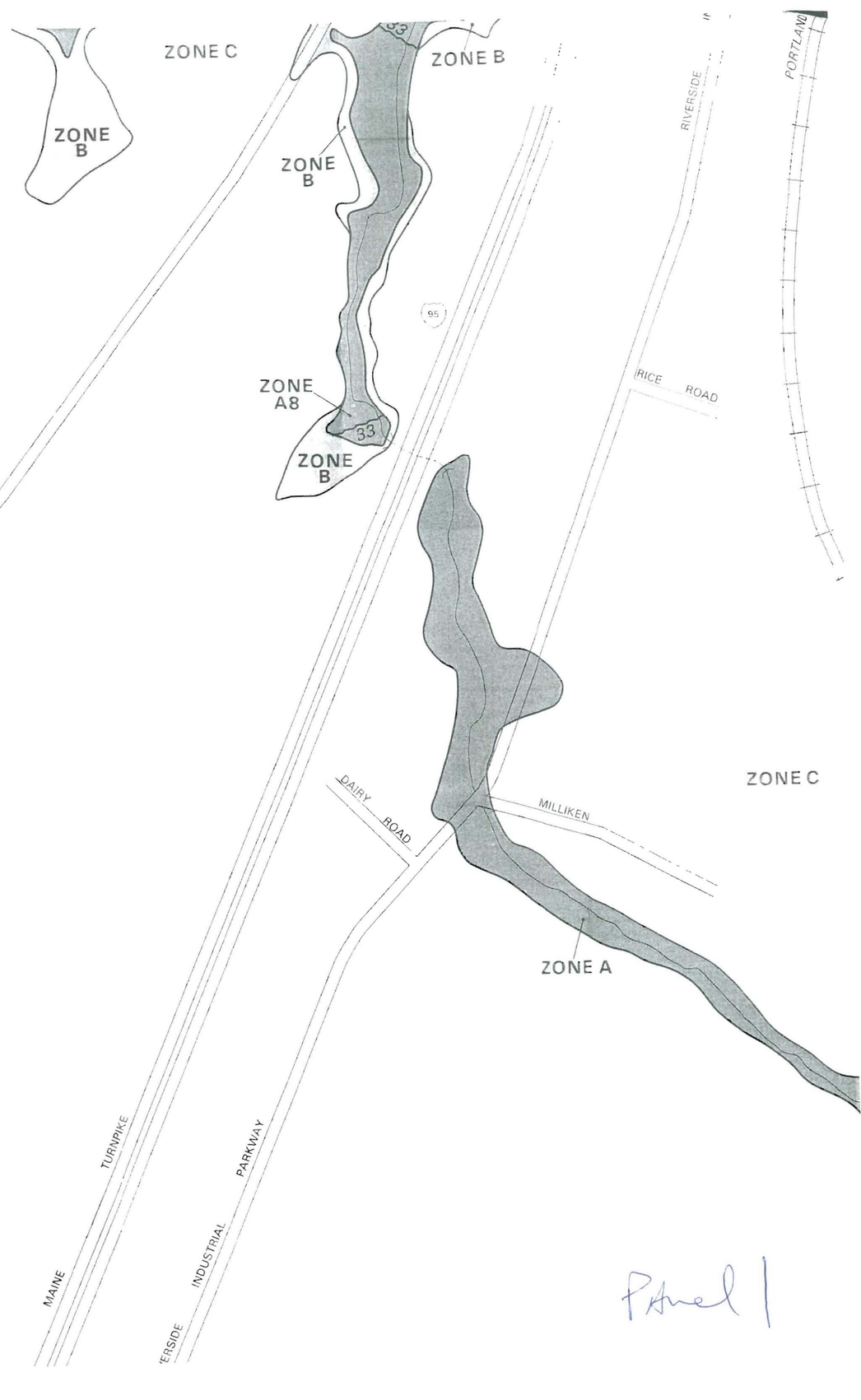
DATE: 3-10-11

DWN BY: WHS

SCALE: 1"=20'

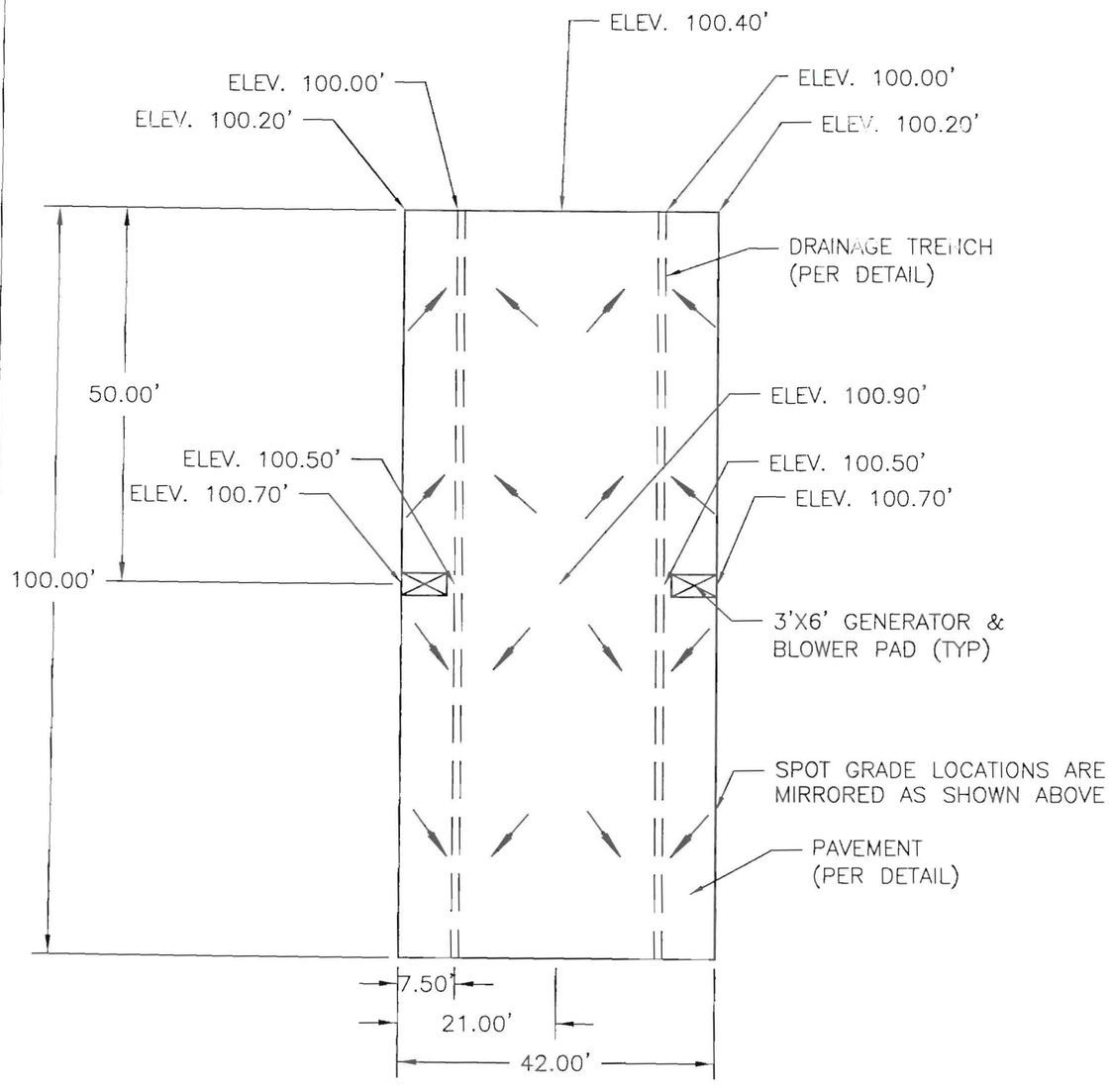
SHEET #: 1


PRESUMPSCOT
ZONE A8
ZONE B
ZONE B
ZONE B
ZONE C
ZONE B
34
ZONE A8
34
ZONE B
ZONE B
CORPORATE LIMITS
RIVER
ZONE B
ZONE
34
RIVERSIDE ROAD


ZONE C
ZONE B
ZONE B
33
ZONE B
ZONE A8
33
ZONE B
95
RIVERSIDE
PORTLAND
RICE ROAD
ZONE C
DAIRY ROAD
MILLIKEN
ZONE A
MAINE TURNPIKE
INDUSTRIAL PARKWAY
Panel 1

NOTES:

1. TOPOGRAPHIC SPOT GRADES SHOWN ARE TO USED AS A REFERENCE ELEVATION. THE CONTRACTOR SHALL CORRELATED THE SPOT GRADES WITH THE FIELD ELEVATIONS.



COMPOST PAD OVERVIEW

SCALE: 1"=20'

NOTES:

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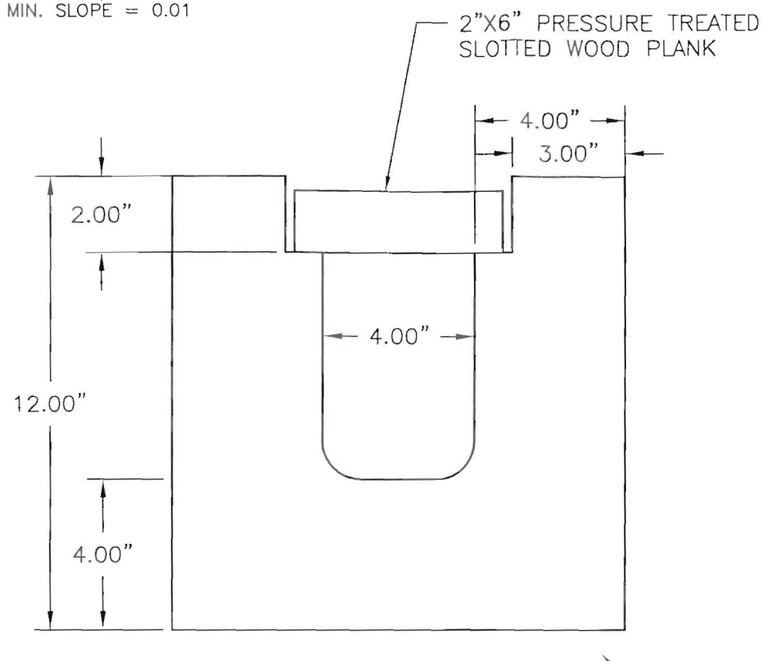
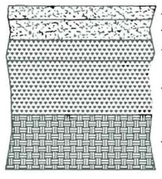


AERATION TRENCH

N.T.S.



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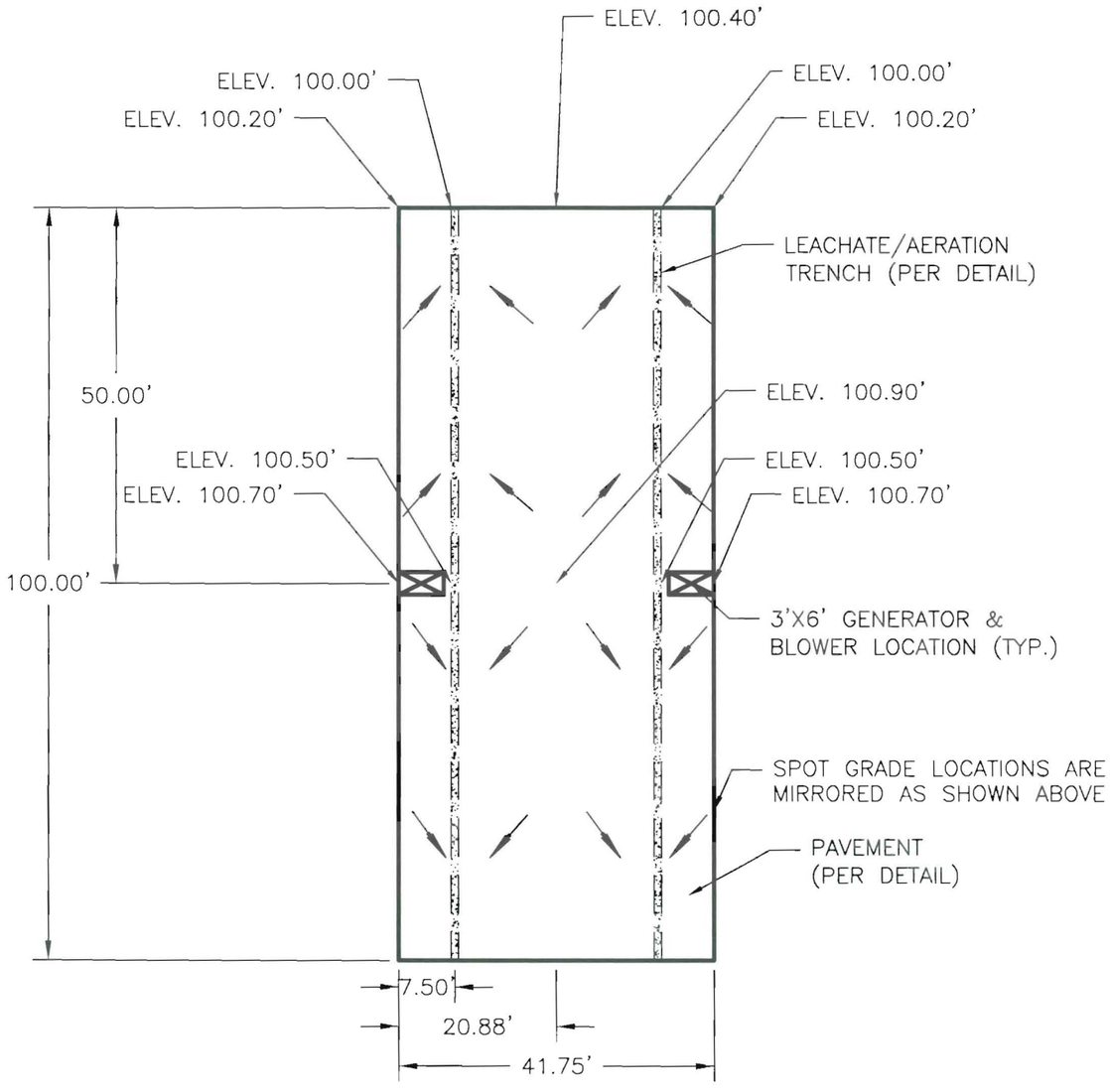

COMPOST PAD OVERVIEW

SCALE: 1"=20'

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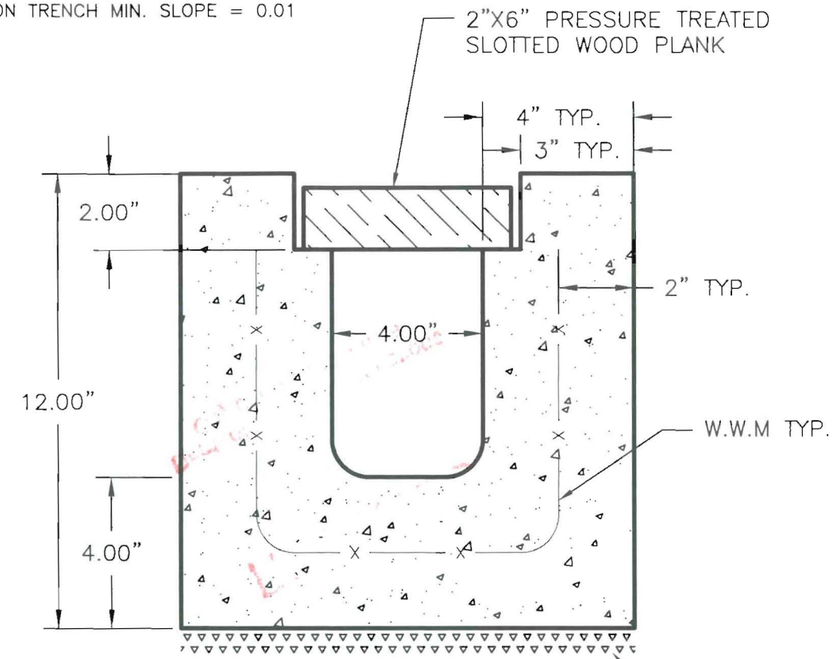
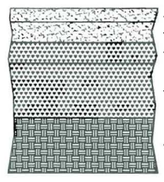


LEACHATE/AERATION TRENCH

N.T.S.



1.25" SURFACE COURSE MDOT 403.09 GRADE C (9.5mm)
2" BINDER COURSE MDOT 403.09 GRADE B (19mm)
6" AGGREGATE BASE GRAVEL MDOT 703.06 TYPE A
18" AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D
SUBGRADE–UNDISTURBED NATIVE SOIL

NOTE: COMPACT BASE & SUB-BASE GRAVEL TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

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