

# City of Port Moody Mandatory Waste Management Plans and Refundable Fees

Port Moody in Metro Vancouver, BC



Population<sup>1</sup>: 34,479 (2013)

Land Area<sup>2</sup>: 25.89 km<sup>2</sup>

Density<sup>2</sup>: 1,273.8 persons/km<sup>2</sup>

Median Age<sup>2</sup>: 38.4

Housing Mix<sup>2</sup> – Single: Multi-Family – 64:36

Average persons per household<sup>2</sup>: 2.6

2012 Metro Vancouver Regional District disposal rate<sup>3</sup>:  
561 kg per capita (all sources)

## Program Highlights / Summary

Construction, renovation and demolition activities produce about a quarter of the waste disposed annually in the region. In 2011 the City of Port Moody adopted a bylaw to regulate and minimize the amount of waste sent to landfill by new construction or demolition of structures. The bylaw requires that a Waste Management Plan be part of both Building Permit Applications and Demolition Permit Applications. As a smaller municipality (under 35,000), Port Moody was in a perfect position to move forward with this program as they have a limited number of applications per year (only 12 demolition applications were received in 2013). An 84% diversion rate from this initiative was achieved in 2013.

Although the bylaw requires proof that 70% of *recyclable* material is diverted to licensed processing facilities, staff find reduction rates typically are closer to 100% once the waste management plan is in place.

**Waste Management Plan**

Building Division
 604.469.4534 - www.portmoody.ca

Many of the materials generated from your project can be recycled. Please list materials that will be reused, recycled or disposed from your project on the back of this document. In order to receive the maximum refundable amount of your waste management fee at least 70% of recyclable or reusable project waste must be recycled or reused.

Use kilograms to quantify total estimated waste and percentages for materials. Use the table below or ask your hauler, recycler or site cleanup vendor to assist you with this plan. Receipts of all recycling and disposal must be submitted within 90 days after project completion in order to receive a refund.

Project address:	
Project type:	<input type="checkbox"/> Demolition <input type="checkbox"/> New construction <input type="checkbox"/> Renovation
Building Type:	<input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other:
Select one:	<input type="checkbox"/> Square footage of building(s):                 OR <input type="checkbox"/> Construction value: \$
Type of construction (wood frame, concrete, steel etc):	
Name of permit applicant:	
Company name (if applicable):	
Phone #:	Cell #: Email:
Signature of applicant: Date:	

**Waste generation rates for demolition, new construction and renovation projects**  
Use this chart as a reference to help estimate the amount of waste your site will produce.

Type of Building	Activity	Waste Generation Rates	Composition (By Weight)					
			Wood	Drywall	Metals	Concrete/Asphalt	Corrugated Cardboard	Misc
Residential	Demo	Single Family: 547 kg/m <sup>2</sup> (111 lbs/sq ft) (including concrete)	44%	2%	3%	25%	-	26%
		Multi-Family: 626 kg/m <sup>2</sup> (4.8 lbs/sq ft)						
	New	Single Family: 23.7 kg/m <sup>2</sup> (4.8 lbs/sq ft)	65%	21%	1%	2%	2%	9%
		Multi-Family: 16.3 kg/m <sup>2</sup> (3.3 lbs/sq ft)						
Commercial	Demo	84 kg/m <sup>2</sup> (17 lbs/sq ft)	Renovation waste varies in its makeup depending on the renovation's type and extent.					
		764 kg/m <sup>2</sup> (155 lbs/sq ft)	16%	-	5%	68%	-	11%
	New	Low-Rise: 12.3 kg/m <sup>2</sup> (2.5 lbs/sq ft)	60%	4%	-	-	12%	24%
		High-Rise: 51.7 kg/m <sup>2</sup> (10.5 lbs/sq ft)	9%	19%	2%	38%	-	32%
	Reno	39 kg/m <sup>2</sup> (8 lbs/sq ft)	Renovation waste varies in its makeup depending on the renovation's type and extent.					

Source: Metro Vancouver

Email this form back to buildingpermits@portmoody.ca  
 Fax this form back to 604.469.4533

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<sup>1</sup> BC Stats data (<http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>)

<sup>2</sup> Statistics Canada census data  
(<http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E&MM>)

<sup>3</sup> Environmental Reporting BC  
([http://www.env.gov.bc.ca/soe/indicators/waste/municipal\\_solid\\_waste.html?WT.ac=LU\\_Municipal-Waste](http://www.env.gov.bc.ca/soe/indicators/waste/municipal_solid_waste.html?WT.ac=LU_Municipal-Waste))

## CR&D Case Study 7: Waste Diversion, Mandatory Mechanism

### Program Details

Port Moody's Waste Management Bylaw 2822 requires that, for every construction and demolition permit application submitted, 70% of all recyclable materials created on site must be recycled by project completion. Application forms include a material checklist to ensure recyclable materials are identified and a website link is provided that lists licensed recycling facility locations.

Prior to the issuance of a Building Permit the following items are required:

- A completed Waste Management Plan (detailing waste generation rate by material type – estimates by construction type and size are provided)
- A Waste Management Fee (based on the value of construction – typically between \$2,000 and \$7,000)

For the issuance of a Demolition Permit the following items are required:

- A Hazardous Materials Report (detailing any asbestos, underground tanks, PCBs, etc. on-site and including a copy of the WorkSafeBC Notice of Project)
- A completed Waste Management Plan
- A Waste Management Fee (based on square footage of building).

The Waste Management Fee (less a small amount held to administer the bylaw) is returned to the applicant upon completion of project, provided the compliance report is submitted with accompanying licensed facility receipts.

After the bylaw was passed, there was a 'one-year education phase' to provide staff flexibility in enforcing the bylaw. During this 'soft launch' year, no fees were charged while contractors were introduced to the new rules.

### Program Results

#### Financial Data

##### Capital Costs

No capital costs incurred.

##### Operating Costs

No additional operating costs.

##### Staffing Implications

Two municipal Building Inspectors administer the program as part of their regular duties, as they can confirm correct material segregation during ongoing site inspections. A larger municipality may require additional staffing in order to review all receipts. Staff report that they often rely on what developers / contractors submit without

 <b>Demolition Permit Application</b>	
Building Division 604.469.4534 • www.portmoody.ca	
Site address:	Date of Demolition:
Building Type: <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other: _____	
<b>Square Footage of Building</b>	
<input type="checkbox"/> 0 to 2,000 <input type="checkbox"/> 2,001 to 5,000 <input type="checkbox"/> 5,001 to 20,000 <input type="checkbox"/> Over 20,000	
Owner's Name: _____	
Address: _____	Postal Code: _____
Home #: _____	Work #: _____ Cell #: _____
Owner's Agent: _____	
Address: _____	Postal Code: _____
Work #: _____	Cell #: _____ Email: _____
Demolition Contractor: _____ Business License #: _____	
Address: _____	Postal Code: _____
Work #: _____	Cell #: _____ Email: _____
<b>For Building Division Use Only</b>	
<input type="checkbox"/> Owner Authorization (if applicable) <input type="checkbox"/> Hazardous Material Report <input type="checkbox"/> Waste Management Plan	
Is the property within a Heritage Conservation Area? <input type="checkbox"/> Yes* <input type="checkbox"/> No	
* If yes, please forward to Planning Division for review	

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## CR&D Case Study 7: Waste Diversion, Mandatory Mechanism

careful examination.

### Cost Recovery

A portion of the Waste Management Fee is retained by the City to administer the Bylaw (typically between \$100–\$500).

### Environmental

#### Reduction and Diversion

##### Demolition Projects:

An 84% diversion rate was achieved in 2013 (12 projects):

Tonnes Diverted = Total 638.98 tonnes

Tonnes to Landfill = Total 118.01 tonnes

##### Construction / Renovation Projects:

A 76% diversion rate was achieved in 2013 (12 Projects)

Tonnes Diverted = 30.54 tonnes

Tonnes to Landfill = 9.52 tonnes

2013 Diversion for all CR&D waste: 84% (24 Projects)

Although the bylaw requires proof that 70% of *recyclable* material be diverted to licensed processing facilities, staff find almost 100% of the potentially recyclable materials are being diverted once the waste management plan is in place. The City will consider amending the bylaw to 100% diversion requirement of recyclable materials to reflect this finding.

#### Disposal Impact / Landfill Space Savings

Compliance reports indicate diversion of 670 tonnes of materials from landfill in 2013.

### GHG Reduction

Not quantified.

### Social

#### Political Acceptability

The Bylaw is consistent with Port Moody Council's 2009 Strategic Plan, Livability and Sustainability.

Metro Vancouver based their *Construction and Demolition Waste and Recyclable Materials Management Bylaw* for member municipalities largely on this Port Moody Waste Management Bylaw.

#### Community / User Acceptability

For the most part, all contractors now understand the bylaw's requirements and use licensed CR&D processing facilities to ensure compliance. There is some 'hand-holding' by staff to ensure return of completed compliance reports. It is rare the municipality has to use the bylaw's calculations to determine a penalty. The majority of fees have been returned.

Compliance Report	
Building Division 604.469.4534 • www.portmoody.ca	
When the project is done, fill out this form and attach documentation (eg: copies of receipts, weight scale tags etc) <b>within 90 days of completion.</b>	
Project address:	Permit #: BP
Project type: <input type="checkbox"/> Demolition <input type="checkbox"/> New construction <input type="checkbox"/> Renovation	
Building Type: <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other: _____	
Square footage of building(s):	
Type of construction (wood frame, concrete, steel etc):	
Name of permit applicant (please print):	
Company name (if applicable):	
Phone #: _____	Cell #: _____
Email: _____	
Signature of applicant: _____	
Date: _____	
<b>Hazardous Materials Compliance</b>	
Were any hazardous materials removed and disposed of? <input type="checkbox"/> yes <input type="checkbox"/> no	
<input type="checkbox"/> I have already submitted my Hazardous Materials Report	
<input type="checkbox"/> I found additional hazardous materials onsite, I have attached the following additional documentation:	
<input type="checkbox"/> Inspection Reports <input type="checkbox"/> WorkSafe BC Clearance Letters	
<input type="checkbox"/> Receipts <input type="checkbox"/> Waste Disposal Manifests	
<b>Waste Management Plan Compliance</b>	
Calculate your recycling rate by using the table on the other side of this form.	
1. Take your total from column A (actual tonnes reused/recycled) A _____	
2. Add your total from column A (actual tonnes reused/recycled) with your total from column B (actual tonnes to landfill) A _____ + B _____ = C _____	
3. Divide A by C	
4. Multiply this by 100 for your rate. Your recycling rate is: _____%	

## CR&D Case Study 7: Waste Diversion, Mandatory Mechanism

### Community Economic Development

Although not directly measured, the bylaw increases local economic activity in the waste hauling and processing sectors.

### Lessons Learned

Recognizing that staff time is limited, the focus is on demolition projects. In new construction, waste materials are already being segregated for diversion, requiring less reporting and receipt verification. Overall, the time to review applications increased marginally, in order to explain program requirements and review the inventory of recyclable materials. Document review is estimated at 2 hours for each project that is audited.

Establishing an effective fee rate is challenging due to the need to create an incentive to participate without creating an undue financial burden on CR&D projects. Under the current fee structure, only one local contractor feels it's not worth his time to separate and submit receipts. He pays the extra \$7,000 each time claiming it is part of his building cost.

For some projects, there is a disconnect between the person signing the demolition or building application permit and the actual contractor completing the project. Often the person submitting the application is the homeowner or developer and they do not pass on the diversion requirements to the contractor who must collect and submit the receipts. The contractors often feel that the effort to get separate weigh scale receipts for each material at a transfer station (as opposed to a commingled CR&D facility) is time-consuming and therefore staff often have to rely on the contractor's word that materials were separated properly at these sites.

As diversion rates have been consistently higher than the original bylaw target of 70%, Port Moody will likely increase the diversion target required for applicable CR&D projects.

Staff note that wood waste diverted from demolition and construction sites is largely being used for landfill cover or hog fuel. They feel that there is a market opportunity to reuse or recycle some portion of the wood waste. Additionally, they note that there are occasions when licensed concrete recycling facilities are at capacity and are unable to accept additional material due to space constrictions. For the bylaw to be successful, adequate processing capacity needs to be consistently available.

### Communities with Similar Programs

North Vancouver requires contractors to submit a demolition waste recycling plan in order to obtain a demolition waste permit. City of Langley requires demolition permit holders to remove and recycle drywall by way of a \$10,000 deposit requiring proof of proper disposal.

- City of North Vancouver  
<http://www.cnv.org/Property-and-Development/Building-and-Development/Permits-and-Inspections/Building-Permit-Application-Forms-and-Information>
- City of Langley (drywall diversion / recycling via deposit)  
<http://www.city.langley.bc.ca/index.php/business/building-and-plumbing>

## Program Contacts

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